El Diluvio: The Spanish Banking Crisis, 2008-2012*

Tano Santos
Columbia University and NBER

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Abstract

This paper offers a narrative of the Spanish banking crisis between 2008 and 2012, from the early stages of the crisis to the request of financial assistance by Spain to its European partners. It centers in particular on the management of the crisis by the Spanish authorities. Though non performing loans were widespread, solvency concerns were concentrated in a particular segment of the Spanish banking system, the cajas sector. This sector was the anomaly of the Spanish banking system. The cajas had, one, faulty governance institutions, which made them subject to capture by the powerful political regional elites, and two, unclear procedures for private recapitalization, which made access to equity markets an impossibility. Crisis management suffered from an internal contradiction. The strategy was informed by two principles. First, debt holders, independently of their seniority, would suffer no losses and, second, tax payer funds available for recapitalization would be minimized. Given that private capital was not forthcoming, bank debt was not to be bailed-in and tax payer funds were to be minimized the solvency crisis could never be credibly closed. Spanish authorities operated under two tight constraints. First, the cajas brought unique political economy issues to crisis resolution. Second, Spain's membership in the monetary union meant that Lender of Last Resort (LOLR) tools were not directly controlled by the Bank of Spain. In addition, banks and cajas depended on foreigners to refinance a substantial fraction of their liabilities, which made them subject to sudden stops. The combination of these constraints and the internal contradictions of the strategy allowed the solvency crisis to morph into a liquidity crisis, which Spain could not successfully meet given its membership in the monetary union. As a result Spain had to request a financial assistance package on June 25th, 2012.

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1 Introduction and summary

The Spanish banking crisis is one of the more salient chapters of the larger Eurozone crisis. Spain is the fourth largest economy of the Eurozone and home to two of Europe's largest banks. As a result an unmanaged crisis there posed a systemic risk to the entire monetary union. This paper covers the Spanish banking crisis with a particular emphasis on the policy response by the Spanish and European authorities and the implications for the future of the Eurozone. Spain's banking crisis, as the Irish and Greek crises before it, showed the limits of the monetary union and confronted policy makers with the most serious challenges in the euro's short history. The focus on this particular crisis thus goes beyond an additional entry on the large list of banking crises of interest to financial historians. The lessons that European policy makers drew from it were embedded in the new institutions of the monetary union, the single supervisory mechanism and the resolution framework. Thus a natural question is whether these new institutions would be effective in preventing future crises in light of recent experiences.

The study of banking crises always veers between the common threads that link all of them, the fragility of banking, and the particulars of the case. As a result some of the smaller episodes in a banking crisis can be tedious and may lead the reader to lose perspective on the larger lessons. This long introduction and summary provides a bird's-eye view of the Spanish banking crisis and a roadmap to the rest of the paper. This paper follows a previous one, Santos (2017), on the evolution of the Spanish banking system on the early years of the euro and the reader will be referred repeatedly to that paper for background.

1.1 Spain: Banks, cajas and real estate in the early years of the euro

In the early years of the euro (1999-2007) Spain's growth rate was much higher than other western countries, driven by both domestic private consumption and investment. In particular, whereas in Italy, Germany and France investment ratios remained relatively stable (around 22% of GDP), in Spain it shot up well above 30%. The culprit was to a large extent a remarkable increase in the ratio of construction investment to GDP, which went from slightly above 12% to over 16%. This increase in construction was a response to an unprecedented increase in residential and commercial real estate prices.

How was it all financed? The savings rate, traditionally high, was not enough to fund domestic demand and as a result Spain became in 2007 the second largest borrower in the

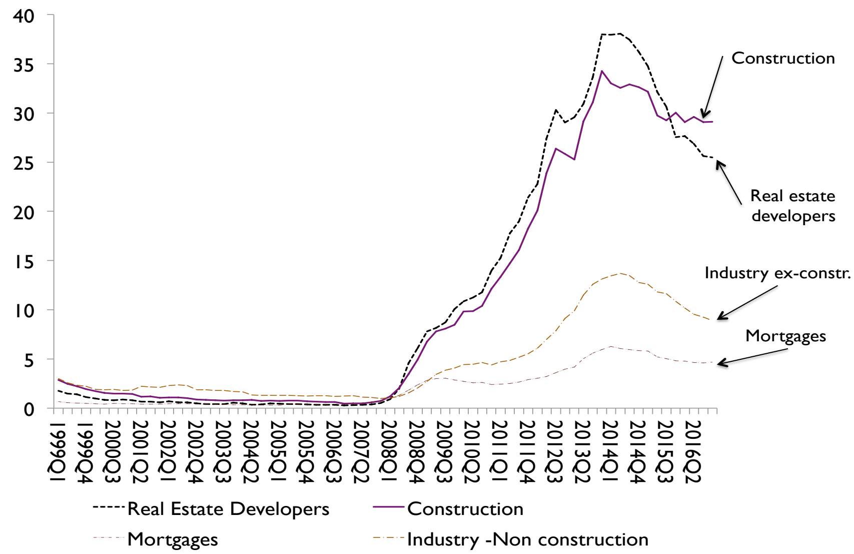

Figure 1: Spain: All credit institutions: NPL ratios for four sectors: Construction companies, real estate developers, industry (except construction) and mortgages to households. In %. Quarterly: 1999Q1-2016Q4. Source: Bank of Spain - Statistics Bulletin (Tables 4.13 and 4.18)

world in dollar terms, only second to the USA. All these flows were intermediated by the Spanish banking sector. There were mostly two types of credit institutions in Spain, banks and cajas. The cajas were the peculiarity of the Spanish banking crisis: private entities with defective governance institutions that made them susceptible to capture by the local Spanish political elites. They were poorly managed, funding projects of dubious economic merits, some because of political reasons. In addition to these governance problems there was another peculiar feature of the cajas sector that was to prove critical in making it difficult to address the crisis: They lacked a clear recapitalization mechanism. They had a share of sorts, called a cuota participativa, that carried economic but not political rights and that was thinly traded. Though in principle it could be issued, it was unrealistic to hope for outside investors to be interested in sharing on the vicissitudes of a caja controlled by local political elites with objectives very different from shareholder value maximization. Thus access to equity markets by the cajas was difficult if not impossible. To a large extent then the Spanish banking crisis is the result of the interaction of global credit flows into Spain and the poor governance institutions of the cajas sector.

Both banks and cajas borrowed heavily in wholesale markets to finance the strong growth in consumption and investment, in particular in the real estate sector. Thus in the eve of the

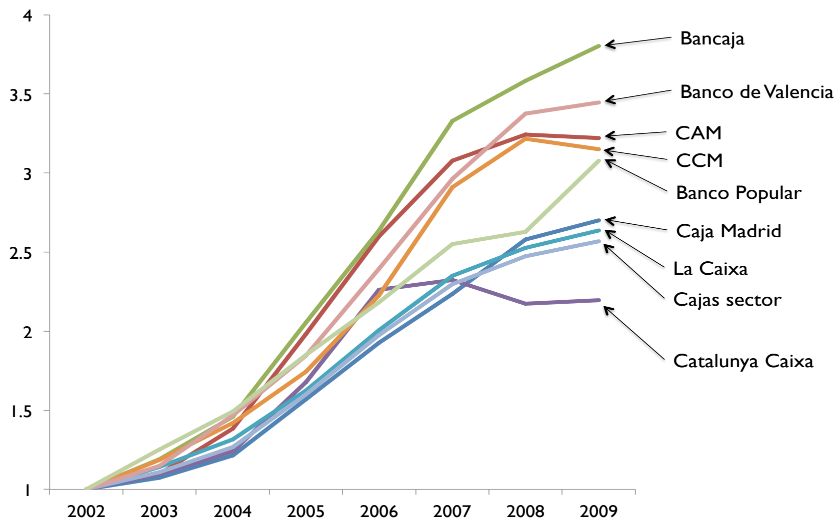

Figure 2: Total assets as of December of each year for selected deposit institutions normalized by the total assets in the year 2002 and for the entire cajas sector. Annual: 2002-2009. Data source: CECA, AEB and Bank of Spain (BE046101); for Banco Popular data is taken from the annual reports.

crisis their balance sheets were characterized by a large exposure to the real sector on the asset side and wholesale debt on the liability side. The percentage of the loan portfolio in mortgages, real estate developer loans and construction loans went from a bit over 40% to more than 60% between 1999, when the euro was introduced, and 2007 the peak of the real estate cycle. In the same period, Spanish deposit taking institutions came to rely heavily on wholesale markets.[1] When the cycle turned and real estate prices started dropping the inevitable rise of non performing loan ratios set in (Figure 1).

As usual in many banking crises some institutions were more problematic than others. There is typically a strong correlation between balance sheet growth and future solvency shortfalls. In this the Spanish banking crisis was no exception. Figure 2 shows the size of the balance sheets of a selected group of cajas as well as two banks normalized by the size of their total assets as of December 31st 2002. It also shows the size for the entire cajas sector. Between 2002 and 2009 the cajas sector grew by a factor of 2.5 (banks instead grew by a slightly lower factor of 2.3). The group of cajas selected represents roughly 53% of the sector in 2009. Bancaja, CAM and CCM the fastest growing of this group, were all nationalized at different points in the crisis, as were Caja Madrid and Catalunya Caixa. Their combined balance sheet was in 2009

[1] See Santos (2017, Figure 6.6).

around €438bn (around 40% of Spain's GDP that year). Growth of course does not explain everything: Catalunya Caixa's balance sheet stopped growing relatively early in the cycle but it was to no avail. There were also some banks which posted impressive balance sheet growth. For instance, Banco de Valencia grew strongly during this period as well. But this bank was peculiar in that it was largely owned by a caja, Bancaja. Banco Popular instead was an old Spanish bank, publicly traded, and for a long time considered one of the best Spanish financial institutions. Its balance sheet grew at a similar pace than that of some of the worst performing cajas and in fact accelerated rather than slowed in 2009. In June 2017 Banco Popular became the first large institution to be subject to the new European resolution mechanisms put in place after the Eurozone banking crisis, an episode recounted below. The story of Banco Popular is a reminder that though indeed the crisis of the cajas is a big component of the Spanish banking crisis it is not the entirety of it.

Many of the other contemporaneous banking crises share the same broad narrative sketched so far: A real estate boom fueled by unwise bank loans, sometimes funded via external borrowing followed by a bust and depressed macroeconomic conditions.[2] But there are differences between these crises, which results in varied policy responses. The Irish, Greek, Spanish and the more recent Italian banking crises were all national banking crisis in a monetary union and thus these countries did not have Lender of Last Resort (LOLR) instruments to smooth the shocks. In the Greek case, exposure to the sovereign was key from the very beginning, something that was the case only relatively late in the Spanish case. Neither of these two attributes was a factor in the USA. The Irish and Spanish banking crises came to a head because banks in those two countries were overly dependent on foreign funding so that when the redenomination risk materialized they were heavily exposed to a sudden stop, which accelerated events and forced authorities into action. This factor was and is not as critical in the Italian case, which as a result took much longer to play out. In addition, the Spanish and Italian banking crises share some common political economy attributes that add to the difficulty in addressing the challenges they pose. The Spanish banking crisis though has some well delineated chapters.

[2]The reader is referred to Santos (2017) for a detailed examination of the years *prior* to the banking crisis as well as much background information on the accumulation of risks in the Spanish banking system in the early years of the euro. The literature on credit booms and future economic activity is now large. See for instance Jordà, Schularick and Taylor (2017) and the references therein for a recent overview.

1.2 The different phases of the Spanish banking crisis

To organize the narrative of the the Spanish banking crisis I divide it in five stages, which are punctuated by the different strategies followed by Spanish authorities as well as important legal changes in the framework governing banks and cajas (see Figure 3). That policy action was needed was understood from the beginning. The first phase (Phase I), from September 2008 to April 2010, saw the creation of three institutions that were designed to give authorities the room to maneuver the storm ahead: The creation of the FAAF, a fund for the acquisition of non-toxic assets held by financial institutions, the debt guarantee program of December 2008 and in 2009 the creation of the Fondo de Reestructuración Ordenada Bancaria, or FROB, a government sponsored special purpose vehicle created to assist with potential recapitalization efforts as well as with the restructuring of the banking system. It is during this period that the first of the cajas, Caja Castilla La Mancha (CCM), was intervened by the Bank of Spain.

From April 2010 to February 2011 (Phase II), economic activity stabilized. This period constitutes the missed opportunity of the Spanish banking crisis: A benign period where the Bank of Spain and the government had significant tools to address the rising concerns about the solvency of the Spanish banking system. In particular the CEBS (later EBA) performed a European wide stress tests but the capital needs that were found to be needed were minimal. As a result little fresh capital went into the banking system. Authorities pursued an ill-conceived strategy of restructuring of the entire cajas sector, encouraging mergers that only increased the opacity of the balance sheets and delayed loss recognition.

As we will see the cajas operated under a completely inadequate legal framework that made it difficult, if not impossible, to raise equity. Phase III (March 2011 to December 2011) starts with the passage of a law designed to render the cajas an inefficient organizational form and encourage their conversion into publicly traded banks. Effectively, if the cajas wanted to remain so they needed to operate with higher capital requirements than the banks. IPOs took place, but in this period the volatility and risk premia in global financial markets increased considerably, complicating efforts to raise bank equity. To make matters worse Spain suffered a double dip. The ECB intervened decisively, initiating purchases of both Spanish and Italian sovereign bonds during the summer of that year. The window for decisive action was closing.

Phase IV (December 2011 - June 2012) starts with the the arrival of a new government. The new cabinet dashed optimism by following a “more-of-the-same” strategy, forcing the banks and cajas to increase loan provisioning without convincingly showing that they could indeed do so given their level of profitability or appealing to capital markets. Because alter-

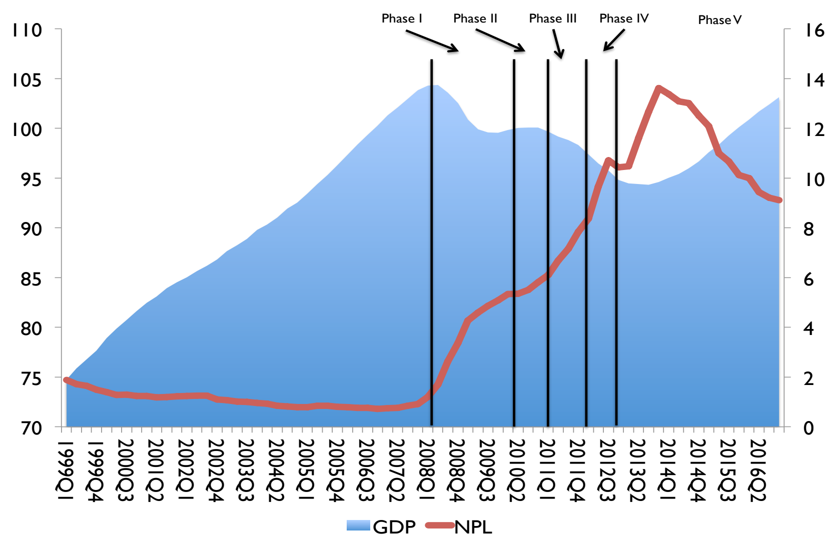

Figure 3: The five phases of the Spanish banking crisis. Chained GDP index, seasonally corrected, 2010=100 (left axis) and non performing loan (NPL) ratio for credit institutions (in %; right axis). The NPL ratio is calculated by dividing the amount of delinquent loans (column 14 of Table 4.13 of the Statistics Bulletin of the Bank of Spain) by the outstanding loans to the private sector (column 1 of Table 4.13). Quaterly: 1999Q1-2016Q4. Data source: Instituto Nacional de Estadística (INE) and Bank of Spain

native funding arrangements were unclear the solvency crisis became a full blown liquidity crisis, and not just for the financial system but for the sovereign itself. As a result Spain was forced into an assistance program in June 25th 2012. The last phase (Phase V), starts with the transfer of the banking crisis from the Spanish authorities to the European ones, solving the complex political economy aspects of the crisis that were making for an intractable problem. This last phase will be covered in a future paper.

1.3 Policy response: The solvency trilemma and overconfidence

Other than in Phase I, Spain was always a step behind the crisis and ultimately the authorities were unable to close it. They certainly were not blind to the dangers that the economic and financial turbulences of 2008 had for the stability of the Spanish banking system. The imbalances building in the Spanish banking system and that a correction was to be expected at some point had been evident to many in both the Bank of Spain as well as the government. The governance problems of the cajas sector were also well known. In addition Spain's fiscal position in the eve of the crisis was good and gross debt as a percentage of GDP was barely

40%. If taxpayer funds had to be committed the ability to do so was there. It is important to emphasize that the authorities were active. The changes brought by the crisis on the legal framework of the cajas were enormous and the authorities piloted a remarkable consolidation process in the banking system and in the cajas sector in particular. So why the failure to close the banking crisis? Why did Spain need assistance in 2012 to recapitalize the banks?

There are two reasons for the lack of effectiveness of policy action. First, the strategy pursued by the Spanish authorities could not produce a credible estimate of the losses and thus of the capital needed to fill the solvency gaps associated with those losses. Second, the response by Spanish authorities betrayed a certain sense of overconfidence

1.3.1 Solvency trilemmas and credible loss discovery

Policy responses to banking crises involve answering a series of questions. Where are the potential losses located in the cross section of banks? How large is the potential solvency gap? Most importantly, how are the solvency gaps going to be discovered and funded so that insured depositors don't bear any losses? In addressing these questions, expediency and strategic clarity are better than precision in the estimate of the losses. The reason is that when banks are exposed to refinancing risk, uncertainty regarding these questions may produce unmanageable liquidity crises. Precision in what concerns the size of the losses instead is not of paramount importance: Banking crises are more about the tail of the distribution of losses than about the mean. Policy makers thus need to approach banking crises in a robust way, planning for the worst case scenario and establishing a credible upper bound for the losses.

Spanish authorities failed in devising a strategy that would guarantee credible loss discovery. As already mentioned the cajas lacked a clear recapitalization mechanism and as a result their access to equity markets was if not an impossibility clearly unrealistic. Given that private capital then was not forthcoming restoring balance sheet solvency required to bail-in debt, commit tax payer funds to recapitalize insolvent credit institutions or some combination of the two. Instead their actions were governed by the desire to avoid bail-ins and minimize taxpayer commitments. As a result repeated stress tests failed to convince outside observers who suspected, fairly or unfairly, that the losses were being fixed around what could or would be funded rather than the reality of the non-performing assets (NPA). This credibility problem was made worse by the fact that estimating precisely the extent of the losses was not possible and thus only generous recapitalizations can definitely close a banking crisis.

There is a general principle here. Resolution authorities are confronted with a solvency trilemma. Consider three objectives: (a) avoiding bail-ins, (b) avoiding tax payer funded recapitalizations, and (c) credibly closing a banking crisis. The solvency trilemma states that in the absence of private funds resolution authorities can only achieve two of the three objectives. Spanish authorities opted for (a) and (b) and thus could not have (c). As a result a solvency crisis morphed into a liquidity crisis that the Bank of Spain, deprived of LOLR faculties, could not meet successfully. In addition the large current account deficits meant that a significant fraction of banks' liabilities were held by foreigners, which opened the door to a potential sudden stop, not just for banks but of all the sectors of the Spanish economy. When this happened Spain was forced into an assistance program.

1.3.2 Overconfidence

In addition, the early response to the turbulent months of 2008 and 2009 betrayed a certain sense of overconfidence. Indeed, there were reasons that led many to believe that the Spanish banking sector was well prepared to weather the challenges if not unscathed at least without any major crash.

First, the volatility in markets was initially seen as something largely exogenous to Spain, though there were the customary references to the easy liquidity conditions in international financial markets prior to the crisis. The dramatic events in the USA throughout 2008 were seen as springing from the excesses of the subprime market and thus unique to that country. There was little sense that there was a common factor driving these corrections, global credit conditions, and that Spain was particularly exposed to a reversal of that factor. The Spanish crisis resembles in some aspects the sudden stop episodes that have occurred often in emerging markets, an scenario that seems to have never been contemplated as a possibility by the authorities. Second the Spanish banking sector was seen as having a very different business model, based on traditional merchant banking as opposed to investment banking. The connection with the individual client was seen as a source of strength and recurring income as opposed to trading or investment banking activities. This was all true but, obviously, there was an implicit assumption that the individual client, whether a family or a SME, was going to "be there" to provide stability. Third, Spanish banks and cajas securitized heavily but retained a significant portion of exposure to the underlying risks, which many assumed led to better funding standards. This ex-ante benefit came with an ex-post cost: When the crisis came transferring losses to outside investors proved difficult. Fourth, Spanish banks were seen as being the beneficiaries of a robust and intelligent supervisory framework. Dynamic provisioning, the system by which banks provision pro-cyclically, had left the Spanish banks with an additional buffer to absorb potential losses.[3] Finally, unlike in the Irish case, the Spanish banking system was generating profits and thus the temptation was to allow for the slow process of recapitalization through retained earnings to work its magic. All these factor, none of them unreasonable, led authorities and the Bank of Spain in particular to believe that Spain was in a strong position to meet the challenges ahead.

1.4 How was this banking crisis different from previous ones?

But of course when the challenges actually came, sound policy decision making was very much needed, particularly when the it became apparent that the severity of crisis was such that it negated the sources of strength discussed above. Spain is no stranger to banking crises and the one documented in this paper is the third one in barely forty years (see Panel B of Figure 6.1 in Santos, 2017). But Spanish authorities faced two novel constraints when compared with previous banking crises: a unique political economy problem in the cajas sector and managing a banking crisis in a monetary union.

1.4.1 The political economy of the Spanish banking crisis

Consider first the political economy of the Spanish banking crisis. There were three types of credit institutions in Spain. One was the credit cooperatives, which were too small to represent a systemic risk and are ignored in what follows. The second is comprised of banks such as BBVA and Santander, very similar in terms of business operations and governance to other large international banks. The third and last were the "cajas," banks in what concerns their business operation but with an anomalous governance structure. They operated under a legal framework that enshrined the principle of regional and municipal political representation in their governance bodies. Moreover this legal framework was under the control of Spain's powerful regional elites, which they used to tighten controls over the cajas under their jurisdiction. As a result the cajas were subject to political capture. They funded the worse risks and most of them were led by managers with no banking experience but the right political connections. The Spanish banking crisis is largely a crisis of the cajas. During the worst years of the crisis, 2008−2012, there was only one relatively large bank (about €23bn in total assets) that failed,

[3] For this consensus view on the strengths of the Spanish banking system see Álvarez (2008). For the views of the governor of the Bank of Spain on some of these points see Fernández Ordóñez (2009a, pages 3 and 4).

Banco de Valencia, and it was owned by a caja, Bancaja.[4]

The cajas were private entities and thus the public sector had no responsibility to "rescue" them, absorb their losses or had any type of legal liability beyond supervisory ones. They were owned by foundations, which controlled the overwhelming majority of their capital. But they had ill defined property rights and a legal framework that made even the simple exercise of recapitalization, whether with private or public funds, an impossibility without substantial legal changes. The cajas had governance institutions designed to mimic those of banks but of course form is no substitute for substance. The cajas mostly built capital through retained earnings and subordinated debt instruments marketed when the crisis came through their vast retail branch network to households, largely their own clients. In particular, they had no shares but rather an odd instrument, the aforementioned cuota participativa, very thinly traded, that carried economic but not decision rights. The principle of local political representation in the governing bodies of the cajas meant that shareholder value maximization was not the guiding principle of the cajas. As a result it was unrealistic to hope for equity capital to flow from the private sector to the cajas without a major overhaul of the legal framework. The banks on the other hand could meet some of their own solvency challenges raising equity capital both in public exchanges as well as privately, which they did though at severe discounts.[5]

More specifically there were two consequences associated with the peculiar form of capital that the cajas had. First, as mentioned, there was no clear legal path to infuse capital, either private or public, in the cajas and as a result their access to the market was severely limited. Second, the cajas could not be acquired by the banks but these could by acquired by the cajas. As a result bad governance practices could spread widely in the credit market, as it did in the case of Banco de Valencia. The last straw was that the legal framework regulating them was drafted at the regional level which led to widespread abuses. In particular every legal reform was geared towards increasing the control that the regional and municipal political class exercised over the cajas. This control, of course, resulted in the funding of projects with political but limited economic benefits.[6] Is it a surprise that outside investors were only willing

[4]Another one, Banco Guipuzcoano was about half the size of Banco de Valencia in total assets and was quietly sold to Banco Sabadell relatively early in the crisis. As I write this (June 2017) the larger Banco Popular (€150bn balance sheet) has been subject to resolution actions by the Single Resolution Board.

[5]See Bank of Spain (2017, Cuadro 5.4) for a tally of fresh capital flowing in deposit institutions. The table does not itemize exactly how much corresponds to banks and how much to cajas. Though some of the cajas, such as CAM, were able to raise equity in public markets, an episode recounted below, the majority corresponds to banks.

[6]The reader is referred to Santos (2017) for a quick overview of the legal framework governing the cajas as well as the control that the local political elites exercised over them.

to invest in the cajas with debt contracts?

An important flaw in the strategy pursued by the Bank of Spain and the Ministry of Finance was one of omission. Given that the crisis was largely foreseen, though perhaps not its magnitude, it is difficult to understand why Spain entered the crisis with so unsuitable a framework and such poor legal and conceptual preparations to address the problems that were to arise when the correction came (Santos, 2017). The sad arch that links the first intervention by the Bank of Spain, that of Caja Castilla La Mancha (CCM) in 2009, to the Bankia debacle in 2012 is one of a slow recognition of the need to finish off this anomalous sector of the Spanish financial system and with it the control that all powerful local politicians exercised over such a large swath of the credit market. That the cajas are no more is one of the positive outcomes of the crisis.

There was a pernicious consequence associated with the anomalous existence of the cajas and it is that it led to a peculiar stand off between the Bank of Spain, who felt that it lacked the tools to deal with such a politically charged task as intervening the cajas, and the government which argued that the central bank was fully equipped to deal with whatever solvency problem the cajas had. The problem of course was that successive governments had no incentive to expose the mismanagement of the cajas to which members of their own party had contributed so much. In addition they realized that "letting go" of the cajas meant giving up direct political control of the flow of credit, always an important source of patronage. Whether the Bank of Spain could have overcome this political barrier to intervention is one of the mysteries of the Spanish banking crisis. The result was that the reasonable tools created early on in the crisis were not put to good use and delay ensued. The expediency needed to address banking crises was never forthcoming and the short window between 2008 and early 2011 in which the FROB could have levered up and a fully funded stress test implemented was wasted. Instead the Bank of Spain went onto a policy of mergers and asset protection schemes which increased balance sheet opacity and made it more difficult for the private sector to refinance wholesale liabilities. In addition Spanish authorities didn't attempt a complete overhaul of the cajas legal framework until 2011 and governance and management problems remained. For these reasons it was unrealistic to hope that institutional investors would refinance wholesale liabilities. Thus the cajas turned to households to refinance. By the summer of 2011 the liquidity crisis had become unmanageable and the reform was too little too late.

In addition, as the fiscal commitments mounted a subtle agency problem arose, with the taxpayer as principal and the government and the Bank of Spain as agents. Successive governments quickly realized that the political cost of loss recognition was going to be enormous indeed and that a thorough reckoning of the scandalous behavior of the cajas was going to have an adverse impact in the control the main political parties exercised over the all important regional governments.[7] As a result very soon a gambling-for-resurrection and risk shifting mentality set in.

The tale of the "preferentes" is a good example. The "preferentes" were, and are, perpetual junior debt with a coupon that is paid depending on the issuing entity profitability. They had been issued mostly to institutional investors when they were first introduced in the late 1990s. Because of their junior status they computed as regulatory capital, which allowed the cajas and banks to grow the balance sheets and fund the real estate bubble. But, for the reasons discussed above, when the crisis hit institutional investors fled the market. Banks and cajas in need to raise capital to absorb potential losses and meet regulatory capital requirements rushed to issue, through their vast retail branch networks, about €14bn of "preferentes" to unsuspecting lifelong customers, many retirees. This took place under supervision of both the Bank of Spain and the Spanish SEC (known by its acronym, CNMV). Another example of risk shifting and gambling for resurrection was the ill conceived IPO of Bankia, the systemic institution which was the result of the merger of two of the most problematic cajas, Caja Madrid and Bancaja. The lawsuits relating to all these cases are still in Spanish courts.

1.4.2 The Spanish policy response and the Eurozone

In addition, this crisis was the first for Spanish authorities under the monetary union. As it now well known the monetary union was poorly designed in that it did not come with a banking union in any form or shape. As a result banking supervision and resolution was left to the national central banks (NCBs) while liquidity provision and lender of last resort responsibilities were fully vested in the ECB.[8] The cardinal rule of the LOLR is to lend to

[7]Two governments of different sign presided over the banking crisis. The socialist party (PSOE) under prime minister Rodríguez Zapatero was in power between 2004 and December 2011 and saw both the last years of the real estate bubble and the first of the crisis. The conservative party, or PP, led by Mariano Rajoy gained power in the elections of November of 2011 and presided over the acute phase of the crisis. Both parties control most of the 17 regions in Spain.

[8]As Goodhart (2010) notes central banks have generally three objectives: price stability, financial stability and to provide the State with funding in times of crisis. The ECB had a single mandate focused on price stability and the financial stabilization role was purposely left unspecified. Still the Eurosystem features what is referred to as Emergency Liquidity Assistance or ELA, which is activated at the discretion of a national bank of the Eurosystem. Under ELA, the national central bank creates reserves outside the normal refinancing operations of the ECB. Because the national central bank can extend liquidity to a private bank that has run out of collateral, the risks associated with ELA are assumed by the national central bank. The governing council

solvent institutions facing liquidity crunches and let insolvent ones face the market alone. But in the Eurozone knowledge of the solvency of the many institutions under duress was located with the NCBs. Thus from the very beginning there was a peculiar agency problem between the central bank and the NCBs, which quickly transferred to the larger institutions of the Eurozone, both new and old. Fear of risk shifting to a non-existent European tax payer was to dominate much of the discussions and policy debates in the Eurozone. In addition the timing of the ECB's interventions were not necessarily in lockstep with the liquidity needs of the different national banking crises as they occurred. This created much uncertainty and gave rise to many complaints that the central bank was not fulfilling its LOLR functions.

Indeed, fear of a widespread liquidity crisis and contagion that would limit access to wholesale markets was apparent in the Bank of Spain's early response to the crisis. Uncertainty about the potential policy response by the ECB led the Spanish authorities to avoid resolutions that imposed any sort of loss on debt holders, whether junior or senior. The fear was that doing so may dry up liquidity for solvent institution triggering crises that the Spanish central bank could not meet. Delaying loss recognition and providing liquidity is fine when plans are being drawn and institutions set up to eventually discover and impose losses on shareholders and junior debt holders to repair balance sheets. But the response of the Spanish authorities was to simply extend contingent guarantees that simply delayed loss recognition and limited options further down the road. Concern for liquidity dry ups is justified and banking authorities do indeed need time to distinguish solvency from liquidity considerations. Thus the positive role that new bank debt guarantees can play in the early stages of the crisis when information is being collected and funding secured. But eventually the phase of learning what is illiquid and what is insolvent has to come an end and the nasty business of addressing solvency shortfalls must start. Was the Bank of Spain justified in these fears?

Given the design of the Eurozone, central banks and national governments were essentially left with two set of tools: fiscal backstops and the reform of faulty legal frameworks that were perhaps preventing more decisive interventions. Political time, which determines fiscal decisions, flows at a different rhythm than economic time during banking crises and this is no small problem. Central banks help bridge the gap between them by providing ample liquidity and creating targeted programs as the Federal Reserve did. Obviously this was not possible for the Bank of Spain (or the Central Bank of Ireland for that matter). As a result,

of the ECB retains the ability to veto an ELA program initiated by a national central bank. For a discussion of the ECB's LOLR behavior during the crisis see Praet (2016).

fiscal backstops were front and center from the beginning of the Eurozone crisis, starting with Ireland's blanket guarantee of all bank debt. However remote its probability, there was always a state of nature in which banks and sovereigns would sink together.

In the case of Spain, authorities, more sensibly, extended a guarantee only on *new* bank debt with a cap of €100bn. In addition, the FROB was created in 2009. With these instruments the government believed that they had empowered the Bank of Spain to address the crisis, but little happened afterwards. In particular, and critically, the size of the FROB remained small: Though legally permitted to lever up substantially, the size of the balance sheet of the FROB was never over €20bn. Throughout loss discovery was unfunded ex-ante which gave rise to concerns that the losses being found were fixed around what could be funded. It is here that the objective of minimizing taxpayer exposure deprived the repeated efforts to bound the losses of much needed credibility.

This was indeed a missed opportunity and there was a contemporaneous example of a successful resolution of a banking crisis that the Spanish, and European authorities, could draw on. In the Spring of 2009 the Federal Reserve Bank of New York released the results of the Supplementary Capital Assistance Program or SCAP, a *fully funded* stress test that one could argue is the beginning of the end of the financial crisis proper in the USA. There were many lessons there that sadly were not fully internalized by the European authorities and the European Banking Authority (EBA) in particular.[9] The main one is that, to put it bluntly, one does not perform a stress tests without being entirely clear about the source of the funding needed to fill the solvency gaps that one may encounter in the stress tested institutions. The EBA, and the European authorities, made this mistake not once, not twice, but three times.[10] The market suspected, rightly or wrongly, that the tests were being fixed around the losses that could be absorbed by the fiscal authorities rather than the real needs of the banks. As a result as the magnitude of the crisis grew in 2011 and 2012, the options open to the Spanish authorities shrank together with their credibility. But, wasn't the FROB, the instrument of recapitalization, created in 2008? Yes, but the decision was taken to fund it as needed rather than preemptively. This could have worked if loss discovery had been speedy and had there

[9]Tim Geithner's remarkable memoirs (Geithner, 2014) can be interpreted as a full embrace of the logic of the solvency trillema. Thus his unflinching support for the use of TARP for bank recapitalization purposes. See for instance page 209. That the logic of the SCAP may lead to full scale nationalizations was also accepted by key policy makers, such as Larry Summers or Jeremy Stein (see Geithner, 2014, page 308).

[10]Mario Draghi in an interview with Lionel Barber and Ralph Atkins, of the Financial Times, on December 18th, 2011, emphasized this aspect of the stress test when he said that ideally the European Financial Stability Facility or EFSF had to be in place before the stress tests were conducted by the EBA.

been strategic clarity about the resolution of the crisis, but there was neither.[11]

1.5 A word of caution

This paper focuses on the policy response of the Spanish authorities to the banking crisis and it is of course critical with some of the decisions taken by them. As a result the article may convey the impression that the main responsibility of the Spanish banking crisis lies with the authorities, with the officials in the Bank of Spain or in the Ministry of Finance. This is not my view. Yes, policy decisions could have been more timely and more direct; opportunities were wasted and as a result not only did the banking crisis took longer to play out than what was necessary but most likely and as a result it had a larger impact on activity and employment than would have been the case under more timely and decisive action. But the responsibility for the crisis lies squarely on the shoulders of the managers of Caja Madrid, Bancaja, CAM, CCM, Catalunya Caixa, Banco de Valencia, ... It also lies at the feet of the regional political class, which, in some instances, weakened the already slim governance structures of the cajas sector in order to use them as a source of patronage and "golden retirement" for spent regional as well national political figures with no experience whatsoever in banking.

The aim of this paper is to offer a narrative of the Spanish banking crisis and extract valuable lessons. The crisis abates with the signing of the Memorandum of Understanding in June 2012, which transferred the management of the banking crisis from the Spanish authorities to the European ones. To some extent this outcome was inevitable. There were high expectations of a fresh start when the conservative party (the People's Party or PP) won the national elections and replaced the government of Prime Minister Rodríguez Zapatero, of the socialist party (PSOE), in December 2011. But contrary to expectations the management of the banking crisis between December of 2011 and June 2012 deteriorated even further. The lessons of the early years of the crisis had been completely missed and the new authorities were still caught in the wrong side of the solvency trilemma. As a result by June of 2012 the cabinet had no option but to ask for a financial assistance package from the Eurogroup, which came with a tight control from the European authorities.

[11]The Bank of Spain announced early on the willingness to perform the stress tests that were later subsumed by the larger tests ran by the 2010 EBA. See Fernández Ordóñez (2010c, page 15) and Fernández Ordóñez (2010d, page 6).

2 The Spanish banking crisis: Two factors

There were two factors that distinguished this crisis from previous ones in Spain. The first resulted from the interaction of the membership in the euro and the fact that the real estate boom was to a considerable degree funded by foreigners. This fact was to loom large in the evolution of the crisis as it exposed Spanish banks to rollover risks that could not be met by the Bank of Spain alone. In this sense the Spanish banking crisis is similar to other crises that were preceded by rapid capital market liberalizations that resulted in large foreign inflows. Section 2.1 elaborates on this aspect of the crisis. The second is that there were unique political economy considerations that made the problem an intractable one for the Bank of Spain and surely a source of bewilderment to foreign observers. The broad contours of this issue was covered in Santos (2017) and won't repeated here. Instead Section 2.2 offers a brief history of the caja that was to play a critical role in the evolution of the crisis, Caja Madrid, and serves to illustrate many of the thorny political economy aspects that were to make for a complicated resolution of the crisis.

2.1 The Spanish banking system and the world financial markets

2.1.1 The onset of the Eurozone banking crisis

The Spanish banking crisis was not the first episode of the larger Eurozone crisis, which was initially triggered by the exposure that some European banks had to the US subprime market. Spanish institutions didn't have any exposure to the US market for why would they invest in the US when the opportunities were plentiful in their own country, where obviously they had an advantage in locating better risks? But the US subprime crisis was to color the initial reaction to both the Irish and the Spanish crisis.

In 2007 two small German banks, Saschen and IKB, had received assistance to make good on the losses they were sustaining in portfolios of bonds backed by US mortgages.[12] In addition, throughout 2007 Dexia, the Belgo-French financial services company, had reported a drop in profits due to the losses sustained by its subsidiary in the US, Financial Security Assurance (FSA), and Fortis, the Belgo-Dutch financial services company, also had to report declining profits on account of €1.5bn write-offs of subprime mortgage exposure they had in

[12] See for instance, Nicola Clark, "Mortgage crisis forces sale of German bank," New York Times, August 27th 2007. IKB had earlier announced that it had a €17.5bn of exposure to the US subprime market (see Reuter Factbox, Bond News, "European exposure to US subprime market," August 9th, 2007).

their books.[13] But the onset of the acute phase of the crisis in the US in the Fall of 2008 was to accelerate events in Europe. In the span of 48 hours (September 28th and 29th), Fortis and Dexia, had to receive capital injections of €11.2bn and €6.8bn, respectively, in order to stay afloat. Before that, the German Banking Association had tried and failed to set up a government guaranteed liquidity line of €35bn to Hypo Real Estate (HRE), a banking group specialized in commercial real estate and suffering from the 2007 acquisition of Depfa bank, a Dublin based German bank with large exposure to the US. These measures were not enough to avoid the eventual nationalization of HRE.

But severe as these crisis were they did not have the systemic nature of the Irish case, which was brewing simultaneously.[14] On Monday September 29th, shares of Anglo Irish Bank fell 45%, Irish Life and Permanent, the largest mortgage provider in Ireland, 34%, Allied Irish Banks 16% and Bank of Ireland lost 15%. Access to liquidity was becoming difficult for these institutions and eligible collateral had to be running thin. All this forced the hand of the Irish authorities. In late September 2008 the Irish parliament approved the Credit Institutions (Financial Support) Act, 2008, which was in turn approved, remarkably, by the European Commission under the State Aid Rules on October 13th. This bill is perhaps one of the most extraordinary documents of the entire world financial crisis. Under it, the Irish state extended a guarantee covering all retail and corporate deposits, interbank deposits, senior unsecured debt, asset covered securities, and finally, and perhaps most surprisingly, dated subordinated debt. With that measure Ireland, an economy with a GDP at the time of €188bn, had extended a guarantee covering about €375bn in liabilities.[15] As stated by the Irish finance minister, the measure was directed towards guaranteeing access to refinancing markets. The Irish crisis was the first serious systemic crisis of the Eurozone. It was important in that its many phases were closely followed by observers in order to ascertain the thinking of European authorities, both the Commission, an EU institution, and the ECB, which of course was confined to the Eurozone. Some of the questions were concerned with the attitude that the authorities were to have regarding state aid, which were dispelled quite quickly (anything); others had to do with the possible bail-in of senior debt and burden sharing with outside lenders (absolutely not).

The central chapter in the Irish crisis was the Anglo Irish saga, as Bankia was to be of the Spanish one. Anglo Irish Bank was essentially a monoline bank focusing on commercial

[13] Andrea Felsted "Subprime writedown weighs on Fortis," Financial Times, March 7th, 2008.

[14] For a wonderful survey of the Irish crisis see Wheelan (2013).

[15] John Murray-Brown and Neil Dennis "Ireland Guarantees Six Bank Deposits," Financial Times, September 30th, 2008. The number quoted is from the Report (see below).

real estate. It had grown rapidly during the years prior to the crisis changing the Irish banking competitive environment dramatically. Anglo Irish had been the envy of banks all over the world for its strong growth and profitability and on a bit of irony had been named best bank in 2006 by consulting company Oliver Wyman, which was to play a critical role in the resolution of both the Irish and Spanish banking crisis.[16] Throughout 2008 the shares of Anglo Irish had dropped considerably even prior the events in the fall of that year. But as liquidity dried up Anglo Irish requested an emergency loan of €7bn to the Central Bank of Ireland (CBI) as it was quickly running out of eligible collateral to discount with the ECB. It was not clear whether the possibility of nationalizing Anglo Irish was discussed in the Irish cabinet meeting where the debt guarantee act was announced and in any case "it is not obvious how an apparently solvent institution without any evident need for additional capital could have been subject to nationalisation."[17] This argument may explain the timidity not just of the Irish authorities but also of the Spanish ones as well. It calls for a method of early intervention that forces the supervisor to act, forcing recapitalizations before solvency problems become unmanageable. The stress tests, when properly designed, would serve that role.

The announcement of the guarantee would have a very positive impact on the share price of Anglo Irish but the solvency concerns would not disappear and Anglo Irish was not able to recuperate the deposits lost in the run up to the guarantee.[18] On December 21st the government of Ireland announced a €1.5bn bailout of the bank. Once again the situation deteriorated further and the Irish government was forced to scratch the December 21st 2008 €1.5bn plan and instead opt to nationalize Anglo Irish in January of 2009. The lack of knowledge that the Irish authorities seemed to have regarding the real situation of the financial system and the fact that they seemed always behind the curve greatly undermined their credibility which limited options further down the road and led to the request of the financial assistance package in 2010. As the Report of the Commission of Investigation into the Banking Sector in Ireland (the Report) of March 2011 so starkly puts it[19]

[16]The report by Oliver Wyman is difficult to find as the consulting company has long since removed it from its website. Josep Cotterill in a post in the Financial Times blog Alphaville on February 11th 2011 quoted this gem from that report: "Anglo Irish Bank owes much of its success to a concentrated focus on business lending, treasury and wealth management in the Irish, UK and US markets. Business lending, its largest and most profitable segment, has grown by 38% annually over the last 10 years. A centralized loan approval process has helped the bank maintain high asset quality and minimize the risks of portfolio concentration. In addition, the bank has exploited synergies among its narrow business mix to achieve a low cost-income ratio of 27%, providing a strong foundation for organic growth ..."

[17]Report (see below), page 81, paragraph 4.7.13.

[18]Report (see below), Page 82, paragraph 4.8.2.

[19]Report, Page 86, paragraph 4.8.11.

> "The nationalisation of Anglo, some three months after the introduction of the Guarantee, thus occurred finally only after a series of announcements by the authorities outlining alternative plans which in the end had to be abandoned. This did little to build market confidence in Irish banks or in government policy and forecasts. Combined with the emergence of governance scandals at Anglo it created a sense that the authorities did not understand the extent of the problems and that further issues could emerge."

Anglo Irish would end up costing the Irish taxpayer €30bn. In September 2008, when the debt guarantee was being extended, Anglo Irish had total liabilities of €97bn of which €17bn were senior debt, subordinated debt accounted for €5bn and non-retail deposits were €40bn; retail deposits were only €19bn. There were obvious legal hurdles, but a credible loss discovery mechanism combined with a firm resolution would have spared the Irish taxpayer a significant fraction of those €30bn while protecting retail depositors and a significant fraction of non-retail depositors.[20] That this possibility was never discussed limited considerably the bail-in options of Irish and then later of Spanish authorities.

2.1.2 The world portfolio of Spanish risk

In December 2nd 2005 Caja Madrid, the caja of the city of Madrid and the fourth largest credit institution in Spain, filed with the CNMV the prospectus for the issuance of €1bn of senior unsecured bonds ("bonos simples"). The bonds were to be issued on June 9th 2006 and mature on February 9th 2012, a fateful date to which we shall return below. The quarterly coupon was three-month Euribor, which was 2.922% on May 2006, plus 125bps. What is perhaps most interesting is the list of the underwriters: Caja Madrid itself, ABN Amro Bank, Banc of America Securities, the investment bank subsidiary of Bank of America which was to merge with Merrill Lynch, and finally Landesbank Baden-Wurttemberg.[21] The very same day, Caja Madrid also filed with the CNMV the prospectus for the issuance of €2bn of covered bonds[22] on December 14th of that year. Now the list of underwriters was a who is who of international finance, Citi, Nomura, Barclays, HSBC, UBS, Deutsche Bank, Landesbank Baden-Wurttemberg, Banesto and, of course Caja Madrid itself. The risk originated by Caja Madrid was being spread across world financial markets.

[20]See Whelan (2013, page 29).
[21]The ISIN was ES0214950158.
[22]The ISIN was ES0414950636.

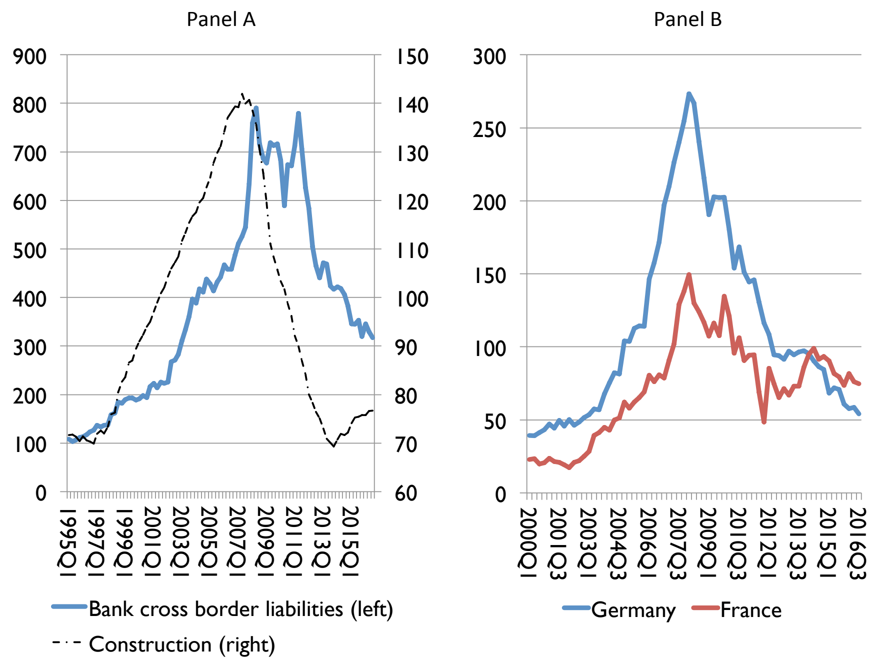

Figure 4: Panel A: Total cross border liabilities of Spanish reporting banks in billions of $US and construction index (2010=100) seasonally adjusted from the quarterly national accounts. Panel B: Claims of German and French banks on Spanish counterparties in billions of $US (immediate risk); Quarterly: 1995Q1-2016Q3. Source: Bank of International Settlements, Locational Banking Statistics, Table A2 (Panel A) and Table B4 (Panel B) and Bank of Spain - Indicadores Económicos Generales (Table 1.1).

Of course this was not unique to Caja Madrid but rather it was a consequence of the global credit conditions to which Spain was particularly exposed. Indeed, the early years of the euro (1999-2008) were characterized by a remarkable investment boom in Spain, both in real estate as in other productive activities. Spain's savings rate has always been high but such was the growth of domestic demand that soon Spain was borrowing heavily from the rest of the world to finance the expansion. As a result Spain developed large current account deficits and accumulated a large negative net international investment position (NIIP), in dollar terms second only to the USA. The conditions in world credit market were easy. Rates and spreads had been falling consistently for several years so there were certainly credit supply factors at work as well.

The large capital flows associated with these developments were largely intermediated by the banks and cajas whose cross border liabilities increased strongly as a result (see Panel A of Figure 4). Thus at the beginning of the crisis Spain was particularly exposed to the high volatility in world financial markets. The holders of Spanish liabilities ended being its

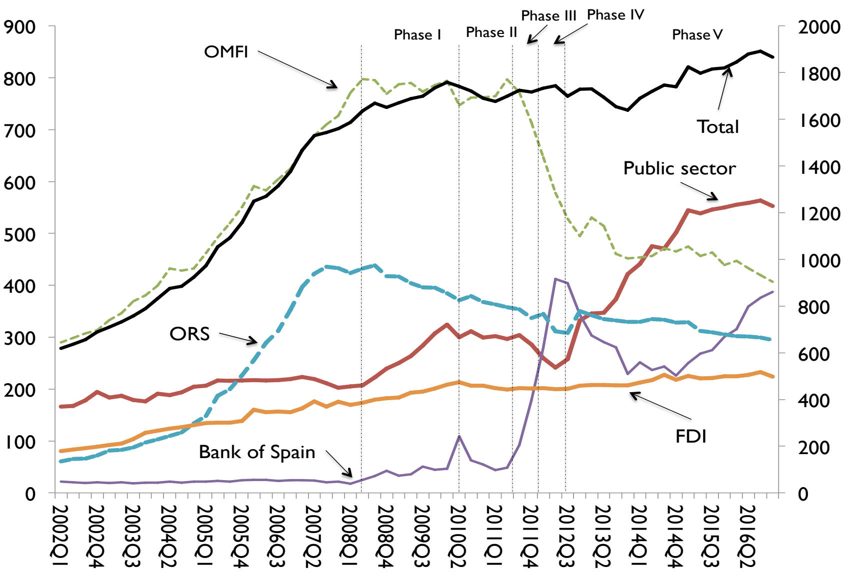

Figure 5: External debt by issuer: Total (right axis), debt issued by other monetary financial institutions (OMFI), foreign direct investment, debt issued by other resident sector (ORS), which are households and corporations, debt issued by the public sector (government, regional and muncipal) and external debt of the Bank of Spain. The vertical lines denote the five phases discussed in the introduction. In billions of €; Quarterly: 2002Q1-2016Q4. Source: Bank of Spain - Indicadores Económicos (Table 7.9).

largest trading partners, though nothing dictates that that should be the case. Panel B of Figure 4 shows the claims that French and German banks hold on Spanish counterparties, which includes sovereign exposure, corporate debt, equities, bank debt and so on. At the peak of this particular cycle, which occurs in 2009Q2, German and French banks had \$ 202.7bn and \$ 116.1bn, respectively, of exposure to Spanish risk. Importantly the BIS, from which this data is taken, does not include the exposure of insurance companies, pension funds or asset management companies. The exposure of each of these two countries is likely to be much higher.

The composition of the claims held is also important. Figure 5 shows the amount outstanding in billions of euros of external debt by issuer as reported by the Bank of Spain. The accumulation of external debt during the early years of the euro is easy to spot; it roughly tripled between 2002 and 2008, from €600bn to €1.8tr. The driver, unlike in the Greek case, was not sovereign debt. Spain's fiscal policy during the early years of the euro was conservative and the enormous revenues associated with the real estate cycle helped bring the the debt to GDP ratio to one of the lowest numbers in the OECD, about 30%. For this reason even when Spain's external debt was increasing consistently, the amount of sovereign debt held by foreigners remained constant throughout. Indeed as the plot shows the growth of external debt up to the Eurozone crisis is driven by issuance of the financial sector and other resident sector, mostly corporations.[23] Indeed, on of the least noticed aspects of the Spanish economy during these years was the rise of "corporate Spain," the rise of large companies which levered at the holding company level to finance their worldwide expansion. Companies, such as Telefónica, Ferrovial or Inditex became, for the first time in Spain's economic history, big players in their respective industries and they needed funds to become such.

Figures 4 and 5 show also the evolution of the composition of the Spanish debt portfolio in the hands of foreigners during the crisis. There were some dramatic changes and those gyrations explain much of the evolution of the crisis. Indeed, the crisis intensified when the financial liabilities of the banking sector held abroad dropped dramatically (phases III and IV). Spanish risk was being "reptariated" and this could only happen at deep discounts, complicating efforts to recapitalize the banking sector. This is a key feature that distinguishes the Spanish (and Irish) from the Italian banking crisis and previous Spanish banking crises: The exposure to international, wholesale, financial markets was poised to determine the timing of the different episodes and force the hand of the authorities at different turns. We will return to this aspect of the crisis repeatedly. The Spanish banking crisis is the result of the interaction of the international with the parochial. We turn next to the specific story of one of the cajas to document more closely this parochial aspect of the crisis.

2.2 Political economy: Caja Madrid: 2008-10

As already mentioned the Spanish banking crisis results from the interaction of the enormous flow of international credit into Spain and the poor governance institutions in the Spanish financial system. We saw above the details of two issues by Caja Madrid at the peak of the real estate cycle in Spain. What was Caja Madrid? What were the political economy constraints under which it operated?

Caja Madrid was the oldest of the Spanish cajas, having been founded in 1702. Like every other caja it was transformed by the 1985 law that completed the transition of the sleepy savings and loans into fully fledged banks except in what concerned their governance institutions. Caja Madrid was guided by Jaime Terceiro Lomba between 1988 and 1996. Mr. Terceiro is an academic of distinction and he ran Caja Madrid prudently and efficiently

[23]OMFI stands for other monetary Financial Institutions and comprises, credit institutions, such as the banks and cajas, but also money market mutual funds. Other resident sector (ORS) is comprised of households and corporations.

throughout his tenure. As mentioned, the governance bodies of the cajas reflect, roughly, the political map of the region of Madrid, but Mr. Terceiro received several times the unanimous support of *all* the political groups represented in the board to continue as CEO of the caja. This makes it all the more striking that Mr. Terceiro used his unique position as CEO of Caja Madrid to continuously alert about the dangers attached to the faulty governance institutions of the cajas sector and the need to remove political interference from what should be a purely professional management of the business operations.[24]

Mr. Terceiro was removed from Caja Madrid in 1996 after his long tenure. There is of course nothing wrong with CEO turnover, particularly after a long tenure, but his replacement signaled a change in the direction of the caja. The consensus that had governed personnel appointment was broken when the conservative party, then in power in the national government, struck a bargain with the trade union affiliated with the communist party to remove Mr. Terceiro and place in his stead Miguel Blesa. Mr. Blesa, a lawyer by training, had no experience in banking and he was open about the fact that his close friendship with then prime minister Aznar, of the conservative party (the People's Party or PP), was instrumental in his arrival at Caja Madrid.[25] The agreement between the conservative party and the trade union, which was released to the press, spoke in its very first article of the need to prevent any form of private capital from entering the caja, in particular if it was to affect management decisions. Moreover, in a rebuke of Mr. Terceiro's vocal stance regarding the governance flaws, the agreement stated that those with responsibility in the management of Caja Madrid would abstain from defending any change in the governance structures of the Caja Madrid. Finally, the agreement, ominously, called for a "reactivation of relations with real estate developers."

Table 1 shows the balance sheet of Caja Madrid in 2008 and 2007 as reported in the 2009 Annual Report.[26] Caja Madrid was, on the eve of the crisis, a large institution with assets of €178bn. This balance sheet was the result of a phenomenal period of growth in the Spanish banking system between 1992 and 2008. Caja Madrid is not extraordinary in that it grew more or less at the same rate as the rest of the cajas sector: It was 13% of the total assets

[24]Mr. Terceiro made his views known both in the press as well as in professional publications. See his "Problemas en la configuración jurídica de las cajas de ahorros," Expansión, October 2-3, 1995. Expansión is one of the two main economic dailies in Spain. For a thorough exposition of his views in a professional publication see Terceiro (1995). For a recent exposition of Mr. Terceiro's views and in particular how were they viewed inside the Bank of Spain at the time see Terceiro (2012; in particular see pages 184-5).

[25]See Íñigo de Barrón "El amigo de Aznar que tocó el cielo financiero," El País, May 13th 2013.

[26]Financial information about Caja Madrid are from the annual reports which are filed with CNMV. Financial statements were audited in the years leading up to the crisis and during the crisis itself by Deloitte.

Table 1: Caja Madrid 2008/07. Balance sheet in €bn. Source: Annual Reports

	2008	2007		2008	2007
Cash & Deposits - NCB[a]	2.4	4.0			
Trading book	10.1	6.5	Trading Book	9.6	4.4
Derivatives	*9.4*	*5.1*	*Derivatives*	8.4	4.4
			Short positions	*.16*	*.0*
Avail. for sale securities	18.4	14.0			
Debt	*17.9*	*12.7*			
Avail. for sale non curr. assets	.2	.0			
Hold to maturity securities	7.8	7.2			
Credit book	128.8	119.5	Liabilities	157.4	139.9
Deposits - CI[b]	*10.1*	*10.6*	*Deposits - CI*	*16.0*	*10.3*
Loans	*118.6*	*108.9*	*Deposits - NCB*	*5.0*	*2.7*
			Deposits - Clients	*84.7*	*71.6*
			Senior and covered bonds	*47.1*	*50.3*
			Subordinated liabilities	*4.1*	*4.2*
			Other liabilities	*.50*	*.72*
Subsidiaries	4.0	2.1			
Other fin. assets	.08	.1			
Hedging derivatives	2.6	.9	Hedging derivatives	.63	1.3
			Provisions	.7	.4
			Pensions and other	*.2*	*.03*
			Taxes and legal cont.	*.06*	*.06*
			Risks and cont. comm.	*.17*	*.18*
			Risks and cont. comm.	*.31*	*.13*
PPE	2.0	1.4			
Goodwill	.08	.06	Foundation liabilities	.49	.46
Tax assets	1.3	1.0	Tax liabilities	.5	.6
Other assets	.4	.1	Other liabilities	.63	.51
			Redeemable capital	.63	.51
			Total Capital	9.4	9.6
			Capital	*9.6*	*8.9*
			AOCI	*(.12)*	*.69*
TOTAL ASSETS	178.1	158.8	TOTAL LIABILITIES	178.1	158.8

[a] NCB: National Central Bank
[b] CI: Credit Institutions

of that sector in 1992 and 15.5% in 2008. On the asset side Caja Madrid is a traditional bank. The balance sheet is dominated by loans, €118.6bn. Most of those loans are to Spain's private sector (€110bn). There were loans to the public sector were only €3.3bn. Of the loan portfolio about €70.3bn was collateralized: Either household mortgages or secured loans to firms. In addition, Caja Madrid has a portfolios of securities, about €36.3bn, divided in three different entries in the asset side of the balance sheet: The trading book, available for sale securities, and hold to maturity securities. The footnotes reveal that most of those securities are sovereign debt. Caja Madrid has about €16.3bn of Spanish sovereign debt in its balance sheet across all three buckets, which was a large increase relative to the 2007 position of €12.6bn. The bulk

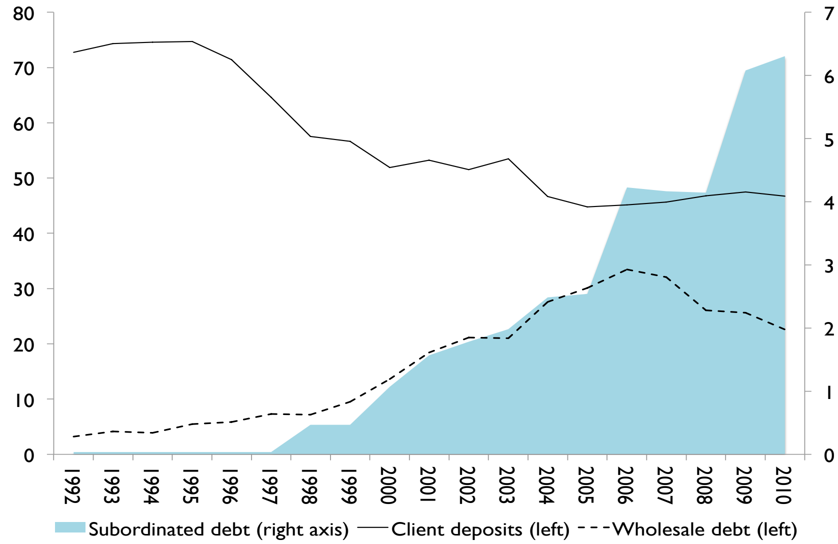

Figure 6: Caja Madrid: Client deposits and wholesale funding (senior and covered bond plus subordinated debt, plus other debt such as commercial paper) as a percentage of total assets (left axis) and subordinated debt in billions of €(right axis). There was an important accounting change in 2005 involving the EU wide adoption of the new IFRS rules. See footnote 6 of the 2005 Annual Report to understand the differences between the old and new accounting standards and the impact in the presentation of the financial statements. Annual: 1992-2010. Data source: Annual Reports

of this increase in the holdings of Spanish sovereign debt were accounted for under available for sale entry. In addition, there are €2bn of foreign sovereign debt and another €2bn of debt issued by financial institutions. The rest is made of derivatives positions, mostly interest rate swaps, and they are computed under the trading book entry.

On the liability side the two main items are client deposits, about €85bn, and whole sale funding which is about another €51bn, between senior, covered and subordinated bonds. Of these €51bn senior debt accounts for €47bn, whereas subordinated debt is 4bn. Senior debt is composed in turn of two main entries, senior unsecured (€17bn) and covered bonds (€24bn). The rest is commercial paper and other liabilities. The balance sheet does not reflect the profound changes that Caja Madrid had experienced over the last decade in what refers to its funding. This is done in Figure 6. The percentage of the balance sheet funded with client deposits went from almost 75% in 1992 to about 47% in 2008, the eve of the crisis. In the same period wholesale financing went from negligible to well over 30%. The plot also shows the growth of junior or subordinated debt during this period, which went from negligible to more than €6bn by the end of the sample. Why?

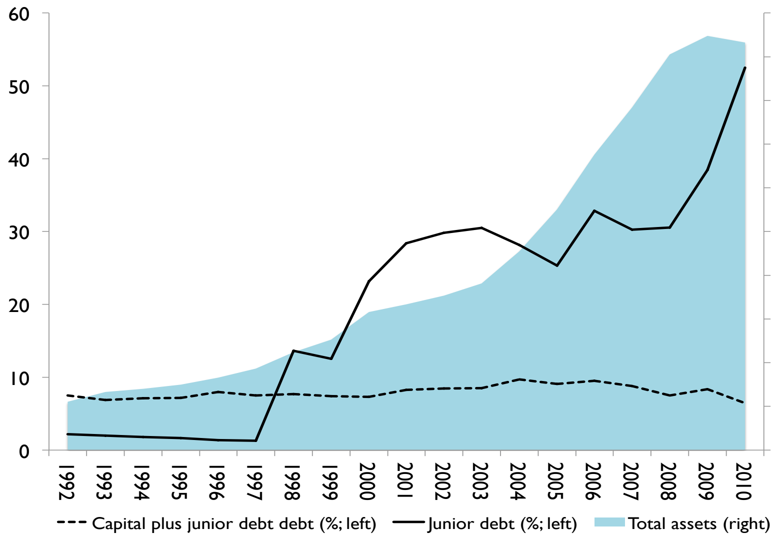

Figure 7: Caja Madrid - Right axis: Total assets in billions of €. Left axis: Capital plus junior debt as a percentage of total assets and junior debt as a percentage of capital plus junior debt. Annual: 1992-2010. Data source: Annual Reports

Like the rest of the Spanish banking system Caja Madrid experienced very strong growth during the early years of the euro. Figure 7 shows the size of the balance sheet in billions of euros (nominal) between 1992 and 2010. Caja Madrid grew roughly at the same pace as the rest of the cajas sector, which in turn grew faster than the banking sector. Growing the size of the balance sheet needs, of course, of additional regulatory capital. Figure 7 also shows the percentage that capital and junior debt represent of total assets, which is fairly constant throughout this period. Recall that the cajas were not publicly traded and that the instrument that served as a substitute for equity (the "cuota participativa") was an unattractive investment vehicle on account of the fact that it carried no decision rights and thus left the holder of such instrument unprotected in the presence of the serious governance problems plaguing the cajas. This left two sources of additional capital that the cajas could drew on to grow the balance sheet: retained earnings and junior debt. Figure 7 shows the percentage that junior debt represent of the sum of net capital and junior debt, which I take as a proxy for regulatory capital during this period. By 2008 junior debt accounts for half of the regulatory capital. It was by issuing debt that could count as regulatory capital that Caja Madrid was able to grow the balance sheet so considerably, an experience that it shares with many other cajas.

Junior debt came essentially in two forms. The first variety was a standard junior bond

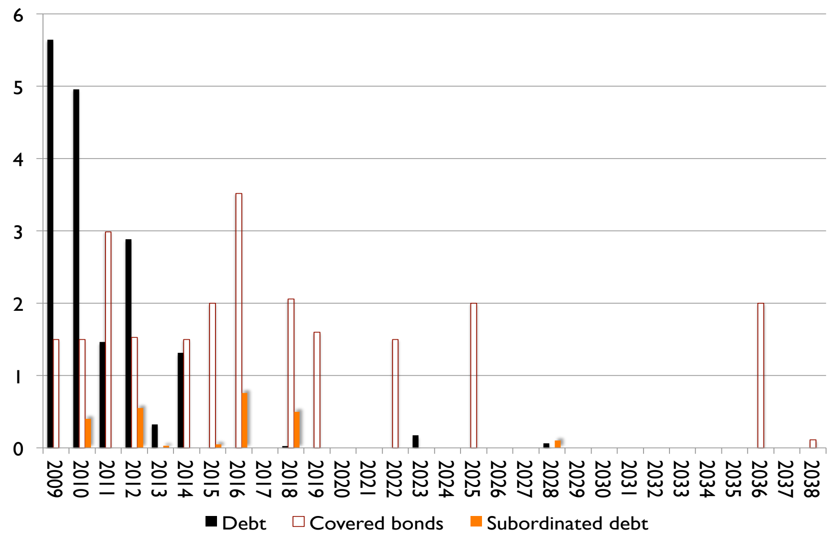

Figure 8: Caja Madrid: Maturity structure for senior unsecured, covered and subordinated or junior debt. Caja Madrid also had at the time perpetual subordinated which is not shown in the above plot. Annual: 2009-2038. Data source: Annual Reports

of a give maturity and which was mostly held by institutions. Second, there was a form of perpetual bond with a prespecified coupon with a repurchase option after a protection period. These were known as "preferentes" in Spain though they are not to be confused with preferred stock. Originally issued off-shore[27] in the early 90s they were then done as a tax arbitrage and marketed to institutional investors. They became particularly important once the crisis loomed when institutional investors quickly fled this market. Caja Madrid, in need of fresh capital, and as many other institutions, turned to its retail branch network to place amongst its unsuspecting clients almost €1.9bn of this peculiar instrument in 2009. This had a fateful consequence and it is that any bail-in would have to first start with the holders of the preferentes, households, a few months after being sold this particular liability. This would have paralyzing effects on the Spanish authorities who quickly understood when the crisis came the enormous political costs a bail-in would have. As we will see, the Memorandum of Understanding with the European authorities specifically bound Spanish authorities to impose losses on the holders of the preferentes.

2008 though was a profitable year for Caja Madrid. As the audited statements report net income for Caja Madrid was €840 million for the consolidated group (which encompasses

[27]They were issued in the Cayman islands and had names like Caymadrid Finance Limited.

the caja proper and the affiliates). Still, given the structure its liabilities and the volatility in financial markets at the end of 2008 the maturity structure of the wholesale debt is of particular importance. Figure 8 shows the amounts due, as reported in the footnotes, for the senior, covered and junior bonds. Caja Madrid had substantial liabilities coming due in 2009 and 2010 and thus the importance of raising fresh capital through the issuance of the "preferentes" as well as the new debt guarantee program launched by the Spanish government in the fall of 2008. Only in 2009 Caja Madrid was to face more than €5.5bn of maturing bonds and another €1.5bn of covered bonds.

In sum, Caja Madrid by 2008 had grown its balance sheet considerably but no more than the rest of the cajas sector. The growth of the balance sheet was funded appealing to wholesale markets and capital needs were met through retained earnings and junior debt issuance. As a result it was exposed to refinancing risk. Initially these refinancing needs were met with additional issuance of junior debt to households through its vas branch network as well as making use of the new bank debt guarantee program launched by the government in the Fall of 2008. None of this addressed the solvency problems that Caja Madrid was to encounter in the future. Before that though there was another caja in need of immediate resolution.

3 Phase I (Sept. 2008 - Apr. 2010): Initial steps

3.1 The banking system: Solvency reinforcement and retail banking

During the year 2008 and 2009 liquidity problems accumulated not just in Spain but all around the world. The recession had already set in in the last quarter of 2007 and problems in US financial markets had already surfaced in the summer of that year. As Figure 5 shows during this first phase of the crisis the amount of debt issued by financial institutions in the hands of non residents, not including the Bank of Spain, flattened. This hides though an interesting change in the mix of assets that Spanish entities, financial and non financial, could place abroad. Figure 9 shows the gross private fixed income issued by Spanish issuers in foreign markets by year. Notice that the years 2008 and 2009 saw an interesting reversal by which foreigners were willing still to acquire short term Spanish paper but the amount of long term debt that could be issued abroad dropped dramatically.[28] Foreigners thus were happy to refinance but only at

[28] As the 2009 Annual Report of the CNMV states "Financial institutions accounted for almost 90% of gross issues in other countries. Specifically, subsidiaries of Banco de Santander accounted for 39.2% of gross issues. The non-financial companies with most issues were Telefónica, Gas Natural and Iberdrola, which issued 4.8%, 2.8% and 2.2% of the total respectively." (CNMV, 2009).

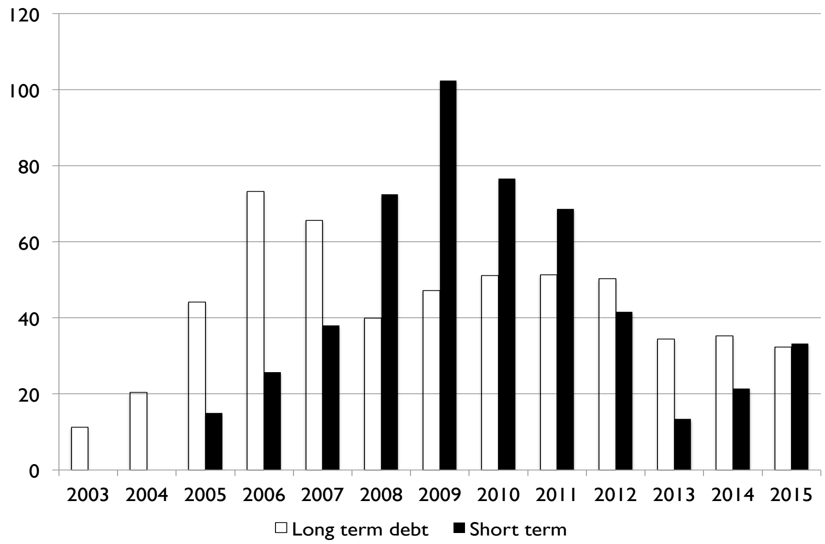

Figure 9: Gross private fixed income issued by Spanish issuers in foreign markets; in billions of €s. Annual: 2003-2015. Data source: CNMV - Annual Reports (various years).

the expense of the seniority that short term maturity brings.

Spanish credit entities thus were becoming more fragile as a result and must have been concerned that a possible run on their liabilities may lead to severe liquidity shortages. Spanish credit institutions reacted by reinforcing regulatory capital and accumulating liquidity. Figure 10 Panel A shows issuance of both 'preferentes' and subordinated debt from 1998 to 2012. Spanish credit institution started issuing 'preferentes' in the late 1990s, mostly for tax reasons. It is difficult to gather data regarding how much was placed amongst retail clients and how much between institutional investors, but informal reports suggest the main target were institutional investors. In addition subordinated debt took center stage at the height of the real estate cycle, peaking in the years 2006 and 2007, when the appetite for Spanish paper amongst foreigners was at its highest. Recall that the cajas in particular had not attractive capital instrument and thus 'preferentes' and subordinated debt were needed to growth regulatory capital to keep apace with the growth of the balance sheet. But when the foreign appetite dried up spanish credit institution turned to the 'preferentes' once again, now to both gather liquidity as well as to stabilize the liability side of the balance sheet: Only in 2009 Spanish credit institutions issued more than €12bn of 'preferentes' but this time the retail network was put hard at work to sell this large volume of this peculiar instrument. It is important to realize that the 'preferentes' were very low in the priority structure, below subordinated debentures, and thus when the time came to impose losses these retail investors, mostly uninformed households such as retirees, were to suffer substantial losses and create a severe political problem.

Panel B of Figure 10 shows the issuers sorted by size of the issue. The data is presented listing the institution as they were in 2013, when a large wave of merger and conversion into banks had already happened. Notice that the largest issuer was Bankia/BFA, which was the bank formed out the merger between Caja Madrid, Bancaja and five other smaller cajas, and that was going to precipitate the acute phase of the crisis in 2012. Santander, the behemoth of the Spanish banking system, and Caixabank, the heir of La Caixa, which issued almost €2bn, followed next. Credit institutions, whether banks or cajas and whether they were to be intervened later or not, rushed to lever their retail network to improve solvency ratios but also to place households in the most junior position in the priority structure, which would render the option of bailing in the debt a difficult political problem.

But the crisis that started in 2008 and that would continue well into 2009 was one that credit institutions could not weather alone. As in the USA, European authorities were busy designing policy responses that were consistent with the rules on state aid. Spanish authorities followed suit with several measures. It is to this issue that I turn to next.

3.2 Policy reaction: Setting up the tools to fight the banking crisis

From the very beginning of the world financial crisis Spanish authorities emphasized the strength of the Spanish financial system while prudently building institutions designed to assuage concerns and meet liquidity challenges. For instance, Prime Minister Rodríguez Zapatero declared on September 23rd 2008, while on visit to the US Chamber of Commerce in New York, that Spain had what perhaps was the most robust financial system in the world, though he noted that excessive exposure to real estate and high foreign indebtness were sources of concern. The governor of the Bank of Spain, Miguel Ángel Fernández-Ordóñez, widely known by the acronym of his name MAFO, in a statement to parliament on October 7th 2008 said that the "Spanish financial system is well managed, well regulated and well supervised."[29]

[29] Mr. Fernández-Ordóñez's statement regarding financial stability was "Desde el punto de vista de la estabilidad financiera, las entidades españolas han demostrado una mayor capacidad de resistencia que las de otros muchos pases. Pero como he repetido en distintas ocasiones, no es momento para la complacencia, pues los retos futuros son importantes. Una crisis como la que está sacudiendo hoy a los mercados financieros de todo el mundo difcilmente podr resultar neutral para quienes dependen de ellos en mayor medida. Tampoco se pueden ignorar las implicaciones que puede tener el hecho de que una parte importante de los flujos de financiacin del sistema financiero español est vinculada de uno u otro modo al sector inmobiliario. No obstante, debido a

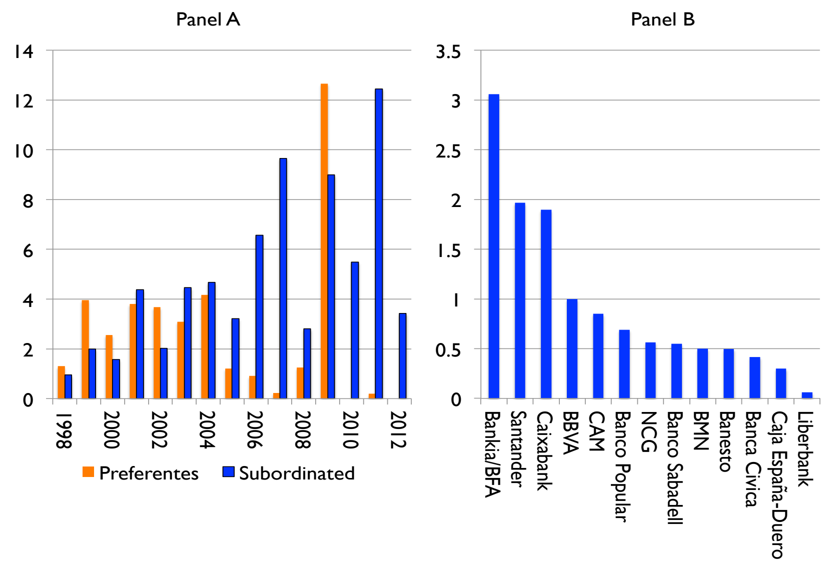

Figure 10: Panel A: Credit institutions: Issues of preferentes and subordinated debt. In billions of €s. Annual 1998-2012. Panel B: Issues of preferentes by credit institutions in billions of €s during the years 2008 and 2009. The entities are as of 2013. For instance, the panel lists issues by Bankia/BFA, which was the merger of Caja Madrid, Bancaja and five other small cajas, but the main issue was done by Caja Madrid. Data source: Comisión de Seguimiento de Instrumentos Híbridos de Capital y Deuda Subordinada, May 17th, 2013.

Obviously, a prime minister and a governor have a responsibility to calm fears and convey confidence. But both had warned while in the opposition of the many imbalances building in the Spanish economy and the potential problems ahead. Mr. Rodríguez Zapatero, of the Spanish socialist party or PSOE, had become prime minister after the disputed campaign of 2004, which featured a heated debate about the speculative nature of the Spanish strong growth performance in the early years of the euro. Mr. Fernández-Ordóñez, closely aligned with PSOE, was named governor of the Bank of Spain by Mr. Rodríguez Zapatero in July of 2006. Before that he had had a distinguished career in several low cabinet positions as deputy finance minister and deputy trade minister while the socialists were in power. In the years in which the socialist party had been out of power (1996-2004), Mr. Fernández-Ordóñez had

mltiples razones, entre las que cabe citar la calidad de nuestra regulacin y supervisin, las entidades españolas no han estado involucradas ni en la generación, ni en la comercialización ni en la adquisición de los productos financieros tóxicos que tanto daño están infligiendo al sistema financiero internacional. Sus niveles de eficiencia, de rentabilidad y de solvencia les han colocado, además, en una posición de relativa fortaleza para hacer frente a esta crisis. Por eso, y ante los acontecimientos que da a da se vienen sucediendo en el sistema financiero internacional, quiero, como gobernador del Banco de España, hacer un llamamiento a la calma y reiterar la confianza en el sistema financiero español, un sistema bien gestionado, bien regulado y bien supervisado. Les puedo asegurar que, en estos momentos, no hay nada que ponga en riesgo los ahorros de los depositantes españoles."

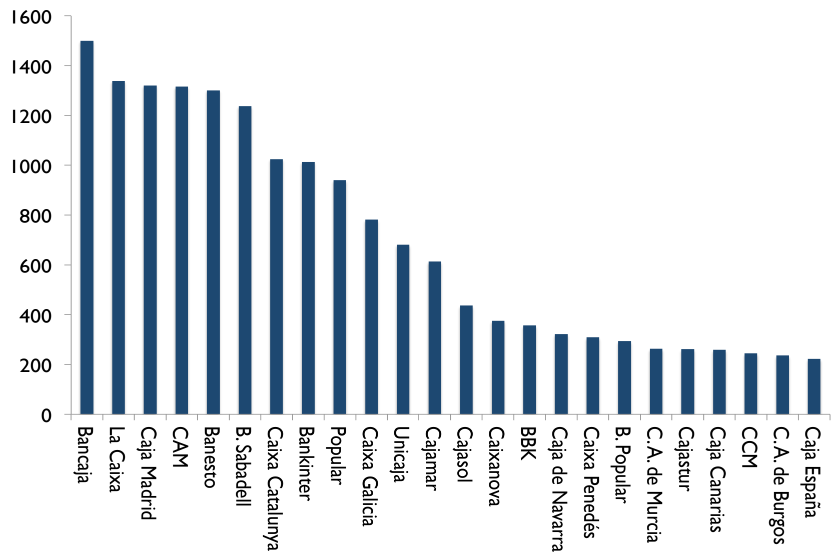

Figure 11: Asset sales to the Fondo para la Adquisición de Activos Financieros (FAAF) by credit institutions (above €200m). In millions of €. Data source: Ministerio de Economía y Competitividad (available at http://www.fondoaaf.tesoro.es/).

had a prominent career in journalism as well. His newspaper articles on the fragile nature of Spain's economic performance and repeated warnings on the perils for the economy of a correction in both housing prices and a construction sector collapse are prescient and can still be read profitably.[30]

Given this it is unsurprising that the Spanish cabinet followed the international wave of public intervention in capital markets with a series of *Reales Decretos Ley* (RDL) designed to assuage concerns and provide flexible tools to policy makers.[31]

Between October 2008 and June 2009 there were three important measures; they all reflected consensus amongst policy makers and observers of how best to approach the enormous volatility in financial markets. The first one[32] raised the minimum level of insured deposits and, as in many other places, was directed towards instilling confidence in households, always the last barrier of defense in systemic banking crisis. The second[33] created a fund for the

[30]Perhaps the one, of the many, that impresses the most was "El Pinchazo de la Burbuja de la Construcción," Cinco Días, 09-27-2003, which already warned of the serious imbalances in the Spanish economy in 2003.

[31]Reales Decretos Ley is a legal norm with the rank of law that is typical of parliamentary monarchies and that is issued in emergency situations. RDLs have to be approved by parliament within a certain period of time. Reales Decretos (RD) instead only have the rank of norms and administrative rules.

[32]RD 1642/2008.

[33]RDL 6/2008.

refinancing of non-toxic assets owned by credit institutions in need to raise liquidity for up to three years. It was known by its acronym, FAAF[34] and it had a size of €30bn, but could reach up to €50bn. The total amount allocated in the four auctions that took place between November 2008 and January 2009 though was slightly less than €20bn. The fund was closed in 2012 with a €650 million profit for the Spanish Treasury. Figure 11 shows the cross section of banks who accessed this facility and the amounts raised. Amongst the top users of the facility were some of the cajas that are going to feature prominently in this narrative, Bancaja, Caja Madrid, and CAM.

The FAAF program flew very much under the radar throughout these years and, though counterfactuals are always tricky when so much is happening, it didn't seem to make much of a difference in the evolution of the crisis. The reason is that the program was designed precisely to exclude toxic assets, that is, it stuck tightly to Bagehot's prescription of lending against a good collateral to provide liquidity though here it was the treasury rather than the central bank the one that was doing the lending. But of course, the crisis brewing was one of solvency and the FAAF did nothing to assuage those concerns. There was much anxiety early on in the crisis regarding the pernicious effects associated with marking to market in the presence of fire sales, as in Plantin, Sapra and Shin (2008), and mechanisms such as the FAAF can of course do much to alleviate these concerns. Still there is little evidence that institutions where marking the assets to market prices.[35]

The third program was instead entirely different and it was more consequential in this regard. It was a *new* bank debt guarantee with a cap of €100bn and valid until December 31st 2009.[36] The program was part of the set of measures agreed upon by the Eurozone leaders on October 12th of 2008 to guarantee credit institutions access to the market and thus was part of a wider effort in the monetary union. Panel A of Figure 12 shows the amounts issued under that program for each of the selected credit institutions.[37] The total amount issued by these institutions was about €52bn and the top issuers were Caja Madrid, CAM, Bancaja and Catalunya Caixa (to the tune of €33.4bn). That is, the debt guarantee program for this four

[34]Which stood for Fondo para la Adquisición de Activos Financieros.

[35]See Laux and Leutz (2010) and Huizinga and Laven (2012).

[36]RDL 7/2008. The details of the program were elaborated in what is referred to as an Orden (Orden EHA/3748/2008), which is available in the webiste of the Bank of Spain.

[37]Credit institutions issued several times under the same program. For example Caja Madrid issued eleven times between February 2009 and May 2011 under the program (the application had to be done before December 31st 2009 but that did not require issuance and collection of the proceeds during the year of application.) The largest issue was of €2bn on February 20th of 2009 and the smallest was of €330 million on March 22nd of 2010. Other big issuers under the program were Unicaja, CajaMar or Cajasol, with about €1bn each.

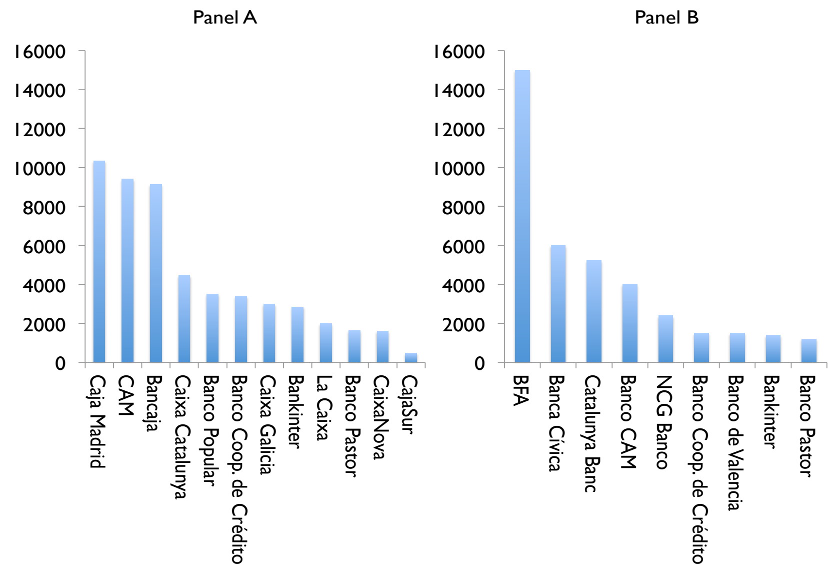

Figure 12: New bank debt guarantee program. The plots shows the par value insured for a selected cross section of credit institutions. Panel A reflects the amounts that were issued under the first program which was approved in the Fall of 2008, which extended to December 31st 2009. Panel B reports the amounts under the 2012 program. The amounts reflect the consolidation across several issues. For instance Caja Madrid issued on 2/20, 4/2 and 4/16 during 2009. Credit institutions across panels differ as between 2008 and 2012 the cajas sector went through a consolidation wave as well as conversion into banks. The amounts for Bankinter exclude some issues in ¥. In millions of €. Data source: Ministerio de Economía y Competitividad

institutions was larger than the entire FAAF. Notice as well that the same institutions that made heavy us of the FAAF were also issued under the debt guarantee program.

There are obvious economic differences between both programs. The FAAF provides only liquidity whereas the debt guarantee program is implicitly a guarantee on the entire quality of the assets held in the balance sheet of the issuing institutions. Moreover, the debt guarantee program, if renewed as it happened in 2012, progressively links the balance sheets of the public and the banking sector. Clearly the issuance of debt with a government guarantee facilitates repayment of maturing debt and repurchase of non maturing debt. Thus if existing debt is trading at a deep discount it implicitly helps in imposing losses on the holders of that debt. In general debt guarantee programs facilitate the exit of existing debt holders, many of them foreigners, and the entrance of new ones, nationals on many occasions in particular if the retail branches are being used to place the debt or funds managed by the very same issuing institutions purchase the new bonds. This further complicates the political economy of debt restructuring later in the crisis. The magnitudes were not overall substantial given the size of

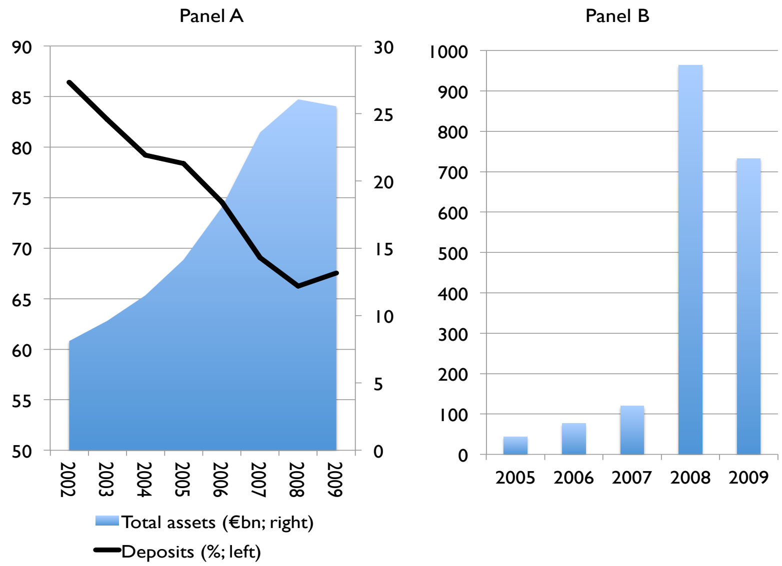

Figure 13: Caja Castilla La Mancha (CCM). Panel A: Total assets in billions of €s (shaded area; right axis) and percentage of those assets funded with client deposits (line; left axis). Panel B: Write-offs in millions of €s (bars; right axis); the number corresponds to the entry "Pérdidas por deterioro de activo financiero," which are taken from the CECA website, except for 2008 and 2009, which are taken from the 2009 annual report which was filed in 2010 after the intervention (see footnote 35 of the Annual Report). Source: CECA and 2009 Annual Report

the banking sector in Spain as well as its GDP, but, as mentioned debt guarantee programs might affect future policy actions directly by limiting options down the road, particularly if the credit of the sovereign deteriorates, or indirectly through their effects on the political economy of debt restructuring.

3.3 The first caja falls: Early lessons

3.3.1 Caja Castilla-La Mancha

Caja Castilla La Mancha (CCM) was the first caja intervened by the Bank of Spain and for that reason it was a widely followed affair in the press. The intervention had all the drama the public had come to expect of the financial crisis, including the late Sunday meeting of the cabinet to approve a €9bn guarantee to assist with the liquidity problems of CCM.

At the time of its intervention, CCM was run by Juan Pedro Hernández Moltó, a long standing member of the Spanish Socialist Workers Party (PSOE). Mr. Hernández had served as a minister in the cabinet of the region of Castilla La Mancha, which was controlled by the

PSOE between 1983 and 2011; he was also a member of the national parliament between 1989 and 1999, where he headed the powerful committee on economic affairs. He was an economist by training and became head of CCM in 1999 though he had no experience in banking prior to it. Under his leadership CCM tripled the size of its balance sheet in the mere span of six years, from €8.1bn in 2002 to €23.5bn in 2007 (see Panel A of Figure 13). It grew by extending loans to real estate developers, construction companies as well as ruinous infrastructure projects, many of which were politically motivated.[38] The percentage of the balance sheet funded with deposits decreased as the caja expanded and, as it was the case in Caja Madrid, issuance of senior and junior debt expanded accordingly. CCM went from having €68.4mn and €285mn of senior and junior debt, respectively, in 2002 to having €2,691mn and €860.5mn in 2008, according to the 2009 Annual Report.[39]

As a result of the aggressive expansion of the balance sheet and overreliance on wholesale markets CCM started suffering from severe liquidity problems as losses materialized,[40] particularly in the third quarter of 2008. The market suspected what would come to pass, that CCM was bound to write off a significant amount of its assets (see Panel B of Figure 13). Problems only worsened when CCM was downgraded from BBB+ to BB+ on February 19th 2009[41] and this left the caja without any access to either interbank or repo markets. In addition CCM no longer had any ECB eligible collateral[42] and as a result it was forced to request an emergency liquidity line from the Bank of Spain of €475mn, which was eventually increased to €900mn.[43] During the months of February and early March of 2009 the Bank of Spain had approached several other cajas to gauge interest on a possible takeover. Unicaja, one of the Andalousian cajas, was willing but only would follow through pending an audit report by a third party,

[38] One such project, the Ciudad Real airport became the poster child for the excesses of the fiesta years, as the early years of the euro became known in Spain. This is an airport built without any consideration to its economic viability and to this day the number of daily flights are in the single digits (including 0). At the time of its intervention CCM had a 36.43% equity stake in it and €143.9mn in loans (after write-offs in 2008 of €173.5mn). See CCM (2010, page 102).

[39] To obtain financial information about individual cajas I combine data from the CECA, the business association body which, in its superb website, offers information about each of the cajas with information coming from the annual reports, in particular when there are concerns about severe restatements. For instance CCM's write-offs as reported by the CECA for the years 2008 and 2009 are, respectively, €873.8mn and €691.3mn whereas the annual reports quote them at €963mn and €732.8mn, respectively.

[40] According to the 2009 Annual Report CCM had a ratio of liquid assets, which were eligible for discounting operations with the ECB, of 37.5% (see CCM, 2010, page 80) of wholesale funding.

[41] Fitch Ratings had already downgraded CCM's preferentes from BBB- to BB+ on October 27th 2008, but the rating of the overall entity remained BBB+.

[42] These narrative follows closely the description of events in the annual report corresponding to fiscal year 2009, CCM (2010).

[43] This loan was collateralized with €2bn of bonds, equity and and loans, apparently none of it eligible for discounting operations with the ECB. See CCM (2010, page 77).

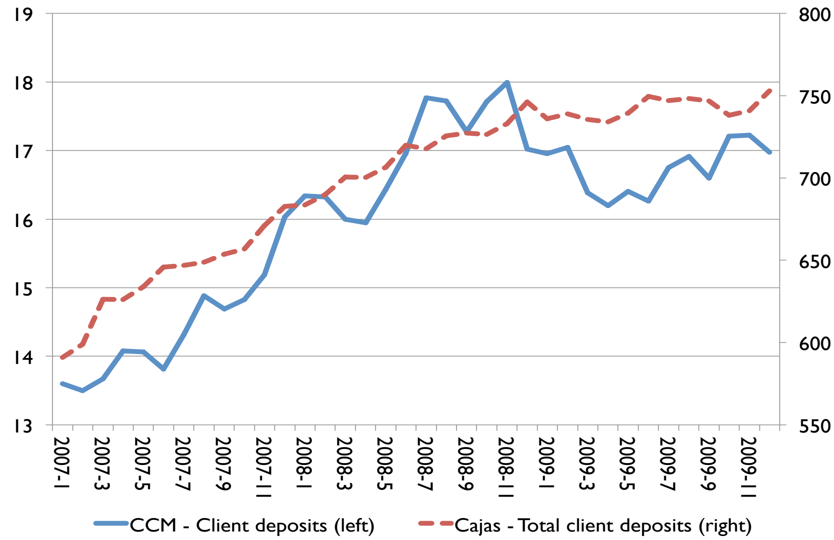

Figure 14: Caja Castilla La Mancha (CCM): Client deposits (left) and total deposits of other resident sectors (ORS; households and non financial corporations) in the cajas (right axis). In billions of €s. Monthly: January 2007 to December 2009. Source: CECA and Bank of Spain (BE046205)

PricewaterhouseCoopers (PwC). The audit, which was never made public, was provided to Unicaja on March 25th. It reported a solvency gap for CCM of €3bn, amidst the protests of the management.[44] This number was well above the solvency gap previously identified by the Bank of Spain which was, according to many reports on the press of only €500mn.[45] The proposed merger fell through. The death knell was the refusal by part of CCM's auditors, Ernst & Young, to sign the annual report corresponding to fiscal year 2008, which meant that CCM would miss the deadline to file with the CNMV. Reports in the press spoke of the tug of war between CCM's management and the auditor for a more aggressive recognition of the losses.[46]

As always with banks, deposit withdrawals were accelerating events. As mentioned above, a deposit war broke out early in the crisis amongst banks and cajas as refinancing problems in wholesale markets materialized. CCM had actively participated in this war[47] but

[44]See "CCM niega tener un "agujero" de 3,000 millones de euros,' Cinco Días, March 29th 2009.

[45]See for instance Íñigo de Barrón "El Banco de España cuestiona las cuentas de Caja Castilla la Mancha," El País, March 31st 2009.

[46]See for instance Jesús Cacho "El Banco de España interviene CCM ante la negativa del auditor a firmas las cuentas de 2008," El Confidencial, March 30th 2009.

[47]See for example Nuria Salobral "El cliente sale ganando en la guerra del depósito," Cinco Días, September 27th, 2008.

clearly as bad news accumulated the trend reversed. Assessing the extent of *retail* deposit withdrawal is difficult as the financial statements don't itemize sufficiently the different entries that are reported under the heading "client deposits." CCM's FY2009 annual report mentions deposit withdrawal as an important catalyst triggering the intervention of the Bank of Spain, though it offers no high frequency data that would allow for an assessment of the magnitude of the withdrawal.[48] Figure 14 shows monthly data on CCM's "client deposits" as reported by the CECA. It also shows the equivalent consolidated entry for the entire sector as reported by the Bank of Spain.[49] CCM's success in attracting deposits during the first phase of the deposit war is captured by the higher rate of growth when compared to the aggregate sector one, particularly during the period that goes between April and November of 2008. After that CCM loses deposits consistently undoing the gains accumulated over the period of the deposit war losing almost €2bn.

Given this situation and the desperate liquidity needs of CCM the Bank of Spain decided to intervene. The Bank of Spain issued a press release stating that depositors *and creditors* could be completely calm. It essentially meant that the central bank was going to be responsible to meet all the liquidity needs, which obviously required a taxpayer guarantee. On Sunday March 29th 2009 the cabinet of prime minister Rodríguez Zapatero met to extend guarantees up to €9bn on whatever liquidity assistance the Bank of Spain may provide CCM.[50] If those guarantees were to be called the cajas deposit insurance fund (FGDCA) would in turn refund those guarantees to the treasury.[51]

CCM was eventually sold to Cajastur, a small caja with a clean balance sheet. Cajastur absorbed the banking business of CCM though a banking subsidiary, Banco Liberta, but not before CCM had received a €1.3bn injection of "preferentes" plus a €2.475bn asset protection

[48]Footnote 18.3 of the 2009 annual report (CCM, 2010, page 77) breaks down the different entries for client deposits for the years 2008 and 2009. It registers a minimal drop in the level of deposits of about €40mn.

[49]Again, this evidence should be interpreted with caution for the entry reported includes other items than household retail deposits. According to the Circular 4/2004, which established the new reporting standards after the adoption of IFRS, under this entry not only standard retail deposits are reported but also repo transactions against counterparties in repo transactions as well funding out of securitization issues. See Banco de España (2008, Hoja 57 and Hoja 85).

[50]RDL 4/2009.

[51]At the time there were three such deposit insurance funds in Spain, one for banks, the Fondo de Garantía de Depsitos de Establecimientos Bancarios or FGDEB, one for the cajas, FGDCA, and another one for the credit cooperatives, FGDCC. They were all funded, as is the standard, with a surcharge on the level of deposits of the participating institutions. The three funds were merged in 2011 following the progressive conversion of the cajas into banks in the Fondo de Garantía de Depsitos de Establecimientos de Crédito or FGDEC (RDL 6/2011). A particular advantage of this consolidation is that it allowed the use of the funds in principle available to insure *bank* deposits for the cajas restructuring process.

scheme, all this funded by the cajas deposit insurance fund (FGDCA), which as the Bank of Spain emphasized in its "Nota Informativa" of November 3rd 2009, meant that the taxpayer had no exposure to the possible losses in the asset protection scheme. Prior to that, on June 26th of 2009, CCM had announced its intention to repurchase all preferentes at par though it would not pay the corresponding coupon on account of the lack of profitability. CCM had no legal obligation whatsoever to do this and the Bank of Spain was well within its rights to bail in the debt prior to any recapitalization of the entity. This was to be a pattern that was going to be followed throughout the crisis all the way to the Memorandum of understanding in the summer of 2012.

3.3.2 Early lessons and policy response: The FROB

The fall of CCM and the policy response left a strong and negative impression. The gap between the solvency gap estimated by the Bank of Spain as reported in the press,[52] €.5bn, and the PwC estimate, which was €3bn was big. Clearly there was an interest by part of the potential acquirer to exaggerate the gap in order to sweeten the potential assistance in a takeover but, given the final arrangement with Cajastur, it looked like the truth was closer to the PwC estimate than to the Bank of Spain's. Did the Bank of Spain have a clear grip on the real solvency needs of the cajas sector? The fact that several cajas walked away from a takeover deal led to a constant update on the real capital needs of CCM.

In addition, throughout the crisis there was the customary litany of public officials insisting that it was all liquidity rather than solvency. The credibility of officials was not helped by the constant reassurances which were made in the absence of any clear mechanism for verifiable solvency gap discovery. Pedro Solbes, the well regarded finance minister of Spain, after the cabinet meeting in which the €9bn guarantee was extended, insisted that there was no solvency gap in CCM, that it was all liquidity, and that the strength of the Spanish financial system remained strong.[53] But the measures taken during the Fall of 2008 (see section 3.2) were precisely designed to address those liquidity concerns. Were these measures not enough? The entire affair had betrayed an air of improvisation that bode poorly for future crises. The fact that a cabinet meeting had to be held on a Sunday night and the magnitude of the guarantee extended left many thinking that after several months of the financial crisis and the measures

[52] Íñigo de Barrón "El Banco de España cuestiona las cuentas de Caja Castilla La Mancha," El País March 31st, 2009.

[53] Juan Emilio Maillo "Solbes: 'Caja Castilla La Mancha es una entidad solvente'," El Mundo, March 29th, 2009.

taken during the Fall of 2008, Spain was still unprepared to meet the expected restructuring of the cajas sector.

These reassurances were undermined by the cabinet's own reaction to this particular crisis. On June 26th 2009 the cabinet created the Fondo de Restructuración Ordenada Bancaria or FROB, a standing facility that could provide financial assistance to the resolution processes of banks and cajas in distress.[54] The FROB was capitalized with €6.75bn by the state and another €2.25bn the the deposit insurance funds. Moreover the FROB could lever up with the full guarantee of the Kingdom of Spain to a limit of ten times the capital, for a potetial balance sheet of €99bn. With this measure the cabinet, quite sensibly, removed the need for last minute funding arrangements and institutionalized the fiscal response to the banking crisis. Two additional issues merit some discussion for what follows.

First, the governance of these facilities is important as banking crises are rife with agency problems. The Bank of Spain was placed firmly in control of the FROB, which was to be run by an eight member committee named by the minister of finance: Five would be proposed by the Bank of Spain and three more by each of the deposit insurance funds (see footnote 51); the head of the committee would be the deputy governor of the Bank of Spain.

An important issue throughout the crisis was whether the authorities could intervene preemptively. The law went beyond the creation of the FROB in an effort to empower the Bank of Spain and vest it with the broad authority to intervene.[55] First, the law established that credit institutions experiencing difficulties were to communicate promptly with the Bank of Spain and draft, within a month, a roadmap to return to viability. But it was a bit of wishful thinking to hope that the timing of such communication would coincide with the public interest. For that reason the law also contemplated that the Bank of Spain could request such a plan if it deemed that the entity in question was in distress. In particular the law cast a broad net and provided the central bank with enough contingencies to justify such requests: Asset impairment, solvency concerns, inability to generate profits, and so on. As before, the Bank of Spain could request the plan of action to be delivered within a month of the request. Moreover, the law empowered the Bank of Spain to proceed with orderly resolution if it deemed the plan unfeasible.[56]

How did the Bank of Spain see its role after the passage of the FROB law? In a speech

[54] RDL 9/2009.

[55] Article 6 of the RDL 9/2009 went into the details of what could trigger the intervention of the Bank of Spain. See also the Article 26.1 and 26.2 of RDL 6/2010 that reforms Article 6 of RDL 9/2009.

[56] Article 7 of the RDL 9/2009. See Article 26.3 of RDL 6/2010 regarding the reform of this article.

delivered in January 2010, a few months after the passage of the law, the governor of the Bank of Spain said the following (Fernández Ordóñez, 2010a, page 7):

> Parliament has empowered the Bank of Spain with the necessary tools to tackle the crisis of any specific credit institution and has full authority to restructure entities in serious risk of insolvency. So far only one case has justified the exceptional measures of intervention and management replacement but if unfortunately additional interventions were needed no one should doubt that the Bank of Spain will act promptly, intervening, replacing management and adopting whatever measures are needed to implement the sale or liquidation of the entity in distress. But, fortunately, such event has not materialized and a positive aspect of the FROB law is *that parliament not only endowed the Bank of Spain with the right tools to act in the presence of serious solvency issues but also wanted to anticipate any challenge that may occur.*[57]

The speech by Mr. Fernández Ordóñez thus recognized the forward looking role of the FROB law but it also betrayed a certain sense of the passive attitude the central bank was to take. He followed the previous paragraph by referring to the signal that the creation of the FROB had sent to the credit institutions in distress to get moving and take whatever measures they deemed necessary to avoid the painful and "traumatic" intervention of the Bank of Spain. He referred to this as the "preemptive phase" of the FROB. He praised parliament for having made available public monies to assist with mergers as well restructuring plans. But he emphasized that the role of the Bank of Spain was simply to make sure the resulting entities met the necessary solvency standards. It was up to the credit institutions themselves, and the regional authorities in the case of the cajas, to initiate the process.[58] He went on to complain that the process had been slow in some quarters and encourage those responsible to act promptly in order to avoid unnecessary credit crunches.

Barely a month later Mr. Fernández Ordóñez reiterated this message and referred to the preemptive phase of the FROB as one of "self-examination" by part of the credit institutions in order to avoid the "traumatic" intervention of the Bank of Spain.[59]

[57]The translation and italics are mine.

[58]Our interpretation of these passages of the governor's speech is that he was referring to Article 6.1 of the RDL 9/2009, which indeed placed the burden of action on the credit institution itself and left the Bank of Spain with the only responsibility of an "up and down" vote on the proposed restructuring plan.

[59]See Fernández Ordóñez (2010b, page 5).

This was an important mistake. The governance problems of the cajas were well known as well as the treacherous political economy of the entire sector. It was illusory to think that those who had created the enormous problems in the first place were to own up to them, "self-examine" and suggest viable plans. Moreover it was doubtful that there was the human capital inside the cajas to tackle such severe challenges. After all these were the same managers who had funded ill conceived projects and who were for the most part political appointees. Instead the Bank of Spain boasted a superb body of bank examiners with ample experience.[60] In addition the regional governments were soon in desperate straits, short of funding and of attention span, fearful that relinquishing control of the cajas was to result in the exposure of bad practices, if not corruption. Thus it was also wishful thinking to expect much from them. Moreover, a close reading of the law shows that parliament intended for a more forceful role for the Bank of Spain and to place the onus of the action squarely on its shoulders. In particular the law contemplated that the FROB would have voting rights if they invested in the cajas as a result of either solvency problems or simply when providing financial assistance with mergers or restructuring processes.[61] Instead a certain impasse ensued and As a result there was a constant finger pointing, with the finance ministry insisting that the central bank was fully equipped to act and the Bank of Spain claiming that more action was needed in the political front particularly at the regional level.

4 Phase II (Apr. 2010 - Feb. 2011): Restructuring

The year 2009 ended with the just described sale of CCM to Cajastur. The year 2010 was instead the year of restructuring of the entire cajas sector. During this period the Bank of Spain implemented a strategy of consolidation in order to exploit whatever synergies there were between the different entities and increase the franchise value of the resulting ones. Several legal changes took place to facilitate this process, all geared towards the eventual disappearance of this anomalous sector. Simultaneously the 2010 CEBS stress tests were under way. After the underwhelming 2009 stress tests European authorities were under pressure to deliver credible results and lay to rest whatever concerns the market had regarding the solvency of the European banks. The Bank of Spain had a peculiar interest in making sure the tests were comprehensive

[60] For the view of the Bank of Spain on the cajas sector on the eve of the financial crisis see Fernández Ordonñez (2007).

[61] Fernández Ordóñez emphasized this novel aspect of the law in a speech in 2010. See Fernández Ordóñez (2009b, page 5).

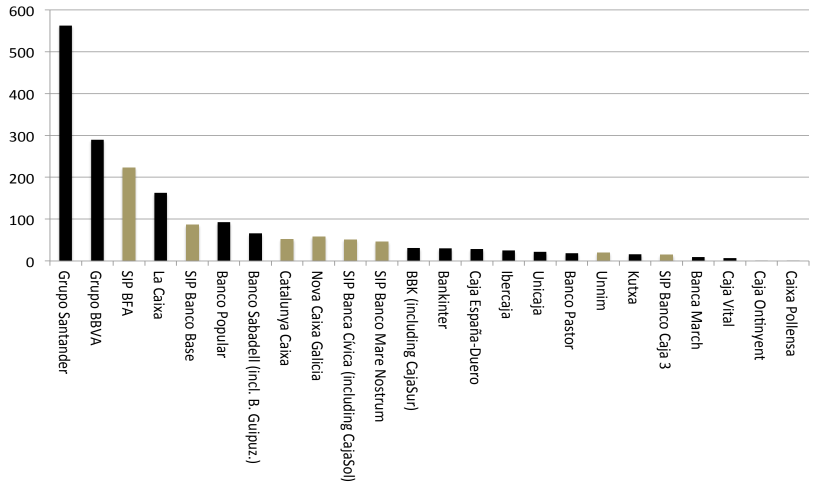

Figure 15: The state of the Spanish banking system at the beginning of 2011: Risk weighted assets (RWA) in billions of euros. Pale bars denote banking groups with some form of FROB assistance. Source: FROB, Presentation January 2011.

and convincing. To this effect they went well beyond other supervisory authorities in terms of coverage, harshness of assumptions and disclosure. Given the events that were to follow barely a year after the results of the 2010 stress tests were released, it is of interest to assess what went wrong. This section starts with a thorough description of the restructuring strategy, with a detailed description of the creation of Bankia/BFA. Then it covers the 2010 stress tests. It closes with a survey of other minor developments that were small in scale though important in terms of expectations formation.

4.1 Reform and restructuring of the cajas sector: The IPS (RDL 6/2010)

Figures 15 and 16 show the state of the Spanish banking system at the beginning of 2011, at the end of the second phase of the crisis. It shows the risk weighted assets in billions of €s of the main institutions at the time (Figure 15) as well as assets as a percentage of total assets (Figure 16). Those entities represented with white bars denote credit institutions that had some form of FROB assistance. The list is dominated by the two behemoths of the Spanish banking system, Santander and BBVA. The third in the list was Bankia/BFA, a new entity created out of the grouping of Caja Madrid, Bancaja, a large caja from the region of Valencia and five other smaller cajas. The new entity had risk weighted assets of €223bn or 10% of the

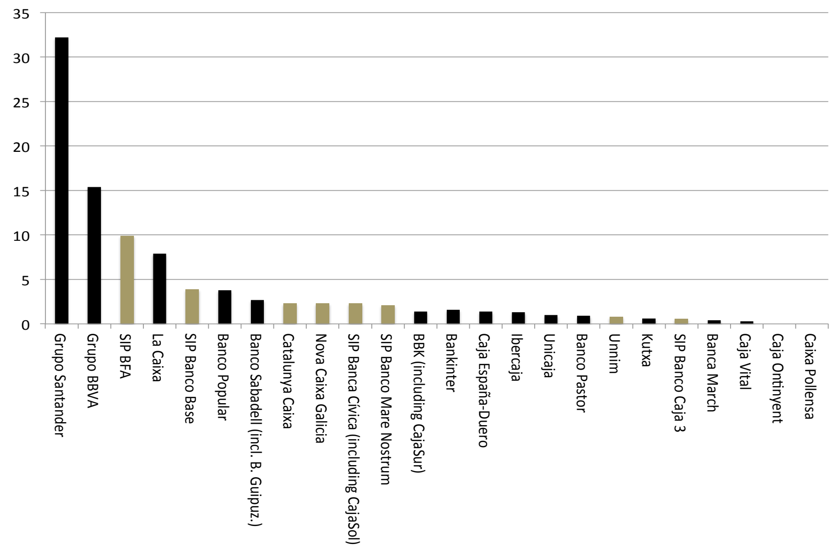

Figure 16: The state of the Spanish banking system at the beginning of 2011: Assets as a percentage of total assets. Pale bars denote banking groups with some form of FROB assistance. Source: FROB, Presentation January 2011.

Spanish financial system.

Table 2 summarizes the restructuring process. It shows the name of the resulting entity, the size of the consolidated balance sheet, the names of the entities that entered into the merger arrangement, the nature of the merger and the amount of FROB assistance. There were two forms of merger arrangements. First it was a straight out merger, where typically the smaller caja was taken by the larger one. The absorption of Caixa Girona by the much larger La Caixa is an example of this. There was another form of merger, called an institutional protection scheme (IPS), of which Bankia/BFA is an example.[62] In an IPS the cajas would agree to the creation of a central institution that would be responsible for the strategic direction of the participating cajas; this central institution would have a banking license. In addition they were committed to support each other in what concerned solvency and liquidity with up to 40% of their capital. In practice though entities committed 100% of their capital to the solvency of the resulting entity in the IPS that were formed throughout 2010s. Finally, IPS's were supposed to last for at least ten years.[63] Importantly, the IPS processes required formal approval by the

[62]The IPS has a long history as it was first introduced in Ley 13/1985. This particular reform was contained in article 25 of the RDL 6/2010, which was otherwise concerned with a broad variety of issues not all related to the financial system. A more thorough reform of the cajas sector was undertaken in RDL 11/2010.

[63]The fiscal year 2010 annual report of Banco Financiero y de Ahorro (BFA), the holding company of Bankia,

Table 2: The restructuring the cajas sector. The table summarizes the restructuring of the Spanish financial system as of January 2011. The first column is the name of the consolidated entity. The second reports the size of the balance sheet in billions of €s. The third reports the names of the merging cajas, the fourth whether the consolidation was a straight merger or an Institutional Protection Scheme (IPS). The final column reports the FROB funds made available to each resulting entity to assist with the restructuring. Source: FROB

Name	**Assets** €bn	**Entities**	**Type**	**FROB** €bn
Bankia/BFA	334.5	Madrid, Bancaja, Laietana, Insular, Canarias, Ávila, Segovia, La Rioja	IPS	4.465
Banco Base	125.6	CAM, Cajastur+CCM, Cantabria, Extremadura	IPS	1.493
Banca Cívica	71.3	Cajasol+Guadalajara, Navarra, Burgos, Canarias	IPS	.977
Banca Mare Nostrum	71.0	Murcia, Penedes, Sa Nostra, Granada	IPS	.915
CatalunyaCaixa	76.7	Catalunya, Tarragona, Manresa	Merger	1.250
Novacaixagalicia	75.6	Caixanova, Galicia	Merger	1.162
Caja Espiga	46.0	España, Duero	Merger	.525
Unnim Caixa	28.5	Manlleu, Sabadell, Terrassa	Merger	.380
La Caixa	271.3	La Caixa, Girona	Merger	-
Unicaja	34.8	Unicaja, Jaén	Merger	-
Banco Caja 3	20.2	CAI, Circulo, Badajoz	Merger	-

Bank of Spain and thus, and crucially, it allowed the central bank to assess the solvency of both the forming entities as well as the central one. As a result it also meant that the reputation of the Bank of Spain was committed to the success of the restructuring process.

The creation of the FROB and the role it was going to take throughout 2010 meant that the authorities went for a strategy that had the double objective of addressing solvency challenges in many of the cajas while simultaneously restructuring the entire sector.[64] This restructuring not only meant the consolidation of the sector but also a profound modification of the law under which the cajas operated. This was achieved with the RDL 11/2010.[65] This

itemizes the financial aspects of the IPS. It had three pillars. The first pillar was the joint liability to guarantee the solvency of any of the participating entities, which were seven in the case of Bankia/BFA (see below). In particular this translated into a joint guarantee for any wholesale debt issued by any of those entities. The second pillar was the joint management of the liquidity needs (cash-pooling). In particular this implied that from the moment of the IPS creation issuance of any debt instrument would be by the central entity and not by the participating entity. Finally, the third pillar required the full integration of the income statements of each of the participating cajas. See BFA (2010, pp. 9-10.)

[64]Recall that the intervention of CCM followed the traditional procedure of the deposit insurance fund (FGDCA).

[65]The legal framework governing the cajas was established in Ley 31/1985, known for its acronym LORCA. Santos (2017) offers a summary of the law as well as of its development by the regional authorities, which were

reform had two main thrusts. First, it was intended to solve the problem of raising equity by the cajas. Recall that the cajas didn't have shares but instead a strange instrument, the 'cuota participativa,' that carried economic but no political rights, which given the governance problems plaguing the cajas made it unlikely to serve as an instrument to attract capital. The RDL 11/2010 solved this by forcing the 'cuota' to also carry political rights in proportion to the share they represented of the capital of the caja. This of course required a change in the governance of the cajas as the different managing bodies needed to be redesigned to accommodate the exercise of the political rights of the new owners.

There was a second important thrust in the RDL 11/2010 and it was that the cajas, to put it bluntly, were being pushed to become banks. Specifically it allowed for the cajas to transfer its business operations to a bank in which they would have to maintain an equity stake of no less than 50%, otherwise they would be forced to become foundations and focus entirely on their social objectives. For those cajas in a IPS, it allowed the *entirety* of the banking operations of the participating cajas to be run in the central entity, which once again would typically end being a bank itself.

There were two considerations behind these reforms. First, the Spanish authorities wanted to minimize the funds that the taxpayer was likely to provide in the restructuring and recapitalization of the cajas sector. But for private capital to flow in the cajas sector political rights needed to be attached to the instruments representing those investments. Second the Bank of Spain wanted to tighten control over the entire sector and remove political interference and this was more likely to happen if the business operations were inside a bank (or an IPS), even when it was owned by a caja where political interference was the norm.

In sum, under the very challenging conditions the Spanish authorities decided on a dual approach and tackle simultaneously solvency concerns and a long overdue reform of the legal framework under which the cajas operated, one that would professionalize their management and allow private capital to have a say. This was an enormous undertaking because clearly it meant removing the political class from the credit market, which was not likely to happen easily. The case of Bankia/BFA and Banco Base are cases in point.

4.2 Two failed IPS

There are two IPSs that are critical to understand the evolution of the Spanish banking crisis, that of Bankia/BFA and Banco Base. Let's consider the saga of Bankia/BFA first as it was

entrusted by the Constitution with the control of this important segment of the financial sector.

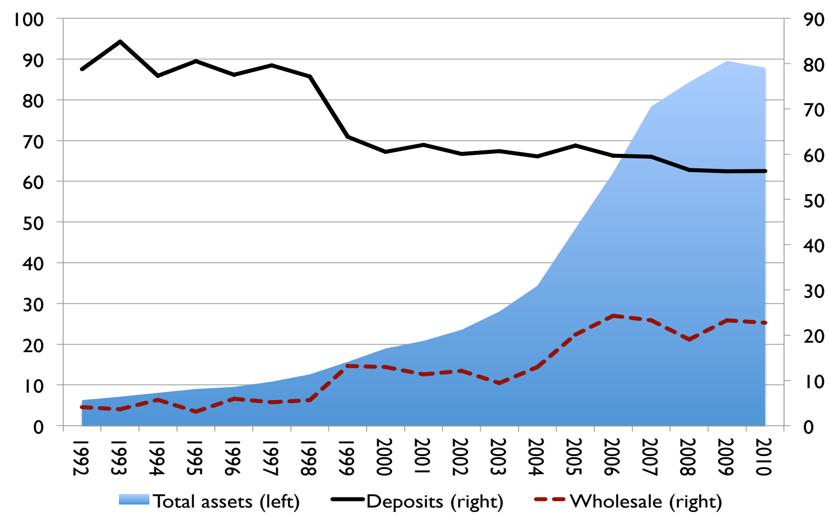

Figure 17: Bancaja - Left axis: Total assets in billions of €. Right axis axis: Deposits and wholesale debt (including "preferentes" and subordinated debt) as a percentage of total assets. Annual: 1992-2010. Source: Ceca.

the most consequential for the evolution of the Spanish banking crisis and the story starts with the changes at the top of Caja Madrid.

In the Fall of 2009 there was a very public dispute between the governor of the region of Madrid and the mayor of the city of Madrid, two heavyweights inside the People's Party (PP), for the control of Caja Madrid at the expense of Mr. Blesa (see section 2.2). The governor of the region, Esperanza Aguirre, wanted to place at the helm of Caja Madrid her number two, Ignacio González, at the time deputy governor and a man with no experience whatsoever in banking. The mayor instead wanted to place Rodrigo Rato, former managing director of the IMF and deputy prime minister of Spain under former prime minister Aznar and someone widely considered to be the architect of Spain's prosperity during the real estate bubble years. It is a testament to the irresponsibility of all involved that the nasty brawl took place in plain sight with constant leaks to the press. The dispute came to end when the leader of the conservative party and future prime minister, Mariano Rajoy, sided with the candidacy of Mr. Rato and scored a political point against Ms. Aguirre who was widely seen as a contender for the leadership of the party. Throughout there was a complete disregard for the technical qualifications of the different candidates, in particular given the difficult situation of Caja Madrid. This was troublesome because the conservative party was widely expected to gain power in future elections and this affair sent the signal that political considerations were going to dominate its management of the banking crisis.[66] It was also important because a successful merger of Caja Madrid with other entities to ensure its viability was considered to be key in the consolidation strategy promoted by the Bank of Spain.

Caja Madrid was the second largest of the cajas, the first being La Caixa, and thus any merger or IPS was bound to result in systemic institution. Much was riding in the success of the IPS of which this important caja would be part. Recall that Caja Madrid was controlled by the conservative party (the Peoples Party or PP), then in government in the region of Madrid but the opposition party in the national parliament. A politically suitable partner was found in Bancaja (see Figure 17), a caja from the region of Valencia, another stronghold of the conservative party. The local political authorities of this region opposed the IPS, which they knew would inevitably lead to a merger, as that would yield the loss of control of an important credit institution, which at the time of the IPS had a €90bn of total assets (recall that Caja Madrid at the time had total assets of €190bn). They would have rather seen a merger of Bancaja with CAM another caja from the region of Valencia, which would have resulted in a large credit institution completely controlled by the local political class; luckily cooler heads prevailed and though the final outcome was only marginally better it was much preferable to a purely local merger.[67] Five other smaller cajas joined in the merger. The resulting entity had assets of almost €340bn, almost all Spanish.

A peculiar feature of the merger, but one consistent with the dual objective of solvency and restructuring while maximizing the amount of private capital flowing into the cajas sector, was that the IPS created not one but two banks. Though the actual details were complex, the broad idea was to create a "good" bank in Bankia and a "bad" one in a bank holding company called Banco Financiero y de Ahorro or BFA. BFA would own 100% Bankia, until the IPO when

[66] For instance see Carlos Cué "La lucha por el PP se libra en Caja Madrid," El País October 25th 2009, Carlos E. Cué and José Manuel Romero "Rato se emplea a fondo para ser presidente por unanimidad," El País November 16th 2009, "Ignacio González renuncia a Caja Madrid y apoya a Rodrigo Rato," El Mundo, November 2nd, 2011, Cristina de la Hoz "Rajoy anuncia a su dirección que apoyará a Rato para Caja Madrid "hasta el final" ' ABC, October 27th 2009. Newspaper editorials, even conservative ones, took notice that the spectacle was seriously damaging the credibility of the Spanish financial system; see for instance the editorial of ABC, the doyen of the conservative newspapers in Spain, "La batalla por Caja Madrid," ABC, October 27th 2009. A chronology of this sorry affair can be found in "Claves de la guerra por el control de Caja Madrid," El Mundo January 28th 2010.

[67] See for instance, J. Brines "Camps, contrario a la unión de Caja Madrid y Bancaja," Expansión May 27th, 2010. Francisco Camps was at the time the prime minister of the region of Valencia and a powerful member of the conservative party; but he was going against the even more powerful members of the party in the region of Madrid. For an overview in the national press of the Bankia/BFA IPS see M. A. Noceda and J. Torrent "Caja Madrid y Bancaja acuerdan crear la mayor Caja de Ahorros de España," El País, June 11th 2010.

a significant equity stake of Bankia would be floated in the Madrid stock exchange (more on this below). BFA would also hold the most toxic assets and some liabilities. Specifically, BFA kept on the asset side a €10bn portfolio of fixed income securities, €5.5bn of delinquent loans and foreclosed properties as well as equity stakes in subsidiares (mostly related to real estate developers). On the liability side, in addition to some deposits, BFA kept all the preferentes (including those issued to the FROB), subordinated debt and a fraction of debt issued under the debt guarantee program for a total of €22bn.[68]

The seven cajas took advantage of the integration process to write off a total of €6.4bn in loans though the revaluation gains associated with the IPS left the total equity impairment at about €5.1bn.[69] This was all absorbed by a FROB injection, in the form of preferred stock, of €4.5bn (see Table 2) in BFA. The concentration of toxic assets and "bailinable debt" in the holding company meant that should losses occur they could be taken against the liabilities in BFA, without compromising the banking operations in Bankia. This is an organizational form that is a reasonable step in banking resolution, even ex-ante as contemplated for example in Dodd-Frank. But as it is described below the Bankia/BFA IPS was to end badly. Why?

Segregation of assets across different entities is only sound when there is a transparent and credible procedure to identify impaired assets. In this case these assets can be placed in a bad bank which can then be robustly recapitalized as needed. Credibility ensures that private capital markets would be willing to refinance instead the healthy legacy institution, in this case Bankia. Notice that if properly executed segregation results in a situation where private and public capital are complements: Public funds recapitalize the bad bank and markets instead refinance and recapitalized the good bank. The key, of course, is that at some point adverse selection concerns need to be relieved. The formation of Bankia/BFA neither resulted in significant write-offs nor in the generous recapitalization that would have put concerns to rest. Moreover, and as already discussed, the nature of the subordinated liabilities (the "preferentes") in BFA made for an intractable political economy problem, one that incentivized authorities to delay bailing in debt as much as possible. In fact this was only to occur once the management of the Spanish banking was transferred from the national authorities to the Eurozone ones.

The Bankia/BFA saga had a counterpart in another IPS, called Banco Base. It was formed by two main entities, Caja del Mediterráneo (CAM) and Cajastur, which had just

[68] This information is contained in Bankia's IPO prospectus. See Bankia (2011, page 202).

[69] Caja Madrid quarterly reports show that the lion's share of the write-offs was done by this institution.

acquired CCM (see section 3.3.1), plus two smaller cajas (Cantabría and Extremadura; see Table 2).[70] Of all these cajas the one that was the source of concern was CAM, which, as Bancaja, was also from the region of Valencia and also firmly controlled by the local political class of the People's Party (PP). Successive regional governments put constant pressure on CAM to invest in all sorts of politically motivated projects of dubious economic merits and bet strongly on construction and real estate developments that were the source of prosperity during those years in the region of Valencia.[71] As in the case of Bancaja, CAM's balance sheet growth trebled, from €22bn to almost €72bn between 2002 and 2008 (see Figure 2).

Because these peculiarities were well known, the Bank of Spain had put from the very beginning considerable pressure on its management team to find other, healthier cajas to either merge of from the corresponding IPS.[72] Caja Madrid had been floated as a possible partner for the operation but instead on June 29th 2010 the Bank of Spain approved the IPS of CAM with Cajastur, Caja Cantabría and Caja de Extremadura. The note by the central bank stated that the project met the standards of soundness and economic rationality that were to be expected and that reinforce its viability the FROB would inject €1,493mn in Banco Base in the form of preferred stock, which is the number reported in Table 2. The balance sheet of the combined entities was a hefty €125.6bn, making it into the fifth largest credit institution in Spain. Surprisingly the IPS didn't come with any substantial change in the management team of CAM, which, according to press reports, wanted to dominate the new entity Banco Base. The IPS didn't thus do much to address the governance problems plaguing CAM beyond the faint hope that the merger with the better run Cajastur would yield improved managerial practices.[73] What is striking about this entire IPS is that barely a year after approving it, Mr. Fernández Ordóñez declared CAM "the worst of the worst".[74]

[70]Importantly, the IPS agreement between these four entities was later amended to include a clause that made the IPS contingent on a vote of the corresponding "general assembly," a largely ineffectual governing body of the cajas. The clause was included to give the cajas the option to exit this IPS if the problems of CAM were to prove as sever as many suspected. See Banco de España (2011).

[71]See for instance, Pere Rostoll "Dos décadas de injerencias políticas en la CAM," Levante-EMV July 28th 2011, Santiago Navarro, "El gobierno valenciano rompe su hucha," El País, July 24th 2011, Ezequiel Moltó "Los lobos que hundieron la CAM," El País, February 14th, 2014 . David Navarro in "El mapa del ladrillo de la CAM," Levante-EMV March 18th 2012, offers a more detailed overview of CAM's lending activity in the region of Valencia.

[72]For an account of these pressures see Rosa Biot, "La trastienda caliente de la fusión fría de la CAM," El País May 30th, 2010.

[73]When Banco Base collapsed Luis Garicano and I wrote an article in the press precisely pointing out this critical flaw on the entire project; see Luis Garicano and Tano Santos "Tras el Banco Base, volver a empezar," El País April 3rd 2011.

[74]See Íñigo de Barrón "Fernández Ordóñez: 'La CAM es lo peor de lo peor'," El País, October 1st 2011.

The tale of CAM also exemplifies the limits of the cuota participativa, the instrument that acted as a share in the capital of the cajas but without political rights and the larger problems of risk shifting during this period. On July 23rd 2008, CAM was able to raise €292 million in a "seasoned equity offering" of this peculiar instrument. It was the first time that this instrument was floated in the Madrid stock exchange. As it was the case with the preferentes the bulk of the issue was placed with clients and employees. They took almost 70% of the issue, the rest being acquired by qualified investors. The placement of this issue relied on an aggressive use of the retail branch network[75] and it was to be written off entirely when CAM was effectively nationalized three years later.

How was it possible that what met the criteria of soundness in June of 2010 was found to be the worst of the lot in late 2011? Banco Base and Bankia epitomized the flaws in the restructuring strategy followed by the Bank of Spain, the rush to merge without the proper review of the quality of the assets being merged. But was there a formal review of these assets?

4.3 The CEBS Stress Tests of 2010

On July 23rd 2010 the Committee of European Banking Supervisors (CEBS) released the results of the EU stress tests.[76] These tests were performed in relatively benign conditions compared to the turbulence of 2008 and the severe contraction which was to start in the second half of 2011. It was an European-wide effort to replicate the perceived success of the Supplementary Capital Assistance Program or SCAP that the Federal Reserve Bank for New York had conducted in 2009 and which were seen as the beginning of the end of the financial crisis in the US.

There were two dimensions along which the stress tests considered different adverse scenarios. One was a decline in aggregate output throughout 2010 and 2011. This dimension impacts banking solvency through the income statement. Indeed, earnings retention is an important channel of bank recapitalization, one that is strongly linked to aggregate economic activity. A sustained contraction would impair this channel and thus require appeal to other sources of recapitalization. The second dimension was of course the potential losses that could be realized. Here the comparisons with other banking crisis were noteworthy. The presentation by the Bank of Spain emphasized that the possible scenarios considered losses over risk weighted

[75]For a detailed account of how this issue was placed see Francisco D. González, "Así colocó la CAM sus cuotas," El Mundo, March 20th, 2016.

[76]There is a growing literature on stress testing banking systems. See for instance Kapinos, Martin and Mitnik (forthcoming) and Schuermann (2014), and the references therein, for broad overviews.

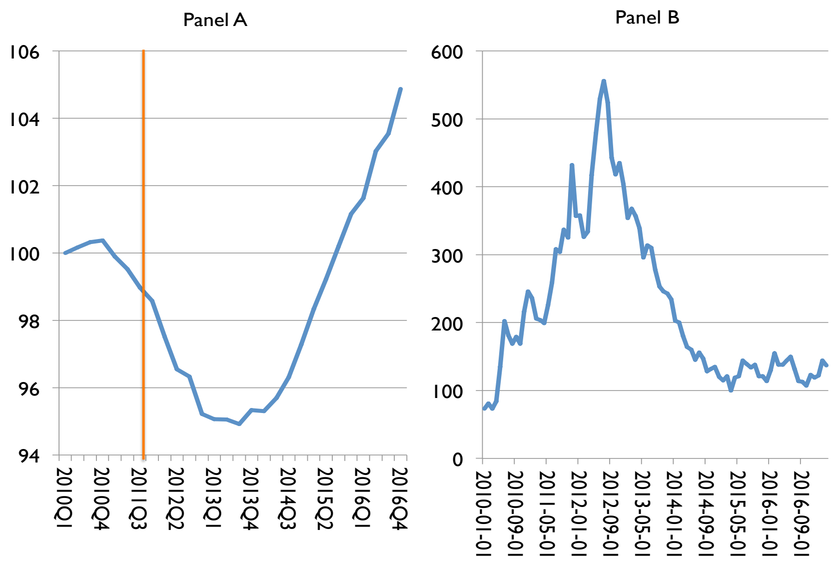

Figure 18: Spain: Panel A: The second dip. GDP (current prices). Quarterly: 2010Q1-2016Q4. 2010Q1=100. Source: Instituto Nacional de Estadística. Panel B: Ten year spread between Spain and Germany (in bps). Monthly: January 2010 to March 2017. Source: Federal Reserve Bank of St. Louis.

assets which were much higher than previous cases: 9.9% higher than the Finish crisis of 1990-1993, 8.3% higher than the Swedish and Norwegian crisis of the same period and 1% higher than the Korean crisis of 1997-1998. This last comparison was ominous for as Fischer (1998) put it regarding the challenges in Asia at the time "Weak financial systems, excessive unhedged foreign borrowing by the domestic private sector, and a lack of transparency about the ties between government, business, and banks have both contributed to the crisis and complicated efforts to defuse it." It could have served as a description of the Spanish banking crisis as well. In particular the "external" aspect of the crisis and the possibility that Spain could suffer a sudden stop of sorts was not contemplated at all. Finally, additional recapitalizations were required whenever any of the stress tested institutions fell below the 6% tier 1 capital ratio under the adverse scenarios. This level was well above the legal requirement.

Because the national authorities were ultimately responsible for the implementation of the tests, the Bank of Spain built additional safeguards to guarantee the credibility of the exercise. In particular whereas the test mandated that at least 50% of the domestic private banking system be covered in the exercise, the Spanish central bank decided to include 100% of the cajas sector and all listed banks, which essentially amounted to 100% of the entire banking system. Finally, the exercise took into account the quantities already invested by the FROB in the different consolidated entities.

The stress tests found that the Spanish banks didn't need a substantial amount of additional capital. To quote directly from the Bank of Spain excellent presentation,

> The results show that in the adverse macroeconomic scenario, with a cumulative decline of 2.6% in GDP in 2010-11 (a hypothesis far removed from current forecast ranges), the vast majority of the 27 Spanish institutions and groups analyzed exceed the benchmark capital level set by CEBS (a Tier 1 capital ratio of 6%, which is 50% higher than the minimum level required under international regulations).[77]

More specifically, the Bank of Spain assumed about €207.5bn of asset impairment, roughly equally divided between banks and cajas, in the adverse stress scenario. Of these €173.6bn were linked to the loan portfolio and a significant fraction of this number was linked to the to the real estate developer book (€76.0bn); interestingly a large fraction of this potentially impaired real estate developer loans was concentrated in the cajas sector (€54.8bn). The rest of the €207.5bn impairment was linked to potential losses in securities held, in particular Spanish sovereign bonds. To arrive to the actual capital needs one needed to offset the losses against the existing provisions as well as the operating income potential of the banks and cajas. Provisions in the system were about €69.9bn and the operating income and unrealized gains in the balance sheet were a whooping €99.5bn. Tax adjustments yielded a final tally of €28.1bn. For the cajas the final tally was €38.6bn.[78] Clearly these losses were unevenly distributed across the Spanish banking sector. Four institutions were in need of additional assistance in order to meet the 6% tier 1 ratio in the adverse scenario: Diada, Unnim, Caja Espiga and Banca Cívica.[79] The total additional capital needs were €1,834 millions, which as the Bank of Spain emphasized, the FROB would provide in case the entities were not able to raise it privately.

A key objective of the stress tests was to lay to rest the concerns about the solvency problems in the European banking system. Banking analysts[80] were mixed in their reaction to

[77] Bank of Spain (2010).

[78] It was higher than the total number as there were banks that were able to generate significant profits even in the adverse scenario; see Bank of Spain (2010, footnote 2).

[79] Caja Espiga was the provisional name assigned by the Bank of Spain to the merger of Caja España and Caja Duero. Diada was in turn the provisional name of the merger of Caixa Catalunya, Caixa Tarragona and Caixa Manresa. See Table 2.

[80] I have consulted the analysts reports in what concerns the 2010 stress tests of Credit Suisse, Deutsche Bank, Morgan Stanley, Goldman Sachs and Citi.

the release of the results of the tests. For instance, Goldman Sachs (2010) noted that expectations on the capital needs of European banks, as measured by their own internal surveys, ran at about €37.5bn and that the capital shortfall identified by the stress test for the *entirety* of the European banking sector was €3.5bn. Deutsche Bank (2010) was harsher; in the opinion of its staff of banking analysts the tests were flawed and constituted a missed opportunity. It insisted that the funds for a convincing recapitalization, which they placed at the €100bn mark, as well as the institutions to disburse them were readily available and that thus an opportunity had me been missed. Moreover they noted, perceptively, that judging by how compressed the prices (to book) of the different banks remained in Europe after the release of the results, the tests had failed to deliver the desired separation between banks well beyond any solvency concern and the more suspect ones. Morgan Stanley (2010) also expressed disappointment that the exercise had not translated into higher capital raising, though they noted that in the case of Spain the tests should help in eliminating the left tail. Santiago López, the widely followed analyst of Spanish banks at Credit Suisse, was positive in his assessment of the results of the stress tests and praised the Bank of Spain for having differentiated itself with the harshness of its assumptions. Still he remarked that the assumptions behind the adverse scenario were not that extreme and in fact quite likely to materialize (Credit Suisse, 2010c).

The stress tests were indeed a serious exercise but they suffered from two flaws. First, as several of the reports noticed, it did not result in a significant flow of fresh capital into the banking system. The overall capital needs for the entire European banking system were assessed at barely over €3bn. Only the Spanish banking system balance sheet was above €3tr and teh capital at the time, in July 2010, was about €190bn (see Figure 19). Deutsche Bank (2010) had placed the capital needs of the Spanish banking system around the €35bn mark. At the time of the release of the results, the FROB had already committed €10.6bn in the ongoing reform of the cajas sector. In addition the deposit insurance fund had committed an additional €3.8bn in the CCM recapitalization and sale to Cajastur. Thus with the additional €1.8bn found needed in the stress tests, the total amount committed to the restructuring of the cajas sector was €16.2bn, about half the estimate of Deutsche Bank (2010). This estimate, of course, is that, one estimate and should not be taken as a reference but it signaled that there was a dispersion of beliefs on the actual capital needs and thus should economic conditions deteriorate, even those contemplated by the stress test, new doubts about the solvency would arise. The point of overly generous recapitalizations is that they prevent fresh doubts to arise when conditions deteriorate; otherwise analysts can immediately resort to an "I-told-you-so"

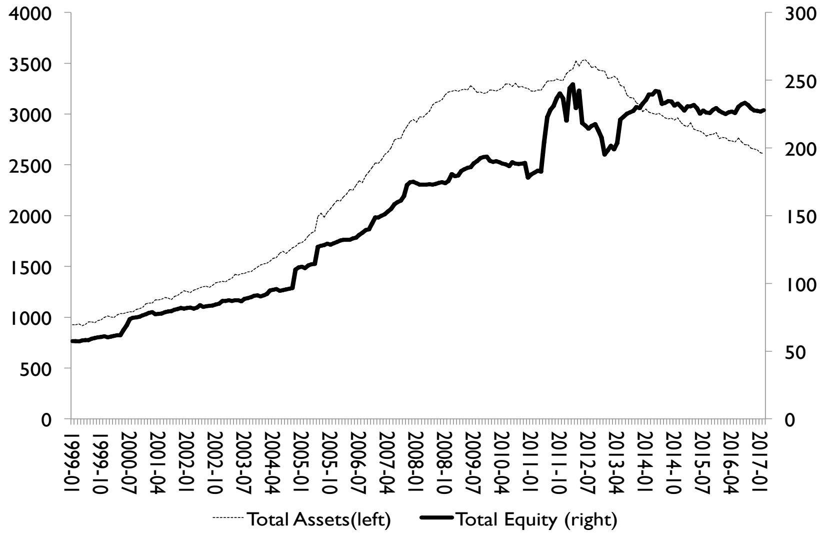

Figure 19: Spain: Credit institutions. Total assets (left axis) and total equity (right axis); in billions of €s. Monthly: January 1999 to February 2017. Total equity is defined as capital and endowment fund, reserves, and net profits plus other accounts and valuation adjustments. Source: Bank of Spain (Statistics Bulletin, Table 4.1.1 and Table 4.7.2).

attitude and fall back to their preset views. As we will see the cross section dispersion of views of the private sector regarding the recapitalization needs of the Spanish banking system was to widen considerably barely a year after the 2010 stress tests results were released.

Second, unlike the SCAP, the 2010 CEBS tests were unfunded. For instance, the FROB had the authorization to lever up and reach a balance sheet up to €99bn but it was a mere €12.1bn at the date of the release of the results.[81] The stress tests are supposed to represent a snapshot of the ability of the banking system to withstand an adverse shock during, say, the next eight quarters. But their credibility also rests on a clear specification of the procedures that would be followed as well as the funding sources that would be used as the shocks develop and the solvency of the tested institutions deteriorate. In particular, there were two subtle contradictions in the design of the stress tests, one applicable to all countries the other more specific to Spain. The first contradiction concerned sovereign exposures. The 2010 tests were the first ones to assess capital needs along this dimension, unlike the 2009 ones which were much criticized on this account. But would the governments have the ability to raise the funding to assist banks with their liquidity and solvency needs in the state of the world where

[81] In fact this number is the size of the balance sheet at December 31st, 2010. For a financial view of the FROB see their annual report, FROB (2011).

the sovereign spreads widened considerably? The 2010 stress tests thus did not address a concern that was to develop in 2011 which was the tight connection between the sovereign and the national banking systems. This was to result in a credibility problem as markets suspected, rightly or wrongly, that the capital needs were being fixed around what could be funded rather than the other way around. It would have helped with the future evolution of the banking crisis if the FROB had had the firepower in place to tackle whatever unforeseen contingency may arise and insulate the issue of bank solvency from any any other funding considerations, including those of the sovereign as it tried to raise the monies to assist with bank recapitalization. The potential for multiple equilibria, and deteriorating credibility, was there and only a generously funded FROB could have addressed those concerns.[82] Indeed, the second half of 2011 was to prove the beginning of the acute phase of the banking crisis and Spain was to suffer its second recession in barely four years but the accumulated fall in GDP was well below that considered in the stress test (see Figure 18 Panel A). Instead the widening of the sovereign spreads was the issue in 2011 (see Figure 18 Panel B) and that would limit the options considerably. In particular it was difficult to conceive how the FROB would have been able to raise the funding in the second half of 2011 needed to put to rest whatever concerns the market had regarding the solvency of banks and cajas.

The second contradiction was more specific to Spain. The problem of the Spanish banking crisis is that it was systemic in nature as it affected roughly 50% of its banking sector, whether measured by loans or deposits. Restructuring was unavoidable but it was important that the inevitable process of consolidation did not create systemic entities were there were none before.[83] That is, restructuring, difficult as it may have been, should be done with an eye on reducing the systemic nature of the crisis. The way to achieve this is by making sure that the new entities that are the result of the mergers of weaker institutions are particularly well capitalized throughout the period where the merger is being finalized and the new institution is finding its footing. Moreover it is important when creating a systemic entity not to exaggerate the synergy benefits of the merger and rely "too much" on the future profitability to make good on the potential future losses. It is better to have the capital in place now than later, particularly when it is not obvious where the funds are going to be coming from in the future. All these precepts were violated with the creation of Bankia/BFA: A new systemic institution was created but the solvency concerns were simply not put to rest. In addition the overtly

[82]This point has been explored recently by Faria-e-Castro, Martinez and Philippon (2016).

[83]The average size of a credit institution in Spain increased from €29bn to €76bn during 2010 (Bank of Spain, 2011).

political complications of the new entity gave credence to the theory that considerations other than the full resolution of the Spanish banking crisis were driving the process.

The stress tests thus suffered from a lack of the conceptual subtlety and prudent planing that the situation demanded and in addition actions were being taken to undo some of its efficacy. Be that as it may, they were broadly well received as the time in particular in what concerned the Bank of Spain. The Economist, that arbiter of common sense in Europe in all matters financial, said "... the Bank of Spain has done better than many of its peers. Although Spain accounts for more than its share of failed institutions it has released information on all of their holdings of European government debt. This will go some way towards reassuring creditors of the soundness of the remaining banks."[84] They would be less sanguine a year later.

4.4 A strange tale: Cajasur

The second half of 2010 was relatively uneventful on the spanish front. Before that, a tiny caja, Cajasur, was intervened by the Bank of Spain on May 22nd 2010. Its balance sheet was a mere €18bn about 60bps of the total assets of the Spanish banking system. All banking crises have their baffling, if not comical, moments and Cajasur was Spain's. Cajasur was controlled by the Catholic Church and run for thirty years, until 2005, by the same priest, Miguel Castillejo. According to press reports the aggressive lending policies between 2002 and 2005 had doomed it well before the onset of the crisis. Cajasur had a significant presence in the Andalousian provinces of Córdoba and Jaén but growth was elsewhere, in the coastal province of Málaga where a remarkable hotel construction boom was underway.[85] But of course the supply of credit there was competitive and moreover that province was dominated by one the best run cajas in the entire sector, Unicaja. As a result the Cajasur's balance sheet didn't grow as fast as that of Bancaja or CAM but was probably subject to substantial cream skimming by the better competitor, Unicaja, and thus funded the worse risks in the area. This is a larger point. Part of the problem of the cajas was that they expanded *aggressively* outside their original areas, which could only be at the expense of financing those risks rejected by the incumbents. In addition, Cajasur's loan portfolio was concentrated on a few construction companies and real estate developers. The Bank of Spain warned the caja repeatedly throughout those years and in report after report alerted of the large risks Cajasur was taking.

[84] The Economist "Partial Stress Relief," July 2010.

[85] See Manuel Planelles "Cajasur, la caja de la Iglesia, también se apuntó al ladrillo" El País June 25th 2012. For a portrait of Miguel Castillejo see Agustín Rivera, "El cajero de Dios," El Mundo, September 22nd 2002.

The story of Cajasur also exemplified the tug of war of the political class for the control of the cajas, even tiny ones. Cajasur had in the early 2000s a contentious relation with the regional government of Andalousia, which was bent on merging the different cajas to create a large regional credit institution to which Cajasur objected. The cajas under the control of the Catholic church had a special statue that gave them the option to evade regional supervision and instead be monitored by the ministry of finance of the national government, an option Cajasur exercised in 2002 to the outrage of the Andalousian political class. At the time, and by a strange coincidence, the ministry of finance was run by none other than Rodrigo Rato, of future Caja Madrid fame.[86] Cajasur was eventually to return to the supervision of the local authorities but it remained furiously independent.

As the situation deteriorated and losses mounted, the Bank of Spain encouraged a merger between Cajasur and its fiercest competitor, Unicaja. But Cajasur's board could not contemplate such a merger and opted instead to be intervened directly by the Bank of Spain. The FROB went immediately to inject €800mn in Cajasur and opened a credit line of €1.5bn.[87] It was eventually sold to BBK, a basque caja with larger ambitions to expand over Spain.

5 Phase III (March 2011 - December 2011): Market tests

5.1 Taking stock of the restructuring process

The restructuring strategy followed by the Bank of Spain throughout 2010 was flawed on account of two aspects: The restructuring was not accompanied by a credible loss discovery exercise and, two, the governance problems the cajas had not been convincingly addressed. I discuss these flaws first, which were largely recognized by Spanish authorities and then turn to the response of the Spanish authorities, which was the RDL 2/1011.

5.1.1 Restructuring and credible loss discovery

Consolidations, whether through straight mergers or IPSs, happened without a thorough assessment of the quality of the assets being merged. Merging two opaque balance sheets does not result in a transparent one. The structure of Bankia/BFA partially recognized this but, as we will see, it was not enough. There is no doubt that the 2010 stress tests had disclosed a

[86]For a sketch of this tug of war, see for instance, "Rato responde a la Junta que Cajasur se ha despolitizado," Cinco Días, March 15ht 2003.

[87]Bank of Spain (2010a).

significant amount of information, including sovereign risk exposure. Still the potential capital needs had been found to be so minimal that a lot was riding on the underlying assumptions of the model being correct. The decision was taken to neither overcapitalize the cajas sector as a margin of safety against model misspecification nor to grow the balance sheet of the FROB to meet unforeseen contingencies. There was little robustness built in the strategy which made it very sensitive to any shock, however minimal. In fact systemic risk was now more of a concern as the new institutions, such as Bankia/BFA and Banco Base, were now large entities with balance sheets that were a significant fraction of GDP.

Spanish institutions were writing off assets steadily throughout the early stages of the crisis. Figure 21 Panel B shows the accumulated write-offs since 2008Q1. By the end of the restructuring process that took place throughout 2010 Spanish credit institutions had written-off more than 65bn euros and by the end of the process described in this section, 2011Q4, the level of assets written-off was well above €100bn. At that time the size of the balance sheet of Spanish credit institutions was €3.4tr of which €1.8tr was the loan portfolio to Spanish households and corporates. Thus Spanish credit institution had taken losses on about 6.2% of the loan portfolio. Still, there were doubts that the pace of loss recognition was unrealistic given the magnitude of the housing correction in Spain.

Losses could be absorbed with existing capital or against profits. The Spanish banking system had about €238bn of total own funds for solvency purposes in 2011.[88] Of these, Tier 1 was about €211bn and there were an additional €46bn in tier 2 funds (the difference is related to valuation adjustments). The tier 1 ratio was about 10% at the end of 2010. Figure 20 shows the tier 1 capital for the Spanish banking system throughout the crisis as well as the total equity as percentage of total assets. Both metrics were increasing steadily through2010 and 2011. Aggregate capital numbers should always be approached with caution: In what concerns solvency, the key is the cross sectional distribution. Bankia's tier 1, as reported in the IPO prospectus, is added to show where the low end of this metric was for systemic institutions. As in many other cases, such as Lehman, Spanish credit institutions were well capitalized.

The income statement provided a second source of los absorption. Indeed the Spanish banking systemt was profitable on a pre-provisioning basis, that is before write-offs and loan provisions. Figure 21 Panel A shows pre-provisioning profits from the early years of the euro to the last data point available at the time of this writing. Pre-provisioing profits track the

[88]The data can be gathered from either the European Central Bank Statistical Data Warehouse or the Report on Banking Supervision in Spain (solvency ratios are reported in the annex on financial and statistical information on credit institutions; for instance the €238bn number is taken from the 2013 Report, Table A.2.15).

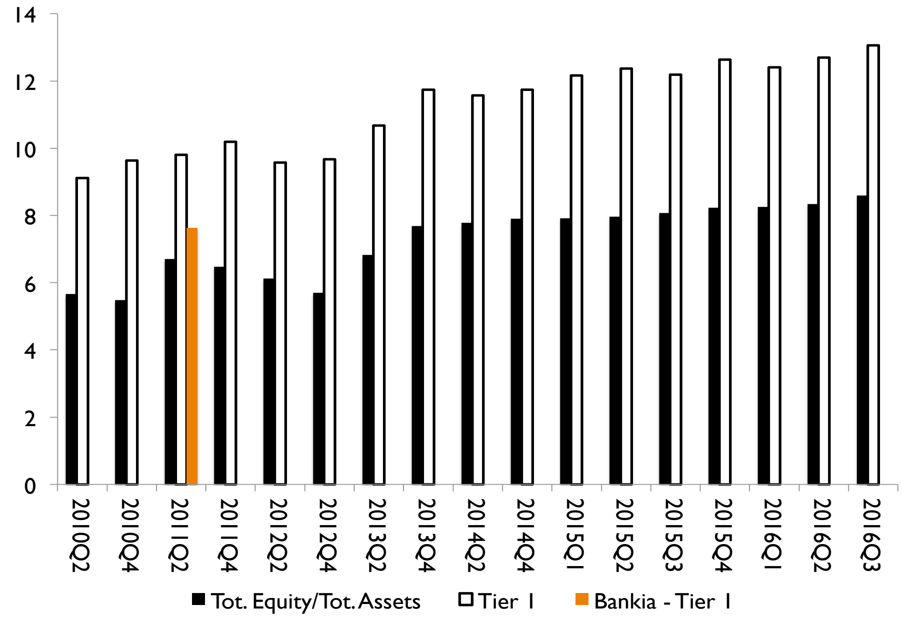

Figure 20: Spain - Credit Institutions. Total equity (defined as in Figure 19) to total assets, tier 1 capital and Bankia's tier 1 capital; in %. Quarterly: 2010-2017. Data source: Total equity to total assets: Bank of Spain (Statistics Bulletin Table 4.1.1 and Table 4.7.2). Tier 1: European Central Bank, Statistical Data Warehouse, Consolidated Banking Data. Bankia Tier 1: IPO Prospectus, page 102.

real estate cycle closely. They grew considerably during the years of the real estate bubble (2004-2007) and collapsed subsequently. They recovered temporarily in the second half of 2011, perhaps on account of some of the synergies that were being realized in the restructuring process.[89]

Obviously whether existing levels of capital and pre-provisioning profits are enough to assuage any solvency concerns depends on whether there is in turn trust in the level of recognized losses. The issue of credible loss discovery is critical in a banking crisis, in particular because the concern is that credit institutions refinance delinquent loans to avoid loss recognition (evergreening) and thus save on scarce capital. Only the supervisor can lay to rest the concerns on evergreening as analysts and outside observers lack the detailed data that would be required to assess the extent of this practice. In the absence of this evidence the market is

[89]There is no solid evidence on this that I am aware off. It is indeed the case that between 2010 and 2012 the number of employees dropped by more than 27,000 (see Table 4.46.1 of the Statistics Bulletin of the Bank of Spain) and as a result operating expenses dropped dropped about €.77bn between the last quarters of 2010 and 2011 (see Table 4.36.6).

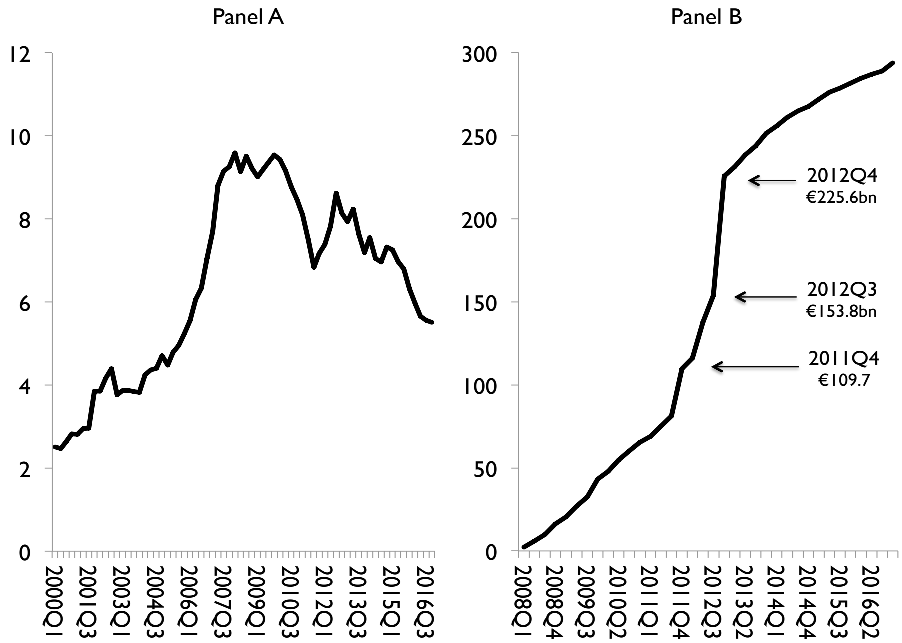

Figure 21: Spain - Credit Institutions Panel A: Pre-provisioning profits in billions of €. Pre-provisioning profits are defined as Gross Profit (Margen Bruto; BE 4.36.05) minus Operating Expenses (Gastos de Explotación; BE 4.36.06). Quarterly, deseasonalized with an MA-4, 2000Q1-2016Q4. Panel B: Accumulated write-offs in billions of €since 2008Q1 (BE 4.36.9 plus BE 4.36.11). Quarterly: 2008Q1-2016Q4. Data source: Bank of Spain (Statistics Bulletin Table 4.36)

left with uninformed speculation, which is lethal when it comes to refinancing risk. In principle the NPL under the adverse scenario should take care of some of these concerns. But this number is supposed to be linked to a particular macroeconomic outcome rather than operational practices and thus it is not clear how it interacts with an adverse macro scenario. It is indeed a separate problem, one that runs across all banking crises.

Evidence of evergreening in the spanish banking crisis is to our knowledge not yet conclusively established.[90] Figure 22 Panel A shows the average rate of growth (in percentage) of the non performing loan (NPL) for each month of the year. This is done for two periods, 1999 to 2007 and the years of the crisis 2008-2010. Because the cajas have liabilities registered with the CNMV, they have to file the corresponding quarterly reports. In addition, many regulatory requirements are assessed quarterly. The Bank of Spain used to report monthly NPL data for

[90]See, for example, Albertazzi and Marchetti (2010) for evidence of evergreening in Italy. For the classic reference of the impact of evergreening on economic activity see Caballero, Hoshi and Kashyap (2008).

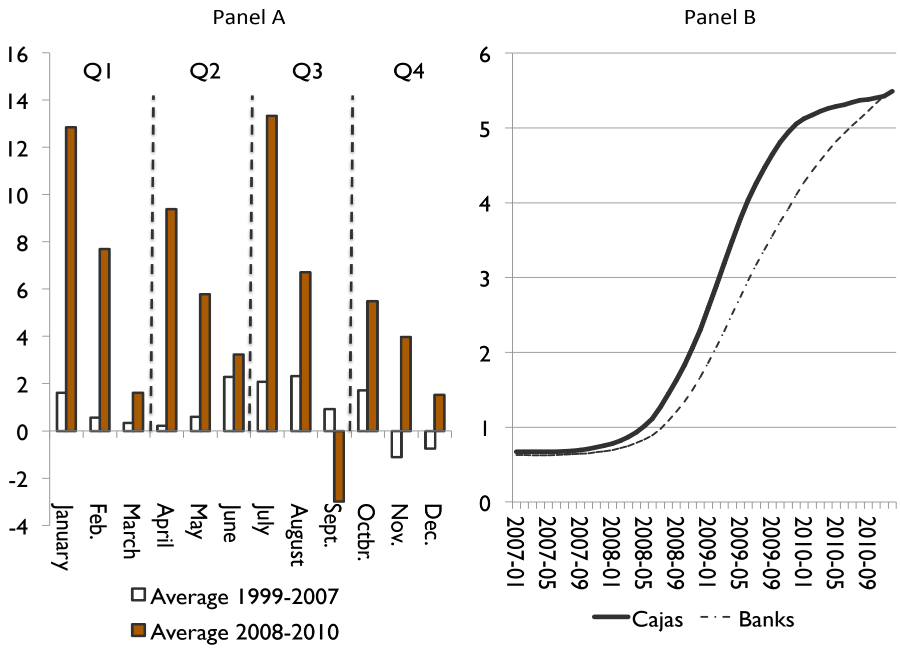

Figure 22: Panel A: Cajas: Average monthly Non Performing Loan (NPL) growth by month. I calculate the rate of growth (in percentage) for the time series between January 1999 to December 2010 and then I calculate the average growth rate for each month. That is, for the period 1999-2007, the number for January is calculated as $\frac{1}{8}\sum_{i=0}^{7}\left(\frac{NPL^{Jan.}_{1999+i+1}-NPL^{Jan.}_{1999+i}}{NPL^{Jan.}_{1999+i}}\right)\times 100$. Panel B: NPL for banks and cajas (in percentage). Monthly: January 2007 to December 2010 (smoothed with an MA-12). Data source: Bank of Spain (Cajas: BE046301 and BE046312 and Banks: BE045301 and BE045312)

both cajas and banks.[91] This allows us to asses the pattern of non performance recognition on a monthly basis. Obviously the rate of growth of the NPL portfolio is considerably higher during the crisis than during the years prior to the crisis. The rate of recognition of NPLs during the crisis though displays a peculiar pattern: It drops considerable in the last month of each quarter, which is consistent with the hypothesis that the cajas had a target NPL ratio for the quarter and that NPL recognition during the last month was fixed around that target.

Panel B of Figure 22 shows the NPL ratio of both banks and cajas from January 2007 to December 2010, roughly at the end of the restructuring process. As can be seen the cajas were

[91]Chapter 4 of the Statistics Bulletin used to report balance sheet information separately for cajas and banks, which was publicly available in the Bank of Spain superb's website. As the process of restructuring took place throughout 2010 the distinction was no longer operational. Unfortunately the historical series is no longer available in the website. Data both in Santos (2017) and the present paper was downloaded before it was taken down from the public website. The numbers of the series reported in Figure 22 correspond to the old numbering of the Statistics Bulletin.

recognizing faster than banks early on in the crisis but then slowed down relative to them. There was an improvement of general economic conditions during that period. Still many newspapers were worried about this development.[92] Because there was a widespread concern that the cajas were slow in recognizing delinquency there was some skepticism regarding the NPL of *all* the cajas and many outside observers expected surprises as the crisis progressed. The restructuring process had done little to assuage any of these concerns.

5.1.2 Restructuring and governance

The second flaw in the 2010 restructuring process was that it did not fully address the governance problem of the cajas. The legal reform contained in RDL 11/2010 had given some flexibility to the cajas regarding the organizational form to adopt. But even when the business operations were transferred to banks the fact that these remained owned by the cajas meant that the governance problems were still there. Yes, the legal reform had made the "cuota participativa" carry political rights but it was unclear who was to invest in a caja where the level of political interference remained as intense as always. An opportunity to professionalize the management of the cajas was missed when FROB recapitalizations, thin as they were, were not accompanied with a requirement to replace management. For instance, judging by the press reports it was clear that the Bank of Spain had serious concerns about CAM. Still an IPS was encouraged without any consideration about the needed managerial changes required in CAM.

For all these reasons it was thus unclear whether the strategy would ameliorate refinancing problems should the economic environment deteriorate. This was the question of 2011. Both the government as well as the Bank of Spain must have shared these concerns. The first quarter of 2011 was dominated by the impulse to complete the conversion of cajas into banks and to reassess the capital needs of the entire sector. It was surprising that came so shortly after the 2010 stress tests. What changed?

Figure 23 shows the spread in the yields between the Spanish ten year bond and the German one and the IBEX35 index, which is a value weighted index of the main Spanish corporates. The data is daily and covers the year since the release of the 2010 stress tests,

[92] For instance, see María Cuesta "Las cajas estarían soportando una tasa de mora media de 8%, ABC, July 2010. See also Joseph Cotterill "What's up with Spanish mortgage lending?" in the popular Financial Times blog alphaville on July 20th, 2010. Santiago López, the widely followed analyst of Spanish banks for Credit Suisse, in both in his January 10th and February 18th reports drew attention to the issue of NPL recognition with a very similar plot, from which inspiration for Figure 22 was drawn. See Credit Suisse (2010a and 2010b).

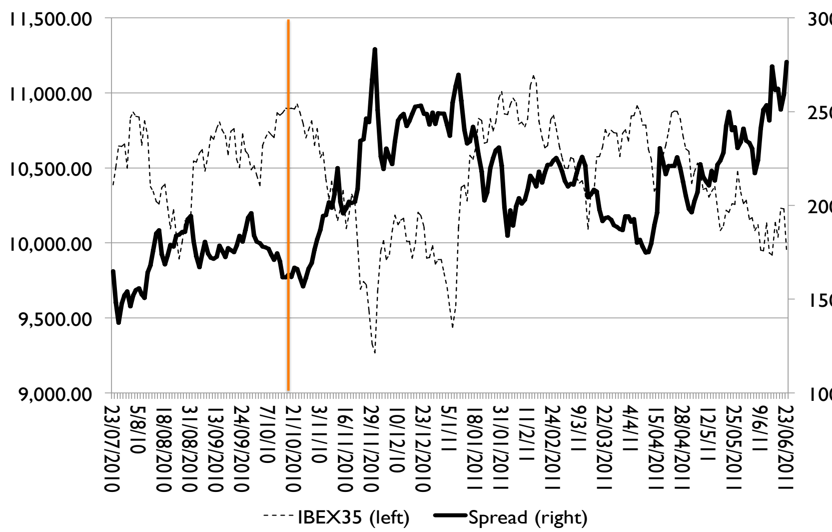

Figure 23: Left axis: Ibex 35 index. Right axis: Yield spread between the ten year Spanish and German bonds. Daily: July 23rd, 2010 to June 23rd 2011. The vertical line is at October 19th, 2010. Source: Infobolsa.

which is July 23rd (the spreads had jumped in the Spring of 2007 on account of the Greek crisis and had been hovering in the 150-200bps mark for a while). As one can see markets did react positively initially but then rebounded and moved sideways throughout the summer and early fall, when the spread started rising steadily and the market corrected downwards. The orange line in the plot is placed on October 19th 2010, which is the date of the meeting between President Sarkozy of France and Chancellor Merkel of Germany in Deauville, France, and in which for the first time they spoke of imposing losses on private creditors in future sovereign debt restructuring cases that involved the European Stability Mechanism. The official position until then was that the level of sovereign debt in affected countries was sustainable and that fiscal restrain and assisted refinancing was enough to weather volatility in sovereign markets.

There is much debate between those who argue that Deauville is a defining moment (most policy makers and central bank officials), one that made what was a banking crisis in countries such as Ireland and Spain into a sovereign debt crisis, and those who see Deauville as the inevitable acceptance of the reality of debt unsustainability in some countries in the European periphery, particularly Greece. In particular the IMF's view at the time was that default was simply not necessary.[93] Mody (2014) has argued that judging by the reaction of

[93]There were many voices clamoring for debt restructuring; in the case of Greece see, for example, Calomiris (2010) and Portes (2011) for the Irish case. Cottarelli et al. (2010) present the IMF viewpoint forcefully.

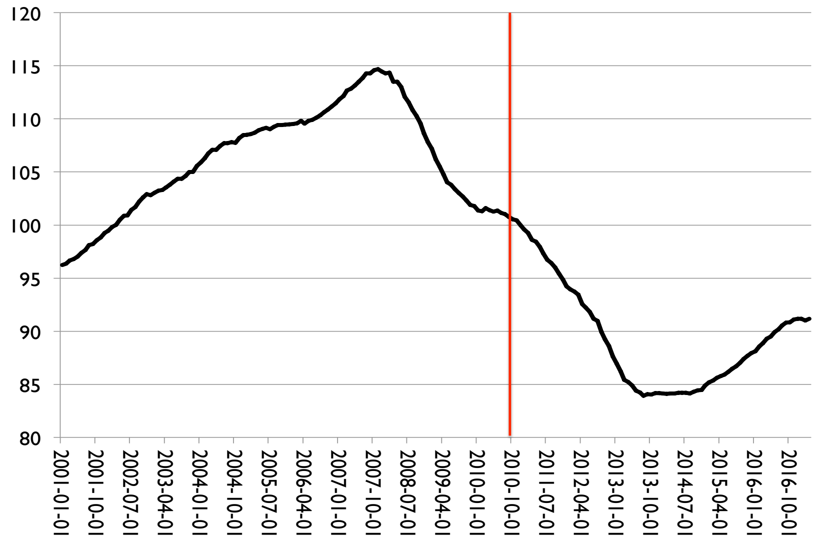

Figure 24: Spain: Retail index (smoothed with a MA-12). The vertical line is on October 2010. Monthly: January 2001 - March 2017. Source: Bank of Spain.

the sovereign spreads of the European periphery the evidence that Deauville was a defining moment is weak at best. He looks at the reaction of the spreads five days after the Deauville announcement, which was indeed received as a bombshell not only the media but also by policymakers. Indeed the spread between Spanish and German bonds, which was 163.1bps on 10/19, went up to 166.1 by the 22nd[94] and then slid back to 156bps a week later on october 26th. But after that there is a sustained march upwards and by the end of November spreads have climbed by more than 100bps, when there is a respite. Stock markets in Spain tell a similar story. The cajas were not publicly traded and thus there is no market data to assess investors' reactions to these events. the publicly traded banks, such as Santander, hovered gently through this period in relatively narrow bands though obviously they were perceived to have much stronger balance sheets.

In addition, and as shown in Figure 3 and Figure 18 Panel A, GDP had been mostly flat throughout 2010 but was to start deteriorating between the last quarter of 2010 and the first of 2011. Both the retail index and the consumer confidence index turned downwards at some point during 2010Q4. Figure 24 shows the monthly retail index since roughly the inception of the euro. As one can see the years of the crisis were characterized by a steady drop in the

[94]That's the tiny uptick in Figure 1 in Mody (2014).

index but it flattens during the first half of 2010 to resume its downward trend again in the last months of that year. Spain was entering its second recession in barely three years and that was going to add a sense of urgency to the entire restructuring of the Spanish banking system. The result of this urgency was the RDL 2/2011.

5.2 The end of the cajas: The RDL 2/2011

In February 18th 2011 the cabinet approved RDL 2/2011. It was a decisive effort to put an end of the banking crisis and lay to rest lingering concerns. It most important provision was to oblige credit institutions to have a minimum core capital ratio of 8 % as a general rule. Importantly the law also established that the ratio would rise to 10% for those groups (out of mergers or IPSs) or those individual institutions not part of a group that have not placed at least 20% of their share capital or voting rights with third-party investors and whose percentage of wholesale funding, moreover, exceeds 20%. The translation was clear enough: All institutions had to pass the market test of raising private capital. Given that no caja was in a position to achieve the 10% If unable the FROB stood ready to assist institutions to achieve the required capital. The provision that they had to raise private capital meant that either they would have to undertake an IPO in the Madrid stock exchange (as Bankia, Banca Cívica and Caixabank, the heir of La Caixa, were eventually to do) or they would have to raise capital privately (as Mare Nostrum and Liberbank, on which more below, would end up doing).

The last column of Table 3 lists the additional capital that was needed to meet the requirements in RDL 2/2011. These additional capital injections were soon called FROB II to distinguish them from the first round of recapitalizations that had taken place in 2010, during the restructuring phase.[95]

After the passage of RDL 2/2011 the focus of attention was squarely on Bankia, the systemic institution that was the result of the IPS of Caja Madrid, Bancaja and five other cajas, with assets of about 30% of Spain's GDP. The 10% ratio was simply unattainable, given that the institution had no capital placed with third parties and the level of wholesale liabilities (see Figures 6 and 17) was well above 20%.[96] An IPO was the only option. Credit institutions had fifteen days since the communication from the Bank of Spain to present the strategies that were to be followed to meet the RDL 2/2011. The board of Bankia met on February 17th to

[95] The new addition relative to Table 2 is BBK which the reader would recall was the caja from the Basque Country that had acquired Cajasur in mid 2010 (see subsection 4.4). It had an asset protection scheme from the FROB of 392 million euros. This sum was discharged before the losses on those assets were effectively realized.

[96] The IPO document placed wholesale financing for Bankia at 28% (Bankia 2011, page 15).

Table 3: Recapitalization needs after RDL 2/2011. In millions of €s unless otherwise indicated. The first column reports the size of the balance sheet of the different entities; the second gives the capital sinjections by the FROB until the passage of RDL 2/2011 (see Table 2) and which were from then on called FROB I to distinguish them from the second round of recapitalizations that were prompted by the new law (and which were going to be called FROB II). The third one gives the required capital requirements as a percentage of RWA mandated by RDL 2/2011give the status of the entity at the moment of the passage of the law. The fourth column reports the additional capital required given the new law and the status of the different entities. The last column reports the actual amounts invested by the FROB (which were from then on referred as FROB II) in the banks. Source: Bank of Spain (2011a)

Name	Assets	FROB I (2010)	Required. Cptl. (%)	Add. Cptl Req.	FROB II (2011)
Bankia/BFA	344,508	4,465	10	5,775	
Banco Base	124,127	1,493	10	1,447	2,800
Banca Mare Nostrum	71,723	915	10	637	
Banca Cívica	71,668	977	10	847	
Banco Caja 3	20,856	0	8	0	
La Caixa	289,627	0	8	0	
Novacaixagalicia (NCG)	78,077	1,162	10	2,662	2,465
Catalunyacaixa	76,649	1,250	10	1,718	1,718
BBK	48,739	392	10	0	
Caja Espiga	45,543	525	10	463	
Unicaja	34,838	0	10	0	
Unnim	28,550	380	10	568	568
Total	945,278	11,559		14,117	7,551

approve the plans for the IPO. In that case the capital requirements would go down to 8% and the additional capital to be met would be 8%, which translated into €1,795 mill. instead of the €5,775 millions under the 10% benchmark, which is the number reported in Table 3.[97] From the on it seemed like Spain's fortune was closely tied to the success of Bankia's IPO.

5.3 The IPOs

The month of July of 2011 was to see three IPOs (Caixabank, Bankia and Banca Cívica). The conditions could not be more inauspicious: The yield on the Spanish ten year bonds relative to Germany's had climbed up and was well above the 250 bps mark, after a lull in the Spring of 2011 when they had dropped, perhaps as a result of RDL 2/2011.

The IPO prospectus of Bankia contained much information about the state of the consolidated entity. The risk factors chapter reads like a prescient telling of all the things that

[97]See the table at the end of Bank of Spain (2011b).

Table 4: Bankia - Loan book in millions of €s as of March 2011. The first column shows the total outstanding volume of credit by sector. Loans are in turn classified into normal, if they are in good standing (column 2), substandard if the loans are still current but there are reasons for concern due to the fact that were granted to a sector or geographical in distress for example (column 3) and delinquent if the loan is in arrears (column 4). The last column shows the total provisions (for both loans classified as substandard and delinquent). For a definition of the different categories of loans see Iranzo (2008, page 92). Source: Bankia (2011, page 61)

	Total	Normal	Substandard	Delinquent	Provisions (total)
Corporates					
Real Estate Devlp.	32,950	22,514	4,983	5,452	3,350
Construction	3,784	3,245	212	327	220
Large Corporates	28,621	26,274	1,761	586	676
SMEs	30,330	27,491	1,187	1,653	1,223
Households					
Mortgages	89,843	84,278	2,379	3,185	1,174
Other	6,595	6,146	111	337	270
Total - Private Sector	192,122	168,948	10,633	11,541	6,913
Total - Public Sector	6,479	6,477	0	2	0
TOTAL	198,601	176,426	10,633	11,542	6,913

would go wrong with Bankia in less than a year. Here I will just comment on a narrow set of issues of relevance for the larger picture. Table 4 shows the loan book of Bankia. as of March 2011. The percentage of the loans to the private sector directly tied to the real sector (loans to real estate developers, construction companies and mortgages) was about 66%. Probably this number is underestimated on account of misclassification (for instance loans to SME that are probably to acquire a real estate property, hotels ...). In addition it does not include the exposure through the subsidiaries in the real estate sector.[98] Clearly there are issues of classification of the loans depending on whether they are on arrears or no as there was widespread suspicion of "evergreening" amongst many observers, as documented above. The NPL of Bankia at the time of the filing, and according to the prospectus, was about 11.5% which was higher than the average of the entire banking sector (which in the 2011Q2 was about 6%).

An important aspect of Bankia's financials was of course the issue of wholesale financing, which was important for two reasons: whether there was "bailanble debt" that could absorb potential losses and refinancing risk. Table 3 reports the wholesale liabilities of Bankia as

[98]The book value of the 130 non publicly traded real estate developing companies was €431 million. Of the publicly traded ones the most important was Realia; the book value of bankia's equity stake in that company was €135 million. See Bankia (2011, page 53).

Table 5: Bankia - Wholesale financing at March 31st 2011. Source: Bankia (2011, page 107)

	Millions of €s
Senior debt	13,328
Covered Bonds	25,305
Debt under the 2008/9 debt guarantee program	8,652
Subordinated debt	296
Retail senior debt	450
Public covered bonds	1,525
Securitizations	8,816
Commercial paper	1,442
Valuation adjustments	(1,259)
TOTAL	58,555

reported in the IPO prospectus. Recall that BFA had kept most of the subordinated debt (in the form of preferentes, preferred stock issued to the FROB and standard subordinated debt). As a result there was little "bailinable debt" left in Bankia given that, according to Spanish law, senior debt is at the same level of priority as deposits and in any case there was no appetite at the European level for losses to be imposed on senior debt.

Second, there was the issue of refinancing risk. Figure 8 showed the maturity structure of Caja Madrid but an equivalent plot cannot be constructed with the data contained in the prospectus.[99]. The prospectus reported that the maturing debt between March and December of 2011 amounted to €7,970 million and €15,356 million for 2012 (Bankia, 2008 page 108). The prospectus tried to reassure investors by pointing out that there was collateral that could be placed with the ECB of almost €10bn plus the funds that were to be raised in the IPO.

The underwriters for the IPO were once again a remarkable group of investment banks in an effort to tap foreign markets as much as possible.[100] But clearly the most important underwriter was Bankia itself, through its vast retail branch network. The price was set at €3.75 a share, well below the band initially announced in the IPO prospectus, which was €4.41-5.05. The lack of interest in the international segment was widely reported in the

[99] Bankia's Base Prospectus for Non-Equity Securities filed with the CNMV on July 21st, 2011 contains detail information regarding the maturity structure of the fixed income securities by Bankia which are eligible for trading in regulated fixed income markets. It is not a complete list of the securities of interest.

[100] Merrill Lynch, the London branch of Deutsche Bank, JP Morgan, UBS Limited, and BNP Paribas, Barclays and Santander in charge of qualified investors. Lazard, which was Mr. Rato's former employer, was advising Bankia in the entire operation.

press as well as the lack of interest by large Spanish institutional investors. As a result there was much pressure on the retail branches to place as much as possible. Still the CNMV forced Bankia to place a significant fraction with qualified institutional investors: 494.7 million shares were placed with individual investors and 329.8 million shares amongst institutional investors. There was very little interest by foreign investors. As the Financial Times noted when years later it retold the entire story of Bankia "In spite of this army of financial support, investment bankers who worked on the deal said there was negligible interest from foreign institutions.[101] The total funds raised were €3,092 million.[102]

Bankia was to dominate the acute crisis of the Spanish banking crisis starting in January 2012, when the solvency concerns intensified. Refinancing markets closed for Bankia, and the entire Spanish banking sector, and the government was forced to nationalize it less than a year after it went public. In the process the reputation of the Spanish authorities to manage the banking crisis was irretrievably damaged and this led to the request for assistance from the European authorities barely in June of 2012. Small retail investors were outraged at both the Bank of Spain, the CNMV and the Spanish authorities under whose supervision the entire process had taken place. The story of Bankia's IPO is still not closed. On February 2016 Bankia was to announce that it would make whole retail investors who participated in the IPO with a 1% interest rate, to the tune of €1.84bn in order to avoid the many lawsuits that were going to result as information was revealed of the many doubts that "institutional Spain" had regarding the wisdom of the IPO.[103]

A few days before Bankia's IPO, Caixabank had transferred its banking business to a publicly traded subsidiary (Criteria CaixaCorp) becoming effectively a publicly traded bank (as a result of this Caixabank did not raise any additional funds). There was another banking IPO that month in Spain, that of Banca Cívica which managed to raise €599 million (see Table 2). It was to be the listed stock with the shortest history as Banca Cívica would merge with Caixabank less than a year after its IPO.

[101] Victor Mallet and Miles Johnson "The bank that broke Spain," Financial Times June 21st 2012; this article is a good account in english of the entire saga. For a contemporary reference to the difficulties in raising foreign funding for Bankia see, for example, Íñigo de Barrón "Bankia sale a bolsa con una rebaja del 15% y una demanda ajustada," El País July 18th 2011,

[102] CNMV (2011, page 74).

[103] See Ignacio Fariza "Bankia devolverá el dinero a todos los pequeños accionistas con intereses," El País February 18th, 2016. Also Bankia (2016).

5.4 The collapse of Banco Base and the end of CAM

Recall that there was a second IPS of systemic proportions which was that of Banco Base. It was to be the result of the merger of CAM with three other cajas (see Table 2). But surprisingly, shortly after submitting to the Bank of Spain the recapitalization plans of Banco Base, the different governing bodies of the three cajas rejected the IPS plans and Banco Base collapsed (see footnote 70). The Bank of Spain requested new recapitalization plans for the new entities. CAM, which had created Banco CAM to transfer its banking operations to a bank in a process reminiscent of that of Bankia/BFA, had no option but to request assistance from the FROB. There was no hope of raising the necessary funds to comply with RDL 2/2011. The FROB decided to inject immediately €2.8bn into Banco CAM and provide a €3bn credit line to assist with immediate liquidity needs. Finally, all these recapitalizations came with the much needed management changes, which were key to a thorough evaluation of the losses and the options open to CAM.

In December of 2011 Banco CAM was sold to Banco Sabadell. The Bank of Spain announced that the Deposit Insurance Fund (known by its acronym FGD; see footnote 51) was to fully subscribe the capital of Banco CAM for €5,249 million (including the €2,800 million that the FROB had already injected earlier). It would immediately write off the entirety of those €5,249 million and sell Banco Base to Sabadell for €1. In addition the FGD would issue an asset protection scheme on a set of assets and absorb up to 80% of the losses on those assets. The FROB was to meet certain contingent liabilities of CAM. That the FGD absorbed the brunt of the losses associated with CAM was possible thanks to a new law (RDL 6/2011) passed on October 2011 which essentially meant that the banking system was to bear the lion's share of the recapitalization needs of the Spanish banking sector. The effort to protect the tax payer at al costs was laudable but misguided or rather, effective protection can only occur in a environment of clarification and credible loss discovery. The costs associated with the sale of Banco CAM to Sabadell was, once again, at odds with the estimates put forth as recently as February of 2011, €1,447 million of additional recapitalization needs (see Table 3). In both the case of CCM and Banco Base the sale of the distressed institution required recapitalization efforts and asset protection schemes well beyond the official initial estimate. Outside observers, reasonably, placed a larger weight on the recapitalization estimates resulting from a private market transaction than the ones coming from either stress tests or Bank of Spain's assessments. This left outside observers speculating about the true extent of the losses, in particular in Bankia/BFA. The impact on the reputation of Spanish authorities was disastrous.

5.5 The state of the recapitalization process at the end of 2011

By September of the year 2011 the third phase of the recapitalization process associated with RDL 2/1011 had been completed. All in all it had resulted in €13,389 million of fresh capital in the banking system. Of those, €7,551mn had been supplied by the FROB and €5,838mn had been raised in capital markets.[104] Two institutions (Bankia and Banca Cívica) had seen their IPOs completed and thus managed to satisfy the requirements while simultaneously lowering their capital requirement from 10% to 8%. Another two (Liberbank, which was the healthy bank that sprung from the breakup of Banco Base) and Banco Mare Nostrum (BMN, from now on) decided to raise the capital privately.

The FROB made injections in the other entities, effectively nationalizing them. These injections were referred to as FROB II to distinguish them from the first round of recapitalizations in 2010, which were called from then on FROB I (see Table 3). Catalunya Caixa (Catalunya Banc, as it was renamed) received €1,718 million, which gave the FROB an ownership interest of 89.74% of the bank's share capital. Catalunya Caixa had been run by Narcís Serra a prominent member of the Catalonian Socialist Party (or PSC) and former deputy prime minister of the national government in Madrid. The losses on this caja will be such that later in 2012 would have to receive another €9,084 million capital injection. Novacaixagalicia (renamed NCG Banco), the bank that was formed of the merger of the cajas of the region of Galicia, another region fully controlled by the conservative party (PP), received €2,465 million, but it ended up requiring another €5,425 million with the funds provided by the European credit line. The €2,565 million meant that now the state owned 93.16% of the share capital. Finally, Unnim received €568 million.[105] As a result of these capital injections, the FROB went on to manage the three banks. Recapitalizations did now result in a change of management.

The Spanish authorities were not done yet with the restructuring process. Banco de

[104]See the press release by the Bank of Spain (2011c) and the annual report of the FROB for a detailed discussion (FROB (2012)).

[105]The process for Unnim was slightly different than the other two. The FROB injections in preferred stock in 2010 carried an option to repurchase the stock at the price paid by the FROB plus a 12.5% per annum in the 12 month period following the FROB's capital injection. NCG Banco notified the FROB in December of 2011 of it's intention to exercise such option. As a result the FROB received €69.5 million and gave the new owners 2.59% of the share capital, so that the final ownership of the FROB was 90.57%. In the case of Unnim management communicated the FROB that it would not exercise the option to buy back the €380 million of preferred that the FROB held at the time. The FROB converted them into equity and ended up owning 100% of Unnim as a result. See FROB (2012, page 41).

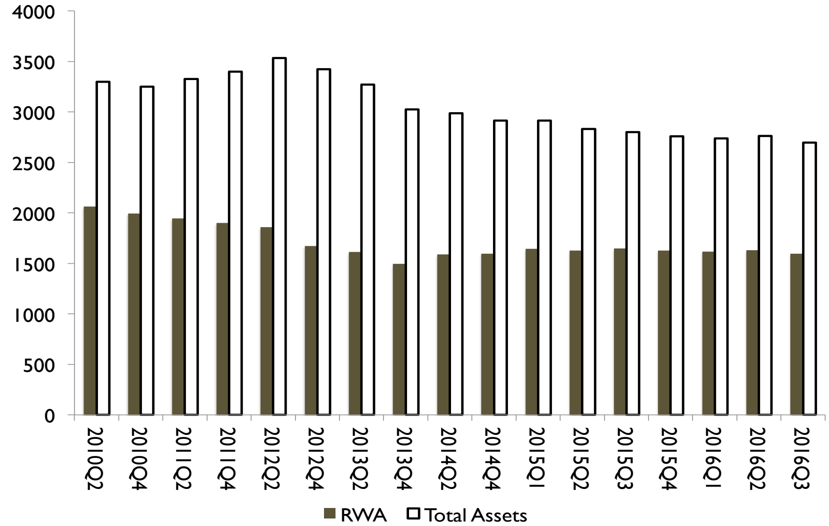

Figure 25: Spain: Credit institutions. Risk Weighted Assets (RWA) and Total Assets in billions of €s. Quarterly: 2010Q2-2016Q3. Source: Bank of Spain (Statistics Bulletin, Table 4.1) and European Central Bank.

Valencia a €22.5bn balance sheet bank, owned by Bancaja, had to be taken over by the Spanish authorities in November of 2011. Only in 2010 it had been the seventh largest bank in Spain by market capitalization. The FROB agreed to a €1bn recapitalization (which was disbursed in May of 2012) plus a credit line. It would eventually require an additional recapitalization effort of €4.5bn and an asset protection scheme when it was sold to Caixabank in early 2013. In the region of Valencia, apparently, there was not a single healthy financial institution.

The future evolution of the Spanish banking crisis notwithstanding, the changes in the Spanish banking system had been enormous. There had been a remarkable consolidation process: The number of cajas at the beginning of the process was 45 but it had dwindled to 18 by the end of 2011. Most were well on their way to become banks, some publicly traded banks, which would inevitably lead to the end of the bad governance practices that the cajas had infused in the credit market. In addition there had been substantial asset write-offs. As shown in Figure 21 Panel B, by the end of 2011 Spanish banks had written off well beyond €100bn. Still retained earnings, private capital raising and FROB injections had pushed the tier 1 ratios for the aggregate system to close to 10% (see Figure 20). Tier 1 ratios can improve because there is a diminution of the risk weighted assets (RWA) or an increase in capital. As Figure 25 shows there was a mild decrease in the level of RWA but as Figure 26 reports there was an

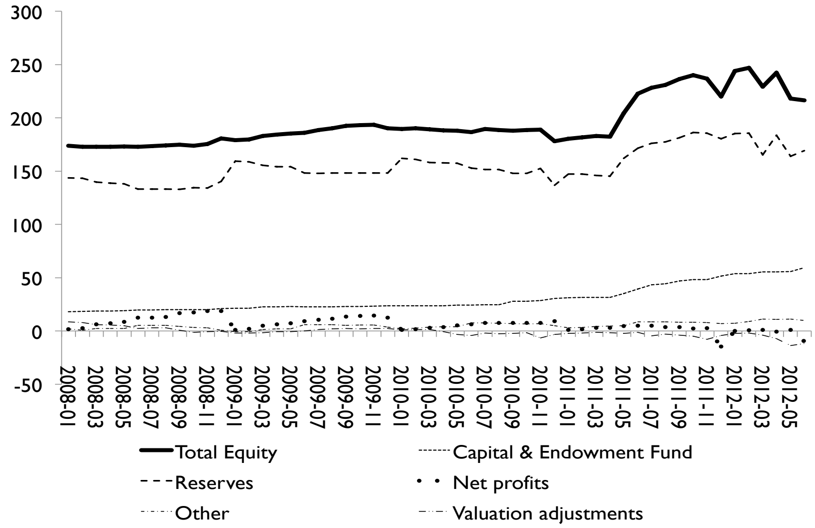

Figure 26: Spain: Credit institutions. Total Equity and its components (Capital and endowment fund, reserves, net profits, other entries and valuation adjustments); in billions of €s. Monthly: January 2008 to June 2012. Source: Bank of Spain (Statistics Bulletin, Table 4.7).

even stronger increase in the amount of capital, driven largely by the increase in reserves but also capital (mostly the amounts raised through the IPOs and the FROB injections.) It was a notable performance but not enough.

The recapitalizations associated with FROB II were driven by an effort to gain the credibility that the 2010 stress test did not deliver. Little capital was injected as a result of the tests and the governance problems had not been resolved. The RDL 2/2011 attempted to address these two concerns in a rather indirect way, essentially by making it expensive in terms of capital for the cajas to remain so. The additional capital raised thus was not linked to an assessment of the actual solvency needs of the different entities but rather it was a tax designed to elicit the transformation of the cajas sector. Of course the additional capital would help but the quantities raised were not the result of a thorough process of loss discovery.

In addition, Bankia remained an open issue and not just because of the matter of loss discovery. First, capital had been raised through the IPO but, fairly or unfairly, the perception was that foreigners had stayed out of it and that the institutional segment was only subscribed after much arm twisting by part of the authorities. There was an overeliance in the retail arm that continued the worst practices initiated with the preferentes in 2009. The market test failed to generate confidence. Second, the governance problems there also remained open, as it was run by prominent party member of the conservative party, which was poised to take over the national government after the general elections of November 2011. Thus the political economy problems were only bound to get worse.

As the different entities struggled to meet the additional requirements associated with the RDL 2/2011 they fell under the control of the FROB, being effectively nationalized (as it was the case with NCG, Catalunya Banc and Unnim). This meant that the sovereign became increasingly committed to fill the solvency gaps that would surely appear when a more thorough examination of the loans was to be undertaken by the examiners of the Bank of Spain. Throughout this process no thought was given to the impact that the increasing commitments to the banking sector would have on the credit quality of the sovereign. Given the large exposure that the banks had to the sovereign through their holdings of Spanish treasuries the risk of a feedback effect sinking both banks and sovereign became a real possibility. Any concern regarding the sovereign would have thus a disastrous effect on the banks. This is exactly what happened.

5.6 Economic distress and the ECB

As discussed in Section 2 there were two factors at play in the Spanish banking crisis that made it different than previous ones: The complicated political economy of the cajas sector and the dependence on foreigners for the refinancing of a substantial portion of the banking liabilities. The political economy issues, as we have seen, played throughout the entire crisis. The external factors were in the background until 2011, when they became critical. The Greek and Irish crisis in 2009 and 2010 led these two countries to request an assistance package in May and November of 2010, respectively. Portugal was to follow suit in early 2011. There was much speculation about how the institutions of the Eurozone were going to manage these crises and what would happen if Spain, an economy larger than those three combined, were to ask for assistance.

There were reasons for concern indeed. The Spanish economy entered into a second recession at some point between the second and third quarter of 2011. Figure 18 Panel A in page 52 shows the acute contraction that Spain was going to suffer between 2011Q2 and 2013Q4. The reasons for the second economic contraction are many and need not occupy us here in excess. Clearly the unfinished business regarding the Spanish banking system was a factor. But more important for the development of the banking crisis was the fact that foreigners became increasingly reluctant to refinance Spanish liabilities throughout 2011.

Figure 5 (page 21) shows the evolution of the external debt by sector. As can be seen there was a substantial repatriation of Spanish risk throughout 2011. Foreigners were essentially selling Spanish bank liabilities back to Spanish residents. For instance German and French banks[106] were aggressively lowering their exposure to Spanish risks since early on in the crisis (see Figure 4 Panel B, page 20). Faced with the progressive closure of international capital markets, Spanish banks were essentially left with two options. The first one is standard and is simply to discount eligible colateral with the ECB. The second is to refinance some of the liabilities through the balance sheet of the government. The first option is limited by the amount of eligible collateral that the banks have; the second by the credit quality of the sovereign. Both constraints were binding during the crisis. Indeed as Figure 5 also shows, the amount of Spanish sovereign debt held by foreigners was shrinking throughout 2011, signaling a decreasing willingness to fund the government. This translated into much higher spread between Spain and German ten year bonds (see Figure 18 Panel B).

Effectively Eurozone capital markets, until then fully integrated, were fast becoming segmented across national boundaries. Talk of redenomination risk, the delicate expression used to refer to a possible euro break-up, was everywhere in the financial press, even amongst reputed commentators.[107] This segmentation of the Eurozone across national boundaries had a peculiar manifestation in the increase in Target 2 balances, the payment and clearing system used by national central banks to settle accounts. Under normal conditions private banks across the eurozone borrow and lend from each other and the Target 2 balances are near zero. If instead cross border lending does not occur and funds flow from the periphery, Spain, to the core, Germany, without the corresponding flow of private loans from Germany, the Bank of Spain develops a large liability against the Eurosystem (and the Bundesbank a large asset). This is exactly what happened. Of course, the Bank of Spain takes high quality collateral from the Spanish transferring entity when making a payment to the Bundesbank on behalf of that entity. Thus Target 2 imbalances are only a problem if Spain leaves the euro, a rather implausible scenario. Figure 27 shows the target imbalances against the spread between Spanish and German ten year bonds (a positive number is an asset against the Eurosystem for Germany and a liability for Spain). Notice that the imbalances grew rapidly in the second

[106] I don't have an equivalent data set showing the Spanish exposure of insurance companies or asset management companies thus the BIS statistics should be taken as a lower bound on these trends.

[107] See for instance Gavyn Davies, "Thinking the unthinkable on a euro break up," Financial Times, November 27th 2011, Wolfang Munchau "The eurozone really has only days to avoid collapse," Financial Times, November 27th 2011, David Enrich, Deborah Ball and Alistair MacDonald, "Banks prep for life after euro," Wall Street Journal December 8th, 2011, Paul Krugman "Killing the euro," New York Times, December 1st 2011.

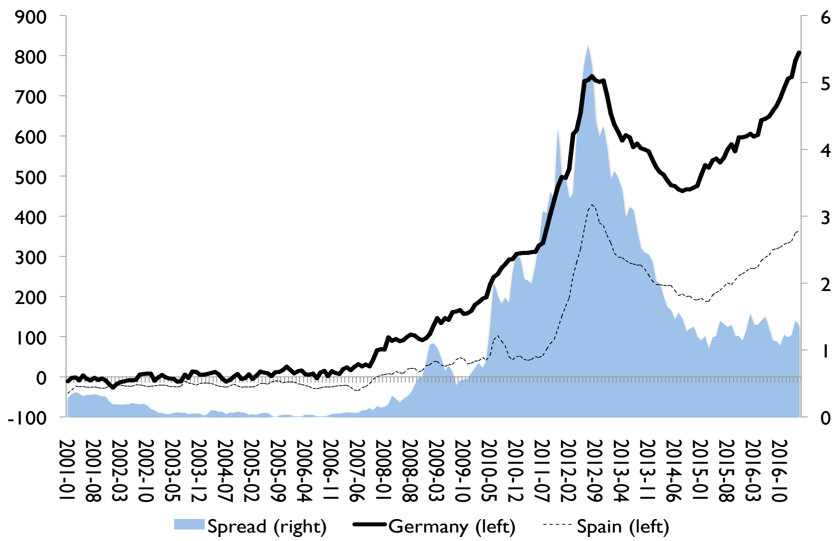

Figure 27: Left axis: Germany and Spain: Target balances in billions of €s. For Germany a positive number represents an assets against the Eurosystem whereas for Spain a positive number represents a liability. Right axis: Spread between the spanish and the German ten year bond; in %. Monthly: January 2011 to March 2017. Data Source: Target 2 balances are taken from the Institute of Empirical Economic Research - Osnabrck University. Monthly data on the ten year bonds for Germany and Spain are taken from the Federal Reserve Bank of St. Louis.

half of 2011 and they were accompanied by a rapid increase of the spreads as well.

More formally, for a member country of the Eurozone, the current account balance has to be perfectly offset by the sum of private capital inflows, the Target 2 balances, whatever official assistance the country is receiving, and the inflows associated with the ECB's securities markets programs (SMP).[108] If private capital inflows falter something else has to take its place, which in the absence of a formal assistance program, it must be a combination of Target 2 balances and inflows associated with ECB's SMP. As Merler and Pisani-Ferri (2012, figure 2) show, this is exactly what happened to Spain (and Italy) in the last few months of 2011. In essence, the Eurozone lacked a mechanism to assist countries facing a balance of payments crisis, which were deemed impossible in a monetary union.[109] Target 2 and SMP are simply repairs for the lack of a formal mechanism that can meet sudden stops in a monetary union.

This "risk repatriation" crisis intensified during the summer as Spanish and Italian

[108]The SMP was announced on May 10th, 2010, with the stated objective of restoring the monetary policy transmission mechanism across the Eurozone. For the effect of the SMP on yields see Eser and Schwaab (2013).

[109]Garber (1998) anticipated the role that Target 2 could serve as a stopgap in a crisis as long as "a strong national currency national central bank will provide through TARGET unlimited credit in euros to the weak national central banks remaining in the system if it is preparing to the leave the union."

spreads rose rapidly. The ECB had initiated the SMP in May 2010 but extending the program in full to these two countries, much larger than Greece or Ireland, meant potentially a considerable increase of its balance sheet. In addition, would an aggressive intervention in sovereign debt markets reduce the incentives that the governments of Spaian and Italy had to tackle imbalances and structural reforms? This debate has simmered throughout the entire Eurozone crisis but it came to a head during the first half of the summer of 2011. The ECB was in a difficult position as it had to weigh considerations well beyond those typical of a central bank, but, at that stage, it was the only functioning Eurozone institution. The ECB tried to address the moral hazard problem head on.

In August 5th 2011, Jean-Claude Trichet, president of the European Central Bank, and Mr. Fernández Ordóñez of the Bank of Spain sent a letter to Prime Minister Zapatero regarding structural reforms in Spain in order to regain credibility with foreign investors.[110] What followed was a remarkable list of recommendations, all of them very wise, geared towards making the Spanish economy more flexible and thus more coherent with its membership in a monetary union. But two things were baffling about it. First, to many the timing of the letter suggested an inappropriate link between the SMP and Spanish policy actions. This compromised the arms length relation that the ECB was supposed to have with national governments. But perhaps what was more surprising was the dual belief that those reforms were needed to bring calm to financial markets and that the Spanish political class could overcome in short notice the political economy problems associated with such sweeping reforms.[111]

The Spanish and Italian governments made some faint promises of action and that must have been enough for the governing council of the ECB. On August 7th, Sunday, it put out a statement (ECB, 2011) announcing that it would initiate the SMP "to [restore] a better transmission of our monetary policy decisions - taking account of dysfunctional market segments - and therefore to ensure price stability in the euro area." In the same statement the governing council encouraged member governments to activate the European Financial Stability Facility (EFSF) in clear anticipation that whatever actions the ECB may take might not be enough; that a more formal, and fiscally backed, form of assistance might be required.

But holders of Spain's public and private financial assets knew and cared little for the particular institutions of the country's labor markets or the subtleties of product market com-

[110]The letter was officially released on December 19th 2014 and can be downloaded from https://www.ecb.europa.eu/pub/pdf/other/2011-08-05-letter-from-trichet-and-fernandez-ordonez-to-zapateroen.pdf. Mr. Zapatero discussed the letter in the memoirs he wrote after stepping out of power.

[111]During the crisis in Spanish and Italian sovereign debt markets in the Summer of 2011 De Grauwe (2012) argued for a more aggressive embrace by the ECB of its role as a LOLR, including for sovereign debt.

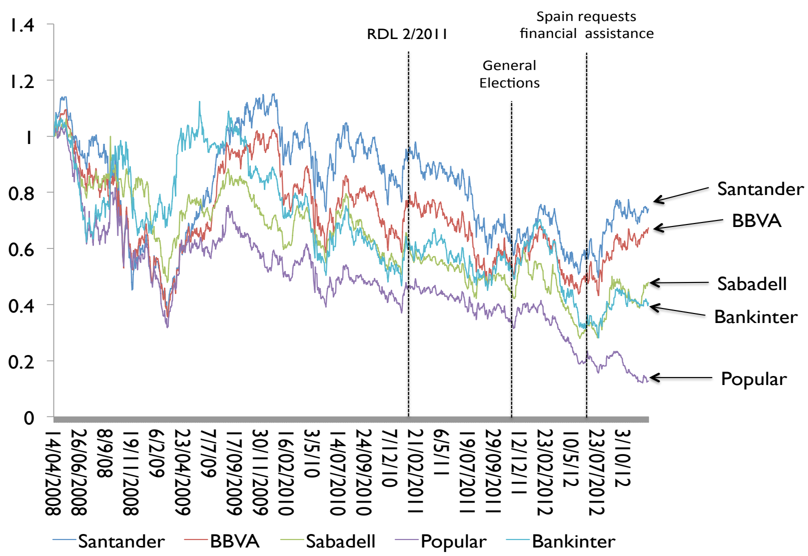

Figure 28: Stock prices for Santander, BBVA, Banco Popular, Bankinter, and Banco Sabadell normalized by the price in April 14th 2008. Daily: April 14th 2008 to December 12th 2012. Data source: Infobolsa

petition regulation. What mattered to them was the security of their claims on Spanish counterparties and, understandably, wanted assurances that these claims would be satisfied, whether by the original private issuer or a backstopping taxpayer. Prime Minister Rodríguez Zapatero never attempted the otherwise reasonable reforms being proposed but realized that something needed to be offered in their place. The something was nothing less than the first constitutional reforms in Spain's forty years of democratic rule. The reform enshrined in the constitution the principle of budgetary stability and made Spanish treasuries senior to any other claim on the government. This remarkable feat was accomplished in less than three weeks, as it had the support of the two major parties in parliament. Predictably the constitutional reform had no impact whatsoever in the evolution of the crisis and did little to slow down the march up of the spreads (see Figure 29). It was a poor substitute to decisive action on what mattered most, at least for Spain, which was a clear path to close the banking crisis and avoid a dangerous entanglement between the public and private balance sheets.

Because that did not happen the stock prices of the publicly traded banks continued the steady decline that had been the norm throughout 2011. Stocks had recovered partially after the initial shock of the world financial crisis in 2008 but by the end of 2010 they started a downward drift again. The RDL 2/2011 relieved temporarily this decline but it resumed shortly after (see Figure 28).

November of 2011 though was to bring important changes in the leadership of the Eurozone. First in Spain the general elections of 2011 resulted in a resounding victory of the conservative party (the People's Party or PP) led by Mariano Rajoy. Bank stock prices would then follow the comings and goings of the PP's management of the crisis. They would hit bottom on June 25th 2012 when Spain requested a financial package to assist with recapitalization efforts. Italy also saw another of their inimitable political crises bring down prime minister Berlusconi. Mario Monti, a technocratic old hand in the European Commission between 1995 and 2004, became the new prime minister. Both Spain and Italy were large economies and the fear was that crises there would be simply unmanageable and spell doom for the Eurozone. Expectations of a fresh start were running high.

Also in November Mario Draghi took over Mr. Trichet at the ECB. Mr. Draghi didn't take long to signal changes in the ECB's approach to the Eurozone crisis.[112] On December 8th the ECB announced a full allotment liquidity auction with a maturity of three years. These Long Term Refinancing Operations (or LTROs) had been offered before but never with such long maturity. In addition, an important interview with the Financial Times on December 14th heralded a more nuanced engagement with the different banking crises. He was critical of the nature of the stress tests conducted until then and argued that for them to be effective the European Financial Stability Facility (or EFSF), a special purpose vehicle created by Eurozone members to assist with sovereign debt crisis and bank recapitalizations, had to be in place first. As argued throughout this piece, this is the starting point of any credible exercise on loss discovery. The road to the Memorandum of Understanding though was wide open for Spain. It all depended on how Spain would manage the crisis in the early months of 2012.

6 Phase IV (December 2011-June 2012): El diluvio

There were two developments that were going to determine the evolution of the crisis in the roughly six months that go between the arrival of the new cabinet and the request for financial assistance on June 25th 2012. First, the cabinet dashed hopes of a more aggressive and imaginative engagement with the banking crisis by pursuing a "more-of-the-same" strategy. As the RDL 2/2011, the initial measures were geared towards increasing loan provisions, independently of, first, the actual needs of the different entities and, second, their capacity to meet

[112]Ralph Atkins "Draghi hints at eurozone aid plan" Financial Times, December 1st, 2011.

the new provisioning requirements. The second was of course the Bankia crisis, which was a direct consequence of the actions taken by the new cabinet. Bankia could not meet the new provision requirements and thus its fall into the hands of the FROB was simply inevitable. The problem of course was whether Spain could absorb the losses in Bankia and finance it throughout. It is here where the limited size of the FROB was going to prove key. Recall that the FROB could lever up substantially and potentially achieve a €99bn size. The decision was taken to fund the FROB as needed without any consideration to the possibility that when a substantial amount were to be needed it might not be able to raise the required funds. It was indeed a tail event but one that by November 2011 was growing fatter.

These developments were not inevitable. Quite the contrary, Spanish policy makers benefitted throughout 2012 from the ample liquidity provided by the ECB with the LTRO. There were options even that late in the crisis. This section starts with a description of the ECB's LTRO which provides the background for many of the things occurring at the time and the measures of the new cabinet in regards to the banking crisis. I then focus on the fall of Bankia. I close with some comments regarding the inevitability of the Memorandum of Understanding (MoU). This section is brief to avoid repetitions: the events during this period concentrate in a few weeks all the defects in the management of the crisis during the previous years.

6.1 LTROs: The ECB provides breathing space

On December 8th 2011 the ECB announced that it would conduct two (very) long term refinancing operations (LTRO or VLTRO) with a maturity of thirty six months and the option of early repayment after one year. In addition the ECB expanded collateral eligibility by reducing the rating threshold for certain asset backed securities and allowing NCBs to accept as collateral additional performing credit claims, such as loans. The driver behind these auction was what became known as the wall of funding.[113] The banks had been forced into shorter maturity funding in 2009 and 2010 and as a result they had a large refinancing needs. Spanish banks were no exception (see Figure 9 in page 29). Uncertainty regarding refinancing was gripping the interbank market in Europe and the authorities wanted to remove liquidity concerns decisively. The two auctions, would take place at the end of December and February respectively. Subscriptions were €489bn in the first auction and €529.5 in the second auction. As seen in Table 6, Spain and Italy were the largest beneficiaries of these auctions. In the

[113] Eva Kuehnen, "ECB wall of cash averts credit crunch," Reuters, February 27th, 2012.

Table 6: ECB funding as of September 2012. In €bn. MRO: Main Refinancing Operations. LTRO: Long Term Refinancing Operations. ELA: Emergency Liquidity Assistance. Source: van Rixtel and Gasperini (2013).

Country	**MRO**	**LTRO**	**Other (incl. ELA)**	**ECB Dependence**
Austria	–	–	–	18
Belgium	0	40	0	40
France	3	173	1	76
Germany	2	74	1	76
Greece	28	2	101	131
Ireland	12	67	38	117
Italy	4	273	0	277
The Netherlands	–	–	–	26
Portugal	5	51	0	56
Spain	71	329	0	400

second auction the Financial Times reported that Spanish banks had taken €120bn-€130bn and Italian banks €139bn. Intensa Sanpaolo and Bankia took, always according to the FT, €24bn and €25bn, respectively.[114]

It is worth emphasizing that the LTROs did nothing to assuage solvency concerns. They simply managed to remove liquidity considerations from the policy makers long list of worries. As many emphasized at the time[115] there was a side effect associated with the LTRO and it was to tighten the embrace between weak sovereigns and weak banks. Banks rushed to acquire government bonds so they could discount them with the ECB and capture the spread between the sovereign yield and ECB lending rates.[116] The diabolic/divine loop (depending on the gyrations of the spread) between banks ad sovereigns is an important topic and there is mounting evidence that it was operational during the crisis[117] But it is important to emphasize that in the case of Spain, the diabolic loop magnified an already challenging situation, made worse by the mismanagement of the banking crisis, but it was not cause. As I argue in the

[114] Patrick Jenkins, Mary Watkins, and Rachel Sanderson "Draghi's cash tonic makes bank smile," Financial Times March 1st, 2012.

[115] See, for instance Nouriel Roubini "3yr LTRO: Breaking or strengthening the Banking/Sovereign Feedback Loop," economonitor, December 21st, 2011, or Mody and Sandri (2011).

[116] Crosignani, Faria-e-Castro and Fonseca (2017) document this effect for Portuguese banks in a remarkable paper that uses very detailed security-level data set. In general, they report that the yields more than three years out on Portuguese, Spanish and Italian bonds remain largely unchanged whereas those of three years and less collapsed as the banks of these peripheral nations tried to match the maturity of the asset with that of the liability. See also Altavilla, Pagano and Simonelli (2016).

[117] See for instance Acharya, Drechsler and Schnabl (2014) and Altavilla, Pagano and Simonelli (2016). Brunnermeier, James and Landau (2016, page 352 and Chapter 10) emphasize as well this aspect of the LTROs.

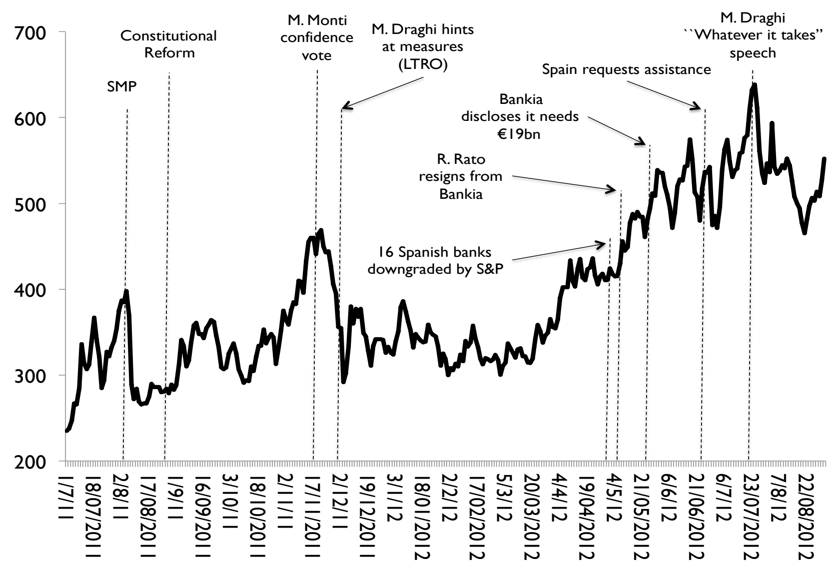

Figure 29: Spanish 10 year bond yields relative to German ten year bonds. Data source: Infobolsa

next section, it is the mismanagement of the crisis by the Spanish authorities that led to the appearance of an unnecessary diabolic loop.

The ample liquidity conditions provided by the ECB gave the new cabinet of Mr. Rajoy the breathing space needed for a new government to take control of the situation. Figure 29 shows the spread between the Spanish and German ten year bonds in the period going from July 1st 2011 to August 31st 2012. Some noticeable events are reported as well but the variation cannot be fully explained by them. What is noticeable is that the incoming government enjoyed a period of relative calm between the announcement of the LTRO auctions and late March 2012, when the crisis of Bankia got going in earnest. How was that lull used?

6.2 New cabinet - old measures. The end of Bankia

The new cabinet took possession right before Christmas. It's very first emergency measure pertaining to the banking situation was the extension of the new bank debt guarantee program, first introduced in 2008, which was key to guarantee market access and made sure that whatever debt was issued remained eligible collateral independently of the rating of the issuing entity.[118] The policy of the new cabinet was previewed by the new finance minister, Luis de Guindos, in an interview with Victor Mallet of the Financial Times. There he spoke of three tasks : The

[118]RDL 20/2011.

clean-up of the balance sheets, additional consolidations, and, again, minimizing the exposure of the tax payer in order to avoid the contamination of sovereign and banking risk. On this last matter, when pressed by Mr. Mallet that the contamination had already occurred, Mr. de Guindos volunteered a remarkable piece of news and it was that the government was going to require another round of loan provisions. The magnitude was designed to lay to rest any lingering concerns, €50bn.

The cabinet passed the law in two steps RDL 2/2012 in February and RDL 18/2012 in May. The details of both norms are complex but, briefly, the law required a new round of provisioning against delinquent loans and "substandard loans" (loans that though current are in danger of becoming delinquent). In addition there would a one off 7% provision charge against performing risks, which could be used as standard provision if the risk became delinquent or substandard. In addition the FROB was recapitalized with €6bn, which was disbursed on September 12th of 2012. the RDL 18/2012 was to increase the one-off charges further up, particularly in what concerned undeveloped land and real estate development risks. Without a trace of irony, the RDL 18/2012 in its exposition of motives argued that given the good reception of RDL 2/2012 by the markets it was pertinent a new round of loan provisioning. By then the spreads were well in their way up.

In a tired repeat of previous episodes once again the Spanish banks, including the old cajas, went on to present the Bank of Spain the plans to meet the new requirements. All in all, after extraordinary write-offs of €9.19bn at the end of 2011, additional provisioning needs came at €29.08bn and additional core capital requirements at €15.58bn.[119] These measures were more-of-the-same: They simply forced entities to provision and recapitalize without bounding the extent of the capital needs, clarifying balance sheets and differentiating amongst entities.

Simultaneously, the new cabinet took from the very beginning a very confrontational attitude towards its Eurozone partners. To quote at length from Brunnermeier, James and Landau (2016, page 353):

> The change of government [in Spain] in November 2011 brought a significant change in crisis management: the style became more adversarial, less predictable. In February 2012, the prime minister [Mr. Rajoy] announced that Spain would not meet its fiscal targets and hinted he was not prepared to agree on binding new restrictions. The statement struck a tone of defiance vis-a-vis the Commission and the troika.

[119]See the presentation by José María Roldán, Director General of Banking Regulation at the Bank of Spain on April 17th 2012 and Bank of Spain (2012).

In the following weeks, that communication strategy backfired and fueled permanently uncertainty. European officials started airing private complaints about the behavior of Spanish authorities.[120]

Problems compounded as the economic crisis deepened (see Figures 18 and 24 in pages 52 and 65, respectively). Evidence of cross-border capital flight were evident. Target 2 liabilities for Spain, which stood at €176bn in January 2012 and had been steadily increasing accelerated and by May of that year stood at €319bn (see Figure 27 in page 77). It was a perfect storm, and largely self-inflicted. The spreads which had remained elevated about the 300bps but stable started marching by the end of March (see Figure 29). If markets closed for Spain it would be unable to meet any unforeseen contingency regarding the recapitalization of the banking system.

Bankia shares came under severe pressure. The RDL 2/2012 imposed tough provisioning requirements but beyond the €6bn recapitalization of the FROB it was not clear what would happen if any entity was unable to meet the new requirements. The plans of the different entities were approved by the Bank of Spain at the end of March but beyond the entities that were already under the control the FROB, no public monies were committed. Given the doubts regarding the solvency state of Bankia as well as its profitability, how would it meet the requirements?

Finally Mr. Rato stepped down as the CEO of Bankia and in his stead a banker of impeccable reputation, José Ignacio Goirigolzarri, came in. As new CEOs are bent to do, the first measure was to restate entirely the financials of Bankia. The restatement wrote down operating income from a profit of €383 million to a loss of €4,306 million. In addition it recognized an additional €9,700 million non performing loan portfolio and an additional provision of €3,000 million. At the end of all this came the announcement that sent the market into a tail spin: Bankia needed a capital injection of €19bn.[121] Clearly, a new manager always wants to take the losses early in the process to place them squarely on the doorstep of the previous management team. But it was not that far off. Bankia would be recapitalized by the end of the year to the tune of €18bn. It will happen this time with the €100bn credit line extended by the EFSF.

[120] See Fiona Ortiz "Rajoy leans on abrasive economist in Spanish crisis," Reuters, October 25th, 2012.

[121] For reports in the press see for example M. Jiménez "La pérdidas antes de impuestos de Bankia son de 4,300 millones," El País May 26th, 2012.

6.3 The end

As the crisis progressed Spanish authorities became paralyzed. The losses uncovered in Bankia compromised the estimates of the losses on the entire system. Liquidity dried up quickly and the segmentation across national boundaries of the Eurozone intensified. The Spanish cabinet was fast running out of options. If it were to attempt a serious exercise of loss discovery it would not be clear the source of the funding needed to fill the solvency gaps that would surely be discovered. Under these circumstances the Spanish cabinet barely six months into its tenure requested a financial assistance package from the EFSF on June 25th 2012.

7 The management of the Spanish crisis: An evaluation

Up to this point this paper has focused on the actions of the Bank of Spain as well as the successive cabinets to manage the banking crisis. This section summarizes the lessons one can extract from these actions. It is important to emphasize that the responsibility of the Spanish banking crisis sits squarely on the shoulders of the managers of Caja Madrid, CAM, Bancaja, CCM, Catalunya Caixa, Cajasur, ... and of the regional political classes from which these managers came. The Bank of Spain and the ministry of finance fumbled in their supervisory and resolution roles but there is difference between the malefactor and the ineffective policeman. Authorities operate under enormous pressure in a crisis such as the one described in this paper and the tireless activism of the Bank of Spain and the ministry of finance deserves much credit even when the strategy, as argued in this paper, suffered from severe contradictions.

The Bank of Spain was busy but indeed ineffective. The fundamental reason behind this lack of effectiveness was the reluctance to accept that at the heart of the Spanish banking crisis was solvency and that in order to restore it, debt bail-ins, tax payer funds or some combination of the two were needed in the absence of private capital. In addition, the governance and management problems of the cajas needed to be resolutely tackled. But on this score there was a certain timidity in the engagement of the Bank of Spain. There were two possible reasons as to why. One possible reason was that the Bank of Spain felt a more decisive intervention in the cajas sector was simply too politically charged. Mr. Fernández Ordóñez was a governor finely attuned to the politics of the situation, having been associated with several socialist administrations during his distinguished career as a public servant. Perhaps a less politically attuned governor would have led more decisively. Another possibility was that the Bank of Spain simply didn't have the instruments to act decisively. Some Bank of Spain officials have argued this point forcefully. Given the level of legal activism and openness of parliament to enact transformative changes in the cajas sector, one has the impression that should additional legal changes have been needed they would have been forthcoming. Obviously both reasons could have been at work.

7.1 The Spanish authorities didn't internalize the new constraints

The Spanish banking crisis results from the interaction of global credit flows with faulty governance institutions in a big segment of the Spanish banking system, the cajas sector. These credit flows were directed towards the real estate sector and as a result the Spanish credit institutions ended with loan portfolios with abnormally high exposure to real estate. The credit flow entered the liability side of the balance sheet in the form of bank debt (mostly covered bonds, senior unsecured and securitization deals). As argued in Santos (2017) there were demand factors as work as well: a demographic cycle led to a surge in the demand for housing and, likely, an excessively accommodating monetary policy produced easy conditions that fueled additional demand. As a result banks balance sheets resembled by the eve of the crisis those of a leveraged real estate hedge funds, exposed to any minor correction in the real estate market and subject to runs in the wholesale market.

But the crisis went well beyond the real estate sector, a point that is typically not emphasized enough. The problem of a real estate cycle is that the overpriced collateral can be used to lever up and proceed with unwise acquisitions. Corporations with poor governance institutions are more likely to engage in such behavior, exporting bad management practices. For instance, construction and infrastructure companies levered up to diversify in unrelated industries, such as energy.[122] Diversification occurs in the asset side of the balance sheet; on the liability side financing is still closely tied to the primary activity of these companies, which is real estate and construction. Any correction there would lead to liquidations and perhaps inefficient reallocation of funds in internal capital markets, potentially amplifying the original real estate shock.

This problem, which of course is not unique to the Spanish banking situation, was compounded by two additional factors: The political economy of the cajas and the fact that it was the first crisis in a monetary union and thus the Bank of Spain was not the LOLR. Two consequences followed directly from these novel constraints. First, the political economy con-

[122]The diversification strategy of construction companies, such as Sacyr and ACS, were widely followed affairs in the business press in Spain. These companies, for example, took large equity stakes in energy companies such as Spain's oil giant Repsol or utilities companies, such as Unión Fenosa.

siderations surrounding the cajas meant that tackling the crisis required a tight coordination between parliament and the Bank of Spain, where resolution experience was concentrated. Thus the "legal activism" that characterized the crisis and plague the narrative above. Second, the lack of LOLR faculties meant that swift action was needed to address the solvency concerns; otherwise one risked making a solvency crisis into a broad liquidity crisis, which is what happened. That a significant fraction of the bank liabilities were held by jittery foreigners should have given a sense of urgency to the authorities.

These novel constraints were not fully internalized by the Spanish authorities, which as a result "fought the last war". Consider the Japanese banking crisis. Much has been written about the mismanagement of that crisis by the Japanese authorities. The narrative is not that dissimilar to the Spanish one, a real estate bubble that left the Japanese banks loaded with bad loans and little equity. But there was a critical difference. The Japanese savings rate had remained elevated during the real estate bubble of the 1980s and as a result the current account balance had remained consistently positive throughout. There was no dependence on foreigners to refinance liabilities and the Bank of Japan could provide ample liquidity to mask solvency problems and give time to the painful strategy of rebuilding bank equity through retained earnings. This was indeed a costly strategy for many reasons,[123] and perhaps ill conceived in that it led to a protracted recession, but it was certainly feasible. Spain didn't have that option. Deprived of LOLR tools, the country could not afford to have a solvency crisis morph into a liquidity crisis that it could not meet successfully.

The early steps by the Spanish authorities were positive which made subsequent actions puzzling to outside observers. The creation of the €100bn capped debt guarantee program in 2008 and the FROB in 2009, provided two critical tools to address the crisis. The debt guarantee program of 2008 was an appropriate response to the world financial crisis. It provided what is missing in financial crises, particularly when there are no LOLR tools available and the national authorities do not control collateral eligibility criteria for discounting operations: Time. The balance sheet of the public sector was levered to solve liquidity problems that are initially difficult to distinguish from solvency concerns. The taxpayer was certainly exposed for she would be providing insurance to the holders of debt issued by potentially insolvent entities but it was the price to be paid to belong to a monetary union. The measure was meant to be temporary, to create the space for the capitalization of the FROB and a to build a solvency oriented strategy for the banking crisis.

[123]Caballero, Hoshi and Kashyap (2008).

7.2 There was never a credible loss discovery strategy: Solvency trilemmas

But this is not how it played out and in fact little happened, even in the presence of rapid recognition of loss non performance (see Figure 1 in page 2). Because the Bank of Spain lacked LOLR tools, it could not allow the solvency concerns to morph into a liquidity crisis. This was in a nutshell the critical mistake made in the management of the Spanish banking crisis.

Meeting the widespread solvency concerns surrounding the cajas required three things: A loss discovery exercise, a clear strategy to fund the solvency gaps when they were found and a strategy to segregate non-performing and substandard assets so that the market could at least refinance the healthy portion of the balance sheets.

Credibility is key and it can only be gained if the funds are available ex-ante to meet the potential solvency gaps that might be found in a stress test. Otherwise, if the losses are found to require minimal amounts of capital, as it happened with the 2010 CEBS stress tests, one risks conveying the impression that the losses uncovered are being fixed around what could be funded. Thus the success of the loss discovery exercise is inextricably linked to the availability of funds and to the existence of clear procedures to proceed with recapitalizations if the affected entities cannot raise the funds in private markets.

Segregating assets helps because any deterioration of economic conditions beyond those considered in the stress tests would affect mostly the loans in the bad bank. This places a firm lower bound on the value of the assets in the healthy balance sheet which allows access to private capital markets to refinance liabilities. Because equity is needed for the bad bank, one can leave the subordinated liabilities there, write them off and proceed then to recapitalize the bad bank as needed. I will return to this matter below when evaluating the Bankia/BFA structure.

This was never attempted. Yes, stress tests were performed, most notably in 2010 and 2011, but they were never fully funded (unlike the 2009 SCAP in the US, which was fully funded with TARP). Table 7 shows the balance sheet of the FROB for the years 2009, 2010 and 2011. The year 2009 saw the creation of the FROB and one can see the capital of €9bn plus the leveraging up of roughly €3bn. It is here that an opportunity for a more aggressive growth of the balance sheet of the FROB was missed. In fact the FROB never grew much throughout the crisis (the total size of the FROB should include the write-offs, which are reported as profits for the period.) Given the final tally of the public monies committed to the resolution and restructuring of the Spanish banking crisis, about €60bn, it was clear the FROB could have had the firepower to tackle the magnitude of the crisis. But as mentioned the

Table 7: FROB: Balance sheet for the years 2009-2011; in millions of €s. ST and LT stand for short term and long term, respectively. Data source: FROB Annual Reports

Assets	2011	2010	2009	**Liabilities**	2011	2010	2009
Cash	1,839.4	3,291.7	12,012.9	ST Debt	220.1	14.7	10.2
Avail. for sale	1,021.8			Other debt	.2	.09	.08
Short term inv.	4,282.2	64.6		Provisions	291.4	91.5	
Other ST assets	3.5	.03		Acc. Liab.	1.4	.6	.5
LT Invest.	2,424.2	8,706.4		LT Debt	10,913.4	2,993.5	2,992.0
Other LT Assets	.1			LT Provisions	6.9	266.2	
				Own. capital	8,696.2	9010.3	9000.0
				Profit for the period	(10,557.2)	(314.1)	10.3
TOTAL	9,572.3	12,062.9	12,012.9	TOTAL	9,572.3	12,062.9	12,012.9

decision was taken to fund the FROB as needed without any consideration to the possibility that when the funds might be need they might not be forthcoming.

It is here that another subtle contradiction arose with the strategy pursued by the Bank of Spain. Throughout the crisis the focus was on minimizing the losses for the taxpayer, which is laudable. But it is important to distinguish between loss discovery and taxpayer exposure to the losses in the banking sector. They are comingled in the mind of the policymaker particularly because of the political fallout associated with "handouts" to bankers or worse, in the Spanish case, to the powerful regional politicians that so important a role played in the main national parties and in the conservative party in particular. But they are different things and it is important to have the clarity of mind to separate economic from political economy problems. This distinction was never clearly made throughout the crisis.

But given that private capital was not likely to flow in, minimizing taxpayer exposure required either substantial debt write-offs or writing off non performing loans against profits. Debt write-offs were discarded early on in the crisis. It was argued that should any debt holder of a given caja experience a loss that would compromise refinancing for all entities. This is always a concern, and a convenient one, but the debt guarantee program was in place precisely to assist solvent institution at risk of illiquidity.

The more likely reason as to why bail-ins were not used an instrument to minimize taxpayer exposure was that much of that debt was held by retail investors. Indeed, as we have seen (see Figure 10 in page 31) Spanish banks and cajas issued a substantial amount of ‘preferentes’ to retail investors (essentially depositors) during 2008 and 2009. These were the most junior claims on the liability side of the balance sheet. Any bail-in thus would have to start with the write-offs of the ‘preferentes’ and subordinated debt, which would affect the many small depositors that had subscribed these issues under the approving eyes of both the CNMV and the Bank of Spain barely a year or two after being issued. Once again political economy considerations were complicating an efficient resolution of the Spanish banking crisis. The political costs of debt write-offs were perceived to be enormous and thus the entire recapitalization effort would have to occur without them.

The only alternative thus was the income statement. Obviously, rebuilding book equity through retained earnings required profitability, which was unlikely given the extent of the contraction in Spain. In addition there were a large number of institutions. Competition between them, in particular for deposits, would drive down the profitability of the entire sector. The solution was obvious: Consolidate the sector in order to improve the franchise value of the resulting credit institutions, limit competition and improve profits. If the taxpayer would not pay the depositor, the consumer of financial services would.

7.3 Restructuring led to more opaque balance sheets

The Bank of Spain pursued an ill conceived strategy of consolidations. The reason is that it merged balance sheets with minimal capital injections without a clear discovery of the legacy losses. As a result resulting entities were bigger, to the point of being systemic as in Bankia/BFA or Banco Base, and balance sheets more opaque. Instead, once the FROB had levered up fully, it could have used the proposed mergers to conduct a deep asset quality review to assess the true capital needs of the new institutions, segregating assets into a bad bank.

The Bank of Spain restructuring and consolidation strategy rode on the desire of the cajas to grow “on the cheap” that is with generous assistance in the form of asset protection schemes (as in the acquisition of CCM by Cajastur) or with injections that would be written off before the sale (as in the case of Sabadell’s acquisition of CAM, which also enjoyed a large asset protection scheme). But if the Bank of Spain didn’t know the extent of the losses of the caja under duress, why would the acquiring entities with a few days at most to assess the loan portfolios to be acquired? The asset protection might have been generous but it was difficult to ascertain how generous given that there was never a deep asset quality review. Hence resulting entities were not more likely to be refinanced by markets than pre-existing, stand alone ones. The asset protection schemes granted by the Bank of Spain would delegate on the acquiring entity the calculation of the realized losses associated with the legacy assets, which at least would give its stakeholders assurances that at the margin the estimate would be favorable.[124]

The Bankia/BFA scheme represented a positive departure from the strategy followed until then, precisely because it was intended to clarify balance sheets. Recall that the idea was to create two banks, one good (Bankia), one bad (BFA). BFA would have on the asset side 100% of the shares of Bankia plus the non-performing assets and on the liability side 'preferentes' and subordinated debt plus the injection from the FROB. But again, a key ingredient for a successful segregation of the balance sheets is that indeed the non performing loans are placed in the bad bank and for that, once again, a credible loss discovery exercise is key. It is here that the consideration of minimizing taxpayer exposure and refusing to write off the 'preferentes' and subordinated debt interferes with the credibility of the segregation of the balance sheet into two banks. The reason is that at the margin the Bank of Spain had the incentive to leave too many non performing assets in Bankia. The market understood this which made for a difficult IPO in the case of Bankia and impossible to refinance some of its liabilities.

This was a critical mistake and another missed opportunity. There were large losses in CAM and Catalunya Banc but it was Bankia the "bank that broke Spain," as the Financial Times put it.[125]

7.4 Overconfidence led to non robustness

As discussed in the introduction there were issues of overconfidence. Briefly, the belief was that the factors which were affecting banks in the USA and some European banks were not operational in Spain. Indeed, there was no exposure to suspect securitization deals in the USA and trading losses played no role whatsoever in Spain. But Spain was indeed exposed to the global credit cycle that had fueled the sovereign debt boom in Greece and Portugal and the real estate cycle in Ireland and the USA. Authorities emphasized the traditional banking model in Spain, which was deemed more stable. Indeed it was but the strategy of absorbing losses through the income statement put a lot of pressure on the economic stability of households and non-financial corporations. It left the entire restructuring strategy exposed to the possibility of a protracted recession or a double dip, which is exactly what happened. Better prudential

[124]And this would create disagreements that would end up in courts. For example, Liberbank, the entity that resulted of the acquisition of CCM by Cajastur and two other cajas was brought to court by the deposit insurance funds, FGDEC, on account of a disagreement on the calculation of the losses covered the asset protection scheme in 2009. See F. Toledo "El Fondo de Garantía pierde su batalla con Liberbank por las ayudas a CCM," El Economista, March 10th, 2014.

[125]Victor Mallet and Miles Johnson, "The bank that broke Spain," Financial Times, June 21st, 2012.

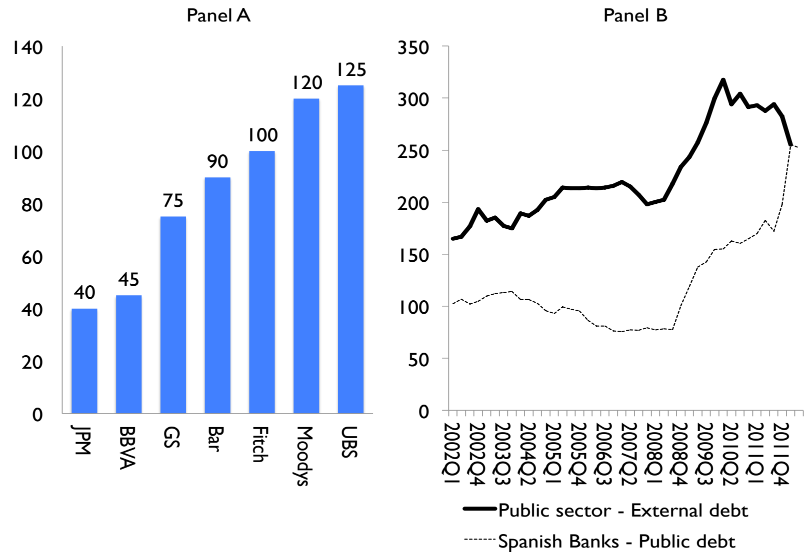

Figure 30: Panel A: Private estimates of recapitalization needs for the Spanish banking system in billions of €s. Data source: "Spain: Stressed Out", Independent Strategy, April 2012. Panel B: Spain: Public debt held externally (IE7.9.2) and by the Spanish credit institutions (BE4.4.5). Quarterly, 2002Q1-2012Q1; in billions of €s. Data source: Bank of Spain

institutions, such as dynamic provisioning, certainly helped but obviously were not enough given the enormity of the real estate bust and the depth of the recession.

The strategy of the Spanish authorities lacked robustness in the sense used by control theorists: It didn't allow for uncertainty regarding the distribution of losses. The reason, as already argued, was the concern for the taxpayer. Many in policy making circles have argued that what undid the entire strategy was the second dip. This is a poor excuse. The point of stress tests and recapitalization efforts was precisely to insure against such events. But there must have been an issue of design of the tests as well. The actual recession was not as bad as the extreme scenario contemplated in the 2010 test, for example. The capital injections were minimal, in particular given what came after, and thus a lot was riding on the assumptions of the stress tests. In addition Spanish authorities undermined their own estimates with repeated "do overs" as when the second round of recapitalization efforts occurred in 2011, barely a year after the 2010 stress tests.

Even with this Spain never managed to put an upper bound on the extent of the losses and additional provisioning efforts were unconvincing. As a result even as late as the first quarter of 2012, the range of private estimates regarding the recapitalization needs of the

Spanish banking system was wide (see Figure 30 Panel A). Authorities may not have been robust, but the market always is in recessions and the emphasis is on the left tail of the distribution of losses. It is that left tail that compromises refinancing.

Because the losses in the banking sector were not bounded from above, the increasing ties between the sovereign and the banks led to the diabolic loop which made for an impossible situation by mid 2012. Foreigners retreated from Spanish liabilities and the LTROs, needed as they were, resulted in the Spanish banks being severely exposed to the sovereign (see Figure 30 Panel B). Clearly what was not anticipated was precisely the sudden stop that Spain was to experience in 2011 and 2012, but this was a direct consequence of not addressing the solvency concerns decisively and letting the crisis morph into a liquidity one. It is important though to emphasize that the Spanish banking crisis is *not* a consequence of the tight link between the sovereign and the deposit taking institutions. This diabolic loop, if at all, is only operational at the end of the crisis, certainly not at the beginning.

The new cabinet that arrived at the end of the 2011 opened the possibility of a fresh start and enjoyed the enormous advantage of the broad liquidity dispensed by the ECB. That the strategy was once again another round of provisioning without a clear strategy of where the funds would be coming from if any entity, Bankia in particular, would not be able to meet the new requirements was simply baffling. A bad bank was discarded and with it the possibility of clarifying balance sheets. The replacement of Mr. Rato by Mr. Goirigolzarri was of course a political matter, given the weight of Mr. Rato inside the conservative party and the fact that the prime minister Rajoy had thrown his weight behind him. Only reluctantly did the cabinet embraced the need to professionalize the management of the €300bn bank. Could anyone be surprised foreigners were reluctant to invest in Bankia's IPO? That the new CEO abruptly and surprisingly announced the capital needs of Bankia, €19bn, conveyed the impression of complete lack of control over the banking crisis. The new cabinet, as widely reported in the press, was under the impression that the crisis was driven exclusively by the uneven performance of the previous socialist administration led by Mr. Rodríguez Zapatero and that their arrival by itself would be enough to instill confidence in the markets and restore liquidity and funding. This again betrayed the reluctance of the Spanish authorities to accept that at the core of the crisis was solvency and governance. That this could happen so late in the crisis and after having had plenty of time to prepare was perhaps the last straw. There was no alternative to an assistance package, crystallized Memorandum of Understanding of June 2012. This last episode of the Spanish crisis and the implications for the banking union is the

Table 8: Capital injections in the banking sector for selected institutions. Quantities do not add up as some institutions are missing. Source: Bank of Spain (2016b)

Institution	Date	FGDEC	FROB I	FROB II	MoU	Total
Bankia/BFA	June 10		4,465			
	May 12		−4,465	4,465		
	December 12				17,959	
						22,424
Catalunyacaixa	March 2010		1,250			
	September 11			1,718		
	December 12		−1,250	1,250	9,084	
						12,052
NCG Banco	June 10		1,162			
	September 11			2,465		
	December 12		−1,162	1,162	5,425	
						9,052
Banco de Valencia	May 12			998		
					4,500	
						5,498
CAM	December 11	5,249				
						5,249
Liberbank	1,740					
				124		
						1,864
BMN	June 10		915			
	December 12				730	
	February 13		−915	915		
						1,645
	Totals	7,942	977	13,498	39,078	61,495

topic of a future piece.

7.5 The final tally

As shown in Figure 21 Panel B Spanish credit institutions had by the end of 2012 written off about €225bn in assets. These losses were not evenly distributed and compromised the solvency of several institutions, the cajas in particular. As we have seen it was difficult if not impossible for the cajas to raise equity and only were forced to do so in 2011 with RDL 2/2011, when, effectively, they were forced to become banks. But by then financial markets were only willing to invest at very deep discounts. Given that debt bail-ins were ruled out taxpayer funds were needed to fill the solvency gaps. Table 8 shows the total of taxpayer funds committed to the recapitalization of the Spanish credit institutions. It includes the quantities committed after the stress tests performed by Oliver Wyman late in the summer of 2012 and that was mandated by the MoU signed in June of that year. It also includes the quantities committed by the deposit insurance fund (FGDEC) in CAM. The FGDEC is financed by the banks themselves and thus do not constitute tax payer recapitalizations. In addition, the FROB received an initial capital injection from the FGDEC of €2,250mn, which was written-off when the FROB wrote-off its capital in 2012. As a result, when one subtracts from the total amount of €61,495mn the €10,192mn committed by the FGDEC one obtains the actual amount supplied by the taxpayer which is €51,303mn.

There is an important difference between committing these funds in one recapitalization exercise instead of three installments (FROB I, FROB II and MoU). €50-60bn is a substantial amount but one that Spain could have procured by its own means early on in the crisis. It is worth recalling that Spain had run a conservative fiscal policy until the very eve of the financial crisis and thus had plenty of debt capacity. Spain's government debt to GDP ratio was barely 40% then, amongst the lowest amongst OECD countries. In addition the FROB had been created by parliament and could increase its balance sheet to €100bn, which was well above what was eventually committed. Thus a thorough asset quality review followed by a convincing recapitalization effort was financially feasible.

But there were of course obstacles other than financial. In particular, the legal framework of the cajas made recapitalization efforts challenging. There were three difficulties associated with the recapitalization of the cajas. First, the cajas did not have, for all practical purposes, access to private markets. The ones that needed capital were obviously those in worse solvency conditions and, as we have seen, were also the ones that were under the tight control of the regional political class. It was unrealistic to hope that outside investors would be willing to invest in institutions with such imperfect governance institutions. Second, having discarded private funds as a possibility, how would the public sector recapitalize the cajas? Would they simply dilute the foundations that owned them? Even if they were to proceed and recapitalize the cajas acquiring a significant fraction of the cuota participativa, the problem of management would remain. Indeed, the Bank of Spain was only willing to bundle FROB funds and management replacement relatively late in the cycle, delaying the recognition that at the heart of the crisis was a problem of governance. The third and final difficulty is that given that the cajas were not publicly traded there were no market signals that could be used to inform the price at which the public monies would acquire the capital of the cajas. The problem of the complex legal framework of the cajas was only addressed with RDL 2/2011 (see subsection 5.2) and only in a rather roundabout manner.

The cajas represented a thorny political problem. They were deeply intertwined with

Spain's complex regional politics and they were an important source of patronage. The list of political figures who found in the cajas a golden retirement is long and full of distinguished names. Addressing the cajas governance problems thus forced the Spanish political class to confront former colleagues and their worse habits. It could potentially reveal many abuses and even corruption and lead to changing political fortunes. It is perhaps the silver lining of the Spanish banking crisis that this anomalous sector is no more and that interference by the state in the credit market, for the first time in Spain's economic history, is nowhere to be seen.

8 The Spanish banking crisis and the banking union

What about the counterfactual? Would the Spanish banking crisis have followed a different path had it occurred under the new resolution framework? Counterfactuals in economics, of course, have to take into account the rational expectations criticism: A different supervisory and regulatory framework would have led to a different path of risk accumulation and loss distribution. There are thus two considerations when evaluating the alternative supervisory and resolution framework. The impact of the alternative supervisory framework on the path of credit and risks in the deposit institutions' balance sheets and the actual resolution regime had there been any need of it.

8.1 On the accumulation of risk

Macroprudential tools have become key in addressing stability in the financial sector, particularly in the presence of large capital account imbalances or inadequate monetary policy choices. Using data from Spain's credit register, Jiménez, Ongena, Peydró and Saurina (2012 and 2014b) have shown that the bank lending channel is a potent channel through which monetary policy operates by increasing incentives for risk taking behavior. The evidence seems to strongly suggest that the ECB's monetary policy encouraged the remarkable Spanish credit cycle. Given that Spain is in a monetary union a careful consideration of macroprudential tools is needed to address the financial stability consequences of a policy set for the entire Eurozone rather than for specific members.

In general macroprudential tools can operate both on the asset or the liability side of the balance sheet. Here I discuss some of these tools with the exception of capital requiremets which are discussed in the next section in the context of the resolution of Banco Popular.

8.1.1 Countercyclical buffers

Start with the asset side of the balance sheet. The new capital standards in place after CRD IV (see Box 1) force banks to hold more capital as the cycle strengthens. This is predicated on the reasonable assumption that worse-than-average risks are underwritten at the peak of the credit cycle and thus the capital buffer should be built then, when the expected losses are high. This is one macroprudential policy that Spain had in place before the crisis. Spain, as it is well known, was a pioneer in what concerns dynamic regulatory standards through its system of dynamic provisioning.[126] They were relatively high on the eve of the crisis, about 1% of total assets, which were about €3tr. As shown in Jiménez, Ongena, Peydró and Saurina (forthcoming) the dynamic provisioning policy works mostly by supporting credit in bad times, with important effects on employment as well. In good times there are some beneficial compositional effects but judging by the evolution of the Spanish banking crisis and the level at which the dynamic provision was set, it was not enough to prevent the excessive level of loan issuance. But clearly, indexing regulatory capital to some measure of the credit cycle seems an important aspect of the macroprudential toolbox. Still, international credit flows were simply enormous in the years leading up to the Great Recession and thus dynamic capital buffers would have probably been overwhelmed. Perhaps Pillar 2 capital could act as additional safeguard in an environment with strong credit inflows.

There are two additional considerations to take into account when discussing the issue of dynamic capital buffers. First, dynamic capital buffers give supervisors and resolution authorities time to address challenges but should not lead to either complacency or resolution delays. The key is always to prevent solvency crises to morph into liquidity crises and dynamic buffers may paradoxically increase such risk by encouraging delay. Second, there was a reduction in dynamic provisioning in Spain in 2005 and there is a debate as to whether the reduction was due to the phase-in of IFRS or perhaps pressure by bankers anxious to increase returns on equity in such heated conditions. Discretion opens the room for lobbying and political economy considerations and these are always concerns.

It is perhaps worth emphasizing that what is key is to stabilize the flow of credit, which does not necessarily have to be exclusively provided by banks. Spain would have been well served to have a more developed corporate debt market, one that ideally would have included even medium sized companies as well as CLO markets. Development of such markets could

[126]For a wonderful history of how dynamic provisions came to be introduced by the Bak of Spain see Saurina and Trucharte (2017).

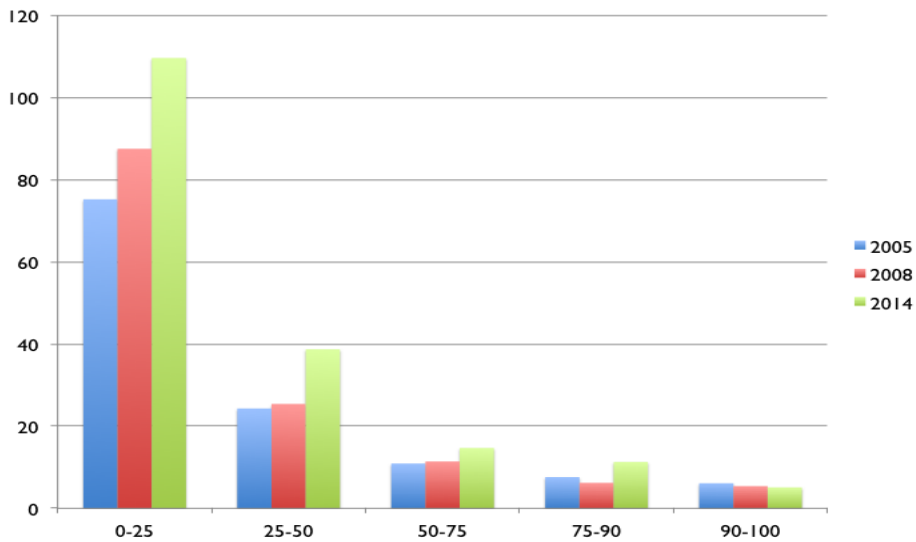

Figure 31: **Household Leverage during the Spanish Crisis.** This figure shows household leverage in Spain from the surveys of 2005 (boom), 2008 (slowdown), and 2014 (trough). Household leverage is the median ratio of debt to gross household wealth. The years correspond to three waves of the survey, which do not exactly match when the fieldwork took place. Data source: Encuesta Financiera de las Familias (EFF).

greatly benefit credit stabilization, even in the presence of bank equity impairment.

8.1.2 LTV and DTI ratios

In addition to macroprudential tools that operate on the lender's side, there are those that act on the borrower: loan-to-value (LTV) and debt-to-income (DTI)ratios. Indeed, LTV regulatory thresholds that are linked to the credit cycle can also assist in limiting mortgage growth in benign conditions and cerutti, Claessens and Laeven (2015) argue that they have proved particularly effective in developed economies.[127] But LTV ratios are effective if one can address the agency issues associated with the assessments of values that determines whether the mortgage is granted or not. For instance, the evidence is strong that Spanish banks encouraged real estate appraisal firms to introduce an upward bias in their assessments to meet LTV regulatory thresholds.[128] In any case, this would have not helped in Spain as the problem was largely not in the mortgage portfolio but in the real estate developer and construction companies portfolios.

[127]See Freizas, Laeven and Peydró (2015) for a thorough treatment of the macroprudential toolbox.
[128]See Akin, Montalvo, García-Villar, Peydró and Raya (2014).

Of course this does not mean that tighter mortgage lending standards and higher LTVs would not have helped. In particular they would have relieved the debt overhang problem which was particularly pronounced amongst low wealth households (see Figure 31). It is important to recall that mortgages in Spain are mostly full recourse and thus households are reluctant to default on them and only do so under extreme circumstances. Importantly nothing prevented mortgages to be issued without the implicit personal guarantee during the years leading up to the crisis, but it did not happen. If that had been the case banks and cajas would have perhaps displayed more restraint and prevented such a pronounced real estate cycle.

On the issue of risks on the asset side of the balance sheet the Volcker rule deserves a brief mention. The Volcker rule, roughly the ban on proprietary trading by commercial banks, played no role whatsoever in the Spanish banking crisis. Obviously one should not forget the US experience in order to remain alert to potential risk taking behavior by traditional credit institutions in Europe.

8.1.3 Corporate governance

Changes in the corporate governance would have greatly helped in the Spanish case and, as already argued, this is perhaps the most important and positive legacy of the banking crisis. A central idea in this paper and Santos (2017) is that the Spanish banking crisis is the offspring of the interaction of large, global credit flows with faulty governance institutions in the cajas sector. Unlike in the case of US or Ireland, the issue was not the high powered incentives that boards were granting managers to take on excessive risk but rather the interference of the local political class with the banking operations of the cajas. The same political class that governed the credit policy of the different cajas controlled as well its legal framework, a lethal combination that resulted in bad underwriting standards and widespread abuses.

8.1.4 Restrictions on securitization

The issue of securitization is one that has featured prominently in debates regarding the excess risk taking of financial institutions in the years leading up to the Great Recession. The argument, mostly one that applies to the US, is that intermediaries could obtain regulatory capital relief through securitizations by deconsolidating the risks from the balance sheet. But this is not the only operational channel through which securitizations can have an affect.

Using Spanish data, Jiménez, Mian, Peydró and Saurina show that securitization activity is higher for credit institutions that had more real estate assets before the credit boom. In particular they show that improved access to wholesale financing led to more aggressive lending behavior by those banks with access to securitization markets. Whether this had an *aggregate* effect on credit supply is another matter for there was a crowding out effect by which firms borrowed more from banks with access to securitization markets and less from those that didn't. Moreover, securitization lead to a reduction in collateralization rates and a lengthening of loan maturity, suggesting a softening of the lending standards for those banks with access to securitization markets.

Importantly though, securitization in Spain, unlike in the US, was not done with an eye to exploit regulatory arbitrage. Instead Spanish banks wanted additional liquidity to generate the loans to real estate developer, construction companies, corporations and households that were fueling the boom. Spanish banks and cajas did not get any regulatory capital relief out of securitization issues in which they maintained any form of risk and moreover were forced to consolidate such issues in the balance sheet.[129]

8.1.5 Wholesale funding

Spanish credit institutions relied heavily on wholesale funding to expand their balance sheets. Foreigners from other Eurozone nations ended up holding a a significant amount of bank liabilities. When the crisis hit and redenomination risk appeared as an unexpected factor liquidity dried up which meant that Spanish banks and cajas had to rely on the ECB to refinance those liabilities. In particular, and as we saw in Figure 9 in page 29, Spanish institutions changed the maturity structure of their liabilities in those issues placed abroad in 2008 ad 2009. A Liquidity Coverage Ratio (LCR) would have limited the ability of Spanish institutions to issue short term liabilities by forcing them to hold high quality liquidity assets and perhaps confront solvency challenges sooner. In addition a possible implementation of a Net Stable Funding Ratio (NSFR) would have prevented such rapid increase of wholesale funding.

But in particular, the presence of LCRs would have perhaps eliminated the need for the new debt guarantee program, which was designed precisely to insure access to wholesale markets in the presence of solvency concerns. This is an important benefit of LCRs for they not only limit direct taxpayer exposure but also avoid the progressive entanglement of public and private balance sheets that may lead to banking-sovereign loops.

[129]The relevant document here is the Bank of Spain's Circular 4/2004 of December 22nd.

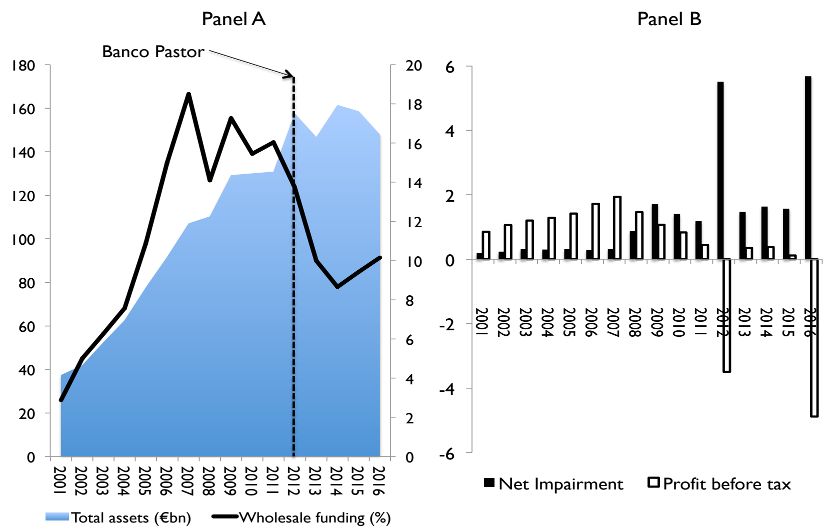

Figure 32: Banco Popular - Consolidated business. Panel A: Total assets in billions of €s (left axis) and wholesale funding as a percentage of total assets (right axis). The vertical line corresponds to the year of the acquisition of Banco Pastor by Banco Popular. Panel B: Profit before taxes and net impairment. Net impairments are defined as provisions or reversals of provisions, impairment or reversal of impairment on financial assets, impairment or reversal of impairment on non financial assets, profit or loss from non current assets and disposals classified as held for sale not qualifying as discontinued operations, plus gains or losses on derecognition of non financial assets; for the years 2001-2004, impairments are defined as write-offs and provisions for credit losses. In billions of €s. Annual: 2001-2016. Data source: Annual Reports

8.2 On resolution: The case of Banco Popular

On June 7th, 2017, The European Commission approved, under EU bank recovery and resolution rules, the resolution scheme of Banco Popular Español based on a proposed resolution scheme by the Single Resolution Board (SRB). This made Popular the first large bank to be subject to the new resolution framework in Europe, which entered into force with the Bank Resolution and Recovery Directive (BRRD). Banco Popular was subject to the Single Supervisory Mechanism (SSM) and it was for European authorities, and the ECB in particular, to determine whether the resolution was needed in that case. There are three situations under which resolution is justified: that the institution is failing or likely to fail, that there are no alternative private (or supervisory) solutions that would prevent its failure, and, finally, that it is justified from a public interest point of view.

This section offers a bird's eye view of this interesting case, which allows for an early evaluation of the new resolution framework.

8.2.1 Banco Popular: Some background

Banco Popular was an old Spanish bank founded in 1926 with an impeccable reputation for solid management and prudent underwriting standards. It had a remarkable franchise in the SME segment where it was considered to be the most competitive lender. As a result it had a market share in this segment of 13.8%.[130]

The years of the real estate cycle placed Banco Popular in a difficult situation as growth was concentrated in a space where it did not have a competitive advantage, real estate, and where clearly standards were dropping fast. A critical moment in the recent history of Banco Popular according to many press reports was the arrival first as CEO in 2002 and the chairman of the board in 2004, of Angel Ron.[131] He was to lead the bank throughout both the real estate bubble and the banking crisis years, until his resignation in 2017. Under Mr. Ron's leadership Banco Popular grew its balance sheet aggressively. Recall that Figure 2 in page 3 shows the balance sheets of different credit institutions normalized by the size of the corresponding balance sheet in 2002, the year Mr. Ron arrived as CEO of Popular. Banco Popular stands out, even when compared to the most undisciplined of the cajas. Though a more thorough look at the data is needed to assess Popular's policies during the period 2002-2008, it seems that the bank at some point had decided to compete with other credit institutions in the race to fund the real estate boom. Popular's asset growth followed a different pattern though. Whereas the cajas were decreasing the rate at which they were growing their balance sheets late in the cycle, there is no discernible slowdown in Popular's until 2008. It is possible thus that the cajas and other banks were beginning to tighten lending standards and refusing to fund some risks, probably the worst available. This opened the possibility for Banco Popular to grow its balance sheet aggressively but they were severely exposed to the cream skimming activities of other lenders. As a result they took on the worst risks at the worst possible time.

Figure 32 Panel A shows Banco Popular's balance sheet as well as the percentage funded appealing to the wholesale market. Banco popular multiplied its balance sheet by almost a factor of four between 2001 and 2012, the trough of the crisis, from about €40bn to €160bn. As many other credit institutions, Banco Popular funded an increasing fraction of its growing assets issuing bank debt. At the peak of the Spanish real estate cycle, almost 20% of the

[130]According to the Santander analyst presentation reporting on the acquisition of Popular after the SRB took control of Popular, the first five banking groups currently control almost 60% of the Spanish SME credit market. See Santander (2017).

[131]See, for instance, Miguel Moreno Mendieta "Ángel Ron, auge y caída del banquero que hundió Banco Popular," Cinco Días, June 8th, 2017.

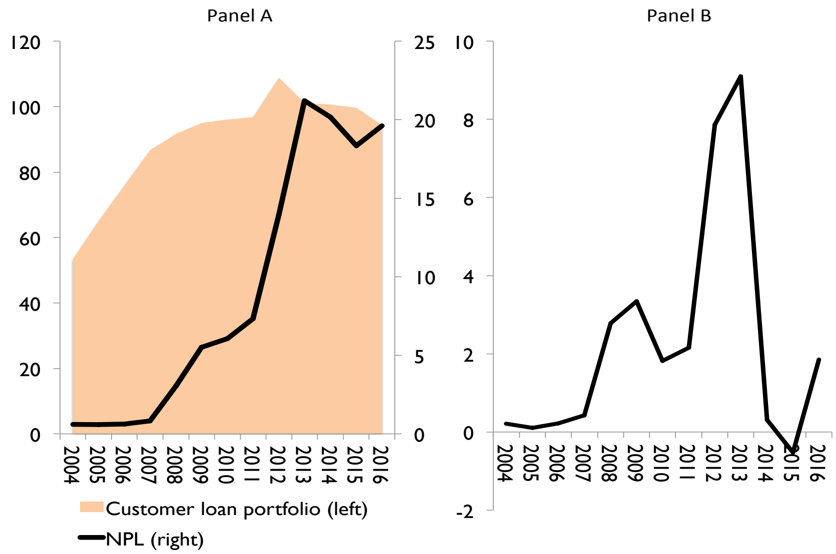

Figure 33: Banco Popular - Consolidated business. Panel A: Loan portfolio (left axis) and Non Performing Loans (NPL; right axis)). Panel B: Net variation in NPL (new NPLs minus recoveries). In billions of €s. Annual: 2004-2016. Data Source: Annual Reports

balance sheet was financed by some form of debt, a significant fraction of which was short term. When the crisis came, Banco Popular, as the entire Spanish banking system, was forced to delever and lower its dependence on wholesale funding, thus the drop in the second half of the sample. Interestingly, whereas the balance sheet grew by a factor of four, profits before taxes barely doubled (in fact they grew by a factor of 1.7) as shown in Figure 32 Panel B.

8.2.2 Banco Popular during the crisis

Banco Popular's path during the crisis is punctuated with acquisitions and recapitalization efforts and this may have delayed recognition of the losses in the balance sheet. Indeed over the previous decades Banco Popular had acquired several small regional banks but had maintained them as independent credit institutions to preserve their brands as some of them were more than a century old. Some of these smaller banks, such as Banco de Castilla, were even publicly traded. In 2008 Banco Popular took the decision to fully consolidate all of them to improve their access to liquidity and guarantee the liquidity of their capital.

Of more consequence was the acquisition of Banco Pastor, the second oldest Spanish bank (dating back to the late 18th century) in 2011. Banco Pastor had failed the 2011 EBA stress tests and had needs of €317mn to reach the minimum core tier 1 capital ratio of 5%

that was the benchmark in that test.[132] With this acquisition the balance sheet of Popular jumped to €161bn, which placed it as the fifth largest institution in Spain at the time.

But problems were mounting for Popular early on. Figure 33 Panel A shows the customer loan portfolio as well as the level of non-performing loans (NPL) in billions of €s. Panel B shows the net variation in NPLs, that is, the difference between new non-performing loans and recoveries, at which the reputation of Popular has been long unmatched. The two phases of the larger Spanish crisis can be readily seen in the two NPL bursts: 2008-09 and 2011-12.[133] At the peak, the level of NPL's sat well above €20bn on a customer loan portfolio of roughly €85bn (see Table 9 for the balance sheet of Banco Popular). To this number one has to add another €17.8bn of foreclosed real estate assets, bringing the grand total to well over €37bn of gross non-performing assets.

This had a dramatic impact on the bank's income statement. Figure 32 Panel B shows the evolution of profitability at Popular. The growth in profitability, never commensurate with that of the balance sheet, came to a sudden halt with the arrival of the crisis. The reason, of course, is the large increase in impairments and write-offs, which are also reported in the same panel. In particular notice that there are two years in which write-offs and impairments increased notably 2012 and 2016, when impairments went well above €5bn.

The market was not blind to the challenges that Popular was facing and throughout the crisis its stock was the worst performing of the bank stocks (see Figure 28 in page 79). Even when the economy turned in late 2013 and bank stocks recovered somewhat that of Popular remained on a downward trend. As it is usual in these cases, its distress was widely reported in the press.

It may surprised the reader to learn that Popular never received any public assistance at any point during this period. In fact Banco Popular never failed any of the EBA stress tests in 2009, 2010 or 2011, but it did the more stringent one conducted by Oliver Wyman and that was mandated by the MoU in 2012. The results of that test found that Popular needed and additional €3,223mn in the adverse scenario to meet capital requirement goals.[134]

[132] At that time Banco Pastor had total assets of about €31bn and RWA of €18.3bn with a core tier 1 capital ratio of €1.4bn.

[133] This data is extracted from the annual reports. The change in accounting standards in 2005 makes for an unclear comparison of some of the financials and thus the focus on the 2004 sample.

[134] These tests as well as many of the policy decisions taken after the MoU was signed will be covered in a future piece. Briefly, the Oliver Wyman tests found that the Spanish credit institutions needed about €60bn, which came down to €53bn after tax assets were allowed to accrue the equity base. The other credit institutions

Table 9: Banco Popular. Balance sheet in €mn - Main Business. Source: Annual Report FY16

Assets	2016	2015	Liabilities	2016	2015
Cash	3,276.4	5,426.8			
Fin. Assets held for trading	2,100.0	1,280.3	Fin. Liab. held for trading	1,643.8	1,043.1
Fin. Assets at FV[a]	553.8	535.3	Fin. Liab. at FV	604.7	599. 4
Av. for sale fin. assets	15,384.1	25,090.9	Fin. Liab. at amort. cost	130,803.1	140,111.0
Loans and receivables	87,677.	88,421.8	*Deposits - CI*[b]	*30,027.6*	*33,163.3*
Loans to customers	*82,916.2*	*82,983.2*	*Customer deposits*	*82,664.5*	*88,151.0*
Held to maturity inv.	4,583	-	*Marketeable securities*	*15,023.8*	*15,989.1*
			Subordinated liabilities	*2,039.5*	*2,067.0*
			Other fin. liab.	*1,047.7*	*740.7*
Derivatives - Hedge acc.	295.2	443.1	Derivatives - Hedge acc.	1,201.9	2,014.0
FV hedges -int. rate	265.5	233.2	FV hedges -int. rate	-	-
Inv. in subsidiries	1,458.1	1,490.5			
Assets under insur. contr.	17.5	17.5	Liab. under insur. contr.	484.3	486.8
Tangible assets	762.0	774.4	Provisions	511.2	367.5
Intangible assets	2,611.5	2,570.5			
Tax assets	3,896.0	3,105.3	Tax liabilities	377.5	503.2
Other assets	736.2	602.5	Other liabilities	739.7	565.7
			NISF[c]	(21,713.1)	(25,187.7)
			Total Equity	8,964.4	9,525.2
			Own funds	*9,188.6*	*9,755.0*
			AOCI	*(233.9)*	*(236.3)*
			Minority interest	*9.7*	*6.4*
TOTAL ASSETS	123,617.3	130,028.1	TOTAL LIABILITIES	123,617.3	130,028.1

[a] *FV: Fair Value*
[b] *CI: Credit Institutions*
[c] *NISF: Net Intrasegment financing. The assets of the Real Estate and Related Business are financed by the excess of retail and wholesale liabilities of the Main Business, through a transfer rate system through which a financing costs is charged to the Real Estate business.*

Banco Popular met these additional needs by raising €2,500mn in the stock market. By then Popular had already gone to the market several times to reinforce solvency. For instance, in 2010 Popular issued €500mn in contingent convertible bonds (or CoCos) and had entered into an strategic alliance with the French financial institution Crédit Mutuel, which became as a result a core shareholder of Popular.

As the problems continued, in May 2016 the bank went back to the stock market and raised another €2,505 of fresh capital. According to press reports, the issue was amply oversubscribed and Popular received more than €3,401mn in bids.[135]

in need of additional capital were Liberbank (€2.1nbn), Banco de Valencia (€3.5bn), NCG Banco (€7.2bn) , Catalunyabanc (€10.8bn) and Bankia-BFA (€24.7bn).

[135] "El Popular cierra con sobredemanda la ampliación de capital de 2,500 millones," El País June 18th, 2016.

Table 10: Stress Tests - 2016 - CET 1 Fully Loaded. Source: Bank of Spain (2016)[a]

Bank	CET 1 at 12/31/2015	Adverse Scenario at 12/31/2018	Difference
BBVA	10.3%	8.2%	-2.1
Sabadell	11.7%	8.0%	-3.7
Popular	10.2%	6.6%	-3.6
Santander	10.2%	8.2%	-2.0
BFA-Bankia	13.7%	9.6%	-4.2
Caixabank	9.7%	7.8%	-1.8

[a] *An estimated risk based ratio calculated as CRD IV Common Equity Tier 1 capital divided by CRD IV Risk Weighted Assets (before the application of transitional provisions set out in CRD IV). See Box 1 for a summary on CRD IV.*

8.2.3 Popular's solvency situation

Shortly after raising fresh capital in the Madrid stock exchange, the results of the 2016 stress tests were released. As Table 10 shows, all Spanish institution under the Single Supervisory Mechanism were well above required capital under the adverse scenario. Banco Popular was no exception, though it was clearly the weakest amongst large Spanish institutions. Barely a year later the very same authorities had to submit the bank to the new resolution procedures, bail-in the debt and proceed to a sale to Santander, the giant of the Spanish banking system. What happened?

Obviously, the massive write-offs of 2016 had had an important impact on market perceptions regarding Popular. The Spanish economy was by then booming. That Popular was alone amongst the largest Spanish credit institutions still undertaking massive write-offs under very favorable economic conditions lend credence to the theory that Popular's problems ran deep. An important reason for Popular's continuing NPL problem had to do with the peculiar decision not to sell any assets to the SAREB, the bad bank created in the wake of the MoU to assist with the clean-up of the balance sheets. As a result of this decision Popular was left in a paradoxical situation. Whereas the most distressed cajas had to sell a significant fraction of their real estate assets to the SAREB and thus take on the equity impairment and recapitalize with public monies, Popular, as we have seen, was able to raise the funds in 2012 and attempt its own clean-up with retained earnings. This confronted Popular with two problems. First it was not clear that Popular could generate enough profitability to guarantee adequate capital levels. But, second and most importantly, it lead to an opaque balance sheet in that outside investors didn't have enough visibility on what was good and not so good in Popular's loan

Table 11: Banco Popular - Solvency (in millions of €s and %): Column I shows the different items as of the filing of the quarterly report 2017Q1. Column II shows the results for FY2016 as reported and Column III the restated numbers as reported in the 2017Q1 report. Column IV reports the numbers for FY2015. Source: Annual Report FY 2016 and Quarterly Report 2017Q1.

	I 03/31/2017	II 12/31/2016	III 12/31/2016 (rest.)	IV 12/31/2015
Capital	7,120.7	7,148.6	6,928.2	8,831.2
Reserves	3,690.6	4,177.0	3,937.4	3,861.9
Non-controlling interest	2.2	4.3	4.3	9.5
Common equity deductions	(4,714.0)	(3,521.7)	(3,588.8)	(2,874.7)
CET1 Capital	6,099.5	7,808.1	7,281.1	9,827.9
CET1 (%)	10.02%	12.13%	11.53%	13.14%
Convertible perpetual debt	1,262.7	1,284.2	1,247.8	1,336.6
Additional capital deductions	(746.0)	(1,284.2)	(1,247.8)	(1,336.6)
Tier 1 Capital	6,616.2	7,808.1	7,281.1	9,827.9
Tier 1 (%)	10.87%	12.13%	11.53%	13.14%
Tier 2 Capital	635.9	655.2	697.2	4932
Tier 2 ratio	1.04%	1.02%	1.10%	.66%
Total capital	7,252.1	8,463.3	7,978.3	10,321.8
Total capital ratio (%)	11.91%	13.15%	12.64%	13.80%
Total RWA	60,886.0	64,372.2	63,131.6	74,777.6
Exposure	146,540.8	146,992.2	146,557.5	157,798.5

portfolio. As it has been argued throughout this piece, this is an important consideration when tackling banking crisis; slow recognition of capital shortfalls run the risk of transforming a solvency crisis, real or perceived, into a liquidity crisis. This is what happened to Popular in the Spring of 2017. In that sense the fate of Popular is another episode of the Spanish banking crisis but one reminiscent of, for instance, the Bankia-BFA or CAM situation. Still recall that the very same market that was to run on the liabilities of Popular in the Spring of 2017 had been willing to recapitalize it to the tune of €2.5bn in 2016.

Moreover the solvency situation of Popular was not problematic from a purely regulatory point of view. Table 11 shows the solvency state of Popular at the end of 2015, the end of 2016 (including restatements) and at the end of the first quarter of 2017 (see Box 1 for a quick overview of new regulatory capital standards after the passage of CRD IV). Start with the solvency state at the end of 2015. Tier 1 capital ratios stood at 13.14% and Total Capital Ratios at 13.80%. When Popular filed its FY2016 Annual Report Total Capital Ratios had deteriorated somewhat but still sat comfortably above requirements at 12.13% of Tier 1 and 13.15% of Total Capital.

For 2017 the Supervisory Review and Evaluation Process (SREP) of the European Cen-

Table 12: Banco Popular - CoCos and Subordinated Debt - Selected Issues as of 12/31/2016. Data source: Annual Report FY 2016

Issue name	ISIN	Issue date	Issue amount (in thousands)	Coupon (%)	Capital
Pref. BPE	XS0979444402	10/10/2013	€500,000	11.500	AT1
Pref. BPE	XS1189104356	02/12/2015	€750,000	8.250	AT1
Pref. Pastor	XS0225590362	07/27/2005	€7,419	4.564	AT1
BPE	ES021379001	12/23/2009	€99,700	mid-swap 5yrs+310	T2
BPE	ES0213790019	07/29/2011	€200,000	8.000	T2
BPE	ES0213790027	10/19/2011	€250,000	8.250	T2

tral Bank established a CET 1 capital requirement of 7.875% for Popular.[136] Pricewaterhouse-coopers stated in its audit report that "[a]t 1 January 2017, the Group complies with the aforementioned requirements presenting a CET1 ratio of 10.57%, a Tier1 ratio of 11.32% and a total capital ratio of 12.33%." The audit report also emphasized that Popular could generate additional capital through either retained earnings (every €100mn would generate 22bps of capital) or reductions in RWA . In this latter case for every €1bn reduction in non performing assets, Popular could generate another 20bps of capital, which spoke of the strategic mistake made when the possibility of selling real estate assets to SAREB was missed.

But 2017 was to prove difficult from the very beginning. First the 2016 restatement contained in the first quarterly report for the year 2017 brought down the solvency ratios. Additional write-offs and underprovisioning led to a drop in capital ratios (see Column III in Table 11). Capital ratios for 2017Q1 confirmed the deterioration of the solvency condition of Popular though it is worth emphasizing that it was well above minimum regulatory capital requirements. Still the trend bode poorly for the future of the institution.

8.2.4 The end of Popular

As always with banking crisis, when the end came it did so fast. On February 2017 Mr. Ron who had led Banco Popular for well over a decade, resigned and a new CEO, Emilio Saracho, was appointed. Tellingly, it was someone with a long career in investment banking, which immediately led to rumours that Popular was on the market for a buyer. The annual shareholder meeting was shortly after, in April. There Mr. Saracho was clear on the challenges confronting the bank and mentioned the possibility of seeking some form of regulatory forbearance to assist

[136] This level included the regulatory requirement (Pillar 1) of 4.5%, a Pillar 2 requirement of 2%, a capital conservation buffer of 1.25% and a local systemic institution buffer of 0.125% imposed by Banco de España.

with a fresh recapitalization effort; he wouldn't rule out a merger. The stock market reacted predictably and the price of the share dropped almost 10%.

The collapse of the stock price and the constant press coverage reinforced the rumors that the bank was suffering significant withdrawals of deposits. Later, when Popular had been safely sold to Santander, Luis de Guindos, the Spanish finance minister, would reveal that the run was not circumscribed to individuals but that municipalities and regional governments had proved critical as well in draining liquidity from Popular.[137] Reuters placed deposit withdrawals in recent weeks at €18bn.[138] Popular's large base of SME customers made the bank more exposed to possible runs in any case. Cocos were trading at deep discounts. According to S&P Global Market Intelligence data, the two issues of Cocos for €500mn and €750mn were trading at 61 and 55 cents on the euro, respectively.[139]

The bank had drawn extensively from ECB liquidity, to the tune of €16bn, about 12% of the total funding needs of the bank,[140] but it must have been running short of eligible collateral at some point during early June. Press reports told of desperate pleas by Popular to the ECB alerting that it would not be able to meet deposit withdrawals for much longer. Mr. Saracho was scheduled to meet ECB officials in Frankfurt on June 5th. The ECB was fast running out of options, in particular because no private solution was forthcoming. Faced with the possibility of a serious run in a institution under the SSM, the ECB empowered the SRB to wind down Popular, bringing echoes of the worst episodes of the Spanish banking crisis. The ECB press note put it succinctly (the italics are mine): "On 6 June, the European Central Bank (ECB) determined that Banco Popular Espaol S.A. was failing or likely to fail in accordance with Article 18 (1) of the Single Resolution Mechanism Regulation. The *significant deterioration of the liquidity situation* of the bank in recent days led to a determination that the entity would have, in the near future, been unable to pay its debts or other liabilities as they fell due."

On June 7th 2017, the SRB took on resolution actions in regards to Banco Popular.[141] It wiped out the equity (at the time the market cap of Popular was about €1.3bn), triggering the conversion of the CoCos (AT1) which added another €1.3bn when they were in turn wiped

[137] Íñigo de Barrón "Guindos dice que ayuntamientos y autonomías sacaron dinero del Popular antes de la quiebra," El País, June 12th, 2017.

[138] See Jesús Aguado and Francesco Guarascio "ECB triggers overnight Santander rescue of Spain's Banco Popular," Reuters, June 7th, 2017.

[139] Matei Rosca and Vanya Damyanova, "Watershed looms for CoCo market as Banco Popular bonds approach trigger," S&P Global Market Intelligence, June 5th, 2017.

[140] See Banco Popular Español (2017, page 123).

[141] See SRB (2017) for the press release detailing the legal foundations and motivations for the resolution action.

out and then proceeded to bail in the subordinated debt for another roughly €700mn. Table 12 shows selected AT1 and T2 issues of Popular, as well as legacy ones by Pastor.[142]

The SRB then turned around and sold 100% of Popular's equity for €1 to Santander, which immediately announced a €7bn rights offer to raise fresh capital.[143]

8.2.5 Popular's resolution: some considerations

Banco Popular offers a cautionary tale for supervisors and ultimately taxpayers. Banco Popular passed the pre-MoU stress tests in 2009, 2010 and 2011. In 2012 when Oliver Wyman conducted the Asset Quality Review (AQR) mandated by the MoU, Popular was found to have additional capital needs. Popular was able to meet those additional needs by raising €2.5bn in the market and again in 2016 for the same amount. That year Popular once again passed the stress tests (see Table 10) and was found to be above the minimum regulatory capital in an adverse scenario that was, of course, far from being a good description of the macroeconomic environment in June 2017. This is important for the 2016 stress tests were free of the agency problems that featured so prominently in the Spanish banking crisis between 2008 and 2012. In addition, Banco Popular was able to place a significant amount of contingent convertible bonds (CoCos) as recently as two years ago. As Table 12 shows Banco Popular was able to undertake two issues in 2013 and 2015 for €500mn and €750mn, respectively, as part of its AT1 policy. In sum, Banco Popular was able to pass not once but several times regulatory and markets tests, under difficult and benign condition and under the different regulatory regimes. Perhaps stress tests are less of a panacea than originally envisioned.

As has already been noted, Popular made a mistake in what concerns the sale of real estate assets to the bad bank, SAREB. As a result, Popular's balance sheet remained opaque, mixing performing and non-performing assets, and thus compromising the refinancing of the good ones. Given that in the current resolution framework the national taxpayer remains exposed to serious bank insolvency, is there room for a more heavy handed approach to balance sheet deconsolidation?

The resolution of Banco Popular also shows the broad powers that the new framework vests on European authorities. In particular the conversion of T2 subordinated debt into

[142]A complete list of the different issues with their classification as AT1 or T2 can be found in the FROB's communication regarding resolution actions with respect to Popular, which is available at http://www.frob.es.

[143]The level of tax assets of Popular, which was about €5bn as of the end of 2016 (of which almost €4bn arose of the main business operations of Popular; see Table 9) will lower the acquisition price for Santander significantly.

equity must have raised eyebrows in the market given that, for instance, according to market reports, the 8.25% rate issue (see Table 12) was trading at 89 cents on the euro a week prior to resolution. Unsurprisingly, subordinated T2 debt by other banks reacted immediately. Liberbank's €300m issue of T2 bonds at 6.875% crashed to 81 cents on the euro on news of the details of Popular's resolution. Cajamar's subordinated debt suffered a similar fate. Can such aggressive actions generate a Lehman moment for small European banks[144]?

But the bail-in of subordinated debt of Popular also opens deep questions about the role of T2 liabilities. It is perhaps useful to quote the SRB press release explicitly to elaborate on this (the italics are mine):

> On 7 June 2017, the Single Resolution Board (the SRB) has taken resolution action in respect of Banco Popular Espaol (the Institution or Banco Popular). The SRB has assessed that the conditions for resolution, as referred to in Article 18(1) SRMR, were met, namely:
>
> 1. The entity is failing or likely to fail. On 6 June 2017, the European Central Bank (the ECB) has concluded that the Institution is failing or likely to fail on the basis of Article 18(4)(c) SRMR. In particular, taking into account the *rapidly deteriorating liquidity* situation of the Institution, the ECB considered that there were sufficient grounds supporting the determination that the Institution would, in the near future, be unable to pay its debts as they fall due.
> 2. There was no reasonable prospect that any alternative private sector measures or supervisory action would prevent the failure of the Institution within a reasonable timeframe. Given that the private sale process initiated by the Banco Popular had not led to a positive outcome and *given the difficulties of the Institution to mobilise sufficient additional liquidity* within the given timeframe, the SRB has determined that this condition was met. c) Resolution action would be necessary in the public interest. The SRB concluded that resolution action would be necessary to achieve the following resolution objectives outlined in Article 14 SRMR:
>
>   (a) to ensure the continuity of critical functions, namely: deposit taking from

[144] See Robert Smith "Subordinated debt at small Spanish banks feels the heat," Financial Times, June 12th, 2017.

households and non-financial corporations (small and medium sized enterprises, SMEs- and non-SMEs); lending to SMEs; and payment and cash services; and

(b) to avoid adverse effects on financial stability. The SRB has assessed that the winding up of the Institution under normal insolvency proceedings would not meet those resolution objectives to the same extent.

An important consideration thus is whether bail-ins are being used to address liquidity crisis, not just solvency their original motivation.[145] The recovery rates on both AT1 and T2 are exactly the same, zero, and although press reports speak of an in-depth study by Deloitte, of Bankia-BFA fame, for the ECB regarding the solvency of Popular it seems that liquidity, not solvency, was behind the heavy handed conversion of T2 into common. This is perhaps the inevitable consequence of the perceived costs associated with the banking crises everywhere and the public concern towards the tax payer exposure. But, the expediency with which the SRB bailed-in the subordinated debt is bound to increase the costs of capital for banks, particularly small ones. In this we might be entering a new phase. The Bagehot prescription is to provide ample liquidity against good collateral to solvent institutions. It places risk management responsibilities squarely on the shoulders of central bankers. A possible interpretation of the aggressive resolution framework in Europe is that it transfers to the holders of subordinated debt some of the liquidity risk traditionally managed by the central bank.

There is last point associated with Popular's resolution and it has to do with its sale to Santander. With this sale, Santander will control about 25% of the SME credit market, a remarkable degree of concentration that may translate into significant pricing power. Should the resolution process be concerned with issues of market concentration? It is clear that what makes the acquisition attractive is precisely the powerful brand and know-how of Popular in this segment. In addition, increasing the franchise value of healthy banks to increase loss absorption capacity and limit tax payer exposure has long been in the playbook of supervisors. But perhaps some consideration should be given to limit the dead weight losses associated with the concentration that seems a result of the financial crisis everywhere. It may be that the technological innovations that are happening in banking may limit the effect that concentration is having on credit markets.

[145] In the Financial Times piece quoted above there is the following quote, "Jérome Legras, head of research at Axiom Alternative Investments, said that, because the ECB and the EU?s single resolution board (SRB) used liquidity issues to justify their action on Banco Popular, bank resolutions are now less predictable."

9 Conclusions

The Spanish banking crisis results from the interaction of large international credit inflows with the faulty governance of the cajas sector. The large credit flows were intermediated by banks and cajas, who took on funds in the wholesale market to finance an unprecedented consumption and investment boom in Spain, in particular in the real estate sector. In the eve of the crisis the Spanish banking sector was heavily exposed to the real estate sector and dependent on jittery foreign investors to refinance liabilities.

The Bank of Spain had a difficult challenge ahead when the crisis hit, one that was completely novel in two respects. First, the cajas sector's governance institutions made them susceptible to capture by the powerful regional political elites and thus resolution came with complex political economy problems. Second, this was Spain's first banking crisis in a monetary union. The Bank of Spain had supervisory responsibilities over all Spain's credit institutions but LOLR functions rested with the ECB. The fact that a substantial fraction of the liabilities of Spain's credit institutions were held by foreigners opened the possibility of a sudden stop reminiscent of crises in emerging markets. As a result expediency, always important when tackling banking crises, became even more critical in this one. The reason is that any delay risked making a solvency crisis into a liquidity one and in a monetary union meeting a liquidity crisis requires fiscal commitments, always a difficult political decision.

Early signs were encouraging. For instance, the creation of the new debt guarantee program by the government in the Fall of 2008 allowed banks and cajas to access wholesale markets and provided the time to assess the extent of solvency problems. Shortly after the FROB was created to assist with recapitalization efforts. It had the ability to lever up substantially and thus replenish bank capital wherever needed in the absence of private funds. But there was never a convincing loss discovery strategy in place. The EBA stress tests failed to credibly bound the losses and repeated efforts to do so only diminished the reputation of the Bank of Spain and Spanish institutions in general. Instead the Bank of Spain pursued a complex strategy of mergers, which is only appropriate if it is preceded by an effort to clarify balance sheets, segregating bad from good assets. This would have at least facilitated the refinancing of good assets. But, in the presence of capital shortfalls, this strategy requires either imposing losses on debt holders or public monies if private funds are not forthcoming. Unwillingness to do either made for a contradictory strategy, one that compromised every effort to close the banking crisis. When this was attempted, as it was in the case of Bankia-BFA, reluctance to commit public funds and/or to imposes losses on junior debt holders essentially meant that asset segregation across the good and the bad bank (Bankia and BFA, respectively) was not credible and thus could not address solvency concerns. Bankia's IPO failed to convince foreigners that it was viable. The additional provisioning requirements in 2012 only confirmed that the previous efforts had failed to close the crisis. That these requirements were imposed without a clear funding strategy in case Bankia was not able to meet them led to a sudden stop, even for the sovereign, which made the request for Eurozone assistance inevitable.

Spain should have conducted a fully funded stress test in 2010, when macroeconomic conditions were benign. The tests would have identified non performing assets, allowing for the possibility of segregating performing from non-performing assets and bounding solvency gaps. Segregation would have facilitated refinancing of the liabilities attached to performing assets. Non performing balance sheets, inevitably, would have required either bail-ins, tax payer funds or probably both, given that after all it was not clear that there were enough junior liabilities to facilitate recapitalizations. Accepting that unpleasant reality was essential to convincingly address the Spanish banking crisis. But it is here that the presence of junior liabilities held by households, the "preferentes", gave policy makers pause when it came to imposing losses, which was in contradiction with the objective of minimizing tax payer exposure and closing convincingly the Spanish banking crisis.

One cannot close a solvency crisis without bail-ins and/or committing taxpayer funds. This was the contradiction at the heart of the strategy pursued by the Spanish authorities between 2008 and 2012. This contradiction allowed for a solvency crisis to become a liquidity crisis, one that Spain could not meet given its membership in a monetary union.

Box 1: Capital requirements after 2013/36/EU-CRD IV

Directive 2013/36/EU-CRD IV and Regulation 575/2013/EU-CRR are the translation into European legislation of the Basel III capital accords. They include the Capital Requirements directive (CRD) and the Capital Requirements Regulation (CRR). It became European law after the publication in the Official Journal of the European Union on June 27th, 2013 and was set to be implemented on January 1st, 2014. Member nations were given six months to transpose these new laws and regulations into national ones. In the Spanish case the European directive was transposed into national law with Ley 10/2014 and RD 84/2015 (in addition some of the provisions in Regulation 575/2013/EU-CRR were developed in the Bank of Spain Circular 2/2014).

CRD IV mandated a Tier 1 capital requirement of 6% of RWA, which included common equity and perpetual securities which are not debt, junior to depositors, neither secured or covered with additional guarantees. The highest quality capital included in Tier 1 is of course Common Equity Tier 1 (CET 1) which must be at least 4.5% of RWA. The remaining Tier 1 capital is referred to as Additional Tier 1 Capital (AT1) and includes, for instance, contingent convertible bonds or CoCos. Tier 2 capital was designed to guarantee that depositors and senior creditors are repaid. Banks must have a total of 8% to meet the CRD IV requirements. In addition, CRD IV introduced new capital categories (the capital conservation buffer, the counter-cyclical buffer, the SIFI surcharge and Pillar 2). A capital conservation buffer of 2.5%, comprised of Common Equity Tier 1, is established above the regulatory minimum capital requirement. When banks fall in the conservation range, the bank can operate as normal but limits on earnings distribution are imposed, which tighten as capital approaches the minimum requirements. The counter-cyclical buffer is added depending on economic conditions and is currently set at 0% in most countries in the EU but not all. In Sweden, where credit to the private sector is growing, all four major banks have strictly positive countercyclical buffers.

As a result of CRD IV total capital, ex pillar 2, in banks could fluctuate between a minimum of 10.5% (which would include the minimum capital requirement of 8% plus the capital conservation buffer of 2.5%) and a maximum of 18% (when the maximum add-on of the countercyclical capital buffer of 2.5% and the 5% of the SIFI and systemic risk buffer charge are added). Pillar 2 requirements can push capital requirements further up.

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Acronyms

AEB: Asociación Española de Banca; the Spanish banking association and lobby group.

AT1: Additional Tier 1

BFA: Banco Financiero y de Ahorro, the bad bank in the Bankia/BFA restructuring.

CAM: Caja del Mediterráneo, one the cajas from the region of Valencia, the epicenter of the real estate bubble in Spain.

CCM: Caja Castilla La Mancha: The first caja to be intervened by the Bank of Spain.

CEBS: Committee of European Banking Supervisors, which was replaced by the European Banking Authority or EBA in 2011.

CECA: Confederación Española de Cajas de Ahorros; the Spanish cajas association and lobby group.

CET1: Common Equity Tier 1.

CNMV: Comisión Nacional del Mercado de Valores, the equivalent of the USA SEC in Spain.

DTI: Debt-to-Income ratio.

ECB: European Central Bank.

EFSF: European Financial Stability Facility.

FROB: Fondo de Restructuración Ordenada Bancaria, the Spanish SPV created in 2009 to assist with the recapitalization efforts of the Spanish banking system.

IPS: Institutional Protection Scheme (SIP in Spanish) the quasimerger form promoted by the Bank of Spain to consolidate the cajas sector.

LOLR: Lender of Last Resort.

LTV: Loan-to-Value ratio.

LTRO: Long Term Refinancing Operation, the long term liquidity auctions run by the ECB. The three year auctions in Decmeber of 2011 and February of 2012 are sometimes referred as Very Long Term Refinancing Operations or VLTRO.

MoU: Memorandum of Understanding, the agreement signed between Spain and its European partners in the summer of 2012.

NCG: Novacaixagalicia, the bank that was the result of the merger of the cajas from the region of Galicia.

PP: People's Party, the conservative party of Spain, which won the national elections in November 2011, under the leadership of Mr. Rajoy, the current prime minister.

PSOE: Spanish Socialist Worker Party, the social democrat party of Spain, in power between 2004 and 2011 led by Mr. Rodríguez Zapatero.

RWA: Risk Weighted Assets.

RDL: Real Decreto Ley, a law passed urgently by the Spanish cabinet, to be voted by parliament at a later date.

SAREB: Sociedad de Gestión de Activos procedentes de la Reestructuracin Bancaria; the bad bank set up in the wake of the MoU to absorb non-performing real estate assets and loans.

SMP: Securities Markets Programme, the purchase program by the ECB to buys sovereign debt.