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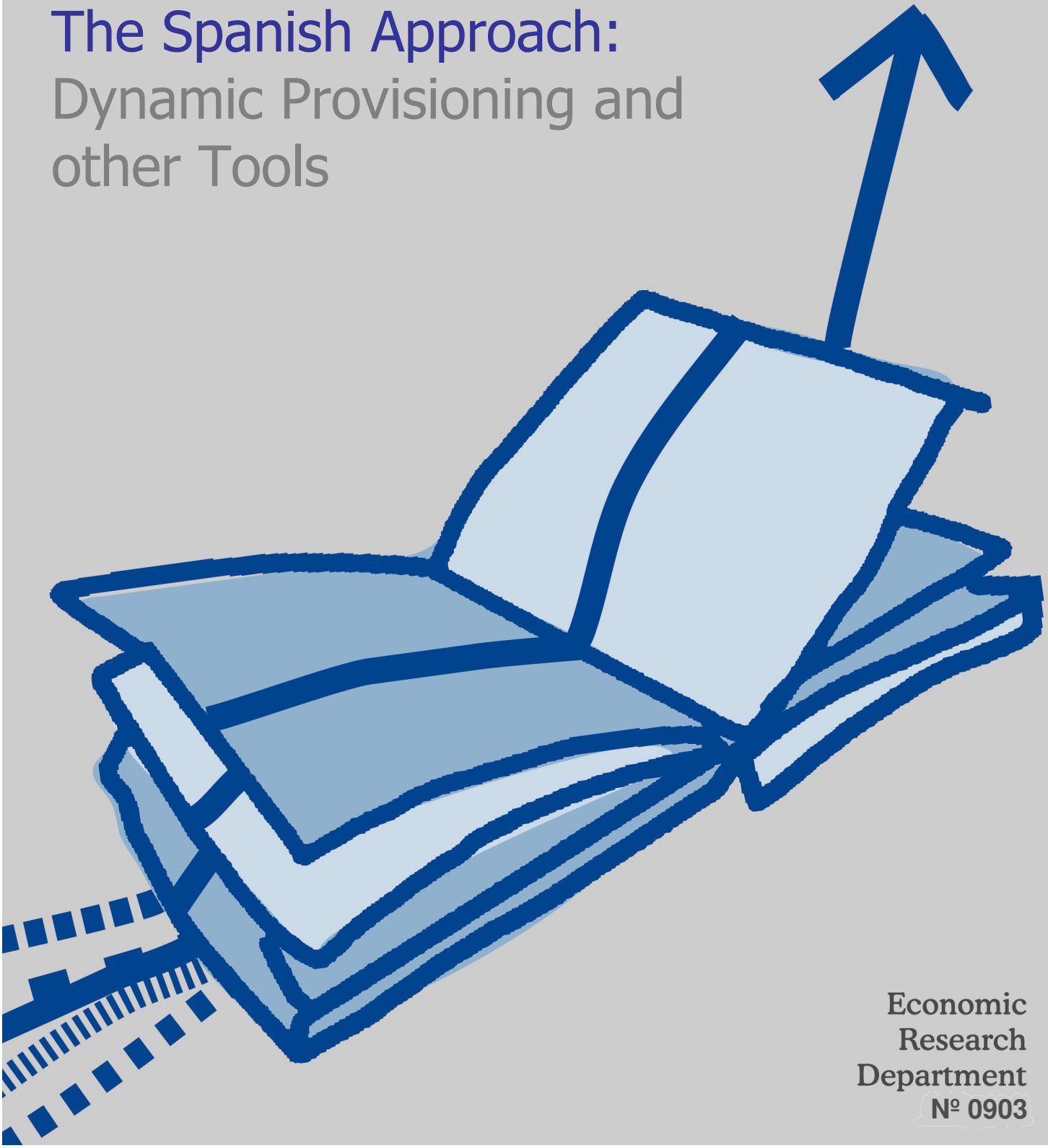
The Spanish Approach:
Dynamic Provisioning and other Tools



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The Spanish Approach: Dynamic Provisioning and other Tools

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Abstract

The financial crisis of 2007–08 has drawn the attention of regulators and market participants to the severe consequences of pro-cyclicality in the financial system. While this had already been a concern during preparations for the introduction of Basel II, it seems that much still needs to be done.

The Bank of Spain, as regulator of the Spanish banking system, has approached the issue its own way, well before the discussions for the introduction of Basel II started. Several tools have been developed, the most well-known of which is dynamic provisioning. Another tool which we shall briefly review is the treatment of securitisation by the Spanish regulator. Both issues will be developed in this chapter so as to draw some lessons for other countries interested in reducing the pro-cyclicality of their financial system.

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[1] *The opinions are those of the authors and not necessarily those of the institutions with which they are affiliated. Paper forthcoming in Frameworks for Financial Stability, February 2009.*

The rationale for an anti-cyclical regulatory approach

The rationale behind mechanisms such as dynamic provisioning is basically to reduce the inherent pro-cyclicality of the banking system. The amplification of the economic cycle by the financial sector has long been analysed in the economic literature.

A first strand is the so-called "financial-instability hypothesis" developed by Kindleberger (1978) and Minsky (1982). They argue that the financial system is inherently unstable due to its tendency for "excessive" accumulation of debt in times of plenty, when borrowers appear able to bear higher levels of expenditure and debt. This "excess" is then corrected during recessions through deflation and economic crisis. The result is an amplification of business-cycle fluctuations.

A second strand of the literature concentrates on the so-called disaster myopia, which occurs when it is impossible to assign a probability to a future shock (Guttentag and Herring, 1984). If managers cannot discount the effects of a future negative event, then they may be more prone to credit expansion and, when the event happens, drastically cut lending.[1]

A third one is herd behaviour (Rajan, 1994). The idea behind is that credit mistakes are judged more leniently if they are common to the whole industry. In fact, managers have a strong incentive to behave as their peers since their evaluation is done in relative and not absolute terms, which at an aggregate level fosters lending during booms and limits it during recessions.

Fourth, the classical principal-agency problem between bank shareholders and managers can also feed excessive volatility into loan growth rates. Managers, once they obtain a reasonable return on equity for their shareholders, may engage in other activities that depart from firm value maximisation and focus more on managers' rewards. One of these strategies might be excessive credit growth in order to increase the social presence of the bank (and its managers) or the power of managers in a continuously enlarging organisation (Williamson (1963)). If managers are rewarded more in terms of growth objectives instead of profitability targets, incentives to rapid growth might also be the result.

Finally, Berger and Udell (2003) have developed a complementary hypothesis, called "the institutional memory" hypothesis. It states that as time passes since the last loan bust, loan officers become less and less skilled at avoiding granting loans to high risk

borrowers. That might be the result of two complementary forces. First of all, the proportion of loan officers that experienced the last bust decreases as the bank hires new, younger, employees and the former ones retire. Secondly, some of the experienced officers may forget the lessons of the past and the further away the former recession, the more they will forget.

There is less consensus, however, as to how the authorities should react to the pro-cyclicality of the financial system and, thereby, the relation between its functioning and economic collapse. Some think that booms and busts cannot be prevented (in other words, the financial system is inherently pro-cyclical because risk is pro-cyclical, and regulators cannot – or indeed should not – do much to avoid it). Others argue that regulation and supervision can improve the situation by limiting this cyclical bias (or at least avoid creating additional incentives for a pro-cyclical behaviour stemming from regulation itself). A few even give a role to monetary policy to lean against emerging asset bubbles.

The fact that there is no consensus as to whether regulators and supervisors can reduce procyclicality is understandable since it is not an easy task. It is, in fact, very difficult to persuade bank managers to follow more prudent credit policies during an economic upturn, especially in a highly competitive environment. Even conservative managers might find market pressure for higher profits very difficult to overcome. Furthermore, existing regulation might even induce pro-cyclicality. This is the case of standard regulation on loan loss provisions, since they are bound to increase during the downturn and reach their lowest level at the peak. As a result, book profits follow the opposite pattern. In the same way, collateral can also play a role in fuelling credit cycles. This is because lending booms tend to be intertwined with asset booms; increased lending increases the value of assets, which in turn provide the collateral for further borrowing.

The introduction of dynamic provisioning in Spain

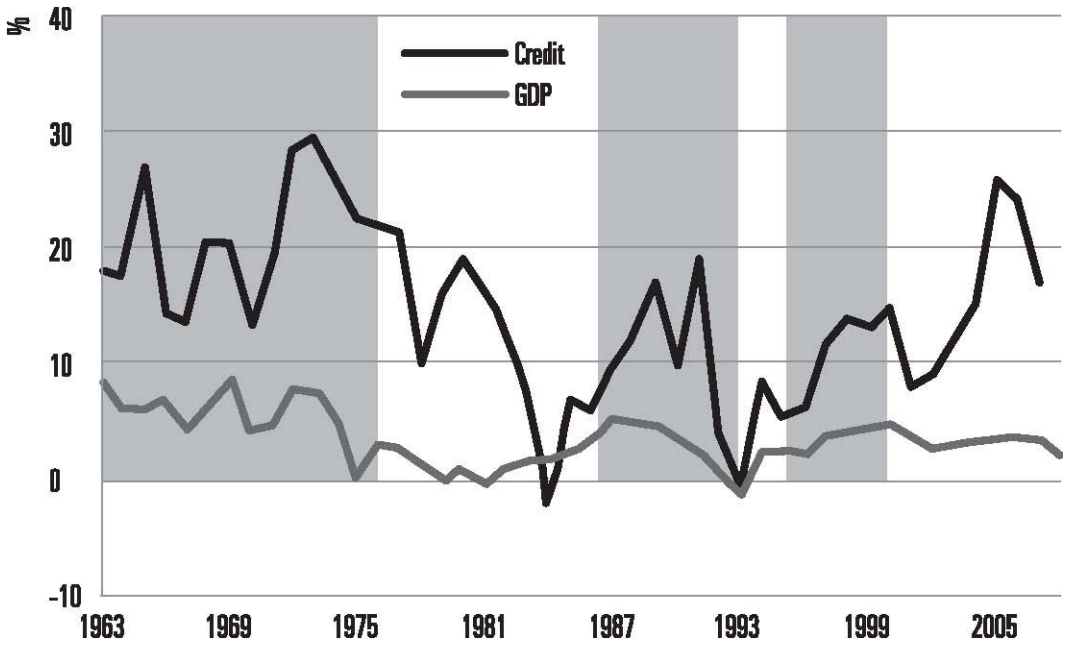

Chart 1: GDP growth and that of credit over GDP

The Spanish economy has generally been quite volatile compared to the European norm. This is especially the case for bank lending, which has been subject to large swings following the economic cycle. More specifically, credit is not only pro-cyclical in Spain, but actually amplifies the cycle as Chart 1 shows.

The first credit cycle is particularly remarkable. Before the mid-1970s oil crisis, the Spanish economy grew strongly and government-controlled interest rates were set at very low levels. The loose monetary environment, compounded by the absence of correct incentives and management skills among bank managers, contributed to the strong growth of bank lending and to an excessive indebtedness on the part of Spanish non-financial firms. Such excessive lending and indebtness fuelled the banking crisis that affected half of Spain's commercial banks between 1977 and 1985. All in all, Spain underwent a sharp and prolonged slowdown until the mid-1980s, when bank lending growth stagnated.

The credit boom thereafter can be largely explained by the housing market. In fact, prices rose more than 100% during the second half of the 1980s. Banks saw the

opportunity and shifted their lending to household mortgages. The sharp increase in interest rates just before the Exchange Rate Mechanism (ERM) crisis and the devaluation of the peseta led to a collapse in bank lending between 1992 and 1996. Credit started to recover as Spain was viewed to enter EMU (Economic and monetary union) and interest rates started to go down rapidly to converge with those of Germany. The prolonged period of macroeconomic stability (low inflation and real interest rates), coupled with high GDP growth, led to a rapid growth in credit. Much of this lending has again been to the housing market given the very sharp increase in prices during the last few years. Growing competition among banks, reflected in declining banks' margins, has also helped boost credit growth although profitability, measured by return on equity has remained high due to cheap funding, growth in business and also low loss provisions.

All in all, the strong pro-cyclicality of credit in Spain and its negative consequences in several instances explains the Bank of Spain's decision to introduce statistical provisioning in July 2000. At that time, there was a concern that banks' loan portfolios continued to expand with very low loan loss provisions – in other words that provisions would not be keeping pace with potential credit losses, which were latent in the new lending.

The Spanish regulatory approach

To assess the impact of dynamic provisioning it is important to understand the Spanish financial regulatory approach in a broader sense. Partly as a result of the profound banking crisis of the late 1970s and early 1980s and the volatility of the Spanish economy compared to those of other European countries, financial regulation seems to have had two main objectives: (i) maintaining enough capitalisation while allowing banks to be profitable and, thus able to compete in global markets; (ii) avoiding excessive procyclicality. These objectives have guided policy measures in several areas, from capital requirements to information needs.

The section will develop two of the most prominent measures taken, namely the treatment of off-balance sheet securitisation and dynamic provisioning. Other measures taken, which are common to other jurisdictions, will not be treated in this chapter although they clearly help reduce pro-cyclicality. Among these other measures is the different capital requirement for mortgage loans depending on their loan-to-value ratios 2.

The Spanish approach to securitisation

Given the nature of the ongoing financial crisis in several industrial countries the Spanish approach to securitisation is particularly instructive. As opposed to other systems, where securitisation was a mechanism to transfer risk, in Spain it was related to funding purposes. As can be seen in chart 2, for a very long period (but particularly since the inception of the euro area in 1998) the growth of credit systematically exceeded that of deposits, by 10 or 20 percentage points during most of the period.

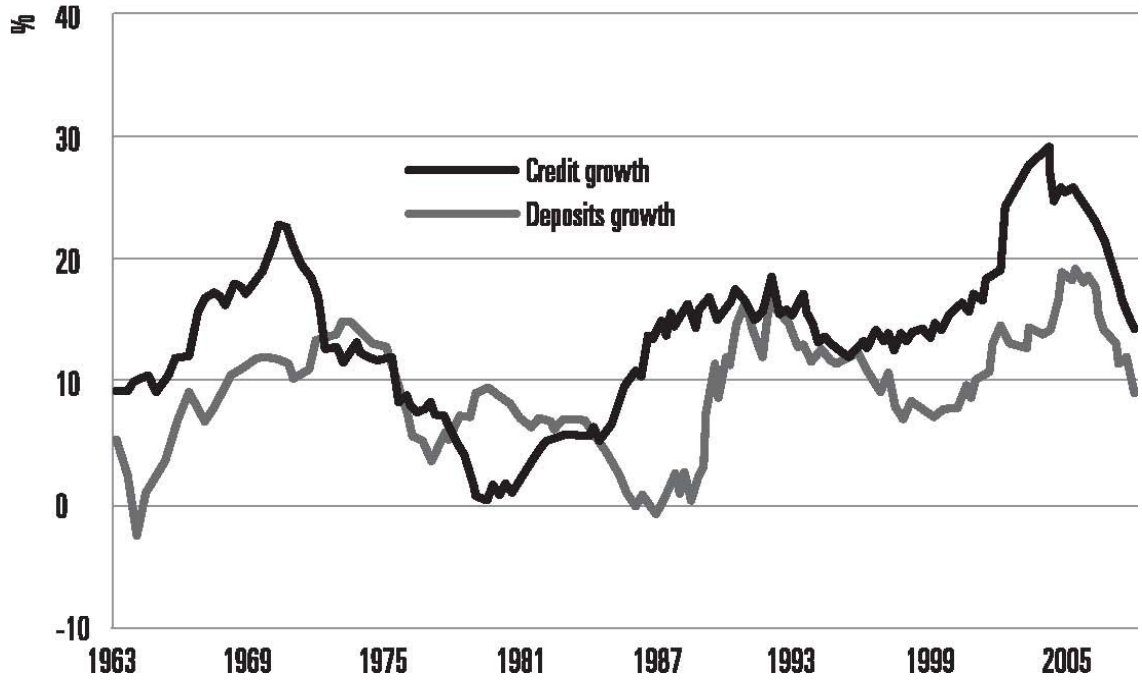

Chart 2: Growth in deposits and credit by Spanish financial institutions

The regulation of securitised assets was quite conservative, although increasingly flexible. covered bonds (CBs) were regulated for the first time in 1981, and for many years were the only securitisation mechanism available, which implied that traditional securitisation remained in banks' balance sheets. In 1992 mortgage securitisation funds were created, with the possibility of issuing mortgage-backed securities, part of which could be held off-balance sheet. In 1998 asset securitisation funds were allowed to issue paper backed by other assets, not only mortgages. In the early years of this decade there was an incipient trend to issue off-balance sheet securitised paper, but only until 2004. The new accounting regulation adopted then by the Bank of Spain,3 in anticipation of International Financial Reporting Standards (IFRS), established that

financial institutions that retain a significant exposure – defined in quite strict terms – to these asset-backed securities would be treated from a consolidated viewpoint by the supervisor. This approach reduced drastically the incentives for off-balance sheet securitisation. The new mortgage law adopted in December 2007 allowed for more flexibility in the securitisation process, but at the same time increased the requirements for over-collateralisation.

As a result of this approach, there were no incentives to disintermediate in order to reduce capital requirements and any other kind of regulatory arbitrage. In fact, off-balance sheet securitisation in strict terms only accounts for about 6–7% of total securitisation in Spain. Securitisation took the form of plain vanilla instruments. Management remained in the hands of originators (which provide credit enhancements and typically keep the lower quality tranches) and the Bank of Spain focused on consolidated accounts. Most of the securities issued were purchased by non-residents, in particular other euro-area institutions. It is important to note that this approach to a certain extent anticipated the impact of the new IFRS and Basel II, whose combined effect will reinforce consolidated supervision.

Dynamic provisioning

As explained above, the rationale for dynamic provisioning is related to the statistical probability of losses attached to any credit portfolio, and is therefore incurred at the time the loan is granted although it may (or may not) materialise later. Probably the closest analogue are the mathematical reserves put aside by insurance companies.

The statistical provision was approved by the Bank of Spain in December 1999, and came into effect in July 2000. It was in addition to the two previously existing provisions (general and specific). Banks assets were classified according to risk categories, either according to a standard method (whose parameters ranked from 0% for public sector debt to 1.5% for credit-card lending or current-account overdrafts) or through internal methods, subject to supervisory evaluation. The statistical provision was charged quarterly, based on the difference between a calculation of latent exposure (depending on the credit stock) and the specific provisions. This implied that statistical provisions for a given period could be positive or negative, depending on credit growth (with a positive coefficient) and contemporary bad loans (with a negative coefficient). When statistical provisions accumulate they generate a fund, defined as a ratio of total loans. The fund has an upper and lower limit.

To understand this change it is interesting to compare how the old and the new systems operate. Under the old system, annual total provisions were the sum of general and specific provisions, which were calculated as a proportion of credit growth and bad loans, respectively.

Under the new system, the statistical provision is added, depending on a latent risk measure, defined as a function of the credit stock. The statistical provision would be the difference between the latent risk and the specific provision. If positive, more resources are accumulated in the fund. If negative, the fund is reduced. The limits of the fund vary between zero and three times the latent risk.4

The expected effect of the statistical provision was to smooth provisions along the cycle. Under the old system provisions were strongly pro-cyclical, implying that provisioning efforts were higher at the recessions (for example in 1992–93, at the time of the ERM crisis). The anti-cyclical behaviour of the statistical provision was expected to counterbalance this effect and to result in a more evenly distributed provisioning effort along the cycle.

At the time of its introduction, most of the Spanish financial industry criticised the statistical provision on the grounds that it implied a competitive disadvantage vis-à-vis similar institutions in the single European market.

After the introduction of the statistical provision, the upswing of the economic cycle turned out to be much stronger and longer than anticipated. This, together with an initial design of the limits of the fund that was based on very rough estimates (due to the lack of experience with this instrument) led to a rapid increase in the statistical provisions fund, whereas specific provisions were kept to a minimum, in an environment of historically low non-performing loans.

In 2004 it became evident that the accumulation of statistical provisions was probably excessive. At the same time, the Bank of Spain was being increasingly criticised in international accounting fora for applying a mechanism that appeared to favour profit smoothing, which was considered contrary to the “fair value” principles and International Accounting Standards. To correct this excessive accumulation and to counter the criticisms of accountants, a new accounting regulation was adopted in 2004, which merged the statistical and the general provisions. The new system retained most features of the old one:

- The new generial provisions depended on both the stock of loans and new loan production, with parameters alpha and beta, respectively, that increased with the riskiness of the assets;

- In the calculation of the new general provision there is compensation with the specific provisions, in a similar way as in the previous statistical provision. This implies that, in the upturn, specific provisions may be lower due to low non-performing loans and generic provisions may increase due to credit growth.

A new limit was established for the general provision, between 33% and 125% of the alpha, which is the coefficient applied to the credit increase to calculate the generic provision., according to the formula: Generic provisions = (new loan production x alpha) + (stock of loans x beta) – specific provisions

Since most institutions were already at the new upper limit at the time of the application of this new regulation in mid-2005, this resulted in liberation of part of the accumulated fund. The excess funds, however, were not distributed to shareholders but went to banks' own resources (reserves). For comparison of the amount of the dynamic provisions, it is therefore necessary to adjust for this accounting change.

How did dynamic provisioning work compared to expectations?

As can be seen in Chart 3, the ratio of provisions to credit decreased slightly from 1999 to 2001, increased from 2001 to 2004 and showed a declining trend thereafter, with a pattern similar to that of GDP, but much smoother. This would indicate that the Spanish dynamic provisioning system does not eliminate pro-cyclicality but reduces it to a considerable extent. The incipient increase of the provisions to credit ratio since September 2007 seems to confirm this pattern.

In any event, it is important to keep in mind that the upward cycle was exceptional in length. The first downturn since the introduction of dynamic provisioning is starting in autumn 2008 with a rapid increase in bad loans – albeit from an extremely low level – and a sharp reduction in credit growth. These trends – very closely related to the bust of the housing bubble – imply that specific provisions are increasing, which – together with a lower credit growth – would, in principle, reduce general provisions and, thereby, the accumulated fund.

The fact that most institutions are at the upper 1.25% limit implies that there is ample

room for a reduction in case of need. But these limits are inherently asymmetric, in the sense that institutions are in principle free to provision above them. They may be inclined to follow this strategy for reasons of caution, although what is more appropriate for a given institution is not necessarily good from a systemic point of view. The rationale of the system suggests that if the downturn is severe enough, institutions should allow its automatic anticyclical features to operate.

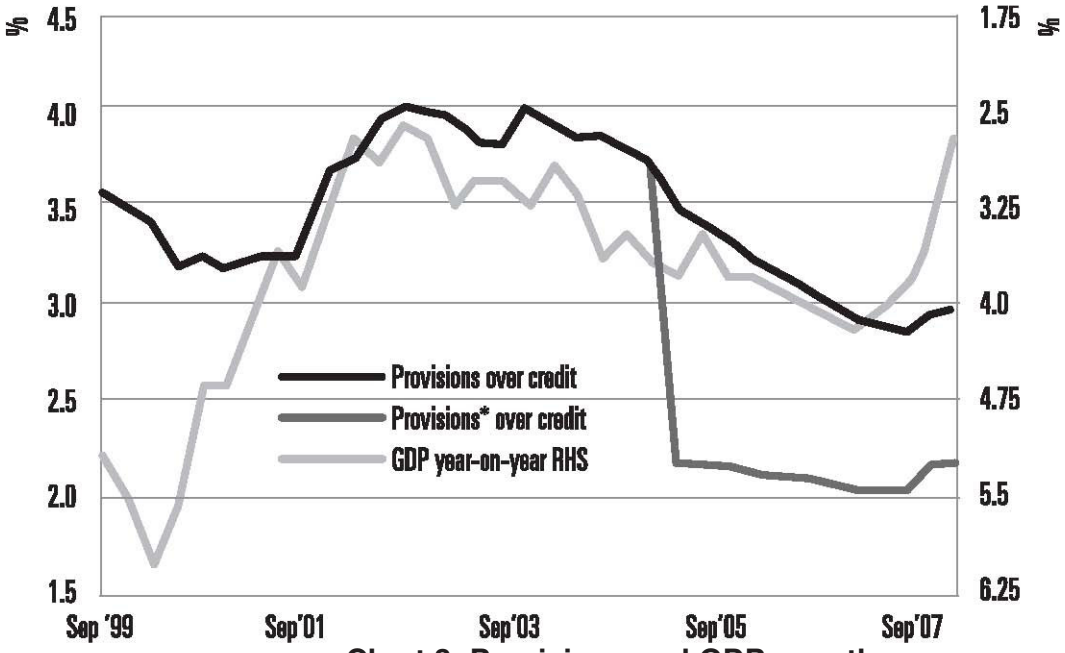

Chart 3: Provisions and GDP growth

Provisions* are corrected for the impact of the new accounting regulation in 2004. GDP growth has an inverted scale

Conclusions

Bank lending is strongly pro-cyclical in Spain, as it is in many other countries. In a context of strong competitive pressures and sharp asset-price swings, there is a tendency for loose bank credit conditions in an upturn in view of the low level of contemporaneous non-performing loans. This may contribute to the build-up of financial imbalances in the non-financial sector.

Bank regulation in Spain has tried to account for the strong pro-cyclicality in banking lending by ensuring adequate capitalisation of banks and introducing dynamic provisioning in addition to traditional provisions.

Dynamic provisioning, in turn, aims at covering expected losses since it is an increasing function of portfolio risk and it is inversely related to the specific loan loss provision. When the later decreases the statistical provision increases, building up a statistical fund. From a theoretical point of view, the new provision could also be seen as a device that corrects the effects of certain inefficiencies that arise in the banking sector as a result of disaster myopia, herd behaviour, asymmetric information and short-term concerns of bank managers. In fact, the introduction of the statistical provision was expected to improve bank managers' awareness of credit risk, leading to a proper recording and recognition of ex ante credit risk, reducing the pro-cyclical behaviour of loan loss provisions.

The Spanish experience in this period shows that dynamic provisioning probably had a minor impact on credit growth. In fact, credit continued to grow very fast in the late 1990s and early 2000s. Although it is hard to tell how fast it would have grown without dynamic provisioning, it seems that credit demand and supply sensitivity to the additional cost of dynamic provisions was low. What is clear is that such regulation allowed to build a buffer that was very useful at the time of the cyclical worsening.

The Spanish dynamic-provisioning system reduced but did not eliminate the pro-cyclicality of provisions. The way the statistical fund was defined and the extraordinary length of the business cycle implied that most institutions reached the maximum level relatively early. An interesting question is how the dynamic provisioning system will work in the current downturn, when bad loans are starting to grow rapidly and credit growth is sharply decelerating.

Given the risks of excessive pro-cyclicality in the banking system and Spain's positive

experience so far with dynamic provisioning, the question probably is why this regulation has not been applied more widely.

A crucial factor in the success of any system would be the reliability of banks' estimates of longer term expected losses, which has not yet been systematically tested. Banks' experience in preparing for the introduction of the new Basel accord may provide the authorities with evidence on the accuracy of banks' expected loss estimates and how these might translate into a dynamic expected-loss provisioning system.

One possible explanation why dynamic provisioning has not been introduced more widely is the difficulty in determining long-run expected losses for different loans/portfolios. In that vein, there is a difficulty with the sheer amount of data needed to have a good estimate one full business cycle so as to estimate the parameters of the model. The Bank of Spain has obviously benefited from an early introduction of a credit register.

The other problem that regulators face in the introduction of dynamic provisioning is how to make it compatible with IFRS. In this regard, the Bank of Spain had the advantage vis-à-vis other regulators of being the accounting standard setter for banks. It should be clarified in any case that dynamic provisioning does not aim at profit smoothing, opposed by IFRS. On the contrary, genuine volatility in a bank's business (related to the cyclicality of risk) would continue to be recorded for many reasons, starting with the fact that procyclicality is not fully eliminated.

Finally, the perceived disadvantage for local financial institutions in a global market, at least as profitability during boom periods is concerned, is another drawback. The latter would obviously disappear if dynamic provisioning would be introduced in a concerted way, as has happened with other regulatory tools.

Notes

1/ For more details of these different schools of thought see Fernandez de Lis, Martinez Pagés and Saurina (2000) and Jiminez and Saurina (2005).

2/ The Bank of Spain requires more capital for mortgages above 80% loan to value ratio.

3/ The Bank of Spain is the accounting setter for Spanish banks, which is quite exceptional for a central bank.

4/ Banks may provision above the limits, but the excess is not tax-deductible.

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