BBVA

SpainWatch

Economic Research Department

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The weakness of the world economy, the de-leveraging process and the resizing of the property sector are a burden on the Spanish economy.

The fall in interest rates and inflation and the fiscal boost will cushion the effect of, but not avoid, a recession in 2009.

Better savings and reforms on the commodity and labor markers will allow recovery to be brought forward.

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1. Summary

In recent months, the world economy has seen a significant deterioration in its economic scenario as a result of the financial crisis and the de-leveraging process in the private sector. In this context, although the policies of the central banks have managed to avoid worst-case scenarios such as the total collapse of the system, they have been insufficient. In spite of the decrease of the liquidity tensions in the interbank markets, there is still a great deal of uncertainty as to the solvency of certain entities within the international banking system. In future months, losses due to securitizations and the increase in the default rate will continue to hinder any significant reactivation of financing on a worldwide scale. Added to this restriction are factors such as the continuing adjustment in the housing market in some economies or the sudden drop in worldwide trade, which causes a downward shift in the outlook for 2009. Although there is some uncertainty regarding the potential impact of the ambitious tax policy measures enacted by the majority of governments in developed countries, and the possibility that the central banks may use unorthodox policies in order to reactivate credit, 2009 is still expected to be a year of global recession.

This downturn in the outlook for the world economy has meant an intensification of the adjustment process of the Spanish economy beyond the forecasts of three months ago. In this context, the deterioration observed in employment indicators during the last months of 2008 and the beginning of 2009 is especially worrying, with very negative effects on consumer and business confidence. The destruction of jobs has not just continued in the construction sector, but has also spread to other sectors of the economy which have been affected by the fall in international trade and by the climate of uncertainty. This general worsening of employment prospects, and its effect on families' disposable incomes has intensified the deleveraging process of the private sector, which has increased its savings out of precaution. The desire by households and corporations to reduce their debt levels has led to a significant drop in the demand for credit, leading to negative growth for the first time in many years. All these downward biases will lead to a 2.8 per cent decline in the Spanish economy in 2009.

However there are factors which will partially mitigate the effects of the economic crisis on the gross disposable income of Spanish households. These include a drop in the price of fuel, the fall in inflation and interest rates, and the boost to the economy provided by the expansive monetary and tax policies.

In any case, the current adjustment process has highlighted the weaknesses and imbalances in the Spanish economy as compared to other advanced economies; proof of this is that Spain is the country which has suffered the sharpest rise in unemployment over the last year. Regardless of whether some policies may mitigate the fall in demand, a large part of the effort should be dedicated to improving supply conditions in order to eliminate the bane of unemployment and to lay the foundations for a new pattern of growth. This would enable Spain to resume as soon as possible the process of convergence of its per capita income with the most advanced European economies, without depending, as in recent years, on a growing requirement for foreign capital.

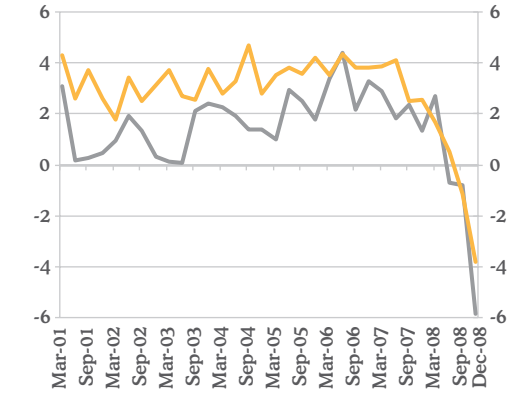
This review continues the analysis begun in the previous issue of Spain Watch regarding strategies to regain high potential growth rates in the

future, and for a transition towards a more competitive and efficient economy, and devotes particular attention to two aspects of the Spanish economy which have an adverse effect on its production possibilities: the loss of competitiveness due to the inflation differential with the countries in the Economic and Monetary Union, and the high rate of unemployment.

The first article studies the main factors determining the high growth in prices in Spain compared to the rest of Europe. The size of this differential and its persistence over time imply that there are factors other than the mere convergence of the per capita income which account for the Spanish economy's constant loss of competitiveness. The results obtained indicate that a large part of the inflation differential is a direct consequence of domestic factors, and is only partially explained by the greater growth of domestic demand in Spain compared to the other members of the EMU. The combination of high profit margins and the disparity between wage increases and the evolution of productivity have contributed significantly to making Spain's inflation rate higher than that of the EMU. It may therefore be necessary to implement policies which improve competitiveness in goods and labor markets in order to improve the competitiveness of the Spanish economy.

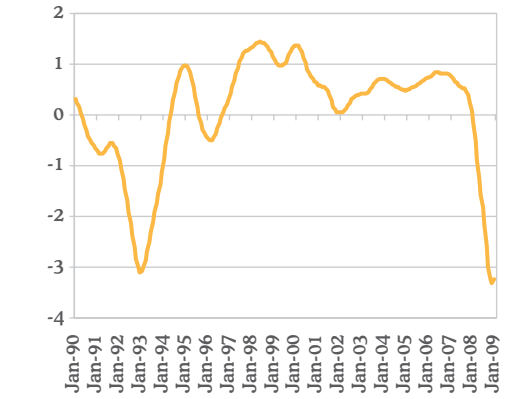
The second article analyses three specific initiatives to improve the functioning of the labor market. These initiatives must be seen as one part of the solution to the problem of unemployment and of the duality in the labor market, and be enacted together with other equally necessary reforms. First, we analyze the discrepancy between contract conditions for permanent and temporary workers. This has created a two-tiered labor market; it has steered growth towards low-productivity sectors, and has meant that the destruction of employment is concentrated among temporary workers. In order to reduce this duality in coming years, we need to realign current contract conditions so that the average protection levels are maintained, but increasing protection of temporary workers with a single indefinite contract for new jobs in which dismissal compensation rises with years of seniority. In second place, we study the current collective bargaining structure in Spain. The evidence, compared with other countries, shows that the pattern of collective bargaining currently operating in Spain is not sufficiently flexible to cope with the disparate nature of the disturbances affecting the different productive sectors and businesses. This exerts a downward pull on the productivity of the economy as a whole, increases unemployment and leads to an inflationary trend. Finally, we analyze the possible effects on employment of substituting a part of the social security contributions by indirect taxation (known in some countries as social VAT), in order to maintain the financing of the pensions system unchanged. The estimates submitted indicate that a decrease of 3.5 points in present social security contributions, offset by a 2-point increase in VAT one year later, would enable 280 thousand jobs to be created.

Chart 2.1.
GDP growth
(Quarter-on-quarter annualized rate)



Source: BBVA ERD based on INE and Eurostat

Chart 2.2.
Spain: IA-BBVA activity indicator
(trend)



Source: BBVA ERD

2. The Spanish economy is now entering the most intense phase of its adjustment

The speed of decline of the Spanish economy increased in the last part of 2008, more acutely than predicted in our fall scenario. Moreover, this contraction spread towards segments of the economy which had hitherto remained relatively unaffected by the recession. The prevailing climate and outlook for the future are characterized by three elements, all all of which put a downward bias on the economy. In the first place, a fall in global economic activity. In the second place, more expensive credit for financing the private sector. These two factors are closely linked to the financial crisis which has now been with us for nearly two years, and which has still not reached a turning point towards recovery. In the third place, the Spanish economy continues to be negatively affected by the resizing of the real estate sector. The combination of all these elements have a considerable destabilizing effect and inevitably lead to a period of recession. However the fall in the economy will be alleviated by three other factors which particularly affect households in the form of positive injections of income, namely a fall in interest rates, lower inflation and an expansive fiscal policy all of which will help to limit the fall in spending and employment in 2009. The end of the recession will be relatively slow given the forseeably long period of de-leveraging of the agents, the absence of a sufficiently dynamic environment abroad to boost growth in Spain, and the limited effectiveness of fiscal stimulus packages to sustain ecomomic growth in a permanent and autonomous manner.

In the last part of 2008, the economy declined more intensely than expected...

After a period of progressive decline, the Spanish economy entered the second half of 2008 in the most acute stage of a slowdown which had been in progress since the middle of 2007. Although this situation had long been considered inevitable, the particular vulnerabilities of

Table 2.1. Spain, macroeconomic chart

rates y.o.y.	1q08	2q08	3q08	4q08	1q09	2q09	3q09	4q09	2007	2008	2009	2010
Householdconsumption	2.0	0.8	-0.2	-2.3	-3.4	-3.6	-2.8	-1.2	3.4	0.1	-2.8	0.2
Public consumption	3.7	5.0	6.1	6.3	6.1	4.2	3.5	2.9	4.9	5.3	4.2	2.4
GFCF	2.4	-0.8	-4.1	-9.3	-14.1	-16.0	-16.0	-13.9	5.3	-3.0	-15.0	-8.7
Equipment and other products	5.5	2.4	0.3	-7.2	-13.9	-19.5	-25.3	-24.3	7.7	0.2	-20.7	-12.8
Construction	0.2	-3.1	-7.3	-10.9	-14.1	-13.2	-8.7	-5.9	3.8	-5.3	-10.5	-5.7
Housing	-1.7	-7.6	-14.8	-19.6	-24.1	-25.1	-22.3	-19.2	3.8	-10.9	-22.7	-12.5
Rest	2.2	1.8	0.9	-1.4	-3.6	-1.6	3.6	5.8	3.9	0.9	1.1	-0.5
Inventories (*)	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
National demand (*)	**2.6**	**1.2**	**-0.2**	**-3.0**	**-5.0**	**-6.1**	**-5.8**	**-4.1**	**4.4**	**0.2**	**-5.2**	**-1.6**
Exports of goods and services	4.8	4.4	1.5	-7.9	-11.3	-14.3	-14.8	-5.2	4.9	0.7	-11.4	1.0
Imports of goods and services	3.6	1.8	-2.0	-13.2	-17.1	-20.0	-19.4	-10.7	6.2	-2.4	-16.8	-4.1
External balance (*)	**0.1**	**0.6**	**1.1**	**2.3**	**2.5**	**2.8**	**2.5**	**1.9**	**-0.8**	**1.0**	**2.4**	**1.3**
GDP (% year-on-year)	**2.7**	**1.8**	**0.9**	**-0.7**	**-2.5**	**-3.3**	**-3.3**	**-2.2**	**3.7**	**1.2**	**-2.8**	**-0.3**
GDP (% quarter-on-quarter)	**0.4**	**0.1**	**-0.3**	**-1.0**	**-1.4**	**-0.7**	**-0.3**	**0.1**				
Pro-memoria												
GDP without investment in housing	2.9	2.5	2.3	1.1	-0.6	-1.3	-1.5	-0.7	3.6	2.2	-1.0	0.7
GDP without construction	2.7	2.4	2.2	1.2	-0.2	-1.1	-1.8	-1.2	3.6	2.1	-1.1	0.7
Total employment (LFS)	1.7	0.3	-0.8	-3.0	-5.5	-6.1	-6.3	-5.0	3.1	-0.5	-5.7	-2.2
Of which in construction (NACE-93)	-1.7	-7.9	-13.0	-20.7	-25.9	-24.9	-23.3	-19.5	6.1	-10.9	-23.6	-12.4
All other sectors (NACE-93)	2.2	1.5	1.1	-0.3	-2.4	-3.5	-4.0	-3.2	2.6	1.1	-3.3	-1.1
Unemployment rate (% Active population)	9.6	10.4	11.3	13.9	16.3	17.5	18.2	18.9	8.3	11.3	17.7	19.7
Total employment (f.t.e.)	1.6	0.1	-0.9	-3.1	-5.2	-5.9	-6.0	-4.7	2.9	-0.6	-5.5	-2.0

Source: INE and BBVA ERD forecasts
(*) Contribution to growth of GDP

Spain's economy together with the outside shocks transformed the downturn in economic activity into an acute adjustment in the second half of the year. Thus the drop in GDP in the fourth quarter of 2008 estimated in the National Accounts (1% quarterly), vastly exceeds the figure we predicted in our scenario published 3 months ago in the previous issue of Spain Watch.

The last three months have been marked by the continual appearance of disappointing indicators, and not only in Spain, as the slowdown in activity at the end of 2008 was a common feature in all developed countries, and was in general more intense than previously estimated. In fact, so far the Spanish economy has not shown differentially worse behavior than the rest of the neighboring economies. As regards strictly the fourth quarter, the 1% decrease in Spanish GDP was less than that of the Eurozone, which fell by 1.5% in the same period, according to the flash estimate published by Eurostat.[1] In terms of the intensity of the cyclical change, the adjustment is relatively similar in both economies. For example, at the start of 2007, both economies grew far above their potential growth (4% in Spain and 2.4% in the EMU in the first half of 2007, figures in annualized quarterly rates). Since then, growth in Spain has fallen an average of up to -2.5% in the second half of 2008, and up to -3.4% in the EMU (annualized quarterly). This means reduction in growth in Spain of half a point higher (in observed growth), with both economies approximately 5.5 points below their respective potential growth rates.

In the case of the Spanish economy, the intensification of the decline has been marked by two elements, which although they were present throughout the whole of 2008, were more evident at the end. On the one hand, the greater cost of financing in the private sector, which was at least in part a result of the persistence and intensity of the global economic crisis. And on the other hand, the extraordinary events affecting the world economy have served to increase the climate of uncertainty in which the agents carry out their economic activity and has led to a crisis of confidence. Thus there would appear to be a certain degree of over-reaction by the agents, as consumers postpone spending on consumption and investment in housing, and companies delay their investment decisions and initiate large-scale processes of employment destruction. In fact, most of the deviation from the forecasts in the National Accounts in the fourth quarter of 2008 can be seen in the components of consumption (with quarterly falls of 1.4%) and in investment in equipment (7.5%).

Moreover, the recession in the Spanish economy has spread to sectors which had hitherto remained relatively unaffected by the adjustment. This is the case of the services sector, which in the last part of the year underwent a similar rate of adjustment to those in industry and construction. From the demand aspect, the external sector is a case in point. The data up to the third quarter show that Spanish exports were still relatively dynamic, with a moderate slowdown in contrast to the more pronounced profile of other European economies. However, since then they have suffered a sharp fall, dragged down by the downturn in activity in the neighboring economies, particularly in European countries.

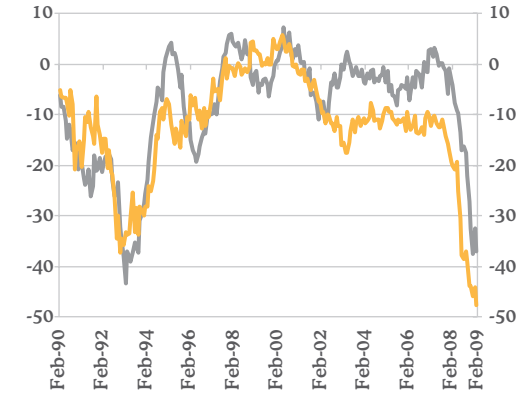
… conditioned by the fall in global activity, the evolution of credit and the real estate sector

The current situation and the outlook for the Spanish economy are negatively affected by three elements whose evolution will mark the

[1] The fourth-quarter figures provide a good illustration of this situation: U.S. fell by 1.6%, Germany 2.1%, U.K. 1.5% and Japan by 3.3%.

Chart 2.3.

Spain: consumer and industry confidence

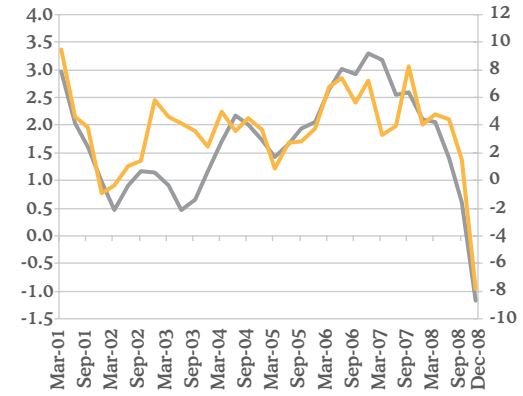


Source: European Commission

Chart 2.4.

Spanish exports and growth in the EMU

(Year-on-year variation rate)

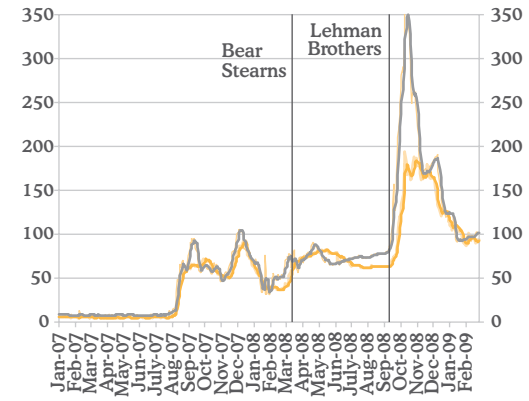


Source: INE and Eurostat

Chart 2.5.

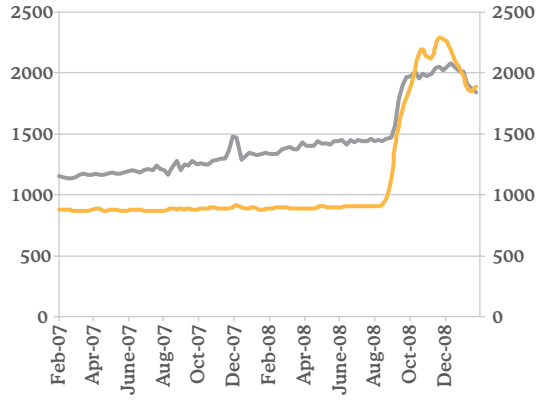
Indicator of 3-month interbank liquidity tensions:

Differential (LIBOR 3M -Monetary Policy Forecasts 3M)



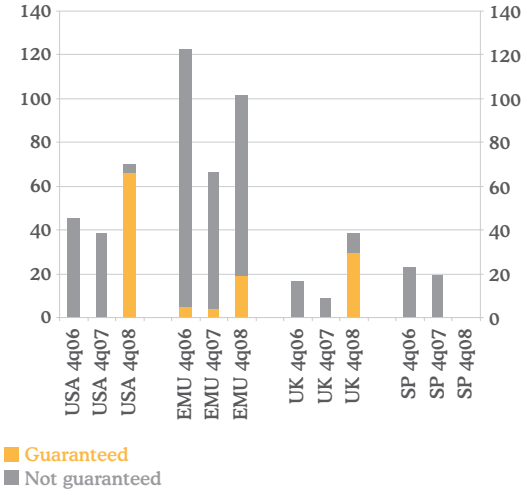
Source: Bloomberg

Chart 2.6.
Central Banks: Total Assets



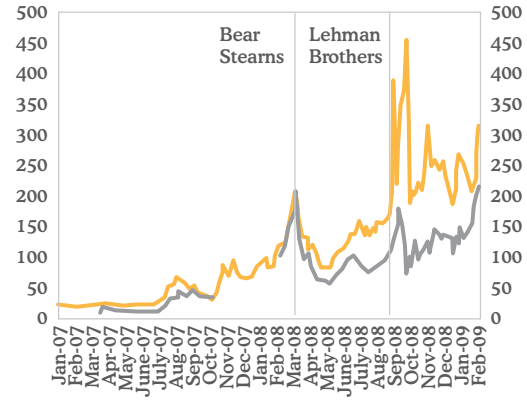
Source: Datastream

Chart 2.7.
Bank debt issue (mM €)



Source: Bloomberg and BBVA ERD

Chart 2.8.
Banks: CDS debt senior 5 years (pb)



Source: Bloomberg

depth and duration of the current recession. On the one hand, the financial crisis that begun in 2007 has been a decisive factor in the global recession. The downturn in activity experienced by the European economy will be especially relevant to Spain, as its dynamism provided support for exports and corporate investment decisions. Moreover, the persistent intensity of the international financial crisis places pressure on the evolution of the financing conditions for the economy. In third place, the Spanish economy is still undergoing its own shock as a result of the resizing of the residential construction sector and the need to reduce its debt levels, above all with the rest of the world.

The financial tensions persist…

The evolution of the tensions in the financial markets in recent months has been marked by a global aversion to risk, the shutdown of the funding markets and the solvency problems in certain segments of the international financial system. The combination of these elements has given rise to a sharp increase in risk and liquidity premiums, leading the governments of the major economies to adopt measures to stabilize this situation. Generally speaking, these stabilization plans have several common elements: an increase in deposit guarantees, programs of asset acquisition to curb falls in prices and banking losses, capitalization of financial institutions with the most serious problems, and debt guarantees to promote the issue of bonds and the reopening of medium-term liquidity markets.

The central banks have also had to bring forward the implementation of new measures or extend the measures already in force. The U.S. enacted measures designed to reactivate the commercial paper funding sector, in addition to increasing the amounts of liquidity facilities. In the case of Europe, there was a move to fixed-rate procedure with full allotment and a wider range of eligible collateral was admitted. The Fed in coordination with other central banks extended their foreing exchange swap arrangements, even to some emerging economies such as Brazil, Mexico, Korea and Singapore.

In general, these financial stabilization measures have met with only limited success. On the one hand, the central banks' increase in credit to financial institutions has caused a decrease in the liquidity tensions in interbank markets. For example, the differential between the 3-month LIBOR and the monetary policy forecasts during this period fell from the 360 basic points (pbs) after the collapse of Lehman Brothers to rather less than 100 pbs currently. However, this level is still higher than those recorded during the first half of 2008 (around 50-60 pbs). With regards medium-term financing, the programs for state debt guarantees have enabled certain advances in debt issues, although this has been at a high price and at volumes which do not solve the lack of financing in the securitization markets.

However, there has been a more modest advance in the problems of solvency. After the collapse of Lehman Brothers, the governments of the developed countries injected large amounts of capital into some financial institutions through a range of different tools. This helped enormously to contain the effects of the crisis of confidence which threatened to create an episode of systemic risk, but it was not enough to sufficiently reverse the prevailing negative perception of the solvency of many of the main participants in the market. The latest attempts by the U.S. authorities represent a more systematic approach than the previous plan, and there is strong pressure on the funds provided to have a positive effect on credit and on the economy. However, the difficulties both in the definitions and in the implementation of these plans has meant a revival of the concerns as to the feasibility of certain

institutions and the increase and volatility of the markets. In Europe, actions still take place at the national level, and there is so far a clear lack of coordination which limits any positive impact and poses risks to the competitive environment within the single financial services market in the EMU.

… and are transmitted to the real economy at the global scale

In forthcoming months, this climate will mean that we will continue to see considerable losses at the international level both from exposure to securitized assets and from an increase in the default rate at the global level. It is likely that losses due to the fall in value of so-called "toxic assets" will reach one billion dollars for the world banking institutions at the end of the fourth quarter, in spite of the fact that changes have been made which permit greater flexibility in accounting these losses.

However, forecasts indicate that this situation of effective closure of the financial markets and high risk and liquidity premiums will persist, albeit with gradual corrections, for over a year and a half. This situation, combined with other factors (continuing adjustments in the real estate sector, lack of consumer confidence, corrections of capacity excesses in certain sectors, sudden drop in trade, etc.) has resulted a very acute downturn in activity indicators in developed economies.

Thus the U.S., Europe and Japan have been dragged down by a serious cyclical decline which has led to growth rates in the last quarter of 2008 of -1.6%, -1.5% and -3.3% respectively. These figures only serve to confirm the severity of the crisis and its extreme global synchronization. With regards emerging economies, the economic slowdown has spread to all geographic areas, from Asia to Latin America. Generally speaking, it has been confirmed that as global demand falls, the slowdown in growth has been more evident in economies which are more dependent on exports, particularly bearing in mind their collapse in the last months of the year.

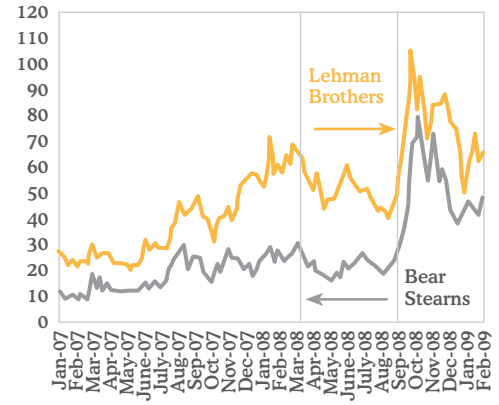
The economic weakness and the consequent drop in the price of raw materials has eased the inflationary pressures. In Europe this indicator will fall in 2009 well below 1%, while in the U.S. it will go into negative figures. The central banks have acted rapidly in an attempt to counteract possible deflationary risks by initiating a cycle of interest rates cuts. The emerging markets have also begun to enact this cycle of interest rate cuts, and insofar as the evolution of the exchange rates allows, this cycle is expected to be maintained over time. In view of the magnitude of the recession, the central banks have no other choice but to maintain interest rates very low for a prolonged period of time. Moreover, this decision will also be supported by the inflation situation, given the forecasts discussed previously. In Europe, the ECB will probably lower the official rate to 0.5%.

Although it is uncertain what impact this will have, the various fiscal plans may limit the scale of the fall…

While it is still necessary to maintain these low official rates, the fact is that monetary policy will have a limited effect. Fiscal policy will therefore assume a crucial role. It is necessary to slow the decline in activity and to break the vicious circle between financial and real variables. In this regard, the programs announced are of a significant size, although there are notable discrepancies between countries. Thus for example the U.S. leads the process with a fiscal package of 787 billion dollars, while Europe is lagging behind. Regarding emerging markets, some countries are also beginning to deploy their own fiscal plans, of which

Chart 2.9.

Risk aversion rates

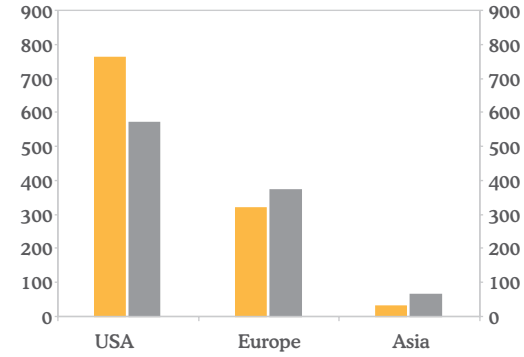


Fixed income
VIX

Source: Bloomberg

Chart 2.10.

Financial institutions: write-downs and capital injections (mM $) since June 2007

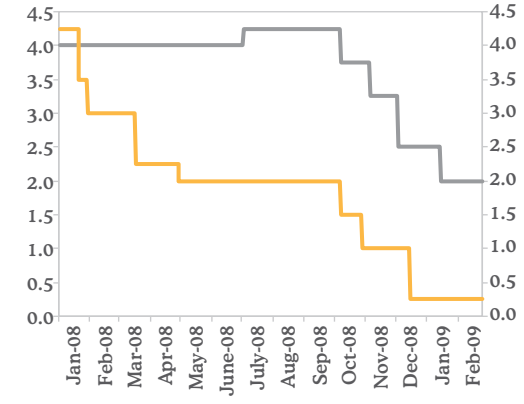


Write-down
Capital injections

Source: Bloomberg

Chart 2.11.

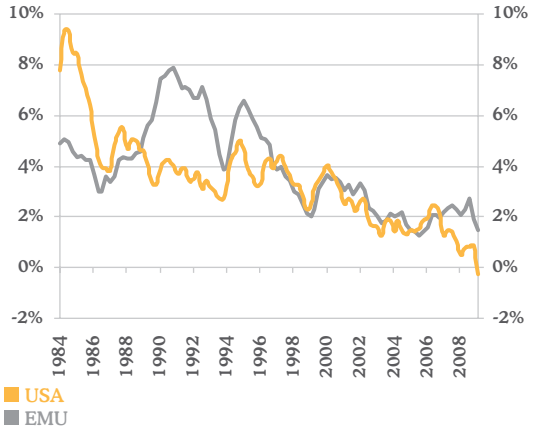
Official rates



Fed
ECB

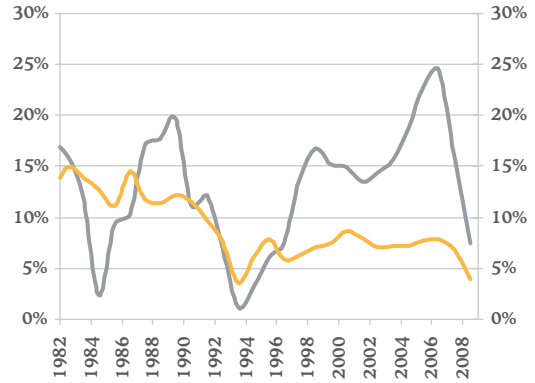
Source: Bloomberg

Chart 2.12.
Real 10-year interest rates: U.S. and EMU



Source: Bloomberg and BBVA ERD

Chart 2.13.
Evolution: Credit vs. GDP in Spain
(year-on-year growth)



Last credit data Dec-08
Source: INE and Bank of Spain

the most noteworthy is China with a plan which could inject resources of up to 12% of its GDP over the next 2 years.

So far, there are certain positive elements to the design of these programs. In the first place, a substantial part of their thrust revolves around spending programs and suchlike, which are more likely to have a significant impact on stimulating activity. Moreover, most governments have opted to maximize –as far as possible– the amounts injected in the short term, so that the stimulus may arrive in time to offset the fall in aggregate demand. However there is still a fundamental doubt within the global economic community as to the effectiveness of these plans. This risk is unlikely to be dispelled until the second half of 2009, when the stimulatory effect of the resources used should be clearer.

… but not to avoid a global recession in 2009, and an uncertain ending to 2010

The economic weakness and the drop in consumer prices in developed countries will be reflected in the debt markets. We expect long-term rates to remain low throughout the whole of 2009 and not to begin recovery until 2010, despite the increase in debt issues to defray the costs of the spending policies already announced. In any case, the impact of these increased issues may be mitigated by the effect of risk aversion and the predicted fall in inflation. Moreover, in the case of the U.S., there is a chance that the Federal Reserve may buy public debt as part of a plan to implement non-conventional policies to maintain low long-term interest rates. In Europe, the ECB may consider similar measures if the drop in inflation is seen to give rise to higher than expected risks, although the problem of implementing them within the context of the EMU may complicate the adoption of these measures.

Regarding the foreign exchange market, the lower predicted growth for the Eurozone compared to the U.S., as well as the forthcoming cut in rates expected for the ECB, should buoy up the dollar's path to recovery started in the summer. Capital flows will also be affected by this situation, as there will be a continuing preference for liquid and secure assets.

Therefore the financial turbulence has finally hit the real economy and given rise to a weakening of global economic activity with negative effects on the figures for world trade. In the case of the Spanish economy in relation to its neighbors, it can be expected that the impact will be greater as the Eurozone will undergo a sharp drop in 2009 (2.5%, more intense even then in the U.S.) with a relatively slow and weak end in 2010, given the lesser importance of the tax stimulus package and its lower capacity to adjust due to its structural rigidity, which may slow recovery. Therefore, in the foreseeable future, and unlike the 1993 crisis, Spanish exports do not serve as a support to the economy in this recessionary phase, nor an engine for pulling it out of the recession.

The moderation of credit affects the funding of the private sector of the Spanish economy

The growth of credit to the Spanish private sector has continued the slowdown that started in early 2007. The latest data available show a year-on-year credit rate of 6.1% in December 2008, above even the nominal GDP (1.8% in the fourth quarter of 2008). This trend towards

a deceleration in credit is similar to what is occurring in other countries. For example, in countries such as the United Kingdom, credit to households and corporates has been falling since the beginning of 2008. It is important to highlight that the availability of funding for the economy must not only be assessed in terms of growth in the volume of credit. Banks are making a major effort in terms of changing assets for debt, restructuring, extending repayment periods and renegotiating existing credit.

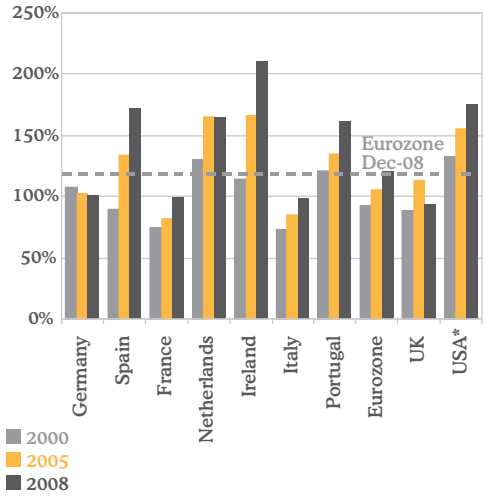
What is the reason for this lower credit growth? The slowdown of credit in 2008, 2009 and 2010 is due more to factors relating to demand (which will become weaker in the next quarters) than supply (see attached chart). There are also certain supply-related elements which affect this evolution. Thus, part of the deceleration is due to the fact that the unrecoverable defaulted loans are transferred to unrecoverable loans, and are written off. The default rate for the system as a whole reached 3.4% at year end, equivalent to 63,100 million euros, far above the 16,300 one year ago. Another explanation for the slowdown of credit in Spain may be the departure from the market of the Credit Financial Entities (CFEs), which represented 4.3% of credit at the end of 2003, and currently account for barely 3.1%. These entities, which were largely financed in the international markets, have had to abandon the market.

Of course the supply is more restrictive due to the difficulties encountered by the institutions to find funding in the international markets and the rise in the default rate, although the criteria of the main institutions for granting credit has not changed significantly. But there is no doubt that the lower rate of credit granted is partially explained by the fact that projects which were previously considered viable are no longer seen to be so in the new economic framework.

This moderation of credit growth had been long expected, as its pace had hitherto been clearly unsustainable. The excessive debt in terms of GDP means that credit must now grow less, and at a lower rate than nominal GDP. The Spanish economy has reached levels which are higher than the European average (credit was 173% of the GDP at the end of 2008 in Spain, as opposed to 121% in the Eurozone). Moreover, agents' preference for savings out of caution encourages these trends. In any case, the reduction in credit does not affect all sectors equally. The debt of real estate companies is higher than the average and has increased considerably in recent years: in 2007 the construction companies had debt levels of 82% of their liabilities, compared to 75% for real estate companies and 62% for companies on average.

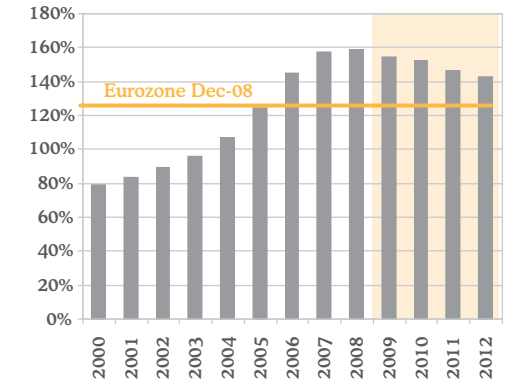
Therefore the evolution of credit is currently set on a path of adjustment towards lower levels in which frictions may arise, such as the scarcity of credit for certain sectors or borrowers. In the future, credit will continue this moderating trend, particularly if demand does not revive. There is no doubt that the liquidity facilities that authorities are making available to financial institutions will have a positive impact, but it is early to asses their effect. Very probably these facilities are preventing an even greater slowdown in credit, and will continue to do so throughout 2009. Once this recessionary phase of the economy is over, credit should return to more sustainable growth rates, thereby facilitating a stabilization in private sector debt ratios rather than a new increase in these ratios.

Chart 2.14.
Private sector credit /GDP



*Last data Sep-08, Dec-08 estimated
Source: BBVA ERD

Chart 2.15.
Spain: private sector credit
(% GDP)



Source: ECB and BBVA ERD

Box 1: Quantification of the impact of liquidity tensions on credit growth in Spain

Credit in Spain underwent a severe slowdown in 2008, and there is no real consensus as to the reason. In an attempt to shed some light on this matter, we include below an estimate of the weight that the tensions observed in the financial markets since the summer of 2007 have had on the recent deceleration of total credit in Spain[1].

Methodological description

The estimation is derived from a structural vector autoregression model with identification based on sign restrictions[2].

The methodology consists of the following steps:

(1) Estimation of a vector autoregression model (VAR), which is a synthesis of the pattern of contemporaneous and dynamic correlations between the set of variables considered (GDP, total credit, inflation, three-month treasury bill interest rate and the differential between the rate of interbank loans and the rate of the US Treasury bill). If Y_t is formally defined as the vector containing the values of the variables indicated for the moment t, then the VAR will be given by:

$$Y_t = \beta_1 Y_{t-1} + \beta_2 Y_{t-2} + \ldots + \beta_l Y_{t-p} + \varepsilon_t$$

so that,

$$\varepsilon_t \sim N(0, \Sigma)$$

The matrices β_s contain the regression coefficients to be estimated, ε_t are the errors of the model (the unpredictable or unexpected fluctuations of the variables in Y_t), which are assumed to have a normal distribution, with mean 0 and variance and covariance matrix equal to Σ (also to be estimated).

(2) Breakdown of the estimated values of ε_t for the whole sample (that is, the residuals of the model), in terms of the non-observable exogenous and random structural innovations which, according to economic theory, should be found at the source.

This breakdown is made based on the assumption that the residuals or errors in the model are, in each period, a linear combination of these structural innovations (contained vector μ_t N(0,I)), formally expressed in the following equation (which together with the previous VAR model will constitute our structural VAR model),

$$\mu_t = A^{-1}\varepsilon_t$$

This in turn implies that,

$$\Sigma = AA'$$

(3) The previous step requires the estimation of the matrix of structural parameters A, from the estimated value of Σ, for which purely statistical concepts and considerations are insufficient; careful considerations of an economic nature are essential.

The difficulty resides in the fact that the values of A are "subidentified" by the values of Σ, given that values different from this last value are lower in number than the elements of A to be estimated (while the variance-covariance matrix is symmetrical). It is then necessary to impose *a priori* restrictions based on economic theory and expert knowledge of the elements of A.

The restrictions imposed on A are those which derive from the assumptions that define the type of structural innovation whose effects and magnitude need to be estimated, that is, the tensions on the Spanish and European interbank credit market caused by the global financial crisis.

Specifically the following things are assumed: a disturbance in the credit supply will be identified by the simultaneous occurrence of an increase in the differential between the interbank rate and the risk-free rate, and a fall in the credit level below its hypothetical trajectory in the absence of this innovation for at least the following four quarters (this is a deceleration of credit).

Results

Based on these assumptions, the methodology allows us to determine which portion of the errors of the VAR for the period of the first quarter of 2007 and the last quarter of 2008 was due to the type of innovation identified. In other words, it allows us to calculate the deviation between the growth rate in equilibrium projected by the VAR, and the observed growth rate, which in turn determines which part of the deceleration of credit occurring in this period is a consequence of the tensions in the Spanish and European interbank market as a result of the global financial crisis.[3]

Chart 1 shows the part of the errors due to the slowdown in credit, while Chart 2 shows its associated share as a percentage. It can be seen that during the first three quarters of 2007 the increase in the differential between the interbank rate and the risk-free rate was the main cause of the slowdown in credit, but also that from the last quarter of 2007, this factor has progressively decreased in

[1] The results shown here are part of an ongoing research project (see Méndez, Di Placido, Dvorkin, and Gonzalez, 2009, "Identifying the impact of the subprime crisis on Spanish Credit: A sign-restrictions-SVAR Approach", Mimeo, Economic Research Department BBVA).

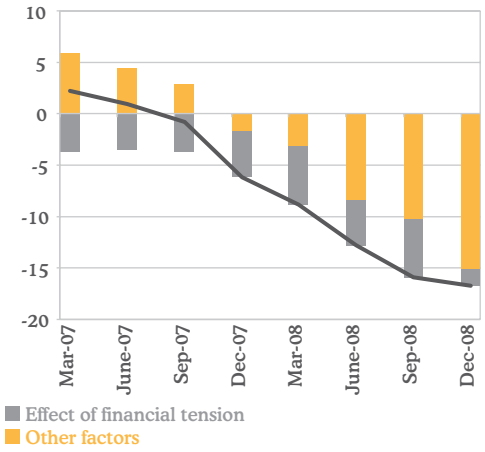
[2] Specifically, it uses the methodology introduced by Harald Uhlig in his article»What are the effects of monetary policy on output? Results from an agnostic identification procedure», Journal of Monetary Economics No 52, 2005.

[5] Strictly speaking, the methodology (which is Bayesian in nature), provides a distribution of probabilities associated to possible values for the weight of the innovation identified in the errors of the VAR. But the graphs and the analysis are subsequently centered on the expected value or mean of this distribution.

importance, until practically disappearing towards the end of 2008.

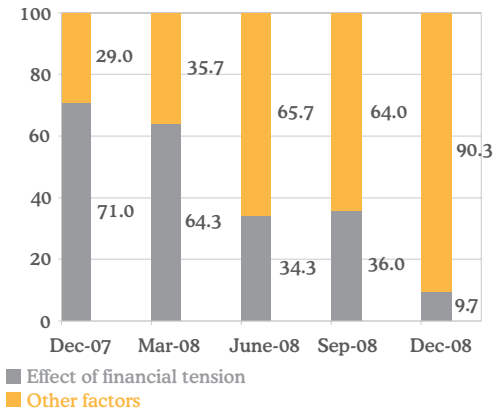
In other words, the initially severe effect caused by the turbulence from the global financial crisis on the interbank credit market in Spain has progressively reduced its weight in explaining the slowdown in credit, until it practically disappeared at the close of 2008. This weight has moved to other factors or causes, including predominantly those associated to a phase of intense cyclical shrinking of economic activity such as the present, and which have given rise to a significant decrease in the demand for credit.

Breakdown: credit slowdown



Source: BBVA ERD

Breakdown: credit slowdown



Source: BBVA ERD

The real estate sector will continue its adjustment until the excess housing has been absorbed

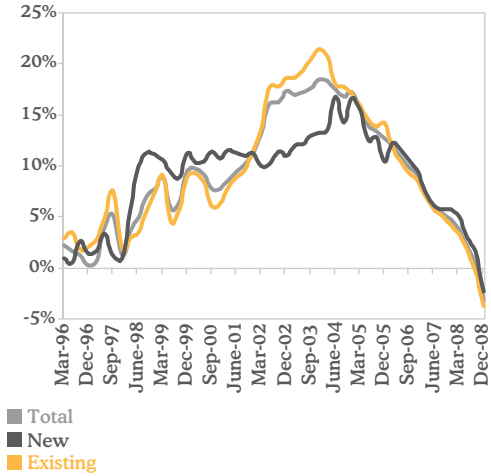
The adjustment of the housing sector in Spain is deepening in line with our scenario, partly as a reflection of a significant interaction between the real cycle and the credit cycle of the economy. Moreover, the latest data on supply and demand in the real estate sector indicate that it has yet to touch bottom. In fact, all the data point to the fact that the oversupply of housing will continue to increase in forthcoming months, which will contribute to an extension and deepening of the adjustment phase. The negative evolution of the oversupply in housing may be considered the result of the faster drop in demand within the context of the decline in the economic conditions rather than a slowdown in supply. Regarding this last point, the adjustment in construction activity still lags behind demand, as occurred in 2006 and 2007, when prices had already begun to fall.

However, the scale of the adjustment in supply is still very significant. Housing starts for new residential building projects which had begun to fall at the end of 2006, entered the most acute phase of decline in the last months of 2008. In 2008, there were only 265 thousand new housing starts, far removed from the 651 thousand in 2007. Together with this drop in supply, there has also been a more pronounced adjustment in demand. For example, housing transactions in 2008 continued to fall by up to 29% compared to the total purchase-sales transactions recorded in 2007. This fall has affected second-hand housing (-39% year-on-year) more severely than new housing (-14%).

Chart 2.16.

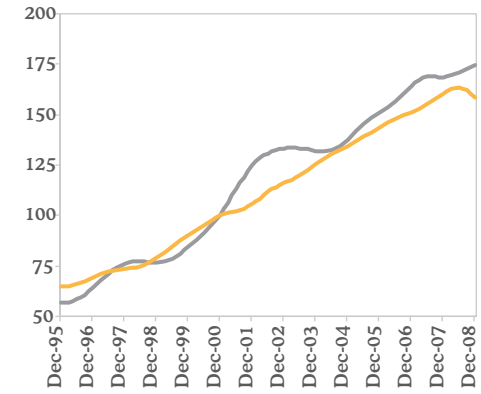
House Prices in Spain

year-on-year growth rate



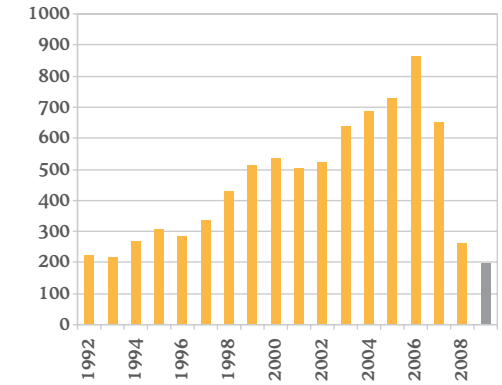
Source: Ministry of Housing.

Chart 2.17.
Housing supply and demand
rolling average 4 quarters, 2000=100



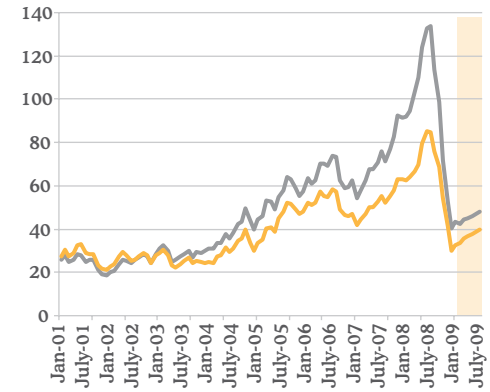
Source: BBVA ERD

Chart 2.18.
Spain: housing permits (thousands)



Source: Ministry of Housing

Chart 2.19.
Oil



Source: BBVA ERD

This oversupply in the market and its persistence over the next months, due to the negative forecasts for the evolution of demand, will adversely affect house prices, which will decline steeply throughout the whole of 2009 and 2010. The latest official data published by the Ministry of Housing for December 2008 showed a negative growth rate (-3.2% year-on-year) for the first time since 1993, which will increase in the future.

The interaction between prices and demand in the sector is retroactively feeding the adjustment: the drop in prices means that any potential demand for housing in the market is postponed even longer in anticipation of further reduction in prices. Moreover, falling levels of confidence and the moderation in household income means that decisions to purchase are postponed, thus negatively affecting the evolution of the sector and the duration of the adjustment.

Therefore the resizing of the sector will increase as expected. In the future house prices can be expected to continue to fall due to the stockpile of unsold houses which will not begin to be absorbed until 2010.

Some factors will limit the fall in domestic demand: lowering of interest rates, a drop in inflation and an expansive tax policy…

The decline in worldwide activity, the credit squeeze and an adjustment of the real estate sector are elements with a considerable destabilizing power, and which inevitably lead to a more prolonged recessionary period than might have been assumed only a few months ago. However, the sharp decline in the economy will be moderated by the existence of another three elements which mitigate, albeit to a limited extent, the potential effect on households' gross disposable income and may reduce corporate costs and improve competitiveness.

For example, at the end of the previous year the forecast was for a fall of around 30% in the average price of oil throughout 2009. However, the constant lowering of demand has brought successive reductions in the value of fuels, which may lead to prices 50% lower than those seen in 2008. This is beginning to be evident in the cost of gas, which has fallen by over 30% since its maximum in July. Although it is true that the benefits of this improvement will be unevenly spread through society (favoring households and companies which make greater use of fuel-intensive technologies), the scale of the change is such that the estimated savings for the private sector will be over 11 billion euros. In addition to the fall in the price of fuel, there has been a reduction in the prices of other raw materials (food, minerals, etc.) and the same is beginning to happen in the services sector, although more moderately.

The depreciation of the euro against the dollar has combined with the decrease in corporate costs –due to lower fuel prices– to increase the competitiveness of the Spanish economy. This process should be maintained in forthcoming months as the prospect for growth and differentials continue to be unfavorable to Europe; this situation would be alleviated by a more depreciated euro, and would go some way towards correcting the imbalance in the Spanish economy's foreign accounts.

On the other hand, the European Central Bank's decision to lower interest rates and its effects on market rates has meant a significant fall in the debt burden of Spanish households. In particular, the reduction in interest rate payments would mean greater disposable resources for households, and may exceed 12 billion in 2009. This process is not expected to change in the short term, as with the forecast of slower growth in Europe and a fall in inflation all over the continent, the European Central Bank will tend to maintain interest rates low during 2009 and possibly in 2010.

Linked to this, in recent months there has been a reduction in the risk premiums in the European interbank market. The consolidation of greater

confidence levels will be fundamental in reducing financing costs even further in the near future. Although these risk premiums are not expected to return to the levels observed before this current episode of tension in the financial markets, the considerable reductions in recent months will mean a significant easing which will help to lower the price of money in forthcoming months.

Moreover, in addition to the stimulus of the fall in interest rates there is the expansive fiscal policy, not only in Spain, but also in other parts of Europe, the U.S. and Asia. In Europe the approved fiscal plans represent a significant amount, although there are considerable differences between the various countries. This joint effort suggests that that the positive effects on domestic economies will be maximized, thereby guaranteeing that although part of the stimulus is dedicated to spending on imports, Spanish producers will also benefit from the fiscal plans in other countries.

However, even though the effects on growth may be maximized, this does not ultimately guarantee that this increased public spending will have any significant impact. Although there is growing debate as to the effectiveness of this type of policy over the next quarters, fiscal expenditures can at least be expected to have a stabilizing effect on the Spanish economy. This would be a result of the right mixture of spending policies designed to have the maximum impact on domestic demand and employment (8 billion from the State Fund for Local Investment), and tax decreases to mitigate the effects of the fall in household income (a 400 euro deduction in personal income tax and suppression of wealth tax). Nevertheless, it should be added that there is some uncertainty as to the final impact of these far-reaching measures on the growth of the Spanish economy. In the first place, there are doubts as to the efficiency of public versus private spending. In the second place, more spending does not necessarily mean the resources will be put to use in sectors with clear demand problems. In the third place, because as these measures include tax reductions, the impact on the growth of aggregate demand in the short term may be less that that of direct spending policies. However, the plans announced by the Spanish government are expected to add about 1.2 growth points in 2009.

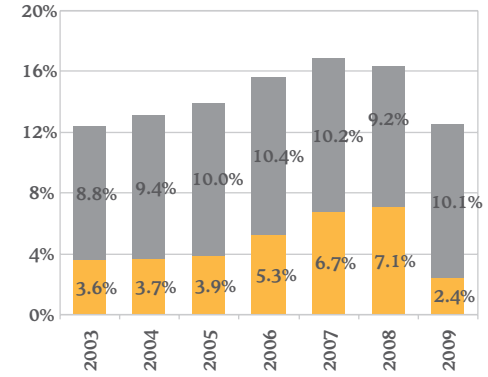
… which will not be sufficient to ward off the recession in 2009

The balance of all these elements on the outlook is clearly negative. According to our estimates, the Spanish economy will undergo the most severe phase of the adjustment in this first half of 2009, with a decline in the first quarter of the year of around 1.4%. The quarterly decrease in GDP will be gradually reduced in the last part of the year, when the effects of the fiscal incentives will be at a maximum. Even so, in the year as a whole, the Spanish economy will shrink by 2.8%, and there will be a drop in all the demand components, with the exception of public consumption and non-residential construction.

Particularly intense will be the decrease in investment as a whole, not only due to the adjustment in the real estate sector, but also to due to investment in equipment, which will show the sharpest decline in its history. Consumer spending will fall drastically. On the one hand, this is the result of the downward spiral of its fundamentals. Household income will be closely tied to the evolution of employment. Nor can we hope for a boost to wealth, with falling house prices (the prime determining factor for real estate wealth) and a highly unfavorable evolution of the stock market (prime determining factor of the financial component of wealth) in the last few months. Although interest rates could indeed counteract the lower availability of credit, the need for de-leveraging and the greater trend towards precautionary savings in a recessionary phase[2] suggests

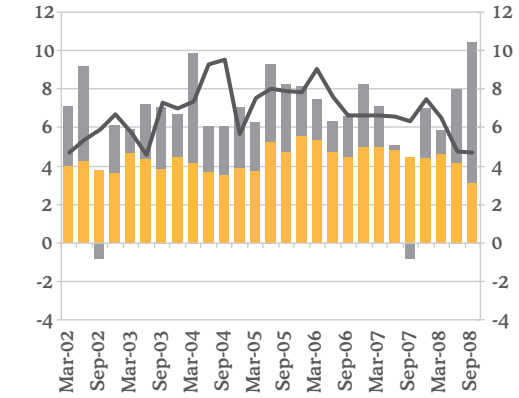
[2] See attached box.

Chart 2.20.
Debt burden on Spanish households
(Percentage of gross disposable income)



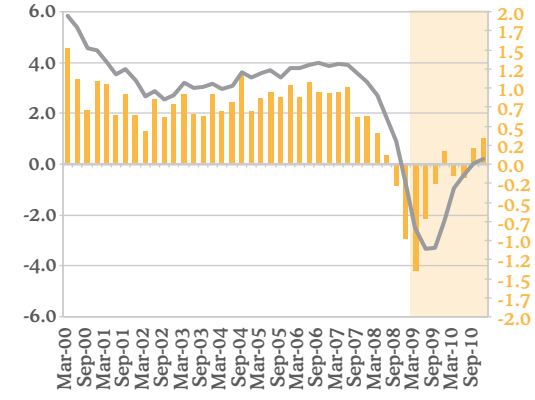
Source: BBVA ERD

Chart 2.21.
Spain: household consumption and gross disposable income
(Year-on-year growth and contributions to income growth)



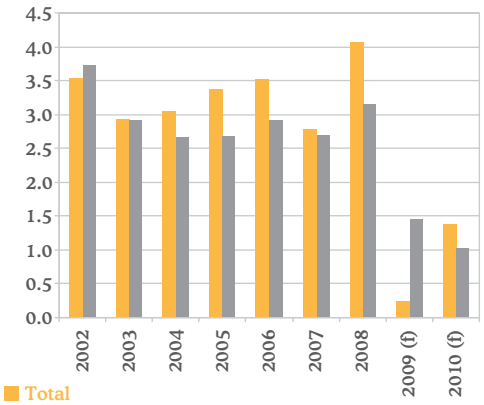
Source: INE and BBVA ERD

Chart 2.22.
Spain: GDP growth



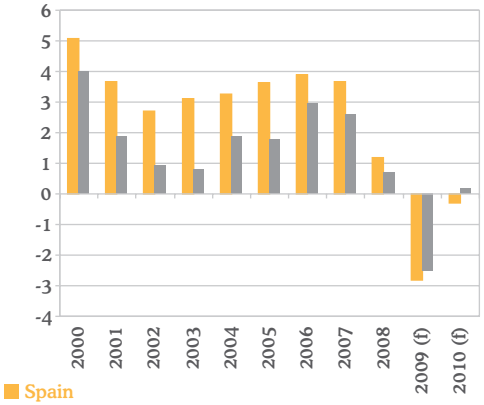
Source: INE and BBVA ERD

Chart 2.23.
Spain: Inflation
(Yearly growth rate)



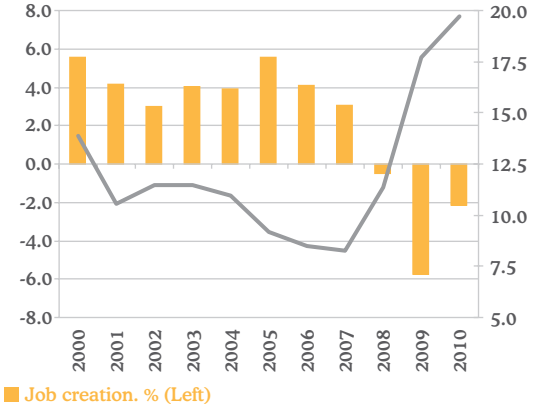
Source: INE and BBVA ERD

Chart 2.24.
GDP growth (%)



Source: INE and Eurostat

Chart 2.25.
Spain: Labor market



Source: INE and BBVA ERD

that we can expect a significant drop in consumption. The external sector, for its part, will contribute positively to growth due to the correction in imports (proportional to the fall in domestic demand), as the decrease in international trade, and particularly the fall in the GDP in the EMU, will also lead to a decrease in exports.

There are elements which indicate that the period of decline will persist until the second half of 2010. On the one hand, Europe's economic pulse will continue to be weak, and therefore the expected depreciation in the euro will not be enough for the external sector to drive growth in 2010. On the other hand, the fiscal stimulus package is for the large part temporary, and its extension until 2010 has not been announced yet. However, the accumulation of income shocks on households could mean that in 2010 consumption will undergo, if not significant growth, at least a much less negative evolution. In any case, and still with a high degree of uncertainty, the Spanish economy does not appear likely to enjoy consecutive quarters of positive growth until the second half of 2010. Thus our most probable scenario would point towards the stagnation of the GDP for 2010 as a whole.

There are two elements in the macroeconomic chart worthy of more careful examination, as they will be particularly affected by the recession. The first of these is inflation. Since the middle of 2008, the growth in prices has taken a sharp downturn. However, until the last months of 2008, this was merely the result of the drop in energy prices and of the basic effect of the *shock* in commodities from the end of 2007. Beyond these effects, all other components of inflation continued up to that point at relatively similar levels. However the more recent data are causing surprise due to the intensity of the dis-inflation. The indicators are already showing that the components of the core CPI, services and non-energy industrial goods are being affected by the fall in demand. Thus with the data available at the closing of this report, inflation has fallen 4.5 points since July, more sharply than in the EMU, which takes the inflation differential with the Eurozone into negative figures.

This process without a doubt represents a clear opportunity to improve Spain's price-competitiveness, if the process were to prove permanent rather than transitory. This matter is analyzed in the third section of this report. However, the intensity of the dis-inflation has led to fears that this process may turn into deflation. According to our estimates, the sharp drop in activity in Spain will lead to a significant correction in inflation, including core inflation, despite the rigidity in the services market and in the mechanism for determining wage levels. The fall in energy prices (over 10% yearly average) and non-energy industrial goods (by some decimal points), together with the slowdown in price increases in the services sector, will lead to practically zero price growth in 2009 (annual average), and a core inflation rate of less than 1.5%. Negative year-on-year rates will be seen in the middle months of the year, but will be reversed at the end of the year due to base effects.

In any case, the labor market is currently undergoing the most dramatic part of the downturn facing the Spanish economy. The data throughout 2008 have shown that this phase of decline in the cycle is characterized by a destruction in employment far above that of neighboring economies, despite the fact that their adjustment processes are similar to the one in Spain. The outlook for the destruction of employment and the increase in the unemployment rate for the next quarters is particularly unfavorable, both due to the intensity of the fall in employment and to the absence to date of clear procyclical behavior by the active population. However, the recovery process could be brought forward if the appropriate structural measures were taken. The fourth section of this report is dedicated to this.

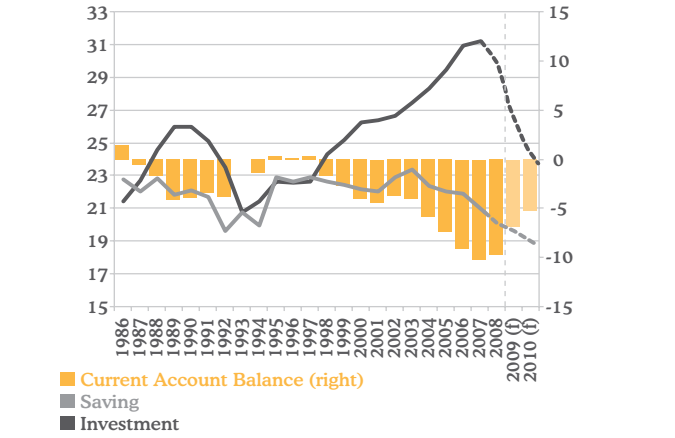
Box 2: Current account balance: savings and investment

The uninterrupted growth of the investment rate, together with a national savings rate which has been practically constant since the mid 90s, have raised the current account deficit of the Spanish economy to around 10% of the GDP in 2007 and 2008.

The current account imbalance will be corrected over forthcoming years, although very slowly, given that the anticipated growth in savings will not be enough to fill the gap between savings and investment, despite the intense slowdown in investment as a result of the economic crisis.

Savings and investment in the national economy

In percentage of GDP

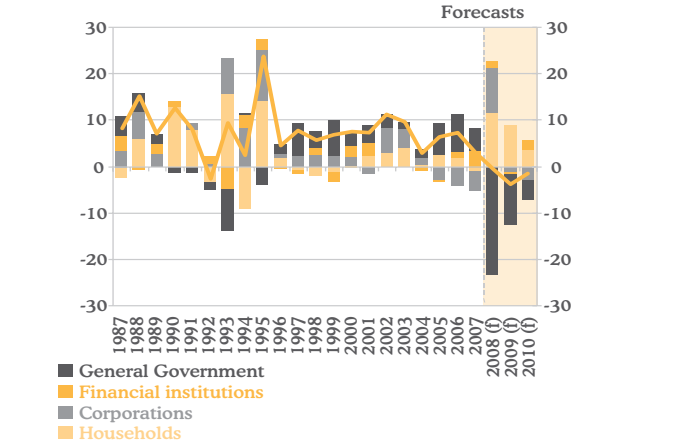


Source: BBVA ERD based on INE

An analysis of the role of each economic agent shows that until 2007 the public administrations contributed most to the increase in gross national savings, while households and corporations acted as a brake on dynamism. However, this trend was reversed in 2008, and in coming years private savings are expected to continue to drive national savings; in 2010 they will account for over 17% of the GDP, partly offsetting the extremely negative savings of the general government, which will fall almost 7 percentage points until reaching 0.2% of the GDP, a level similar to the early 90s.

Saving rate in the Spanish economy

Contribution to growth (% a/a)

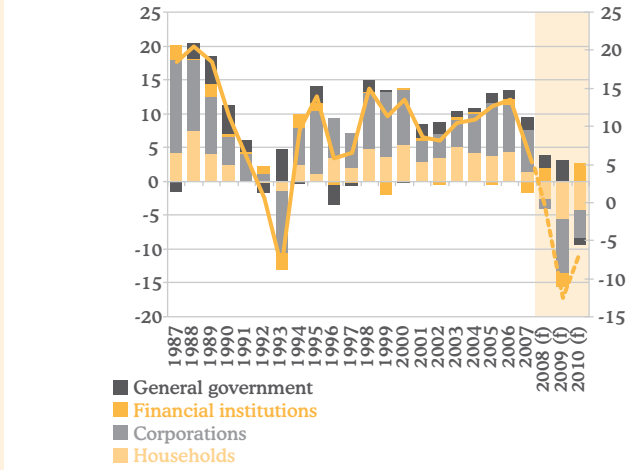


Source: BBVA ERD based on INE

households, and above all corporations, have been the main contributors to the investment boost in the last decade. In the current climate of uncertainty, the national investment rate will fall by 7 percentage points until 2010, and will hover around 24% of the GDP. Only the public administrations will show any growth in investment, particularly in 2009, thanks to the 8,000 million euros from the State Fund for Local Investment.

Investment rate in the Spanish economy.

Contribution to growth (% a/a)



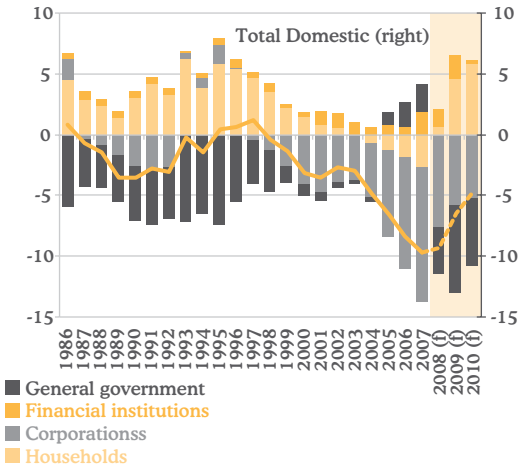
Source: BBVA ERD based on INE

In this context the strong boost from household savings (over 16% of gross income available) will increase their capital capacity to 5.8% of the GDP in 2010, as compared to -2.7% in 2007. Corporations will find the strong drop in investment to be insufficient, and will continue to have substantial capital requirements (around 5% in 2010). Finally the public administrations' deficit will reach 7.2% in 2009 and 5.6% in 2010, basically as a result of the downturn in public savings.

In summary, the capital requirements of the economy as a whole will fall 5 percentage points in the next two years, reaching 4.7% of the GDP at the end of 2010.

Net lending (+)/ Net borrowing (-) of Spanish economy through institutional agents

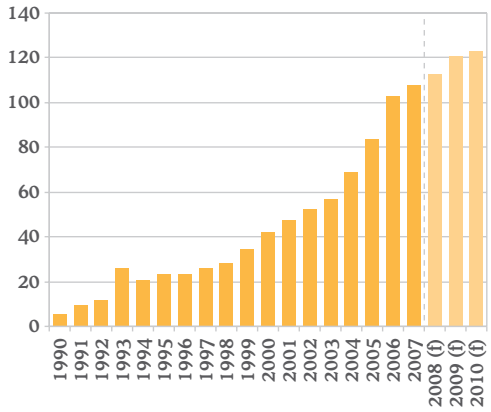
In percentage of GDP



Source: BBVA ERD based on INE

Despite the expected fall in national capital requirements, they will still remain high, which means an ongoing accumulation of liabilities bis a bis to other countries. Thus the financial debt (loans and securities other than shares) with respect to the rest of the world could reach over 120% of the GDP in the next two years.

Foreing debt in the form of Loans and Securities other than shares

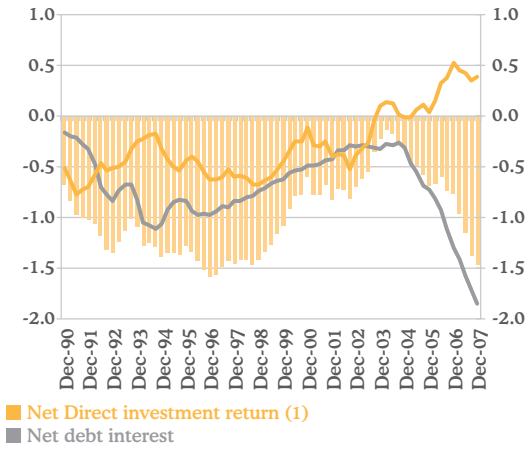


Source: BBVA ERD based on INE, BoS and IMF

This debt instrument notably increases the resources that the Spanish economy must devote to interest payments on its foreign debt. While the volume of net interest paid has gone from 0.3% of the GDP in 2004 to over 1.8% in 2007, the net yield of direct investment abroad has increased 0.4 percentage points since 2004[1], representing a gap of nearly 1.5 percentage points of the GDP, which further contributes to the deterioration of the current account balance.

Net income from direct investment vs. net interest from debt

Income balance. 4Q rolling sum. In % of GDP



Source: BBVA ERD based on IMF

The current climate of financial uncertainty, where the returns on direct foreign investment could forseeably fall even further, requires a reversal of this upward trend in foreign debt in order to reduce interest payments and avoid a greater deterioration of the current account balance.

[1] Net interest is understood as the difference between income and debt payments in the income balance; and net returns on foreign direct investment as the difference between income and payments of this investment in the income balance.

3.Ten years of inflation differential between Spain and the Eurozone

Since the establishment of the single currency in January 1999, the Spanish economy has had an average inflation differential with regard to the Eurozone of around 0.9% a year. This work shows that the current slowdown in the growth of domestic demand will contribute to a reduction in the inflation differential as it will alleviate the pressure of demand on the profit margins seen in the last decade; however, this reduction will not be permanent. In the long term, the Spanish economy needs to undertake reforms in the markets for goods and labor which would reduce the inflationary bias with the Economic and Monetary Union.

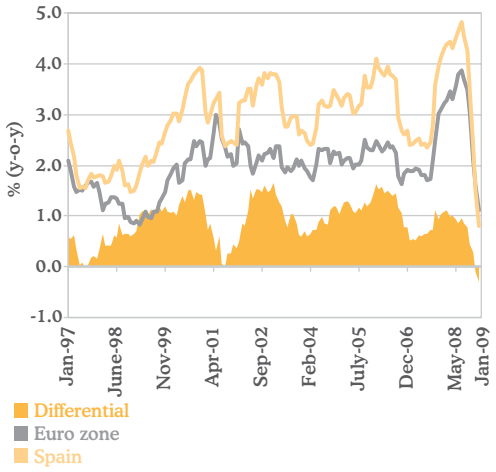
3.1. Introduction

One factor of the Spanish economy since the establishment of the single currency is the persistence of the inflation differential with the rest of the Eurozone. Chart 3.1 shows the evolution of inflation between Spain and the Euro-12 zone throughout the period 1997-2008. On average, the inflation differential hovered around 0.9% a year. Since the introduction of the euro, inflation differentials close to zero have only been observed in two specific episodes: the economic slowdown of 2001 and the current adverse economic situation (see Chart 3.2). This pattern of behavior of the inflation differential is observed regardless of whether the aggregate HICP inflation measure or that of its core component (which excludes energy and non-processed foods from the aggregate) are used (see Chart 3.3). Specifically, the yearly average of the core inflation differential in the period 1997-2008 was around 1% (see Table 3.1). During the last quarters, it is worth noting that the core inflation differential has tended to fall at a slower rate than the aggregate due to the simultaneous negative inflation differentials in energy and in non-processed foods, as shown in Chart 3.4.

The fact that the inflation differential has disappeared in recent months begs the question of whether the average differential observed between 1997 and 2008 was caused entirely by the stronger growth in Spain compared to the Economic and Monetary Union (EMU) or whether this is only a partial explanation, and that when both economies once again grow above their potential growth rates, the positive inflation differential will reappear. This article examines this question due to the importance of arriving at a correct analysis of the causes of the inflation differential. We therefore explore the underlying reasons for the persistence of the positive inflation differential between Spain and the Eurozone, in order to extract information as to the possible future evolution of prices and Spain's chance of converging to the average Eurozone growth rate for price levels in the short term. In other words, the current situation requires an analysis of the factors which could lead the Spanish economy to reverse the trend of the last ten years, in order to maintain an inflation differential of zero or even negative in the future.

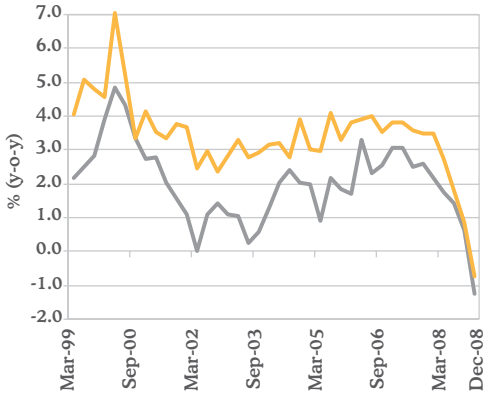
Ceteris paribus means that a positive inflation differential for one of the members of a monetary union entails, on the one hand, the loss of purchasing power of its citizens compared to their neighbors in the union; and, on the other hand, the erosion in the competitiveness indicators of all the assets traded in the international markets, that is, tradeble goods. Moreover, countries with greater inflation tend to

Chart 3.1.
Inflation and differential
Spain compared to the Euro-12 zone



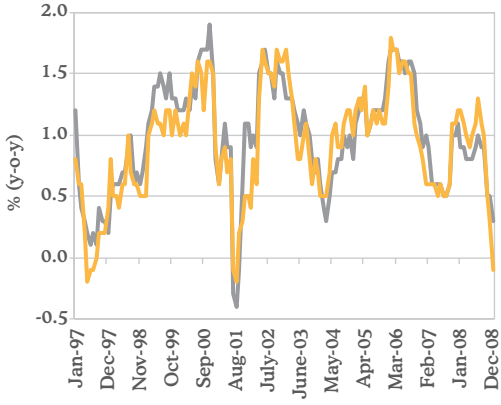
Source: BBVA ERD based on Eurostat

Chart 3.2.
GDP growth
Spain and the Euro-12 zone



Source: BBVA ERD based on Eurostat

Chart 3.3.
Inflation differential
Spain compared to the Euro-12 zone



Source: BBVA ERD based on Eurostat

Table 3.1. Inflation differential

Spain compared with the Euro-12 zone

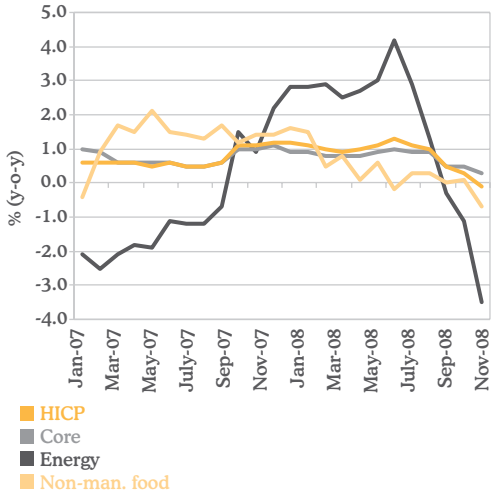
(in %, p.a.)	HICP	Unprocessed food	Energy	Core
1997	0.2	0.0	-0.2	0.4
1998	0.6	0.2	-1.2	0.7
1999	1.1	1.0	1.0	1.3
2000	1.4	2.0	0.3	1.5
2001	0.5	0.2	-2.9	0.6
2002	1.3	1.6	0.5	1.4
2003	1.0	2.4	-1.7	1.1
2004	0.9	3.0	0.4	0.7
2005	1.2	2.5	-0.4	1.2
2006	1.4	1.1	0.3	1.5
2007	0.7	1.3	-0.8	0.8
2008	0.9	0.4	1.7	0.8
Average	0.9	1.3	-0.3	1.0

Source: BBVA ERD based on Eurostat

Chart 3.4.

Inflation differential HICP and components

Spain compared to the Euro-12 zone



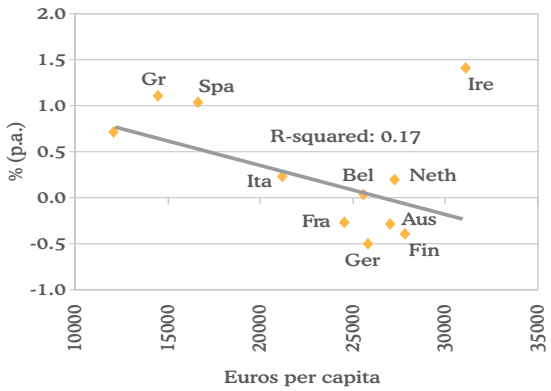
Source: BBVA ERD based on Eurostat

Chart 3.5.

Per capita income and inflation differential

Euro-12 zone countries, excl. Luxembourg

1999-2008 average



Source: BBVA ERD based on Eurostat

suffer a higher debt costs in the form of a higher interest rate spread than their partners in the union. Despite these adverse effects, the existence of a positive inflation differential is not necessarily cause for concern if it is the natural consequence of a process of convergence which characterizes economies departing from a lower level of wealth. Chart 3.5 shows the inverse relation between per capita income and the inflation differential which has characterized the Eurozone since its establishment. Specifically, countries with a lower per capita income have had a positive inflation differential, while countries with a higher per capita income have had a negative inflation differential, with the notable exception of Ireland. However this Chart also highlights the fact that the relative per capita income accounts for only a limited part (17%) of the variance observed in the inflation differential.

Another explanation of the inflation differential within a monetary union is the presence of disturbances which affect the various member states asymmetrically; of idiosyncratic shocks whose effects are limited to a single country, or disturbances which, although they are common and symmetrical, give rise to a heterogeneous response of inflation in each country due to differences in the mechanisms of price and wage formation. However, a cause of concern is the persistence of the inflation differential, i.e. the total absence of any trend towards its disappearance or substantial decrease.

Although the economic literature does not identify one single cause of the persistence of the inflation differential, it does coincide in indicating that the convergence in price levels, a result of the Balassa-Samuelson effect, has not played a part in determining the inflation differential in Spain.[1] In López-Salido et al. (2005) the persistence of inflation is explained in terms of the degree of inertia of the rules for price and wage formation in the Spanish economy, in particular they highlight the rigidity introduced by wage indexation clauses. On the other hand, Rabanal (2006) explains the inflation differential through the presence of technological shocks which have affected Spain, the Eurozone, or both areas.[2] More recently, Andrés et al. (2008) have studied to what extent differences in the economic structures among countries in a monetary union –such as the degree of competition in goods markets, the degree of openness or the degree of nominal inertia– may be decisive in determining the inflation differential, even in the presence of common shocks.

3.2. The determinants of the inflation differential: domestic or imported factors?

In order to the Spanish experience in comparative terms, this section explores the determining factors of the inflation differentials observed in the Eurozone during the period 1999-2007. The inflation differentials can thus be studied based on the decompositions of the deflator of final demand, the deflator of gross domestic product, and the real exchange rate, the latter limited to the case of Spain.

This inflation accounting exercises use homogeneous figures from National Accounts for the period 1999-2007.

Table 3.2 shows the breakdown of the growth rate of the deflator of final demand based on the relative contribution of domestic factors and imported costs. Spain is one of the Eurozone countries which

[1] The Balassa-Samuelson effect presupposes an acceleration of productivity in the tradable goods sector as a result of the process of convergence in economies which begin with lower levels of per capita income. This is the conclusion reached by Estrada, Jimeno and Malo de Molina.

[2] The technological shocks introduced in Rabanal (2006) do not distinguish between shocks to profit margins or mark-ups, and shocks to productivity.

has shown a greater annual average inflation differential in final demand. In the cases of Spain, Greece, and Portugal, domestic costs contribute significantly more to the determination of the inflation differential than imported costs. These three countries from southern Europe also recorded, on average, the highest inflation rates in the period 1999-2007.[3] In the case of Italy, the contribution of domestic and imported costs to the inflation differential are approximately equal. The evidence shows that France and Germany were the only two countries in the Eurozone with below average contributions in both indicators. The good performance of domestic factors in Germany has been decisive in reducing average inflation in the Eurozone in the first ten years of monetary union.

Below is the breakdown of the real exchange rate *(RER)* in a monetary union, where the *RER* between the Eurozone and Spain is defined as the ratio of the price level in the rest of the Eurozone, P^*_t, (that is to say, the Eurozone excluding Spain) over the price level in Spain, P_t. Chart 3.6 shows the evolution of the real exchange rate based on the harmonized monthly consumer price index taken from Eurostat for the period 1998-2008. The downward trend in the real exchange rate is an indicator of the accumulated inflation differential in the last ten years.

The problem with the construction of the real exchange rate is that it is not a good indicator of competitiveness, as the consumer prices include non-tradable goods. For this reason, Eurostat's harmonized monthly consumer price index must be broken down into the tradable goods component, containing all the goods whose origin or destination is the foreign market, and its non-tradable goods component, containing all the goods whose origin or destination is the domestic market.[4] Chart 3.7 shows that since Spain's entry into the Euro until approximately mid-2004, the real exchange rate of tradable goods depreciated by around 5% and subsequently settled at around 93. This pattern of behavior indicates that in 2004 Spain had exhausted the competitive advantage of entering the Euro at a depreciated nominal exchange rate of approximately 8%. Chart 3.7 also highlights the fact that the deterioration of the real exchange rate has been particularly acute in all goods which had the domestic market as their origin and destination, although it should be noted that the depreciation slowed down in recent years.

Given the results shown in these breakdowns, Chart 3.3 explores in detail the weight of the different domestic factors in the detemination of the inflation differential, the calculation is based on the GDP deflator. In particular, it shows the results of the breakdown of the deflator in terms of the relative contribution of wages, productivity, profit margins and net indirect taxes.[5] Chart 3.3 shows that Ireland, Greece, Portugal, Holland, Luxembourg and Spain had substantially above average growth in nominal wages. Yet, in the case of Ireland, Holland and Greece, the growth in productivity served as a buffer for the inflationary effects of wage growth. However, it can also be seen that the behavior of productivity in Spain, and to a lesser degree Portugal, has contributed to opening the inflation differential gap.

[3] With the exception of Luxembourg.

[4] To simplify, and in line with other articles in the literature (see for example, Rabanal (2006)), tradable and non-tradable goods correspond to the categories of "goods" and "services", respectively, of the HICP published by Eurostat.

[5] Inflation in period *t*, based on the deflator of the gross domestic product can be broken down as follows using data from the National Accounts: *Inflation* = [(*Growth rate of nominal wage – Growth rate of productivity*) * fraction of income form work in GDP)] + [*Growth rate of implicit deflator of gross operating surplus** fraction of corporate profits in GDP] + [(*Growth rate of net indirect nominal taxes – Growth rate of real GDP*) * effective rate of net indirect taxes]. Typically the contribution of corporate profits is calculated as a residual of the equation once the other contributions have been obtained (see for example, ECB (2003)).

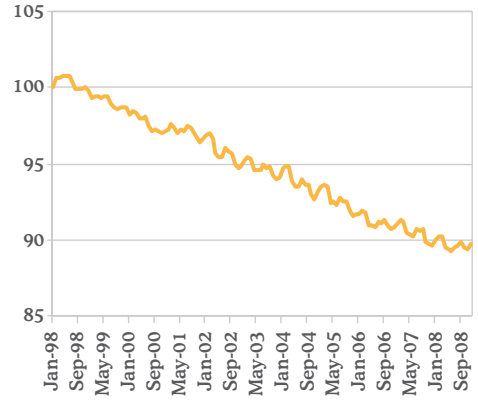
Table 3.2. Inflation accounting of the countries in the Euro-12 zone

Deflator of final demand, 1999-2007
(contributions to change)
(average annual growth rates in percentage)

	Total	Costs Domestic	Costs Imported
Euro-12 zone	1.95	1.56	0.39
Deviation from the average of the Euro-12 zone			
Belgium	0.40	-0.40	0.80
Germany	-0.62	-0.41	-0.21
Ireland	0.39	0.06	0.34
Greece	1.36	0.99	0.37
Spain	1.23	1.14	0.09
France	-0.39	-0.10	-0.28
Italy	0.57	0.30	0.27
Luxembourg	1.49	-0.19	1.69
Holland	-0.15	-0.15	0.00
Austria	-0.19	-0.20	0.01
Portugal	0.58	0.50	0.08
Finland	-0.35	-0.36	0.01

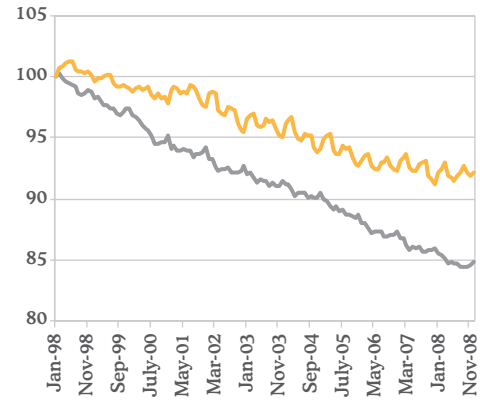
Note: The contribution of the imported costs of the Euro-12 zone is calculated as the weighted average of the contributions of the countries' imported costs. In the case of Luxembourg, the contribution of domestic factors is calculated as a residual using the annual exchange rate of the deflator of final demand. The total figure is the sum of the contributions.
Source: BBVA ERD based on AMECO

Chart 3.6.
Real exchange rate
Rest of Eurozone with regard to Spain
(monthly rate, 1998=100)



Source: BBVA ERD based on Eurostat

Chart 3.7.
Real exchange rate
Rest of Eurozone with regard to Spain
Tradable and non-tradable goods



Tradable Good EER
Non-Tradable Good EER
Source: BBVA ERD based on Eurostat

Table 3.3. Inflation accounting. Euro-12 zone countries

Deflator of Gross Domestic Product, 1999-2007
(contributions to the change)
(average annual growth rates in percentage)

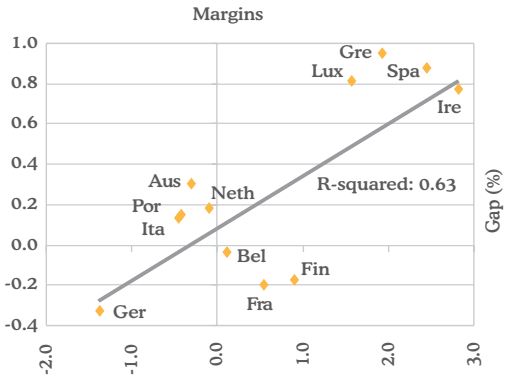
	Total	Wages	Productivity	Margins	Taxes
Euro-12 zone	1.96	1.26	0.45	0.87	0.28
Deviation from the average of the Euro-12 zone					
Belgium	-0.05	0.17	0.06	-0.03	-0.13
Germany	-1.13	-0.31	0.48	-0.33	0.00
Ireland	1.57	1.03	0.51	0.78	0.27
Greece	1.56	0.69	0.19	0.95	0.10
Spain	1.85	0.30	-0.45	0.88	0.22
France	-0.15	0.17	0.00	-0.20	-0.13
Italy	0.46	-0.14	-0.45	0.13	0.02
Luxembourg	1.26	0.35	0.01	0.81	0.11
Holland	0.64	0.65	0.32	0.18	0.13
Austria	-0.45	-0.22	0.30	0.31	-0.24
Portugal	1.13	0.66	-0.05	0.15	0.27
Finland	-0.55	0.25	0.44	-0.17	-0.19

Note: The contribution of profit margins is calculated as a residual. The total is the sum of the contributions of wages, margins and taxes, minus the contribution of productivity.
Sources: BBVA ERD based on AMECO

Chart 3.8.

Contribution of margins and growth gap to domestic demand

Each country compared to the Euro-12 zone
(average of the period 1999-2007)

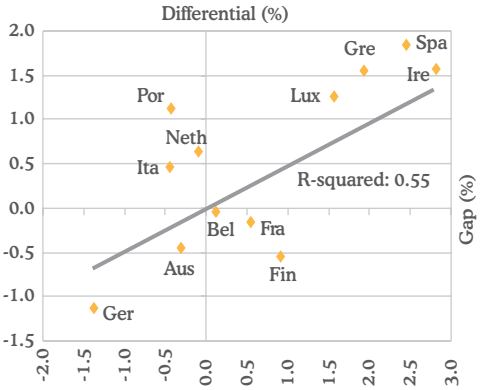


Source: BBVA ERD based on Eurostat

Chart 3.9.

Inflation differential and growth gap in domestic demand

Each country compared to the Euro-12 zone
(average of the period 1999-2007)



Source: BBVA ERD based on Eurostat

Table 3.3 also indicates that profits contributed substantially to the positive inflation differential in Greece, Spain and Ireland. Chart 3.8 shows the procyclical nature of the profit margins in the Eurozone in the period 1999-2007. Thus the economies which showed greater average growth in domestic demand also had the greatest contributions of profit margins to their inflation differential.[6] In summary, the conjunction of the behavior of the profit margins and the discrepancy between wage increases and productivity, highlights Spain's inflationary role within the Eurozone.

3.3. How relevant is the higher growth of domestic demand?

Chart 3.9 shows that the growth differential of domestic demand is positively correlated with the inflation differential, begging the question of how far this growth differential accounts for Spain's higher inflation compared to the EMU. Chart 3.10 shows how during the first ten years of the monetary union, the growth rate of domestic demand in Spain was persistently above that of its partners, but it also shows that the growth of the trend-related component of domestic demand was over one percentage point.

Starting with the specification of the expectations-augmented Phillips curve, we obtain the following expression of the inflation differential between Spain and the Euro 12 zone:[7]

$$\pi_t - \pi_t^* = C + \alpha(L)(\pi_{t-1} - \pi_{t-1}^*) + \gamma(L)((g_{y_t} - \bar{g}_y) - (g_{y_t}^* - \bar{g}_y^*)) + \delta(L)(MPI_t - MPI_t^*) + \varepsilon_t, \quad (2)$$

where the inflation differential between Spain and the EMU is written as a function of a constant which includes among other factors, differences in structural unemployment rates, lagged inflation differential, the differential of domestic demand gaps and of the imported inflation differential.[8]

The estimates shown in Table 3.4 indicate that a reduction in the domestic demand gap of around 1% reduces the inflation differential between Spain and the Euro-12 zone by 0.33%. Similarly, a reduction in the imported inflation differential of around 1% would reduce the inflation differential by 0.19%. However, the greatest reduction in the inflation differential would be gained through permanent changes in the factors included in the constant. These factors affect the natural rate of unemployment, and usually change slowly over time. This is the case, for example, of structural aspects of wage negotiation or the degree of competition of the goods and services markets.

[6] The growth rates for domestic demand for Greece and Ireland refer to the period 2001-2007. The inflation differential is calculated based on the deflator of the gross domestic product.

[7] Using two simple rules which describe the setting of prices and wages in the economy, Blanchard (2009) obtains the following representation of the expectations-augmented Phillips curve: $\pi_t = \pi_t^e + (\mu + z) - \alpha u_t$ where inflation depends on inflation expectations, π_t^e, μ is the margin or mark-up of price over wages, z is a variable which contains all the structural factors affecting wage formation, u is the unemployment rate and α is a parameter which captures the sensitivity of the nominal negotiated wage to variations in the unemployment rate. If we enter the following in the Phillips curve: (1) the definition of the natural unemployment rate $u^N = (\mu + z)/\alpha$, (2) the assumption of expectations of autoregressive inflation, (3) Okun's Law, which establishes a negative relation between the change in the unemployment rate and the gap between the growth rate of domestic demand and its trend-related component, that is to say $\Delta u_t = -\beta(g_{y_t} - \bar{g}_y)$, (4) open economic variables, and (5) simplified suppositions as to the response of inflation in the two economic areas in the study, we will obtain the representation of the dynamic behavior of the inflation differential described in equation (2).

[8] In equation (2), $\alpha(L)$, $\gamma(L)$, $\delta(L)$ are polynomials in the lag operator and ε_t is the residual. The equation (2) has been estimated using quarterly data for the period 1999:1-2008:3.

3.4. The Spain-EMU inflation differential from a DSGE perspective

In order to analyze more closely the determining factors of the inflation differential between the Spanish economy and the Eurozone, we use a dynamic stochastic general equilibrium model, which distinguishes between supply and demand factors. The model contains a neo-Keynesian Phillips curve which relates marginal costs with price setting, a version of the IS curve, and is closed with a rule of monetary policy which sets nominal interest rates. A relevant variable of the model's transmission mechanism is the actual exchange rate. Due to asymmetries between the Eurozone economy as a whole and the Spanish economy, the law of one price does not hold.[9] The dynamics of the model are determined by a series of disturbances associated to factors of supply and demand. The model is estimated with quarterly data which covers the period from January 1980 - March 2008.

Chart 3.11 contains the main results of this exercise, and shows the contribution of supply and demand factors to explain Spain's inflation differential with respect to the ECB's objective of 2%. It can be seen in the last part of the sample that the differential factors for demand have been contributing progressively less to the inflation differential. It can also be seen that the substantial increase in the differential occurring in mid 2007, lasting until mid 2008, was due fundamentally to the greater impact of supply factors, particularly relating to energy, in the Spanish economy (see again Chart 3.4). Once these impacts are corrected, the inflation differential has been significantly reduced.

3.5. Conclusions

This work shows that the conjunction of the behavior of profit margins and the lack of coordination between wage increases and productivity have contributed significantly to the fact that Spain's inflation rate is higher than that of the EMU. The current slowdown in the growth of domestic demand will contribute to a reduction of the inflation differential, as it will alleviate the pressure of demand on profit margins and on wages that occurred in the last decade.

However, this reduction will not be permanent. In the long term the Spanish economy needs to implement reforms in the labor and goods markets to reduce its tendency to an inflationary bias with the EMU.

3.6. References

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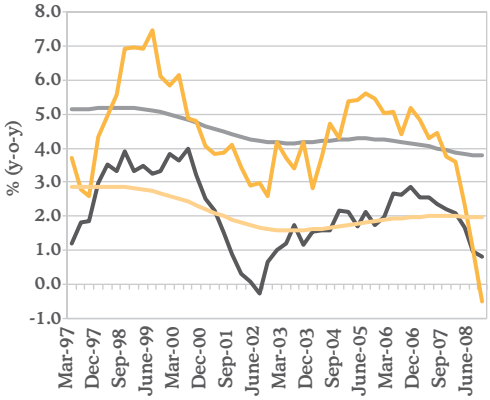
[9] A detailed description of the estimated model can be found in the article by Galí and Monacelli (2005).

Chart 3.10.

Rate of growth of domestic demand

Spain and the Euro-12 zone



Source: BBVA ERD based on Eurostat

Table 3.4. Inflation differential: Spain compared to the Euro-12 zone

Dependent variable: DIFFSPEA12 (Inflation differential)
Method: GMM (Generalized Method of Moments)
Sample: 1999Q1 2008Q3
Observations included: 39
Kernel: Bartlett, Bandwidth: Fixed (3), Prewithening
Instruments: C DIFFSPEA12 (-3,-4,-5,-6) Demand differential (- 2,-3). Import differential

Variable	Coefficient	Est. error	t-statistic	Prob.
C	0.40	0.04	9.50	0.00
DIFFSPEA12(-1)	1.33	0.05	24.29	0.00
DIFFSPEA12(-2)	-0.75	0.04	-16.88	0.00
Demand differential	0.14	0.05	2.52	0.02
Import differential	0.08	0.03	3.09	0.00

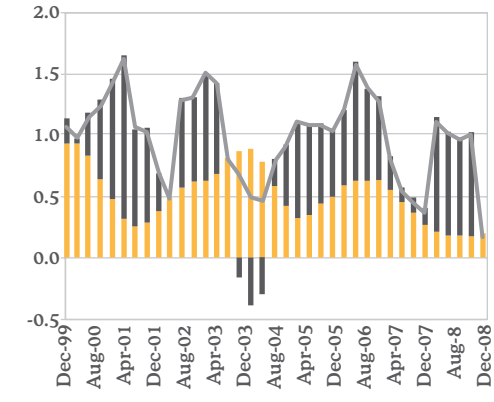
R-squared	0.64	Average dep. variable	1.02
Adjusted R-square	0.60	S.D. dep. variable	0.35
Regression S.E.	0.22	Sum of residuals squared	1.61
Durbin-Watson est.	2.68	J-statistic	0.17

Source: BBVA ERD

Chart 3.11.

Spain-EMU:

% annual HCPI – Deviation from trend



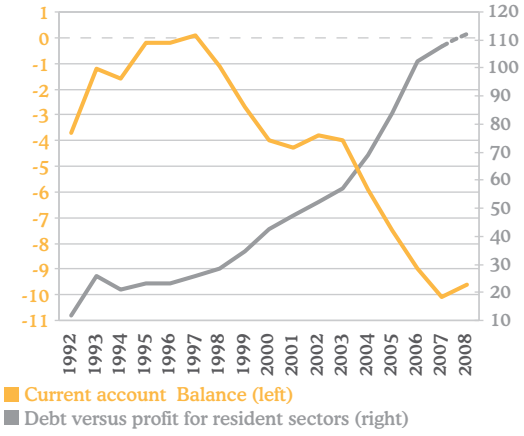
Source: Datastream and BBVA ERD

Box 3: Foreign competitiveness and innovation

In previous issues of Spain Watch particular attention has been paid to one of the major challenges facing the current Spanish economy: the reduction of its foreign funding needs in a particularly adverse global environment resulting from the interconnected problems of risk aversion, liquidity tensions, solvency problems and an increasingly severe global recession. The funding needs of the Spanish economy are closely linked to the current account balance, which according to the latest data published by the Bank of Spain registered a deficit of 9.6% of GDP. This is nearly five times more than in 1999, and one of the highest rates in the European Union, below only that of some of the countries that joined in the enlargement processes of 2004 and 2007.

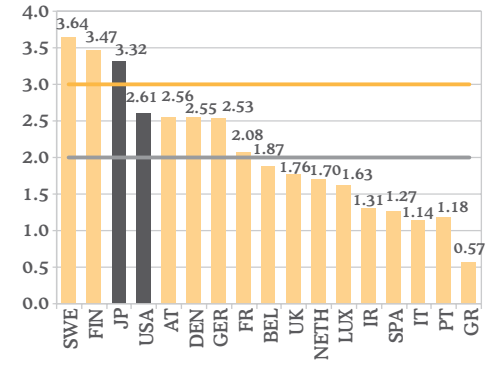
Spain, Foreign debt of resident sectors* and the current account balance

Percentage of GDP (%)



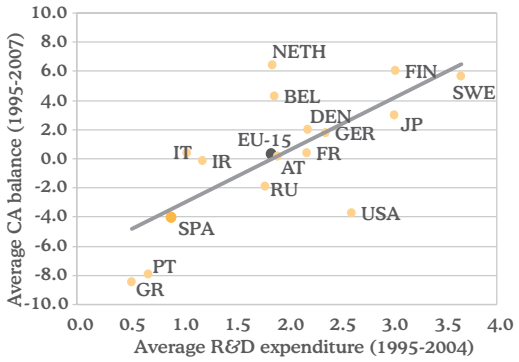
Source: BBVA ERD based on Eurostat
* Debt in securities other than shares and in loans

Gap between R&D spending as percentage of GDP in 2007 compared with the Lisbon objectives and the INGENIO 2010 program.



Source: BBVA ERD based on Eurostat
* The figures for Italy, the U.K. and the U.S. are for 2006; those for Japan are for 2005

Relationship between R&D spending (% GDP) and the current account balance (% GDP)



Source: BBVA ERD based on Eurostat

The major increase in the current-account deficit over recent years can be explained by the combination of various factors such as sky-high oil prices, buoyant domestic demand against a background of historically very low real interest rates, the poor economic performance of our main trading partners and the gradual loss of competitiveness in the Spanish economy in a highly global and competitive environment. The latter point is the result of our economy's weak capacity to generate and take advantage of scientific and technological knowledge, and thus position itself near the so-called *knowledge frontier* together with the economies that are leaders in innovation. In fact, the Spanish economy's total spending on research and technological development (R&D) was 1.27% of GDP in 2007. In terms of total R&D spending this is still very far from its main European partners (1.91% of GDP in 2007) and also from compliance with the objectives established for 2010 in the National Reform Program (2% of GDP)[1] and in the Lisbon Strategy (3% of GDP).

This is particularly important because, as shown by the economic literature (Kaldor, 1978 and Fagerberg, 1996, 2007), in the long term an economy's market share of exports, and thus the capacity or need for foreign funding, are positively related to R&D spending. The adjoining chart shows how countries with a greater investment effort as a share of GDP (Sweden, Finland and Japan) are net creditors, while the economies of countries such as Spain, Portugal and Greece, with a moderate spending on R&D, are clearly net debtors.

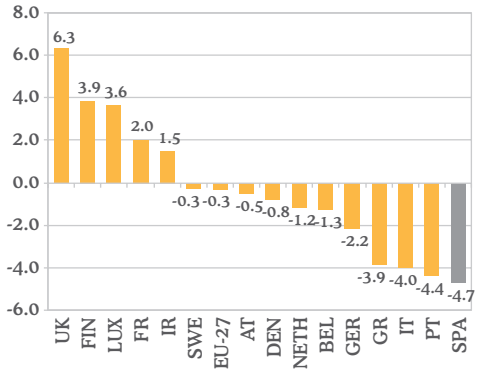
An explanation of this fact can be found in the added value of high-technology goods, tends to lead to a net creditor position against the rest of the world. In this sense, the Spanish economy's long-standing technological dependence in recent decades has led to its position as bottom of the list in the EU-27 in terms of the trade balance in high-technology products[2] In fact, if we analyze the Spanish trade balance in these kinds of products, it can be seen that in recent years there has been a significant deterioration. Between 1995 and 2005 the trade balance in these kinds of products tripled, with a negative effect on the current account balance. Despite the significant progress made in recent years, Spain is, together with Cyprus, Estonia, Slovenia, the Czech Republic, Portugal, Greece and Italy, one of the group of moderate innovators. So there is a clear need to continue to undertake

[1] The National Reform Program had an intermediate objective of 1.6% of GDP in this respect for 2008.

[2] The aerospace, arms and munitions, office equipment, computers, pharmacy and other sectors.

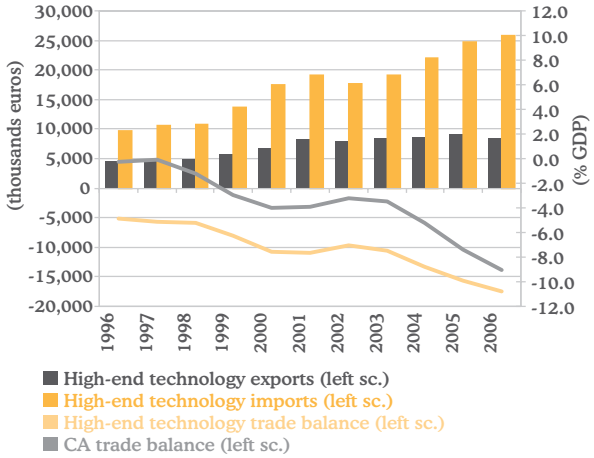
Trade balance in high-technology products (1999-2006)

(percentage of total trade)



Source: BBVA ERD based on Eurostat

Spain: trade in high-technology products and current-account balance



Source: BBVA ERD, Eurostat and the Ministry of Science and Innovation

significant improvements in the system of national innovation. As Buesa (2006) points out, two of the major challenges affecting the Spanish economy in forthcoming years are, first, to improve its synergies and coordination between the different agents involved in innovation activities (companies, universities and public research bodies)[3] and, second, to increase the number of innovative product or process companies[4] The Spanish economy has a long-standing technological dependence on other countries, faithfully reflected in Unamuno's famous phrase "let them do the inventing". Despite the efforts made[5], Spain remains at the bottom of the pile of the advanced economies in terms of the percentage of companies involved in innovative activities. This reality is a reflection of the fragmentation of Spanish business activity, which continues to be characterized by its small size, as can be seen in the adjoining table. This significantly conditions the innovative effort of Spanish companies, given that innovative activity involves, among other things, high fixed R&D costs, the use of economies of scale and access to external sources of finance.

Economic literature[6] shows how in the long term a country's competitiveness and welfare (measured in terms of its GDP per capita) are to a large extent determined by technological process, so the potential growth rate of the Spanish economy over the coming years will depend significantly on the economic policy measures that create incentives for R&D in the private sector.

Employees by size of company in 2004

(except financial sector)

	Number of people employed (thousands of people)	Percentage of total employment by company size		
		MICRO (1 to 9 employees)	SME (10 to 249 employees)	LARGE (250 or more people employees)
EU-27	125,000	29.5	37.6	33.0
Germany	20,687	19.2	40.9	39.9
United Kingdom	17,993	21.1	32.8	46.1
Italy	14,687	46.9	34.3	18.8
France	14,287	23.6	37.3	39.1
Spain	12,839	38.9	40.2	20.9
Sweden	2,578	26.3	37.9	35.8

Source: Eurostat Yearbook 2008

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Pérez, F.; Goerlich, F. and Mas, M. (1996), *Capitalización y crecimiento en España y sus regiones 1955-1995*, Bilbao, Fundación BBVA.

[3] The lack of coordination between different agents leads to: i) a doubling of the resources channeled towards R&D activities; ii) the existence of a critical research mass that reduces the capacity to compete in international research projects; and iii) little knowledge transfer from public research centers to the private sector, thus limiting public-private collaboration in R&D.

[4] According to the INE, 23.5% of all industrial and service companies with ten or more employees in Spain.

[5] Total spending on R&D has tripled in the last quarter of a century.

[6] The work of Coe and Helpman (1995), Maddison (1996), Aghion and Howitt (2007) and Fagerberg and Srholec (2009) demonstrates a positive correlation between technical progress and economic growth. For their part, Pérez, Goerlich and Mas (1996) found that in the Spanish case the exogenous factor explained more than 70% of growth.

4. Three structural reforms for the Spanish labor market

Two special characteristics of the Spanish labor market are the high rate of unemployment compared with other developed economies and its high rate of temporary employment. Among the reasons for these special characteristics are: i) the different contract terms applied to different kinds of workers; ii) the lack of correspondence between wage increases and firm productivity, and iii) the high rate of tax on employment. The economic and social costs of the high level of unemployment and temporary employment make it necessary to implement structural reforms to eliminate the existing dual nature of the labor market and to promote models of wage bargaining which allow a closer relationship between wages and productivity. At the same time, it is possible to reduce the tax burden on employment without compromising the long-term viability of the pension system. These measures could bring forward the recovery of the Spanish economy.

4.1. Introduction

The high rate of temporary employment and unemployment are two of the best known empirical facts relating to the Spanish economy. The percentage of temporary workers in Spain is by far the highest in the OECD (31.6% in 2007 compared with an average of 14.6% in OECD countries as a whole). What is more, this temporary employment is countercyclical. This means that the groups affected by it (young people, women, workers with lower levels of education, etc.) are those who suffer most during a recession. At the same time, there is evidence that the rate of temporary employment has a negative impact both on productivity (as it promotes sectors that make intensive use of workers with low human capital levels) and on the long-term investment decisions of workers because of the greater uncertainty.

Given the duality in the treatment of workers with permanent and temporary contracts in terms of their conditions of dismissal, it is natural that the debate on the causes of temporary employment should focus on these asymmetries. As we analyze in section 4.2, it seems necessary to undertake a reform that ends with this kind of discrimination and increases the protection of temporary workers, without the need to increase long-term costs for business.

For its part, the high unemployment rate is the result of a number of factors, including the rigidities in the nominal salary and the lack of a relationship between real wages and productivity. This suggests that the system of wage bargaining is not effective. In particular, factors such as the low rate of representation (a reduced trade union density and high coverage of collective bargaining), or the relatively low percentage of workers whose bargaining level is the firm, generate a negative productivity bias and a positive inflation bias. Section 4.3 analyses some of the possible alternatives for the process of wage bargaining in Spain.

Another factor that could explain the high level of unemployment is the excessive tax burden on employment. In particular, an increase in the tax rate on work has negative effects both on the supply and on the demand for work. This suggests that an analysis should be made of the effects of lowering the tax burden on employment. Given that employer's social security contributions in Spain are among the highest in Europe, we have analyzed the possibility of replacing those

contributions with increase in VAT, in order to guarantee that the financial situation of the Welfare State is not weakened. In section 4.4 we estimate that a reduction of 3.5 points in contributions, compensated with an increase of 2 points in theVAT would, in the short term, create some 280,000 jobs.

4.2 Achieve a balance between the protection for temporary and permanent workers

The reform of employment protection through changes in the terms and conditions of employment contracts has been a recurrent theme of the debates on the Spanish labor market, and it has been behind various reforms that were carried out in the 1980s. In essence, the key to the problem has been the high level of protection for permanent employment in Spain, which was inherited from regulations dating back to the Franco period. These were not fully reformed after the arrival of democracy. Instead, they were partially corrected via a liberalization of temporary contracts in 1984, which led to a second best solution. The market was separated into two groups, one with highly protected permanent contracts, and the other with temporary contracts which bear the brunt of all the marginal adjustments in employment linked to the economic cycle. This duality in the labor market has boosted swift employment creation during booms (the marginal cost of creating employment through temporary employment contracts is very low), but it has also led to a very high level of temporary employment compared with other countries, and has negative effects on productivity, labor mobility and income distribution. In short, the correction of this duality by a slight reduction in the dismissal costs of permanent workers, combined with government incentives for permanent employment, have been the core of a series of reforms carried out in the 1990s and 2000s (well described by Bentolila *et al*, 2008, and the papers cited by them), but they have not managed to reduce the high rate of temporary employment.

This section gives an overview of the effects of the duality on the Spanish labor market as analyzed by the literature. It includes an example of a possible reform based on proposals made by other authors and on international experience.

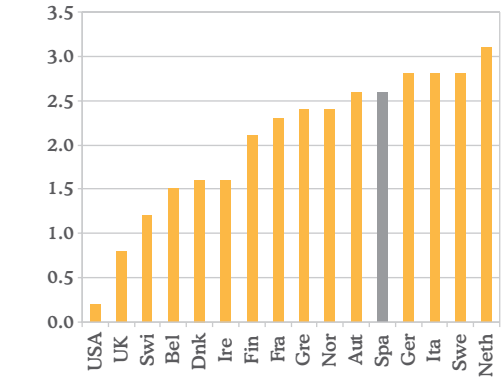
What protection is offered to permanent workers in Spain compared with other OECD countries?

It is difficult to compare employment protection at an international level. The most quoted comparison of this kind is from the OECD, which has created an employment protection indicator for temporary workers and another for permanent workers.[1] According to these indicators, the protection offered to permanent workers in Spain is one of the highest among OECD countries, although not necessarily the highest. Protection of temporary workers would also be at the higher end of the scale (Charts 4.1 - 4.3).

However, the use of these indicators to show the degree of duality in the Spanish labor market presents certain problems. The indicators are measured on a scale of 1 to 6 (6 indicating the greatest protection). They are in turn made up of variable quantitative or qualitative measurements of a large number of components. For example, an initial level of decomposition of the indicator for permanent contracts gives sub-components for collective dismissals, individual justified dismissals and unjustified dismissals. The unjustified dismissal

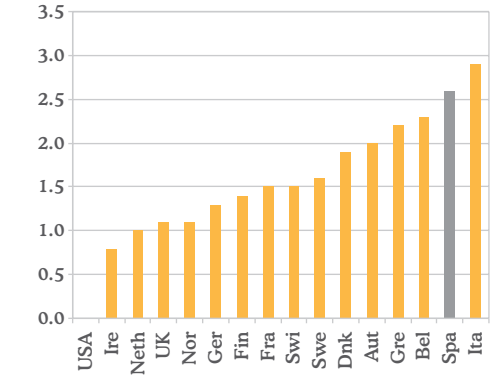
[1]The latest published version with all the details on this indicator corresponds to 1998 (OECD, 2004). However, there have been few reforms in this respect in most OECD countries.

Chart 4.1.
Indicator of protection to permanent employment
(Scale 1-6)



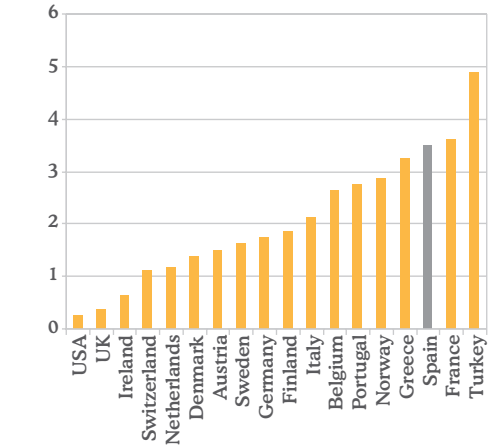
Source: OECD

Chart 4.2.
Costs of dismissal and notification
(Scale 1-6)



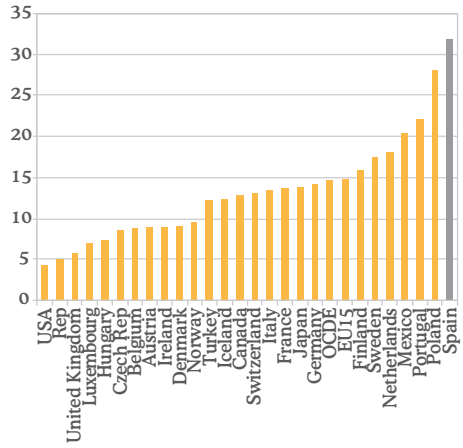
Source: OECD

Chart 4.3.
Indicator of protection in temporary employment
(Scale 1-6)



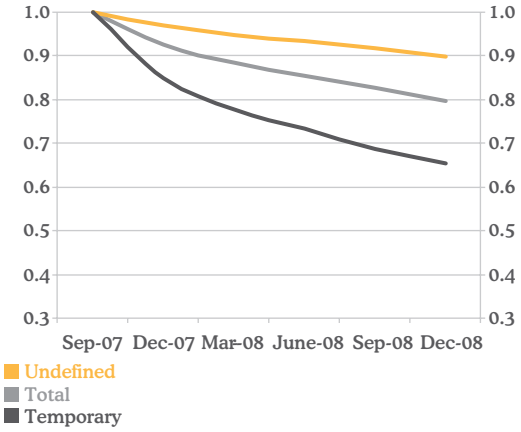
Source: OECD

Chart 4.4.
Temporary employment rate
% employment



Source: OECD

Chart 4.5.
Probability of remaining employed



Source: BBVA ERD
Note: workers employed in September 07 who remain employed in the EPA until Dec 08

component itself includes a number of variables, among which dismissal costs are only one. Despite the importance of dismissal costs on the decision to hire in Spain, its weight in the indicator for protection of permanent employment is only 8%. In fact, if only the cost of unjustified dismissal is taken into account, Spain has one of the highest levels in the OECD (Chart 4.2).

Something similar occurs with the indicator of the protection of temporary workers (Chart 4.3). The OECD indicator for this kind of contract puts Spain at the average level, as there are certain dismissal costs (8 days per year worked) and limits to the number of cumulative temporary contract renewals within the same company. However, there is abundant circumstantial evidence that in Spain the enforcement of the rule limiting cumulative contract renewals has not been applied strictly, so that the limits to temporary recruitment are in practice very low.

In any event, the clearest evidence of the duality of the market is demonstrated by the rate of temporary employment, which in the Spanish case has remained at a very high level for more than fifteen years, and is by far the highest in all the OECD countries (Chart 4.4).

What problems does an excessive duality in the labor market create?

At first sight, temporary contracts have the obvious advantage of being very flexible and offering companies an instrument for creating employment, as there are no high and uncertain costs linked to future dismissals. The high rate of temporary employment has undoubtedly been a factor behind the rapid job creation in the Spanish economy over the last 15 years.

However, the duality also has negative effects. First, the high rate of temporary employment affects productivity, as temporary workers receive less in-company training than permanent workers (Dolado and Stucchi, 2008). In addition, the fact that there is an extensive group of workers with little protection against dismissal increases the protection of permanent workers, thus reinforcing the distinction between *insiders* and *outsiders* in the economy and leading to wage rises for permanent workers that are above their productivity levels. This effect was pointed out for wage increases in the 1980s (Bentolila and Dolado, 1994), although it is difficult to identify in more recent decades. Thirdly, the duality has an obvious effect in terms of income distribution. Employment adjustment is focused to an excessive extent on temporary workers, so that transition between temporary employment and unemployment is much more common than between permanent employment and unemployment. In recent quarters, for example, the probability of becoming unemployed has been much greater for temporary workers than for permanent ones (Chart 4.5).[2]

The dual model has other indirect effects which are equally important. First, the high level of protection for permanent workers distorts their voluntary turnover between different companies, because a change in company involves the loss of the implicit rights to receive severance payments linked to length of service. Second, for young workers with little chance of getting a permanent job, many important decisions about their lives (leaving the family home, having children, etc.) are also distorted by excessive precariousness. Finally, geographical mobility, which is very low in Spain, is also limited by the excessive risk in moving for work reasons if the contract held initially is temporary.

[2] Fedea (2009) gives a detailed analysis of the determinants of the probability of continuance in a job

What chances are there of reform to reduce this duality?

An obvious solution to the problem of duality in the labor market is to reduce the gap between the protection of temporary and permanent workers. This is in line with the attempts at reform in Spain undertaken over recent years that introduced incentives for contracts for certain groups of workers with lower costs in the case of unjustified dismissals (33 days per year worked instead of the traditional 45 days), and more recently some restrictions on the use of temporary contracts. However, these reforms have had a very limited effect on the rate of temporary employment.

The proposal made by Bentolila *et al.* (2008) is along the same lines. It consists of creating a single type of contract to replace those currently in use, with the unjustified dismissal costs per year worked depending on the worker's length of service in the company. Specifically, these authors propose dismissal costs of 8 days for the first year worked (the same as in the current temporary contract), and successive increases to 12, 15, 20 and 25 days in the following years, up to a maximum of 36 days starting with the fifth year worked. This reform redistributes protection by increasing it for temporary workers and reducing it for permanent workers, while maintaining its average level. However, its level of dismissal costs for workers with over 5 years of service in the company is similar to that at present and possibly still too high.

One alternative would be the system applied in Austria since 2003. This consists of introducing dismissal insurance, paid for by social security contributions. The insurance accumulates in the worker's individual account, and is used for severance payments in the case of dismissal.[3] If the system were applied in Spain, it would have two clear advantages: it could be designed in such a way that it maintained the severance pay received by the worker in case of dismissal at similar levels to those at present, while reducing the cost for the company at the time of dismissal. In addition, the worker's individual accumulated accounts could be transferred to another company if he decides to change his job, thus facilitating job mobility. If the worker was not dismissed over his working life, the fund would revert to the holder in the form of capital on retirement.

However, there is a disadvantage to this system. Because the cost of dismissal is converted into an insurance system, the marginal dismissal cost of a worker is zero. This could give rise to excessive turnover. As pointed out by Blanchard and Tirole (2004), excessive turnover is not a social optimum. Specifically, they propose a system that penalizes those companies that dismiss most workers by making them pay higher social contributions.

An alternative reform would be the combination of a single contract with increasing dismissal costs, plus a system of insurance along the Austrian lines.

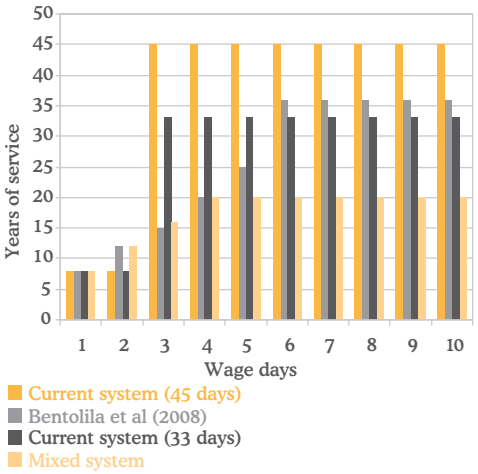
The combination of the two systems in a mixed system could be a good compromise solution to eliminate the duality in the labor market and maintain a high level of average protection for workers, while reducing the relative disadvantages of the systems as described above. These disadvantages are the continuing relatively high marginal dismissal costs for workers with the longest service; and excessively low (or no) marginal costs in an exclusively insurance-based system.

[3] For a description of this system, see Hofer (2006).

Chart 4.6.

Marginal dismissal costs

(days per year worked)

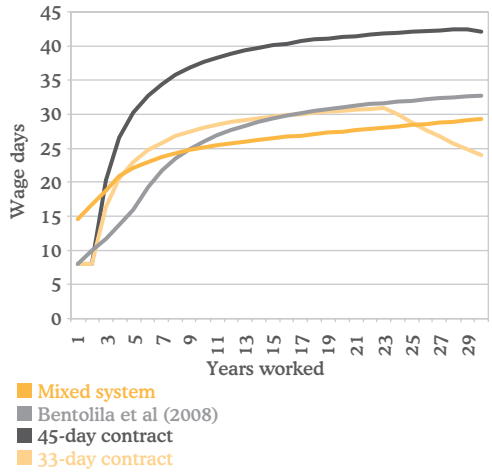


Source: BBVA ERD and Bentolila et al (2004)

Chart 4.7.

Compensation per year worked

(in days' wages)



Source: BBVA ERD

Table 4.1. Average compensation for year worked: Simulation exercise

Case: 2 years working with temporary contract and the remainder of working life with permanent contract			
years	Compensation average 2 first years (temporary)	Compensation average from 3 to 35 (permanent)	Compensation average total
45-day contract	8	38	29.3
33-day contract	8	27	21.0
Proposal by Bentolila et al	9	28	22.5
Mixed system proposal	16	27	23.4

* Note: In this example, we are assuming that 30% of workers have a temporary contract; half have worked for one year and the other half for two years. We imagine that the length of service of the permanent contract workers is evenly distributed between 3 and 35 years of length of service.

The following is an example of the proposal with real figures: dismissal costs would increase progressively on a sliding scale of 8, 12, 16 and 20 days' wages per year worked in the first four years, and 20 days after that. The fund would be financed by 1.8% of the gross annual wage and managed by the social security system. We assume here that it would be invested in a relatively conservative way to give a real annual return equivalent to the potential rate of growth of the Spanish economy (2.8%).

In this system, the marginal cost of dismissal would increase gradually with the length of service of the worker, but it would remain at substantially lower levels than those current for workers with longest service (Chart 4.6). In addition, workers' protection measured as severance pay received (in days' wages) would in this mixed system include both the classic dismissal costs and the payment of the accumulated fund. It would also grow according to length of service, but with a less steep curve than in the current contracts giving 45 and 33 days' pay for dismissal or as in the proposal by Bentolila *et al.* (2008) (Chart 4.7). In other words, the balance of unemployment protection would be tipped back more in favor of workers with shorter service than in alternative systems. The employment history reflected in the chart assumes that in the first two years, a worker has a temporary contract, and a permanent contract for the remainder of his working life.

The calculation of the average severance pay per year worked in each of the two systems is done by using the assumption of 30% of workers with temporary contracts for one or two years, and 70% with permanent contracts which, for lack of further information, are deemed to be uniformly distributed with lengths of service of between 3 and 35 years. In this specific case, the average protection per year worked in the proposed example would be greater than that of a system where all the contracts receive 33 days of severance pay, or that provided by the system proposed by Bentolila *et al.* (2008), but less than a system in which all the contracts receive 45 days of severance pay per year worked (Chart 4.1).

In terms of incentives for mobility, they are partially maintained in the example given of the proposed system. A worker with, for example, twelve years of service, may transfer an accumulated fund equivalent to 8 days' wages per year worked to another company. If he were dismissed after these 12 years he would receive an additional 18 days' wages per year worked.

Financing the new system and complementary reforms

A mixed system such as that analyzed above would need a new system of financing to replace part of the costs for the company (in simple terms, covering the difference between the 45 or 33 days of the current contract and the 20 days of the new contract) in the case of dismissal, and to complement the worker's pension if he is not dismissed during his working life. It would thus make sense for companies and workers to pay for this through increased social contributions. A third possibility would be for the State to participate in the financing of the new system. This could be justified on the grounds that eliminating the duality would have a positive effect on efficiency in terms of increased productivity, whether through greater training of workers, mobility between companies or geographical mobility. All these gains are difficult for the economic agents to internalize and would justify State intervention.

Finally, we should point out that a system such as that described affects other institutions that may have to be modified. First, this system provides a new source of finance for the pension system in net terms,

as the funds accumulated by the workers who are never dismissed would be positive and perhaps significant. Second, the system of dismissal insurance overlaps its functions with that of unemployment insurance (the main difference is that one provides compensation in the form of capital, and the other in form of temporary income).

4.3 Decentralization of collective bargaining: a necessary reform[4]

Two of the empirical regularities in the Spanish economy over recent decades have been the existence of a comparatively high rate of unemployment (Chart 4.8) and a positive inflation differential with regard to similar countries[5].

One of the factors behind both of those stylized facts is the existence of an inadequate mechanism for determining wages. The mechanism introduces rigidities into the labor market, with the result that when the cycle is adverse the adjustment is made in terms of quantity (employment) instead of prices (wages). These rigidities are the result of the collective bargaining structure not being sufficiently flexible to tackle the heterogeneity of shocks that have affected the various productive sectors.

Causes of the rigidity induced by collective bargaining in Spain: the normative nature of collective agreements, their automatic general efficiency, the principle of "ultra-activity" and the preponderance of provincial sector-based agreements

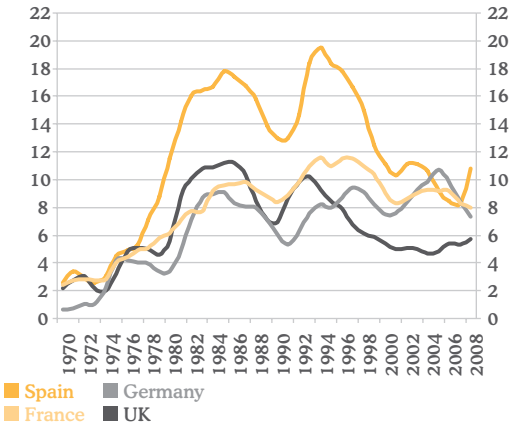
The wages received workers are the result of the interaction of two mechanisms: competitive and institutional. The competitive mechanism results in a level of wages that balance the interaction of supply (workers) and demand (companies) for labor. However, the wage balance derived from the competitive mechanism may translate to a sub-optimal level of employment as a result of the monopolistic power of workers and employers. For this reason the competitive mechanism is complemented by the institutional mechanism. Here, trade unions, business organizations and the government intervene in the process of setting wages to adjust the market based mechanism.

In the case of Spain, the institutional component plays a key role in the process of determining wages. There are four main reasons for this. First, there is the normative nature of collective agreements[6]. This makes subsequent individual agreements between the worker and company depend on what has been determined by the corresponding collective agreement. The law makes it difficult to adjust prices when there is an excess in supply or demand for work.

Second, there are the consequences of the principle of the automatic general efficiency of the agreements[7]. According to this principle, all the workers and companies belonging to a particular level (sector/territorial) of representation in the bargaining process are obliged by law to submit to what has been agreed in the agreement covering this level of representation, regardless of whether or not they took part in the bargaining process. This feature of the Spanish system of collective bargaining does not exist in most similar countries, except in Italy and Austria. It means that the coverage provided by bargaining is high and introduces limitations to wage flexibility, given that trade unions

[4]We would like to thank Rodolfo Méndez (BBVA ERD) and Melchor Fernández (Universidad de Santiago de Compostela) for their comments.
[5]As indicated by the analysis carried out in the above article, the reduction of the inflation differential with the euro area last year, *ceteris paribus*, is not permanent.
[6] Article 3.1 of the Workers' Statute.
[7] Article 82.3 of the Workers' Statute.

Chart 4.8.
Unemployment rate
(Share of the total active population)



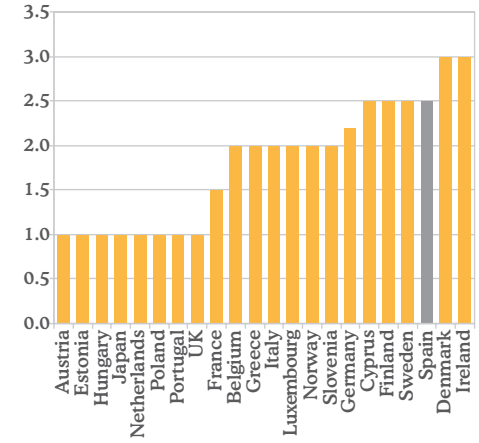
Source: AMECO and BBVA ERD

Chart 4.9.
Collective bargaining coverage vs union density. Year 2006

Union density \ Collective bargaining coverage	0%-25%	26-50%	51%-75%	76%-100%
0%-25%	USA, Japan Lithuania	Estonia Hungary Poland	Germany	Spain, France, Greece
26%-50%		Ireland, UK	Luxembourg, Czech Rep	Austria, Slovenia, Netherlands, Italy, Portugal
51%-75%			Cyprus, Norway,	Belgium, Finland
76%-100%				Denmark, Sweden

Source: Du Caju et al. (2008), OECD (2008) and BBVA ERD

Chart 4.10.
Average agreement length
(average number of years)

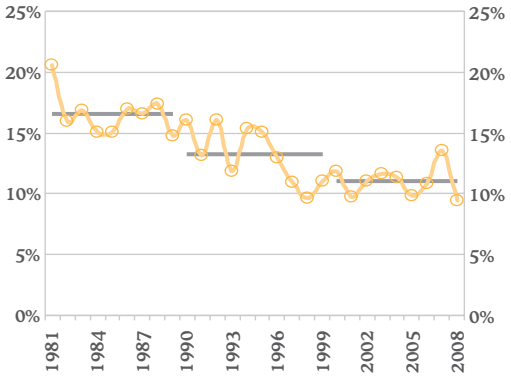


Source: Du Caju et al. (2008) and BBVA ERD

Chart 4.11.

Workers affected by company agreements

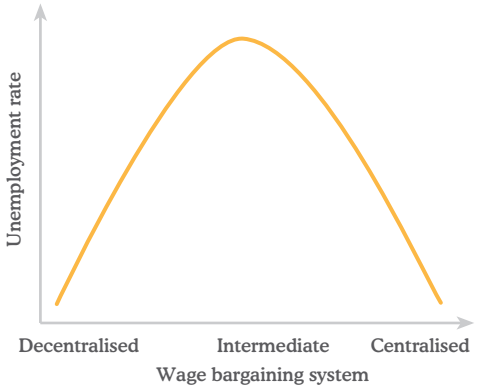
(% of total workers covered)



Source: MTIN and BBVA ERD

Chart 4.12.

Unemployment rate



Source: BBVA ERD, based on Calmfors and Driffil (1988)

Table 4.2. Economic activities considered in the analysis.

NACE-93	Description
A - B	Agriculture, livestock, hunting, forestry and fishing
C	Mining and quarrying industries
15 - 16	Manufacture of food products, beverages and tobacco
17 - 19	Manufacture of textiles and clothing, leather and footwear
20	Manufacture of wood and cork products
21 - 22	Manufacture of pulp, paper and paper products; publishing, graphic arts and printing
23 - 25	Manufacture of refined petroleum and nuclear fuel, chemicals, rubber and plastic material products.
26	Manufacture of other non-metallic mineral products.
27 - 28	Manufacture of basic metals and fabricated metal products
29	Manufacture of machinery and equipment
30 - 33	Manufacture of electrical, electronic and optical equipment
34 - 35	Manufacture of transport equipment
36 - 37	Various manufacturing industries
E	Production and distribution of electrical energy, gas and water
F	Construction
G	Commerce; repair of motor veicles, motorcycles and mopeds and personal and domestic articles
H	Hotel and catering
I	Transport, storage and communications
J	Financial intermediation
K	Property and rental services; business services
L - Q	Public administration, defense and compulsory social security, education, healthcare, social and personal services

Source: BBVA ERD

are granted a greater bargaining power than corresponds to union density[8] in Spain.

Third, because of the rigidity resulting from the principle of "ultra-activity"[9] or automatic extension. This means that when the period in force of the collective agreement concludes, the conditions agreed in it are extended indefinitely until the next agreement is signed. This automatic extension means that the average number of years an agreement is in force in Spain (2 and a half years) is relatively greater than most EU countries, except for Denmark and Ireland (Chart 4.10).

Fourth, because of the intermediate character of the Spanish system of collective bargaining. Bargaining is carried out according to a multi-level scheme: there are five bargaining levels (national, regional, provincial, local and company), divided into two functional levels: the sector and the company. In Spain, the majority of workers are covered by provincial sectoral agreements; by contrast the amount of workers covered by company agreements is currently around 10% (Chart 4.11). For these reasons, the degree of centralization of collective bargaining is said to be intermediate[10].

Empirical evidence indicates that the features of the Spanish system of collective bargaining, in particular its degree of centralization (intermediate) favor the existence of wage rigidities which translate into a lower than potential rate of job creation, a high rate of unemployment and a comparatively high rate of inflation.

Does the degree of centralization of collective bargaining affect the mechanism of wage determination, and thus employment? Calmfors and Driffil (1988) suggest that there is a non-linear relationship between the degree of centralization of collective bargaining and the unemployment rate. Its transmission mechanism is wage growth (Chart 4.12). To summarize, when the system of collective bargaining is decentralized, the trade union moderates its wage demands given that it is aware of the negative repercussions of not doing so on the employment level within the company. In the same way, when the system is centralized, the trade union and employers' organization internalize the externalities of collective bargaining on the aggregate employment in the economy. However, none of the arguments on what happens in the decentralized and centralized systems are applicable in the intermediate system of bargaining, so the agreed wage is higher. As a result, employment will be the variable that is adjusted if there is a negative shock.

Athough the papers that have tried to check the relationship suggested by Calmfors and Drillil (1988) have not obtained conclusive results[11], in the case of Spain the empirical evidence is clear. Thus, using the microdata from the Collective Agreements Statistics from the Ministry of Labor and Social Affairs (1990-2001), Izquierdo, Moral and Urtasun (2003) find a relevant effect in the scope of bargaining, both on wage increases and the distribution of agreed wages: wage increases derived from intermediate-level bargaining (sector/provincial) was greater than that in the other levels. At the same time, Bentolila and Jimeno (2002) show that the Spanish labor market demonstrates a degree of real

[8] Union members as percentage of total workers.
[9] Article 86 of the Workers' Statute.
[10] See Pérez-Infante (2002) for a detailed analysis of the characteristics of the Spanish system of collective bargaining.
[11] Danthine and Hunt (1994), OECD (1997), and Naylor (1998:1999), among others, argue that the inverted U-shaped relation suggested by Calmfors and Driffil tends to disappear in an open economy. The internationalization of the economy reduces the bargaining power of the trade unions, as the potential job destruction in sectors exposed to greater international competition are comparatively greater (due to, for example, offshoring). For a review of the macroeconomic consequences of the collective bargaining system, see Flanagan (1999) and Aidtz and Tzannatos (2005).

wage rigidity (understood to be the response of the growth in real wages to the changes in the unemployment rate) that is significantly higher than Italy, Germany, France or the U.S.

Thus, empirical evidence appears to indicate that the features of the Spanish system of collective bargaining favor wage rigidities which translate into a lower than potential rate of job creation, a high rate of unemployment and a comparatively high inflation rate.

Only in countries with a decentralized system of bargaining in which company agreements predominate does sector-based real wage growth appear to respond to changes in labor productivity

The aim of the following exercise is to analyze what determines real wage growth in Spain from a sector-based perspective and compare it with other developed countries. In particular, we study what part of the real labour compensation growth is the result of factors internal to the sector (mainly labor productivity growth and relative prices) and what part is due to external factors (unemployment rate and average wage growth in the rest of the economy). The study uses the EU KLEMS database[12] Although EU KLEMS has information at the level of the NACE-93 [National Classification of Economic Activities] classification from 1970 to 2005, with the aim of eliminating possible inconsistencies in the data we have decided to do the following: (i) cut the time reference, beginning in 1980 and (ii) aggregating the variables at the level of subsections of the NACE-93. Thus we investigate the 21 economic activities included in Table 4.2.

In order to discover the response of wages to labor productivity growth, we have estimated density functions of sectoral growth of real wages per worker for the different countries represented in the EU KLEMS and this has been compared with the respective densities of the sectoral growth of productivity per worker. Chart 4.13 shows the comparison of sectoral wage and productivity growth distributions for three countries with a different degree of collective bargaining centralization: Spain (intermediate), Finland (centralized) and the United Kingdom (decentralized)[13] .

The results indicate that in general the concentration of sectoral growth of real wages per worker is comparatively greater in countries with centralized and intermediate systems of collective bargaining, regardless of what the distribution of sectoral productivity growth is. Thus, only in countries with a decentralized system of bargaining, in which company agreements predominate, does sector-based real wage growth appear to respond to changes in labor productivity.

In Spain, the importance of factors that are internal to the company or sector is significantly lower than external factors in explaining real labour compensation growth

Given that the changes in real wages per worker in countries with non-decentralized bargaining systems cannot be explained by the behavior of productivity, what other factors are behind real wage growth in an economy?

The characteristics of the labor market in Spain (high and persistent level of involuntary unemployment and downward real wage rigidity)

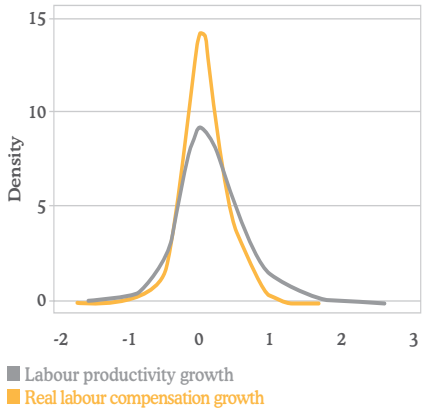
[12]The EU KLEMS database is the result of a European project involving fifteen research centers. Its main objective is to provide comparable data on growth, productivity, job creation, capital formation and technological progress in each economic activity for all the EU Member States. For a detailed description, see: http://www.euklems.net.

[13] See Du Caju *et al.* (2008) for a classification of the EU 23 countries, U.S. and Japan according to the different characteristics of their collective bargaining systems, in particular their degree of collective bargaining centralization.

Chart 4.13.

Spain. Real labour compensation vs labour productivity. Sectoral growth

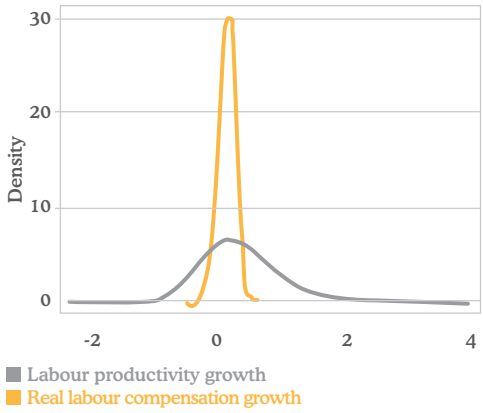
1980-2005: 21 industries



Source: BBVA ERD based on EU KLEMS

Finland. Real labour compensation vs labour productivity. Sectoral growth

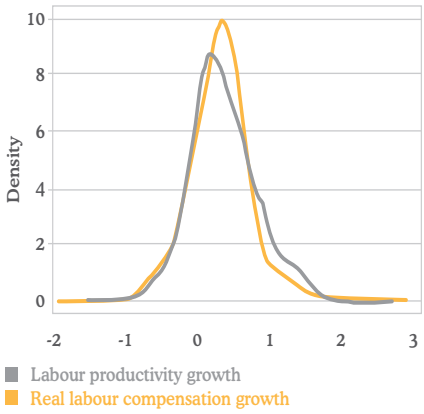
1980-2005: 21 industries



Source: BBVA ERD based on EU KLEMS

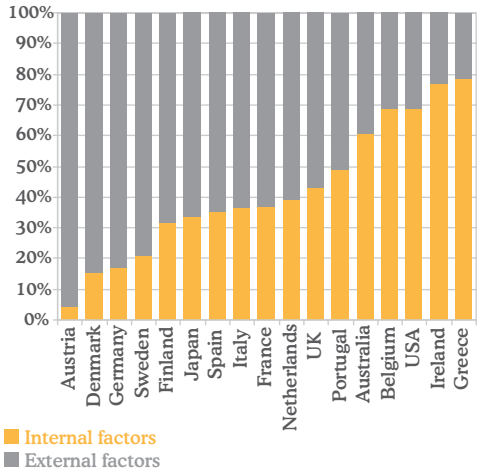
U.K. Real labour compensation vs labour productivity. Sectoral growth

1980-2005: 21 industries



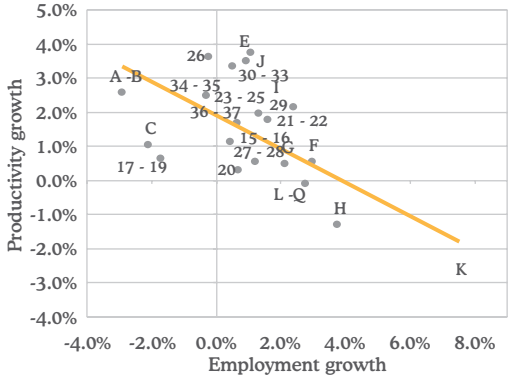
Source: BBVA ERD based on EU KLEMS

Chart 4.14.
Factors determining real labour compensation growth. Internal vs external factors (1980-2005)



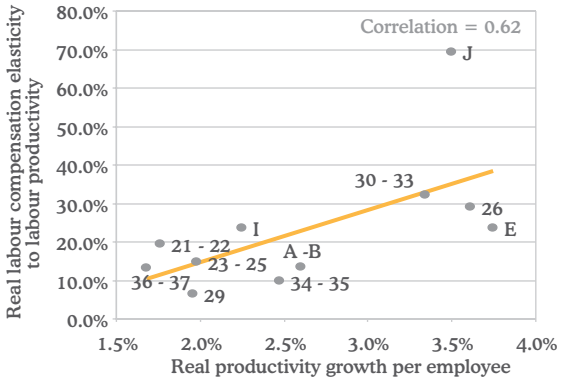
Source: BBVA ERD

Chart 4.15.
Spain. Employment vs productivity. Average growth 1980-2005



Source: BBVA ERD based on EU KLEMS

Chart 4.16.
Sectors in which productivity grows above the average



Source: BBVA ERD

are comparable to the results of the *insider-outsider* bargaining model (Lindbeck and Snower, 1988). According to this theory, the insiders - workers represented by a trade union - exercise a market power in the processes of wage determination that enables them to obtain higher wages than market clearing levels, i.e., those corresponding to their level of productivity, without this involving the loss of their jobs. The existence of labor turnover costs means that the determination of wages does not depend on the labor market situation, in particular on the number of unemployed people (outsiders).

According to the insider-outsider[14] model, companies choose the employment level that maximizes their profit level, while trade unions maximize the utility of workers (insiders) taking as exogenous those variable that characterize the macroeconomic environment, in particular the number of unemployed and aggregate wages. Wages are the result of a bargaining process (à la Nash) in which trade unions and companies try to harvest the results of productive activity. In simplified form, the real bargained wage in sector i in year t (wr_{it}) is a linear combination of factors internal to the company (or sector), such as productivity (pr_{it}) and relative prices (pre_rel_{it}), and external factors, such as the unemployment rate (u_{it-1}) and the average wage in the rest of the economy ($wresto_{it}$):

$$\Delta wr_{it} \equiv f(\Delta pr_{it}; \Delta pre\_rel_{it}; u_{it-1}; \Delta wresto_{it}; \varepsilon_{it}); \quad i = 1,\ldots,21; t = 1980,\ldots,2005 \qquad (1)$$

As there is a panel data for each country and we have rejected the hypothesis of sectoral homogeneity of the coefficients accompanying each explicative variable in the wage equation, we have chosen to estimate the 21 equations represented by (1) as if it were a system of seemingly unrelated regression equations[15] (SURE), and averaged the estimated coefficients, as done by Thomas (2002).

The results of the estimate of the determinants of real wage growth are summed up in Chart 4.14. For each country we give the average weight of the internal factors $\left(\frac{1}{21}\left(\sum_{i=1}^{21}\beta^{\mu}_{\Delta pr_{it}} + \sum_{i=1}^{21}\beta^{\mu}_{\Delta pre\_rel_{it}}\right)\right)$ and external factors $\left(\frac{1}{21}\left(\sum_{i=1}^{21}\beta^{\mu}_{\Delta u_{it-1}} + \sum_{i=1}^{21}\beta^{\mu}_{\Delta wresto_{it}}\right)\right)$ as explanatory of real wage growth. Chart 4.14 indicates that the degree of real wage rigidity, understood as the response of real wage growth to the changes in factors that are external to the sector, is comparatively low in northern European countries, Germany and Austria, where the system of collective bargaining has traditionally been centralized. In contrast, the relative elasticity to internal factors of real wages per worker is comparatively high in countries with a traditionally decentralized system of bargaining, such as the Anglo-Saxon countries, Portugal and Belgium.

In Spain, the weight of internal factors is significantly lower than external factors in explaining real wage growth; the effect of labor productivity growth and of relative prices represents 64.7% of the increase in real wages per worker explained by the model.

[14] See Layard, Nickell and Jackman (1991) for a detailed explanation of the characteristics of the model outlined here.
[15] As a way of making the results more robust, we have looked for a long-term relation between the variables of the equation (1). However, the panel cointegration tests proposed by Westerlund (2007) do not reject the null hypothesis of non-cointegration for the great majority of countries considered. The results of the checks and estimates carried out are available for those interested in more information.

The differences between sectors in the elasticity of real wages to productivity per worker tend to deteriorate the job creation capacity of the Spanish economy and lead to an inflationary bias

However, the response of real wage growth to changes in internal factors differs between sectors[16]. Moreover, it does so in such a way that deteriorates the job-creating capacity of the Spanish economy and tends to create an inflationary bias.

If elasticity in the real wages per worker or productivity was homogenous between sectors, sectoral variations in productivity would not affect the employment level in the economy: the jobs created in sectors with greater productivity would be compensated by those destroyed in sectors whose productivity is less strong[17]. Thus, if the hypothesis of sectoral homogeneity were borne out, we should be able to observe a positive correlation between sectoral growth in productivity and employment. However, the data indicate the contrary: the sectors with greatest productivity growth are those in which employment performs less favorably (Chart 4.15).

The results of the estimate of the wage equations confirm that that there is a sectoral heterogeneity in the response of real wages to productivity. Specifically, a positive correlation is obtained between the growth in productivity per worker and the elasticity of real wages to productivity in sectors with a productivity growth that is above the average for the period (1980-2005) (Chart 4.16). In contrast, the correlation between both variables is negative when attention is focused on the sectors with productivity increases that are below average (Chart 4.17).

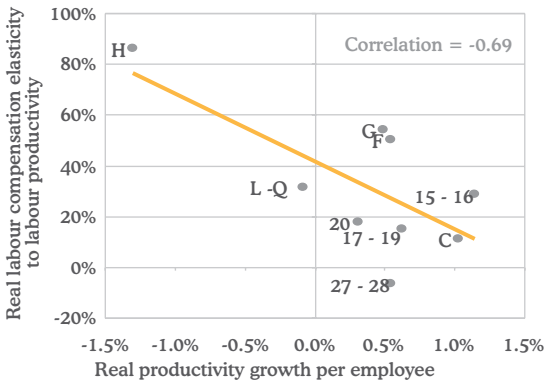
This evidence indicates a deterioration in the job creating capacity of the Spanish economy and an inflationary bias, as the indexation of wages to productivity in the sectors with above-average productivity growth leads to a wage pressure on the sectors where productivity growth is below average, and these react by raising prices and moderating job creation.

Reform of the Spanish system of collective bargaining: abolition of the principle of the automatic general efficiency of agreements in order to increase decentralization, and promotion of coordination between agents to create a virtuous circle between wages and macroeconomic conditions

Given that the mechanism for determining wages derived from the collective bargaining system: (i) is not sufficiently flexible to address the heterogeneous nature of the turbulence affecting the different productive sectors; and (ii) is inflationary, it would be advisable to reform it. Such a reform should thus make the decentralization of the system of collective bargaining a priority.

To do so, it would be advisable to suppress the automatic general efficiency of agreements that cover a greater level than the company. This would mean that each sectoral agreement was only applicable to those who participated in the bargaining process, with others being able to join on a voluntary basis. In the same way, there should be a limit to the maximum period in force of agreements without bargaining taking place (a restriction on “ultra-activity”). This would require a solution by default to be imposed if an agreement was not reached.

Chart 4.17.
Sectors in which productivity grows below the average

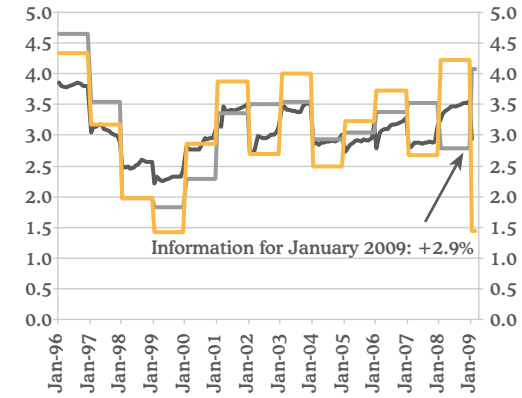


Source: BBVA ERD

[16] For a detailed analysis of the implications of the existence of inter-sector differences in indexing wages to productivity, see Draper (1993), Fernández and Montuenga (1997) and the references cited by both.

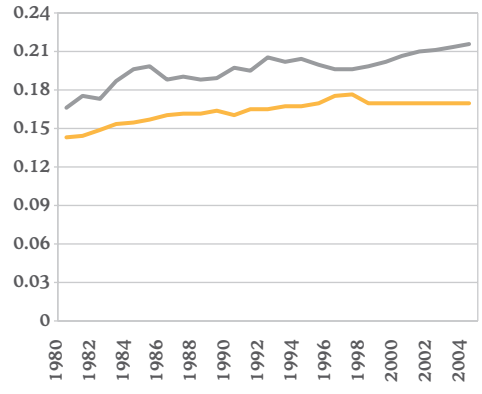
[17] In those sectors where productivity growth is less favorable, real wages increase as a result of an *imitation effect* provoked by the wage growth in sectors with relatively high productivity growth. This reduces employment in the former sectors.

Chart 4.18.
Spain: Wage indexation (% y.o.y)



Source: Bank of Spain, INE and BBVA ERD

Chart 4.19.
Average effective tax rate of employers' contributions



Source: Boscá et al. (2008)

Such a solution would either be the earlier agreement, as proposed by Estrada and Melguizo (2008) or that of an immediately higher level (national level), as suggested by Bentolila and Jimeno (2002).

Nevertheless, greater decentralization does not clash with the survival of a system of multi-level bargaining. It does, however, require adequate limitations to the scope of bargaining at each of the levels. The scope of national-level agreements should cover those aspects affecting all workers and companies equally, regardless of the sector or market in which they operate. These include the continuous training system, forms of employment contract, tax regulation, disciplinary regime, etc. In the sectoral agreements, preferably national, bargaining should cover subjects that affect the operation of all the companies in the sector in the same way, such as for example those relating to health and safety. Finally, company-level agreements should deal with organizational aspects, such as for example the length of the working day or policies for functional and geographical mobility, as well as wage aspects that affect the individual efficiency and competitiveness of each company. Generalizing the system of opt-out clauses at lower bargaining levels would help link the wage increases to the particular conditions of companies.

To mitigate the inflationary bias, it may also be a good idea to create an advisory body at a national level whose aim was to stimulate debate on what wage levels are compatible with the macroeconomic situation at any given time and in the future. One of the necessary conditions to prevent transitory price increases from being transferred to wages and thus generating second-round effects is to eliminate inflation catch-up clauses (or convert them into symmetrical ones), as proposed by the OECD (2008). At the same time, it would not be necessary to replace the use of the inflation rate in a particular month as a base for calculating wage increases for the following year by a representative reference for the whole of the year, such as average inflation (Chart 4.18), if the wages were indexed to productivity per worker at a company level.

4.4 Impact of a reduction in social security contributions for companies: a boost for employment

In the current context of economic crisis, practically all economies, whether industrial or emerging, are applying Keynesian recommendations for boosting aggregate demand. However, the contributions of John Maynard Keynes to countercyclical policies were not limited to demand policies, but also included supply policies which are forgotten more often than would be desired. Among these supply policies, Keynes was in favor of varying the rate of social contributions according to the cyclical situation of the economy[18]. Specifically, the reduction in employer contributions would help reduce production costs and increase labour demand. This would be particularly useful in the situation now faced by the Spanish economy, when there is major destruction of jobs.

Thus, following Keynes, this section assesses the effects of a permanent reduction in employers' social security contributions, financed by an increase in consumption taxes.

With regard to the first part of the proposal, the reason for concentrating on employers' contribution is their high level in Spain compared with other industrialized economies (Chart 4.19), as well as their bigger expected impact on employment compared with other tax policy

[18] Collected Writings, vol.27. Cited in the blog: www.marginalrevolution.com/marginalrevolution/2009/02/keynes-on-cutting-the-payroll-tax-in-a-downturn.html.

alternatives. In particular, in the short term, actions focused on promoting increases in the demand for labor will have a greater impact on the reduction in the rate of unemployment than those that promote the supply (such as a reduction in the employees contributions or a reduction in income tax).

The inclusion in the proposal of a rise in the VAT responds to the need not to weaken the financial situation of the Welfare State in Spain. This is why we consider compensating the ex-ante fall in public revenues involved in the reduction in contributions with an increase in the tax on consumption, i.e. VAT. In addition, in Spain this tax is significantly lower than in the main European Union economies (Chart 4.20). In any event, it should be pointed out that the final result of the proposal as a whole would be to reduce the total tax burden. This is because the tax base of social security contributions tends to be lower than that of consumption (contributions are only applicable to part of wages, with maximum and minimum ceilings). Thus a lower percentage-point increase in VAT would be a neutral reform in terms of tax revenues, and reduce the excess tax burden on employment (see, for example, OECD, 2007).

Finally, the immediate increase in the VAT rate would speed up the process of adjustment currently registered in domestic demand. Therefore, to promote an orderly adjustment, we consider that the increase in the VAT should be effective four quarters after the implementation of the reduction in social security contributions, once the Spanish economy has returned to a growth rate that is closer to its potential.

What is the challenge?

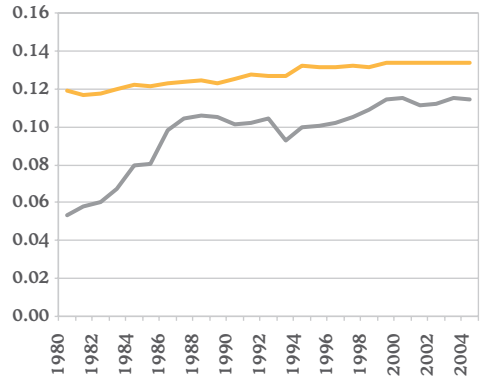
The proposal to replace social security contributions by VAT aims to increase the level of structural employment. At the sametime, it would strengthen the capacity of the economy to finance itself as a whole and improve the capacity for market adjustment in Spain in the face recent economic deterioration and accumulated in balances. To analyze the effects of this proposal a view of the empirical evidence on three relevant questions is performed: the effects of the tax on labour, the importance of wage rigidities throughout the economic cycle, and the effects of this reform on foreign competitiveness.

With regard to the first of these questions, since the decade of the seventies, there has been a differential in the number of hours worked per person of an age to work in Spain compared with other industrialized economies, in particular the U.S. (see Chart 4.21). The lower number of total hours worked explains a significant part of the lower per capita income in Spain compared with the U.S. There may be various factors behind this difference in hours. However, some authors have highlighted the impact of the higher level of tax burden on both companies and workers in European countries as an explanation (Prescott, 2004)[19] Thus a reduction in this tax burden would have positive effects both on the long-term level of employment and on family income.

In terms of the importance of the rigidities that exist throughout the economic cycle, Hall (1997) and Galí, Gertler and López-Salido (2007) have pointed out that the changes observed in employment could hardly be explained through the behavior of real wages. In particular, the major destruction of jobs during a recession should be the result of consistent falls in productivity or reductions in remunerations. However, real wages increase or are maintained during recessions.

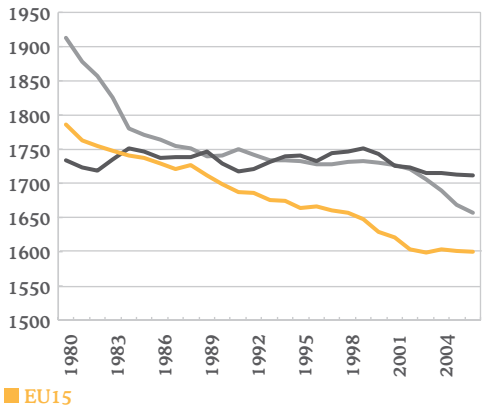
[19] For a more exhaustive review, see Boscá, Doménech and Ferri (2008) and Melguizo (2009).

Chart 4.20.
Average effective tax rate on consumption



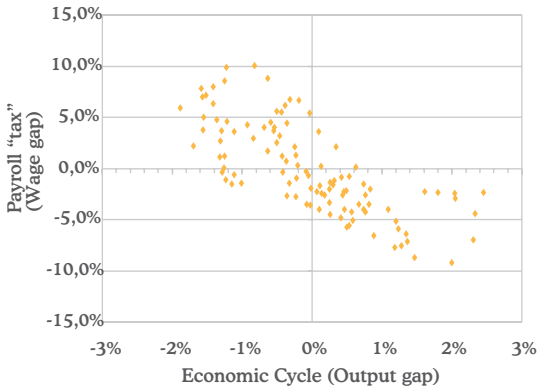
Source: Boscá et al. (2008)

Chart 4.21.
Hours worked by population of an age to work



Source: Boscá et al. (2008)

Chart 4.22.
Wage gap and economic cycle
(percentage)



Source: BBVA ERD

This suggests the existence of rigidities or inefficiencies that act in the same way as taxes on employment, reducing the incentives for people to work and reducing the demand by companies for labor. This level of tax burden, which explains the changes in consumption and employment in Spain, is shown in Chart 4.22. As can be seen, this "tax" increases during periods of recession. Given the lack of necessary structural reforms that would correct these imperfections directly, a reduction in the tax burden on employment would mitigate their cyclical impact.

Finally, one of the manifestations of the imbalance in the pattern of growth of the Spanish economy has been a persistent and growing current account deficit, which was around 10% of GDP in 2007 and 2008. Although part of this deficit has been cyclical in nature and can be explained by a dynamic investment rate, the current lack of liquidity in the international financial markets weakens the position of those economies that, like the Spanish economy, require foreign savings to finance their investment. The replacement of social security contributions by VAT would result in an increase in the level of national savings, so a smaller adjustment in the rate of investment would be needed to reduce the foreign deficit.

What has the experience been in other countries?

The proposal is not original. It was made a number of times a decade ago by international organizations such as the European Commission (1994) and the OECD (1994). Following these guidelines, Spain financed a modest reduction in the rate of social security contributions (0.8 points in employers' contributions and 0.2 points for workers) with a one-point increase in VAT. Far from losing its validity, this proposed tax reform is being considered in Europe, for example in the debate on the introduction of a "social VAT" in France, following the Danish example of the late 1980s. Recently Germany financed a reduction of more than two points in social security contributions to pay for unemployment benefits through higher VAT.

Despite this popularity, the empirical evidence is fundamentally based on simulation models that assume standard hypotheses of economic incidence. In general (and with the usual caveats), the literature corroborates its benefits in terms of activity and employment, although to a modest extent. According to the European Commission (2008), a reduction of 1 per cent of GDP in the tax on employment (equivalent to 1.3 percentage points) financed by VAT (1.5 percentage points) would increase employment by 0.14 per cent in a year, and at least 0.25 per cent in the long term (up to 0.6 per cent assuming a greater elasticity of job supply). The GDP would increase to a similar extent.

Focusing on Spain, the empirical literature published from the mid-1990s suggests a similar impact. Each percentage point reduction in employers' social security contributions would increase the level of employment in the long term by around 0.5 per cent[20]

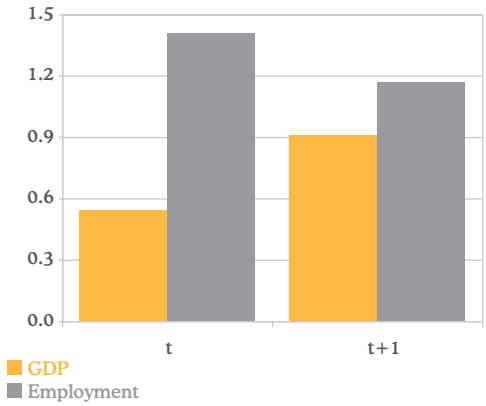
What would the effect be on Spain?

The institutional characteristics of Spain (centralization of intermediate collective bargaining and a significant trade union presence, a public sector that is less efficient than in other EMU countries and a defined benefit pension system) determine that taxation has a more negative effect than in other countries (see, for example, Daveri and Tabellini, 2000, at the international level).

[20] See, for example, González-Páramo and Sanz (2004).

Specifically, we have simulated a permanent reduction of 3.5 percentage points in the effective rate of employers' social security contributions (firms and the self-employed). The condition of ex-ante revenue neutrality means that the effective rate of tax on consumption should be increased two percentage points. The model of the Spanish economy proposed by Boscá *et al* (2007)[21] has been used to quantify the effect on employment and output. As can be seen from Chart 4.23, the results imply that this replacement of social security contributions with VAT would increase full-time equivalent employment in the first year of the reform by 1.41 per cent. This is equivalent to some 280,000 jobs, while GDP would increase by 0.55%.[22] Given the current situation of weak private consumption, if this measure were to be implemented in the coming months there would be a reason for reducing social security contributions immediately and delaying the VAT rise for, for example, a year with the aim of achieving an intertemporal substitution between present and future consumption to stimulate short-term aggregate demand.

Chart 4.23.
Economic impact of replacing social security contributions by VAT
(Difference in relation to base scenario, percentage points)



Source: BBVA ERD, based on REMS

4.5. Conclusions

The Spanish economy needs a flexible and efficient labor market that promotes growth in per capita income, productivity, investment and the welfare of its citizens. This article has discussed various alternatives which could be implemented to contribute to achieving this goal in the future. For this to take place, is it essential to create the consensus needed so that the design and implementation generate the desired effects. The protection of workers and structural reforms should be not be proposed as incompatible alternatives. Quite the reverse, the proposals discussed in this article not only do not endanger the Welfare State, but reinforce it by ensuring its viability in the future and ensuring the protection of those groups of workers who are most exposed to the economic crisis. The structural character of some inefficiencies in the Spanish economy and the high rate of current unemployment demand that action should swift and all the actors involved should give the priority needed to the reform agenda.

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[21] This is a dynamic general equilibrium model designed to simulate and evaluate the medium-term effects of economic policy alternatives. The Spanish economy is modeled as a small and open economy, with three representative agents - households, firms and the public sector – as well as a monetary authority (ECB) and the rest of the world (see Boscá *et al.* (2007).
[22] These results are in line with those of Coenen *et al.* (2008) and Boscá, Doménech and Ferri (2008).

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5. Summary of forecasts

EMU (Year-on-year rate as %, unless otherwise indicated)

	2003	2004	2005	2006	2007	2008	2009	2010
GDP at constant prices	**0.8**	**1.9**	**1.8**	**3.0**	**2.6**	**0.7**	**-2.5**	**0.2**
Private consumption	1.2	1.5	1.8	2.0	1.6	0.1	-2.0	0.0
Public consumption	1.7	1.6	1.5	1.9	2.3	1.9	1.9	2.1
Gross fixed capital formation	1.2	1.8	3.5	5.9	4.8	1.4	-7.8	-0.2
Variation in inventories (*)	0.1	0.2	-0.1	0.0	-0.1	-0.2	0.0	0.0
Internal demand (*)	**1.4**	**1.7**	**2.0**	**2.8**	**2.3**	**0.6**	**-2.3**	**0.4**
Exports (goods and services)	1.4	6.7	5.2	8.5	5.9	2.8	-6.8	-0.7
Imports (goods and services)	3.2	6.5	5.8	8.3	5.3	2.6	-6.6	-0.2
External demand (*)	**-0.6**	**0.2**	**-0.2**	**0.2**	**0.3**	**0.1**	**-0.2**	**-0.2**
Prices								
CPI	2.1	2.1	2.2	2.2	2.1	3.3	0.4	1.8
Underlying CPI	2.0	2.1	1.5	1.5	2.0	2.4	1.4	1.3
Labor market								
Employment	1.1	0.9	1.9	2.0	2.0	0.9	-1.5	0.0
Unemployment rate (% of active population)	8.6	8.8	8.8	8.3	7.4	7.5	9.3	10.0
Public sector								
Deficit (% GDP)	-3.1	-2.9	-2.6	-1.3	-0.6	-1.5	-4.0	-4.2
Foreign sector								
Current-account deficit (% GDP)	0.3	0.8	0.2	0.0	0.4	-0.3	-0.3	-0.4

* Contribution to growth

International background (% year on year)

	Real GDP growth (%)				Inflation** (%)			
	2007	2008	2009	2010	2007	2008	2009	2010
U.S.	2.0	1.3	-1.2	1.5	2.9	3.8	-1.3	1.3
Japan	2.0	0.5	-1.9	0.6	0.1	1.2	0.3	0.6
Latin America*	5.6	4.2	0.2	1.3	7.1	9.4	6.8	6.6

*Argentina, Brazil, Chile, Colombia, Mexico, Peru, Uruguay and Venezuela
** For Latin Am., forecast is for the end of the period

Financial variables

	Official rate (%) at the end of the period				10-year interest rate (%), quarterly average*			
	27/02/09	Q209	Q409	Q210	27/02/09	Q209	Q409	Q210
EMU	2.00	0.50	0.50	0.50	3.1	2.2	2.4	2.7
U.S.	0-0.25	0-0.25	0-0.25	0-0.25	3.0	2.3	2.3	2.9

* 10-year interest rates refer to German bonds

	Exchange rate (vs euro)*				Brent oil (dollars per barrel)*			
	27/02/09	Q209	Q409	Q210	27/02/09	Q209	Q409	Q210
US Dollar	1.26	1.22	1.16	1.08	44	46	49	50

* Average for period

Summary of forecasts for the Spanish economy

(Rates of annual variation as %, unless otherwise indicated)

	2002	2003	2004	2005	2006	2007	2008	2009	2010
GDP at market prices	**2.7**	**3.1**	**3.3**	**3.6**	**3.9**	**3.7**	**1.2**	**-2.8**	**-0.3**
Private Consumption	2.8	2.9	4.2	4.2	3.9	3.4	0.1	-2.8	0.2
Public Consumption	4.5	4.8	6.3	5.5	4.6	4.9	5.3	4.2	2.4
Gross fixed capital formation	3.4	5.9	5.1	7.0	7.1	5.3	-3.0	-15.0	-8.7
Capital goods	-2.9	4.1	5.1	9.2	10.2	10.0	-1.0	-27.1	-14.4
Construction	6.3	6.2	5.4	6.1	5.9	3.8	-5.3	-10.5	-5.7
Housing	7.0	9.3	5.9	6.1	6.0	3.8	-10.9	-22.7	-12.5
Rest	5.6	3.5	5.0	6.2	5.7	3.9	0.9	1.1	-0.5
Other Products	5.0	7.2	3.8	7.1	7.1	3.9	2.0	-11.8	-10.6
Variation in inventories (*)	0.0	-0.1	0.0	-0.1	0.2	-0.1	0.0	0.0	0.0
Domestic demand (*)	**3.3**	**3.9**	**4.9**	**5.3**	**5.3**	**4.4**	**0.2**	**-5.2**	**-1.6**
Exports of goods and services	2.0	3.7	4.2	2.5	6.7	4.9	0.7	-11.4	1.0
Imports of goods and services	3.7	6.2	9.6	7.7	10.3	6.2	-2.4	-16.8	-4.1
Net foreign balance (*)	**-0.6**	**-0.8**	**-1.7**	**-1.7**	**-1.5**	**-0.8**	**1.0**	**2.4**	**1.3**
GDP at current prices	7.1	7.4	7.4	8.1	8.1	7.0	4.3	-1.6	1.7
Million euros	729.206	782.929	841.042	908.792	982.303	1.050.595	1.095.368	1.078.390	1.096.286
Prices and costs									
GDP deflator	4.3	4.1	4.0	4.3	4.0	3.2	3.1	1.3	2.0
Household consumption deflator	2.8	3.1	3.6	3.4	3.5	3.2	3.8	0.8	0.9
CPI	3.5	2.9	3.0	3.4	3.5	2.8	4.1	0.2	1.4
Inflation differential with EMU (pp)	1.3	0.9	0.9	1.2	1.3	0.6	0.8	-0.2	-0.4
Wages per employee	3.3	3.6	3.0	3.7	3.9	3.7	5.3	2.9	2.8
Unit labor cost (ULC)	2.9	2.9	2.4	3.3	3.2	2.9	3.5	0.3	1.1
Labor market									
Active population. EPA	4.1	4.0	3.3	3.5	3.3	2.8	3.0	1.6	0.3
Employment. EPA	3.0	4.0	3.9	5.6	4.1	3.1	-0.5	-5.7	-2.2
Variation in thousands of people	484	666	675	1002	774	608	-98	-1158	-412
Employment. CNTR (full-time)	2.3	2.4	2.7	3.2	3.2	2.9	-0.6	-5.5	-2.0
Unemployment rate	11.5	11.5	11.0	9.2	8.5	8.3	11.3	17.7	19.7
Productivity	0.4	0.7	0.6	0.4	0.7	0.8	1.8	2.6	1.7
Public Sector									
Debt (% GDP)	52.5	48.7	46.2	43.0	39.6	36.1	39.4	50.1	54.7
Balance of Public Administrat. (% GDP)	-0.5	-0.2	-0.4	1.0	1.8	2.2	-3.8	-7.2	-5.6
Foreign Sector									
Trade Balance (% GDP)	-5.8	-5.9	-7.2	-8.6	-9.1	-9.4	-8.6	-4.8	-3.1
Current Account Balance (% GDP)	-3.3	-3.5	-5.3	-7.4	-8.9	-10.1	-9.6	-6.5	-5.0
Households									
Real disposable income	3.4	3.5	3.5	4.5	3.6	2.4	3.4	0.3	1.2
Real nominal income	6.3	6.7	7.2	8.0	7.2	5.7	7.3	1.0	2.1
Savings rate (% nominal income)	11.4	12.0	11.3	11.3	11.2	10.2	13.1	15.7	16.6

Source: official bodies and BBVA-ERD
(*) Contribution to GDP growth

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