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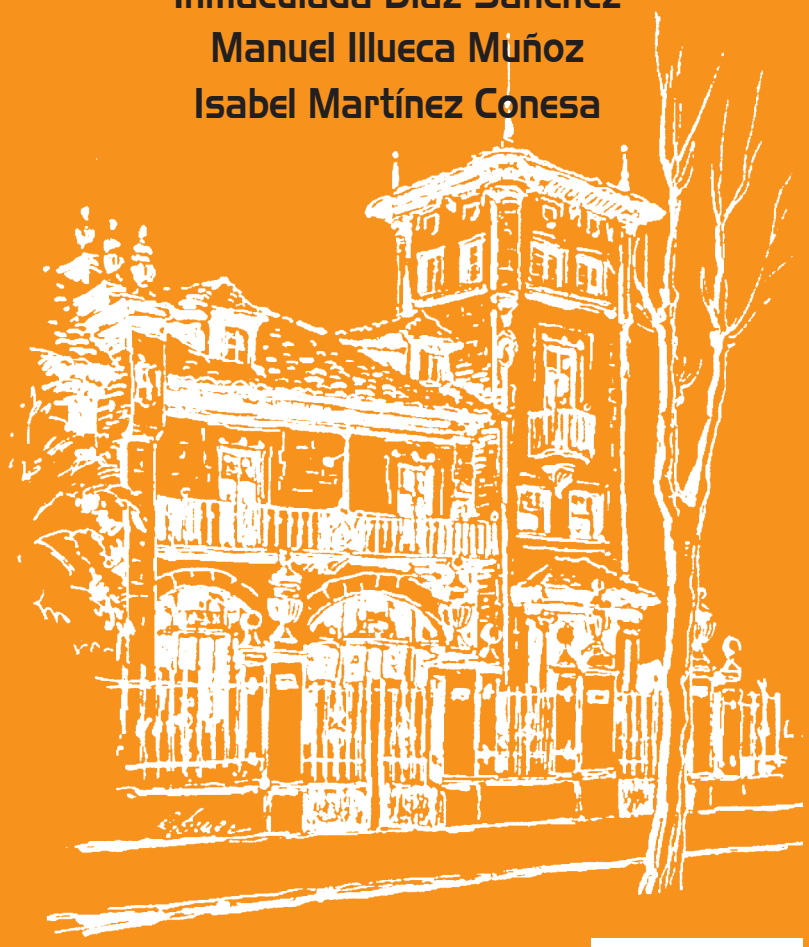

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CANTABRIA CAMPUS INTERNACIONAL
Banca, Finanzas y Actividad Empresarial

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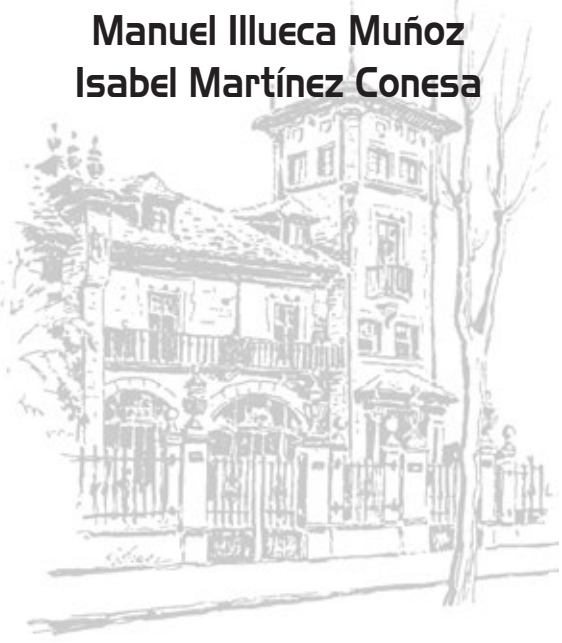

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FRANCISCO JAVIER MARTÍNEZ GARCÍA
*Director de la Fundación UCEIF*

# ÍNDICE

## ABSTRACT

After the global financial crisis set in 2008, a great part of financial institutions all over the world face serious liquidity and solvency problems. With this study we calculate the effects of conditional and unconditional conservatism on change in loan supply during the recession in Spain. Our results vary according to institutional regime and size. We confirm that conservatism accounting rules help to mitigate the drop in the supply of loans during economic downturns. Specifically, we argue that unconditional conservatism has significant positive effects on savings banks performance. We have based our research on the Spanish banking system due to its adoption of dynamic provisions as a countercyclical tool in mid-2000 and the significant presence of savings banks in our sample.

## EXECUTIVE SUMMARY

Financial intermediaries and credit markets more in general appear to have played a significant role in the context of the events which led to the severe recession experienced during 2008 and 2009 by advanced economies such as the Euro Area, the United Kingdom and the United States. Together with a number of other historical episodes in recent decades, such as the well documented "capital crunch" during the early 1990s recession in the US, these represent clear indications that credit markets may play a non-negligible role over the business cycle on a recurrent basis.

In the context of understanding the role of credit markets over the business cycle, from a policy perspective it is important to assess the relative role of supply and demand forces in driving credit, output and inflation developments, as these factors may call for a very different response of monetary and fiscal policy. For example, an insufficient provision of loans to the private sector by banks caused by balance sheet constraints affecting financial intermediaries may require a different policy response compared to the case of declining loan growth due to declining demand from households and enterprises. In the former case measures to directly support the banking system may be needed, while in the latter case measures to directly support the real economy are likely to have priority.

Another key challenge which policy-makers face is to disentangle the role of credit markets as propagators of shocks originating in other sectors of the economy (such as technological innovations, unexpected changes in oil prices or investors' changes in confidence, to make few examples relating to both aggregate supply and aggregate demand shocks) and as impulse mechanisms, that is sources of disturbances or shocks. Indeed, the provision of loans to the private sector by banks depends on the state of banks' capital and financing capability, which in turn change both (endogenously) due to the economy's changing conditions as well as (exogenously) due to factors directly affecting banks balance sheets. Clearly, the source of the potential problem is different in these two cases.

Following a protracted credit and housing boom, Spain found itself saddled with high external debt, poor cost competitiveness, high private sector debt, a fragile financial sector and an overheated housing market. The subsequent bust and the international financial crisis brought about additional major problems, namely fast-rising general government debt and a record high unemployment rate with the associated social hardship. In April 2013, the Commission concluded, in the framework of the Macroeconomic Imbalances Procedure (MIP), that macroeconomic imbalances in Spain were excessive. In July the Council addressed to Spain a set of country-specific recommendations (CSRs) mostly directed to support the correction of these imbalances. The MoU foresees that "Spain complies fully with its commitments and obligations under the EDP and the recommendations to address macroeconomic imbalances within the framework of the European Semester. Progress in meeting these obligations under the relevant EU procedures will be closely monitored in parallel with the regular review of programme implementation." Against this background, this Annex reviews the latest economic developments and the main relevant policy measures recently taken by Spain.

Recent economic and financial data point to a stabilisation of the economy. Consumer and business confidence has been on the rise, unemployment appears to be stabilising and the fall in GDP to be bottoming out, heralding the beginning of a moderate recovery in output. Funding conditions in financial markets have improved for the sovereign and for stronger banks and non-financial corporates. However, bank lending has continued to contract sharply.

This on-going lending contraction, which is the main deleveraging channel for the private sector, appears to be largely driven by weak demand. Frictions on the supply side and EU financial market fragmentation may also play a role, in particular for SMEs.

The adjustment of imbalances is advancing: the current account is now in surplus, cost competitiveness has been recovering and private debt ratios are slowly declining, more for companies than households. Resources are progressively being reallocated towards the tradable sector. These trends will have to be sustained in order to bring down high domestic and external debt levels durably. A full analysis of imbalances is outside the scope of this report; it will be developed in the next cycle of the MIP.

Financial stability has been bolstered by the recapitalisation and restructuring of the banking sector and the thorough implementation of the July 2012 ESM programme for the recapitalisation of financial institutions, expiring at the end of 2013. A solid banking system is a precondition for satisfying higher credit demand in a recovery. There are also on-going initiatives to develop non-bank financing sources aimed at enlarging both quantitatively and qualitatively the financing opportunities for companies.

Reining in fast-rising public debt (approaching 100% of GDP) demands fiscal consolidation and further strengthening of public finance management. Progress with fiscal consolidation will be analysed in detail in upcoming documents under the SGP and the two-pack legislation (analysis of effective action under the EDP; assessments of Draft Budgetary Plans —DBPs— and Economic Partnership Programmes —EPPs—). Important steps have been taken to address shortfalls in the pension system and implementation of measures to contain health care expenditure continues. Legislation to reduce the reliance on indexation clauses in the public sector is expected to come into force as from 2014. Ongoing reforms of the public administration and of local administration (currently debated in Parliament) aim at reducing the administrative burden and generating budget savings. In both cases, implementation relies on cooperative relations between the central government and the regions. The law setting up an independent fiscal council is expected to be adopted soon by the Parliament, so as to allow the new body to be operational as of 2014.

A well-functioning labour market is essential to reduce unemployment and support the economic adjustment. At 26%, unemployment is unsustainably high. The welcome stabilisation in the unemployment rate in latest data partly results from a declining active labour force. The 2012 labour market reform (broader and deeper than previous reforms), as well as the social partners' agreement of January 2012, seem to have created the conditions for increased labour market resilience and to have contributed to wage moderation, hence limiting, ceteris paribus, employment losses. Yet, it is too early to judge if the recent reforms will ensure a sufficiently fast recovery in job creation and less labour market duality going forward. Such issues will need continuous close monitoring. Work continues on the modernisation and reinforcement of

employment services and to boost active labour market policies (ALMP) as well as their links with passive policies. However, implementation requires effective co-operation between the central government and the regions and is taking time.

Several recent and on-going important initiatives aim at improving the business environment and fostering greater competition in the non-tradable sector. A legislative proposal to foster the functioning of the Spanish internal market (the law on the guarantee of market unity) has been submitted to the Parliament. A first draft law reforming professional services is now under consultation. The law reforms professional bodies and liberalises most professions; it safeguards the principle of market unity in the access and exercise of professional services and reserves future legislation in this area to the central legislator. The recent law on entrepreneurship has brought about, amongst other measures, improvements to the framework for corporate insolvency and more flexible company forms. A reform in the electricity sector is tackling the excessive gap between fast-rising regulated costs, reflecting inter alia generous support for renewable energy production, and mandated tariffs for end consumers.

Overall, there has been a visible stepping up of the pace of structural reforms relevant for the adjustment of imbalances over the last months. Despite some delays, the reforms have been progressing largely in line with the commitments in the Spanish NRP and Stability

Programme of last April and with the MIP relevant CSRs adopted by the Council in July.

This policy momentum, which has contributed to the positive shift in sentiment towards

Spain, should be maintained, as adjustment needs remain very large and the reform process is far from completed. Several of the reforms are in the legislative and/or in the initial implementation phases and, in most cases, effective implementation requires the full commitment and cooperation of all levels of government. Watering down of the proposals or partial implementation would reduce their effectiveness and the expected positive impact on the economy. Moreover, the NRP

and the CSRs foresee the presentation of a number of important reforms in the coming months.

The role of bank's balance sheets in shaping the evolution of credit growth has been subject to debate during the 2008 recession. On one hand, there is evidence that exposition to "toxic" assets has affected some banks' ability to lend (Puri et al., 2011). On the other, even in banking systems without structured off-balance products, but with a high exposition to real estate, drops in housing prices have deteriorated financial intermediaries' capital positions and, possibly, the overall supply of credit. This paper analyzes the case of Spain, an economy that experienced a housing boom until 2007 and a drop of business lending in 2009 to gauge the impact of actual and anticipated changes in bank's capital on business lending.

The Spanish financial system was not severely hit by the first wave of the global financial crisis, as a result of a number of factors: the negligible presence of toxic assets in their balance sheet, the regulation that prevented the creation of off-balance sheet investment vehicles and the large weight of long-term instruments in their funding structure. However, as the initial financial turmoil changed into a deep recession, Spanish banks were increasingly affected as their high exposure to the real estate sector and the sharp increase in unemployment led to an important deterioration in the quality of their loan portfolios. The existence of provisioning buffers required by the demanding Spanish prudential regulatory system mitigated the impact on profits of the surge in doubtful loans.

Nevertheless, the progressive reduction in these buffers as well as the increasing capital ratios considered as acceptable by regulators and markets have put additional pressure on banks' capital what, in turn, might have constrained the credit supply, especially in the case of those institutions that took on more risks during the cyclical upturn.

Disentangling the specific contribution of bank capital from demand related factors is always a difficult task. In a time series context, in a recession there is a downward revision of spending plans and, consequently, of loan demand, while, at the same time, both bank capital and borrowers' creditworthiness deteriorates, so stricter lending standards

are applied by financial institutions. In a cross-section context, it is typically argued that banks and firms do not match randomly and it may be the case that firms whose demand for credit is more sensitive to recessions end up borrowing from the smallest and less capitalized banks.

Bank credit to the non-financial private sector in the Spanish economy has experienced a sharp deceleration, from annual growth rates well above 20% in 2007 to negative figures registered at the trough of this cycle. The assessment of the relative contributions of demand and supply-side factors faces two main obstacles: the qualitative nature of the information sources explicitly distinguishing between both components and the simultaneity in their movements driven by the cyclical position of the economy and other factors.

This paper explores one specific supply channel that has been potentially relevant to explain recent lending developments. More precisely, we analyze whether banks' actual and expected capital growth influences loan supply to a given industry. We argue that the deleveraging process that is taking place in the banking system (driven both by expectations of higher regulatory capital requirements and by larger demands from financial markets) in the case of some banks might have not been enough to meet the increase in capital requirements. This is likely to be the case for those institutions with limited access to market funding, either because of institutional limitations or as a consequence of higher perceived risk (as might be the case, for instance, of banks with a high exposure to real estate sector). These institutions might have been able to rise own funds only by retaining profits and, in this period of declining profitability, this might have been insufficient to reach the desired level of capital. Under these circumstances, these banks might have had to cut back their lending.

An important legacy of the global financial crisis is a renewed regulatory effort aimed at safeguarding financial stability. This effort rests on the assumption that stronger capital and liquidity regulation would make banks more resilient to shocks and less likely to transmit them to the real economy by curtailing credit. In this paper, we examine the proposition that bank balance sheet strength matters for the extent to which banks reduce lending during a financial crisis. During the 2007-08 period, the cost of market funding faced by financial institutions increased to

prohibitive levels, creating an unexpected liquidity shock. We investigate how banks' exposure to this shock influenced their subsequent lending decisions, and how it interacts with key balance sheet features such as capital. By quantifying the link between bank health and the supply of credit during the crisis, we also seek to inform the ongoing discussion on bank regulation under the Basel III framework.

Our analysis reveals that there is substantial variation in banks' ability to sustain lending during a financial crisis. This study documents the role of sustaining post-crisis lending. Since their introduction in 2010, the merits of the new regulations and their potential adverse effects for economic recovery have been intensely debated. A major concern is that, in the short run, tighter rules on capital and liquidity would lower banks' profitability and restrict their ability to extend credit, thus hamper growth.

Basel III proponents argue instead that the new rules would make the banking system safer and more stable.

## INTRODUCTION

The dimension of the financial crisis has given great importance to the study of the banking sector, which is seen as the epicenter of the crisis, especially in Spain. During the crisis, the performance of international accounting systems as well as the supervision institutions has been questioned. The need to improve recognition of banking risks and the quality of regulatory capital, the introduction of better monitoring systems and the promotion of the information transparency are some of the most important aspects of international financial regulation after the adoption of the Basel II recommendations.

The main goal of this article is to ascertain whether conservative bank accounting helps to mitigate drops in loan supply of commercial and savings banks during financial downturns. In fact, a key aspect of this work is that it measures the different effect of three types of buffers on bank's risk taking before the crisis: a) equity, b) unconditional conservatism, c) conditional conservatism. Equity and unconditional conservatism should have a similar effect, while conditional conservatism behaves differently due to its effect on risk taking before the economic downturn. Before the crisis, banks are more conservative in a conditional sense, they analyze borrowers in detail, and, ex-post, they suffer less loans losses and smaller reductions on their loans supply. Comparing the three types of reserves in a context of extreme crisis as the Spanish, constitutes our main contribution.

It is important to study the Spanish sample due to the deep impact of the economic crisis on its whole banking system. A second reason is that Spain is one of the pioneer countries in the adoption in 2000 of dynamic provisions as a countercyclical instrument, which, by construction, entailed an increase in provision requirements for all banks. These provisions were not related to credit risk —unconditional conservatism—, although they did not avoid the minimum capital requirements for riskier assets —conditional conservatism—. More recently, the FASB and the IASB have agreed to shift from an incurred-loss

to an expected-loss provisioning method. By forcing banks to recognize losses before they occur, accounting standard setters aim at mitigating the pro-cyclical features of the current provisioning system. A third reason that leads us to focus on Spanish banking samples is that nearly 50 percent of financial institutions are savings banks. Due to their institutional regime, savings banks do not have shareholders and therefore find it much more difficult to be financed, especially during adverse economic conditions. We expect these financial entities to be sensitive to conditional conservatism and especially to unconditional ones during economic downturns, as a measure of compensating the lack of external funding. We distinguish between commercial and savings banks also because savings banks are characterized by strong local and regional influence. Because of the close relationship between loan supply and loan loss provisioning, and also with the economic performance as a whole, it is necessary to investigate how loan loss provisioning may have contributed to the crisis and mark a turning point in the savings banks performance.

In order to investigate the link between bank conservatism and drop in loan supply we obtain a sample of Spanish savings and commercial banks with available data on Bankscope database between 1997 and 2010. Finally, we obtained 1388 bank-year observations and 749 financial entities: 506 savings banks and 243 commercial banks.

We use the specific measure of conditional conservatism developed by Nichols et al. (2009) based on the analysis of differences in the timeliness of banks' loan loss recognition. Conditional conservatism, defined also as *ex post* conservatism, involves those financial institutions that apply more favorable requirements of verification for bad news than for good news (Basu, 1997). We expect that those banks will forecast their provisioning according to their latent loses, i.e. already identified nonperforming loans. Consequently, more conservative financial entities will recognize provisions more timely while less conservative banks will provision after their loans become nonperforming. This model may tend to exacerbate the current economic cycle as during economic boom banks are expected to lower their provisions because the likelihood of loan defaults is also lower, and increase them for the same reason during a downturn. This is the reason of a pro-cyclical performance of loan loss provisions that could be reduced by earlier provisioning.

Accordingly, we include a second measure of conservatism in our analysis, the unconditional one. Unconditional conservatism, called *ex ante*, refers to early recognition of losses independently of news, thereby avoiding bias from economic features of previous periods. It results in greater reserves that could be used during economic downturns in order to maintain lending when raising external capital becomes extremely expensive. Following Beatty and Liao (2011) we measure unconditional conservatism as the ratio of loan loss reserves to nonperforming loans.

During the current financial crisis savings banks find it more difficult to meet capital ratio and liquidity requirements. Due to their institutional regime, savings banks do not have shareholders and therefore find it much more difficult to be financed, especially during adverse economic conditions. Consequently, we expect a significant effect of unconditional conservatism on savings banks' loans supply during a recessionary period.

We find that unconditional conservatism is especially important during recessions in mitigating drops in loans supply. On the other hand, commercial banks use deposits to face a recession period, while conservatism seems not to be significant when funding through shareholders is available. Our empirical model confirms that analyzing the three years of the financial crisis included in our sample separately, unconditional conservatism recovers significance during 2009 and doubles during 2010. Moreover, conditional conservatism of financial institutions during non-recessionary periods helps to mitigate the drop in loan supply since 2010.

The paper is organized as follows. In Section 2, we analyze the financial sector reform in Spain and the drop in loans supply during the crisis, Section 3 review the literature on banking conservatism and institutional regimes and hypothesis development. Section 4 reports the empirical methodology employed. Section 5 presents the results of the impact of conservatism and capital ratio on change in loans supply. Section 6 concludes.

## DROP IN SUPPLY OF LOANS DURING THE FINANCIAL CRISIS. THE CASE OF SPAIN

Spain is undertaking a major program of financial sector reform with support from the European Stability Mechanism (ESM). On June 25, 2012, Spain requested financial assistance from the European Financial Stability Facility (EFSF) to support the ongoing restructuring and re-capitalization of its financial sector. The reform program aims to better capitalize Spain's banking system and reduce uncertainty regarding the strength of its balance sheets, with a view toward improving its access to funding markets; this in turn should help ease domestic credit conditions and thereby support economic recovery; the capitalization drive also aims to protect taxpayers by requiring weak banks to undertake private capital-raising efforts now before undercapitalization problems expand; and reform the frameworks for financial sector regulation, supervision, and resolution to enhance the sector's resilience and avoid a re-accumulation of risks in the future.

The Eurogroup approved this support, with Spain's commitments under the program outlined in the Memorandum of Understanding on Financial Sector Policy Conditionality (MoU) of July 20, 2012.

Implementation of Spain's financial sector program remains on track. The vast majority of measures specified in the program have now been implemented, as envisaged under its frontloaded timetable. Most notably, actions to recapitalize parts of the banking sector and the asset transfers to SAREB have provided an important boost to the system's liquidity and solvency. Major reforms of Spain's financial sector framework have also been adopted or are in train.

Notwithstanding this progress, risks to the economy and hence to the financial sector remain elevated. Correction of Spain's large external, fiscal, and financial imbalances is well underway, with policy actions at both the European and Spanish levels helping to ease market pressures over the last year. Nonetheless, further adjustment remains, and the process continues to weigh heavily on domestic demand.

Looking forward, growth may remain weak for some time unless further reforms to make the adjustment process less costly are adopted at both the European and Spanish levels. Further financial sector measures can significantly assist this effort, thereby supporting economic recovery and financial stability.

The report's main findings and recommendations in key areas are as follows:

- Bank restructuring and resolution. Much progress has been made in repairing banks' balance sheets. Further near-term priorities in this area include timely completion of burden-sharing exercises, which the authorities now expect to complete this summer, and the choice of strategies to maximize the value out of each state-owned bank under the FROB's control.

- SAREB. Its management is appropriately giving high priority to addressing technical challenges associated with its start-up phase, including the completion of due diligence on SAREB's assets and ensuring that these assets are properly serviced.
  However, SAREB's business plan could usefully be based on more conservative projections for house prices, as these are still falling sharply and further correction is likely. Such a change in assumptions may imply the need to adjust elements of the business strategy once the due diligence exercise has better identified the current market values of each asset. Another priority is to ensure that SAREB's governance arrangements sufficiently mitigate potential conflicts of interest.

- Ensuring adequate provisioning. Accurate loan classification and provisioning for loan losses is key to ensuring balance sheet transparency and restoring full confidence in the system. By recognizing losses on distressed assets whether or not banks sell them, adequate provisioning also ensures that banks have proper incentives to dispose of these assets, which helps free space on their balance sheets to expand lending to the growing parts of the economy. In this context, the BdE's recent initiative to promote more consistent and accurate classification of refinanced loans is welcome. Strong implementation of this exercise will be key to ensuring adequate provisioning.

- Maintaining capital. The program has provided an important boost to the system's capital, such that all banks covered by the stress test exceeded regulatory requirements at end-March 2013 once the estimated effects of pending capital-augmentation measures (e.g., completion of burden-sharing exercises) are included. Nonetheless, with macroeconomic uncertainty still high, risks remain that banks may face pressure to support capital ratios by further accelerating credit contraction, with adverse effects on the economy. In this context, supervisory actions to strengthen solvency and reduce risks should prioritize measures that increase nominal capital over ones that reduce lending. Such measures include, for example, requirements to issue equity, as well as restrictions on cash dividends and bonuses, both of which should be tightly constrained given current risks. Consideration should also be given to increasing the quality of banks' capital via the conversion of banks' deferred tax assets (DTAs) into transferable tax claims, conditional on banks undertaking actions that have positive externalities in the current environment (e.g., more equity issuance, forgoing dividends for several years, stepping-up provisioning and disposal of distressed assets, and/or easing the pace of credit contraction). Bolstering the quantity and quality of capital through such measures should promote financial stability and help ease credit conditions and macroeconomic adjustment by both reducing banks' funding costs and increasing their capital buffers over regulatory requirements.

- Further measures to ease credit conditions and support recovery. Efforts by the government to clear public sector arrears are welcome and should be furthered, as they promote financial stability by assisting the creditworthiness of suppliers and reducing their non performing loans. Other measures to explore include revenue neutral tax reforms (e.g., less reliance on real estate transaction taxes) to reduce impediments to asset disposal.

- Measures at the European Level. Measures at the European level are also key to supporting growth and financial stability. This includes moving faster to full banking union, which would help break the sovereign/bank loop by allowing Spanish firms to compete

for funds on their own merits, independent of their country of residence; continuing monetary support from the European Central Bank (ECB); and keeping state-aided banks' restructuring plans under careful review to ensure they are sufficiently flexible to changing circumstances and avoid any unnecessary constraints on the supply of credit.

- Savings bank reform. The draft law to reform the savings bank system—a welcome reform aimed at enhancing these banks' governance and reducing risks to financial stability—has been transmitted to parliament. The priority now is to ensure timely adoption and strong implementation.

- Bank restructuring and resolution. The aim is deciding on strategies for maximizing the value out of the state-owned banks remaining under the FROB's control and keep restructuring plans under state aid rules under review to provide sufficient flexibility to changing circumstances and to avoid any unnecessary constraints on credit provision.

Financing conditions for Spanish firms and households remain difficult. The bank clean-up and complementary measures at the European level (e.g., OMT) have averted a disorderly unwinding of a significant part of Spain's financial system. Although this very adverse scenario for credit conditions and the economy has been avoided, credit conditions nonetheless remain tight amidst intense headwinds from the unwinding of pre-crisis imbalances and Spain's resultant recession. More specifically, the contraction of bank credit to the private sector accelerated in the first part of 2013, reaching -7 percent in May (year-on-year, adjusted to remove the effects of asset transfers to SAREB), while lending rates to businesses rose further to levels well above those in the euro area core. The picture is similar for total credit to the private sector from all sources, as nonbank financing in Spain is negligible. The pace of credit contraction in Spain has been one of the fastest among advanced economies.

Credit contraction reflects both supply and demand factors. Weak demand due to the ongoing recession and the desire of households and firms to delever is undoubtedly a major driver of credit contraction. At

the same time, some key indicators suggest that shocks to credit supply have also been important.

Rising lending rates.

Higher lending rates indicate a significant adverse shock to credit supply, as adverse shocks to demand should reduce interest rates.

Tight credit supply reflects various interrelated factors, the relative importance of which are difficult to quantify with any precision. These include: Reduced creditworthiness of borrowers. A major factor behind banks' reduced willingness to lend is the lower creditworthiness of borrowers, whose balance sheets have been hit by the recession. That said, this factor cannot completely explain tighter credit supply, as banks indicate in surveys that they continue to tighten lending standards to new highs, even holding the borrower's degree of creditworthiness constant. Although the transmission of lower deposit rates into lower lending rates is not yet evident, this may just reflect transmission lags. Alternatively, banks' decisions to compete less vigorously for deposits may have reduced the importance of deposits as a source of funding for new lending at the margin. As a result, the drop in deposit rates may not significantly reduce banks' marginal cost of funding and hence may not significantly affect lending conditions.

Banks' marginal funding cost could instead rise if their marginal funding source switches to more expensive types of financing. Banks' marginal borrowing costs could rise further if ECB term funding facilities are phased-out, eliminating this relatively cheap source of term financing.

The authorities have significantly stepped-up provisioning requirements over the last 18 months. This has raised the ratio of banks' credit reserves to NPLs from 37 percent at end-2011 to 43 percent at end-2012. Nonetheless, concerns remain that some banks may still not be fully provisioning for likely losses. Supporting evidence for this concern are recently released data showing that 13.6 percent of loans have been refinanced and that about half of these loans (with a book value of about 9 percent of GDP) are classified as performing and hence with no specific provisions. Although some of these loans may be correctly classified as performing, the concern is that some of this refinancing

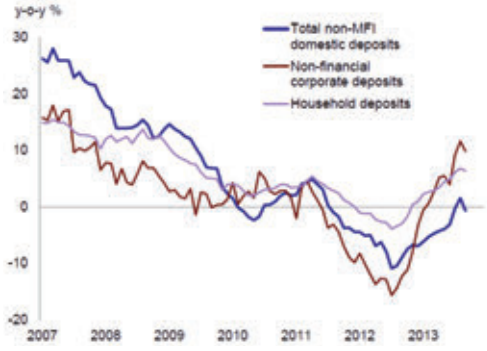
may represent "evergreening" of nonperforming loans. There is also significant heterogeneity across banks regarding how refinanced loans are classified.

Strong implementation will be important to ensuring adequate provisions. Reviews should occur expeditiously, and accurate classifications should be rigorously enforced, which is expected to result in an increase in provisions and reported NPLs. Such an approach will help ensure balance sheet transparency and promote market confidence in reported financial positions. Higher provisioning will also reduce banks' incentives to hoard assets to avoid paper losses that may be incurred by selling assets at their true value. In this way, higher provisioning will facilitate asset sales that could free space on banks' balance sheets to increase lending to other parts of the economy. For all of these reasons, it is important that provisions be sufficient to deal with loan losses. While higher provisioning will reduce reported capital, concerns in this regard are best addressed not by light provisioning but rather by measures such as a prudent (yet pro-growth) approach to capital distribution and issuance, as discussed above.

## Spain's current situation

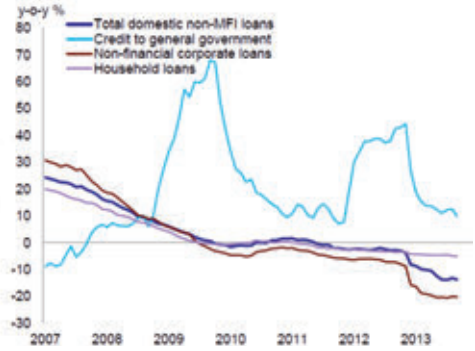
Despite the reassuring return of confidence, the Spanish financial sector and markets remain vulnerable to adverse international and domestic developments. The analysis carried out by the European Commission under the Macroeconomic Imbalances Procedure in April 2013 shows that the levels of domestic and external debt are still high, in particular as public debt has also surged in recent years. The cleaning up of the banks' balance sheets has significantly advanced and the banks' exposure to the construction and real estate development (RED) sectors declined, but at the same time the restructuring process of the savings banks is still on-going and the amount of NPLs continues to rise. The deleveraging of both the financial and non-financial private sectors contributes to a contraction in credit which affects economic recovery and bank profitability. Therefore, banks should maintain comfortable capital levels that support lending to the real economy and provide a buffer to mitigate the risks of the still weak economic activity.

### Graph 1: Bank deposits



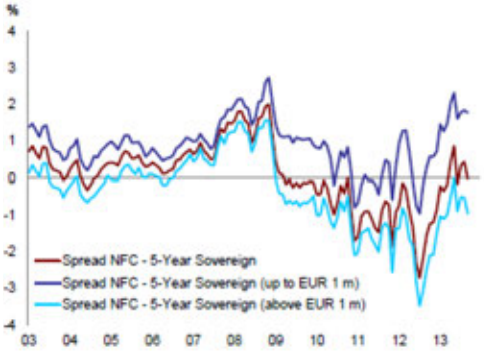

Source: BdE, own calculations

### Graph 2: Bank loans




Source: BdE, own calculations

### Graph 3: Spread over the sovereign for interest rates on NFC loans




Source: ECB, IHS Global insight and own calculations

### Graph 4: Cost of borrowing for NFCs

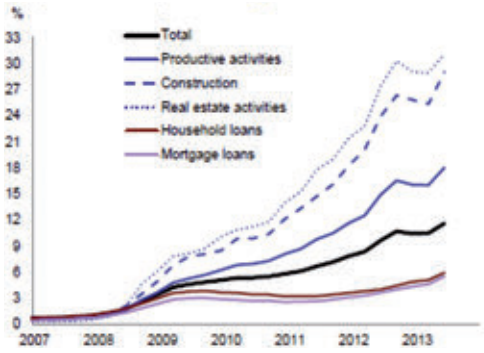

Source: ECB

Non-performing loans (NPLs) have continued to increase in recent months, despite the positive impact of the transfer of RED assets of Group 1 and Group 2 banks to Sareb. Following the transfer of RED assets to Sareb, impaired assets at system level declined to below 11% at the end of February 2013 (compared with 11.7% at the end of November 2012), but this trend has been reversed in recent months (see Graph 12). The deterioration in asset quality has continued throughout the second quarter of 2013, with NPLs increasing to 12.1% at the end of August 2013 compared with 11.5% at the end of March. Non-performing loans in the household sector continued to remain significantly below the system level, but edged up to 6% at the end of June 2013. The performance

of the residential mortgage portfolio has also deteriorated slightly, as non-performing loans for mortgage loans stood at roughly 5.8% at the end of June 2013 compared with 4.3% at the end of December 2012. A sustained increase in NPLs was recorded in the corporate sector, which displays a relatively high and growing NPL ratio even outside of the construction and real estate sector.

The increase in the NPL ratio at system level has been driven both by the deterioration in the quality of assets held by banks and the contraction of the total loan portfolio (denominator effect) due to the on-going deleveraging process. The stock of impaired assets reached EUR 192 billion at the end of December 2012 and subsequently declined to EUR 162 billion at the end of February 2013, due to the transfer of RED assets of the Group 1 and Group 2 banks to Sareb. The stock of impaired assets went up by roughly EUR 17 billion between February 2013 and July 2013, whereas the reduction in the total loan portfolio amounted to EUR 66 billion during the same period. The deterioration in asset quality has been fuelled mainly by the increase in impaired assets in the corporate sector and to a lesser extent by the quality of loans to private individuals.

**Graph 5: Non-performing loans**

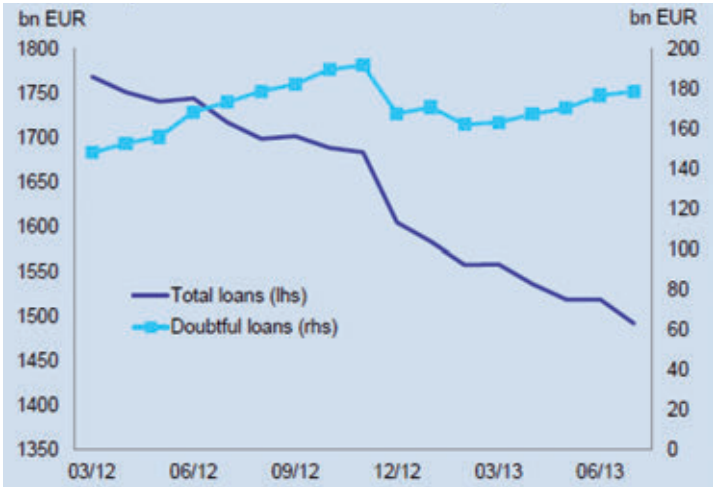



Source: BdE, own calculations

**Graph 6: Bank sector profitability**


Source: BdE, own calculations

Graph 7: Evolution of total loans and impaired assets




Source: BdE

## RELATED LITERATURE AND HYPOTHESIS DEVELOPMENT

After the financial crisis began in August 2007, financial regulators and supervisors have addressed the debate on macroprudential policies that would be able to monitor the link between financial markets and institutions with the ultimate goal of preventing the next crisis. Among macroprudential instruments —loan loss provisions and capital are two of the most vital policies developed in order to cover expected and unexpected losses (BCBS, April 2009)—, the countercyclical tools play an important role.

Less conservative banks during an expansionary period are also less capitalized than more conservative ones. In addition, they have to increase loan loss provisioning during recessions, increasing in this way the costs of external equity financing and facing greater regulatory constraints. During recessionary periods, less conservative banks will lower their lending in order to avoid future capital difficulties. Van den Heuvel's (2009) concludes that banks may reject profitable lending opportunities to lower the risk of future capital inadequacy.

During economic downturns banks have to increase the amount of charged provisions at the expense of their profits, capital, therefore negatively

impacting on lending behavior. This pro-cyclical behavior of loan loss provisions may reinforce the current downturn of the business cycle, as provisions built-up during economic booms due to excessive increases in credit lending and a less critical assessment of creditworthiness is already materialized. Leaven and Majnoni (2003), Bikker and Metzemakers (2005) and Borio and Lowe (2001) found that provisions mainly rise during downturns and therefore that loan loss provisioning exhibits strong cyclicality.

Laeven and Majnoni (2003) analyze the use of loan loss provisions at banks around the world. Their results suggest that due to the behavior of managers who tend to report less loan loss provisioning during economic upturns and vice versa during economic downturns, "the size of capital shocks" are exacerbated. Wahlen (1994) shows that managers increase discretionary loan loss provisions when expectations of future cash flows improve. Due to the cost of raising external equity, banks will lower their lending more during recessionary periods in order to avoid the risk of future capital inadequacy.

The concept of accounting conservatism has received significant attention over the past decade and it constitutes a key element of the banking industry. Loan loss provisions exhibit a strong cyclicality: early recognition of loan losses is associated with a lower decrease in lending during recessionary periods compared to expansionary periods.

Two variants of accounting conservatism are commonly distinguished: conditional and unconditional conservatism.

Conditional conservatism, defined also as *ex post* conservatism, involves firms that apply more favorable requirements of verification for bad news than for good news (Basu, 1997). On the other hand, unconditional conservatism, also called *ex ante*, refers to early recognition of losses independent of the news. Because the two forms meet different needs (Qiang, 2007) we introduce both in our analysis.

The two forms of conservatism play distinct roles in contracting, regulation, and taxation, as well as a common role in litigation. They also play an interrelated role, as suggested by Qiang's finding that unconditional conservatism reduces conditional conservatism. The combined evidence implies that because the two forms meet distinct needs but are negatively

interrelated, it is necessary to trade them off. In this way we aim to cover all aspects of conservatism in banking system and also to take a different approach from the research of Beatty and Liao (2011).

In order to include *ex ante* conservatism in our study, we follow Beatty and Liao (2011) and our first measure is the ratio of the loan loss reserves to nonperforming loans. Those financial entities with high degree of unconditional conservatism increase additional reserves based on current financial situation rather than on past results that do not match exactly economic reality. We expect those financial institutions with higher ratio of unconditional conservatism to suffer fewer drops in loans during the recessionary period.

We also follow Beatty and Liao (2011) and Nichols et al. (2009) to measure conditional conservatism, based on the timeliness of loan loss provisions regarding loans becoming nonperforming. We expect that those entities that delay less their loan loss recognition will perform better and, therefore, will reduce less their lending during recessionary period. The common view is that during economic boom banks are expected to lower their provisions because the likelihood of loan defaults is also lower, and to increase them for the same reason during a downturn. Consequently, credit losses become under-provisioned.

According to these ideas, we hypothesize that both conditional and unconditional conservatism have a positive effect on loan supply during recessionary periods. We expect that a more conservative accounting will mitigate banks' capital constraints and thereby their drop in loans during recessions.

After the financial crisis erupted, we encountered banks that found it difficult to meet capital requirements and with cash flow problems in their balances, and also banks unable to cope with loan losses. The Eurozone has a strong interest in the underlying causes of this situation. Despite evidence of the need for countercyclical tools and policies, there are no real examples of any implementation of such strategies in Europe, with the exception of Portugal and Spain. This is the first main reason for us to focus on Spanish banking system.

In order to anticipate changes in business cycles, Spanish banks have to estimate their expected credit losses and build up statistical provisions

during upswing periods. Those statistical provisions are computed as the difference between expected credit losses and specific provisions. Such a forward-looking approach was intended to smooth pro-cyclical fluctuations of provisions, increasing them during periods of low loans losses. As Fernández de Lis et al. (2001) argues, statistical provisions attempt to fill the gap covering expected losses and correct in this way the disastrous short-sightedness of the banking sector.

Most countries are required to hold specific provisions that are calculated on the basis of losses already identified. The level of such provisions depends on the degree of loan value deterioration during the past periods and they will increase specific loan loss reserves deducted from assets.

On the other hand, we also find banks that introduce general provisions in their balance sheets. General (and also statistical in the case of Spain) provisions could be considered as a countercyclical tool as they are based on latent and not yet identified losses. Jimenez et al. (2012) argue that countercyclical capital buffers in Spain reduce credit supply in good times, but in return, bank lending in bad times is supported without the need for costly governmental bail-outs and/or expensive monetary policies. We predict that those banks that built up higher level loan loss reserves during economic upturn and compute conservative earnings following the Basu (1997) framework will perform better during the crisis and thereby experience lower drop in their loan supply.

Therefore, the main difference is that specific provisions depend on already identified losses, while general provisions reflect future expectation of banks' government about business cycle and depend on the level of loans or assets (Cortavarria et al., 2000). Because of the nature of both types of provisions, specific provisions should never be considered bank capital, while general provisions can be considered as such according to methods used by bank to compute them. Thus, expected losses will be covered with reserves, while unexpected losses will be deducted from the capital.

However, a second important modification took place five years later as a consequence of the IFRS implementation in Spain. The financial environment had witnessed a decrease of dynamic provisions requirements in 2005 and this had a direct impact on the financial system perfor-

mance; in particular, it promoted a notable increase in loan supply and had a direct effect on the housing bubble. From 2005 onwards, general provisions were included as components of Tier 2 capital ratio.

In view of this in 2008, eight years after statistical provisioning was introduced in July 2000, following the outbreak of the worldwide financial crisis and in the context of the particular problems of the Spanish economy, the authorities significantly reduced the floor of the dynamic provisions. Approving this policy aimed to alleviate the situations of financial institutions, especially *cajas,* and lower the impact of the crisis on liquidity and capital ratios and also to stem the decline in loan supply.

Our second reason for focusing on the Spanish banking system is the large presence of savings banks. Based on the premise that banks with better governance should have higher returns during the crisis, we find in the literature a large controversy over the issue in question. We aim to distinguish between commercial and savings banks in order to analyze the two institutional regimes separately.

When analyzing the Spanish banking system, one of the characteristics to be emphasized is that "*Cajas"* are nearly 50% of the whole financial institutions. With a centuries-long history, those institutions have evolved over time from local foundations established in order to promote savings of the working class and lending to small businesses, into financial institutions that have not only crossed the barriers of their home provinces but have also established branches abroad.

There were changes not merely in the geographical limits but also at government level. More specifically, since the eighties, regional governments are involved in the control of the savings banks, along with local governments, founders, employees and depositors. Such a strong state control has attracted great attention. La Porta et al. (2002) in their worldwide study find that government ownership is associated with lower financial development, growth of per capita income and also productivity.

The working approach of savings banks is also quite different from that of the commercial banks. An important and distinctive feature of the *cajas* is described by Salas and Saurina (2002), Jiménez and Saurina (2004) and Illueca et al (2011). They found more risk-taking behavior of savings

banks in Spain. The *cajas* are characterized by applying less strict solvency requirements on their customers and, therefore, by lending to those that commercial banks would reject as they would be considered as clients less likely to repay the loan. Consequently, savings banks continued to inject funds into the housing market after 2007. As a result of the exacerbation of the crisis and the housing market crash, many of the *cajas'* debtors fell into bankruptcy and were unable to cope with their debt. Consequently, the financial institutions suffered unexpected increases in their nonperforming loans and found themselves with significant imbalances in their accounts[1]. By 2009, the *cajas* owned more than 50 percent of nation's mortgages. As a result of these mismatches on the balance sheets the majority of the European stress test failures in Spain were *cajas*. Moreover, the fact that savings banks do not have shareholders makes them less conservative during expansionary periods, which will derive in a bigger drop of their lending during economic downturns.

Furthermore, the *cajas* had to build more reserves in order to maintain lending during the recession, i.e. we expect a significant effect of unconditional conservatism on loans supply. Based on these arguments, we also predict that specifically unconditional conservatism helps to mitigate the drop of savings banks loans' supply during recessionary periods.

Given the importance of the *cajas* within the Spanish banking system and also because of the interest of the study of savings banks within the context of current crisis for all countries with the presence of such types of institutional regime, we develop an analysis for commercial versus savings banks, and concurrently for "big" versus "small" financial entities.

We analyze more precisely the three years of financial crisis included in our sample, 2008, 2009 and 2010. We expect that as the crisis unfolds, those banks with more conservative accounting practices will suffer fewer drops in their lending during the recessionary period. The importance of conservative accounting rises with the course of the crisis.

1 When the borrower defaults, the creditor is allowed to stay with the collateral (i.e., a residence) that is worth less than the value of the loan after the price adjustment took place during the recession period. In Spain, unlike in the United States, if the borrower is unable to pay the loan back, the creditor is allowed to stay not only with the collateral but also can pursue the borrower's personal assets.

## DATA AND EMPIRICAL METHODOLOGY

In order to investigate the link between bank conservatism and drop in loans supply we obtained a sample of Spanish savings and commercial banks with data available on Bankscope database from 1997 until 2010. We have worked with 1388 bank-year observations and 749 financial entities: 506 savings banks and 243 commercial banks.

In Table 1 we report the mean values of variables used in measuring conservatism and in the analysis of drop in loans supply, describing our sample of savings versus commercial banks.

**Table I**
**Comparison of median values of variables for commercial versus savings banks**

| Variables | Definition | Savings banks | Com banks |
|---|---|---|---|
| *Ta* | Total assets | 8874600 | 9990500 |
| *Eqta* | Capital ratio = total equity/total assets | 0.06842055 | 0.0646855 |
| *Depta* | Deposits/assets at the beginning of the year | 0.5978534 | 0.4591005 |
| *ROA* | Return on average assets ratio | 0.00718945 | 0.0074947 |
| *ROE* | Return on average equity ratio | 0.099517 | 0.1258597 |
| *LLR/NPL* | Loans Loss reserves/ Non performing loans | 186.35 | 171.9 |
| *NPL* | Nonperforming loans / lagged total loans | 0.0130513 | 0.0115275 |
| *LLP* | Loan loss provisions / lagged total loans | 0.0054454 | 0.0055998 |
| $\Delta NPL$ | Change in nonperforming loans/lagged total loans | 0.0009347 | 0.0006223 |
| *N* | | 506 | 243 |

Our empirical work is developed in two stages. First, we estimate the value of conditional conservatism before the crisis (during the period 1997-2007) for each observation according to the Beatty and Liao (2011) and the Nichols et al (2009) model.

The second part of this paper is the estimation of the relationship between the results of conditional conservatism obtained before, unconditional conservatism, capital ratio variable and control variables: all of them as independent variables and our dependent variable is defined as change in loan supply.

## Conditional conservatism measuring

Our conditional conservatism estimation is based on the Beatty and Liao (2011) and Nichols et al. (2009) framework. Bank managers will recognize loan loss provisioning and will forecast the degree of future losses according to past nonperforming loans. Consequently, those banks that recognize nonperforming loans more timelily will be considered as entities with higher degree of conservatism.

Our measure is the difference in the adjusted R2 ((2)-(1)) from the following regressions for each bank, using the observations during the pre-crisis period (1997-2007). It represents the incremental explanatory power of future and contemporaneous nonperforming loans in explaining the current loan loss provision (adjusted R2 differences) developed by Nichols et al. (2009). We require 8 observations to run each regression. If the difference for bank-year observation is higher than the median of the whole sample during the analyzed year, we will classify that entity as conservative, i.e., the *c_conserv* variable will take the value one, and it will be equal to zero otherwise.

$$\text{Eq (1):}\quad LLP_t = \alpha_1 + \alpha_2\, \Delta NPL_{t-2} + \alpha_3\, \Delta NPL_{t-1} + \alpha_6\, eqta_t + ebpl_t + \varepsilon_t$$

$$\text{Eq (2):}\quad LLP_t = \alpha_1 + \alpha_2\, \Delta NPL_{t-2} + \alpha_3\, \Delta NPL_{t-1} + \alpha_4\, \Delta NPL_t + \alpha_5\, \Delta NPL_{t+1} + \alpha_6\, eqta_t + ebpl_t + \varepsilon_t$$

where

*LLP* loan loss provisions divided by lagged total loans
*NPL* change in nonperforming loans divided by lagged total loans
*eqta* capital ratio measured as total equity divided by total assets
*ebpl* earnings before provisions defined as return on average assets + loan loss provisions, divided by lagged total loans

The control variables *eqta* capital ratio and earnings before provisions are included to avoid discretionary component of loan loss provisioning that derives from at least three possible managers' goals (Liu et al., 1997 and Lobo and Yang, 2001). First, managers engage in income smoothing activities in order to avoid excessive earnings volatility, which leads to lower market valuations. When earnings are expected to be unusually high, banks deliberately increase loan loss provisions and understate them if earnings are expected to be low, so minimizing the variance of reported incomes. Secondly, poorly capitalized banks may use LLP in order to avoid falling below capital ratio requirements. And finally, Beaver et al. (1989) suggest that managers use loan loss provisions to signal their financial strength.

## Unconditional conservatism measuring

Our second measure of conservatism is the unconditional one. We employ the ratio of the loan loss reserves (allowance) to total nonperforming loans developed by Beatty and Liao (2011).

Traditionally, literature on the scope of conservatism has established that provisions mainly rise during downturns and, therefore, that loan loss provisions exhibit a strong cyclicality (Laeven and Majnoni, 2003; Bikker and Metzemakers, 2005). Because of lags in loan loss provisioning, banks do not build up sufficient reserves in the good times to cover loan losses incurred during economic downturns. In fact, there is empirical evidence (Beatty and Liao, 2011) to suggest that early recognition of loan losses is associated with a lower decrease in lending during recessionary periods relative to expansionary periods.

Managers will introduce this type of conservatism according to their view of the current economic framework. Banks with downwards expectations will be more conservative in their loan loss forecasts and will recognize bigger reserves as a consequence. Our lagged *unc_conserv* variable takes the value of one if loan loss reserves to nonperforming loans ratio is higher than the median during the analyzed year and zero otherwise.

It is essential to make an analysis of the relationship between our variables that measure conditional and unconditional conservatism. It is therefore important and necessary in our view to include them both as independent variables in our study as complementary measures of conservatism. In fact, in Table 2 we analyze the effect of conditional conservatism on the unconditional measure.

As Qiang states, both conservatism measures approach the casuistry from different points of view. In fact, although they are interrelated, we do not get a significant relation, which means they meet distinct needs and they constitute different variables. However, we do find a positive effect of capital ratio on unconditional conservatism.

**Table 2**
**Analysis of the effects of conditional conservatism and capital ratio on unconditional conservatism**

| | Coefficients | p-value |
|---|---|---|
| c_conserv | 0.2240336 | 0.573 |
| ln_TA | 0.0023634 | 0.985 |
| eqta | 16.97246 | 0.019** |
| depta | 0.1144088 | 0.931 |
| roa | −28.42142 | 0.285 |
| comm_bank | 0.4327859 | 0.420 |
| _cons | −1.230456 | 0.622 |
| $R^2$ | | 0.0359 |
| N | | 636 |

***,**, and * represent 1%, 5%, and 10% significance, respectively

## The econometric model

To test the effect of conditional and unconditional conservatism and capital ratio during non-recessionary period and change in loans during recessionary period we use OLS estimation of the following model.

$$\Delta Loan = \beta_1 + \beta_2 c\_conserv + \beta_3 unc\_conserv + \beta_4 crisis + crisis(\beta_5 c\_conser + \beta_6 unc\_conserv) + \beta_7 eqta + \beta_8 eqta * crisis + eqta * crisis(\beta_9 c\_conserv + \beta_{10} unc\_conserv) + \beta_{11} depta + \beta_{12} In\_ta + \upsilon_t$$

where

| | |
|---|---|
| $\Delta Loan$ | change from the beginning to the end of the year in the natural log of loans |
| *unc_conserv* | lagged variable that measures unconditional conservatism and equals one if LLR/NPL ratio is greater than the median and zero otherwise |
| *c_conserv* | variable that measures conditional conservatism and equals one if the difference in adjusted R2 (Eq.(2)-Eq. (1)) is greater than the median during the year, and zero otherwise |
| *eqta* | lagged capital ratio measured as total equity divided by total assets |
| *crisis* | variable which equals 1 for the period 2008-2010 and 0 otherwise |
| *depta* | agged deposits divided by total assets, at the beginning of the year |
| *In_ta* | lagged natural log of total assets |

We investigate the impact of unconditional and conditional conservatism on change in loans during recessionary period. We will use interactions of our variables in order to check their effect in the different situations. Based on our hypothesis, we expect variables *unc_conserv*crisis* and *c_conserv*crisis* to be positive, i.e. we predict that those more conservative entities during the expansion will suffer a smaller reduction in their loan supply.

We also expect unconditional conservatism to have a positive and significant effect on loan supply during the crisis period for a sample of savings banks. Following Beatty and Liao (2011) we expect a negative coefficient of *crisis,* such as adverse economic environment and the lack of confidence in the financial markets may have detrimental effects on the loan supply. Banks lend more when they are less concerned about capital requirements.

Thus, we expect a positive relationship between equity ratio (*eqta*) variable during expansionary period and also during recessionary period (*crisis*eqta*), which will be more significant during recessionary years due to the lack of other sources of funding.

We expect that during the crisis more conservative practices (*conserv*crisis*) will help to mitigate drops in loan supply.

In addition, we expect less conservative banks to be more concerned about capital ratio adequacy than those considered conservative (we expect the coefficients on *eqta*crisis*conserve* to be negative). Banks with more conservative practices during expansion are less threatened by the accomplishment of capital requirements and hence, they suffer fewer drops in loan supply during expansion.

Finally, we expect a positive relationship between bank loans fluctuations and *depta* variable, due to the fact that banks use deposits to extent credit (Bouvatier and Lepetit, 2008). We also include *In_ta* as a control variable and do not predict the sign of its coefficient.

We divide our sample in two —savings banks and commercial banks— and run the regression separately for both samples in order to get an individualized analysis of the behavior of commercial banks versus savings banks before and after the beginning of the crisis.

We repeat the same procedure as in the previous epigraph, but distinguishing between big banks and small banks in this case. We define as "big" those entities with total assets greater than the median of total assets of the whole sample and "small" otherwise.

Finally, we test how timely the effect of our conservatism variables and capital ratio on change in loans during recessionary periods is. Our aim is to ascertain if the differences in the behavior of lending between conservative and non conservative banks appear early in 2008 or later in 2009 or 2010.

We use the OLS estimation of the following model

$$\Delta Loan = \beta_1 + y2008/y2009/y2010(\beta_2 + \beta_3 c\_conserv + \beta_4 unc\_conserv + \beta_5 eqta + \beta_6 eqta * c\_conserv + \beta_7 eqta * unc\_conserv) + \beta_8 eqta + \beta_9 depta + \beta_{10} ln\_ta + \upsilon_t$$

where

| | |
|---|---|
| $\Delta Loan$ | change from the beginning to the end of the year in the natural log of loans |
| *unc_conserv* | lagged variable that measures unconditional conservatism and equals one if LLR/NPL ratio is greater than the median and zero otherwise |
| *c_conserv* | variable that measures conditional conservatism and equals one if a difference in adjusted R2 (Eq.(2)-Eq.(1)) from the Beatty and Liao (2011) rolling regressions, requiring 8 observations in each regression, is greater than the median during the year, and zero otherwise |
| *eqta* | lagged capital ratio measured as total equity divided by total assets |
| *y2008* | indicator variable which equals one for 2008 and zero otherwise |
| *y2009* | indicator variable which equals one for 2009 and zero otherwise |
| *y2010* | indicator variable which equals one for 2010 and zero otherwise |
| *depta* | lagged total deposits divided by total assets, at the beginning of the year *In_ta* lagged natural log of total assets |

We expect during 2009 and 2010 conservatism variables to take on particular importance in mitigating the drop in loan supply.

## RESULTS

After verifying that both measures should not be regarded as mutually exclusive alternatives but as complementary tools for conservatism estimation, we analyzed the relationship between equity ratio and loans supply during recessionary versus expansionary period. We proceeded to the analysis for commercial banks versus savings banks as well as big versus small entities. We report our results in Tables 3 and 4, respectively.

**Table 3**
**Analysis of the effect of capital ratio and recession on change in loans for saving versus commercial banks**

| Savings banks | | | Commercial banks | | |
|---|---|---|---|---|---|
| Variables | Prediction | Coef. | p-value | Coef. | p-value |
| *Crisis* | + | –0.21493 | 0.000*** | –0.24332 | 0.000*** |
| *eqta* $_{t-1}$ | + | 0.14305 | 0.379 | –0.47784 | 0.270 |
| *eqta* $_{t-1}$*crisis | + | 0.57423 | 0.030** | 1.6582 | 0.021** |
| *depta* $_{t-1}$ | + | –0.04595 | 0.422 | 0.13288 | 0.225 |
| *In_ta* $_{t-1}$ | + | 0.00402 | 0.311 | 0.00611 | 0.608 |
| _cons | ± | 0.12363 | 0.193 | 0.01450 | 0.949 |
| $R^2$ | | 0.2699 | | 0.0370 | |
| N | | 583 | | 522 | |

***,**, and * representing 1%, 5%, and 10% significance, respectively

*Variable definition*

*Crisis:* an indicator variable which equals one for the period 2008-2010 and zero otherwise
*eqta:* lagged capital ratio measured as total equity divided by total assets
*depta:* lagged total deposits divided by total assets, at the beginning of the year
*In_ta:* lagged natural log of Total Assets

**Table 4**
**Analysis of the effect of capital ratio and recession on change in loans for small versus big banks**

| | Small banks | | | Big banks | |
|---|---|---|---|---|---|
| Variables | Prediction | Coef. | p-value | Coef. | p-value |
| *Crisis* | – | –0.27148 | 0.000*** | –0.157845 | 0.000*** |
| *eqta* $_{t-1}$ | + | –0.52394 | 0.250 | 0.1381968 | 0.517 |
| *eqta* $_{t-1}$*crisis* | + | 1.83986 | 0.005*** | 0.0034128 | 0.987 |
| *Depta* $_{t-1}$ | + | 0.141884 | 0.229 | –0.0071423 | 0.886 |
| *In_ta* $_{t-1}$ | + | –0.00120 | 0.960 | 0.0026647 | 0.660 |
| _cons | ± | 0.11045 | 0.778 | 0.1175115 | 0.267 |
| R | | 0.0480 | | 0.1264 | |
| N | | 549 | | 556 | |

***,**, and * represent 1%, 5%, and 10% significance, respectively

We find a lack of significance of the equity ratio during an expansionary period (*eqta* variable) for all four classifications. These results indicate that lending does not differ regarding the equity concern during non-recessionary periods, when financial entities do not usually face problems in finding adequate funding sources.

However, the interpretation of the results changes completely when we analyze the interplay between equity ratio and drop in loans during recessionary periods. We do get significant and positive coefficients in the interactions between crisis and equity ratio in either savings or commercial or small banks.

In the presence of a considerable lack of confidence in the markets, lending between banks becomes less fluent, and in order to mitigate drops in loans, financial institutions have to make use of accumulated capital. This association is especially significant for savings banks and in particular for commercial ones. Also small entities are very sensitive to it, but not the large ones. The analysis of Spanish financial system performed by FSAP concluded that large financial institutions are financially sound and able to cope with recession periods.

According to the above (and contrary to Beatty and Liao, 2011) our results suggest that the effect of capital on lending growth during recessions lacks significance as well as during expansions for large financial institutions. The reason may lie in the fact that big financial institutions usually have very conservative accounting and therefore are less sensitive to capital ratio requirements. In order to resolve this doubt we now introduce conservatism and proceed to the analysis of our hypothesis.

The results of the analysis including variables that measure conservatism are presented below. Table 5 reports the results for savings banks versus commercial banks.

**Table 5**

**Analysis of the effect of unconditional and conditional conservatism, capital ratio and recession on change in loans for saving versus commercial banks**

| Savings Banks | | Commercial banks | | | |
|---|---|---|---|---|---|
| Variables | Prediction | Coefficient | p-value | Coefficient | p-value |
| *unc_conserv* | ± | –0.01098 | 0.228 | 0.00028 | 0.982 |
| *c_conserv* | ± | 0.00532 | 0.551 | –0.00131 | 0.942 |
| *Crisis* | – | –0.27110 | 0.000*** | –0.21042 | 0.007*** |
| *Unc_conserv*crisis* | + | 0.10968 | 0.024** | 0.01977 | 0.738 |
| *C_conserv*crisis* | + | 0.0632956 | 0.136 | 0.03093 | 0.613 |
| *eqta* $_{t-1}$ | + | 0.2647145 | 0.185 | –0.1091132 | 0.352 |
| *eqta* $_{t-1}$*crisis | + | 1.316437 | 0.024** | 1.140528 | 0.300 |
| *eqta*crisis*unc_conserv* | – | –1.113565 | 0.060* | –0.3906037 | 0.620 |
| *eqta*crisis*c_conserv* | – | –0.7810031 | 0.076* | –0.6183144 | 0.496 |
| *depta* $_{t-1}$ | + | 0.0034747 | 0.956 | 0.1166872 | 0.002*** |
| *In_ta* $_{t-1}$ | ± | 0.0090452 | 0.059* | 0.007025 | 0.056* |
| _cons | ± | 0.003516 | 0.974 | 0.0079224 | 0.903 |
| R | | 0.5322 | | 0.2382 | |
| N | | 0.2382 | | 177 | |

***,**, and * represent 1%, 5%, and 10% significance, respectively

First, we have to note that when we include variables measuring conservatism, regardless of conditional and unconditional conservatism, or when we include both of them in the same analysis, the results do not change significantly for commercial banks. The insignificance of conservatism variables during recessionary and also non-recessionary periods indicates that for commercial banks the average lending does not differ based on the extent of delays in expected loss recognition or loan loss reserves built so far. However, we get a very significant positive coefficient for *depta*, which means deposits are significant in explaining loan growth for commercial institutions.

On the other hand, we get significant and very interesting coefficients when examining savings banks and discover that on analyzing individually conditional and unconditional conservatism, both significantly mitigate drops in loans during the recessionary period. When we study the two variables jointly, conditional and unconditional conservatism, the first becomes insignificant to the changes in loans during recessionary period; unconditional conservatism (*Unc_conserv*crisis)* and instead gets a positive and very significant coefficient, it helps to mitigate drop in loans around 11%, so confirming our hypothesis about unconditional conservatism mitigating the drop of savings banks' loans supply.

Finally, both *eqta*crisis*unc_conserv* and *eqta*crisis*c_conserv* obtain negative and significant coefficients. This is not a random result because, although both types of conservatism are significant, those savings banks that have built-up reserves above the amount required by law, are also those that suffer less drop in loans during the crisis period.

The different results of saving and commercial banks lie largely in the fact that the *cajas* do not have shareholders and are obliged by law to use their profits to strengthen their solvency positions and economic future, i.e., to increase their reserves in order to guarantee present and future liquidity. In contrast, commercial banks are for-profit entities and, as such, are able to distribute their profits to shareholders or invest them in what they think fit and obtain funding in the same way. In addition, and accordingly, we find a lack of significance in conservatism variables for the commercial banks sample.

**Table 6**
**Analysis of the effect of unconditional and conditional conservatism, capital ratio and recession on change in loans for small versus big banks**

| Small banks | | | Big banks | | |
|---|---|---|---|---|---|
| Variables | Prediction | Coefficient | p-value | Coefficient | p-value |
| *unc_conserv* | ± | –0.0218437 | 0.015** | 0.00625 | 0.526 |
| *c_conserv* | ± | 0.0117141 | 0.289 | –0.00612 | 0.491 |
| *Crisis* | – | –0.2553614 | 0.000*** | –0.30483 | 0.000*** |
| *Unc_conserv*crisis* | + | 0.0873236 | 0.028** | 0.09209 | 0.050** |
| *C_conserv*crisis* | + | 0.0227171 | 0.314 | 0.11986 | 0.089* |
| *eqta* $_{t-1}$ | + | 0.0641865 | 0.466 | 0.23238 | 0.402 |
| *eqta* $_{t-1}$*crisis | + | 1.559919 | 0.001*** | 2.0020 | 0.008*** |
| *eqta*crisis*unc_conserv* | – | –1.171718 | 0.014** | –0.88997 | 0.139 |
| *eqta*crisis*c_conserv* | – | –0.3666873 | 0.078* | –1.7471 | 0.036** |
| *depta* $_{t-1}$ | + | 0.0422533 | 0.123 | 0.00154 | 0.984 |
| *In_ta* $_{t-1}$ | ± | 0.0052838 | 0.438 | 0.00381 | 0.421 |
| _cons | ± | 0.0512945 | 0.641 | 0.09646 | 0.389 |
| R | | 0.5021 | | 0.3676 | |
| N | | 288 | | 348 | |

***,**, and * represent 1%, 5%, and 10% significance, respectively

Variable definition
*ebpl:* earnings before provisions defined as return on average assets + loan loss provisions, divided by lagged total loans

When we include unconditional and conditional conservatism in the analysis for big banks, we observe how both variables head in the same direction. During the period of crisis, they help to mitigate drops in loans by more than 21%. The fact that large financial institutions focus considerable effort on leading a conservative accounting, justifies the lack of banks' concerns about raising equity ratio, which we have observed in the Table 4.

Once more, the sign of the coefficients changes when we include *eqta* in the interactions *eqta*crisis*unc_conserv*. Consequently, this confirms that if a financial institution is able to carry out conservative accounting, it becomes less sensitive to capital accumulation in order to be able to continue lending during economic downturns.

These results suggest that less conservative banks after raising their provisioning more during a recessionary period may have greater capital adequacy concerns. With the exception of commercial banks that do not seem to be sensitive to the benefits of conservatism, we find that savings banks, small and also large institutions show evidence consistent with our hypothesis. Also we find that lending-equity ratio sensitivity of these financial entities is reduced by the advantages of conservative policies adopted during the expansion period (*conserve*crisis*eqta < 0*).

Finally we intend to analyze if the positive effect of conservative accounting on drop in loans during the crisis is constant during the whole period or if, instead, it presents changes in the reference period. The results are reported in Table 7.

When we take into consideration both variables, conditional and unconditional conservatism, the results suggest that the importance of conservative accounting rises with the course of the crisis. In 2008, neither *y2008_unc_conserv,* nor *y2008_c_conserv* get significant coefficients, showing that financial entities did not behave differently depending on their level of conservatism; there were generalized drops in loan supply.

However, in 2009 we appreciate for the first time a pretty significant effect of conservatism on loan supply: *y2009_unc_conserv* mitigates loan supply with a 90% level of confidence. We observe a different behavior of those entities with a higher level of conservatism, since they suffer a smaller drop of credit than the others.

It is in 2010 when the both measures of conservatism get a significant effect on loans supply. In particular, unconditional conservatism is positively associated to the drop of loans with a 95% level of confidence and it increased its positive effect between 2009 and 2010 by nearly 7 percentage points. On the other hand, conditional conservatism becomes significant for the first time in 2010 and helps to mitigate the drop in loans during this year by 13%. This delay in the conditional conservatism effect is logical, due to the maximum level of financial stress and the measure of this type of conservatism, which implies the non performing loans are lagged two years.

It is therefore once again confirmed that both measures of conservatism complement each other, and while the sources of unconditional con-

servatism become depleted, the conditional conservatism ones help to support lending, while the economic crisis deepens.

**Table 7**
**Analysis of the effects of conditional and unconditional conservatism, capital ratio and recession (2008, 2009 and 2010 years) on change in loans**

| Variables | Prediction | Coefficients | p-value |
|---|---|---|---|
| *unc_conserv* | ± | −0.0065104 | 0.368 |
| *c_conserv* | ± | 0.0043796 | 0.534 |
| *y2008* | − | −0.139524 | 0.000*** |
| *y2009* | − | −0.2602463 | 0.000*** |
| *y2010* | − | −0.3170004 | 0.000*** |
| *y2008_unc_conserv* | + | 0.0248554 | 0.550 |
| *y2008_c_conserv* | + | −0.0130205 | 0.616 |
| *y2009_unc_conserv* | + | 0.0623796 | 0.098* |
| *y2009_c_conserv* | + | 0.0111886 | 0.684 |
| *y2010_unc_conserv* | + | 0.1313749 | 0.026** |
| *y2010_c_conserv* | + | 0.1269519 | 0.070* |
| *eqta* $_{t-1}$ | + | 0.0566201 | 0.505 |
| *y2008_eqta* | + | 0.1730088 | 0.736 |
| *y2009_eqta* | + | 0.8585594 | 0.063* |
| *y2010_eqta* | + | 1.559709 | 0.158 |
| *y2008_eqta_unc_conserv* | − | −0.0732319 | 0.892 |
| *y2008_eqta_c_conserv* | − | −0.0218643 | 0.934 |
| *y2009_eqta_unc_conserv* | − | −0.6915443 | 0.245 |
| *y2009_eqta_c_conserv* | − | −0.1501534 | 0.700 |
| *y2010_eqta_unc_conserv* | − | −1.051054 | 0.194 |
| *y2010_eqta_c_conserv* | − | −1.234935 | 0.037** |
| *depta* $_{t-1}$ | + | 0.0317659 | 0.3701 |
| *In_ta* $_{t-1}$ | ± | 0.0094914 | 0.001*** |
| _cons | ± | −0.0057848 | 0.920 |
| R | | | 0.4355 |
| N | | | 636 |

***,**, and * represent 1%, 5%, and 10% significance, respectively

Variable definition
*y2008: indicator variable which equals one for 2008 and zero otherwise*
*y2009: indicator variable which equals one for 2009 and zero otherwise*
*y2010: indicator variable which equals one for 2010 and zero otherwise*

## CONCLUSION

Since the outbreak of the current financial crisis we have witnessed a great part of financial institutions facing serious liquidity and solvency problems, some of them have merged or received expensive governmental bailouts. Our aim to ascertain those characteristics that make banks continue providing their services even during adverse economic conditions has led us to analyze a Spanish banks' conservatism.

We have focused on a sample of Spanish banks mainly for two reasons. First, because Spain is an important member of the Eurozone and its welfare is essential to achieve favorable performance of the whole EU. Spain is being especially affected by the current financial downturn. Labor market rigidities, the lack of efficient price adjustment and other internal problems make it especially difficult to pull out of the economic and financial crisis.

Our analysis aims to shed light on the policies needed to prevent the collapse of the banking system during a possible future financial crisis. Among all EU countries, Spain is a pioneer in introducing general provisioning as a countercyclical tool, thereby providing a suitable sample for the analysis of a positive relationship between accounting conservatism during non-recessionary period and banks' performance during the recessionary one. Secondly, there are two well-defined institutional regimes in the Spanish banking sample: commercial and savings banks. Consequently, we are able to make a parallel analysis and in this way come up with relevant conclusions regarding both kinds of regimes separately.

Our research is based on the Beatty and Liao (2011) investigation for the US banking sample. Following them, we introduce two conservatism measures, conditional and unconditional one, but unlike them, we include both measures in the same model after ensuring that they are not mutually exclusive but complementary. Our measure of conditional conservatism is based on a difference in the timeliness of loan loss

recognition, while our unconditional conservatism is measured as loan loss reserves to nonperforming loans ratio.

Specifically, we have observed that lending does not differ regarding the equity concern during a non-recessionary period, while equity ratio mitigates the drop of loans during a recessionary period for both savings and commercial as well as small banks. There is no effect for large financial institutions, since they usually have very conservative accounting and, therefore, are less sensitive to capital ratio requirements.

The insignificance of conservatism variables during recessionary and also non-recessionary periods indicates that for commercial banks the average lending does not differ based on the extent of delays in expected loss recognition or loan loss reserves built up so far. However, deposits are significant in explaining loan growth for commercial institutions.

On the other hand, we get significant and very interesting coefficients when examining savings banks and discover that unconditional conservatism significantly mitigates the drop in loans during the recessionary period. Those savings banks that have built-up reserves above the amount required by law are also those entities that suffer less drop in loans during the crisis period. Less conservative banks after raising their provisioning during recessionary period more may have greater capital adequacy concerns.

With the exception of commercial banks, which do not seem not to be sensitive to the benefits of conservatism, we find that savings banks, small and also large institutions show evidence consistent with our hypothesis. Also we find that lending-equity ratio sensitivity of these financial entities is reduced by the advantages of conservative policies adopted during the expansion period.

Finally, we also obtain that the importance of conservative accounting rises with the course of the crisis. In 2008, financial entities did not behave differently depending on their level of conservatism; there were generalized drops in loans supply. However, in 2009 we appreciate for the first time a pretty significant effect of conservatism on loan supply, but it is in 2010 when both measures of conservatism achieve a significant effect on loan supply.

Once more we show that both measures of conservatism complement each other, and while the sources of unconditional conservatism become depleted, the conditional conservatism ones help to support lending while the economic crisis deepens.

To sum up, we conclude that conditional and unconditional conservatism help to mitigate drops in loan supply during recessionary periods and we find a lack of significance for commercial banks. On the other hand, we provide empirical evidence of a positive effect of unconditional conservatism on savings banks' performance. We emphasize that unconditional conservatism during expansionary periods has a positive effect on loan supply of savings banks during economic downturns.

As a future research we propose to include the announcements of rating agencies as a variable dependent in order to analyze the relationship between banks whose ratings are revised downwards or whose outlook was negative after the financial crisis had erupted and their conservatism and capital ratio estimated during the period 1997-2007.

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El reconocimiento tardío de las pérdidas por deterioro en el valor de los activos es considerado por muchos como uno de los factores determinantes de la crisis financiera desencadenada tras el hundimiento del banco norteamericano Lehman Brothers. Se acusa al sistema de información contable de no proporcionar al mercado información que permitiera evaluar a tiempo las pérdidas de valor de determinados activos bancarios, estimando por exceso los ratios de capital de las principales instituciones financieras internacionales. Cuando finalmente los bancos comenzaron a reconocer contablemente las pérdidas latentes en los balances, la crisis se hallaba en un estadio muy avanzado, con tasas de morosidad al alza y caídas generalizadas en el margen de negocio. La disminución subsiguiente del capital generó una mayor disminución del crédito disponible para empresas y familias y, por ende, un mayor deterioro de la coyuntura macroeconómica.

Utilizando una amplia muestra de entidades financieras ubicadas en 54 países para el periodo 1997-2009, este trabajo identifica los determinantes fundamentales del grado de conservadurismo en el reconocimiento de las pérdidas por parte de la banca internacional. En concreto, se utiliza un indicador de conservadurismo propuesto previamente en la literatura (Beatty y Liao, *Journal of Accounting and Economics*, 2011), y se evalúa el efecto sobre el mismo de variables ligadas a a) el sistema de supervisión bancaria, b) la normativa sobre capital mínimo, c) la estructura de gobierno de las entidades, y d) el grado de competencia del mercado nacional. Nuestros resultados sugieren que el conservadurismo contable es mayor en países con regímenes de supervisión más estrictos y normativa bancaria más exigente, tanto en lo relativo al ratio de capital como en lo referente a las limitaciones en el ejercicio de determinadas actividades financieras. Los bancos no cotizados tienden a ser más conservadores que los no cotizados. Finalmente, el grado de competencia en el sector aparece positivamente correlacionado con el nivel de conservadurismo.

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