BBVA

Real Estate Watch Spain

Economic Research Department
December 2008

The housing over-supply will continue to increase during 2009, implying a longer than expected period of adjustment....

... characterized by price corrections over the next two years ...

... which will favour renting over buying

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Summary

The weeks following the collapse of investment bank Lehman Brothers saw no respite from the tensions on the international financial markets and, in fact, the situation worsened. The world economy struggles through a vicious circle in which risk aversion, liquidity and solvency problems, and a general drop in activity feed off each other. The developed economies will undergo a recession in 2009, and a slow and uncertain recovery in 2010. Specifically, Spain´s chances for growth in 2009 are more doubtful than before, and risk for greater decline exists.

The adjustment underway in the real estate sector

The Spanish real estate sector is undergoing a period of significant adjustment – possibly the most far-reaching on record. Thus, the question on everyone's mind is this: how long will this adjustment last? While the sector grew, residential investment increased massively, not only due to the demand for homes as an essential consumer good, but also due to the demand for real estate as an alternative investment. Supply adjusted readily to this increased demand, resulting in a more rapid increase in available housing stock than the key supply determinants might perhaps have justified. Under the assumption that supply and demand were in balance in 1997, then there are currently between 0.8 and 1.4 million unsold new homes on the market.

Demand is now declining rapidly, not only in response to the cyclical downturn in the real estate sector, but also reflecting the severe shock to the international financial system. Supply, which takes longer to react to market conditions, is ajusting more slowly. To determine when this excess supply will begin decrease, forecasts for housing supply and demand have been estimated, and on the basis of these, projections for the absorption of this excess supply drawn up. The forecasts indicate that the gap between supply and demand will continue to widen until the end of 2009, mainly due to the construction of new homes that began in 2006 and 2007, before the market had any inkling that a sector slowdown of this scale was on the way. Therefore, excess construction will not begin to be absorbed until the first quarter of 2010, with the stock of new homes for sale returning practically to 2005 levels by the end of 2012. However, these estimates must be taken with a grain of salt, given the difficulty of making predictions in the current climate.

Given the previous assumptions, the uncertainty about the evolution of house prices remains high. Housing prices are rising more slowly, as they have since mid-2004. The rate of growth has fallen by 17% since its peak, and does not appear to have hit bottom.

Given current macroeconomic and financial conditions, forecasts for full-year 2008 point to a slight contraction in prices in nominal terms. The decline is set to become deeper as of next year, with prices falling 5% on average in 2009 and 8% in 2010 in nominal terms, for a total cumulative decline of around 15%. These forecasts have been significantly affected by the excess housing stock in the market, which will prolong the adjustment and make it more severe. Price data published to date have not shown any significant decrease for the time being, so the necessary adjustment will have to kick in over the coming quarters. Lastly, increasingly negative expectations about housing prices could prompt prospective buyers to postpone their purchases, thereby forcing the market to cut prices even further to sell the excess supply.

Households, the labour market, and the option of rent

In recent quarters, not only are home loans harder to come by, but there is also less demand for them. Exactly how much worse is the financial situation of Spanish households?

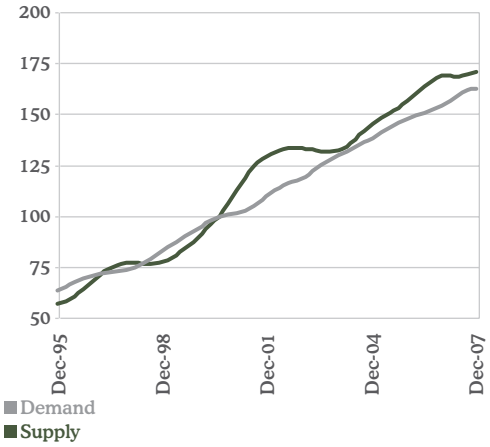
One useful overall measure of the financial position of households is the financial burden, a calculation of the percentage of average household income allocated to repay debt. The financial burden rose to 17% of household income in 2008, but is expected to stabilise at more sustainable levels of around 14% as of next year. Various factors help reduce the financial burden: lower interest rates and more modest lending growth. The lower financial burden should keep housing demand up in the midst of uncertainty.

On the other hand, trends in the labour market do not bode well for disposable income. The slowdown in economic activity, which was moderate until mid last year, heightened after second quarter of 2007. The sudden drop was particularly noticeable in construction, which by the end of last year (in seasonally adjusted terms) had begun to lay off workers, eventually reaching reductions of 3.4% a month by November 2008. In fact, the chances of keeping a construction job from one year to the next have fallen dramatically in the last three quarters, more so than in other sectors.

So where are the former construction sector workers going? While 36% of laid-off construction workers go on unemployment, most (44%) find work in another sector, with the remainder becoming idle. Traditionally, the main sectors absorbing workers from construction have been the extractive industry, commerce, and the hotel and restaurant industry, with the latter two categories gaining in popularity in recent quarters. However, not all construction sector workers have the same degree of employability in other sectors. Education insulates workers against unemployment and makes it easier to move between sectors, and as a result non-Spanish nationals are more exposed to the risk of unemployment.

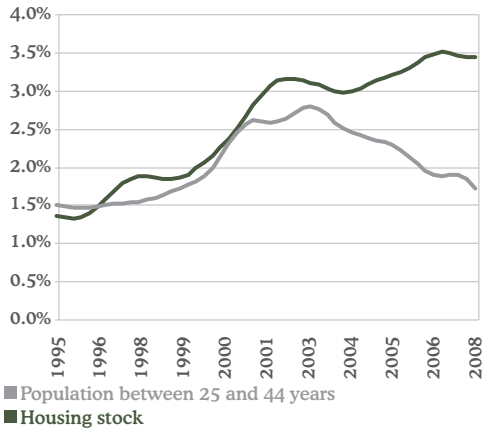
With conditions in the Spanish real estate sector as they are, renting has become an economically viable option to access housing. The home ownership rate is higher in Spain than in any other European country, but historically this has not always been the case. In years when house prices were rising rapidly, buying was the most profitable option. However, estimates suggest that in the current scenario, with house prices increasing minimally or even decreasing, the most profitable option would be renting –which could also speed up sales of unsold housing stock and facilitate greater geographic mobility in the Spanish labour market. In any case, the limited number of homes availables for rent calls for a housing policy designed to boost rental stocks.

Chart 1.
Housing supply and demand
4-quarter moving average, 2000=100



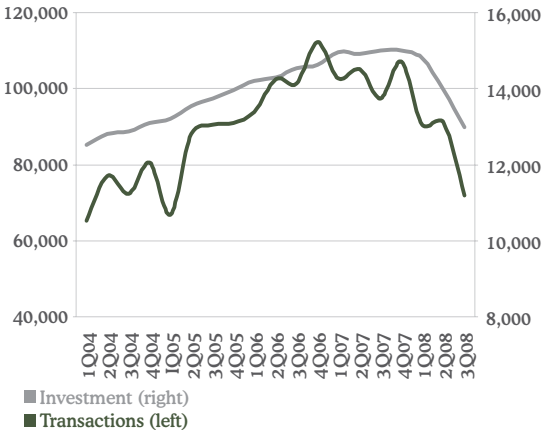
Source: ERD BBVA

Chart 2.
Population growth and housing stock
year-on-year growth, 4-quarter moving average



Source: Bank of Spain; INE.

Chart 3.
Housing investment vs. New housing transactions



Source: Ministry of Housing; INE.

1. Duration of the crisis

1.1. Duration of the downturn in the Spanish residential sector: how long until recovery?

The Spanish real estate sector is undergoing significant adjustment – possibly the most far-reaching on record. Thus, the question on everyone's mind is: how long will this adjustment last? Any answer to this question is subject to great uncertainty. During the last few months of 2008, unexpected negative factors that have prompted wide-scale revisions of Spanish economic forecasts have come into play, and by extension, to the outlook for the real estate sector.

As mentioned in previous editions of this magazine, the excess in the Spanish real estate sector is more a matter of quantity than price.

The growth of the Spanish real estate sector in recent years has been characterised by housing price increases of nearly 20%. Moreover, investment in residential property has increased massively, not only due to the demand for homes as an essential consumer good, but also due to the demand for property as an alternative investment. Housing supply very quickly adapted to meet this increase in demand. Available housing stock increased rapidly, possibly faster than justified by the corresponding growth in key determinants of supply, including, for example, population growth.

As the sector continues to adjust, one of the key variables for estimating how long this process will last is the gap between supply and demand built up during the growth period. But in any case, coming up with an estimate is no easy task. Below we will attempt to estimate the excess supply in the real estate market, though admittedly such estimates are uncertain at best. Based on this estimate and on forecasts of supply and demand for new homes, we can assess whether the gap will continue to grow in the short term, and how long before property prices reach a level that signals that the adjustment is over.

The unsold homes enigma

Since mid 2006, the Spanish residential real estate sector has been undergoing an adjustment which has yet to hit bottom. All the main demand indicators are falling abruptly. For example, housing sales in 3Q08 fell by 30% year-on-year, with existing homes (rather than new homes) taking the bulk of the decline. Investment figures also point to major contractions: the latest data published by the Spanish National Statistics Institute (INE) show a 13% year-on-year decline in the same period. Meanwhile, though decelerating, supply cannot adjust as quickly as demand.

During a contractionary phase, supply will always adjust more slowly than demand. Housing stocks adapt more easily to an increase than to a decrease in demand, as they are durable goods. Demand, on the other hand, can fall abruptly in response to negative shocks, thus accentuating the structural imbalance in the market. This is what we have at present: rapidly declining demand, due to a cyclical adjustment in the real estate sector exacerbated by severe shocks in the international financial system, and a slower decline in supply, driving prices down even further and worsening the sector's prospects.

Any attempt to quantify the gap between supply and demand in the housing market must be based on the following premises. Firstly, there are no statistics about the number of empty homes in Spain, so any calculation has a considerable margin of error. In addition, the statistics which are available regarding quantities (housing stock) are estimates based on data collected during the last census (2001), before the real estate boom, which ending is being analysed. Subject to these limitations, the accumulation of new housing stock can be calculated based on figures for completed new homes (our supply variable) and demand for new homes, using the following formula:

$$ES_t = \sum_{t-x}^{t} EO_{t-1} + (\Delta H_t^{new} - TRN_t)$$

where ES is excess supply (the variable of interest to us), calculated as the sum of previous excesses plus the excess at the specific point of time *t*, which is the expression between parentheses. Thus, the variable for housing "supply" equates roughly to completed new homes, while "demand" corresponds to new home sales (NHS). Clearly, a recursive formula such as this must be supported by certain hypotheses. Firstly, it requires an initial point, $ES_{t=0,}$ from which the excess supply begins to accumulate. As there are no statistics with which to approximate this initial stock, to begin the calculation, we must assume that on the start date the market is balanced and $EO_{t=0} = 0$, which makes it dependent on the period chosen.

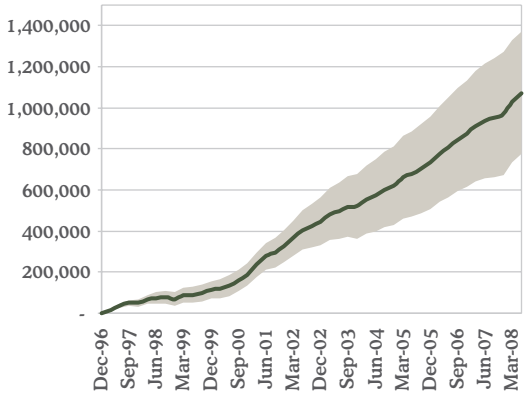
The previous formula uses the figure for new home sales. This refers to the number of sales actually completed and it is the variable which best approximates the demand for new homes. Unfortunately, these figures are available only from 2004 onwards, meaning that our estimate can cover only a very short period of time, and one in which the real estate market was probably far from equilibrium. Therefore, to get a better picture of this variable over time, we will include an additional hypothesis: we can estimate new home sales by adjusting home investment figures as per Spanish National Account data. To this end, investment is adjusted by the average size of homes (in square metres[1]), and by new home prices in 2000. As in the previous case, it is necessary to select a period in which the real estate market was thought to be balanced.

Lastly, to better determine the period in which the market was in equilibrium, we will include another hypothesis after examining the historical data for housing prices, supply, and demand. These data exclude the real estate bubble years and also the early 1980s, partly because of their proximity to the latest oil shock, and partly because the Spanish real estate market was probably growing below potential.

Chart 4 depicts the results of this analysis, which found that the market was roughly in balance in 1997. Again, this estimate is subject to high uncertainty, for this reason we have indicated levels within a range, which is based on the standard deviations of the various excess supply figures that we would have obtained had we used different years as the starting point for the calculation.

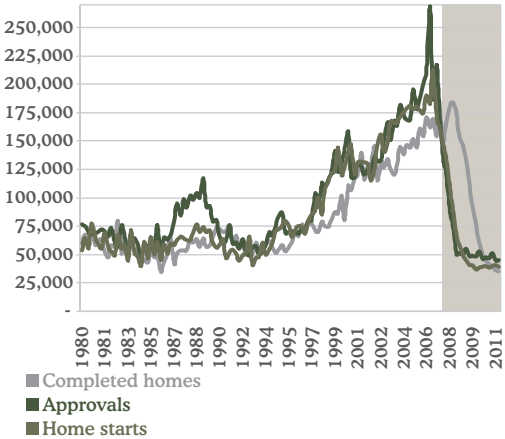
[1]This variable has been calculated as the weighted average size of multi-family and single-family dwellings. This variable has also been deferred and weighted on the basis of the normalised statistical ratio between housing permits and completed homes, found to be:
COMPLET. HOMES*t* = (0.03L^5+0.14L^6+0.27L^7+0.42L^8+0.14L^9)PERMITS*t*.

Chart 4.
Estimated new housing excess supply



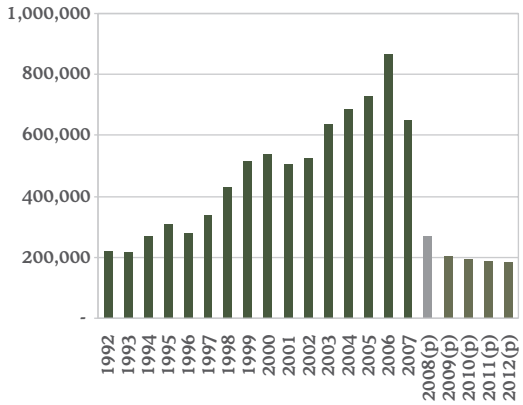
Note: the range represents (+/-) the standard deviation between the oversupply levels calculated starting from each year in the chart.
Source: BBVA Economic Research Department

Chart 5.
New homes forecasts
quarterly data



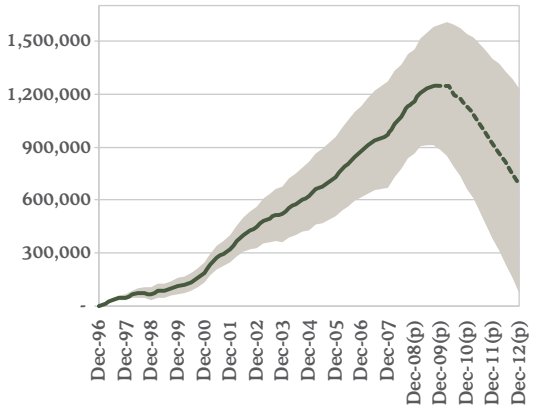
Source: ERD BBVA using Ministry of Housing and Ministry of public works data.

Chart 6.
Housing permits
Annual figures



Source: BBVA Economic Research Department with Ministry of Development data.

Chart 7.
Estimated housing excess supply, forecasts



Source: BBVA Economic Research Department

The chart shows that, after 2000, excess supply began to grow at a much faster rate, and that currently the excess supply (even though a range) is considerable.

When will the balance between supply and demand be restored?

It would be interesting to know not only the number of excess homes there are on the market, but also when this surplus will start to shrink. To determine when this might take place, we have made forecasts of housing supply and demand and used them to predict the changes in housing oversupply.

On the demand side, we have used the forecasts for residential property investment from the Spanish Macroeconomic Table. These forecasts predict a very substantial decline in demand for residential property as a result of the adverse economic conditions Spain is set to endure for the next two years[2].

On the supply side, we estimated the number of completed new homes based on our forecasts for building permits granted. Statistically it has been found that the number of housing starts is equivalent to just over 90% of building permits issued and completed homes is equivalent to approximately 97% of houses starts, with an average time lag of five to seven quarters. These ratios can be used to project the rate at which excess housing stock will be absorbed by the real estate market (Chart 7). It should be noted that in the current climate it is very likely that many developments under construction will remain unfinished for some time, so the ratio between housing starts and finished homes could be somewhat lower than the long-run average of 97%. Therefore, this can be considered as a maximum

As it can be seen, the gap between supply and demand will continue to widen until the end of 2009, due mainly to the finishing of new homes begun in 2006 and 2007. The chart shows that excess housing stock will begin to be absorbed as of 1Q10. By late 2010, it should have been reduced substantially, by 40%, leaving it at 2005 levels. This result is based on forecasts of building permit issues and building starts amounting to approximately 200,000 homes, at least in the short and medium term. These forecasts should be treated with caution, firstly, due to the lack of up-to-date statistical data on housing supply and demand, and secondly, due to considerable uncertainty about how the variables underpinning this estimate will perform, especially in the current economic climate.

[2] See *Spain Watch*, November 2008.

1.2. How are house prices expected to perform?

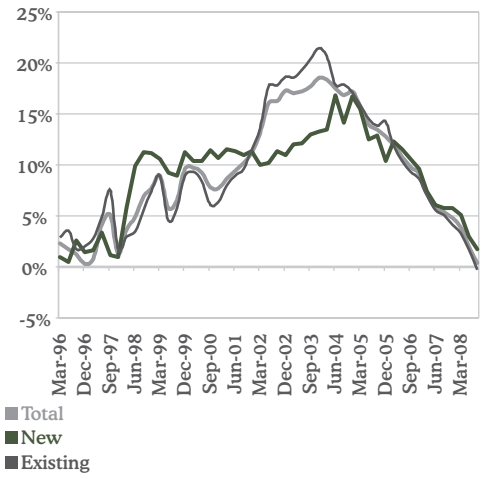
Given the assumptions regarding activity indicated above, the uncertainty about house prices remains high. House prices have been growing more slowly since mid-2004. The rate of growth has fallen by 17% since its peak, and yet it does not appear to have hit bottom. The prices of existing homes have been most affected, showing zero growth in September this year. Price growth for new homes remains positive, with a 1.7% increase in 3Q08.

In the current macroeconomic and financial context, forecasts for FY08 point to a drop in prices of around 0.5% in nominal terms, equivalent to a decrease of about 4% in real terms. The price falls are set to become steeper as of next year, with falls of around 5% on average in 2009 and 10% in 2010 in nominal terms, giving a total cumulative decline of around 15%. These forecasts have been significantly affected by the supply excess in the market, which will make the adjustment longer and more severe. Falling construction costs and lower real interest rates will provide some support, but will have only a limited impact on this contraction. Compared to the previous real estate cycle, a key point to note is that the current adjustment is set to be more gradual than the 1992-1993 adjustment, when the rate of growth in real house prices fell from 7% on average in 1991 to a -8% in 1992.

Our house price forecasts have become more negative since the previous edition of *Real Estate Watch*. This is because price data published until now had yet to include any actual fall in prices, so the necessary adjustment will have to be made in the coming quarters. In addition, our estimates of excess housing stock indicate that this excess will continue to increase in 2009, primarily because of the greater-than-expected decline in demand, and this excess supply will add to the downward pressure on prices. Lastly, increasingly negative expectations about housing prices could prompt prospective buyers to postpone their purchases, thereby forcing the market to cut prices even further to sell the excess supply.

However, the magnitude and duration of the downward adjustment will depend greatly on future macroeconomic and financial developments both in Spain and abroad. At present, given the extreme uncertainty over the duration of the global financial crisis and the contraction in the Spanish economy, these forecasts should be treated with caution.

Chart 8.
House prices in Spain
y-o-y growth rate



Source: Ministry of Housing

Chart 9.
Nominal house price growth
year-on-year growth rate

Source: ERD BBVA

Box 1: Model for estimating house prices in Spain

The variable analysed is the statistical series of average house prices per square metre published by the Ministry of Housing. It should be clarified that this series is based on the appraised values of homes, which do not necessarily coincide with the market values reflected in actual transactions. Furthermore, since it provides an average price per square metre, the series does not take into account the range and variety of homes available, especially with regard to size and the quality of materials used in construction. However, the data series is the only one available[1], and covers a sufficiently lengthy period for the purpose of this analysis.

The model used to produce the estimate consists of two equations:

$$(1)\ \Delta I_t = \beta_0 + \alpha\,(I_{t-1}+\beta_1 Y_{t-1}+\beta_2 T_{t-1}) +\beta_3 \Delta Y_t+\beta_4 \Delta U_{t-2}+\beta_5 \Delta Pv_{t-1}+\beta_6 \Delta Pv_{t-2}+\beta_7 \Delta Pv_{t-3}+\varepsilon_t$$

Where β_1, β_3, β_5, β_6 and $\beta_7 > 0$; α, β_2 and $\beta_4 < 0$

This equation shows approximate housing demand, based on National Accounts data for investment in housing. Changes in housing demand are explained by changes in real income (Y_t), unemployment rate U_t), real interest rates (T_t) and expectations for real house price growth (ΔPv_t).

The second equation approximates house prices from the supply side, and has a similar form to the equation used by McCarthy&Peach (2002) [2] :

$$(2)\ \Delta Pv_t = \alpha\,(Pv_{t-1}+\gamma_1(I_{t-1}-S_{t-1})+\gamma_2 CC_{t-1}+\gamma_3 T_{t-1}) +\gamma_4 \Delta T_t+ \gamma_5 \Delta T_{t-1}+\gamma_6 \Delta CC_{t-2} +\Delta Cseas +\gamma_7 \Delta Pv_{t-1}+\varepsilon_t$$

Where γ_1, $\gamma_2 > 0$; α, $\gamma_3 < 0$

In this second equation, real prices depend upon the ratio between residential real estate investment and housing stock (I_{t-1}-S_{t-1}), which approximates the counterbalance to the excess supply (see explanation in section 1.1 of this review), real construction costs (CC_t), real interest rates (T), and also seasonal variables ($Cseas$).

A lower ratio between real estate investment and housing stock would be associated with a slowdown in house price growth. Additionally, the coefficient associated with construction costs would be expected to be positive, since higher construction costs would be reflected in higher house prices. On the other hand, an inverse relationship between interest rates and house prices is assumed: i.e. a fall in interest rates tends to boost investment in real assets.

In the estimate, all variables are in logarithms except for interest rates and the unemployment rate. The results of these estimates are the forecasts of nominal house prices plotted in Chart 9.

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[1] In October 2008, the INE began publishing a new series of house price indices that complies with Eurostat statistical requirements. This index was calculated using data collected by the National Council of Notaries and the calculation methodology used makes it possible to circumvent the problems associated with the Ministry of Housing series. Unfortunately, this new series covers an extremely limited period of time, having begun only in 2007, and cannot therefore be used for any kind of econometric analysis.

[2] Jonathan McCarthy and Richard W. Peach: *Monetary Policy Transmission to Residential Investment*, FRBNY Economic Policy Review. May 2002.

2. Impact of the financial crisis

2.1. The role of the real estate market adjustment and the international financial crisis in the slowdown in mortgage lending

After more than a decade of rapid expansion, in late 2006 the real estate sector entered an adjustment phase prompted by excess supply (and partially triggered by rising interest rates) which has had dampened real state market in general and the residential mortgage sector in particular.

However, this was not the only cause for the slowdown in residential mortgage lending (hereinafter "home loans"). Since the summer of 2007, the correction in the real estate sector was compounded by the severe tension in global financial markets caused by the US sub-prime crisis, which led to increased interbank lending costs both globally and domestically, and consequently to reduced lending volumes ("credit crunch").

In an attempt to quantify the relative impact of both phenomena on the decline in home loans, we used a structural vector autoregressive (SVAR) model[1] with the following structure:

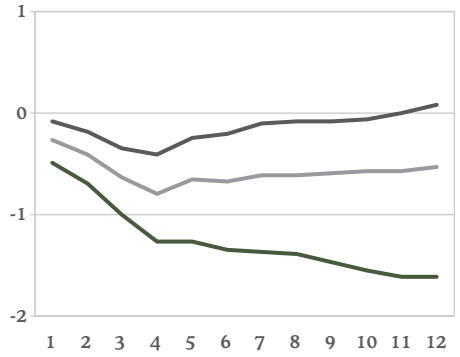
$$A_0 Y_t = C + A_1 Y_{t-1} + A_2 Y_{t-2} + u_t$$

where the vector of endogenous variables includes: real domestic demand excluding residential investment, real household residential investment, three-month interbank lending rate, interbank spread (difference between three-month interbank market rate and yield on three-month Treasury notes), residential lending, and, lastly, other lending[2].

The elements of the vector are the various types of stochastic shock generated by the dynamic of the variables contained in Y_t, in this case only two of which (assumed to be the only ones in play since the end of 2006) are of interest: Firstly, the essentially domestic shocks that triggered the progressive adjustment in the real estate sector (hereinafter the "real estate shocks"), and secondly, the shocks associated with the global financial crisis triggered by the sub-prime crisis (hereinafter the "financial shocks") .

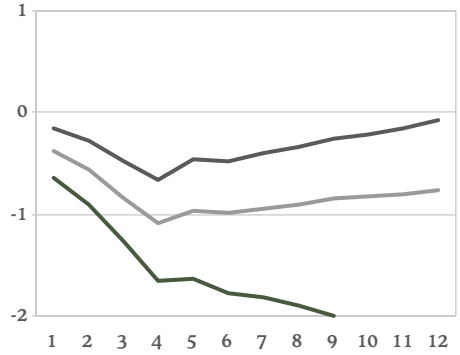
The effects of these two types of shock differ from all others in the following ways: firstly, it is assumed that the real estate shocks act by reducing growth in residential investment without affecting at the same time other components of domestic demand and inducing a downturn in residential lending in the course of the next four quarters. Secondly, it is assumed that the global financial crisis affected the Spanish economy by increasing interbank rates and spreads and prompting a generalised rationing of credit that has in turn led to a deceleration in growth in residential lending over the next four quarters[3].

Chart 1.
Impact of housing shock on credit growth for housing purchases (in real terms)



Source: ERD BBVA

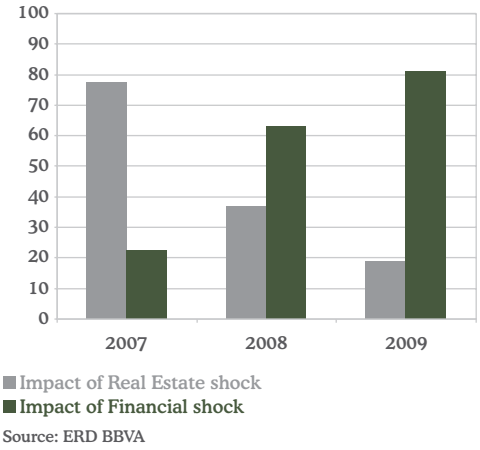
Chart 2.
Impact of financial turmoil on credit growth for housing purchases (in real terms)



Source: ERD BBVA

[1] See Barrabés-Solanes, Clara and Méndez-Marcano, Rodolfo (2008): *Sign-Restrictions-SVAR analysis of the Spanish housing sector slow-down, Quantitative Modelling & Analysis Unit's Technical Reports*, December 2008, BBVA Research Department.
[2] The demand and lending series are expressed in logarithmic scales and the GDP deflator was used for their conversion into real values.
[3] In technical terms, the process involves identifying the two types of interest rate shocks via sign restrictions (not via values, which are estimated) using the methodology proposed by Uhlig, H. (2005): *What are the effects of monetary policy on output? Results from an agnostic identification procedure*, Journal of Monetary Economics, 52 (pp 381-419).

Chart 3.
Impact of financial and housing shock on household lending
(percentage over total)



Source: ERD BBVA

Lastly, it is assumed that between June 2006 and May 2007 the discrepancy between actual residential investment and the pre-crisis forecast is due entirely to real estate shocks, whereas between June 2007 and the present, the discrepancy between the interbank spread and our pre-crisis forecasts is due to financial shocks.

Charts 1 and 2 show how the year-on-year residential lending growth rate reacts to a real estate and financial shock (of a historically average or "typical" magnitude)[4], as deduced from the estimated SVAR model. A "typical" real estate shock results in a fall of approximately 0.52pp in the first year and 0.62pp in the long term. A "typical" financial shock, meanwhile, has an impact of around 0.71pp in the first year and a little less than 0.90pp over the long term.

These data can now be used to calculate the degree to which each shock contributed to the decline in residential lending since late 2006.

For the most part, the slowdown in residential lending in 2007 was attributable to real estate shocks (remember that international financial shocks began to take their toll after the first half of 2007), while the continued slowdown in 2008 was due mainly to international financial shocks (see Chart 3).

Lastly, the model also suggests that in 2009, due to the ongoing effect of these shocks, and in the absence of additional disruptions, financial shocks will have an even bigger influence on lending growth (and in particular residential lending growth).

In conclusion, the past year suggests that, while the real estate sector adjustment was the primary cause of the downturn in residential lending in 2006 and 2007, the international financial crisis became the primary cause in 2008, and is likely to remain so in 2009.

2.2. Will the rest of the economy be able to absorb redundant construction sector workers?

The slowdown in economic activity, which was moderate until mid last year, became more pronounced as of second quarter 2007 and intensified with each passing month, as it is shown by the BBVA Synthetic Activity Indicator (Chart 4). This abrupt decline was particularly noticeable in the construction sector, for which the Synthetic Activity Indicator shifted from growth rates of nearly 5% to a contraction of 20% in just six months.

Chart 4.
Synthetic activity indicator
year-on-year change (%)

Source: ERD BBVA

As it could be expected, the changes in the real estate sector were quickly reflected in the labour market. The data show that the construction sector began to eliminate jobs (in seasonally adjusted terms) late last year, and that this trend continued as the market for home construction worsened, eventually reaching reductions of 3.4% a month by November 2008. Meanwhile, as the construction sector was seeing a decrease in job creation, unemployment in the sector skyrocketed, with twice as many unemployed in November 2008 as in the same month of 2007 (Chart 5).

[4] In technical terms, this impact is given by "impulse response functions"..

The decline in job creation and increase in unemployment are reflected in the synthetic indicators of employment flows (new hires and layoffs) and, specifically, in the probability of remaining employed in the sector. Chart 6 shows the effects of the dramatic cutbacks in the construction sector: while in 2006, the probability of remaining employed in construction one year later was about 80%, the probability of a worker in 2007 still being employed in 2008 fell by more than 10 percentage points (pp), a decline far greater than any other sectors.

So where are the former construction sector workers going? The answer is perhaps surprising. Although the probability of becoming unemployed has increased by 8pp in the past year (36% of workers who lose their construction job become unemployed), most manage to find employment in another sector: 44% of construction workers who leave the sector find employment in other sectors. In addition, the flow of workers into other sectors has not only remained stable in the new economic climate, but has even slightly increased (by almost 4pp), reflecting an increased capacity of other sectors to absorb the workers laid off by construction[5] (Chart 7).

Traditionally, the main industries absorbing former construction sector workers have been the extractive industry (27%), commerce, hotels and restaurants (18%), business services (16%), and machine construction (12%) (Chart 8). However, over the past year, in which there was an average 2pp increase in construction workers finding employment in other sectors, increases were noted in business services (up 0.9pp), and in the commercial and hospitality segment (up 0.5pp), but also in less "traditional" sectors such as public sector administration (0.6pp) and manufacturing (0.3pp). In contrast, extractive industries, oil refining, chemicals, rubber processing, metallurgy, energy, and water have fallen significantly in 2008 (down 0.4pp from 2005-2007), reflecting the downturn in the industrial sector in recent months[6]. Likewise, transport, storage, and communications are also absorbing fewer construction sector workers (by 0.2pp relative to 2005-2007) reflecting the general slowdown in trade.

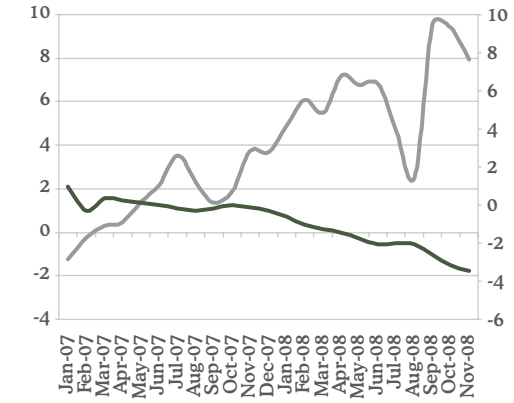
However, not all construction sector workers are equally employable in other sectors. The chances of changing sector or falling into unemployment vary according to the worker's social and employment background. For this article, four specific characteristics were analysed: age, education, nationality, and the type of employment contract the worker has with the company.

As would be expected, temporary workers are at the greatest risk of unemployment. While there was a 4pp increase in unemployment among workers on permanent contracts, for workers on temporary contracts the possibility of unemployment grew from 6.5% at year-end 2007 to around 20% by in 3Q08. The probability of finding work in another sector increased simultaneously and to the same extent among both groups of workers (Chart 10).

In terms of age, younger workers have not only demonstrated greater mobility between sectors in the past, but have become even more mobile in the past year (Chart 11 and 12). For workers between the ages of 25 and 34, the probability of changing sector increased by 6pp in 2008,

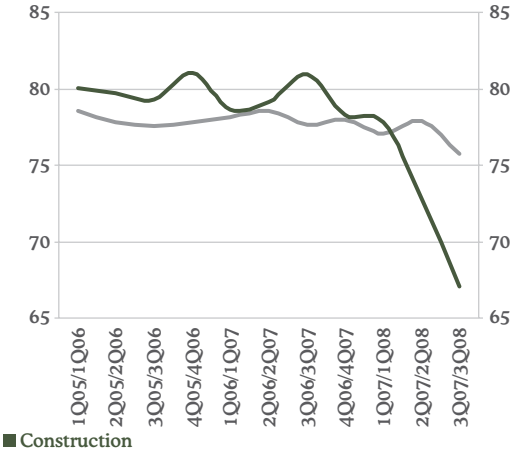
[5] The remaining 20% become economically inactive.
[6] See Labour Market Observatory for November: (http://serviciodeestudios.bbva.com/TLBB/fbin/EEUES_081202_NovedadesEspana_112_tcm268-182476.pdfr)

Chart 5.
Construction. Social security affiliation and registered unemployed
CVE Data (% m/m)



Source: BBVA Economic Research Department and Ministry of Interior.

Chart 6.
Probability of staying employed in the same sector
Construction vs rest of economy (%)

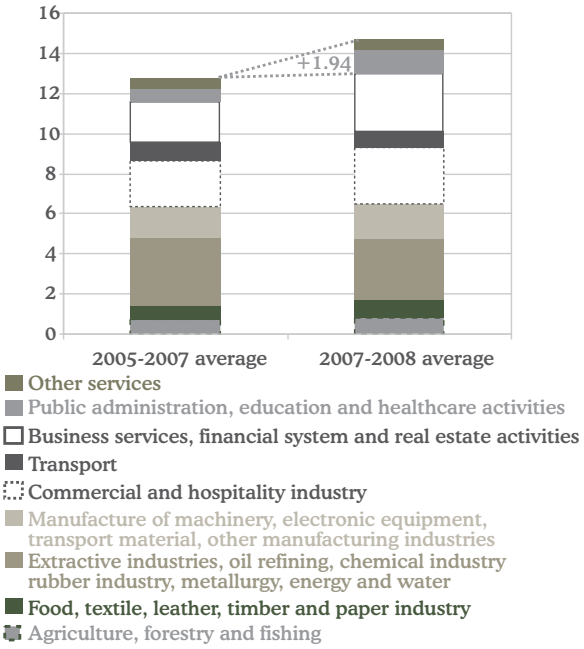


Source: ERD BBVA

Chart 7.
Construction. Transitions from employment
Year-on-year probability of transition in %

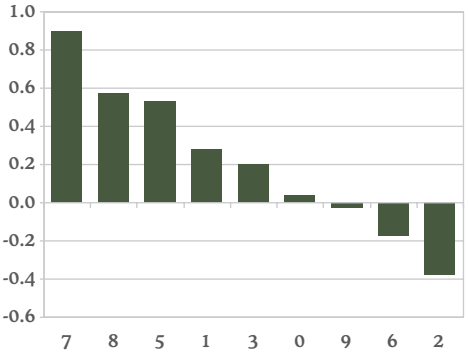
Source: ERD BBVA

Chart 8.
Destination of workers who shift to a different sector
(Transitions, y/y %)



Source: ERD BBVA

Chart 9.
Destination of workers who shift to a different sector. Contribution of each sector to the difference between 2007-2008 and 2005-2007



Source: BBVA Economic Research Department
0 = Agriculture, forestry and fishing (CNAE-93 codes: 01, 02 and 05)
1 = Food, textile, leather, timber and paper industry (CNAE-93 codes: from 15 to 22)
2 = Extractive industries, oil refining, chemical industry, rubber industry, metallurgy, energy and water (CNAE-93 codes: from10 to14, from 23 to 28, 40 and 41)
3 = Manufacture of machinery, electronic equipment, transport material, other manufacturing industries
5 = Commercial and hospitality industry (CNAE-93 codes: 50, 51, 52 and 55)
6 = Transport (CNAE-93 codes: from 60 to 64)
7 = Business services, financial system and real estate activities (CNAE-93 codes: from 65 to 67 and from 70 to 74)
8 = Public administration, education and healthcare activities (CNAE-93 codes: 75, 80 and 85)
9 = Other services(CNAE-93 codes: from 90 to 93, 95 and 99)
Source: ERD BBVA

while for workers in the older age brackets (35-54 years), mobility remained more or less stable. In contrast, all age ranges have a similar increase in the likelihood of becoming unemployed. Only in the youngest age bracket (16-24) has there been any significant change; over the past two years, the likelihood that these workers will be unemployed the following year has increased 2.4 times, to above 19% in 3Q08.

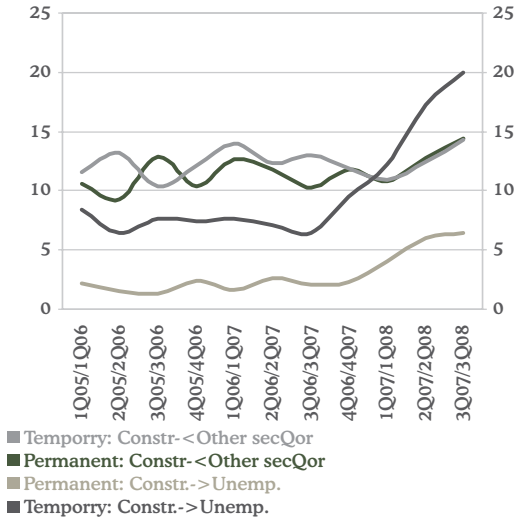
With regard to education, Charts 13 and 14 confirm what economic literature usually states us: that education protects workers from unemployment and makes it easier to move between sectors. Even so, over the past quarter there has been a marked increase in the likelihood that university-educated construction sector employees may find themselves out of work: in just three months, the probability that a university graduate working in construction the previous year will become unemployed has doubled to 8.5%. This figure demonstrates that the severe slowdown in the real estate sector has also started to affect skilled labour.

Lastly, the results show that foreign nationals are at greater risk of losing their jobs than Spanish nationals, due among other things to their higher level of temporary employment and generally shorter length of company service. However, the most striking finding in this case is that, while all population groups analysed to date are more likely to find employment in another sector than to become unemployed, in the case of foreign nationals, the opposite has been true so far in 2008. One explanation is that the likelihood of foreign workers becoming unemployed began to increase in mid-2007, when the slowdown in the real estate market began to intensify, while their likelihood of finding work in another sector began to increase only in early 2008 (Chart 15). The immigrant population's more precarious employment status (e.g. more temporary contracts, less work experience, less specific skills, etc.) makes their exposure to unemployment risk comparatively high.

Overall, over the past few quarters the rest of the economy has shown some ability to absorb the rising swell of workers driven out of the construction sector. However, as the economic slowdown spreads across all sectors, mobility will become increasingly difficult. For this reason, allocating additional funds to training and reorientation programmes for certain groups, such as immigrants, and increasing the effectiveness of these programmes will be essential to improve the employability of these groups and reduce the likelihood of unemployment.

Chart 10.

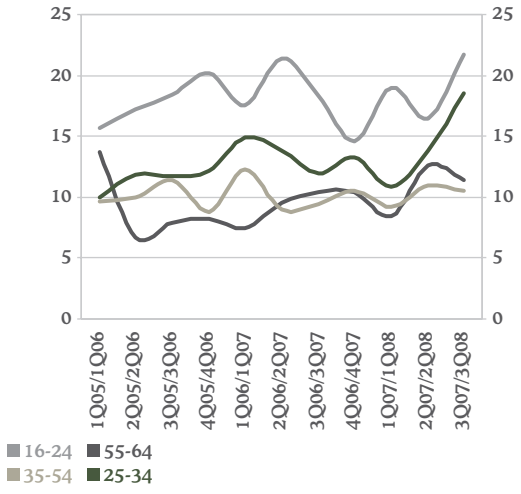
Construction. Probability of transition from employment, broken down by contract type (%)



Source: ERD BBVA

Chart 11.

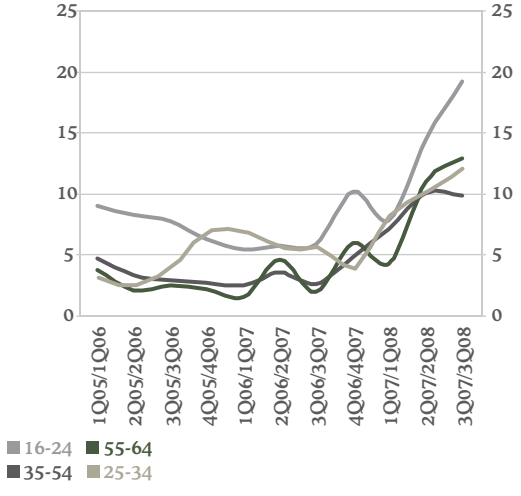
Construction. Probability of changing sector, broken down by age (%)



Source: ERD BBVA

Chart 12.

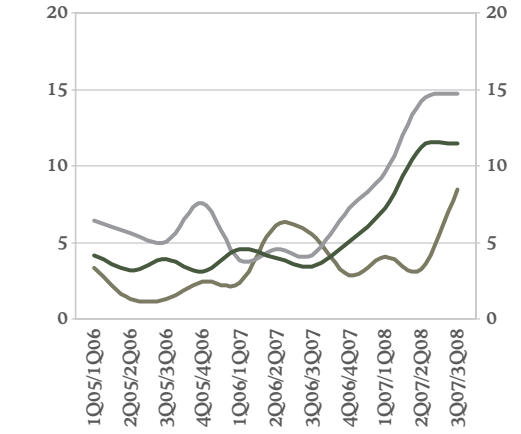
Construction. Probability of transitioning from employment, broken down by age (%)



Source: ERD BBVA

Chart 13.

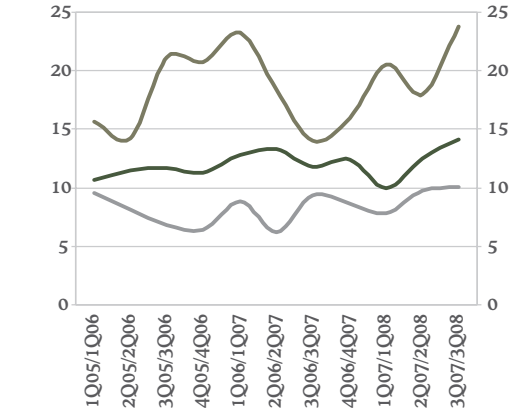
Construction. Probability of transitioning from employment, broken down by education level (%)



Source: ERD BBVA

Chart 14.

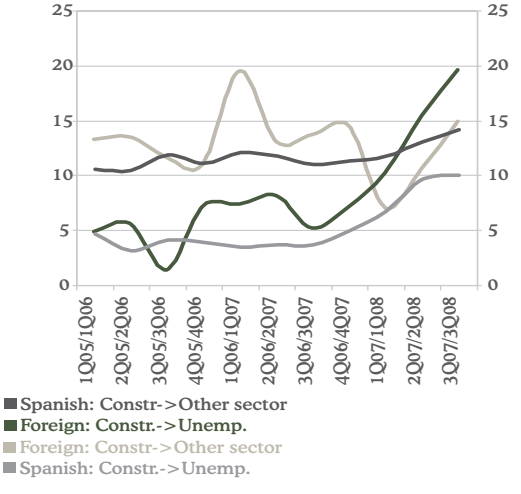
Construction. Probability of changing sector by education level (%)



Source: ERD BBVA

Chart 15.

Construction. Probabilities of transition from employment by nationality (%)



Source: ERD BBVA

Box 2: Residential mortgage lending: a mixed scenario

The balance of outstanding home mortgages debt growth has been decreasing since early 2006 and even more so of late. In 2006, the pace growth was running at 30%, while at present it is a mere 8%. According to the most recent Bank Lending Survey published by the Bank of Spain, not only are home loans less available, they are also less demanded. In fact, demand began to fall first (in early 2006, in line with the fall in demand for housing) and is actually tighter than supply at present.

Exactly what factors limit the demand for credit? How much worse are the finances of Spanish households? To try to answer these questions, we will analyse the factors which determine the demand for housing and which should therefore be related to the demand for home loans. Economic theory suggests the demand for housing is a function of household disposable income, household wealth, the financial terms under which loan is granted, tax laws and consumer confidence[1].

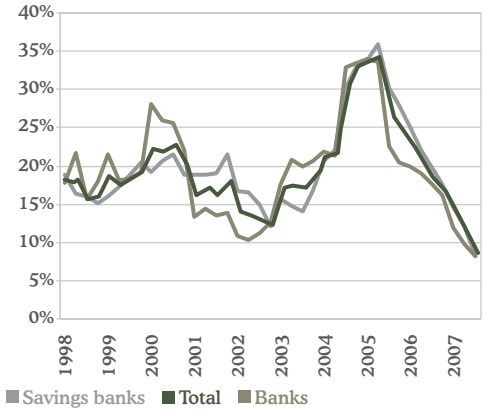
Firstly, the overall decline in the Spanish economy would suggest that household disposable income will stagnate next year. Its trends are in fact very closely correlated to employment. Looking ahead, our forecasts suggest that unemployment will rise to 16% in 2009, so disposable income is not likely to bolster demand for mortgage loans at anytime soon. On the other hand, the drop in oil prices and, subsecuently, inflation will have a positive impact on household income. Specifically, in 2009 this factor will free up about 7,200 million euros in disposable income, or 1% of the total.

Secondly, household wealth has not been increasing all that much. Financial wealth, given the complexity of the stock markets and the declines since 2007, is highly unlikely to contribute to greater household wealth, nor can we predict when we will see the light at the end of the tunnel. An increase relating to real estate wealth is not likely either, given that housing prices are expected to fall during the next few years. Moreover, a trend towards declining prices leads potential buyers to wait until prices drop even further, so they are postponing their decisions to buy.

However, Spanish households have significantly increased their wealth -particularly their real estate wealth in the last few years- at a much higher rate than other developed countries. In the next few years, the containment of growth in wealth will not wholly offset the previous increase, so the demand for mortgage loans will find some support from this

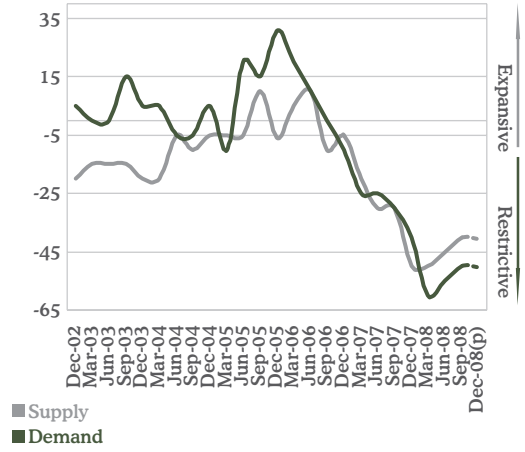
[1]See: Melvin Stephens, 2004. *Job Loss Expectations, Realizations, and Household Consumption Behavior*, *The Review of Economics and Statistics*, MIT Press, vol. 86(1), pages 253-269, 02.
Bover, Olympia, 2006 *Wealth Effects on Consumption: Micro-econometric Estimates from a New Survey of Household Finances*. CEPR Discussion Paper No. 5874.

Chart 1.
Household mortgage lending
(year-on-year growth rate)



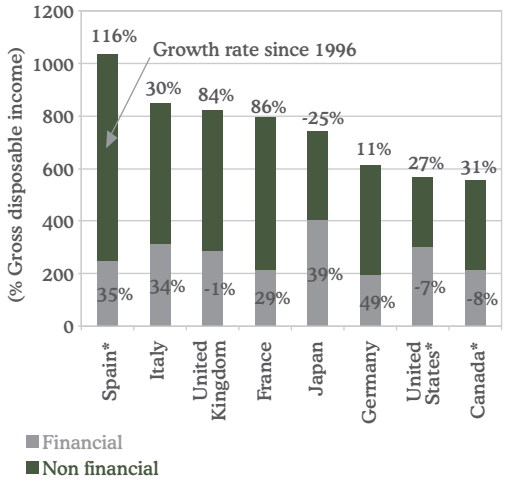
Source: Bank of Spain

Chart 2.
Bank Lending Survey
Mortgages



Source: Bank of Spain

Chart 3.
Net household wealth, 2006



Source: OECD and Bank of Spain

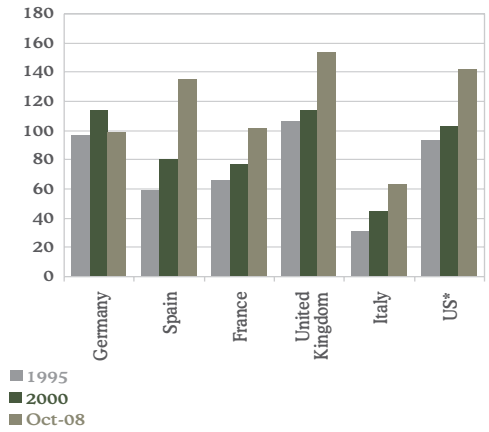
factor. Moreover, household debt relative to wealth is lower than in neighbouring countries, which will help household finances and enable households to liquidate this wealth should they need to.

Financial credit terms are mixed. The situation in financial markets has made credit costly, as key interest rates had been rising for much of the year and the credit and liquidity premiums paid in the markets have risen due to the financial crisis. This affects households, particularly in countries like Spain, where almost all loans are at variable rates and 90% of households own their own homes. Conversely, factors such as loan extensions or the increase in LTV (Loan-to-value) have helped the financial situation of households, and will continue to do so. The ECB (European Central Bank) is expected to lower its official rates to 1.5% next spring. With this, the 12-month interbank rate could fall to slightly above 2%. This, coupled with a slight easing of financial tensions, will reduce average mortgage rates to nearly 3% at the end of 2009. In this way, relaxation of the ECB's monetary policy will free up some 6,000 million euros of disposable income in 2009, or 0.8% of the total. As a result of all these factors, household disposable income looks set to increase by just 2.7% in 2009, or an inflation-adjusted 0.1%.

Lastly, consumer confidence is at an all-time low, lower even than during the 1993 crisis. Consequently, it is highly unlikely that this factor will support demand for housing.

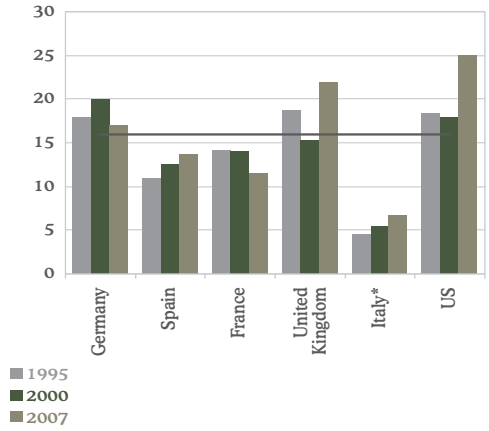
One useful overall measure of households' financial position is the financial burden; i.e. the percentage of average household income used to repay debt. In 2008, the financial burden of households amounted to 17% of household income. Specifically, 7.7% of income was used to pay interest and 9.4% to pay principal. Of the total, less than half, or 8.3% of income, related to home mortgage loans, a percentage that has grown throughout the sample, but which remained stable in 2008. Beginning next year, the burden should level off at a more sustainable level of around 14% of income, due mainly to the reduction in the portion of payment corresponding to interest. Two factors help reduce the financial burden when disposable income stops growing: lower interest rates and modest lending growth. The lowered financial burden should support housing demand up in the midst of uncertainty.

Chart 4.
Household debt
(Financial debt as % of disposable income)



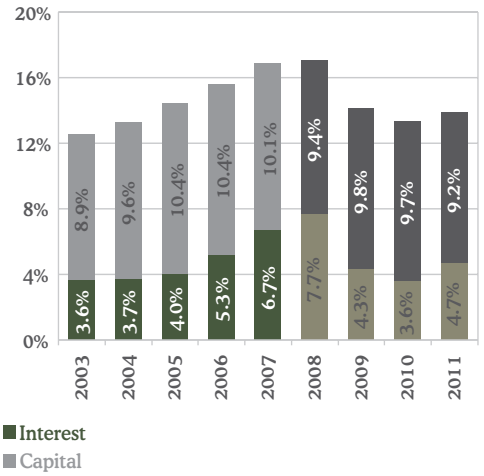
* latest data 2007
Source: OECD, Bank of Spain, AMECO and ERD BBVA

Chart 5.
Household debt
(Financial debt as % of net wealth)



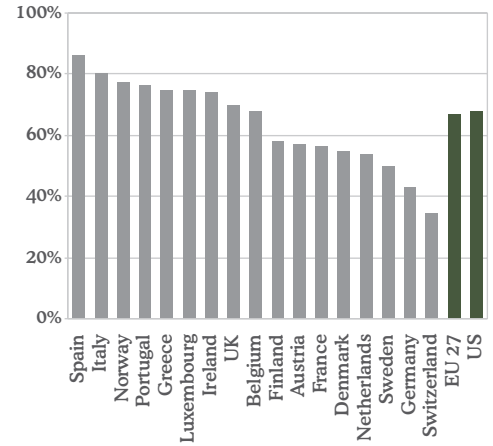
* Latest data 2006
Source: OECD, Bank of Spain and ERD BBVA

Chart 6.
Spanish households' debt burden



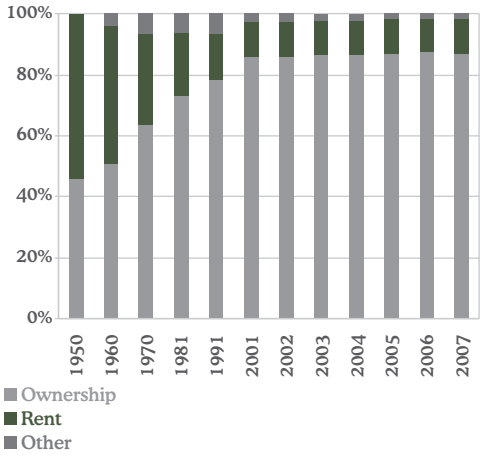
Source: ERD BBVA

Chart 1.
Home owner occupancy rates in Europe



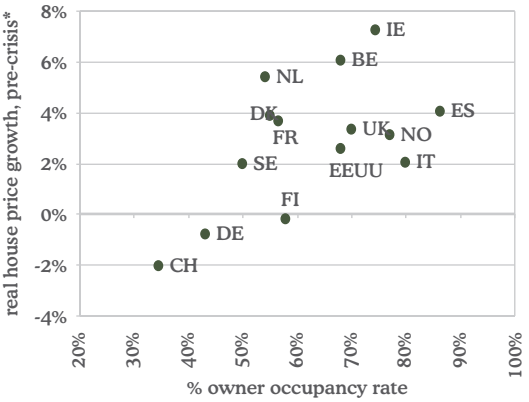
Source: European Mortgage Federation.

Chart 2.
Home tenure rates in Spain



Source: INE, Ministry of Housing.

Chart 3.
House prices and owner occupancy rates



* Deflated by personal consumption deflator; average 1990-2005.
Source: European Mortgage Federation; BIS; BBVA Economic Research Department

3. Countercyclical and stabilising measures

3.1. Buying vs. renting: what guides the decision?

Over the last few decades, Spaniards have demonstrated a clear preference for housing ownership rather than renting one. The decision of whether to buy or rent depends always on the economic climate at the time. The current economic and financial climate does not favour home ownership as much as it did in the recent past. Tougher access to credit, the expected decline in house prices, and the excess housing supply are all significant factors which discourage buying and might make people more inclined to rent. In this section, we will first analyse the changes in how Spaniards acquire housing and then look at a model for deciding whether to rent or buy. Finally, we will try to answer the question of whether, in the current climate, it is more profitable to buy or rent.

Patterns of housing tenure in Spain

Before examining the factors which determine whether to buy or rent, it is worth comparing the rental market in Spain with that of other European countries. Spain has a higher percentage of home ownership than the rest of Europe: 85% versus the European average of 65%. If we look at how this percentage has changed over time, we will find that home ownership was not always the preferred model among Spaniards. During the 1950s and 1960s, about half of homes were rented, and since then this percentage has gradually declined in favour of ownership.

Socioeconomic factors drove this change, together with housing market development policies which favoured buying over renting. On the supply side, access to housing was promoted more as an option of buying rather than renting. In the case of public housing, for example, the approach has been to promote ownership, rather than set up a system of protected housing for rent, such has been done, for example, in Germany and Holland. Promoting rental housing has fallen to private initiatives, which have in most cases favoured home ownership over rental.

On the demand side, the shortage of supply in rental housing and the tax benefits of home ownership have created a greater demand for home ownership. Moreover, with rising house prices, the demand for homes as an investment option has grown significantly. The data on housing prices and percentages of home ownership in various European countries confirm this trend. Spain and Ireland are the countries with the highest average growth in real housing prices (during the years 1990-2005) and also the highest rates of home ownership (Chart 3). Also, when analysing the change in the ratio of purchase to rental price (when considering housing more as an investment than as a consumer good), we see that in Spain's case the increased profitability of buying is accompanied by a reduced supply of rental housing (Chart 4). However, the relationship between price and tenure is not unambiguous and is greatly influenced by internal factors, which must be taken into account when identifying the causal relationships between the two variables.

In the current economic climate, characterised by high uncertainty and downsizing of the residential sector, we wonder whether the conditions

that have so far favoured buying over renting have changed and, if so, how and to what extent.

A model for deciding whether to buy or rent

One way to analyse the relative advantage of buying vs. renting is to compare their respective gains. In the case of buying, many factors must be taken into account, and not all are quantifiable. That said, it is possible to identify certain key variables such as those set forth in the following formula:

$$GP = f(P,i,t,T)$$

where GP is the gain from the purchase, and a function of the house price, P, of the interest rate on the loan, i, of the term of the loan, t, and taxation, T. Based on these factors, the gain is calculated as the sum of the loan payments and the capital gain (or loss) in the event of a hypothetical sale of the home. On the other hand, the gain associated with renting, GR, is a function of the following factors:

$$GR = f(P,i,t,r,T,Pr)$$

The variables that are added in this case are the interest rate on alternative investments, such as a 10-year bonds, r, and the price of rent, Pr. The gain is equal to the savings accumulated as a result of renting instead of buying (calculated as the difference between what is paid in rent and what would have been paid to purchase a home), capitalised at the interest rate on alternative. Consequently, for a house such as the one in Chart 5, the respective gains from each method over time can be determined, and therefore which option is more desirable financially. The results show that for an investment held for over a year, buying is the most profitable option.

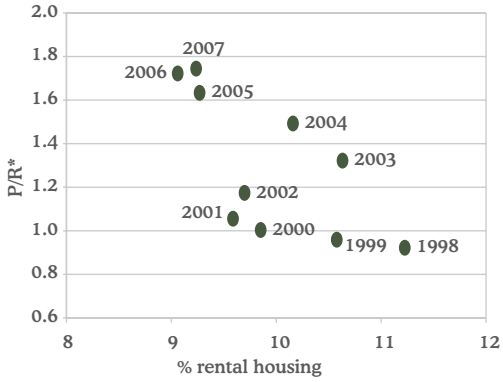
The results of this exercise will obviously depend upon the assumptions made about some of the variables described in the above example, which may change over time. It is worth asking whether changes in these conditions will affect the decision of whether to buy or rent, and if so, how. To this end, we must calculate the net gain (GR-GP) between the two options based on market data from 1993 to date. If GR>GP, then renting is the best option, and vice versa. However, some variables such as the size of the home, the LTV ratio, and the term of the mortgage will remain fixed.

The results shown in Charts 6-9 highlight some interesting conclusions:

- The advantage of buying over renting when house prices are rising strongly is evident, regardless of the time horizon of the investment. Between 2000 and 2006, house prices were rising over 10% per year, which meant that revaluation expectations were very high. Moreover, low interest rates resulting from joining the Monetary Union also favoured buying over renting.

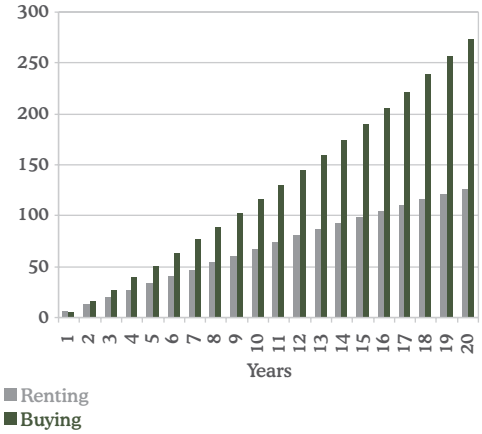
- The ability to invest long term also favours the buying option. During years of moderate growth in house prices and high interest rates, buying appears to be the most cost-effective option only if it represents a long-term investment, which implies low volatility in household income.

Chart 4.
House prices vs housing stock for rent in Spain



* Price/Rent ratio.
Source: INE, Ministry of Housing; BBVA Economic Research Department

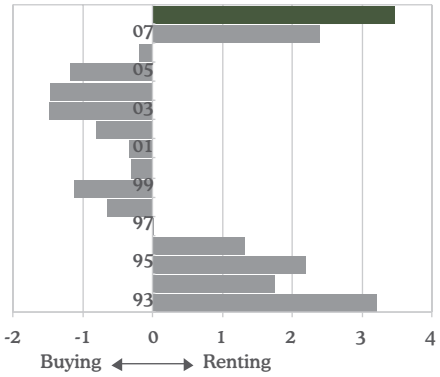
Chart 5.
Buying vs Renting: estimated gains
(Thousands of €)



Source: ERD BBVA.

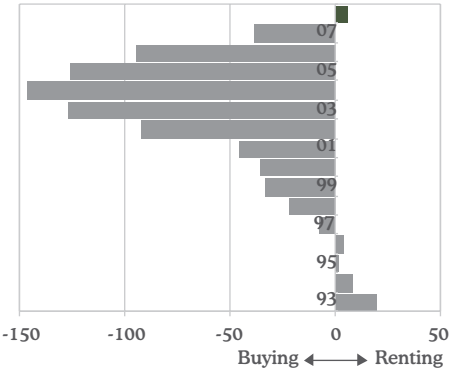
- House size = 100 m²
- Price = 200,000€
- LTV = 80%
- Fixed mortgage rate = 5%
- Mortgage term = 25 años
- 10 year government bond yield = 5%
- Savings tax = 18%
- Monthly rent = 600€, indexed to inflation growth rate
- House price growth rate = 3.5%
- Personal Income tax (IRPF) deductions ≤ 15% of 9015€

Chart 6.
Net gain, buying vs renting: 1 year
Thousands of €



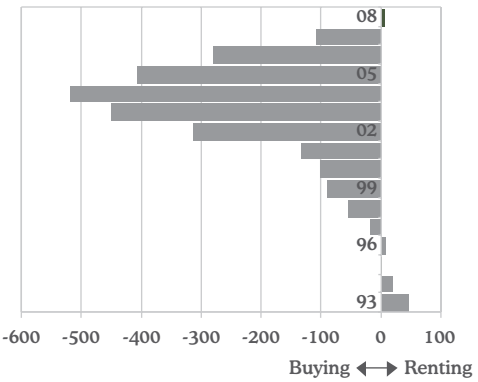
Source: ERD BBVA.

Chart 7.
Net gain, buying vs renting: 5 years
Thousands of €



Source: ERD BBVA.

Chart 8.
Net gain, buying vs renting: 10 years
Thousands of €



Source: ERD BBVA.

• The taxation of housing also plays a significant role in this decision. When prices are roughly equivalent, tax breaks may play in favour of one option over the other. In Spain, there are tax breaks for buying but this is not the case for renting, moreover, several studies show that the current tax regulation tend to favour buying over renting[1].

• Based on our forecasts, it is possible to determine which option is more profitable in the current economic climate. Charts 5-10 demonstrate how, with housing prices currently showing zero growth and expected to continue in this direction, the most cost-effective option is to rent.

Is buying the best option in the current scenario?

The preceding analysis assumes that the prices existing at the moment of the purchase will remain stable over time. If we change this hypothesis and analyse the gains actually realized over time applying historical housing prices, we find that long-term investments provide the greatest return. Chart 10 shows the gains made on houses bought on the dates on the vertical axis and held for periods of one, five, and ten years. For example, for a house bought in 1995, buying is preferable to renting only if the house is kept for over five years. The chart also shows that during the last crisis in 1993, renting was the more profitable option.

Under the current circumstances, it is difficult to predict which option is more profitable, given the uncertainty in the residential and financial market in Spain. In any event, based on this analysis we can conclude that the most cost-effective option is to rent, particularly when the term of the investment is limited and prices are expected to fall further.

The greater profitability of renting will, however, be limited by the expected changes in the user cost of housing. If a home is considered as a consumer good, the *"user cost"* indicator measures the cost of "consuming" an owned home. If the home is rented, the corresponding indicator is the rental price, or the amount paid to "consume" the home without owning it. The factors which determine this price can vary depending upon the definition, but the key elements can basically be reduced to three: the opportunity cost of investing in housing, that is, what is lost by not investing in other assets; the interest on the mortgage; and the tax breaks for investing in housing. In this case, the user cost shown in Chart 11 was calculated using the following formula[2]:

$$CU_t = RI_t^{OP} + (1 - t_{IT}) * t_{RET} - (t_{IT} * IR_t^{H})$$

Where RI^{OP} is the return on alternative assets, in this case 10-year bonds, plus real estate tax (RET) and minus tax deductions for investment in housing (proportional to the marginal tax rate for personal income tax). Also, it is standard practice to deduct profits expected from home revaluation from the user cost. In this case the two variables were not combined, so that one may evaluate the changes in user cost separately from expected house prices. Chart 11 shows clearly how user cost declined during the years when house prices were rising steadily, falling

[1] See for example "Taxation on Housing in Spain" by Victor García-Vaquero and Jorge Martinez, Occasional Documents Nº 0506, Bank of Spain.
[2] There are several ways of calculating cost of usage; this formula does not take into account the cost of maintaining the house nor a possible risk premium for the higher risk involved in investing in housing.

by 2.1% from 2000 to 2005. This change, together with the extraordinary rise of house prices during the same period, boosted investment in housing and strengthened the preference for buying.

These conditions no longer apply. The downward trend in prices will limit the gains resulting from buying a home and favour the rental option, as we have seen previously. On the other hand, the changes in user cost, which after a slight increase will tend to decline once again, is a supporting factor for buying versus renting. In any event, these conclusions must be treated with caution, given the current uncertainty. Prolonged liquidity pressure and consistently high risk premia could affect mortgage rates, keeping them above official interest rates.

In conclusion, rentals could be a more cost-effective option in the current economic climate. However, the limited number of available homes for rent calls for a housing policy aimed at increasing rental stocks to levels in line with the rest of Europe. The new housing plan for 2009-2012 intends to promote rentals for the first time as a strategy to speed up sales of unsold housing stock. Specifically, the plan calls for up to 40% of new VPO (Officially Protected) housing to be set aside for rentals, and for unsold homes on the market to be reclassified as rental VPOs, with subsidies of up to 410 euros per square metre. Moreover, the plan envisages changes to the Urban Leases Law to optimize judicial proceedings in the case of default.

These measures are welcome in the current climate, and could, additionally provide some positive externalities such as increasing mobility in the Spanish labour market. Various studies, both at national and international level find that housing tenure affects workforce mobility and unemployment. High workforce mobility tends to be associated with lower unemployment rates and with countries where renting is more popular[3].

3.2. Government measures to boost employment and help families

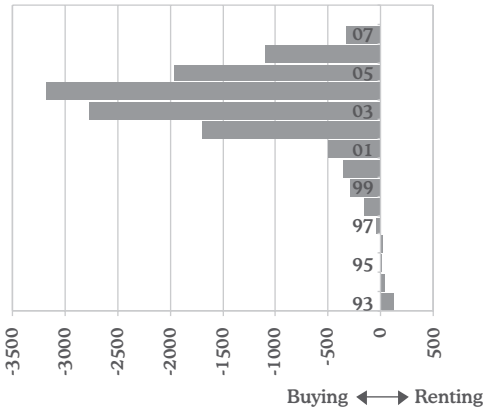
In response to the escalating financial crisis which began in August 2007 and its negative impact on the real economy, the Spanish government has been taking measures in 2007 and 2008 aimed at boosting economic activity and providing liquidity to the financial system. A number of these measures seek to create employment and to help families.

Boosting employment

Some of the measures to create employment, aside from those which seek to find jobs for the unemployed, are the following: the hiring of 1,500 professional job counsellors to prepare customized individual plans for entering the job market; grants of 350 euros per month for three months for the unemployed with special difficulties; and the newly-formed **State Fund for Local Investment**[4], with a balance of 8,000 million euros to fund municipal works to be executed immediately and which create new jobs.

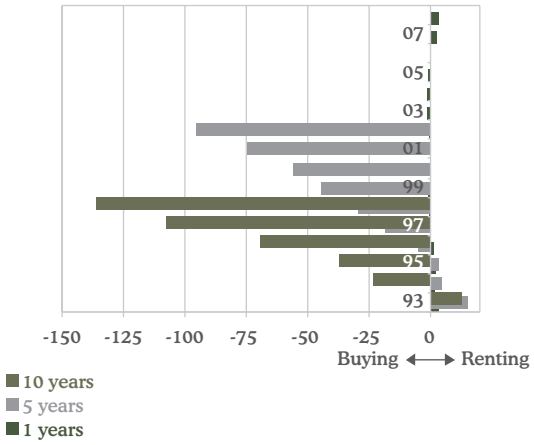
[3] See for example Barceló C, "»Housing tenure and labour mobility: a comparison across European countries, Work Documents Nº 0603, Bank of Spain.
[4] Royal Decree Law 9/2008 of 28 November 2008

Chart 9.
Net gain, buying vs renting: 20 years
Thousands of €



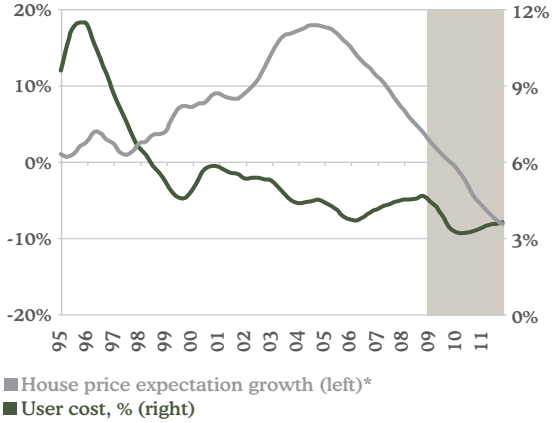
Source: ERD BBVA.

Chart 10.
Buying vs Renting: realized gains
Thousands of €



Source: ERD BBVA.

Chart 11.
User cost of housing
(year-on-year growth rate)



* 4 quarter moving average of the year-on-year house price growth rate.
Source: BBVA ERD ;INE; Ministry of Housing; Bank of Spain.

Table 1. Works that can be financed by the State Fund for Local Investment
(RD-L 9/2008 of 28 November 2008. Art. 2)

1. Adaptation, remodelling, or improvement of urban environments or public spaces, as well as industrial development.
2. Equipment and infrastructure for basic services in networks such as sanitation, lighting, and telecommunications.
3. Construction, adaptation, remodelling, or improvement of buildings and public facilities, including health, funerary, educational, cultural, and sports facilities.
4. Environmental protection and pollution prevention, urban waste management, as well as works aimed at boosting energy savings and efficiency.
5. Removal of architectural barriers.
6. Conservation of civic patrimony and protection and preservation of municipal heritage.
7. Construction, adaptation, remodelling, or improvement of the network to supply drinking water and to treat wastewater.
8. Sustainable mobility and improvement of road safety.
9. Fire prevention.
10. Promotion of tourism.

Source: MEH (Ministry of the Treasury)

These projects should cost no more than 5,000 million euros, each, and should be completed by the first quarter of 2010. When awarding the contract, municipalities should take into account the extent to which the project helps generate employment. In this regard, all contracts should include a clause which states that the contractor may hire only unemployed people if additional positions need to be filled.

In the short term this measure is expected to create approximately 200,000 jobs[5], but its success at promoting long-term growth will depend on whether the projects funded relate to infrastructure and productive facilities.

Aid to families

The government has proposed a battery of measures to mitigate the impact of the crisis on families with mortgages. In this section we will perform a detailed quantitative assessment of two of these measures: exemption from mortgage extension costs, and the moratorium on payment of half the instalments due on mortgages held by unemployed people.

One of first measures implemented to aid families was a **400 euro personal income tax deduction**, which since June 2008 has been freeing up a portion of taxpayer income. According to government estimates[5], this measure has helped 8.5 million households and will reduce government tax revenues by 5,400 million euros in 2008 and by 6,000 million euros in 2009, which in each case represents 0.8% of gross household income. We estimate that this measure will have a limited impact on growth, given that, in the event families use the entire amount to increase consumption, real consumer spending would rise about two- or three-tenths of a percentage point at best. In a context of high debt and lower consumer confidence, it is very likely that this is a very high estimate, and it probably will not reach that amount.

Likewise, as of January 2009, taxpayers can **take, on a monthly basis, their deductions for the purchase of their first home** with a mortgage loan. In this way, taxpayers (third party employees and self-employed) with income of less than 33,000 euros a year may, upon request, reduce their monthly personal income tax withholdings by 2 percentage points. This measure may affect 3.5 million people, with a decline in tax revenues of 1,706 million euros in 2009, equivalent to 0.2% of gross household income.

Lastly, two additional measures have been approved to help families with the purchase of their first home. As an extraordinary measure, **the four-year deadline by which holders of home-savings accounts must purchase their first home will be extended** to December 31, 2010 for all those whith deadlines in 2008, 2009, and 2010. Likewise, people who have bought a second home in 2006, 2007, and 2008, but cannot sell the first home due to lack of a buyer, **will be able to reinvest the funds from the sale of their first home and still enjoy a capital gains tax exemption** until December 31, 2010. According to government estimates, these measures will reduce revenues by 64.2 million euros and 226 million euros, respectively, in 2009 and 2010.

[5] Spanish Plan to Stimulate the Economy and Employment, November 2008

Going in the same direction, **Asset Tax was eliminated** in January 2008, thus reducing public revenues by 1,800 million euros each year (about 0.2% of GDP). However, given that this is an Autonomous Community tax, the central government will have to compensate the autonomous communities for this revenue loss, so the effect of this measure will be felt at the central government level, increasing the deficit by the same amount.

In addition, financial, tax, notary, and registration expenses on mortgage extensions were eliminated in May 2008, a measure which aims to support families in distress who need to extend their mortgages. The impact of this measure is believed to limited. Firstly, before the measure took effect, financial institutions were already renegotiating mortgages to minimize the risk of default. Secondly, the savings from this exemption are not significant enough (only a small percentage of the amount saved) to influence the decision of whether to extend a mortgage. Lastly, the exemption does not specifically benefit those likely to default, but rather, mortgage holders in general.

For families who extend their mortgages, the impact of this measure is twofold: the actual cost savings from the exemption, and the lower monthly mortgage payments.

Below are the costs associated with extending the mortgage term:

- Property Register: from 2 to 120 euros depending upon the outstanding capital of the mortgage.
- Notary: 30 euros
- Commission on the extension (charged by the financial institution) and the extension of the debtor's life insurance policy.

Thus, the cost of extending a mortgage of 165,000 euros would be 213 euros, plus the cost of extending life insurance.

On the other hand, extending a mortgage from 28 to 40 years will reduce monthly payments on an average mortgage by 118 euros, or nearly 13%. Extending the mortgage will thus free up 1,416 euros each year. To do this, the debtor would incur a cost during the first year of only 213 euros, the amount which the exemption now allows him to save. For these reasons, the effect of this measure on the number of extensions requested is expected to be negligible.

The final measure to be analysed in this article is the **moratorium on mortgage payments, with guaranteed payment of the deferred amount.** Based on the approved measure, we have estimated the impact of this moratorium on the payments to be made and on the Spanish financial system.

To this end, we looked at who the measure is intended for and how it is meant to be implemented. The measure applies to mortgages which meet the following criteria:

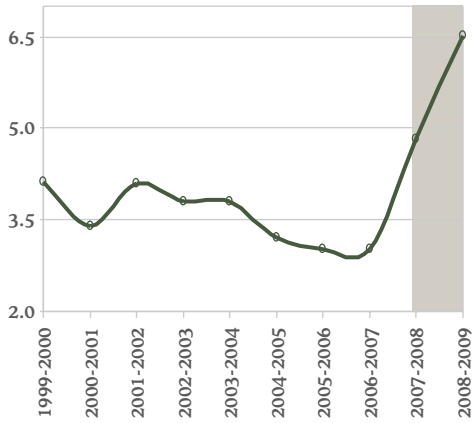
- First-home mortgage loans signed before 1 September 2008.

Table 2. Impact on the monthly loan payment of extending an average mortgage loan of 165,000 euros at 5% interest

Mortgage life In Years	Monthly Instalment	Monthly Savings on original instalment	
		%	€
28	913.4 €	-	-
29	899.0 €	-1.6%	14 €
30	885.8 €	-3.0%	28 €
31	873.5 €	-4.4%	40 €
32	862.1 €	-5.6%	51 €
33	851.6 €	-6.8%	62 €
34	841.8 €	-7.8%	72 €
35	832.7 €	-8.8%	81 €
36	824.3 €	-9.8%	89 €
37	816.4 €	-10.6%	97 €
38	809.0 €	-11.4%	104 €
39	802.1 €	-12.2%	111 €
40	795.6 €	-12.9%	118 €

Source: BBVA Economic Research Department

Chart 12.
Probability of transition to unemployment
Total (%)



Source: ERD BBVA

- Loans for less than 170,000 euros

- Mortgage holders who are not in default but who are unemployed during the three months immediately preceding the application or become unemployed before 1 January 2010 and are entitled to unemployment benefits[6].

Homeowners whose mortgages meet these requirements may request a postponement of half the monthly mortgage payment (up to a limit of 500 euros per month), independently of the number of co-borrowers, applicable to a maximum of 24 mortgage payments (if taking advantage of the moratorium from the moment it takes effect in January 2009). The deferred amounts will be paid gradually, along with the remaining monthly mortgage payments over a maximum term of ten years starting 1 January 2011.

The goal is to evaluate the impact on families as a whole and the costs for the financial system, as well as how this measure affects allocations to financial provisions and delinquent debt in the financial system. We shall do this without taking into account other effects which are difficult to evaluate: the impact of lower recovery costs due to transactions which do not fall into arrears, and the impact of lower-value securitisations due to the decrease in income in 2009 and 2010 (variances in expected flows, impact on ratings, and the artificial lengthening of the average bond life, which puts interest payments at risk).

The assumptions that have been made to calculate these costs are as follows:

- An estimate of the number of mortgages lower than 170,000 euros granted before the measure took effect.

- Of the above mortgages, the number which correspond to first-home purchases, and moreover, mortgages in which one of the co-borrowers may become unemployed.

- The deferred amount of these mortgages, calculated using average annual amortisation cost per year since 1995. The results are shown in Table 2.

- The average number of months that the unemployed mortgage holders are likely to take advantage of this measure. We have assumed an average of 18 months for all mortgages benefiting from this measure.

Based on the above, we have calculated the amounts deferred, in accordance with the moratorium, on mortgages granted every year since 1995. The costs accumulated each year amount to a reduction in mortgage payments of about 1,915 million euros, or about 0.3% of the gross household income of all Spanish families.

These measures are very similar to those proposed by other developed countries, although the proposed aid is higher in these countries. In

[6] Also covered are self-employed workers who help support their families who have had to close their business, or who can demonstrate losses which reduce their income to three times the IPREM (Public Indicator of Income with Multiple Effects), and widowed pensioners who help support their families.

general, monetary policies have not been very effective to date. and tax measures are a better option for mitigating the effects of the crisis in the real economy. The measures implemented in Spain are a step in the right direction, but their impact will be more limited than in the past, because now those who should benefit from them are more indebted and less confident. Moreover, by definition, tax policies have little effect in the short term, so the sector must undergo a longer adjustment period.

Table 4. Loss of tax revenues due to measures to boost employment and help families

In millions of euros	2008	2009
Measures to boost employment		
Hiring of 1,500 job counsellors and monthly aid of 350 euros	201	
State Fund for Local Investment (1)		8,000
Measures to help families		
IRPF (Personal Income Tax) deduction of 400 euros	5,400	6,000
Advance on the deduction for acquiring a first home		1,706
Extension of the deadline on home-savings accounts		64
Extension of the deadline for reinvestment for acquiring a first home		226
Elimination of Asset Tax		1,800
Exemption from mortgage extension costs		
Temporary moratorium on mortgage loan instalments		2,500
Total	5,601	20,296

(1) Although the Fund was created in 2008, the expense will be incurred In 2009
Source: MEH (Ministry of the Treasury)

Table 3.

Year	Average annual amortisation cost	Amount deferred per month due to the moratorium (per mortgage loan, EUR)
1995	4,196	175
1996	4,346	181
1997	4,525	189
1998	4,848	202
1999	5,233	218
2000	5,716	238
2001	6,132	256
2002	6,796	283
2003	7,595	316
2004	8,612	359
2005	9,730	405
2006	10,782	449
2007	11,124	464
2008	10,002	417

Source: BBVA Economic Research Department based on data from AHE (Spanish Mortgage Association)

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