

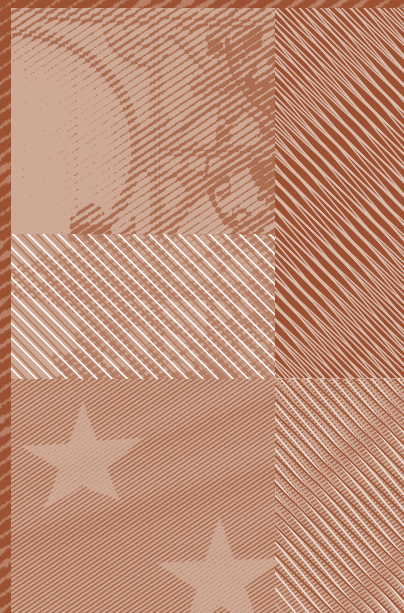
**MONETARY POLICY,  
FINANCIAL STABILITY  
AND ASSET PRICES**

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**MONETARY POLICY, FINANCIAL STABILITY AND ASSET PRICES**

## MONETARY POLICY, FINANCIAL STABILITY AND ASSET PRICES

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BANCO DE ESPAÑA

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## **Abstract**

This paper offers some thoughts on the relationship between asset price developments, the conduct of monetary policy and the role of financial regulation, in a low inflation environment. It also reviews some recent episodes of financial stress and the experience of asset inflation in the Spanish housing market. A number of policy lessons are drawn with special attention to the European Monetary Union.

## 1 Introduction

This paper offers some thoughts on the interrelationship between asset price developments, monetary policy and prudential policy. This is a particularly interesting issue at the current juncture: macroeconomic stability has been achieved in most areas of the world while several countries are experiencing asset price inflation.

Monetary stability – understood as a stable and reduced rate of inflation – is a prerequisite for financial stability. Very often, monetary instability and poor macroeconomic performance have been at the root of episodes of financial instability. Excessive credit expansion, generous liquidity provided by the central bank and a relaxation of lending standards traditionally led to a build-up of financial imbalances in the form of over-investment and asset price misalignments, which in some cases were followed by a financial crisis.

The achievement of relatively low and stable rates of inflation worldwide in recent years has not, however, been accompanied by the disappearance of financial instability episodes. Recurrent cases of financial stress have been witnessed both in industrialised countries and in emerging market economies over the last few years despite the prevailing low inflation environment. Increasing credibility in the anti-inflationary objectives of independent monetary authorities, heightened competition in the financial sector and a higher degree of market flexibility have all yielded great benefits in terms of better economic performance and a reduction in the volatility of output, along with heightened efficiency in the financial sector. Yet they have not completely eliminated the risks of volatile and ample financial cycles. It is probably neither feasible nor desirable to eliminate completely such risks; in this sense, whereas monetary stability is a well-defined objective that can be achieved and maintained over time, the objective of financial stability is inherently more elusive, not only in its precise definition, but also in the sense that policymakers can make progress towards it, but never “reach it” in the same sense as, for instance, price stability<sup>1</sup>.

Moreover, an environment of monetary stability may be conducive to certain types of imbalances in financial markets. In particular, greater stability in the monetary and economic spheres may increase the willingness of investors to take up risk. Moreover, in a context of low inflation and a sound anti-inflationary reputation of central banks, the degree of optimism may increase far beyond what would be justified by the improvement in economic fundamentals, thus inducing excessive risk exposure and asset price growth. In this situation, the risks of sharp asset price variations leading to episodes of financial distress may be very sizable<sup>2</sup>. Possibly, then, an otherwise favourable environment of price stability, credible monetary authorities and low financing costs might sometimes trigger insufficient risk monitoring and a weakening of market discipline. This poses new challenges for policymakers which are worth exploring in some detail.

This paper is structured as follows. After this short introduction, Section 2 reviews some recent experiences of financial distress, despite favourable macro contexts in terms of robust growth and contained inflation. Some policy lessons are drawn from these experiences. In Section 3 the paper considers the role of regulatory policy in relation to risks

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1. See Borio, C. (2005), “The search for the elusive twin goals of monetary and financial stability”, presented at the 2005 DG ECFIN Annual Research Conference, Brussels.

2. See “Cycles and the financial system”, 71st Annual report, Chapter VII, BIS, pages 123-141.

that asset price developments may pose to financial stability. In Section 4 the analysis is applied to monetary policy, especially in the context of the European Monetary Union. Section 5 illustrates the particularities of the relationship between monetary policy and real asset prices in that context by describing the Spanish housing boom. Section 6 summarises the conclusions of the paper.

## 2 Recent episodes of financial stress in favourable macroeconomic environments

Recent examples of episodes of financial stress are abundant among both industrialised countries and emerging market economies. Some of these episodes involved systemic risks and the consequences of the financial stress, or crisis where applicable, frequently went beyond domestic boundaries. In most of these cases a boom and bust cycle in the prices of financial assets and/or real estate accompanied the mounting of imbalances and their (often disorderly) correction. It is beyond the scope of this paper to offer a comprehensive review of recent episodes of financial stability in the global economy. But it is useful, as a starting point, to provide a few examples of cases where financial instability arose in a relatively benign economic setting.

A very characteristic episode of financial stress in a favourable macro context took place after the Russian debt default in August 1998 and the subsequent collapse of the hedge fund Long Term Capital Management (LTCM)<sup>3</sup>. As a result of these shocks, credit and liquidity risk spreads widened sharply, stock prices fell and standards of credit were tightened for a very wide category of assets. The Federal Reserve reacted by lowering official interest rates by a total of 75 basis points in three moves. This reaction was mainly due to changes in economic prospects, which also reflected concerns about financial instability and associated downside risks.

Another well-known episode of financial stress in a positive macroeconomic context was the equity boom and bust in the IT sector in the late 90s and early 2000s. From 1995 onwards, IT innovation made for a fundamental change in the production process, enhanced competitiveness in product markets and promoted a sizeable increase in labour productivity growth. In such a favourable macroeconomic environment – characterised by robust growth and subdued inflationary pressures – upward revisions of profit expectations led to substantial equity price increases. In 2000, standard valuation measures for equities had reached levels well above historical figures and signs of overvaluation were evident. Afterwards, when the bubble burst, the telecom sector saw a dramatic reduction in financing both in equity and in credit markets.

Large established telecom firms survived the equity collapse, which among other things meant the sudden disappearance of what had been their main source of financing, whereas some new entrants either went bankrupt or sold assets and refinanced their debt. The bursting of the telecom bubble had serious consequences not only for equity markets but also for other parts of the financial system (a tightening of credit markets, a greater appetite for public bonds, etc.). This experience was not confined to the US markets. Indeed, some prominent European and Japanese companies joined the list of those that had to adjust (or simply wind up) their activity. Moreover, at the time of the bust, some of the equity markets devoted to financing technological companies which had been set up during the boom either closed or saw their business volume decline significantly.

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3. See BIS Papers, No. 18, *Monetary stability, financial stability and the business cycle: five views*, September 2003, with contributions from Andrew Crockett, Roger Ferguson Jr, Otmar Issing, Michael Mussa and Yutaka Yamaguchi. See also Committee on the Global Financial System (CGFS) (1999), *A Review of Financial Market Events in Autumn 1998*, CGFS Publications, No. 12, October, BIS.



The Federal Reserve did not respond directly to changes in stock prices, but focused rather on the outlook for output and growth and the risks to that outlook. Official interest rates, which were lowered at the time of the LTCM collapse, increased again from 4.75% in November 1998 to 6.50% in May 2000, as a move to moderate increases in demand that could entail inflationary pressures by exceeding the growth in potential supply. Interest rates were kept at 6.50% for the rest of 2000 while they were significantly cut in the course of 2001 after the IT bubble burst and, especially, after the terrorist attacks of September 11.

Interestingly, the financial sector showed a high degree of resilience at all times despite the severity of the shocks (LTCM, equity bubble, terrorist attacks, etc.) and the initial alarm among markets and policymakers. In particular, in the case of the US, the flexibility of the economy allowed for a relatively rapid recovery in activity which made for readier resolution of the financial stress. However, this was not the case in other episodes where the financial stress also included real estate. For instance, in the late 80s the decline in commercial real estate prices had been pinpointed as one of the factors underpinning the 1990 US economic recession and its relatively slow recovery, since it had weakened the capital positions of banks and the balance sheets of corporate borrowers<sup>4</sup>.

Another prominent example of financial imbalances under a low and stable rate of inflation in highly industrialised countries is that of the bursting of the twin bubbles (in the equity and real estate markets) in Japan in the 90s, after record economic growth in previous decades (above 6% in 1961-1990, by far the highest among OECD countries). These bubbles were predominantly bank-financed and have had significant and long-lasting economic and financial consequences. Most credits were secured by real estate collateral. When first the equity and then the real estate bubbles burst, the banking system posted substantial losses on its balance sheet and its capital position deteriorated sharply. Subsequent developments in the Japanese economy have been strongly influenced by asset price deflation, slow economic growth and a need to restore soundness to the position of the banking system.

The Bank of Japan's reaction was relatively slow, both in terms of policy tightening when the bubbles built up and in terms of policy easing after the bubbles burst. When a significant monetary policy stimulus was implemented, in the form of a reduction in official interest rates to levels below 1% from mid-1995 onwards in what was already a deflationary context, the effectiveness of this policy was limited since the transmission channel of monetary policy had already been seriously undermined. Growth in the monetary base was absorbed by a reduction in the money multiplier due to the reluctance of banks to increase their already high exposure to debtors whose overall solvency was unclear, so that money growth was relatively insensitive to the monetary stimulus.

In emerging market economies the list of financial stress cases with systemic implications for the countries involved – or with some contagion effects – was particularly long in the 90s. For the purpose of this article I will concentrate on the Asian crisis, since it is the clearest example of a relatively unexpected event in countries whose macroeconomic performance was seen as sound until the inception of the crisis<sup>5</sup>. This episode is particularly

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4. See, for instance, Bernanke, B. S. and C. S. Lown (1991), "The Credit Crunch", *Brookings Papers on Economic Activity*, 2, pages 205-239.

5. See Roubini, N., G. Corsetti and P. Presenti (1998), *What caused the Asian currency and financial crisis?*, Banca d'Italia Papers 343. See also Alba, P., A. Bhattacharya, S. Claessens, S. Ghosh and L. Hernández (1998), "Volatility and Contagion in a Financially-Integrated World: Lessons from East Asia's Recent Experience", presented at the PAFTAD 24 Conference, *Asia Pacific Financial Liberalization and Reform*, May.

relevant for the purposes of this article because it was of systemic significance and highlights the relevance of adequate prudential and regulatory policies.

East Asia had become the biggest destination for private capital flows in the 90s. Net capital inflows increased from an annual average of 1% of the region's GDP in 1985-1988 to 6.2% in 1993-1996, and capital flows accounted for 43% of total flows to emerging market economies. These portfolio inflows triggered a substantial decline in spreads for non-sovereign borrowers in East Asian countries, so that in early 1997 they were at levels close to those of US corporates. These inflows and the boom in investment relied on improvements in the fundamentals of these economies as a result of structural reforms and a solid fiscal stance, against the background of stable exchange rates vis-à-vis the US dollar and the integration of Asian countries into world capital markets.

The increase in capital inflows provided additional liquidity to the financial sector so that an expansion in credit followed, adding to asset price increases. A tight monetary stance aimed at maintaining low inflation and the markets' perception of a commitment by the authorities to exchange rate stability vis-à-vis the dollar (which at the time was very strong) supported increasing capital inflows accompanied by real exchange rate appreciations. However, this policy mix led to deterioration in the financial position of the corporate sector, which had to confront high interest rates. Moreover, the pattern of financing of these investments relied heavily on short-term debt instruments which made these countries vulnerable to a change in market confidence and to a reversal of capital flows.

The robust economic performance of the region and the prudence of the fiscal and monetary stance did not prevent the build-up of imbalances and vulnerabilities in the economy. A lending boom, increasing exposure to risks by the banking sector and maturity and currency mismatches of corporates and banks sowed the seeds of the financial crisis. Short-term foreign liabilities had increased at a particularly fast pace, outpacing the level of foreign reserves. And when markets proved reluctant to roll over debts, the crisis exploded with contagion effects in the region. The lack of reliable data on the exposure of firms to foreign capital flows aggravated both the identification and resolution of the crisis.

One important conclusion of the Asian crisis was related to the need for a clear exchange rate regime and the potential misperception of risks as a result of an implicit exchange-rate guarantee by the Government, compounded by a lack of transparency in net foreign exchange reserves data. There is considerable consensus around the idea that the general drift towards floating and the enhanced transparency of foreign exchange positions after the Asian crisis is one of the main areas of recent progress in the reform of the International Financial Architecture<sup>6</sup>.

From the prudential policy point of view, there were also some important conclusions to draw. These conclusions may be relevant not only for Asia but in emerging markets more generally. Schematically, they can be summarised in the following bullet points<sup>7</sup>.

Credit risk was not properly assessed. It appears that some banks assumed that their exposure to private borrowers would be protected by an implicit host government

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6. See Fischer, S. (2002), *Financial crises and the reform of the international financial system*, Working Paper 9297, NBER, October.

7. BASEL COMMITTEE ON BANKING SUPERVISION (1999), *Supervisory lessons to be drawn from the Asian crises*, Working Paper No. 2, June.

guarantee. This assumption may have induced them to take on larger exposures at lower spreads than warranted by normal credit standards.

Market and liquidity risks were also underestimated. As the crisis unfolded, the extraordinary volatility of exchange rates and other asset prices and the speed with which apparently reasonably mature markets can become illiquid, surprised many market participants. Also, the interrelationship between different types of risk in times of crisis and the self-reinforcing tendencies towards risk aversion and illiquidity were important lessons learned, as was the speed and extent of contagion.

From a prudential policy point of view, these experiences point to: the importance of better risk management with a significant macro component; the need to place greater emphasis on stress testing and scenario analysis; the need for a revision of the capital framework to make it more risk-sensitive; clear and conservative accounting and loan valuation rules, as a precondition for adequate credit assessment; better corporate governance and, finally, the need not to forget the basics represented by the core principles in banking supervision.

### 3 Asset prices and financial stability: the role of financial regulation

#### 3.1 Prevention is preferred to resolution

This brief review of a few recent episodes of financial instability shows that, however important it may be, a good macroeconomic performance is not a full antidote for financial crises. When economic booms are accompanied by unbalanced developments in the credit markets and by rising asset prices, there is a risk that the latter may far exceed a level justified by economic fundamentals, triggering a correction and, on some occasions, a financial crisis, with associated costs for the real economy. Even without financial crises, asset price developments may affect the context in which the economy operates. Therefore, monetary policy should incorporate the potential impact of these developments on expectations and on the economy in order to secure macro stability. Appropriate prudential and regulatory policies can also contribute to financial stability, not only by minimising failures of systemic financial institutions, but also by mitigating the build-up of financial imbalances and reducing the probability of extreme adverse shocks. Macro management – the pursuit of fiscal prudence and price stability –, prudential policies and appropriate risk management should thus be considered as complementary and mutually reinforcing<sup>8</sup>.

In consequence, regulation aimed at enhancing the resilience, the level playing field and the efficiency of the financial system becomes one of the important lines of defence to cope with situations leading to financial distress.

There are ingredients of any prudential framework that can improve its contribution to financial stability. Let me briefly describe some of the most important ones.

The first feature should be risk sensitiveness. In my view, nothing threatens financial stability more than “risk blindness” or “myopia” and poor management. Under a more risk-sensitive framework, banks should be expected to better understand and differentiate risks, identify imbalances and therefore account for the true risks of their lending or investment policies, and this could be conducive to a more watchful and efficient allocation of credit.

The second feature is the adoption of an incentive-based approach. Policies should provide incentives for good risk management on the part of financial institutions. Reinforcing market incentives for a better understanding and measurement of risks will contribute to sounder financial systems. To the extent that risk assessments become more rigorous and formalised, decisions will be sounder and policies including pricing will become better risk-adjusted. This will also contribute to the prompt detection of errors or deviations from objectives, allowing banks to implement corrective measures at an early stage. Increased awareness of risks and early reaction are likely to lead to a smoother adjustment of lending policies to new conditions, making decisions less abrupt and time-lags shorter.

The third element is the build-up of shock absorbers that are risk-sensitive but that at the same time incorporate some offsetting factors that mitigate the natural procyclicality of the financial system. The design of countercyclical elements in the prudential framework and the inclusion of incentives to encourage banks to take more account of uncertainty over the

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8. See Ferguson, R. W. (2005), *Recessions and recoveries associated with asset-price movements – what do we know?*, remarks at the Stanford Institute for Economic Policy Research, Stanford, California, 12 January.

full economic cycle are avenues that improve the toolkit policymakers have at their disposal to deal with this type of situation. We will come back to this element when discussing risks through the cycle in the next point.

Financial regulation exhibits an anticipatory character consistent with a framework in which the objectives are set and pursued with a medium-term perspective. In this vein, some similarities (forward-looking nature, medium-term objectives, discretionary adjustment of policies, etc.) between the modern strategies for monetary and regulatory policies are interesting to note. Perhaps there are lessons for the financial stability sphere from the experience gained in the monetary stability area.

The fourth component of a prudential framework that could foster greater financial stability is enhanced transparency. A significant amount of research has underlined that information asymmetries between lenders and borrowers in financial markets can explain much of their inherent instability. Higher transparency about the risk profile and the way risks are managed could alleviate such asymmetries, thus reducing the likelihood of an episode of profound disintermediation, and it could also facilitate market access conditions.

Finally, let me address one of the most important ingredients of a prudential framework, that encompasses some of the previous elements: the macro perspective. There has been increasing consensus in recent years around the idea that the traditional micro dimension of financial stability – which focuses on promoting sound individual institutions – needs to be reinforced by a macroeconomic dimension<sup>9</sup>. The latter incorporates the goal of minimising the output costs arising from financial distress. The need for a macro-prudential perspective becomes more compelling insofar as the aggregation of individual decisions results in sub-optimal collective outcomes. Specifically, it may be the case that the incentives for the private sector to incorporate the aggregation of individual outcomes into its decision-making process are not sufficiently appealing. Thus, what is optimal from a single agent's perspective may result in unwanted or even catastrophic consequences from a systemic point of view. For instance, under certain conditions markets might be tempted to respond only to short-term developments in asset or real estate prices, without considering their sustainability over longer time spans.

This macro-prudential approach may require a degree of co-ordination among authorities involved in financial stability. This is particularly relevant in cases where the supervisory oversight of individual financial institutions and the responsibility for overall financial stability are assigned to different authorities, especially as concerns the grey area between solvency and liquidity problems. Besides, monetary and fiscal authorities also play a role in the prevention and resolution of financial crises<sup>10</sup>. As a result, a common assessment and a certain degree of co-ordination of action of the different authorities are warranted. The supranational character of some instances of financial stress also calls for some kind of interaction between domestic and foreign authorities.

Indeed, this macro perspective is an important ingredient for a proper measurement and adequate management of risks, which have become central to the diagnosis of situations

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<sup>9</sup>. See Crockett, A. (2000), "Marrying the micro- and macro-prudential dimensions of financial stability". Speech before the *Eleventh International conference of Banking Supervisors*, Basel, September.

<sup>10</sup>. For an evaluation of the effects of the choice of central bank objectives and monetary policy strategy on the occurrence of banking crises, see García Herrero A. and P. del Río (2003), *Financial Stability and the Design of Monetary Policy*, Working Paper No. 0315, Banco de España.

in which bubbles are building up, as well as to the design of preventive measures. Risk management decisions should consider different economic scenarios and should be taken with an appropriate time horizon that allows at least a full cycle to be considered. How to incorporate into the framework the way risk-drivers change through the cycle and in downturn conditions merits some reflection.

### **3.2 Risks originate in the boom phase of the cycle though they materialise in the bust**

The forces that drive financial and economic upswings may contain the seeds of future downturns as financial imbalances build up, especially if the economic expansion is accompanied by rapid credit growth and overly generous gains in asset and real estate prices. Afterwards, the likelihood of an abrupt change in the financial and real economy cycles is exacerbated when such imbalances unwind.

This procyclical behaviour of financial variables becomes particularly acute if risks are misperceived as being too low in the expansionary phase of the economy and too high in recessions. The difficulty of forecasting economic variables and the (short) time horizon in which risk parameters are usually estimated are conducive to measures of risk being excessively short-sighted and conditional upon the current state of the economy, and thus they do not reflect to a sufficient extent the average of longer-term values and cyclical regularities. An obvious example here is when credit risk is only acknowledged when loans are unpaid, and not at the time loans are granted. Consequently, the procyclicality of the financial sector is exacerbated and passed through into the real sector via generous financing of expenditure in good times and financing restrictions (even for profitable projects) in bad times.

Prudential policy may mitigate the procyclical nature of the financial cycle and help manage the boom and bust phases of asset price cycles by reinforcing the ingredients mentioned in the previous point<sup>11</sup>. Better risk management that is forward-looking and therefore aware of how risk-drivers change through the cycle and in stressed conditions will tend to build shock absorbers to be used when difficult times arrive. The authorities can encourage this build-up of buffers in times of plenty that can be disposed of in lean times. This could be done by encouraging policies that take into account stress tests that incorporate cyclical and downturn conditions and by expressing clearly authorities' expectations. There are at least two examples of frameworks where these elements have been taken into account: Basel II<sup>12</sup> and those countries where some kind of dynamic or forward-looking provisioning has been adopted.

Basel II has as its fundamental objective to strengthen the soundness and stability of the international banking system by promoting the adoption of stronger risk management practices<sup>13</sup>. The new capital framework is a significant step towards a more comprehensive and risk-sensitive supervisory approach. Basel II is about much more than new sophisticated quantitative minimum capital requirements. Fundamentally, the framework is about establishing an incentive-based approach to risk management and capital adequacy. This is achieved through three mutually reinforcing pillars.

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<sup>11</sup>. See Borio, C., C. Furfine and P. Lowe (2001), *Procyclicality of the financial system and financial stability: issues and policy options*, Papers No. 1, BIS.

<sup>12</sup>. For a survey on these issues, see González Mota, E. (2005), "Prociiclicidad, volatilidad financiera y Basilea II", *Estabilidad Financiera*, No. 8, May, Banco de España.

<sup>13</sup>. See *Basel Committee on Banking Supervision*, May 2004.

Transparency, the third pillar, is key in this regard, since it favours the addition of market discipline to the benefits of prudential regulation and it enhances self-induced adjustment of market prices, which contribute to the right measurement of risks. When regulation is aimed at reinforcing market incentives, compliance with the regulatory framework becomes a natural outcome for well-managed institutions and regulation becomes binding mainly for poorly managed institutions.

Dynamic provisioning is another example of a framework which encourages provisions to be built up in good times to be used in bad times. An example of a country applying a regulatory framework in line with dynamic provisioning is Spain, where we have tried to enhance consistency across accounting, prudential supervision and sound risk management practices. Since 2000, Spanish banks have set aside – against the profit and loss account – provisions intended to cover the inherent risk that is latent on the different homogeneous risk portfolios<sup>14</sup>. The creation in 2000 of this new insolvency provision, called the statistical provision, recognised that risks are latent in portfolios well before the credit is impaired<sup>15</sup>.

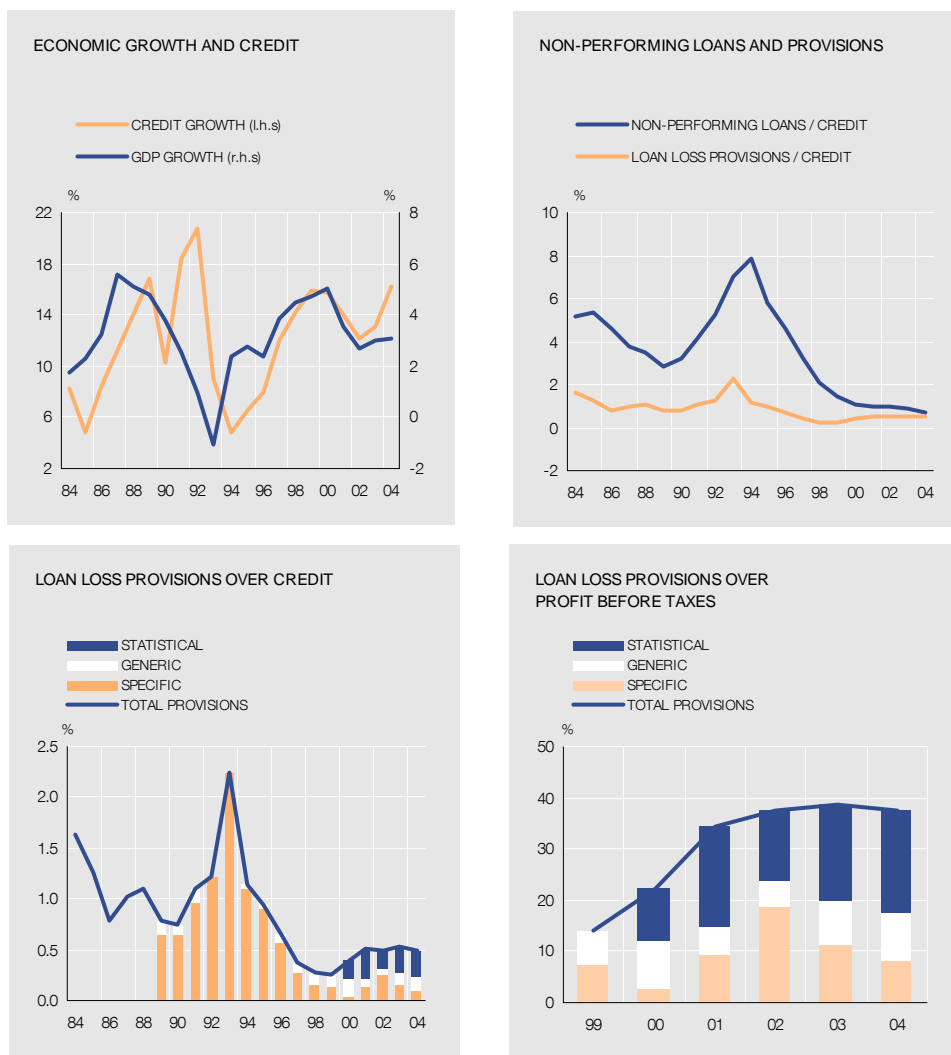
More recently, the Spanish statistical provision has been reformed in order to accommodate the introduction of IFRS (International Financial Reporting Standards). Even though IFRS are based on an incurred losses model, there is still room for some form of a forward-looking approach to loan loss provisions, compatible with good risk management, but it is not automatic and nor is it encouraged by the IFRS approach. It therefore requires sound judgment on the part of banks and a more active participation of the supervisor to ensure that the bank has a prudent and reliable provisioning system. As the “Sound Credit Risk Assessment and Valuation for Loans” recently published by the BCBS clearly states, the bank’s board of directors and senior management are responsible for ensuring that the bank has appropriate credit risk assessment processes and effective internal controls to consistently determine provisions for loan losses in accordance with its stated policies and procedures, the applicable accounting framework and supervisory guidance commensurate with the size, nature and complexity of its lending operations. These processes should promote early recognition and ensure that the amount of both individual and collectively assessed loan provisions are adequate to absorb estimated credit losses in the loan portfolio.

The statistical provision has been a very effective instrument that has fostered sounder risk practices and allowed Spanish financial institutions to be much better prepared to face adverse events. Although the counterfactual analysis on what would have happened in the absence of this provision is very difficult to make, it is interesting to note that this measure – despite the fact that it absorbed near 20% of banking institutions’ pre-tax profits in the period 2002-2004 – did not prevent credit from continuing to grow at very high rates during the early 2000s (see Chart 1). This provision was a prudential tool designed to be consistent with sound risk management practices, and not intended directly to curtail credit growth. Its apparently small impact highlights the difficulty in implementing policies that counteract a buoyant credit market, a conclusion that may be relevant for other areas. I will come back to this issue later when dealing with monetary policy.

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**14.** A description of the new general loan loss provision in Spain can be found in Box III.1 of *Financial Stability Report*, Banco de España, May 2005. An evaluation of the impact of the former statistical provision on Spanish banks’ solvency and resilience appears in the same Report, pages 72-75. A more in-depth study of credit cycles and prudential devices is in Jiménez, G. and J. Saurina, *Credit cycles, credit risk and prudential regulation*, Working Paper No. 0531, Banco de España.

**15.** See Fernández de Lis, S., J. Martínez Pagés and J. Saurina (2001), *Credit Growth, Problem Loans and Credit Risk Provisioning in Spain*, BIS Papers, No. 1, Basel, March.



SOURCES: Instituto Nacional de Estadística and Banco de España.

Procyclicality has been an important issue in the discussions surrounding Basel II. Some commentators have warned that Basel II, by tying minimum capital holdings more closely to debtors' creditworthiness, may exacerbate the cyclical pattern in credit aggregates<sup>16</sup>. However, research suggests that the most relevant variable for understanding banks' decisions about the amount of credit to be extended and its price is economic capital, not regulatory capital. Economic capital is already procyclical today. Basel II does not alter the calculation of economic capital; if anything, it can help promote cycle awareness.

<sup>16</sup> See Caruana, J. (2005), "Monetary policy and Basel II", 33<sup>rd</sup> Economics Conference, Vienna, May.



Consequently, Basel II's impact on the amount and price of credit should be moderate and positive because it mainly helps to align regulatory capital rules more closely to banks' actual practices<sup>17</sup>.

Admittedly, a potential fluctuation of pillar 1 minimum capital requirements over the business cycle is to some extent unavoidable, and to some extent desirable, as a result of the higher risk sensitivity implied by Basel II. However, the Basel Committee has included important elements that run in the opposite direction. These mitigating factors can contribute to offsetting procyclical tendencies. As I explained before, to the extent that Basel II encourages banks to be more forward-looking, this could reduce procyclicality by contributing to the prompt detection of errors and deviations from targets, allowing banks to implement corrective measures at an early stage and reduce the probability of sudden changes in investment decisions<sup>18</sup>.

In addition, Basel II contemplates the possibility of building buffers in two ways. First, as a result of some rules developed under pillar 1, e.g. the need to develop rating systems that represent the bank's assessment of the borrower's ability to perform despite adverse economic conditions; and also, in the request to estimate risk parameters as a long-run average (PD) or to reflect downturns (LGD). Second, by adjusting, if deemed appropriate, relevant parameters of prudential regulation within the framework of pillar 2. And finally, by requesting stress tests.

Finally, I tend to think that perhaps too much attention is placed on the minimum capital rules of pillar 1 and too little attention on the effects of higher transparency of risk profiles and better risk management driven by incentives. The long-term influence of better risk management and transparency in terms of better resource allocation, efficiency of the financial system and their contribution to the potential growth of the economy should not be underestimated. It is difficult to conceive that all the investments in technology, human capital, governance structures and advances in risk management encouraged by Basel II will not bring significant improvements to the stability and efficiency of the financial system.

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<sup>17</sup>. See Caruana, J. (2004), "Basel II – a new approach to banking supervision", *Fourth Annual International Seminar on Policy Challenges for the Financial Sector: "Basel II – the International Banking System at the Crossroads"*, Washington DC.

<sup>18</sup>. See Caruana, J. (2005), "Overview of Basel II and its reflections on financial stability", *International Conference on Financial Stability and Implications of Basel II*, Istanbul, May.

#### 4 Asset prices and macroeconomic stability. The role of monetary policy

Changes in asset prices can directly impact the variables targeted by central banks through a number of channels. Rising asset prices increase household wealth, provide more collateral for mortgages and may reduce the need for precautionary saving. As a result, the impact on consumption could be large. Similarly, higher asset prices stimulate firms' expenditure through a better access to financing. Asset inflation can, therefore, result in inflationary pressures. But increases in financial prices may also contribute to the build-up of financial and real imbalances which, even if they do not directly impinge on price stability, might indirectly pose serious risks for macroeconomic stability. Against this backdrop it seems clear that the monitoring of asset prices can hardly be ignored when conducting monetary policy. The main question, however, is how asset price monitoring should be structured within the monetary policy strategy of a central bank.

Before summarising the different points of view on this issue, it is important to recall that during episodes of asset inflation there is usually feedback between the financial and the real sector which leads to credit and investment booms and long periods of economic expansion. The increase in the value of assets may reduce the perception of risk and provides more collateral for the growth of external financing to the private sector. As a result, investment and consumption are encouraged. At the same time, if changes in asset prices are perceived to be of a permanent nature, expenditure is also directly expanded through the traditional wealth effect. While the boom in asset prices holds up, the optimism on future returns sustains this self-reinforcing process.

Although these developments may be driven by fundamentals at first, the interaction of asset and credit markets may generate asset-price misalignments, high private indebtedness, over-investment and ultimately serious financial and real imbalances, which in the event of an unfavourable shock or an asset price reversal could materialise in a severe economic contraction. As mentioned above, the experience of many countries has shown that the disruptive effects of this process can be very important. And, in general, the risks will be more serious the larger the build-up of private debt and the greater the distortions in the allocation of capital during the economic boom.

Returning to the issue of how to integrate asset price monitoring into monetary policy strategy, there seems to be a notable consensus among academics and policymakers that central banks should loosen monetary conditions to counter the recessive and deflationary consequences for the economy of a sudden and sharp contraction of asset prices. However, positions differ more on whether central banks should focus only on the direct effects of asset price changes on their targets or whether they should pursue an early identification of misalignments during the boom phase with a view to taking preventive action beyond what strictly concerns their monetary policy goals. This issue has spurred an intense debate where opposing opinions mainly arise from the different views on whether central banks are actually able to identify departures of asset prices from their fundamental values in a timely fashion<sup>19</sup>.

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<sup>19</sup> For further considerations on the role of asset prices in the conduct of monetary policy in a low inflation environment see Viñals, J. (2000), "Monetary Policy issues in a Low Inflation Environment", in ECB, *Why Price stability*, First ECB Central Banking Conference, November .

One school of thought argues that central bankers should react to changes in asset prices only to the extent that they affect the monetary policy goal<sup>20</sup>. This approach relies on a pessimistic view of whether central banks can detect a departure of asset values from their fundamentals early enough. But even if misalignments could actually be identified in a timely manner, some authors question the ability of central banks to affect the bubble and the advisability of doing so. According to this view any preventive action will be difficult to explain to the public, as it would require a substantial deviation from monetary policy goals. This may entail significant costs in terms of reputation. In addition, lags in the transmission of monetary policy could also lead to unwanted effects. For instance, if the bubble was about to burst, a tighter monetary policy could aggravate the recessionary impulses of the correction in asset prices instead of moderating the effects of the upswing phase.

A second position is that of those who recommend a more flexible framework under which central banks should try to identify and respond to price misalignments in order to improve macroeconomic performance<sup>21</sup>. Under this view, asset prices should not be directly targeted and, more importantly, the reaction of monetary policy should never be mechanical and will always depend on the nature of underlying sources. For instance, if asset prices are driven by changes in fundamentals, such as a productivity shock, a reaction will never be useful. However, if changes cannot be fully explained by fundamentals, a tighter monetary policy during the upswing phase will offset the impact of the bubble on investment and consumption and will contribute to greater macroeconomic stability. Finally, although this view is more confident about the ability of central banks to detect asset-price bubbles early and to reduce their destabilising effects, the authors recognise that some judgment is inevitable.

Both approaches seem to be partly true. Hence, in my view, dealing with asset price developments when making monetary policy decisions merits a pragmatic and flexible approach. In particular, while in normal conditions monetary policy should focus on changes in its target forecasts, there are exceptional occasions on which central banks have enough signals to conclude that significant risks are stemming from developments in asset prices and other financial variables. In these situations monetary policy may have to pay more attention to this other information and to respond directly to it, even if inflation deviates from its objective in the short-term<sup>22</sup>. This third, eclectic view is consistent with the finding, by Borio and Lowe (2004)<sup>23</sup>, that financial imbalances contain useful information about subsequent banking crises, output and inflation beyond traditional two-year policy horizons. Likewise, it is also in harmony with the idea that monetary policy should act not only on the basis of a central scenario but considering the distribution of risks around the most probable outlook. In this sense, abrupt corrections in asset prices are a clear example of a type of shock with a generally low probability of occurring but with significant macroeconomic implications if it materialises.

The monetary policy strategy of the European Central Bank (ECB) can readily accommodate this eclectic approach. As is well known, the primary objective of its single

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**20.** See for example Bernanke, B. and M. Gertler (2001), "Should central banks respond to movements in asset prices?" *American Economic Review*, Vol. 91, No. 2 May.

**21.** See, for example, Cecchetti, S. G., H. Genberg and S. Wadhvani (2003), "Asset prices in a flexible inflation targeting framework", in W. C. Hunter, G. G. Kaufman and M. Pomerleano (eds), *Asset price bubbles: the implications for monetary, regulatory, and international policies*, MIT Press, Cambridge Mass, pages 427-444.

**22.** See Issing, O. (2003), "Introductory statement at the ECB Workshop" on *Asset prices and monetary policy*, ECB, Frankfurt, December.

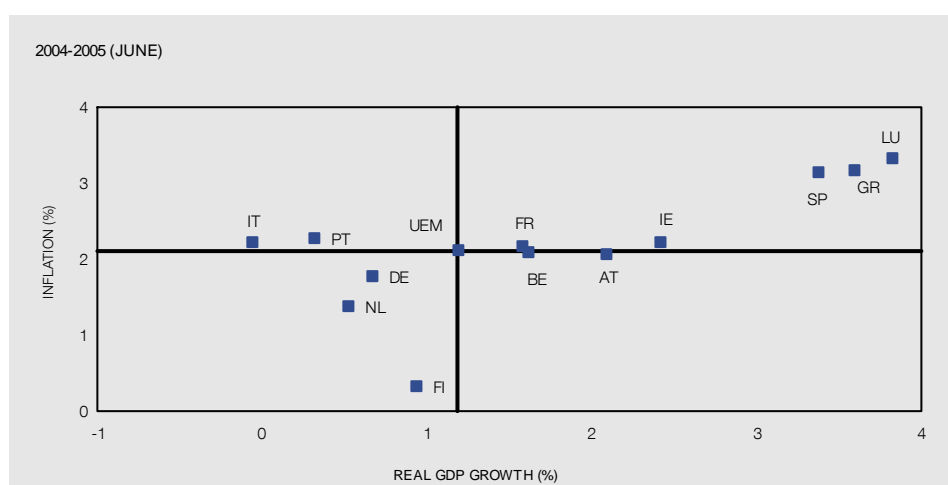
**23.** Borio, C. and P. Lowe (2004), *Securing sustainable price stability: should credit come back from the wilderness?*, BIS Working Paper 157.

monetary policy is the maintenance of price stability<sup>24</sup> in the euro area as a whole, without prejudice to which the Eurosystem shall also take into account broader economic goals such as a high level of employment and sustainable non-inflationary growth. Price stability, moreover, has been defined in terms of a consumer price index, thus explicitly excluding asset prices from the set of prices that have to be kept stable. The monetary policy strategy of the ECB, however, takes into account developments in asset prices as part of the economic analysis, where different financial and economic indicators are included to assess the short- and medium-term risks to price stability. In addition, the monitoring of monetary and credit developments and the medium-term orientation of the Eurosystem monetary policy and the detailed analysis of risks to price stability provide enough flexibility to take into account the implications of asset price swings.

However, for a monetary authority in a monetary union there are a number of additional dimensions in dealing with this issue. Thus, booms in asset prices could arise not as an area-wide phenomenon but as a purely country-specific one. While the destabilising effects of country-specific asset inflation could spread to the whole area, the common monetary policy is not designed to impact the domestic conditions of a single country. In this context, the lack of an autonomous monetary policy makes the correction of a potential imbalance more complex.

REAL GDP GROWTH AND INFLATION

CHART 2



SOURCE: European Commission.

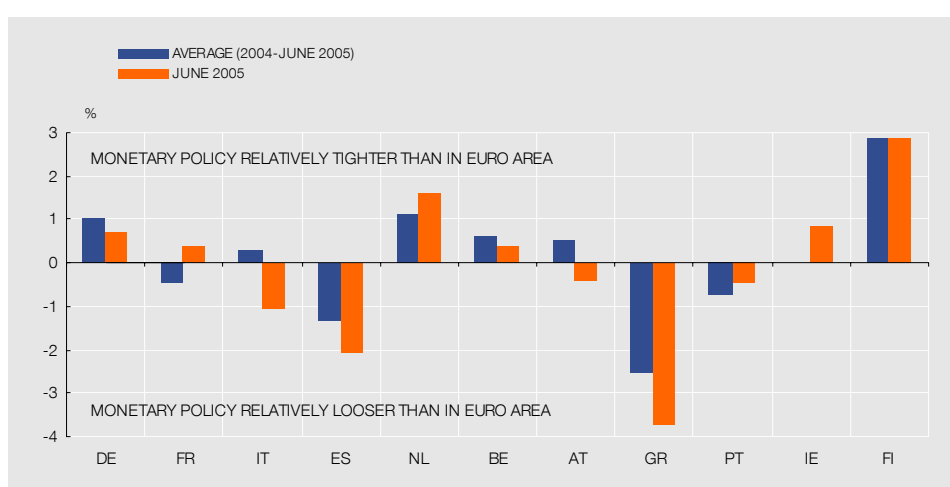
In fact, the common monetary policy could exert an amplifying or dampening impulse to local asset price swings depending on the cyclical position across regions. In the case of the Economic and Monetary Union (EMU) in Europe, established since 1999, prevailing differentials in economic growth and inflation across members, shown in Chart 2,

<sup>24</sup> According to the Government Council announcement in 2003, price stability is defined as an inflation rate below but close to 2% over the medium term.

are not large from either an historical perspective or in comparison with the United States<sup>25</sup>. Inflation differentials are a common feature of large currency areas and, in fact, they are part of the adjustment process to divergences in economic developments. However, in these circumstances real interest rates across members will differ and the common monetary policy will not exert the same stabilising effect in all countries. Chart 3, for example, illustrates the discrepancies in the monetary policy stance since 2004 for each member of the euro zone according to a simple Taylor rule<sup>26</sup>. As can be seen, some countries such as Spain and Greece are enjoying very relaxed monetary conditions which are contributing to sustaining the economic expansion and further growth of private debt.

TAYLOR RULE INTEREST RATES: DEVIATIONS FROM EURO AREA

CHART 3



SOURCES: European Commission and Banco de España.

The increasing integration of financial markets in the euro area will probably mean that developments in the value of financial assets across euro area countries share common trends with an impact on the whole area. This, nevertheless, does not rule out the appearance of country-specific swings in financial assets. In addition, the idiosyncratic features of real estate markets make it more likely that booms in house prices will appear as a localised phenomenon. While national monetary authorities still have a crucial task monitoring national asset markets and identifying and communicating any potential risk to the domestic economy and the currency area, it seems clear that the emergence of country-specific asset price booms will require the implementation of other domestic economic policies to restrict the size of imbalances and to preserve economic stability.

<sup>25</sup>. A different matter is whether these differentials tend to accumulate or to disappear in the medium term, and the consequences thereof.

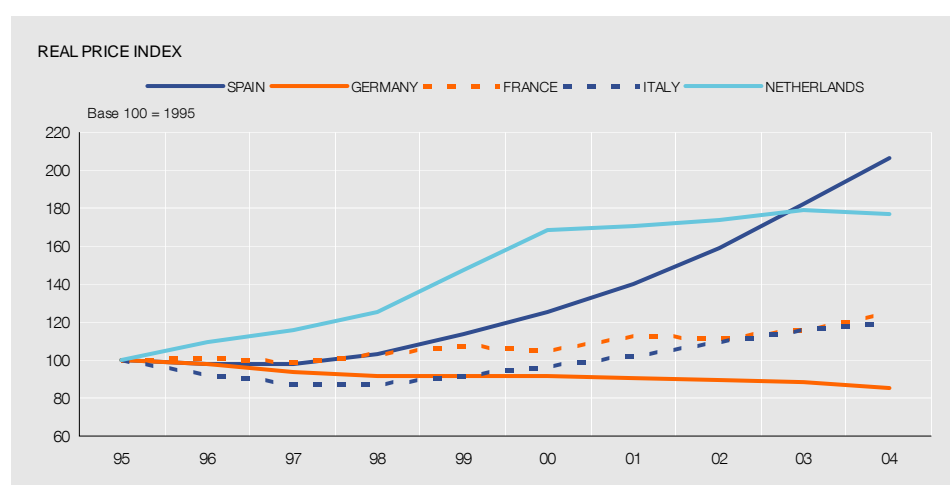
<sup>26</sup>. The Taylor rule simplifies the monetary policy decision process by simply assuming that central banks react to deviations of inflation from its target and the output gap. In particular, in this example, the weights assigned to these factors are 1.5 and 0.5, respectively, the natural real interest rate has been set at 2%, the inflation target is 2% and inflation is computed drawing on a price index which excludes energy and unprocessed foods.

## 5 The Spanish housing boom

The recent housing boom in Spain is a good illustration of the limitations a common monetary policy faces in dealing with localised real asset price swings, and one with potential monetary and financial stability implications. In this sense, although house prices have also increased in other EMU countries, the rise in Spain has been one of the most notable and marked in the past few years, while at the same time house prices have even decreased in real terms in other EMU members (see Chart 4).

REAL HOUSE PRICES IN SPAIN AND OTHER EMU COUNTRIES

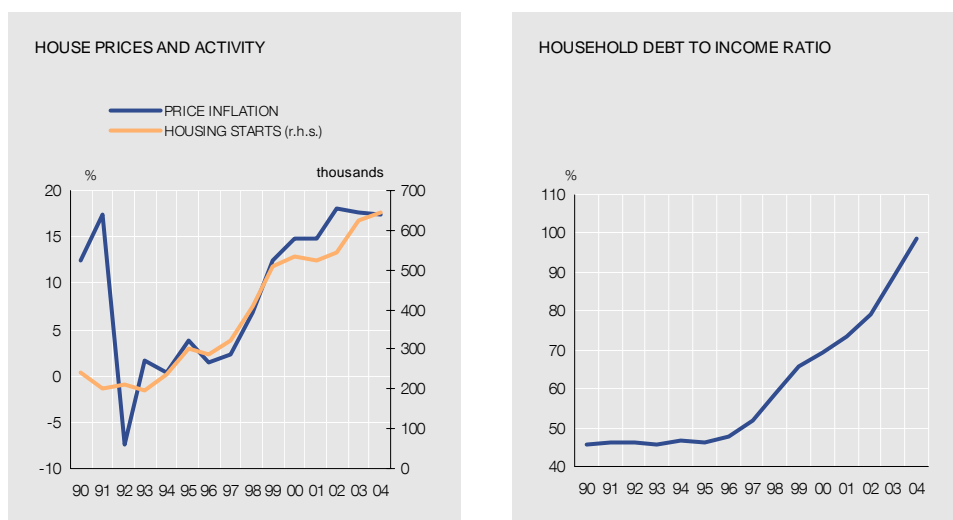
CHART 4



SOURCES: BIS, Ministerio de Vivienda and Banco de España.

Behind the surge in house prices in Spain is a remarkable confluence of demand factors. First, the convergence of the Spanish economy and its entry into the euro area in 1999 has meant a new scenario of lower and more stable interest rates, greater confidence and income growth expectations on the part of households and, deriving partly from that, a sustained period of strong economic growth and job creation. In this context, average nominal interest rates on new mortgage loans fell from over 15% at the beginning of the nineties to less than 4% in 2003 and 2004. Competition among banks and a more stable interest rate outlook led to a further easing in the financing conditions of households, as reflected, for example, in the lengthening of the average maturity of mortgage loans. Additionally, the economic upturn has meant four million new jobs and annual average real GDP growth of 3.7% over the past seven years.

Second, the demand for dwellings was also boosted by the incorporation into the market of a significant flow of new households (including immigrants), Spanish households' cultural preference for ownership and demand for holiday homes by both Spanish and foreign nationals alike. All this has led to house price inflation, strong housebuilding and higher household leverage to fund this increased demand (see Chart 5).



SOURCES: Ministerio de Vivienda, INE and Banco de España.

As usually occurs with asset price changes and related phenomena, movements driven by economic fundamentals (income, interest rates, etc.) are combined with expectation-driven changes in a way that is difficult to disentangle, giving rise to uncertainty as to their macroeconomic and financial stability implications. Two main risks can be identified in this context. First, a possible misalignment of prices with respect to their fundamentals could lead to a future correction, with adverse consequences for the net wealth of households and banks. Second, even if house prices are not corrected significantly in the future, the financial position and spending decisions of the private sector will be more sensitive to changes in the macroeconomic environment. The current level of household debt could be a drag on future expenditure decisions, as well as a source of loan defaults, potentially leading to sluggish growth and financial instability. An assessment of these two risks requires a careful examination of house prices and banks' and households' finances.

Given the special characteristics of real assets, there are at least two possible approaches to the measurement of the fundamental or long-term equilibrium value of house prices: a consumer-durable approach in which price is mainly a function of demand – affected, in turn, by households' income and housing costs – and supply<sup>27</sup>; and a financial (or investment) approach in which it basically depends on the discounted present value of the flow of income (rents or accommodation services) that the house provides to its owners<sup>28</sup>. Both approaches lead to the same conclusions in the Spanish case (see Chart 6)<sup>29</sup>. Thus, the comparison between the observed price and the (long-term) equilibrium suggests that this asset was somewhat undervalued in 1997, owing to an excessive correction (in real terms) of its value from 1991. This undervaluation has, however, been more than offset by the strong

**27.** See Martínez, J. and L. A. Maza (2003), *Analysis of house prices in Spain*, Working Paper No. 0307, Banco de España.

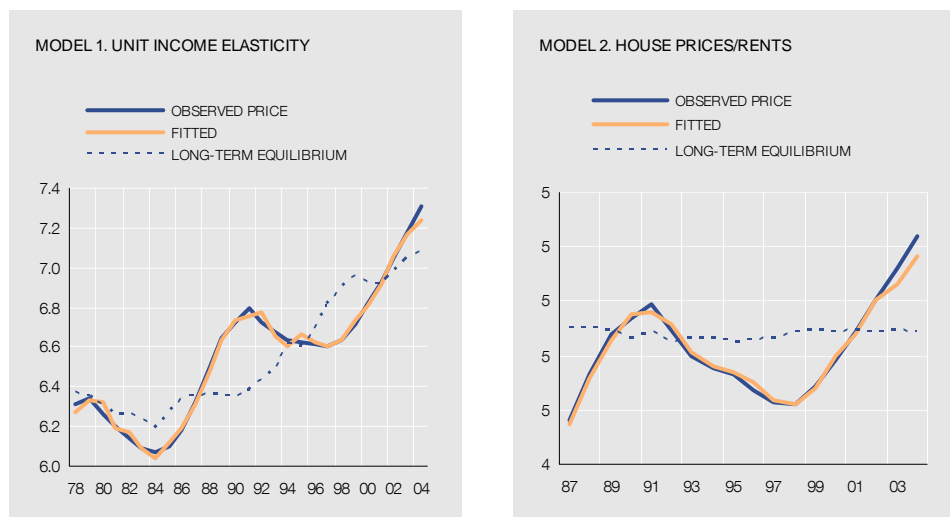
**28.** See Ayuso, J. and F. Restoy (2003), *House prices and rents: an equilibrium asset pricing approach*, Working Paper No. 0304, Banco de España, forthcoming *Journal of Empirical Finance*.

**29.** The Chart presents updated results for both approaches. In the consumer-durable case, there are in fact two different models, due to the difficulty of separating, on the basis of the sample information, the effects of changes in income and changes in credit restrictions. The results presented here correspond to the case in which the long-term elasticity of house prices to household disposable income is artificially set at one, but they do not differ qualitatively from those of the alternative model.

growth since, so that in 2004 prices were above their long-term equilibrium level by an amount between 24% and 35%, depending on the model considered.

## THE OVERVALUATION OF HOUSE PRICES IN SPAIN (a)

CHART 6



SOURCES: INE, Ministerio de Vivienda, Tecnigrama and Banco de España.

a. Model 1: Price series, deflated by the CPI, in logarithms. Model 2: Ratio of house prices to rent in logarithms.

However, it is important to bear in mind that, given the very nature of the housing market, there are short-term supply restrictions that tend to create fluctuations in prices when demand changes – as has been the case in Spain in the past few years – even though the supply response in this recent period has been notable. As a matter of fact, experience shows that house price corrections have tended to be smooth. Chart 6 shows that observed house prices had been broadly consistent with this historical pattern of dynamic adjustment, pointing to a scenario of gradual correction of prices towards their long-term equilibrium. However, the longer the current high rates of house price inflation are maintained, the higher the risk of a more abrupt or disorderly correction in the future.

On the financial side, banks have significantly increased their lending and exposure to the housing sector since 1997, to the extent that, in 2004, loans secured by real estate account for one-third of total assets. Competition among banks has been intense in that particular market, which has squeezed margins. On the positive side, it has to be said that, historically, loans for house purchase have exhibited one of the lowest default rates among banking products. Moreover, most of the loans are granted at a variable rate. Likewise, the loan-to-value ratios habitually applied provide banks with a relatively comfortable cushion against possible adverse developments in real estate prices, while accumulated provisions are well above the historical norm, due to the combined effect of very low default rates at present and the statistical provisioning requirements described earlier. Together with a comfortable solvency position, this reduces the prospect of seeing a significant house price drop, by itself, having a strong impact on the working of the Spanish banking sector. Also, the



possibility of a crisis scenario at the macroeconomic level exacerbated by problems in financial institutions is low.

As regards the household sector, its financial position has also been greatly affected by developments in the housing market. The most salient change has been the doubling of the debt/gross disposable income ratio. For the sector as a whole, this has risen from levels around 50% in the mid-1990s to more than 100% in 2004, with the bulk of this increase being accounted for by mortgage debt borrowed to fund house purchases. Despite the impressive growth in household financing, this has been compatible with a solid aggregate financial position, due to the accompanying rise in households' wealth (particularly housing wealth) and to the fall in interest rates. The former factor has allowed net worth to remain positive and to grow over time, while the latter has led to a lower debt service burden, even with the much higher levels of debt currently prevailing. It is worth mentioning that, contrary to what has happened in other countries, the evidence of Spanish households making use of higher wealth to expand consumption is limited. Therefore, wealth effects, though probably growing<sup>30</sup>, should stay relatively low, pointing to a moderate impact of possible house price corrections in the future.

Nonetheless, the aggregate saving rate has declined over the recent period, particularly if measured after debt service payments (standing at close to zero in this case), and the aggregate situation masks groups of more vulnerable households. Thus, for example, the Survey of Household Finances, recently compiled by the Banco de España, shows that, in 2002, 3.7% of households had a debt/income ratio above three and 3.1% had a debt burden of more than 40% of their income<sup>31</sup>. These figures are certainly small, but they would have risen since 2002. Consequently, the risk of a sizable increase in interest rates (accompanied by a correction in house prices) impacting negatively on households' consumption is not negligible.

To summarise, it seems that much of the increase in house prices and households' leverage in recent years can be explained by a change in the conditions in which the Spanish economy is evolving. Nonetheless, the recent growth rates of lending and real estate prices cannot be sustained indefinitely in the future. Therefore, at some point, there must be a correction, most likely in the pace of growth. Though this will not necessarily be deeper and longer than the kind of orderly correction already observed in the past, the Spanish economy and, particularly, its households are now undeniably more vulnerable to adverse developments, especially to a potentially greater-than-expected hike in interest rates. These risks will be higher the longer it takes for the market to correct.

What can be done to mitigate these risks and to prevent them from impinging negatively on welfare? In EMU, the single monetary policy cannot respond to an idiosyncratic development in a specific country like this.

Excluding monetary policy, there are at least three possible levers with which to respond to the consequences of real asset price swings: prudential, fiscal and structural policies. Each of them has a role to play. Regarding the first, it is important to insist that prudential policy is not a substitute for monetary policy nor can it be used as a fine-tuning

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**30.** See Malo de Molina, J. L. and F. Restoy (2004), *Recent trends in corporate and household balance sheets in Spain: macroeconomic implications*, Occasional Paper No. 0402, Banco de España, forthcoming *Moneda y Crédito*.

**31.** See Bover, O. (2005), "Survey of Household Finances (EFF): description, methods and preliminary results", *Quarterly Bulletin*, Banco de España, January.

instrument. However, that does not mean that a prudential framework consistent with the elements mentioned in point 3 cannot help to mitigate the build-up of imbalances and to prevent the consequences of an excessive build-up of household debt. On the contrary, such a prudential framework can be a useful tool by insisting on the need to maintain appropriate risk management standards by lenders, cycle consciousness in the design of systems and calculation of risk parameters and the use of stress tests when calculating shock absorbers. In this respect, it should be recalled that risks faced at the level of individual institutions are not independent of aggregate conditions. Monetary and prudential policies are complementary in this respect.

Two final comments on the Spanish housing market. First, in a very dynamic environment, as is the case in Spain, the motivations for growth both on the demand for and supply of credit have proved to be so strong that despite the adoption of significant measures, such as the statistical provision, which in practice meaningfully penalises credit growth, can only serve as a mitigation device. Extending prudential measures in order to arrest excessive credit growth would probably have required going well beyond what can be justified on grounds of sound prudential principles and good risk management theory. Second, in this kind of very dynamic market, communication also faces difficulties in influencing possible excesses. Even in this case, a careful assessment signalling potential macro and financial risks, as the Banco de España has been doing, may be helpful to increase awareness of the implications of potential adverse scenarios and encourage prudent behaviour. But, as in the previous case, possible mitigating effects are difficult to perceive set against the strong dynamics of the market.

Budgetary policy, for its part, is a natural substitute for the stabilising role of monetary policy in the Spanish context. In fact, the improvement in public finances seen in recent years has partly contributed to offsetting the excessively expansionary stance of the single monetary policy, from the standpoint of the Spanish economy, thereby reducing the pressure existing in the housing market. However, given the strong growth recorded, there still seems to be some room for a more active role by this policy.

Arguably, other fiscal measures such as tax breaks for homeowners have played a role in recent developments in the housing market. But though these have certainly contributed to the high homeownership rate in Spain and it could be worthwhile reconsidering them in the current context, they can hardly be considered as significantly responsible for the recent boom period. More generally, there are considerable risks in trying to fine-tune asset prices with changes in taxes and subsidies<sup>32</sup>. Hence, any amendment of them should be targeted on minimising distortions of household saving decisions and not on specific conjunctures.

In the same vein, structural policies should not be seen as a fine-tuning instrument. But they are generally a crucial element for addressing pressures from the real estate markets. This is because the normal functioning of these markets tends to be shaped by numerous provisions, with different objectives but, frequently, also with some undesirable secondary effects. For example, in Spain there is some evidence of legal problems limiting the expansion of the rental market, along with still-considerable restrictions on the supply of developable land. It is important to make these regulations compatible with an appropriate

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<sup>32</sup>. See, for example, Contact Group on Asset Prices (2002), *Turbulence in asset markets: the role of micro policies*, September .

development of the housing market. Otherwise, it is much more likely that shocks will ultimately be reflected in price pressures.

## 6 Conclusions

After having reviewed recent experiences with asset price inflation, including that of Spain, and financial stress events in a favourable macroeconomic environment, a number of conclusions can be drawn.

First, there are many and obvious reasons why macroeconomic stability and financial stability tend to reinforce each other. Nevertheless, experience shows that reaching a high degree of macroeconomic stability is, though necessary, not a sufficient condition for guaranteeing financial stability. From this standpoint, recent improvements witnessed in macroeconomic performance may be posing new challenges for financial stability, in particular as regards the role of asset prices.

Second, the proper response to those challenges is a complex task involving different areas such as prudential regulation, and monetary, foreign exchange, fiscal and structural policies. But it is of crucial importance that policy designs in different fields are framed in an internally consistent set-up. Moreover, when designing the mechanisms to promote both macroeconomic and financial stability, a medium-term perspective is essential. This implies that policies should be set in a forward-looking framework taking advantage, as far as possible, of built-in adjusting mechanisms. This does not exclude the possibility of discretionary adjustment of policies when really necessary provided that consistency is granted.

Third, in the macroeconomic area, monetary policy strategies should not focus exclusively on determining the interest rate decision that best fits the most likely scenario for price behaviour. A more risk-oriented approach should helpfully be adopted by giving a sensible weight to less likely outcomes – such as a possible asset price collapse – if they entail sufficiently adverse consequences for macroeconomic stability associated with financial distress. In addition, the choice of the exchange-rate regime should be fully consistent with the monetary policy framework, particularly by avoiding fixed exchange rate regimes when they are not justified by economic fundamentals or supported by a sufficient degree of flexibility in the economy. Moreover, fiscal policies can contribute to reducing the likelihood of those scenarios by targeting medium-term budgetary balances that permit an efficient functioning of fiscal stabilisers. Structural policies also have a role to play, particularly by strengthening the ability of the economy to adjust smoothly to adverse shocks and by minimising supply restrictions that prevent real-estate markets from flexibly accommodating episodes of strong demand pressure. The burden of fiscal and structural policies increases considerably for countries belonging to a single currency area as the lack of domestic monetary and foreign exchange policy tools make them particularly exposed to episodes of strong asset price inflation.

Fourth, as regards micro-financial policies, the prevention of financial distress is preferable to crisis resolution. Improving the resilience of the financial sector is a key objective of policies in this area. In this context, prudential policies, which have historically monitored asset prices from a micro perspective focusing on their implications for the soundness of individual institutions, will need to be broadened to incorporate a macro and systemic dimension, in the light of the earlier mentioned interrelations and the output costs of systemic financial crises. In that respect, a sensible financial framework, encompassing accounting,

prudential and supervisory rules, can help avoid the excessive procyclicality of banks' profit and loss accounts. In addition, regulatory policies should avoid excessive activism and rely, as far as possible, on strengthening the incentives for sound risk management by financial institutions. Finally, initiatives aimed at increasing the integration of financial markets contribute to international financial stability by allowing for a greater diversification of risks and increasing the ability of each economy to overcome situations of weakness in the domestic financial sector.

In any event, it is probably true that financial stability is a much more elusive target than macroeconomic stability. There is no policy framework that could reasonably reduce the likelihood of episodes of financial distress to zero. The type of measures required to achieve such a target would normally entail substantial costs for the efficiency of financial markets and, in general, for the smooth functioning of the economy. Therefore, we will unavoidably have to face financial crises in the future. The aim is therefore to reduce their frequency, intensity and economic consequences without sacrificing the efficiency of resource allocation. On top of the other factors mentioned, let me conclude by mentioning that the communication policy of central banks (i.e. the publication of financial stability reports), supervisors and international institutions such as the IMF, FSF, BIS etc. has a valuable role to play by providing careful and rigorous assessments of the main risks and vulnerabilities arising from financial developments.

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