

A COMPARISON OF RECENT REAL ESTATE CYCLES IN SPAIN, THE UNITED STATES AND
THE UNITED KINGDOM

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The authors of this article are José Manuel Marqués, Luis Ángel Maza and Margarita Rubio of the Associate Directorate General International Affairs and of the Directorate General Economics, Statistics and Research.

Introduction

The real estate sector experienced a very dynamic cycle from the second half of the nineties until very recently in many countries, which was reflected in striking increases in house prices and a growing importance of the construction sector in the economy. This boom phase of residential markets has been followed by a phase of decline during which prices and activity have fallen off. Although prices and amounts have performed similarly in the various countries, in certain cases, movements have been comparatively more pronounced. Also, although the features of the property cycle were relatively widespread, certain areas were unaffected. Chart 1 illustrates the dimension of this cycle in terms of prices. Thus, between 1998 and 2006, the strong momentum of housing markets in the United States, the United Kingdom and Spain, among other countries, resulted in considerable year-on-year price growth – in many cases above 10% in real terms – a phase which has been followed by a notable correction. By contrast, in other economies such as Germany and Japan, there has not been an upward cycle.

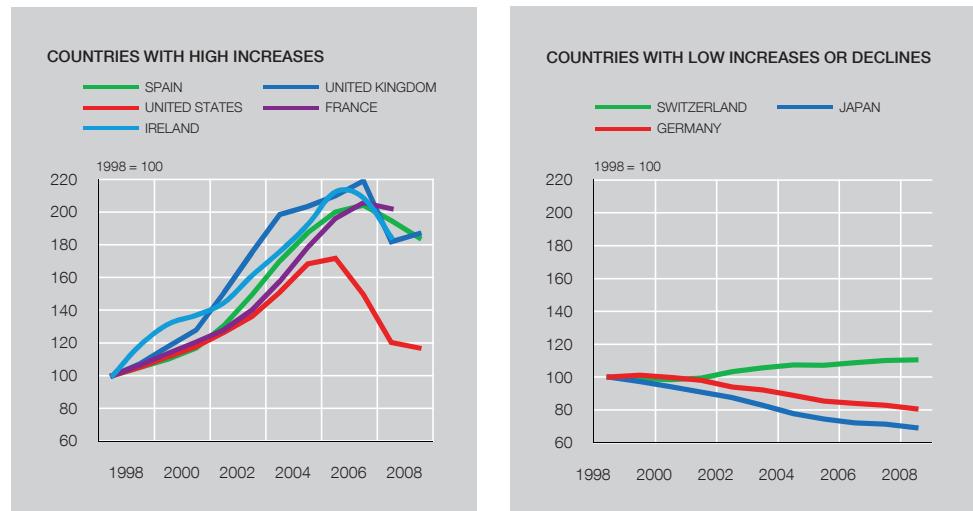
Since the upswing in the property cycle (and its subsequent correction) coincided in many economies, the analysis of the property sector in one specific country is frequently extrapolated to other areas. To a certain extent, this extrapolation is justified by the existence of several global factors which contributed to the sharp upturn in housing markets. However, there are also other idiosyncratic factors which are highly relevant for characterising developments in the property sector in each country.

This article investigates the relative importance of the shared features and those specific to the three economies which have experienced a very pronounced property cycle: Spain and the two main English-speaking countries (the United States and the United Kingdom). As a first step, certain important analytical considerations regarding the property sector are briefly addressed. Next, how the property boom phase evolved in the three countries and the factors influencing it are described. The two following sections focus on the adjustment process and its macroeconomic implications. Lastly, the conclusions underline how the idiosyncratic features of the residential property cycle in these economies condition differences in the intensity and duration of the adjustment process.

Certain analytical issues about the housing market

In spite of the importance that the real estate sector has had in many economies, there is no widely applicable approach for analysing it. This is attributable to the fact that acquiring a property involves factors relating to the consumption of real estate services and those inherent to a decision to buy a financial asset, which makes it difficult to study.

The acquisition of a residential property is equivalent to consumer spending on a durable good which provides a flow of services. Therefore, as in the market for any consumption good, price and amount depend on supply and demand factors. Important housing demand variables mainly include demographic trends, household size, migratory flows, the pace of economic growth, job creation and taxation. Supply is governed by factors such as the cost of the inputs used in construction, the level of competition between construction companies and existing legislation to reclassify land for residential development pur-



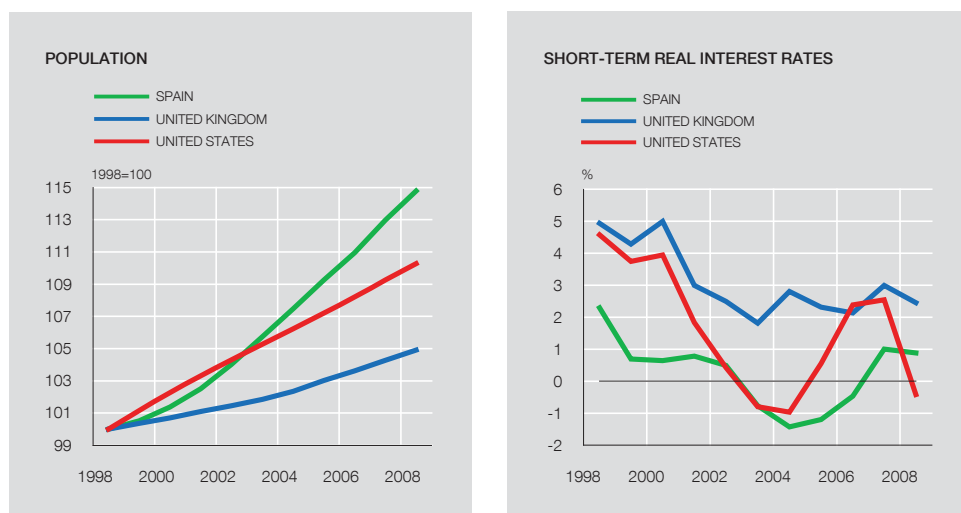
SOURCES: OECD and national statistics.

poses.¹ Given the long housing production period, supply responds with a considerable delay to changes in demand and its determinants which explains why mismatches between supply and demand are protracted and that, therefore, property cycles last longer than other sectors' cycles.

Furthermore, there are other factors of a financial nature which also influence movements in the residential market. The acquisition and construction of housing units is usually highly geared, that is, they are bought or built with a small contribution of funds from the purchaser or builder and the remainder is financed by a credit institution. Consequently, the terms and methods of financing housing and the criteria for granting mortgages have a significant impact on the supply of and demand for residential assets. In recent years, for example, credit institutions' capacity to finance this sector was notably increased by the development of securitisation markets and other products (covered bonds, inter alia), which provided them with more possibilities to expand their balance sheets, even in certain cases of lax regulation, without the need sometimes to increase their capital by the same proportion. Many of these variables are structural and hardly vary over time, thus making it difficult to quantify their effects empirically. Therefore, measuring the importance that the level of competition, the degree of specialisation and financial system regulation might have had in the property boom in certain countries is not straightforward. Other factors in addition to financial ones, which are also markedly structural, relate to cultural features, such as, for example the preference for owner-occupied over rental housing.

As discussed above, there are some characteristics of purchasing a housing unit which may be similar to purchasing financial assets, with the result that price-setting and the construction of new housing units may also be determined by expectations of house price appreciation. However, it is very difficult to determine the impact of this factor due to two types of characteristics which are specific to this sector. Firstly, housing units are not very liquid assets (they have high transaction costs) and are highly segmented – since housing units in different locations are non-substitutable. Secondly, the difficulties of compiling data on housing supply and stock, at any given time, and on prices and the different qualitative characteristics (in addition to size and location), make information available on prices and the volume of transactions incomplete.

¹ In the property market, location is a fundamental factor which distinguishes some properties from others. accordingly, it is a clearly segmented market. This segmentation, coupled with legal real estate development requirements, enables certain construction firms to behave in a slightly monopolistic fashion in some areas.



SOURCE: EUROPEAN COMMISSION (AMECO).

These aspects, in conjunction with the inertia of many factors inherent to real estate supply and demand explain why (unlike financial asset prices which move erratically as a result of the immediate correction of arbitrage opportunities) protracted trends can be seen in house prices which tend to feed on themselves and delay a change of direction. Nor is it surprising that patterns of behaviour such as herding arise, involving investors attributing scant importance to their own information or assessments and paying more attention to other agents' actions, creating what is known as "rational bubbles",² or, in short, that the housing market is prone to protracted episodes of overvaluation.

One final factor which must be taken into account stems from the macroeconomic importance of the real estate sector, since its performance conditions household wealth and residential activity is the focus for a sizeable volume of a country's productive resources. Accordingly, variables such as GDP, net household wealth or employment, which are frequently used to explain the supply of and demand for real estate assets, are not completely independent from the number of housing units built or the latter's value for households. In addition to this accounting ratio, there is another type of interrelationships between economic activity and the property cycle which must be considered, such as the fact that housing sector activity has implications for other residential property-related branches of the economy or that changes in house prices are one of the main sources for generating wealth effects on private consumption.

Characterisation of the boom phase of the real estate market

As discussed in the introduction, the recent upturn in the real estate cycle was characterised by the simultaneous strong growth of activity in housing markets and of residential asset prices in many countries. Nevertheless, in spite of this high synchronisation at the international level, the responses in terms of prices and amounts were not uniform by country.

The expansionary cycle of the real estate market was partly underpinned by global factors. Thus, keeping interest rates at low levels for a prolonged period of time increased agents' capacity to borrow, since it decreased the interest burden associated with mortgage debt. As can be seen in the right-hand panel of Chart 2, short-term real interest rates dropped markedly

2. A recent review of the influence of this type of behaviour on house prices in the various countries can be seen in Hott (2009).

during the 1998-2005 period in Spain, the United Kingdom and the United States. In Spain this decline was in addition to the decrease that had been observed since the beginning of the nineties as a result of its prospects of joining the Economic and Monetary Union.

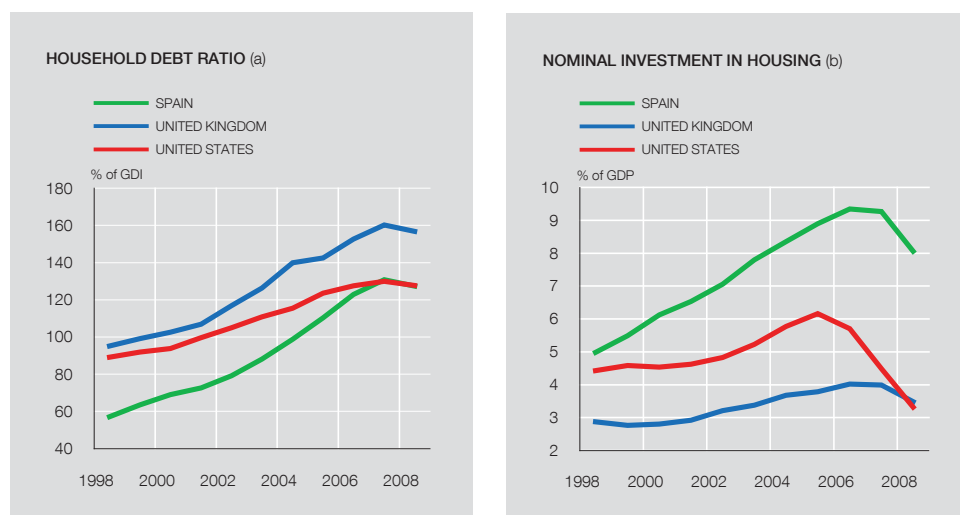
Other global factors which also influenced agents' mortgage borrowing capacity were the development of international securitisation markets and the higher degree of competition in the banking sector which stimulated innovation in the mortgage lending segment. In the case of Spain, these phenomena combined with the process of joining the Economic and Monetary Union, which further boosted agents' borrowing capacity, since they contributed to a more stable macroeconomic environment and greater international financial integration.

As a result of these factors, financing was accessible to a broader group of households although, as with monetary conditions, such factors were not of the same strength nor of the same nature in the three countries. Thus, for example, existing regulations in the United States led securitisation markets to be used not only as a source of obtaining additional liquidity for institutions (as in the case of Spain)³, but also as a means for the latter to remove those loans from their balance sheets, an operation permitting the release of regulatory capital which institutions had to hold in relation to the risk entailed by the loans they granted. Furthermore, in the United States (and, to a lesser degree, in the United Kingdom) there was a proliferation of institutions specialising in the mortgage business, that were not subject to banking supervision and were covered by laxer risk and reporting controls than deposit institutions,⁴ which gave rise to a notable relaxation of the credit standards for mortgage loans. In this way, mortgage finance became affordable to a group of households with a high probability of default, who could only meet their mortgage payments (included in the subprime category) through the continuous refinancing of their debts, against a backdrop of rising house prices.⁵ The foregoing triggered a notable increase in the volume of mortgage lending not intermediated by the banking sector. Thus, for example, in the United States in 2009 Q3, only a quarter of mortgages were held by deposit institutions, a figure which is 30 pp lower than that recorded in 1985.⁶

In Spain, however, other factors played an essential role. Thus, the beginning of the upturn in the real estate cycle was associated with a boom in housing demand which was underpinned by changes in its fundamentals. Specifically, there was striking demographic dynamism, which was stronger than in the other countries, accounted for by high migratory flows (see Chart 2) also accompanied by other important structural changes such as a reduction in the average household size. Similarly, the high growth of household disposable income and the gradual reduction of unemployment rates had a higher impact in Spain and determined a significant improvement in the affordability of residential assets. All of these aspects were reflected in a very significant rise in the household debt ratio, which was especially steep in the case of Spain where it doubled in less than ten years (see Chart 3).

As a result of the factors discussed, there was a substantial increase in housing demand in the three economies analysed, which gave rise to a supply-side reaction of varying intensity in each economy, since the response of building new housing units to an increase in demand is usually influenced by the legal and structural characteristics of each market. Thus, at the peak

3. See Martín-Oliver and Saurina (2007). 4. These types of institutions were not only not subject to capital requirements as strict as those for banks; nor did they have customer-safeguard rules as strict as those for banks. Accordingly, several points of the financial reforms under passage in the legislative process in the United States and the United Kingdom are aimed at improving this protection. 5. A review of this process can be found in the speech of the Federal Reserve Governor, E. Duke (2009) or in the speech of the FDIC Chairman, S. Bair (2010). 6. See Bair (2010).



SOURCES: National statistics and European Commission (AMECO).

a. Data as a percentage of Gross Disposable Income (GDI).

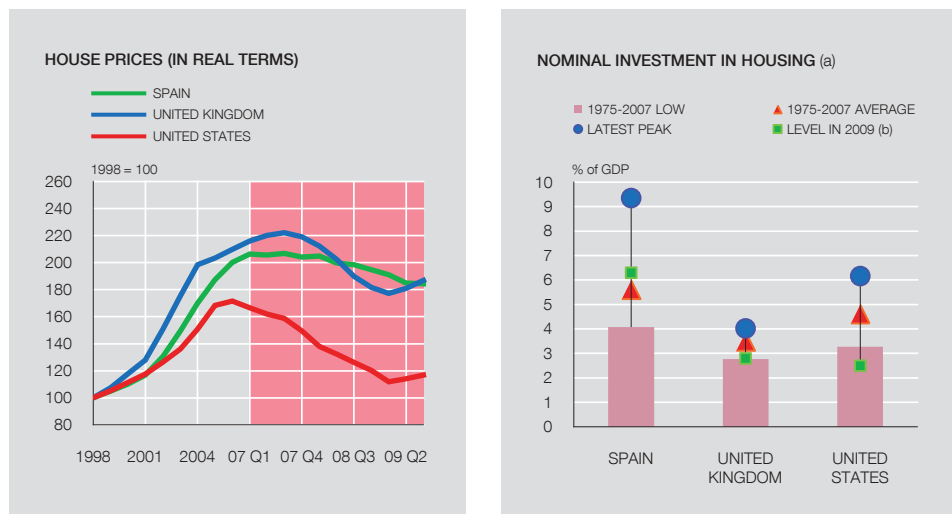
b. Data as a percentage of GDP.

of the cycle (2006-2007 for Spain and the United Kingdom), the ratio of residential investment to nominal GDP stood at 9.3% in Spain (almost 5 pp above the previous low), whereas in the United Kingdom it was 4%, around 1 pp above the previous low (see the right-hand panel of Chart 3), underlining the considerable planning restrictions existing there. In the case of the United States, the maximum value of this ratio stood at an intermediate point of 6.1% of GDP in 2005, 2.7 pp higher than the previous low. These data seemingly indicate, therefore, that in the United States and, especially in Spain, the supply-side response was much larger than in the United Kingdom.

These differences were also reflected in residential investment's contribution to GDP growth, which was different in each country. Whereas housing investment contributed 0.5 pp to average GDP growth in the case of Spain during the 1998-2007 period, the latter only amounted to 0.1 pp in the United Kingdom and to 0.3 pp in the United States. In terms of the construction sector's contribution of employment to total job creation, average contributions during the expansionary phase amounted to 0.8 pp in Spain and 0.2 pp in the United Kingdom and in the United States.

The movements in supply and demand, and their possible mismatch, ultimately fed through into price growth, albeit also to a different degree in the three economies. In Spain and the United Kingdom real house prices increased by 114% and 134% between 1997 and 2007, respectively, at the same time as real estate prices in the US market rose by 80% (see Chart 4). Although on the basis of macroeconomic fundamentals a slight rise in house prices can be justified, there is evidence that the increases recorded also contained a component of over-reaction.⁷

7. For instance, in relation to prices, the International Monetary Fund estimated that at end-2007 the overvaluation of house prices in the residential market in the United Kingdom and in Spain amounted in real terms to 28% and 17%, respectively, whereas in the case of the United States, in 2006, at the peak of the boom, the level of overvaluation stood at approximately 20%. Relative to other countries, the United Kingdom was in the upper range of overvaluation, behind Ireland and the Netherlands, whereas the United States and Spain were in an intermediate position. The International Monetary Fund uses vector autoregressive modelling which relates house prices to different macroeconomic variables. See also, for the case of Spain for a previous period, Ayuso and Restoy (2003).



SOURCES: National statistics, Datastream, European Commission (AMECO) and Bureau of Economic Analysis (BEA).

a. Data as a percentage of GDP.
 b. Projections for United Kingdom and annualised 2009 Q3 data for Spain and the United States.

There was also an excessive reaction to the contribution of housing to productive activity, which can be appreciated by comparing the ratios of housing investment to GDP at the height of the cycle with average ratios over a longer period of time (see Chart 4). This exercise must be interpreted, nonetheless, with due caution since other variables (such as migratory changes) or structural changes (such as Spain joining the Economic and Monetary Union) during that period were not considered, which may distort intertemporal comparisons.

The adjustment process

The commencement and intensity of the correction of housing markets in the United States, the United Kingdom and Spain, in the most recent period, were influenced by changes in the determinants of the boom and the amount of excesses built up during that phase. The adjustment process began during 2006 when the maturation of the economic cycle and the application of tighter monetary policies led to an increase in financing conditions and a weakening of appreciation expectations, which underlined the fragility of certain elements that had driven the expansion of real estate demand in recent years. This adjustment process began earlier and more sharply in the United States where, as mentioned above, excesses had occurred in the expansion of mortgage financing facilitated by highly permissive regulations which were underpinned by the assumption that housing could continue to appreciate.

By mid-2007 it became evident that the change in monetary conditions in the United States and the beginning of a downward adjustment in real estate asset prices were resulting in a higher-than-expected rise in the mortgage delinquency rate, especially in subprime loans, and an inadequate valuation of the financial products which had been used to securitise these loans. The marked decline in the credit rating of subprime mortgages, coupled with the complex nature of the instruments associated with them (which spread risk in a non-transparent fashion among a broad spectrum of investors) triggered a spiral of uncertainty and a brusque change in the situation of abundant liquidity which had dominated international financial markets, generating considerable losses for international investors and paving the way for the unprecedentedly virulent outbreak of the global financial crisis in September 2008. In this setting, the funds available for acquiring housing units dropped considerably,

affecting not only US institutions but also the majority of financial systems worldwide. Real estate markets in other countries, such as the United Kingdom, were affected and there was a price adjustment which corrected, to a greater or lesser degree, the excess appreciation which had built up. In the case of the Spanish market, where house prices had already embarked upon a correction phase, the international crisis led to a swift decline in residential market activity and a sharp worsening of employment which accelerated the real estate adjustment process. Thus, house prices ultimately posted sizeable falls in the three countries. According to the price statistics used, the most abrupt declines from the peak seemingly occurred in the United States and the United Kingdom (with falls of 33%⁸ and 16%, in real terms, to 2009 Q3), whereas in Spain the drop was more moderate, of approximately 12% to 2009 Q4.

The adjustment also impacted residential investment differently in the three economies, depending on the supply overhang that had built up. For instance, in Spain the ratio of residential investment to nominal GDP fell by 3.6 pp from its peak in 2006 until 2009 Q3. In the United States, where the adjustment began earlier, the fall from the peak in 2005 until 2009 Q3 was also approximately 3.6 pp. In the United Kingdom (where, as mentioned, supply had not expanded as much) this ratio dropped by around 1 pp in the same period. The European Commission's projections for the next few years for these three economies⁹ can be used to evaluate the adjustment pending for investment. According to this exercise, in the case of the adjustment in Spain, a reduction of 1.2 pp still had to be made in 2010, although the contraction could continue into the following year. In the United Kingdom, scant growth in housing investment in the boom phase explains the need for a smaller adjustment. In fact, until 2011 it is estimated that the ratio of residential investment to GDP would only fall by a further 0.1 pp. In the United States, the adjustment is apparently also nearly over.¹⁰

Macroeconomic implications

A real estate adjustment process has, firstly, a direct macroeconomic effect, arising from the effect of the fall in housing investment (and in the construction sector's GVA) on GDP and on employment in this sector. As has just been shown, this direct effect may be more significant in Spain, in cumulative terms, than in the United Kingdom and the United States, given that the larger expansion of supply during the boom period pushed the weight of residential construction in activity and in employment considerably higher, contributing to the emergence of a supply overhang.

Furthermore, the drop in real estate activity has negative implications for other productive sectors, since it curbs demand for industrial intermediate goods for construction, demand for real estate services and the purchase of durable goods linked to housing, etc. These carryover effects are difficult to measure, but it seems reasonable to assume that countries where activity must be readjusted to a greater degree, will also be those most affected by these indirect effects, which depress other productive sectors' output and employment.

A third important factor is related to the trajectory of house prices and their dual impact on private consumption, through the wealth effects: on one hand, the fall in house prices reduces the value of the mortgage loan collateral which could be requested to finance consumer spending ("housing equity withdrawal"); on the other, the drop in value of household housing wealth could depress their confidence and increase precautionary saving.

8. According to the S&P Case-Shiller index. 9. Data from the European Commission's projection exercise for autumn 2009 were used. 10. A decisive factor in the real estate market adjustment process is the unsold housing stock which has built up due to the decoupling of residential supply and demand. The abrupt change in the macroeconomic setting has led to a build-up of a high stock of unsold housing, given the inertia shown by the supply of housing due to its protracted production period.

	Methodology	Spain	United Kingdom	United States
Catte et ál. (2004)	Micro data	0.01-0.02	0.05-0.08	0.05-0.08
Bover (2005)	Micro data	0.02	-	-
Carroll (2004)	Macro data	-	-	0.09
Barrell and Kirby (2008)	Macro data	0.02	0.02	0.03
Slacalek (2009)	Macro data	0.02	0.05	0.02

In the case of Spain, changes in housing wealth affect consumption, principally due to the latter factor, whereas the former factor could be more important in the cases of the United Kingdom and the United States, since in these countries households have used mortgage loans more intensely to directly finance consumption decisions. Table 1 shows the findings of several empirical studies which, using aggregate or microeconomic data, estimate the importance of housing wealth for determining the path of private consumption. As can be seen in this table, the elasticities (or the marginal propensities to consume due to changes in wealth) are higher in the cases of the United Kingdom and the United States, in comparison with Spain, and, consequently, it can be expected that the effects due to this reason are higher in those countries.

In short, the impact of the real estate adjustment should have a different effect on the three countries analysed. In the United States, the real estate adjustment is significant due to the contraction of activity and employment in the construction sector and in construction-related activities, and due to the decrease in consumer finance obtained by US households on the basis of house price appreciation. This last factor would have the greatest impact in the United Kingdom since the construction sector's contribution in this country is small and construction hardly reacted in the boom phase of the cycle. For its part, in Spain the adjustment seems to work more through a fall in investment and real estate activity, due to the need for the residential sector to complete the restructuring process, and through the carryover effects that this will have on other productive sectors. The impact of the wealth effect on consumption owing to the fall in house prices would affect Spanish household spending, especially as confidence deteriorates and precautionary saving is encouraged. Obviously, the real estate crisis may have substantial macroeconomic repercussions through its negative impact on the financial system, since it raises the delinquency of loans extended to households and firms in the sector, however, the analysis of this issue is beyond the scope of this article.

Conclusions

Since the mid-nineties, in a setting of global expansion, a group of developed countries has experienced very pronounced property cycles, marked by protracted rises in house prices and a subsequent sharp adjustment, especially from 2007, which was accentuated by the outbreak of the financial crisis. Noteworthy among the overall factors, which may have contributed to the expansive developments, are the low interest rates against a stable macroeconomic background and financial innovation processes. However, despite the synchronisation of international house prices, there are specific factors in each country which have introduced differences in the nature of the upward cycle and in the scale and implications of the adjustment in this sector. In this article characteristics specific to the real estate markets in the United States, the United Kingdom and Spain have been described. The features particular to

each country are multi-faceted, but three specific aspects are especially significant: the adjustment of supply and residential investment, the role of financial innovation and the channels for and intensity of the impact of the real estate adjustment on activity.

Firstly, supply reacted differently to the pressure of demand for real estate assets in the three countries: for instance, at the peak of the property cycle, the weight of residential investment in relation to GDP increased substantially in the United States and in Spain, whereas in the United Kingdom this ratio only rose slightly during this period. In correlation to this, during the adjustment phase, this ratio has fallen less in the United Kingdom, whereas in the United States it corrected significantly in 2009 to a level that was even below its historical average. In Spain the correction is large and the ratio already stands at levels close to its historical average.

The effects of financial innovation have been very different in each country, depending, among other factors, on existing regulations. Thus, in the United Kingdom and, especially, in the United States, institutions' opportunities for transferring risk proved conducive to them providing mortgage financing to households who lacked sufficient revenue to bear such loans and who based repayment on the ongoing appreciation of their real estate assets. On the contrary, in Spain (although overall financial conditions were accommodative, linked to its membership of the euro area), existing regulations encouraged financial institutions to be more cautious as regards lending standards. These differences probably lie behind the different degree of intensity in the adjustment process, the United States being the country where the difficulty of certain households (included in the subprime segment) to meet their mortgage obligations was highlighted first. By contrast, in Spain the rise in the household debt ratio has been more contained and has been linked, in particular, to the worsening macroeconomic situation triggered by the crisis and, more especially, to the sharp rise in unemployment.

Lastly, the effects of the real estate adjustment on activity have also been different in the three countries. In the case of the United States, the effects have already been considerable, given the fall in residential investment, employment and consumption, as a result of the reliance of US household spending on mortgage financing and property appreciation. In the United Kingdom, the direct impact of the sector's restructuring on activity and employment seems to have been limited; the wealth effect (arising from the fall in house prices) was negative for British household consumption which is the main link between the real estate adjustment and the rest of the economy. The importance of this wealth effect in both countries may extend the impact of the real estate adjustment on consumption and activity in the coming quarters. In Spain, the adjustment is mainly resulting in lower investment and higher unemployment, as a consequence of the sharp restructuring of the construction sector and its implications for other branches related to it. Similarly, the loss in value of housing wealth, coupled with the effect of unemployment and the loss of confidence, is contributing to restraining private consumption and to the strong recovery of the household saving rate seen in recent quarters.

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