Consejo Empresarial
para la
Competitividad

Spain,
a land of opportunities




March 2013

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Layout by:
IMAGIA*officina*.es
Printed by:
EGRAF, S.A.
Date of publication:
March 2013
Legal deposit:
M-9029-2013

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Introduction

Following on from its report published in May 2012, the Consejo Empresarial para la Competitividad (CEC) has published this report to underline that **Spain is a land of opportunities**. As explained a year ago, Spain would stabilise its trade position as it is a competitive country, enabling it to implement a credible fiscal adjustment without excessively impeding the economy, and would carry out the final raft of financial sector reforms, incurring limited losses. These forecasts were fulfilled, and off the back of a period of intense adjustments, it is now time to **look to the medium term with optimism**.

Spain has demonstrated that imbalances can be corrected and that some of the preconceptions tarnishing the image of the country's economy were not justified. Thus, Spain has proven that its foreign sector is competitive, having achieved an historical reduction in external financing requirements driven by efforts to diversify in terms of products, geographical areas and added value. It has also been proven that the problem was not a lack of private savings but excess investments in non-tradable sectors with limited productivity, whereby as the real-estate sector downturn worsened, these excess investments grew.

Spain has implemented reforms which, along with the contribution of foreign demand and extraordinary support measures, have allowed economic growth to be maintained despite carrying out some of the most comprehensive structural adjustments among developed nations, and an hereto unheard-of reduction in private debt. Spain is recovering much of the credibility it lost in the eyes of international investors, multi-lateral organisations and ratings agencies, thanks to a large extent to coming very close to meeting fiscal targets and a number of demanding trade objectives. It should not be overlooked that very few countries around the world have carried out **such exhaustive and transparent financial sector restructuring in such a short timeframe**, allowing the country to efficiently confront the new economic reality.

The scale of the fiscal and budgetary adjustments made and the first green shoots forming as a result of the key reforms carried out allow us to **be optimistic about the macroeconomic scenario as from mid-2013, while the economy is expected to gradually gain traction during 2014**. Despite the current climate, it should not be forgotten that Spain remains a land of opportunities in the medium term, boasting some of the most **dynamic, cutting-edge business sectors** in the world, **leading companies** across the entire value chain of many strategic sectors, and a series of **productive factors** (in terms of both quantity and quality) that will enable it to remain at the forefront of the global economy.

Spain must therefore continue with its reform agenda that speeds up change and avoids inertia, driving progress towards a **model based heavily on knowledge** making **better use of human resources** and boasting **a financial system that continues to adapt** to new borrowing requirements.

1 Executive summary

Prevailing doubts about the Spanish economy have lifted

The Euro project is not failing

This **drop in risk** is related to the following:

- Firstly, the clear message that the Euro is not only an economic project but also, and above all, a political project;
- Secondly, the decisive support of the European Central Bank (ECB) shown through the announcement of its programme to purchase sovereign bonds (Outright Monetary Transactions , OMT); and
- Thirdly, the progress made towards greater economic, financial, fiscal and political integration in Europe, starting with banking union.

Spain has proven it is able to streamline its economy

Greater competitiveness without monetary devaluation.

- Spain's private sector has achieved a significant decrease in unit labour costs compared to the rest of the eurozone, while productivity has clearly risen.
- International leadership in innovation and technological progress in cutting-edge sectors, accompanied by diversification in terms of products and geographical spread.
- This saw the country posting a current account balance surplus in the second half of 2012, compared to a deficit equivalent to 10% of gross domestic product (GDP) in 2007, thanks to a 26% uptick in exports from pre-crisis levels, despite weak demand in traditional export markets.

Orderly deleveraging of the private sector.

- The private sector has cut its borrowing requirements by over 17 percentage points (pp) as a percentage of GDP over the last five years.
- The financial system is generating new credit to meet demand from solvent customers. This new financing is being directed towards the most dynamic and profitable sectors.

Hitherto unheard-of structural adjustment, which has not had an excessive negative impact on growth.

- Since 2009, the structural budget deficit has shrunk by 10 pp as a percentage of GDP. In 2012, the fiscal effort reached almost 5 pp of GDP.
- Greater transparency and budgetary coordination among Public Administrations.
- The upturn in confidence, a healthy export sector, the recently launched Supplier Payment Plan, and the reforms rolled out have partially offset the negative impact of the fiscal adjustment.

Clear reform agenda to drive up growth in the medium to long term**.**

- Reforms leading to the economy becoming more flexible, such as the labour market reform, deregulation of professional services, opening up of new businesses and market unity.
- Reforms to improve fiscal sustainability in the medium term, such as pension reforms, budgetary stability, and streamlining of public spending by Public Administrations.
- Reforms to drive growth, such as the Digital Agenda, the energy sector reform, lending to SMEs/entrepreneurs, and the efforts to drive up internationalisation.

Intense and transparent recapitalisation and restructuring of the financial system.

- Over 90% of the financial system has been subject to international stress testing, showing that the sector would require less than €60 billion and would be 70% solvent under a stressed scenario.
- The gross cost to the public sector stands at 5% of GDP, comparable with other European countries.
- The number of banks has been cut by two-thirds, while capacity has shrunk by approximately 10%.

Foreign investors continue to place their faith in Spain

Annual average foreign direct investment (FDI) between 2008 and 2012 totalled €25 billion; only slightly lower than pre-crisis levels.

Spain will continue to rank among **world leaders in terms of FDI** inflows in the medium term.

Spain retains its leading position in terms of country reputation, especially well considered among the G8.

The Spanish economy will return to positive growth in 4Q13

Gradual economic recovery throughout 2013

The factors that hampered growth in previous years (shrinking of the real estate sector, private sector deleveraging and public deficit reduction) will gradually diminish during 2013, whereby towards year end, the foreign sector will be able to offset the negative contribution of internal demand, with GDP growth moving into the black. An upturn in the global economy between 2013 and 2014 will counterbalance the eurozone's woes, driving more robust export growth.

The housing sector slump will begin to make a less negative contribution in the latter half of 2013 since the supply-side downturn was especially pronounced and is coming to an end after a seven-year decline. Latent housing demand is also starting to surface in some provinces due to the entry of foreign investors.

In 2014, most components of internal demand will move back into the black.

The economic upturn will boost employment in 2014

The brighter economic environment and favourable impact of labour market reforms will give rise to an upturn in the number of people in work and a slight reduction in unemployment, especially in the latter half of 2014.

Although the drop in employment since the start of the crisis has been painful, it should be pointed out that the construction sector suffered half of this contraction, and more recently the public sector. It is also noteworthy that since the start of the crisis, 30% of the business sectors generated 650,000 jobs, especially skilled jobs, positioning Spain among those countries with the greatest number of degree-level jobs.

Spain will generate jobs in the medium term, and according to the latest European projections, will boast 1 million more jobs (net) in 2020 than in 2010, the majority of which will be skilled.

Spain is a very attractive destination for investments

The Spanish economy is competitive and innovative

Innovative businesses account for 73% of sales and generate 65% of the jobs, a quarter of which are related directly with entrepreneurship.

The knowledge-based economy is on the rise:

- A skilled labour force that is larger than the European average.
- Noteworthy scientific output, which is growing in terms of global leadership and excellence.
- Business schools ranked among the top schools in the world.

A favourable environment in which to do business:

- One of the best infrastructure networks in Europe.
- A world-leading telecommunications sector.
- Energy costs to the industrial sector below the European average.
- Corporate tax system that has made huge strides in becoming less complex and lowering tax burdens compared to the rest of Europe.
- Very attractive labour force:
    - Overall cost between 10% and 30% lower than our main European partners, with skilled labour costs some 25% to 40% lower.
    - Productivity levels rising two to three times faster than that of our main European partners, whereby Spain's GDP/employee will outstrip that of Germany or Italy, for example.
- Key geostrategic position to access markets offering huge potential thanks to their proximity and trade and language links.

Spain is well positioned as it boasts a number of sectors with huge strategic value, that are also gaining share

Services that are tradable abroad, as evidenced by a service sector trade surplus that stands 75% higher than before the crisis:

- A quarter of this rise is explained by the country's leadership in tourism, posting revenues of €56 billion – 20% higher than pre-crisis revenues thanks to diversifying into new markets from which tourists come and greater competitiveness. Spain's prospects as a destination for tourists visiting cultural heritage sites, business tourists and tourists from emerging markets are excellent.

- Three-quarters of this progress is due to the upturn in non-tourism services led by the provision of engineering and construction, energy, cultural services, information technology and corporate services, especially to emerging markets.

Highly levels of activity in sectors generating 35% of GDP, 42% of exports and over 2 million jobs, outperforming the rest of the Spanish economy thanks to higher levels of innovation and productivity: automotive sector and components, biotechnology, information technology and communication (ITC), food and agriculture, aerospace, and machinery and tooling.

Major international reach of Spanish franchises, which have doubled since 2008, as well as a 33% increase in foreign franchises in Spain since the crisis hit.

Growing innovation base giving rise to globally-important scientific discoveries by Spanish research centres, and the appearance of Spanish companies boasting disruptive technologies and solutions in the New Economy.

2 Doubts about Spain are disappearing

The euro has overcome the crisis of confidence, while risks of a eurozone break-up have dissipated

The Greek crisis since 2010 and the subsequent contagion of Ireland and Portugal in the following quarters led to some economic analysts concluding that there was a very significant risk of the eurozone breaking up. This view point was echoed by the response of the financial markets regarding the sustainability of peripheral countries. Rising sovereign debt spreads, the halting of investment inflows to the eurozone (especially into the periphery) and even the outflow of capital from some European capital markets reflected not only the accumulated imbalances in these countries, but also the fears of a eurozone break-up, which would probably lead to a devaluation of any newly-introduced currencies and therefore difficulties in repaying the accumulated debts.

It is clear that some of the underlying characteristics of peripheral countries and a less than appropriate economic policy response by European authorities could partially justify this attitude. High trade deficits in several European countries reflected an accumulated loss in competitiveness, although it is true that, at least in countries such as Ireland and Spain, the imbalances where mainly due to excessive investment spending; debts run up by households and businesses have reached very high levels; public deficits have spiralled, partly due to the recession but, above all, because a large part of revenues that were previously classified as structural have been shown to be temporary; public borrowing has risen rapidly due to the high budget deficits and bailouts of failing banks. Turning to the economic policy response, European Council leaders gave the impression, at least during the first two years of the crisis, of playing catch up with events, and only responding at the final hour with the minimum required to stave off further deterioration in the markets. One controversy in mid-2010 centred on Europe hinting at the need for the private sector to contribute to restructuring Greek debt. Although the logic behind this measure was clear, as it would help bolster market discipline regarding future crises, the initiative led to contagion of other markets by fuelling fears among investors that Europe was not prepared to bail out other Member States if the need arose.

Various events took place in 2012 that helped quell fears of a European Monetary Union break-up. The most outstanding milestone was the ECB's decisive backing of the euro as from summer 2012 through its announcement of its programme to purchase sovereign bonds (OMT), and above all, Mario Draghi's statement that the ECB would do "whatever it takes" to save the euro. The OMT programme came with strings attached, requiring countries to request bailouts, and has still not been opened. That said, the announcement did limit sovereign debt spreads and spurred a return of investment flows to the periphery. A second important step has been the significant inroads made to boost integration in Europe, above all in relation to banking union measures, which have started to be rolled out in 2013. Moving forward these measures will help break the vicious cycle that had formed between bank debt and sovereign debt. Banking union will reinforce the existing monetary union and should be further developed in the future through closer fiscal union. The third milestone in European policy in 2012 was the progress made towards resolving the Greek debt crisis in November, which extended to a bailout for Greece to bring its debt down to more manageable levels; but which, above all, sent out a clear signal that the European authorities are committed to defending Member States' positions in the eurozone.

These steps have been accompanied by adjustments in peripheral countries, even in the middle of a very deep recession that is leading to marked social and political pressures. As shown in this report, in the case of Spain, decreases in the structural deficit since 2010 have been very notable, while the current account deficit has been cut by far more than expected and responds not only to a cyclical adjustment in spending, but also an upturn in exports due to higher competitiveness. Structural reforms, above all of the labour market, have also helped achieve this adjustment.

In short, it appears that the predictions of a eurozone break-up no longer have any grounds, partly because those making such forecasts – above all from outside the eurozone – did not fully understand that the euro is not just an economic project, but also a political project of integration which Europe is prepared to defend to a far greater extent than was thought. The crisis has obviously not ended, since the financial markets continue to be fragmented, the fiscal adjustments have not been fully implemented and 2013 will continue to be on average a year of economic recession. Recent tensions associated with the political crisis in Italy indicate that the challenges are not over and that further pinch points may arise moving forward. Nevertheless, we are of the opinion that Europe is much better equipped to tackle future challenges, and that it is not possible that the euro will disappear.

Spain attractive to investors

Despite the eurozone crisis and the economic downturn in Spain, **foreign investor confidence has held** in recent years. In 2011, close to 300 FDI projects were kicked off, 60% more than in the previous year[1]. Furthermore, between 2008 and 2012, an average of close to €25 billion of FDI per annum flowed into Spain, only slightly less than the €27 billion of annual inflows in the five years preceding the crisis. Today, 8,620 subsidiaries of foreign companies operate in Spain (23% more than before the crisis), turning over €401 billion (38% of GDP) and employing over 1.2 million people. Spanish companies also continue to perform well, as evidenced by the fact that businesses are incorporated per annum in Spain; 8% less than before the crisis but well above the rate before the peak in the economic cycle. This rate of business creation is in line with other European countries, with Spain posting a business death rate of 9.9%, below Germany's rate for example of 10.4%. Spain's business renewal (creation) rate per annum is therefore at a natural level and in line with other European countries[2].

It is noteworthy that "*business owners focus on the mid to long term, and Spain is an attractive destination for investors*" (Chairman of the Germany Chamber of Commerce, January 2013). Spain ranks in the top 10 most "promising" investor home economies for FDI over the period 2012-2014 according to the latest World Investment Report[3], ahead of Canada and Brazil. Indeed, the mid-term outlook for Spain's economy has been bolstered by the adjustments and reforms underway in the country, as reflected by a growth potential that outstrips that of countries such as Germany[4].

Lastly, real investment does not just highlight that Spain continues to be attractive to the global business world[5], but also **that the country's reputation has not been tarnished by the crisis, unlike other European peripheral countries. Spain has therefore defended its 16 place in the world reputation rankings, with the country being held in especially high regard among the G8**. French citizens rank Spain's reputation 11% above the G8 average, while German, British and Italian citizens rank it 8%, 5% and 4% higher, respectively. It is also ranked 1% above that of the US. Only Japanese citizens rank Spain's reputation as worse than that of the G8, some 5% below.

Spain boosts its competitiveness and reduces its need for foreign financing

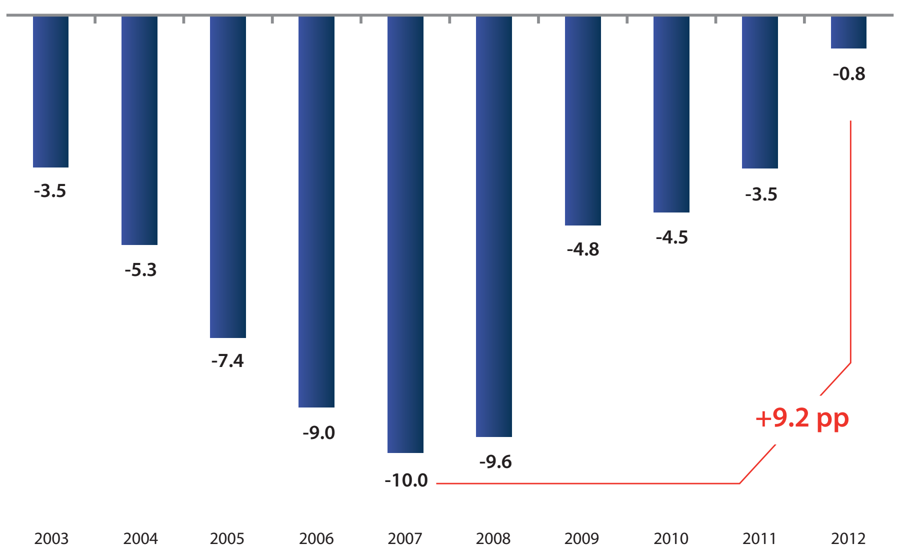
During the period before the crisis hit, a series of imbalances occurred in the Spanish economy that sharply pushed up its needs for financing from the rest of the world. Growing capital market tensions (partly related with the doubts surrounding the survival of the euro) fuelled doubts about the sustainability of Spain's net external debt. Firstly due to the perception that rising inflation and salaries had led to Spanish companies becoming less competitive, which is unlikely to be resolved in the short term, above all because of the inflexibility of the markets for capital, goods and services and Spain's inability to devalue its currency. Secondly, the expansionary fiscal policy adopted by the Spanish Government at the start of the crisis counteracted the growth in private spending and the reduction in household and business investments, maintaining spending and slowing down the decline in imports.

Nonetheless, in only five years, **the Spanish economy has slashed its current account deficit as a percentage of GDP by more than 9 pp** (see Figure 1), **while it is expected that by mid-2013 an annual aggregate surplus will be posted. Equally, the primary foreign trade balance[6] moved into the black over the last 12 months (1.0% of GDP)**, having recovered by over 12 pp as a percentage of GDP from the high reached in 2008. Looking forward, it is forecast that this primary foreign trade surplus will reach levels of approximately 4% over the next two years, which will lead to a gradually reduction in external debt, thereby guaranteeing sustainable levels in the medium to long term.

1 *Source: Ernst & Young 2012 European Attractiveness survey.*
2 *Approximately 20% of companies are replaced each year, as per research into firm demographics by Bartelsman, Scarpetta and Shivardi (2003), and López García and Rente (2006).*
3 *Survey sent by the United Nations to more than 60 international agencies promoting FDI.*
4 *Source: IMF World Economic Outlook, October 12.*
5 *Country RepTrak™ 2012 of the Reputation Institute.*

6 *Current account excluding investment yields (i.e. interest income).*

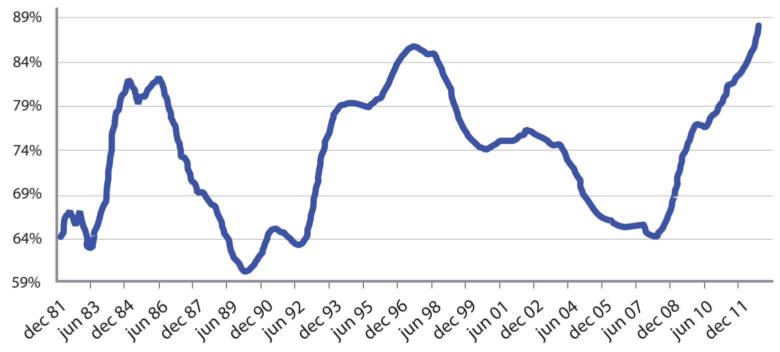
Figure 1: Spain: Current account (% of GDP)



Source: Bank of Spain.

The **spectacular performance of the trade balance**, especially the major upturn in exports in recent years, is behind this imbalance being eliminated. Today, the ratio of exports to imports has reached the highest level achieved in the recent economic past (see Figure 2), and may easily rise to the level achieved in the 1980s and 1990s, when the currency could be devalued. Indeed, current levels mean that for every €10 of goods acquired from abroad, Spain is capable of selling €8.80 of exports – €2.20 higher than only four years ago. **This achievement is even more significant if the energy balance is excluded, since Spain has sold more abroad than it has imported (7.6% more) for the first time since 1985; accounting for much of the reduction in the Spanish economy's need to draw on external financing.**

Figure 2: Spain's terms of trade

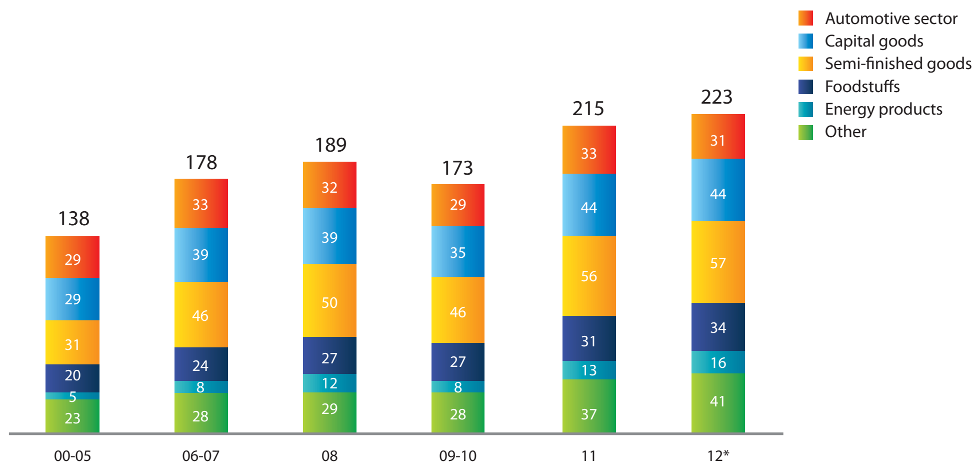


Source: Bank of Spain.

Turning to exports, **sales of goods abroad reached €223 billion in 2012 – 25% above pre-crisis levels (2006-2007) and 60% higher than in the period from 2000 to 2005**. By product, foodstuffs, semi-finished goods (i.e. intermediate goods deriving from raw materials), capital goods, and automotive products account for 75% of total exports from Spain (see Figure 3).

Figure 3: Goods exports (€ billion)

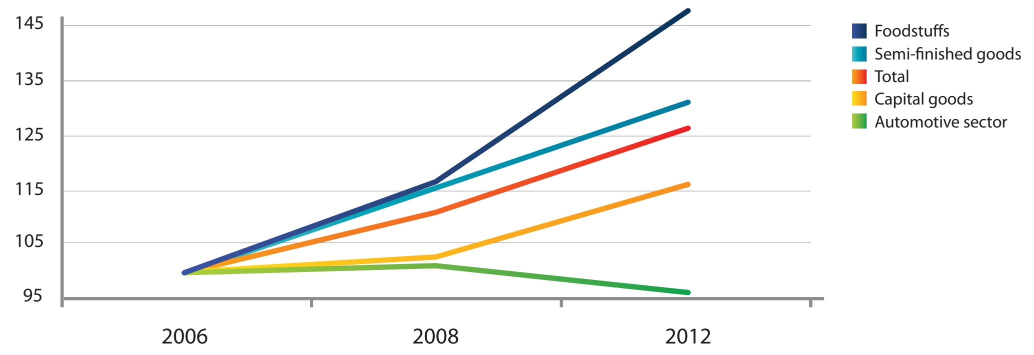
** Preliminary data*



Source: DataComex, Ministry of the Economy.

The robustness of Spanish exports is evident given that the 26% rise in total exports between 2006 and 2012 is not due to growth in specific sectors to the detriment of others, but results from the fact that all the aforementioned groups have enjoyed an uptick in exports to a greater or lesser extent since 2006, with the exception of the automotive sector, which has seen exports drop slightly since the crisis started. That said, certain highlights by components (see Figure 4) are evident, with exports of food and farming products rising by 47% since 2006, and semi-finished goods exports climbing by 31% over the same period (primarily chemical product exports which are up 42%).

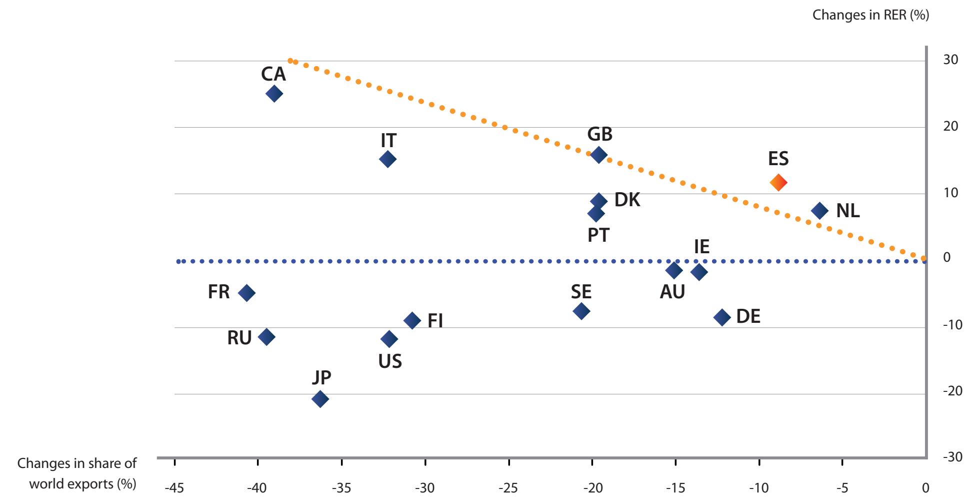
Figure 4: Trend in goods exports (2006 = 100)



Source: DataComex, Ministry of the Economy.

There are a number of drivers of this exceptional export performance. Firstly, the performance of **Spanish exports appears to be determined to a large extent by factors other than fluctuations in the real exchange rate**. In particular, the rise in unit labour costs (ULCs) during the period before the crisis did not hamper the relatively healthy performance of Spanish exports. For example, Figure 5 shows that the country lost limited export share, compared to other developed nations that suffered reductions in their share of international trade. Even at a national level, this disconnect is clear if one looks at the buoyant performance of exports from the Basque Country and La Rioja, where the increase in ULCs was higher than the national average. This coincides with a surge in the real exchange rate in Spain.

Figure 5: Cumulative variation (1999-2011) in market share of world exports of goods and services and in real exchange rate (RER)



Source: BBVA Research based on European Commission and WTO data.

This performance is down to the **high productivity levels of major Spanish corporations** (see Figure 6) and **innovation dynamism and technological progress in cutting-edge business sectors**, as discussed later in this report. The various sectors of the economy are therefore made up of very different companies, some of which have features that have enabled them to gain market share either through economies of scale, product differentiation, or an ability to remain competitive through more efficient cost structures. In this regard, it is worth highlighting **the importance of Spain's leading multinational corporations, which have a turnover of approximately €517 billion and employ close to 2.5 million people**[7]**, and are becoming increasingly diversified, as shown by the fact that almost 40% of these corporations have operations across 21-40 countries and 12% in more than 100 countries**.

7 *Leading Brands of Spain Forum, 2013.*

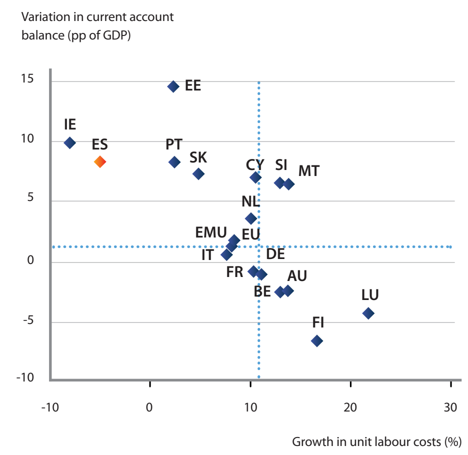
Figure 6: Productivity per employee and size of company in industry (country average = 100), 2005

	50-249	250+
France	86.0	126.0
Germany	88.7	122.5
Italy	122.1	146.2
Spain	101.4	165.5
United Kingdom	90.1	122.0
USA	68.3	129.8

Source: BBVA Research based on OECD 2008 data.

A second factor has been **the recovery of much of the competitiveness lost in the years before the crisis**. As shown in Figure 7, since the start of 2008, only Ireland has achieved a larger reduction in ULCs. Some analysis points closely to the fact that a large part of the productivity gain (and therefore reduction in ULCs) is due to the shrinking of the construction sector. On the one hand, this confirms the perception that the problem faced by the Spanish economy was excessive spending in non-tradable goods sectors and not to the competitiveness of the export sector. On the flipside, it reflects the challenge of measuring a country's competitiveness by looking at employment and salary aggregates, and therefore the uncertainties involved when drawing assumptions from such data. In any event, recent figures show that the economy is becoming increasingly flexible through means other than the destruction of jobs, which should reinforce competitiveness gains. As shown in Figure 8 for example, while salaries per employee rose by over 3.5% in real terms in 2009 as jobs were lost, salaries fell by 2% in 2012.

Figure 7: Current account balance and ULCs, 1Q08-3Q12



Source: AMECO macroeconomic database of the European Commission and BBVA Research.

Figure 8: Spain: Real salaries, employment and GDP

Source: Spain's National Institute of Statistics (INE) and BBVA Research.

Lastly a third factor would be that the country has **significant capacity to diversify exports and channel them into economies with more growth potential**. In this respect, **the increase in exports to emerging economies was spectacular in 2012, reaching 15% in the case exports to Latin America, 31% to Africa and 12% to Asia**; offsetting weak demand in Europe (around a 1% drop in exports to EU-27 and 3% to the eurozone). Looking at the trend in exports since 2006, the growth in exports to Africa of close to 120% and to Asia (94%) stands out, with exports to our European partners becoming increasingly less important (growth of approximately 15% over the last six-year period).

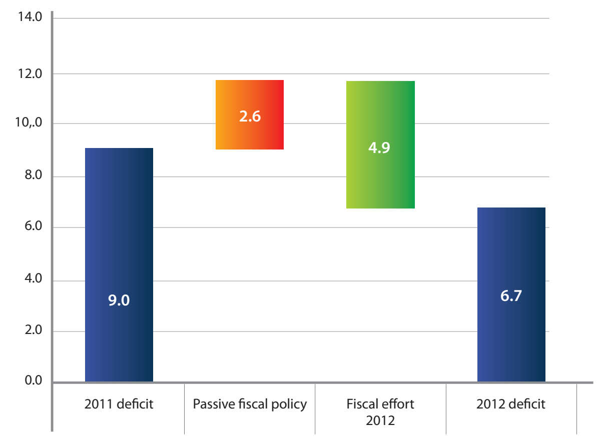
Fiscal adjustment in Spain is possible

At the end of 2011, Spain's inability to cut its public deficit and therefore meet the targets set against a backdrop of recession threatened to plunge the country into a vicious circle of fiscal consolidation measures and declining GDP, underpinned by the loss in investor confidence fuelled by the need to roll-over the country's existing borrowing requirements.

In particular, at 2011 year end, the Spanish public deficit stood at 9% of GDP (excluding the capital injected into part of the financial system). **The decline in GDP of 1.4% and rising interest rates alone would have given rise to an increase in the public deficit of approximately 2.5% of GDP** (see Figure 9). Here it is worth mentioning that much of the public deficit deviation is due to rising Social Security costs as a result of the decline in employment, rather than to other aspects of the public sector (state government and self-governing regions practically hit their targets). In other words, **if the Government had not taken the measures it did, the imbalance in the public accounts would have amounted to around 11.5% of GDP**, simply due to the effect of automatic stabilizers, the fall in revenues associated with lower activity and the increase in the risk premium caused by financial stress. Cutting the public deficit to 6.7% of GDP (as recently announced by the Government) would involve **implementing tax measures and curbing spending by close to 5% of GDP** (see Figure 9).

Indeed, the measures implemented would have slashed the structural primary deficit by close to 10 pp of GDP since 2009. The aforementioned response is an unprecedented effort among developing countries during a recession, and surpasses the average fiscal adjustment achieved since the 1980s in OECD countries[8].

Figure 9: Structural primary deficit adjustment (% of GDP)



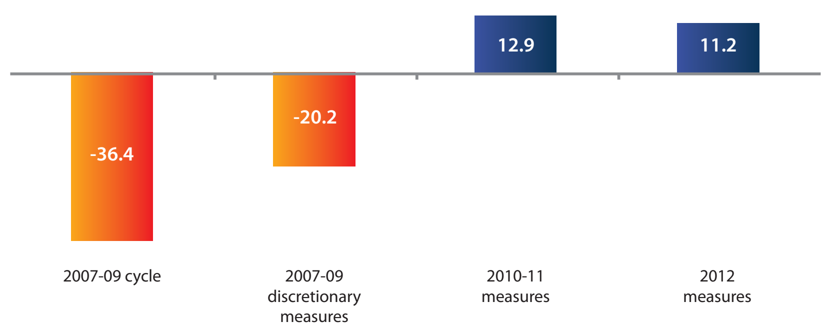
Source: Datastream and BBVA Research.

8 *OECD, 16 February 2012, Case Studies of Large Fiscal Consolidation Episodes.*

A breakdown by items shows that 60% of the adjustment in 2012 and forecast for 2013 is the result of spending restrictions, and the remainder is due to higher revenues.

Looking specifically at revenues, it is noteworthy that the improvement in revenues generated by Public Administrations in 2012 (€6.8 billion more than in 2011, accounting for 60% of total revenue generation measures announced) was achieved during a period of recession when a €15 billion loss in nominal GDP was incurred. Further, if the measures implemented in the previous two years are added to those rolled out in 2012 (see Figure 10) it can be seen that **since 2010 Public Administrations recovered the entire loss in revenues due to the discretionary measures taken between 2007 and 2009** – close to 45% of the loss in receipts since the high in 2007.

Figure 10: Changes in tax revenues of Public Administrations (€ billion)



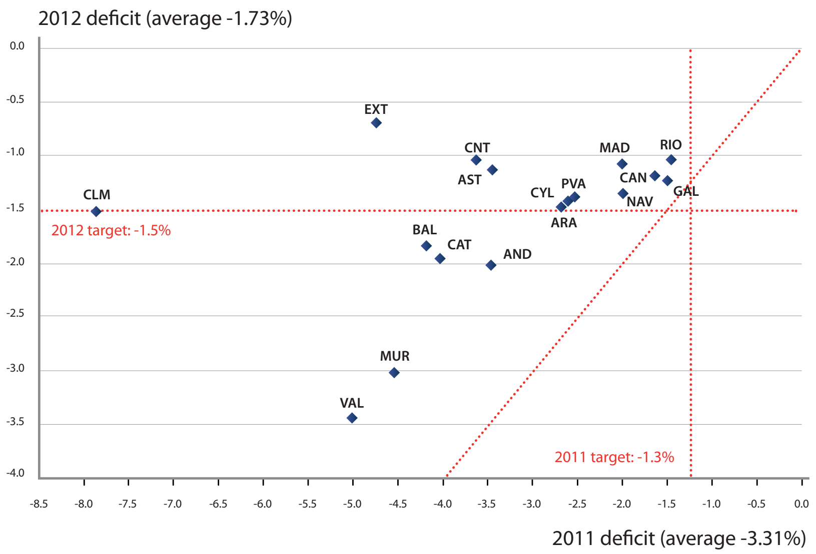
Source: CEC based on data published by the Ministry of Finance and Public Administrations (Minhap).

It is clear that the country has not only been prepared to implement a painful but **necessary fiscal adjustment** but also **ensure transparency especially in the measures taken in relation to the self-governing regions**, which has helped clear up the major doubts about the State's ability to bring down the deficits of these regions.

With respect to the first point, the State has shown great willingness to take further steps, once it became clear that the measures taken had been insufficient. The Government responded to the greater than expected impact of the downturn on public coffers by taking appropriate action in addition to the measures announced at the start of the year and in the Government budget unveiled in the second quarter. This action included raising indirect taxes and eliminating the Christmas extra-salary payment of civil servants. This highlights the commitment to fiscal consolidation and the sustainability of public finances, and boosts the credibility of the austerity measures moving forward.

The standout measures taken in relation to transparency are the approval of the **Budgetary Stability Law** and the **Regional Liquidity Fund**, giving the State the tools needed to ensure regional governments honour their commitments. According to the latest published data, these measures have led to 11 regions meeting their targets and 15 of the 17 regions achieving a deficit equal to or below 2% in 2012 (see Figure 11). This compares to the situation in 2011 when none of the self-governing regions fulfilled their targets (1.3% of GDP), while only five managed to bring their budget deficits down to below 2%. **Thus, the self-governing regions posted a budget deficit just two pp below the target proposed at the beginning of the year (as a percentage of GDP), reaching an average deficit reduction of 1.6% of GDP**.

Figure 11: Deficit of self-governing regions (% of GDP)



Source: CEC based on data published by Minhap.

All this progress was achieved despite borrowing requirements, which were assumable at the start of 2012, continuing to rise in parallel with the turmoil in the financial markets. While the financing needs of Central Government and maturities thereof remained similar in 2012 and 2011, the Treasury had to assume the requirements not only of the regions as their markets closed, but also the commitments resulting from the cleaning up of the banking sector (see Figure 12).

Figure 12: Borrowing requirements of Central Government (2011-13)

€ billion	2011 (strategy)	2012 (strategy)	2012 (close)
Central Government borrowing	**47.2**	**36.8**	**37.0**
Additional borrowing	**0.0**	**0.0**	**59.6**
Central Government borrowing			39.5
Additional borrowing			6.0
European Stability Mechanism (ESM) loan			10.9
FROB capital injection			3.3
Net issuances of long-term bonds and loans and treasury bills	**47.2**	**36.8**	**96.5**
Maturity of long-term bonds and loans	**46.6**	**50.1**	**50.0**

Source: CEC based on data published by Minhap.

The outcome was more than satisfactory at year end since, despite the turbulence and rise in issuances, at December 2012 the average yield on public bonds stood 18 basis points (bp) below the level at December 2011 **without the term of these bonds having reduced hardly at all** (from 6.5 years at December 2011 to 6.35 years at December 2012).

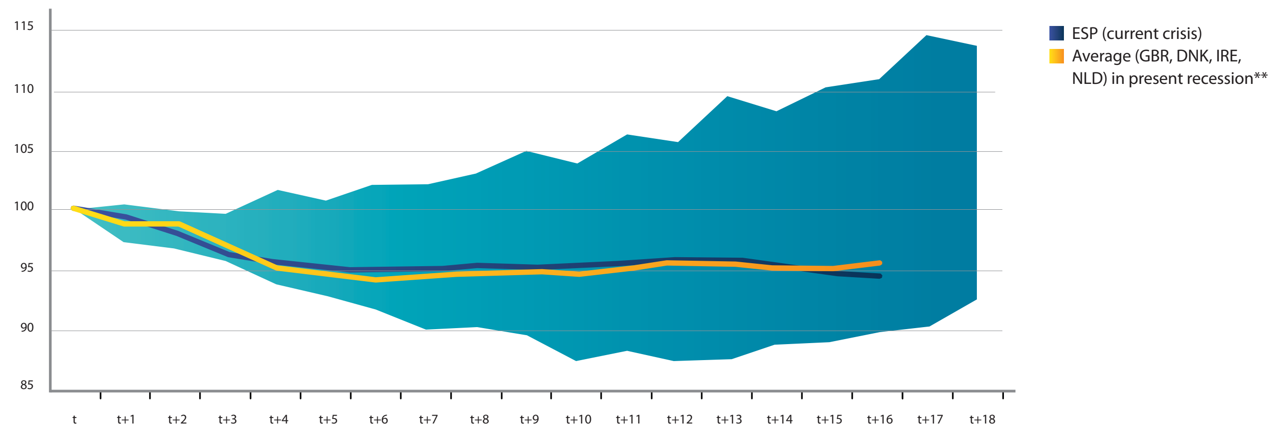
The situation is calmer in 2013, with borrowing needs down 17% on those prevailing in 2012. This improvement is also more evident if 2014 is included and it is compared with peer countries (see Figure 13).

Figure 13: Borrowing requirements by country (2013-14, as a % of GDP)

Public deficit and long-term maturities (as a % of GDP)	2013	2014	TOTAL
Spain	8.9	9.2	18.1
Italy	11.1	12.8	23.9
France	7.7	8.5	16.2
Belgium	10.4	8.7	19.1
United Kingdom	10.5	10.4	20.9
United States	15.7	13.5	29.2

Source: Bloomberg, IMF Fiscal Outlook October 2012.

Figure 14: Real GDP during real estate crises (t = pre-crisis high)



Source: Datastream and BBVA Research.

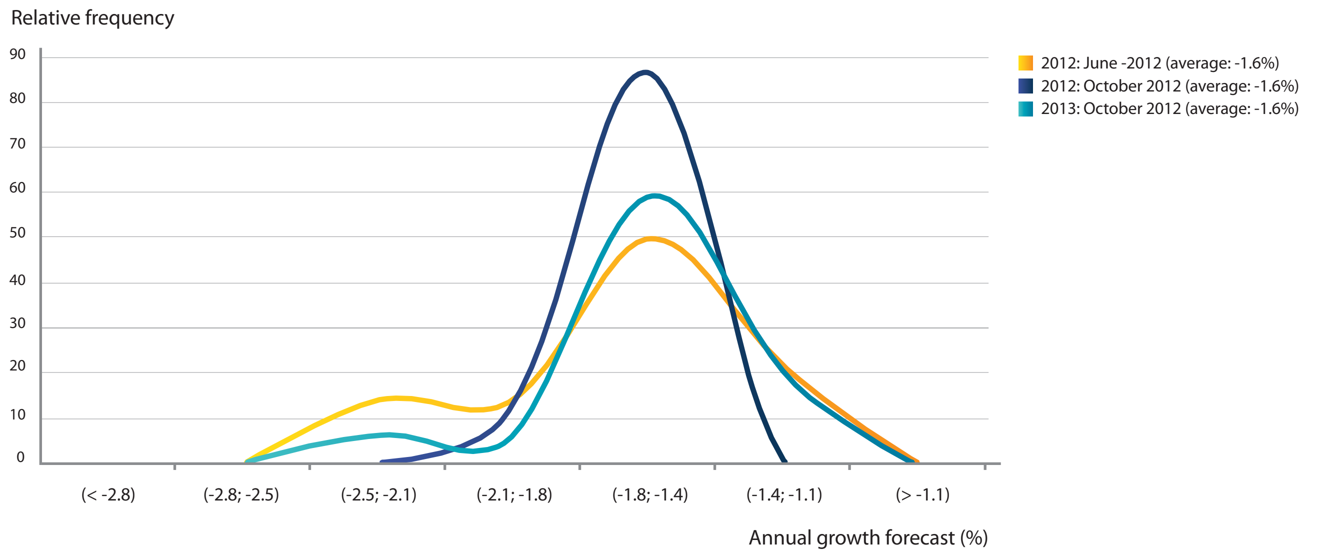
Impact of adjustments on activity has been lower than in other economies

The major fiscal effort described above, correction of the budget imbalances accumulated before the crisis, and the rising financial tensions driven by doubts about the viability of the euro impacted on GDP during the year. Nonetheless, it is evident that the economic cycle in Spain has not dipped significantly despite the adjustments.

- Economic performance is not significantly different to that of other countries that have not been as affected by the tensions in the financial markets ((Denmark, Holland) or enjoy the comparative advantages of having a very attractive central bank and coordinated fiscal and monetary policies (United Kingdom). Figure 14 shows the trend in GDP of Spain and other European countries also affected by the downturn in the real estate sector (United Kingdom, Denmark, Ireland and Holland). It can be seen that the recession has had a similar impact on their cycles as in Spain, which has been even more significant given their slower recovery compared with similar crises in the past.

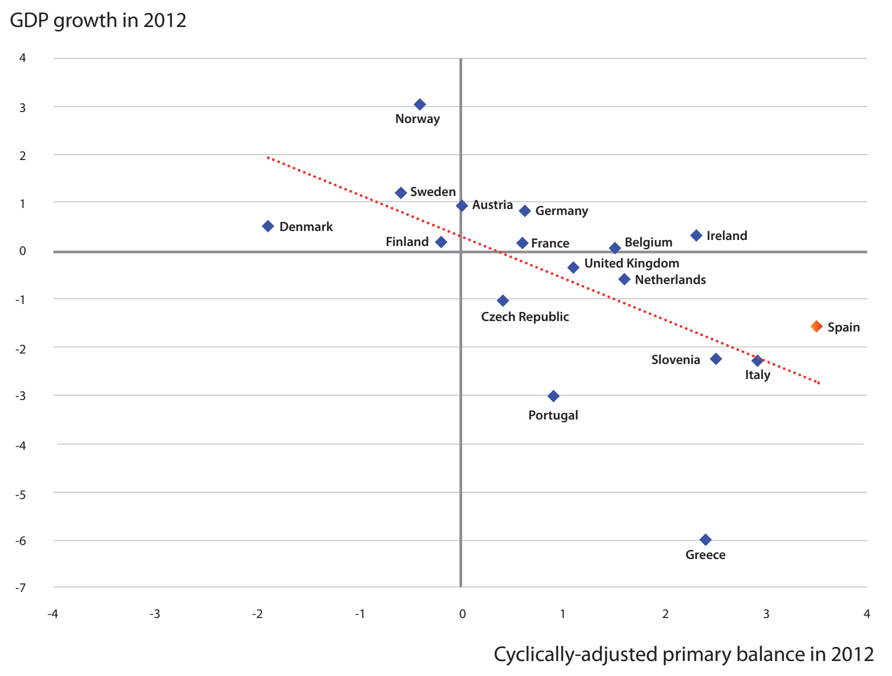
- GDP growth in Spain during 2012 was 1.3 pp higher than would have been expected, taking into account the primary deficit reduction. Given the relationship between the structural reduction in the primary deficit and GDP forecasts for other countries, the Spanish economy should have shrunk by 2.7% based on the level of fiscal adjustment made and experience in the rest of Europe. Last October, the International Monetary Fund estimated that the primary fiscal adjustment in Spain would be the highest in Europe (see Figure 16). Along the same lines, a year ago analysts were excessively pessimistic about the Spanish economy due to the expectations of a major fiscal adjustment, the persistent weakness in internal demand, and the gradual deterioration of the capital markets. As shown in Figure 15, at the height of the tensions, close to 30% of institutions making economic forecasts predicted that Spain's GDP would shrink by 2.1% or more, while 50% thought the contraction would be over 1.4% (the preliminary figure announced by the INE). In light of this, the performance of a large part of the market has therefore been surprisingly robust.

Figure 15: Spain: changes in range of growth forecasts for 2012 and 2013



Source: BBVA Research based on Consensus Forecasts.

Figure 16: Spain: changes in range of growth forecasts for 2012 and 2013



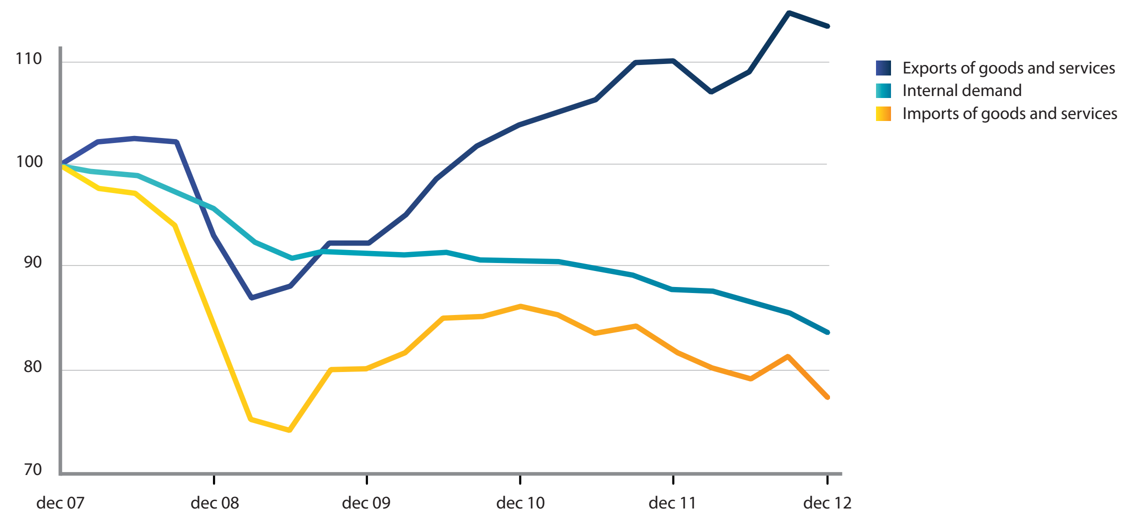
Source: BBVA Research based on IMF Fiscal Monitor, October 2012.

The factors driving this relatively positive performance are varied:

- Firstly, there has been a **significant improvement in investors' faith in the viability of the euro**.
- Secondly, the **Supplier Payment Plan** introduced by the Government has given rise to an injection of liquidity into companies, which may have significantly counteracted the fiscal adjustment during the year. This plan could have driven up GDP by 1.3 pp and created 175,000 jobs[9].
- Thirdly, an **ambitious agenda has been defined linked to the 2012 National Reforms Programme (PNR)** setting out major labour market reform. This roadmap paving the way to growth in the mid to long term may have created the required certainty to avoid higher decreases in private sector spending, thereby reducing the impact of fiscal consolidation on GDP.
- Lastly, **exports have been a strong driving force**, despite the decline in the demand of the country's main trading partners. The upturn in Spain's foreign trade cannot be deemed anything but a success, enabling Spain to position itself as one of the only industrialised nations capable of maintaining its global market share over the last five years despite growing competition from emerging markets. Its current global market share is in line with its relative weight in terms of other macroeconomic aggregates. Today, exports are up approximately 15% on pre-crisis highs, acting as the mainstay of growth over the last five years. The pronounced spending cuts, decline in imports and robustness of exports have meant that foreign demand has contributed two pp to growth on average since 2008 (see Figure 17).

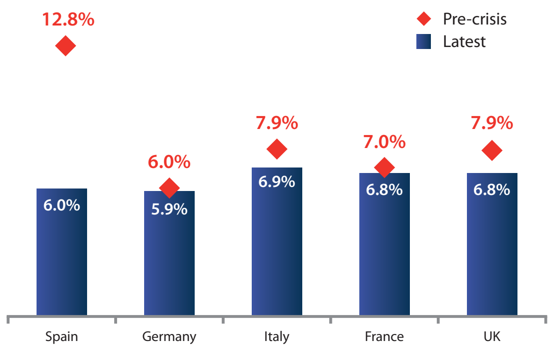
9 *According to Ministry of the Economy estimates.*

Figure 17: Spain: Trend in GDP by components (December 2007 = 100)



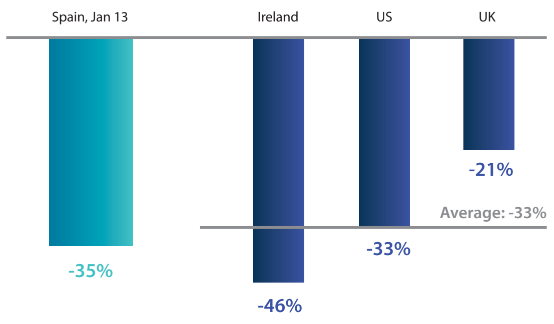
Source: BBVA Research based on INE data.

Figure 18: Employment in construction sector (as a % of total)



Source: INE.

Figure 19: Variation in nominal house prices (as a % of peak price)



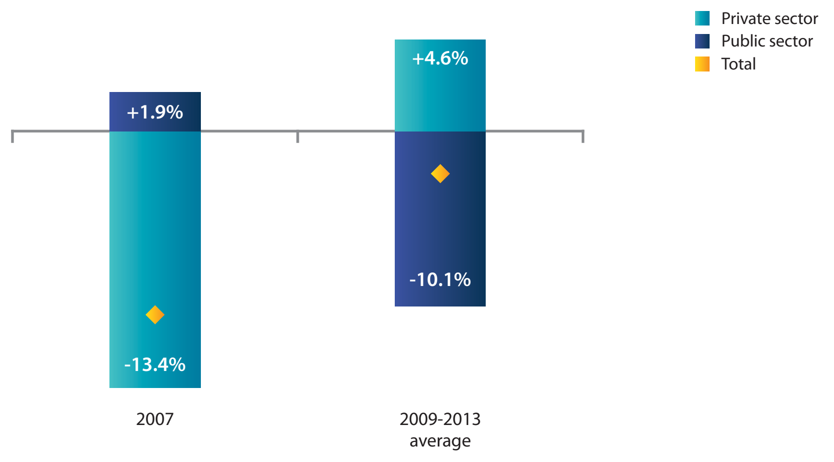
Source: TINSA and national sources.

Finally, this healthy performance was achieved at the same time as the **cumulative deficits of the past** were corrected; adjustments that, due to the effort made to date, **should be nearing an end**.

- **Construction sector activity accounts for a lower share than the European average, while house price adjustments are comparable to those experienced during other recent recessions.** As indicated in Figure 18, the share of construction jobs has fallen by more than half since the start of the crisis to below the average of Italy, France and the UK (countries that have not suffered from a supply-side surplus) and equal to that of Germany (a country which has had a practically stagnant construction sector since the mid-1990s). The drop in house prices may also be nearing an end, especially compared to other housing bubbles (see Figure 19).

- **A rise in total saving, in the case of private saving due to the dip in household and company investment and, at the back end of 2012, due to the significant effort made by the public sector.** The efforts of the private sector are reflected in Figure 20 showing that **the financing needs of companies and households have dropped considerably from a deficit of more than 13% of GDP in 2007 to a surplus of 4.5% of GDP over the last five years, i.e. a change of more than 17 pp as a percentage of GDP.**

Figure 20: Spain: Financing needs from the rest of the world by sector (as a % of GDP)



Source: BBVA Research based on Bank of Spain (BDE) data.

This evidences deleveraging of the private sector in recent years, which has reduced its net debt considerably. Household debt as a percentage of GDP stands at 79% at December 2012 – levels that are not considered to hinder growth as per analysis by international organisations, and are down 8 pp compared to mid-2010. Company debt amounted to 109% of GDP at December 2012, 16 pp less than in mid-2010. Given the current rate of deleveraging, it could be another two years before levels that do not impede investments are achieved. Nevertheless, there are two factors that would mitigate this problem:

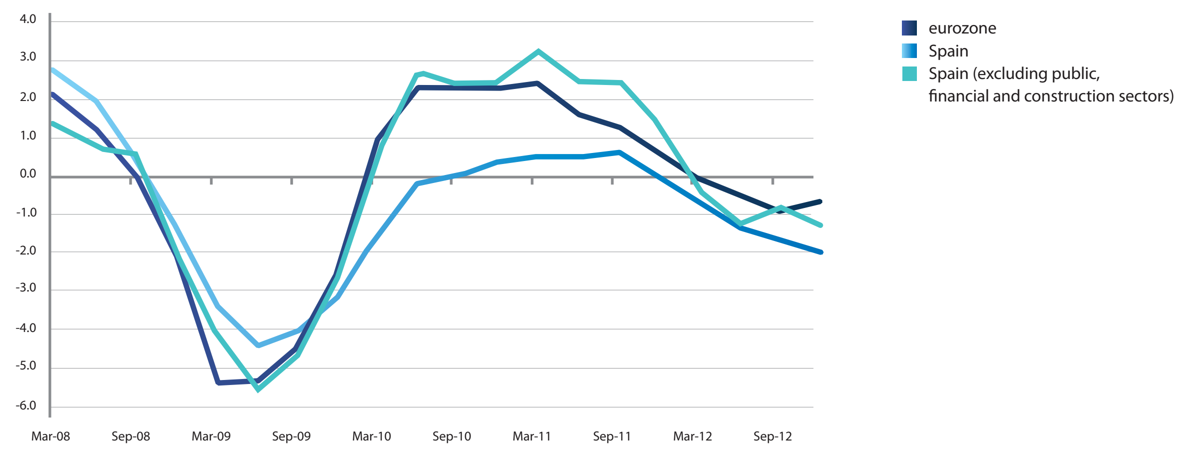
- Firstly, it is evident that the debt as a percentage of GDP of Spanish companies is substantially higher than the European average and that of Germany; however when taken as a percentage of company assets, the ratios are very similar to the European average and equal to those of German companies (approximately 40% of assets)[10].

10 *Working paper 03/12, "Over-indebtedness of Spanish companies: a common challenge or a problem for only a few?", La Caixa Research Department, May 2012.*

- Secondly, the situation is also not the same across sectors, since only just over 20% of sectors have excessive debt; a percentage that has fallen by a half since 2007.

Figure 21 shows that after stripping out the negative impact of sectors that are currently **resizing (financial, public and construction), the Spanish economy's performance is not significantly different to that of the rest of Europe**. In fact, this part of the Spanish economy grew at the same rate as the eurozone in 2010, and one pp higher in 2011, despite the drag on internal demand caused by correcting the indebtedness of the aforementioned sectors. The section of the economy that grew in such an adverse climate accounts for almost two-thirds of the total, representing a robust base on which to build in coming years.

Figure 21: GDP growth in Spain and the eurozone (year-on-year)

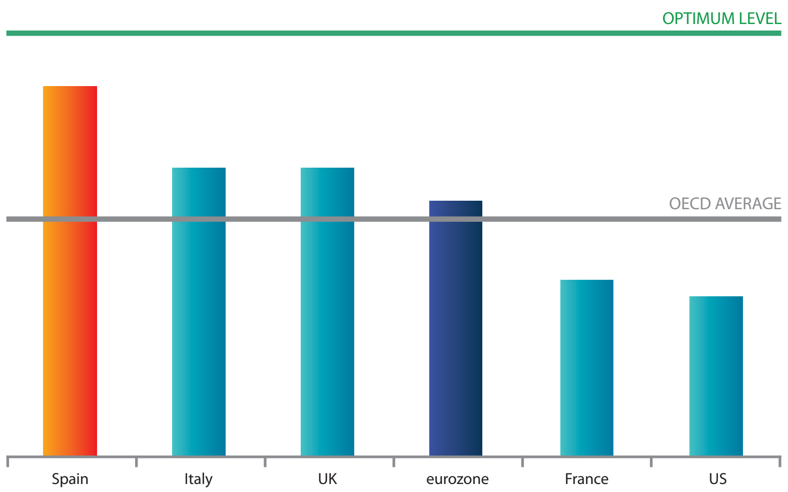


Source: BBVA Research based on data from offices for statistics.

Spain at the helm of the reform agenda

Over the last three years, the Spanish Government rolled out a series of reforms that have contributed to the brighter economic growth outlook. As shown in Figure 22, the effort made by Spain in recent years is notable and conforms with the recommendations of international authorities expert in structural reform such as the OECD.

Figure 22: Response to reform recommendations made by the OECD[11]



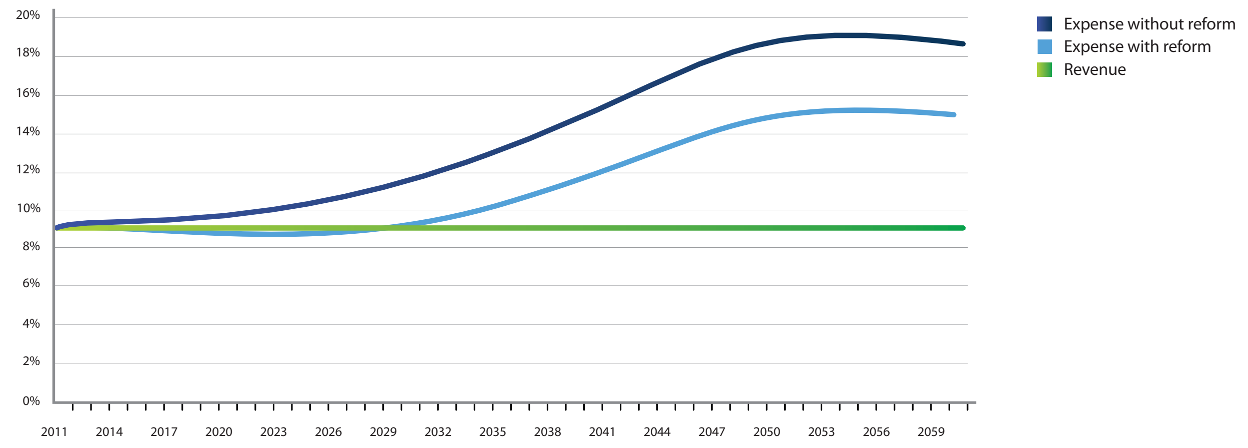
Source: OCDE

The measures taken can be classified into five major blocks. Legislative amendments have been enacted that promote **better and more transparent handling of public finances**, considerably reducing risk when executing fiscal policy. These changes include the commitment included in the Constitution that lays down deficit targets in structural terms, as well as deficit and public debt thresholds. The Government has also approved the Budget Stability Law, offering the State credible and effective tools to ensure that all Public Administrations honour their fiscal obligations.

11 The optimum level is achieved when the country approves all the reforms put forward by the OECD.

The second block contains reforms rolled out to **reduce the risk of public finances becoming unsustainable in the mid to long term**. The most noteworthy reforms have been to: the pensions system, where changes have involved an increase in the statutory retirement age (from 65 to 67 years old, as in Germany); an increase in the number of years of social security contributions required to be entitled to 100% of the state pension (38.5 years) or to take early retirement (33 years); a decrease in the substitution rate compared to the previous salary (from 81.2% to 69.5%); and the introduction of a correction factor as from 2027 to protect the pension system in the long term, as in Germany. All these parametric changes could permit pension system costs to be slashed by 20% moving forward (see Figure 23). Furthermore, the Government has announced that it will present a raft of additional measures to the Toledo Pact Commission aimed at bringing the effective retirement age into line with the statutory retirement age.

Figure 23: Pension system contribution as a % of GDP



Source: BBVA Research.

Other measures have been introduced that should foster an **efficient use of public services** including co-payment for medicines, the provision of legal services, and an increase in levies on university education.

The third block contains these reforms designed to **boost the competitiveness of the Spanish economy**. The measures unveiled to cut costs to businesses are of particular importance, such as those taken to reduce red tape and the time it takes to incorporate a company, and the work to transpose the EU Services Directive into Spanish law, the primary purpose of which is to encourage competition in the sector. The Government is also contemplating **reforms to increase "market unity"** in the Spanish economy, thereby reducing the regulations applicable to companies. These reforms are also intended to boost economic productivity through the deregulation of professional services and improving the access of small and medium-sized enterprises to credit.

Lastly, two other reforms have been rolled out which, due to their importance, are analysed in separate chapters, such as the **labour market reform or the restructuring of the weak component of the Spanish financial system**.

Nevertheless, the Government's commitment to reforms does not end with these five blocks. A clear agenda is in place regarding both the content and timing of further reforms during the year in several areas: i) Regulatory and supervisory framework, ii) science and innovation, iii) energy, iv) internationalisation of companies, v) telecommunications, vi) transport, vii) agriculture, viii) the environment, and ix) the justice system.

Causes and consequences of labour market reform

Drivers of labour market reform in 2012 and principal measures thereof

External analysis in recent years shows that two-thirds of the rising gap between our unemployment rate and that of some of our most important partners in Europe is fundamentally due to two factors: i) higher costs of terminating employment contracts in Spain, and ii) the regulatory gap between temporary and permanent contracts, with considerably less stringent rules for temporary contracts in Spain.

In fact, these analyses reflect the main problems hindering our labour market:

A) High layoff costs: pre-reform, Spain was ranked 20 out of 23 by the OECD in terms of the cost of just-cause dismissals.

B) Inflexible wage bargaining and collective labour agreements: Spain is known for having a collective bargaining system that is partially centralised by sector and region. Several studies indicate that the worst case scenario for bringing down salaries is to have a collective bargaining system that is partially centralised, as it is least able to adapt to changes in macroeconomic conditions. Automatic mechanisms for linking salaries to inflation and renewing labour agreements also determine how salaries change, and in this regard Spain is particularly poorly positioned[12] due to the so-called "extended validity" of contracts[13].

C) High levels of temporary employment, which drives down productivity and does not clearly lead to job creation[14]. This factor should be underlined as recent studies show that if Spain had a temporary employment rate similar to the European average, total productivity would go up by 1.1%[15].

D) Insufficient and ineffective active labour market policies (ALMPs). Despite the advances made since 1985 to spend more on ALMPs (as a percentage of GDP, Spain spends a similar amount to the European average), relative to the number of unemployed, Spain is at the tail-end (see Figures 24 and 25). ALMPs in Spain involve spending more on tax breaks rather than training[16], while resources earmarked for training are ineffectively allocated by sector[17].

12 According to European Commission estimates, salary reductions two to three years from now depend on the number of labour agreements arranged/renewed today. The indefinite extension of existing agreements in Spain reduces the number of agreements signed and therefore the amount by which salaries fall.

13 Extended validity refers to the indefinite renewal of existing wage agreements if trade unions and employers' representatives are unable to reach an agreement.

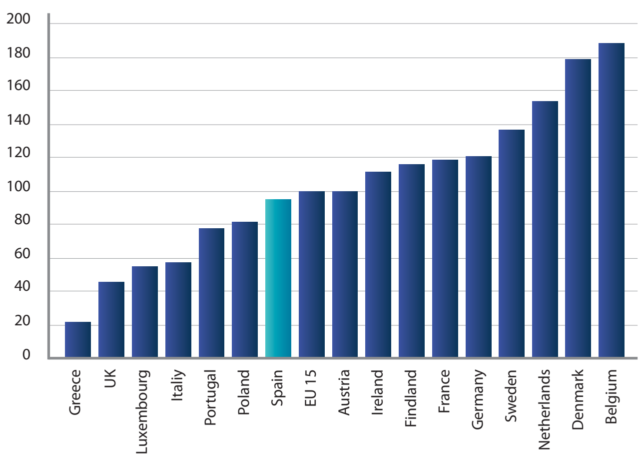
14 Indeed, several studies indicate that the greater the difference between the cost of laying off temporary staff and laying off permanent staff, the less the likelihood of a temporary contract being made permanent. Spain underlines this finding as it is has one of the largest gaps in layoff costs, and one of the highest rates of temporary employment.

15 Study by Fernández de Guevara and Mas (2012)

16 Actually, since 2008 Spain was the OECD member with the highest number of employment contracts offering deductions of more than 10%; five times the European average.

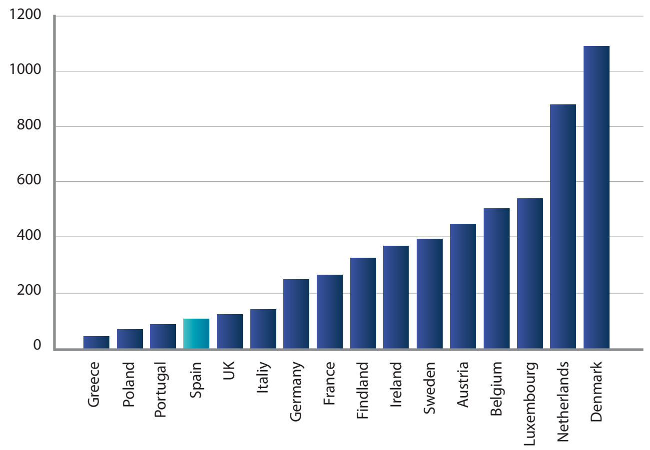
17 Sectors such as construction, civil engineering and agriculture account for over 50% of the training subsidies given, even though they only account for 11% of total employment.

Figure 24: Spending on active labour market policies (as a % of GDP, EU-15 = 100)



Source: Eurostat.

Figure 25: Spending on active labour market policies per unemployed individual (Spain = 100)



Source: Eurostat.

In light of these problems, at the start of 2012 the Government approved a labour market reform to increase labour market flexibility and cut layoff costs, which indirectly narrows the gap between temporary and permanent contracts.

The reform introduces positive changes regarding:

A) Layoff costs, shrinking the gap between temporary and permanent contracts.

B) The lack of flexibility in collective bargaining, increasing the number of tools available to reduce the level of centralisation, thereby favouring company-level wage bargaining and giving priority to internal labour agreements; encouraging flexibility as companies and workers are able to adapt to the reality of each company.

C) ALMPs designed to break the trade unions' monopoly on training of the unemployed, by adding "officially-accredited training companies and centres" as training bodies. It is also noteworthy that a green light has been given to make temporary employment agencies *de facto* personnel placement agencies.

Incipient changes resulting from the labour market reform

In order to evaluate the impact of the labour market reform, one should look not only at the number of jobs lost in 2012 but also the economic situation in Europe at the end of 2012, which was more complicated than a year ago, while borrowing costs and the squeeze on lending were more pronounced in Spain.

Therefore, in order to analyse the effects of the labour market reform, changes in the key variables resulting from this reform must be analysed, which we consider to be as follows:

- Permanent contracts: permanent contracts for entrepreneurs and SMEs with less than 50 employees are the star of the reform. These two categories account for 95% of total jobs, while the measures will also affect self-employment.
- Layoffs: determine whether just-cause dismissals are gaining ground relative to other types of dismissal.
- Trend in salaries: impact of the elimination of extended validity and the greater bargaining powers of companies when negotiating collective agreements.

A) Permanent contracts

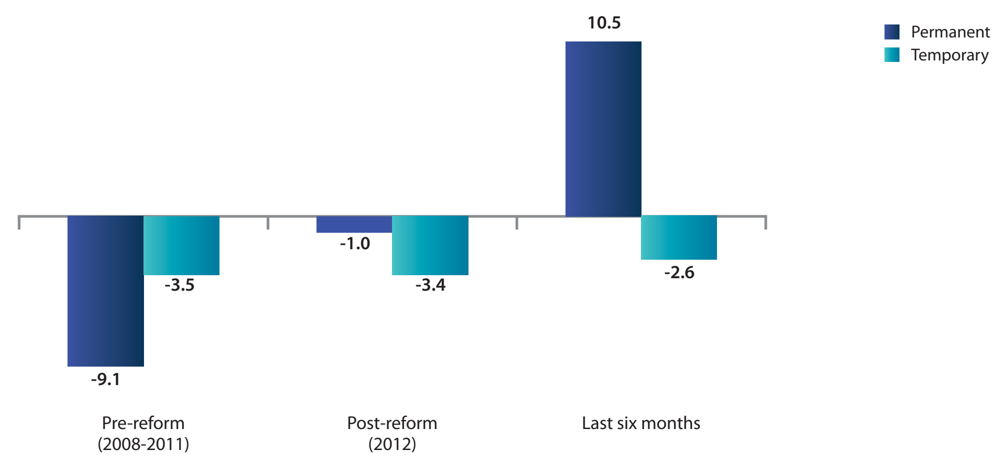
One of the main measures laid down in the labour market reform – aside from those taken to boost the flexibility of collective bargaining – was the introduction of permanent contracts for entrepreneurs and SMEs with less than 50 employees[18]. The main characteristics of these contracts are two-fold:

1. companies have a year to decide whether to lay off a worker without having to pay any compensation during this period, and
2. for certain groups (young people, women and people over 45 years of age), tax breaks are offered if the worker is kept on for at least three years.

18 *These two categories account for 95% of total employment.*

Figure 26 shows the rise in total permanent contracts (entrepreneur contracts and converted contracts) and temporary contracts. **It shows that regarding the reform, there is a before and after for permanent contracts; a trend that has become more pronounced in the last six months**. Meanwhile, the number of temporary contracts remains practically stable.

Figure 26: Variation in contracts by type of contract (annual growth rate, three-month average)



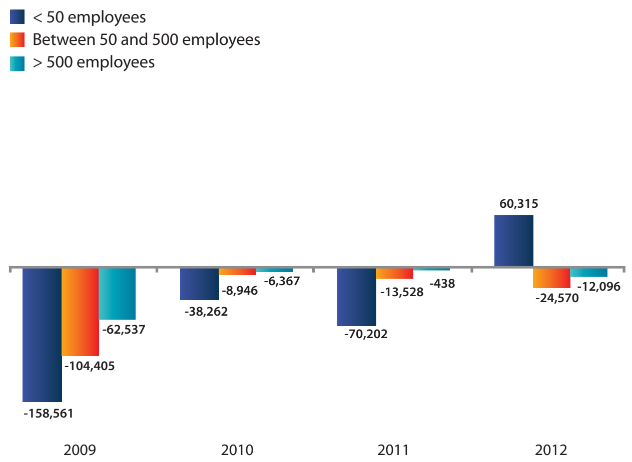
Source: State Employment Service (SEPE).

Among permanent contracts, **the number of contracts for entrepreneurs shows a growth rate 10 pp higher than total permanent contracts (higher that the 20% year-on-year growth of the last six months), indicating that companies are making use of this contract rather than temporary contracts.**

A look at the situation by company size (Figures 27 and 28), clearly shows that:

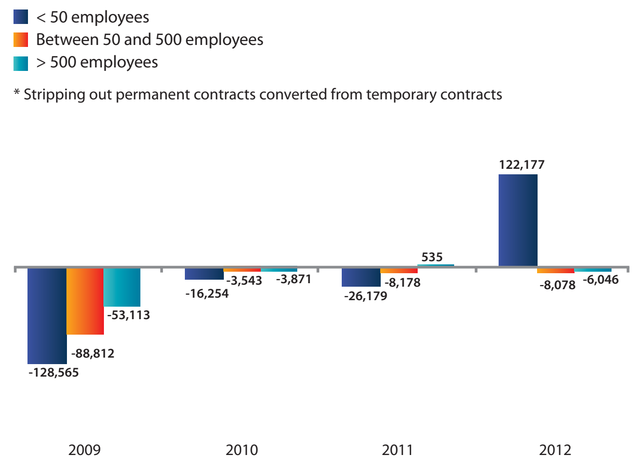
1. In 2012, total permanent contracts rose year on year for the first time since the start of the crisis.
2. This progress is most pronounced among companies with less than 50 employees.
3. Broken down by type of worker, a quarter of all new permanent contracts involve individuals that fulfil the pre-requisites entitling their employers to some form of tax break, whereby the remainder consist of contracts with no type of incentive.

Figure 27:
Rise in total permanent contracts



Source: State Employment Service (SEPE).

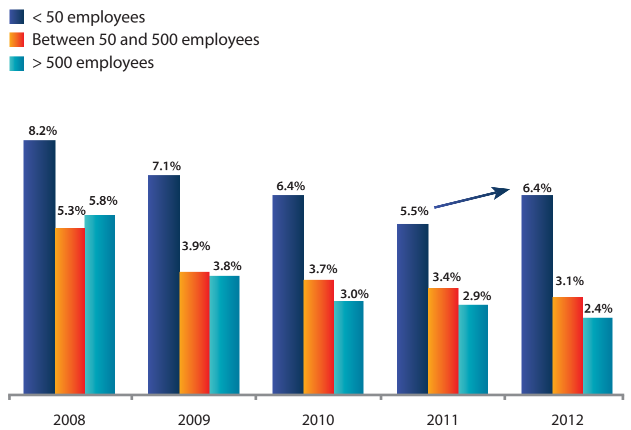
Figure 28: Rise in total permanent contracts (contracts for entrepreneurs)*



Source: State Employment Service (SEPE).

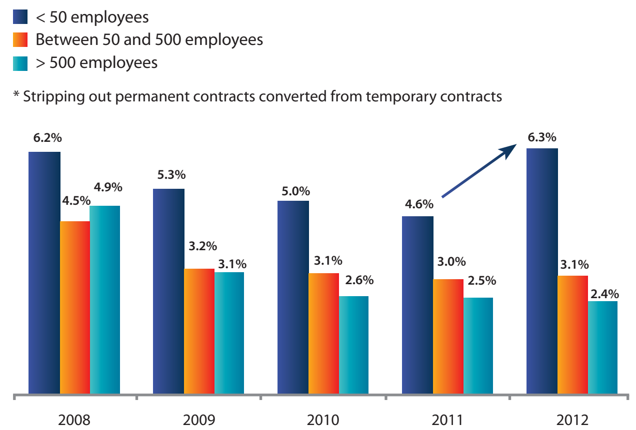
This implies that this type of contract as a percentage of total contracts has risen significantly (Figure 29), especially among SMEs employing fewer than 50 workers (Figure 30), which stand at a high since before the crisis (6.3% of total contracts).

Figure 29: Trend in total permanent contracts (% of new contracts per annum)



Source: State Employment Service (SEPE).

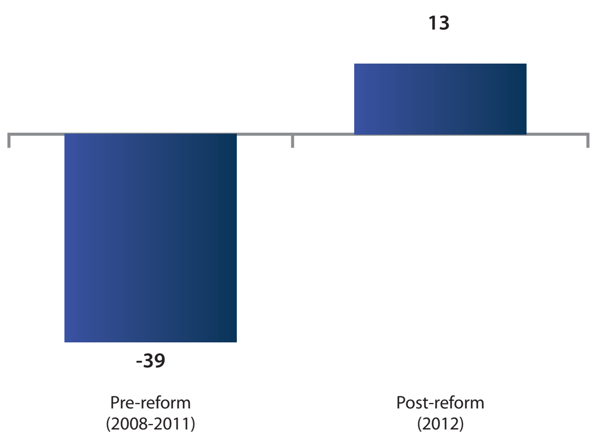
Figure 30: Trend in total permanent contracts consisting solely of contracts for entrepreneurs (% of new contracts per annum*)



Source: State Employment Service (SEPE).

Lastly, it also appears that this **type of contract encourages entrepreneurship**. According to data obtained from the quarterly survey of the labour market carried out by INE (Encuesta de Población Activa, EPA), before the reform 39,000 self-employed individuals on average were put out of work every quarter, while 13,000 self-employed individuals have been finding work every quarter since the reform was introduced (see Figure 31).

Figure 31: Trend in self-employment (quarter-on-quarter variation in number of individuals, thousands)



Source: EPA.

B) Causes of layoffs

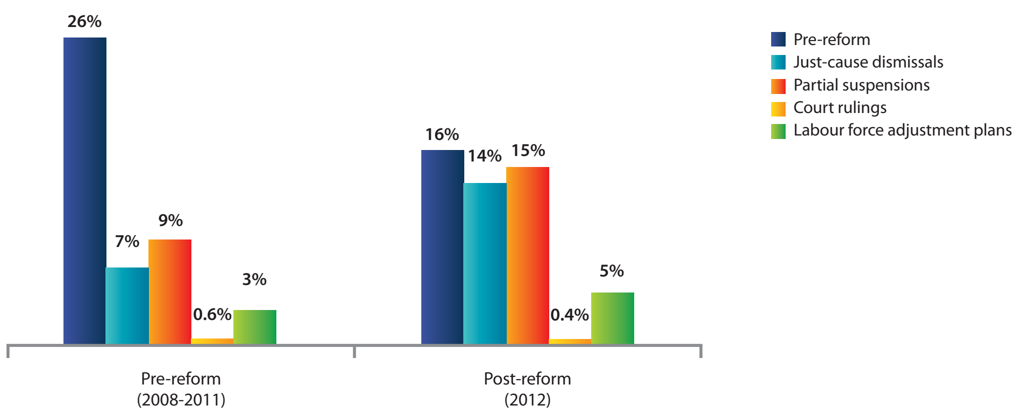
Figure 32 shows the reasons for claiming unemployment benefit based on data on new applicants[19]. These are divided into: i) individual layoffs, ii) collective layoffs (labour force adjustment plans), iii) temporary suspensions or reduction in hours, iv) layoff and conversion to temporary contracts, and v) other causes.

It should be mentioned that people whose temporary contracts have expired account for approximately 50% of those signing on as unemployed. Meanwhile, there has been a change in the composition of the other 50% since the reform was enacted. Pre-reform, the next most significant cause of unemployment, accounting for 25% of new individuals signing on, was unfair dismissal. Since the reform was introduced, this percentage has fallen 10 pp to 16%. In contrast, **just-cause dismissals (a category introduced through the reform) and partial contract suspensions have doubled, accounting for close to 30% of all new individuals signing on**. Lastly, the share of new individuals signing on because of labour force adjustment plans has risen slightly as a percentage of the total due to the requirement introduced in the reform by the Government to approve and validate such plans.

19 *Note that the data refer to the number of people signing on as unemployed and not the numbers claiming unemployment benefit, as the latter is obtained by deducting those signing off the unemployment register.*

A priori and always erring on the side of caution since, while the composition has changed, the number of individuals signing on has not changed (indeed it went up in 2012), **it appears that companies are making use of the new instruments introduced through the reform**.

Figure 32: New claimants of unemployment benefit by type of dismissal

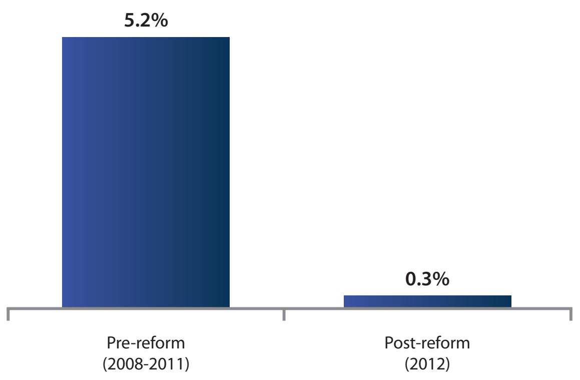


Source: State Employment Service (SEPE).

C) Trend in salaries

Figure 33 shows the trend in nominal and real salaries before and after the reform. It can be seen in the graph that **the growth rate of nominal salaries has fallen by 5 pp since the reform came into force; registering a current growth rate close to zero**. This indicator is an average of several salary indicators such as labour costs per employee, current salaries or labour costs per hour. All these indicators are on a clear downward path. Looking to the future and as per a report on salary trends in Europe published by Mercer in September 2012: i) Spain will continue to post salary increases below the average for all European countries, and ii) this rise will be lower in 2013 than in 2012.

Figure 33: Trend in nominal salaries (average annual change)



Source: Ministry of the Economy.

Indeed, according to the OECD, Spain has achieved the greatest reduction in labour costs, which began in May 2010 and gained traction in 2012. Since the reform came into effect, the OECD affirms that a third of companies have cut the wages of their employees. On the other hand, the Ministry of Employment and Social Security has revealed that since the labour market reform came into force, 1,021 agreements to withdraw from collective labour agreements registered with the Ministry of Employment and Social Security have been filed with the labour authorities. These agreements have been entered into by companies and their workers to avoid layoffs and thereby protect jobs. As a result, over 40,000 workers have benefitted from these withdrawal agreements, showing that the labour market reform has introduced flexibility to protect jobs without driving up social unrest. This increased flexibility is also reflected in the fact that 83% of collective bargaining processes result in suspension of contracts or reduction in hours rather than layoffs.

Finally, it is worth highlighting that recently two major collective labour agreements (for the chemical industry and major distribution companies) were signed affecting over 400 thousand workers and giving priority to lower salaries to boost competitiveness and consequently jobs. In the chemical industry, salary increases have been capped at 0.2% for 2014, linked to some extent to GDP growth, while the agreement for major distribution companies establishes that salaries will be reviewed in line with the growth in sales. Both collective labour agreements also establish flexible working hours computed over the year, which will help boost productivity and the value of each hour worked.

In short, it appears that the labour market reform is bearing fruits. Nevertheless, caution must be taken until a year has elapsed since it came into force and it can be confirmed that the permanent contracts created through the new system have not disappeared. We also need to wait a few months to see how expired collective labour agreements are renewed after the extended validity clause for contracts in force before the reform no longer applies came to an end are renewed.

As yet unheard-of reforms for Public Administrations

In addition to the reforms rolled out to bring budget policy discipline to all Public Administrations, such as the aforementioned amendment to the Constitution and the Budget Stability Law, another raft of reforms has been introduced regarding both the structure and functioning of Public Administrations. In this regard, the following measures have been adopted:

- Health: to curb the costs of the healthcare system and improve service efficiency: i) establishing a basic portfolio of services that are shared for all self-governing regions, ii) reducing and streamlining expenditure on medicines by promoting the use of generics and introducing means-tested contributions by patients, and iii) creating a centralised procurements platform.

- Education: to drive up efficiency and cut costs: i) increase in the number of pupils per class, ii) amendments of teaching regime, iii) amendments to the university applications process, including criteria based on academic results.

- Local government: the reform designed to streamline local government and guarantee its sustainability introduces a range of budget stability and efficiency principles for local government.

To this end:

- Local powers are more clearly and precisely defined to eliminate duplications with state and regional governments, and powers that are not commensurate with this level of government.
- The organisation structure is being streamlined through: i) provincial councils assuming responsibility for minor municipal services, the cost of which is above average, ii) the elimination of entities that report to other administrations, iii) prohibiting the creation of new entities, and iv) raising the transparency, control and reporting of all local administrations.
- Current spending is being cut by: i) capping the salaries of mayors and councillors depending on the size of the municipality they serve, and ii) reducing the number of advisors.

• **Reforms applicable to other Public Administrations:** the Government is preparing a major overhaul of all Public Administrations through a specific Commission. The aim is to drive up efficiency and improve the functioning of the various Public Administrations, whereby their structures need to be streamlined, procedures modified and resources minimised. This Commission will submit a report before 30 June, which will form the foundations of the future reform. Four areas for action have been defined:

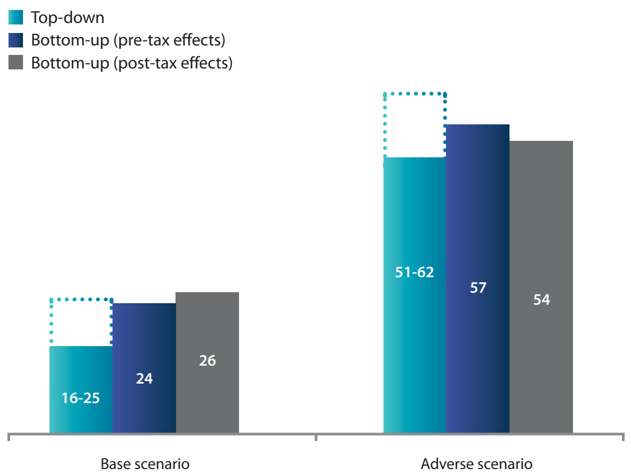
- Duplications between administrations: to identify and eliminate overlaps and strengthen mechanisms for cooperation between central government and regional administrations (given that local administrations have been covered in the previous point).
- Simplification of administrations: to eliminate or minimise bureaucratic obstacles in order to simplify administrative procedures. Special attention will be paid to the procedures that must be followed to incorporate companies.
- Shared resource and service management: to centralise management activities that, due to their nature, can be provided in a pooled or coordinated manner.
- Institutional administration: to analyse the various entities, their nature and duties, with a view to cutting their number.

Financial sector reform practically complete with a lower than expected impact on public resources

Significant progress has been made to restructure the Spanish financial system since the last edition of this report, both from the perspective of **identifying and measuring** the problems and, especially, **implementing** the solutions thereto[20].

In the summer of 2012, independent analysts conducted very demanding stress tests on most banks, concluding that their capital requirements, **even in the most stressed scenario, did not exceed €60 billion**. This questioned the credibility of more broad-brush estimates in the market (which even reached €200 billion and sometimes put capital requirements and losses in the same basket), and also enabled a distinction to be made between solvent banks and the rest. There is also no doubt that the balance sheets tested provide a true and fair view of the banks positions, given that they were also independently audited. This discounts the existence of "hidden loan losses" that could result in the said capital requirements being insufficient.

Figure 34: Summary of capital requirements by bank - base scenario



	Base scenario			
	Expected Loss	Loss Absorption	Capital excess (pre-tax[1])	Capital excess (post-tax[1])
Santander	22	43	21.3	19.2
BBVA-UNNIM	20	31	10.9	10.9
La Caixa	22	32	10.2	9.4
Sabadell-CAM	18	22	4.4	3.3
Kutxabank-Cajasur	5	8	3.4	3.1
Unicaja-CEISS	7	8	1.0	1.3
Popular-Pastor	15	16	0.5	0.7
Bankinter	2	3	0.6	0.4
Libercaja	11	11	0.4	0.5
BMN	6	6	-0.4	-0.4
Banco Valencia	4	2	-1.7	-1.8
NCG	9	6	-3.6	-4.0
Catalunya Banc	13	6	-6.2	-6.5
BFA-Bankia	30	17	-12.2	-13.2
System	**183**	**212**	**-24.1**	**-25.9**

Source: Oliver Wyman.

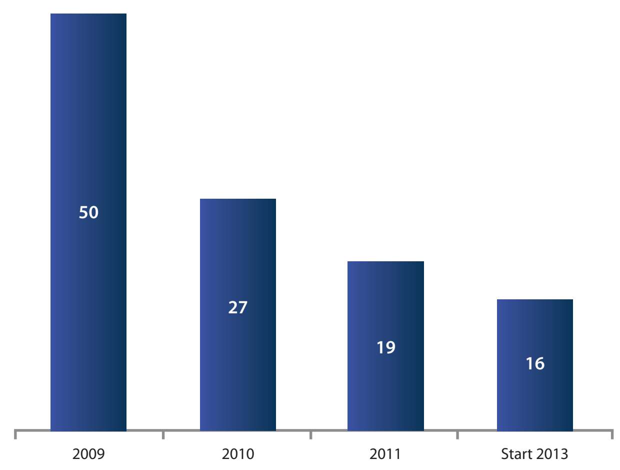
20 *It is noteworthy than 13 royal decree-laws have been enacted relating to the financial sector since the crisis hit five years ago, highlighting the particular effort made in Spain to restructure its banking system compared to the rest of Europe.*

Steps have also been taken to clean **up banks' loan books**. Banks bolstered their provisions covering both loans to real-estate (pursuant to two royal decree-laws passed by the Government) and the rest of their loan books. The following measures in recent months stand out:

- Total provisions covering assets have risen by €67 billion over the last 12 months to €192 billion at December 2012.
- Loan loss provisions cover approximately 50% of all toxic assets, which is over and above the provisions of other European countries. The rules on provisions are being reviewed as per the corresponding Memorandum of Understanding [of the European Commission relating to the European Stability Mechanism].
- Minimum capital requirements have now been covered either by the banks themselves (through share issues, asset sell-offs or the exchange of hybrid instruments) or through the €39 billion of public capital injected through the credit line of the European Stability Mechanism (ESM).
- Lastly, banks that have been bailed out have transferred or will transfer the majority of their portfolios of real-estate assets and foreclosed assets to Spain's bad bank (Sociedad de Gestión de Activos Procedentes de la Reestructuración Bancaria, Sareb) which amounts to approximately €50 billion.

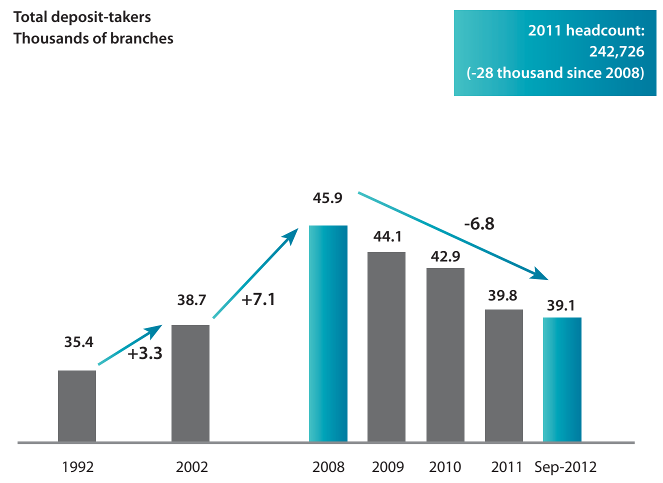
It should also be pointed out that banks have only received bailouts from the Fund For Orderly Bank Restructuring (FROB) on presenting asset restructuring plans ensuring their future viability, including measures to limit the size of each bank (see Figure 35). This has led to a decrease in the number of branches from 45 thousand at its height in 2008 to 39 thousand at present (see Figure 36). The role of the law converting savings banks into banks is also important as these entities can only receive injections of high-quality capital if they comply with the provisions therein. This law is removing any political influence over their decision-making bodies and converting most of these entities into banks. The supervision of international bodies such as the European Commission, the ECB and the IMF has also helped drive through these measures. Consequently, **faith in the Spanish financial system has increased**, evidenced, for example, by the fact that there has not been a bank run (resident businesses and households have deposited €14 billion more over the last year, or €29 billion including promissory notes), and a window of opportunity has opened up to issue debt on the wholesale markets, which solvent entities are exploiting. In fact, the Troika has already given their approval of the outcome of the restructuring twice.

Figure 35: Number of banks



Source: Ministry of the Economy and Competitiveness and own estimates.

Figure 36: Decrease in branch numbers



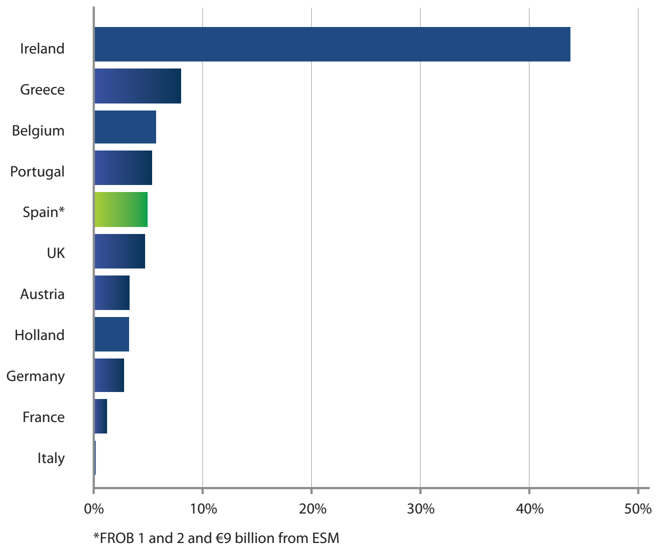
Source: Bank of Spain, January 2013.

On the other hand, **the impact on the public sector in Spain is manageable**. Final capital injections (€39 billion) are lower than the available line of credit (€100 billion), which provides a credible backstop. Indeed, these injections plus those made beforehand (through the FROB 1 and 2) equate to approximately 5% of GDP; in line with the amount received by other European countries (see Figure 37). Although the ESM has not directly recapitalised Spanish banks, whereby this amount is computed as public debt, it is important that progress towards banking union continues through the resolution mechanisms and deposit guarantee fund to ensure the stability of the financial system and economic recovery in Europe.

The public deficit impact (0.5% of GDP in 2011 and 3.2% of GDP in 2012, as per the latest European Commission estimates) is also assumable. In any event, this impact would not exist taking into account the effects of the procedure to curb the excessive deficit, as this is considered to be isolated. In the future, the impact on the deficit will be limited given that the financial forecasts of the banks receiving bailouts in 2013 are on the whole positive, which will mean they repay this money.

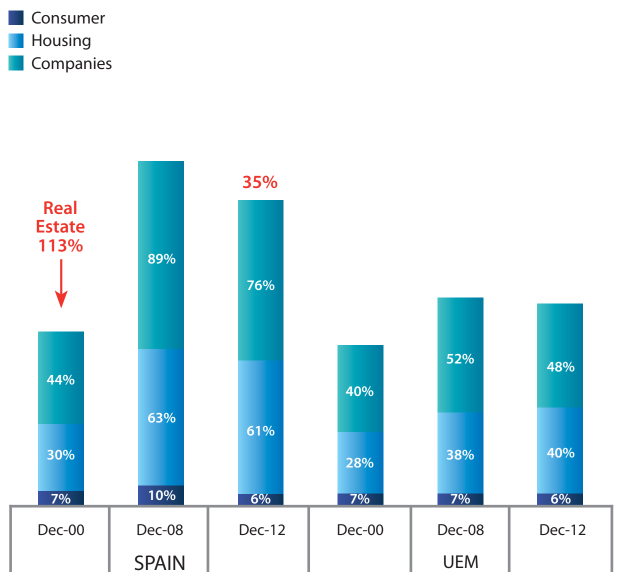
Turning to the private sector, it is unlikely that the banking crisis will give rise to another recession. **The solvent banks, which manage 70% of total assets, are best placed to provide credit**. In fact, a split is beginning to form in the market allowing the most solvent banks to begin to generate liquidity once more. The challenge here is to marry private sector deleveraging with opening up new credit to solvent businesses, especially focusing on the most productive sectors and businesses, while continuing to restrict credit to sectors that are excessively in debt such as the construction sector (see Figure 38).

Figure 37: Injections of public capital (as a % of GDP)



Source: Central banks, Eurostat and BBVA Research.

Figure 38: Lending to private sector (as a % of GDP)



Source: ECB, Bank of Spain and BBVA Research.

Spain's financial system as a whole is therefore well placed to meet the borrowing requirements of solvent households and businesses. As shown hereon, this is already happening; currently concentrated in the most dynamic sectors (e.g. among exporters).

In parallel, the restructuring and sustained improvement in yields applicable to part of the sector continue through the execution of the plans to restructure banks controlled by the FROB and the long-term business plan of the Sareb.

Credit is currently flowing into the most dynamic areas of activity

Aggregate data on lending in the financial system show that 8.2% less was lent to businesses in 2012, involving net repayments of €103 billion. However, **the financial system has opened the tap again, directing credit to the most solvent borrowers, which are currently highly concentrated in the healthiest sectors** (e.g. exporters).

Looking at a significant sample of the main banks in the Spanish system, in 2012 it can be seen that:

- **Over €26 billion was lent to over 25,000 exporters**. This volume of lending is **up 4%** on the 2011 figure and, more importantly, is **22% higher on average** year on year in the first few months of 2013.
- **Over €20 billion was lent to almost 120,000 SMEs** as part of several plans to reactivate bank lending.
- The combined total of these two figures exceeded initial forecasts set forth in the plan to reform the banking system.

In order to continue driving up lending to businesses (greater volume and under better terms), the following conditions apply:

- In the first instance, the Spanish economy must continue to enjoy better access to international financial markets (at lower spreads). To this end, the risk premium must be permanently slashed, paving the way to more effective monetary policy mechanisms. The downtick in the risk premium over the last six months (from around 700 bp to around 350 bp) is positive in this regard. Nonetheless, the risk premium needs to come down further if monetary policy in the eurozone is to trickle down to Spain and Spanish businesses are to access credit under similar conditions to over companies in the eurozone with similar activities and balance sheets.
- Secondly, clear-cut progress towards banking union is needed. This will be critical to putting a stop to the break-up of European markets, allowing the effects of monetary policy to be transferred and interbank and wholesale markets to open up again.
- Thirdly, we need an improvement in companies' solvency and ability to borrow by recapitalising their balance sheets, achieving improvements in profitability and generating greater profits. Much progress has been

made in this sense over the last four years. It is also worth mentioning that venture capital funds are playing a crucial role in recapitalising some Spanish companies.

In the near term, it is possible that some companies will still have difficulty accessing credit, if the bank with which they normally operate has been taken over or has a fragile liquidity position. That said, this type of situation will gradually dissipate over the coming years. Thus, much progress has been made in these three areas in recent months, and it is envisaged that further advances will be achieved over the next 12 to 18 months. This period will see the completion of the restructuring of the financial system through recapitalisations and the selling off of nationalised banks to the private sector, the realisation of synergies arising from current mergers, and a reduction in the size of the branch network in line with the new context.

All of the above will drive up lending which, in turn, will form the foundations for a sustained economic recovery and gradual decline in unemployment.

3 Economic outlook for 2013-2014

Firstly, it should be noted that **the quarterly trend in 2013 will differ greatly from the trend observed in 2012. In 2013, growth will increase as the year progresses, with positive rates achieved in the second half of the year**. In 2014, the internal adjustment processes will have been largely concluded, fiscal policies will exert less pressure and exports will act as a support for growth (on the back of the recovery of the traditional markets and strong growth in new areas). All of this heralds positive GDP growth.

Global outlook: better prospects and fewer risks

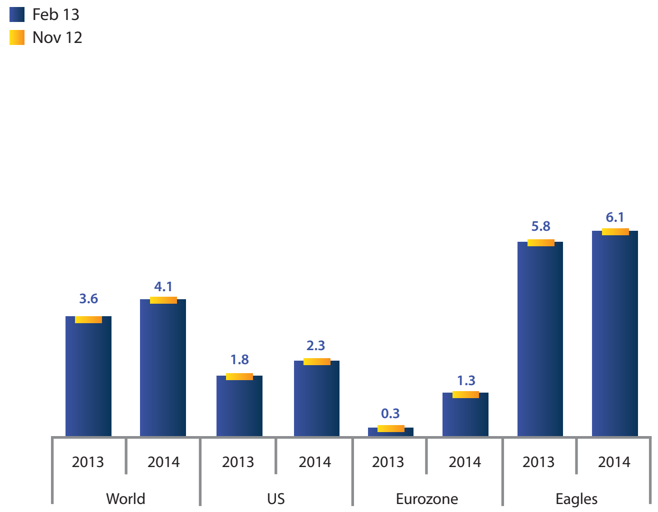
The global economic growth outlook has improved over the last few months following the easing of financial tensions in Europe (see Figure 39), the deal to avoid the fiscal cliff in the US and increased economic activity in emerging markets such as China. This more favourable scenario has been driven by the economic policy decisions taken and forecasts point to global growth of almost 1pp to 2014 from 3.2% in 2012 (see Figure 40). The moderate recovery expected in the developed economies is consistent with limited cost increases which should ensure the continuation of relatively expansionary monetary policies, and consequently, historically low risk-free interest rates.

However, the continuity of this recovery requires appropriate policies be implemented both in the US and the eurozone. In the eurozone, the steps towards banking union must been firmly drawn, with the effective introduction of the single supervisor and resolution mechanisms to deal with banking crises. This is key to breaking the vicious circle linking public finances and bank solvency, caused by the fragmented European banking system and the outflow of capital from some peripheral European member states. In this respect, the agreements reached at the December 2012 summit are to be applauded as they set down a clear schedule for implementing the single supervisory mechanism and the initial steps towards a joint resolution mechanism.

Figure 39: Financial tensions indicator

Source: BBVA research.

Figure 40: GDP growth (% yoy)



Source: CEC based on MFOM and INE data.

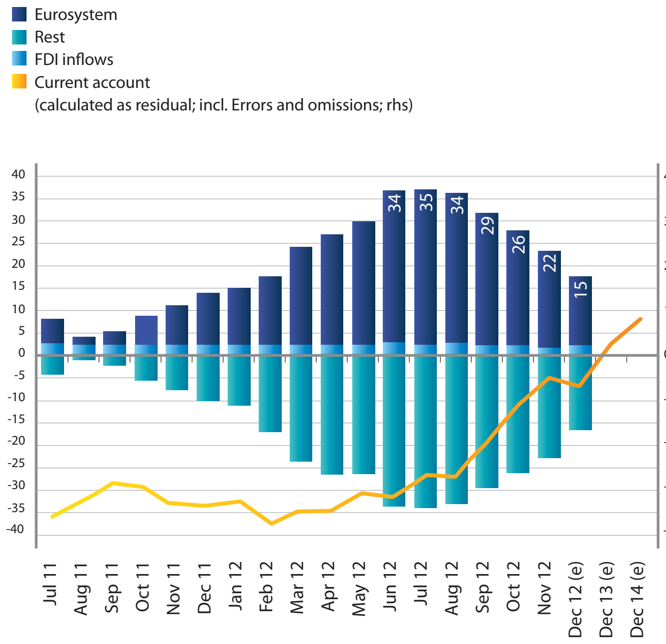
Additionally, the ECB's Outright Monetary Transactions (OMT) policy appears to be having a lasting effect and is keeping financial tensions in check, even though neither Spain nor Italy (the logical candidates) has requested its activation. This situation could continue as governments of both core and peripheral European nations have no reason to activate the programme at the moment. Current Spanish and Italian bond levels imply that the activation of the ESM in the primary market and the ECB policy in the secondary market is not required to finance public debt. Further, the OMT programme may also be useful for containing tensions provided that both the ECB's commitment to market intervention and Governments' commitment to request the activation of the programme if financing costs rise remain credible.

In addition to the progress towards banking union and the ECB's decisions, in Spain, several factors have also contributed to reducing financial tensions and the gradual re-opening of the markets, enabling a reversal of the foreign capital outflows seen in the first half of 2012 (see Figure 41) and a reduction in the risk premium paid by public and private sectors:

- The fiscal adjustment measures implemented by Public Administrations are starting to bear fruit. This is evidenced by the preliminary forecast of increased public revenues and lower public expenditure in 2012, despite the recession.
- Significant progress has been made towards the re-capitalisation, clean-up and re-structuring of the financial system.
- Moves to correct the balance of trade deficit have been stepped up and a surplus has been noted in the last three months.
- Lastly, the decline in GDP in 2012 (-1.4%) fell short of consensus forecasts put forward in the first half of the year (especially forecasts made by foreign analysts), suggesting that there is a lower probability of Spain entering a vicious circle of recession, increasing public deficit and further fiscal cutbacks. Such an improvement in confidence usually heralds an improvement in the real economy, and can therefore be considered a support for activity in 2013.

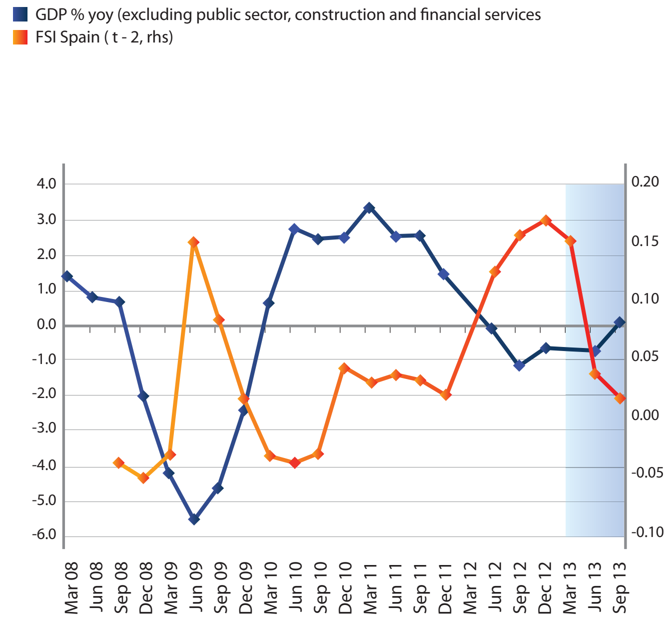
Specifically, Figure 42 shows the negative correlation between financial tensions (where any increase/decrease presupposes a scenario of higher/lower volatility) and growth in sectors of the Spanish economy that are not immersed in a process of restructuring (i.e. excluding residential construction, public and financial sectors). As we can observe, the re-opening of the financial markets enabled growth of more than 2% for most of 2010-2011. Therefore, over the next few quarters, the easing of financing conditions should filter through to companies and households and these sectors should once again start to grow strongly.

Figure 41:
Spain: balance of payments and capital flows



Source: CEC based on Bank of Spain data.

Figure 42:
Spain: financial tension and growth



Source: CEC based on Bank of Spain and INE data.

In summary, over the next two years the external scenario affecting the Spanish economy will be one of strong growth in the rest of the world, historically low risk-free interest rates, an easing of financial tensions and a moderate strengthening of the euro, which should, on balance, be favourable for Spanish exports.

Gradual economic improvement, with positive growth in 2014

In Spain, while economic growth is expected to remain negative throughout 2013, activity is likely to clearly increase as the year progresses with positive quarterly figures reported in the second half of the year. Therefore, according to CEC consensus forecasts[21], the second quarter of 2013 will witness negative growth of 0.3%, reaching zero growth in the third quarter and a positive figure of 0.3% in the last quarter of the year.

However, economic activity will remain shaped by fiscal adjustments and the absorption of the imbalances built up in the period prior to the crisis. As a result of these factors, internal demand will once again negatively affect growth. Nevertheless, this impact should gradually decline over the next few quarters as most of the measures announced by the Government to reduce the deficit in 2013 have already been implemented and some adjustments are reaching completion.

Therefore, fiscal consolidation and measures to adjust remaining imbalances are expected to have a negative impact on growth during the course of 2013 and fiscal issues a somewhat more moderate impact in 2014 (bearing in mind the multi-annual programme).

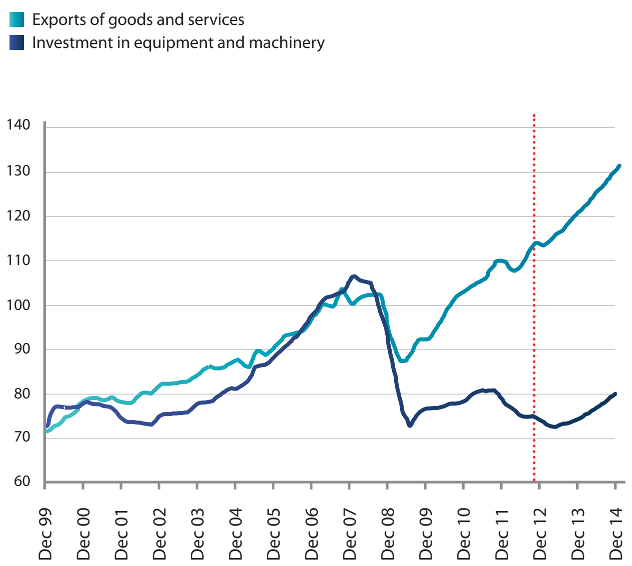
On the fiscal side, the impact of the economic downturn on public revenue and expense and the increase in the cost of public debt means that there is still significant work to be done in this area. Europe may once again be flexible on public deficit targets, as occurred in mid-2012, given the efforts being made by Spain. This would be justified by the points set out above and the less-favourable context for growth in a scenario in which public accounts are undergoing consolidation.

With respect to private consumption, the increase in indirect taxation in 2012 and the expected decline in some of its components suggest a fall in spending in 2013 and to a lesser extent in 2014. Also, high unemployment will further erode the salary component of gross disposable household income in 2013, remaining flat in 2014. Further, property wealth will continue to decline in real terms across our forecast period. In contrast, the recovery of net financial wealth, the fall in household savings to levels considerably lower than those seen in the previous cycle, the lack of inflationary demand pressures and official interest rates at low levels, should all offset the expected decline in private consumption.

With regard to investment in machinery and equipment, 2013 looks set to be the transition year between the decline seen in 2012 and expected recovery in 2014. In 2013, this investment component will remain stifled by the weakness of internal demand and still-high financing costs, while the strong performance of exports should continue to provide support (see Figure 43). However, this will not be sufficient to prevent further contraction in the full year. Additionally, the recovery in domestic demand and the continued good tone of external demand should lead to growth in this item in 2014.

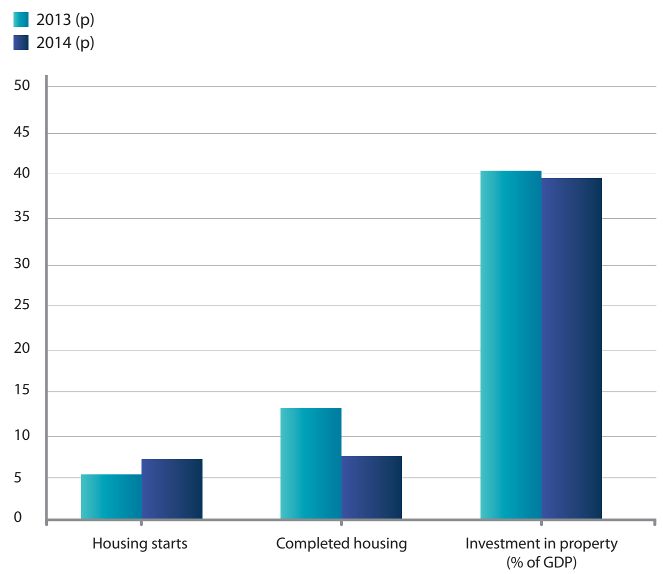
21 Average of BBVA Servicio de Estudios, Banco Santander, La Caixa and Telefónica forecasts.

Figure 43: Spain: exports and investments in machinery and equipment (2008 = 100)



Source: CEC and INE.

Figure 44: Spain: Property sectors forecasts (% vs 2004 - 2007 average)



Source: CEC based on MFOM and INE data.

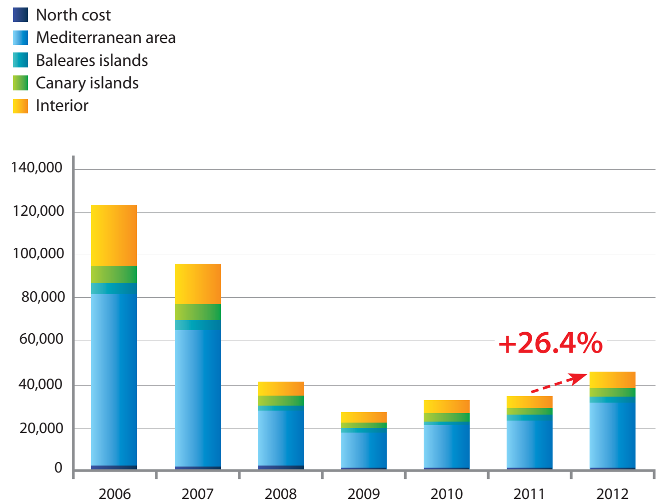
In the same way, **the negative contribution of property investment to internal demand growth should ease in the second half of 2013**. During this year, investment decisions will continue to be shaped by the deleveraging of sector companies which will keep activity at lows. However, the adjustment in supply has been considerable and could be nearing its end, as demonstrated by the sharp reduction in the number of housing starts and sector employment figures (see Figure 44). This does not mean that investment will recover sharply over the next few years, as there is still considerable excess supply, but the adjustment in terms of activity is largely complete. However, there are factors fuelling uncertainty in the sector such as the restructuring of the financial system, the creation of Sareb, the elimination of tax advantages on purchases and higher VAT, the reform of the Urban Leases Act and new regulations for SOCIMI (Spanish REIT).

The oversupply of **new housing is expected to fall further in 2013 (albeit modestly) following on with the trend started in 2012, the first year to see a significant reduction in stock**. In some regions such as Cantabria, Navarre, the Basque Country and Madrid (see Figure 45), the volume of unsold new housing currently accounts for around 2% of the total residential assets (vs. c.4% for Spain as a whole), relatively close to optimum stock levels (1.5% of housing stock). This demonstrates that the property market imbalance in these regions has almost been corrected. Similarly, demand for housing from foreign residents is gaining strength (see Figure 46), and this trend could consolidate during the year once the uncertainty surrounding the financial markets has diminished and the appetite for risk starts to pick up.

Figure 45: Spain: Oversupply of new housing (% of housing stock in each region)

Source: CEC and INE.

Figure 46: Spain: Housing sales to foreign residents (2008 = 100)



Source: BBVA Research.

Overall, residential investment is expected to contract in 2013 and start to show moderate positive growth in 2014 after falling for seven years.

In the foreign sector, a more buoyant world economy in 2013-2014 is expected to offset weaker EU growth, thereby boosting exports. As improvements in competitiveness and foreign market niches arise, exports of goods and services could also become more buoyant. These forecasts assume a moderate appreciation of the real exchange rate, although the impact of the exchange rate on exports in Spain would appear to be less damaging than in other European countries[22] as explained by the good relative performance of exports in the period prior to the crisis.

22 Research carried out by several investment banks suggest that the impact of the exchange rate on Spanish exports is limited due to three main factors: i) lower price elasticity and higher demand elasticity of exports, ii) Spanish exports are largely made to high-growth countries and iii) exports are mainly manufactured products with a growing global market penetration.

Hence, exports will continue to grow as global economic recovery becomes clearer. In contrast, imports of goods and services are likely to contract further in 2013 and start to gain ground in 2014, when internal demand ceases to fall. Specifically, the **contribution of external demand to GDP growth** should remain **in line with the rates seen in the last five years**, implying that the end of the recession will be marked by an increasingly less negative contribution from internal demand, leading a foreign account surplus in the next few years.

In sum, the Spanish economy is expected to hit bottom in the middle of this year. After that, several factors justify a return to growth in 2014:

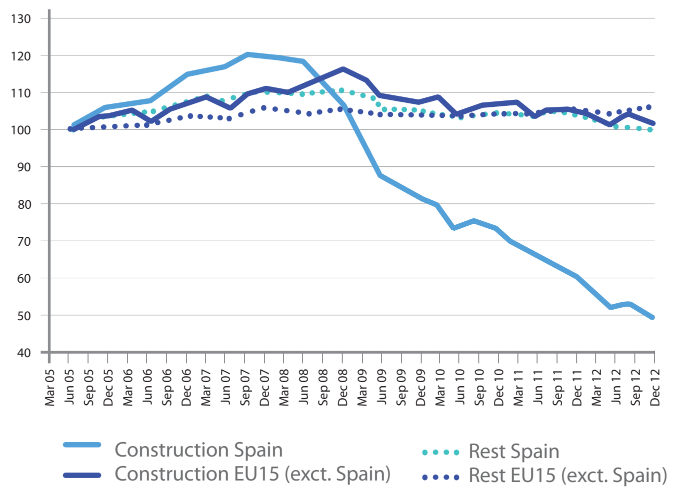
- **The virtual completion of most of the internal adjustment measures** (investment and employment in the residential construction sector, company over-indebtedness and the correction of public sector imbalances).
- **A less restrictive fiscal policy than in 2012 and 2013.**
- **Recovery in global growth**, with a positive impact in exports, and with a potential knock-on effect on the domestic economy (particularly in investment in machinery and equipment).

Improved economic activity should help job creation in 2014

The slowdown in the pace of decline in economic activity should mitigate job destruction this year, although this will not prevent the unemployment rate from rising further despite the expected reduction in the active population. **Return to growth in 2014 and the more efficient labour market resulting from the labour reform passed in February 2012 should lead to an upturn in the number of people in work and a slight reduction in the unemployment rate, especially in the latter half of the year**.

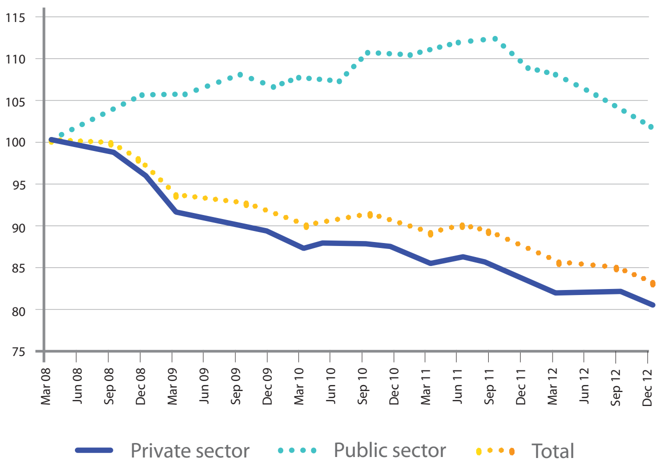
While the Spanish economy continues to destroy jobs, part of this adjustment owes to the re-sizing of sectors such as the construction or public sectors. This is demonstrated in Figures 47 and 48. In particular, half of the jobs destroyed between 2008 and 2012 were in the housing sector. Further, 35% of the jobs lost between 4Q11 and 4Q12 were a result of adjustments made in the public sector. As the adjustment process in these sectors reaches completion, new jobs should start to be created, in net terms. **In fact, 18 of the 87 sectors included in the National Economic Activity Classification reported an increase in member numbers last year. This figure rises to 30% if taken from 2007, with more than 650,000 jobs created overall**.

Figure 47: Spain and EU: Construction sector employment (Mar05 = 100)



Source: CEC based on INE data.

Figure 48: Spain: Job breakdown by sector (Mar08 = 100)



Source: CEC based on INE data.

At the same time, **the number of self-employed workers increased by 1.8% (53,300 people) in 4Q12 compared to 4Q11**, while rising by 41,100 on average for the year as a whole after falling for four consecutive years. Also, **part time jobs increased in 2012 for the third year in a row**. The number of part time workers grew by 45,500 people last year to 2,598,700, with the creation of 133,300 net part time jobs since 2010. Lastly, despite the weakness of the labour market, job creation flows remain significant. For instance, the percentage of unemployed people in 3Q12 finding employment in 4Q12 stood at 15.4% (around 890,000 unemployed).

It is important to note that in relation to the labour market in Spain two crucial mid-term factors are being largely overlooked:

- **The increase in skilled jobs despite the economic crisis**, positioning Spain among those countries with the greatest number of degree holders in work (see further in this report).

• According to long-term job creation forecasts carried out at the request of the EU, **in the next ten years Spain will create 2.2 million net jobs**[23], which, coupled with replacements for retirements, implies the creation of 7.3 million jobs, gross[24]. The largest job growth will be created in the manufacturing, market services and distribution & transport sectors, 3%, 10% and 15% respectively through to 2020, where 143% of all jobs will be created. But the most important factor will undoubtedly be **the increase in skilled workers** due to non-skilled workers obtaining skills, with a 30% average of skilled workers by 2020, a pace of growth almost three times higher than the EU average (see Figure 49).

Figure 49: Expected EU employment growth in 2010-2020

By Sector	SPAIN	EU-27
Non-market services	-5%	1%
Businesses & other services	10%	11%
Distribution & transport	15%	6%
Construction	-11%	1%
Manufacturing	3%	-1%
Primary sector	-2%	-10%

By qualification level	SPAIN	EU-27
High	26%	20%
Medium	32%	5%
Low	-32%	-20%

23 The net job creation between 2010 and 2020 will be of 1 million people. Taking into account the job destruction in 2011 and 2012, the result would be 2.2 million net jobs.

24 Future skills, supply and demand in Europe. Cedefop Europe (May 2012).

Spain is competitive and innovative

An advantageous position in key areas makes Spain competitive

Spain must continue with its reform agenda that speeds up change and avoids inertia, driving progress towards a model based heavily on knowledge, making better use of human resources and boasting a financial system that continues to adapt to new financing requirements. This will enable the country to profit even further from the following advantages that make it one of the most attractive countries for foreign investment:

A) A world leader in knowledge-intensive assets[25], with a weighting of 25.8% of GDP, higher than the average for Scandinavian countries (23.9%) and central European nations (15.9%), and only surpassed by the Anglo-Saxon model (29.5%).

1. 32% of the population has some higher education[26], which is higher than France (30%), Germany (27%) and Italy (15%). This means that 38% of people in work hold a university qualification, more than 8 pp above the European average; 30% of entrepreneurs hold a university qualification, more than double the figure in 1995 and more than one third of Spanish business people are university qualified, almost double the figure in 1999.

2. An increasingly well-qualified working population, as reflected by the twofold increase in the number of highly-qualified workers since 1995 and the number of people employed in R&D activities, which is higher than the European average (EU-27), due, among other factors, to the inclusion of 4 million highly-qualified workers in the 1995-2011 period.

25 *Measured as the salaries of people in employment with higher education qualifications and the weight of ICTs, in line with the latest EU harmonised figures reported in the Abacus Observatory according to Eurostat statistics. The average for Scandinavian countries comprises Sweden, Finland and Denmark, the average for Central Europe comprises Germany, France, Italy, Austria and Holland, and the average for Anglo-Saxon nations comprises the US, UK and Australia.*
26 *Weight of people with tertiary education in the population aged between 25 and 64. Source: Eurostat 2011.*

B) Spain ranks tenth in the world by scientific output and the number of mentions in specialist international publications. Spain accounts for 12% of European scientific output, 5 pp than it did 10 years ago.

1. Growing excellence - with 15% of Spanish scientific investment within the range of the highest quality decile in the world, in line with the 14% average for the rest of the leading world nations.

2. Growing leadership - 78% of scientific documents published in Spain were headed by a Spanish lead researcher.

3. Spain's annual average scientific output in 1996-2010 was 7.10%[27], 2.6 pp higher than the average for Western Europe and 3.6 pp than the average for North America.

C) An innovative business sector, accounting for 73% of sales, in line with the EU-27 (77%)[28] generating 65% of jobs (see next section).

1. 4,100 companies located across 153 science and technology parks in Spain[29], more than three times as many as countries such as Germany and France.
2. 16% of jobs correspond to entrepreneurial enterprises, in line with the European average, but with a medium term survival rate of 50%[30], higher than Germany (41%), the UK (45%) and Finland (9%).

D) A favourable environment in which to do business:

1. One of the best **infrastructure networks** in Europe, with excellent access by road, high-speed train, maritime and air transport.

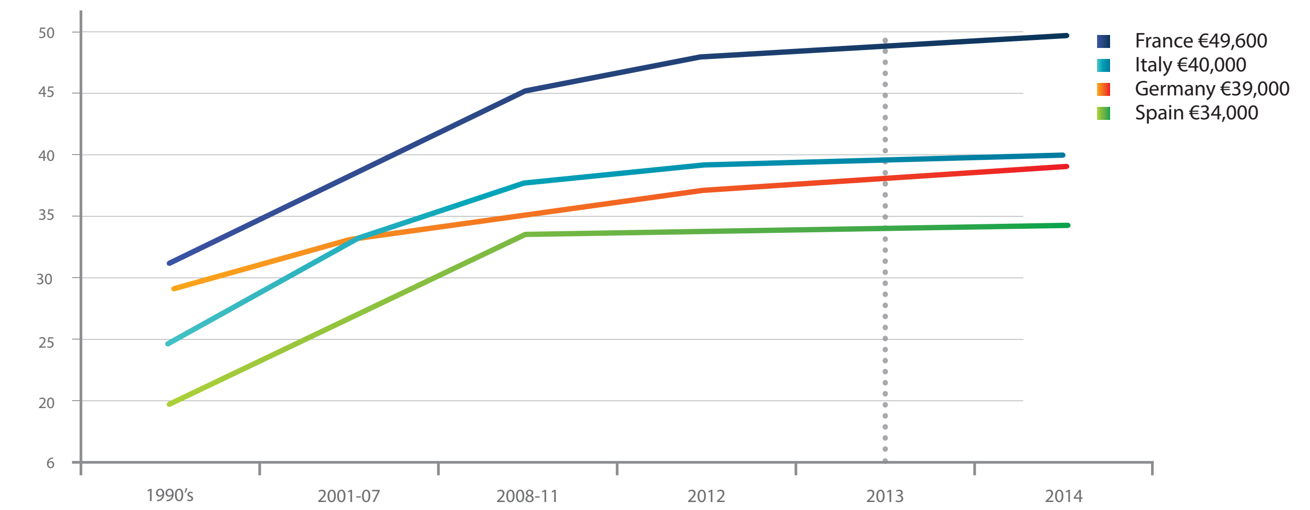
2. A **telecommunications sector** at the forefront of Europe.

3. An **industrial energy cost** 3%-10% lower than the European average[31].

27 *Latest available bibliometric data published by the Fundación Española para la Ciencia y la Tecnología (FECYT)*
28 *Latest figures published by Eurostat, 2008*
29 *Latest figures published by IASP, 2010*
30 *5 years after the start of the business. Source: Eurostat*
31 *Cost of electricity and gas for companies including taxes. Source: Eurostat.*

4. A **relatively cheap workforce** compared to other European countries: with a cost 29% below France, 13% lower than Italy and 9% lower than Germany (see Figure 50). Additionally, EC estimates for the next two years suggest that labour costs in Spain will increase nearly 4 times less than in Germany and the UK and 50% less than in France and Italy. The cost of skilled labour is 33% less than in Germany and 11% lower than in France and the UK[32]. The differences are even more pronounced among new university graduates. The gross monthly salary of a new Spanish university graduate is 40% lower than in Germany and 25% lower than in the UK, France, Holland and Italy[33].

Figure 50: Employee remuneration (thousands of euros. Current prices)

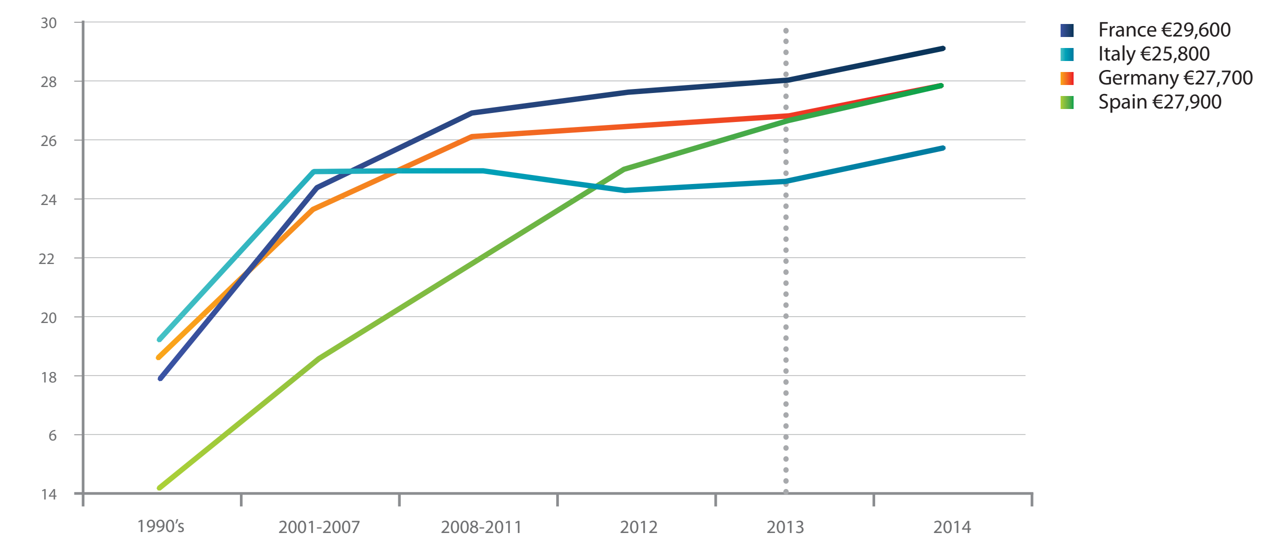


Source: AMECO, European Commission.

32 Source: Eurostat, in constant euros PPP 2010.
33 Harmonised data from the European Reflex project, in collaboration with ANECA, corrected for power purchasing parity.

5. **High and growing business productivity**: Spain is the only major European country[34] where the corporate margin per employee measured as the difference between production cost and cost per employee has increased between the 1990s and 2012. In Spain, this increase was 77%, followed by 54% in France, 50% in the UK, 42% in Germany and 27% in Italy. This makes the margin in Spain the lowest of our sample, standing at €14,200 in the 1990s and €25,100 in 2012, outpacing Italy (see Figure 51). Furthermore, according to the EC, this margin will also show the strongest growth in Spain over the next two years (11%), double that of the eurozone and Italy and almost 2.5 times higher than that of France and Germany, suggesting that in 2014 Spain's margin will be higher than Germany's. **It should be noted that even though employment levels have fallen back to 2002 levels, the current GDP/employee ratio is 40% higher than it was at that date, evidencing the attractiveness of the country's workforce in the new stage of the economic cycle**.

Figure 51: Margin per employee (GDP per employee/remuneration per employee. Thousands of euros. Current prices)



Source: AMECO, European Commission.

34 Germany, France, Italy and the UK

6. A **key geostrategic position** to access markets offering huge potential thanks to its proximity and the cultural and trade links with a language-speaking community of more than 500 million people[35], that makes Spanish the world's second more important language in the world of communications and the third most important in terms of network traffic.

The importance of innovation in Spanish business

Although the Spanish economy as a whole falls in the middle of the international innovation rankings[36], it should be noted that **21 Spanish companies feature on the list of companies that invest most in R&D in Europe with a very competitive intensity ratio, and the growing importance of entrepreneurship among large Spanish companies**, as reflected in the vast number of initiatives approved recently by companies listed on the Ibex-35 (see Appendix 1).

However, as occurs with other key economic indicators, SMEs contribute 70% of the business investment in R&D in Spain[37], with a reasonable intensity ratio of 2.2% of sales volumes, in line with other European companies. Additionally, 6% of Europe's most innovative companies are Spanish[38] operating in sectors as diverse at internet sales, videogame and software production, biomedicine, communications and IT security.

Innovation is enabling Spanish companies to attain global leadership in sectors of great added value, which in turn is driving high-quality scientific output, resulting in the key scientific discoveries recently made by Spanish research centres (see Appendix 2).

Spain is home to 4 of the world's 20 best business schools and it is important to maintain the **knock on effect and dissemination of best practices** resulting from this[39], which is enabling the use of technology and innovation in the development of activities with a great deal of potential as mentioned earlier in this report. It is also unlocking the value of innovative Spanish companies breaking into **sectors of the New Economy** with high growth potential in the areas of business hybridisation, the reset economy, the data economy and the accessibility economy[40].

Lastly, as the investment cycle relating to property assets has run out of steam, we expect the **course taken by the ICT sector** (in terms of both innovation and the employment of qualified human capital) **to become increasingly widespread in Spanish business circles**. To this end, over the past few years numerous initiatives have been rolled out in the institutional arena to correct this trend and redirect investment into activities relating to research, development and technological improvement through tax incentives and other aid programmes, in addition to European funds to drive technology and the development of the information society (see Appendix 2).

The results of these initiatives are promising, such as the CENIT programme, which has a budget of €2,300 million (€1,072 million public contribution). 1,253 companies have taken part in the 91 projects carried out under the CENIT framework; 58% of these were SMEs. Moreover, 1,589 public research groups and technological centres have been involved in the programme. Lastly, the 16 projects included in the first phase (now completed) gave rise to 211 patent applications and 565 scientific publications[41].

The importance of value added sectors in the internationalisation of Spanish business

In Spain, there are several sectors which are not only internationally competitive but have proved to be more resilient to the crisis than other sectors thanks, among other factors, to their growing international focus, their innovation over the last few years and highly-qualified personnel in a context of lower labour costs compared to competitors.

Two fundamental criteria, based on current literature[42], have been applied to identify these key sectors of the Spanish economy:

35 Data published by Instituto Cervantes, including native speakers, speakers of Spanish as a second language and people who have learned Spanish as a foreign language.
36 Spain ranks 22 out of 34 on the EU's Innovation Union Scoreboard, 29 out of 141 on the INSEAD's Global Innovation Index; 36 out of 142 on the WEF's Global Competitive Index and 20 out of 110 on the NAM's International Innovation Index.
37 Spain ranks 27 out of 114 in investment in R&D in the UNESCO ranking and 23 out of 37 according to Eurostat.
38 According to the annual list published by the specialist magazine Red Herring.
39 Web ranking of Business Schools (February 2013): IE, IESE, ESADE and EOI.

40 According to studies carried out by the EOI, at least 100 Spanish companies are international leaders in their respective market niches.
41 2011 COTEC report.
42 Sources employed: (i) "Key sectors and clusters of the Spanish economy". Luis Robles Teigeiro and Jesús Sanjuan Solís. Tribuna de Economía July-August 2008; (ii) "Competitivity of the manufacturing sectors in Spanish industry". An analysis based on sector positioning indicators. Mª Ángeles Gueredíaga Alonso. Revista de Economía Industrial 2012.

A) Each sector encompasses a series of inter-dependent activities, which in turn are closely interrelated with the rest of the sectors of the economy in terms of both supply and demand.

B) They are attractive sectors from an international standpoint, either because Spain has a competitive advantage or because they are important sectors for international trade due to their recent performance or medium term prospects.

On the basis of these two criteria, we have identified the following value added sectors in Spain: **Automotive sector, biotechnology, ICT and audiovisual, food and agriculture, aerospace and machinery and tooling**.

In total, these six sectors have an annual turnover of more than **€360,000 million** (35% of GDP), **exports worth more than €130,000 million a year** (42% of total Spanish exports of goods and services) **and employ more than 2 million people**. The automotive, biotechnology and food and agriculture sectors are the most significant as together they account for more than 70% of this turnover (€261,000 million) and 90% of exports (€119,000 million).

Furthermore, the performance of these key sectors during the recession has been exemplary: In the last two years[43] **they have increased turnover by an annual average rate of close to 3%**, compared to the annual decline of 0.6% in domestic output. And, in terms of **productivity[44], every employee in each of these key sectors brought in an average of €180 thousand a year, 76% higher than the productivity of Spanish economy as a whole** (see Figure 52).

43 Latest available data for 2011, except for the biotechnology and aerospace segments where the latest available figures are for 2010.
44 Productivity measured as turnover/employee.

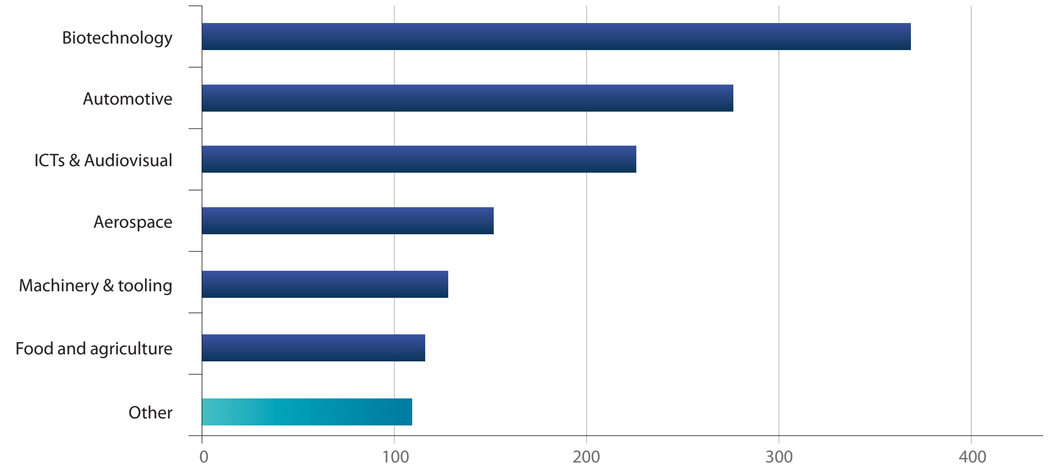
Figure 52: Data for key sectors of the Spanish economy

	Sectors with growth potential *	Spain
Turnover/employee (thousands of euros)	182	103
Annual average growth over last 2 years (turnover)	2.9%	-0.6%
Exports/output	36%	29%
R&D expenses/revenues	1.9%	0.9%

*Automotive sector, biotechnology, food and agriculture, ICTs and audiovisual, aerospace and machinery and tooling.

Source: Own data based on Spanish accounting figures, the INE business survey, the Ministry of Agriculture, Food and the Environment, ICEX and information provided by sector associations (ANFAC, SERNAUTO, ASEBIO, AFM). Latest available data: 2011

Figure 53: Turnover/employee in the main economic sectors in 2011 (thousands of euros/employee)

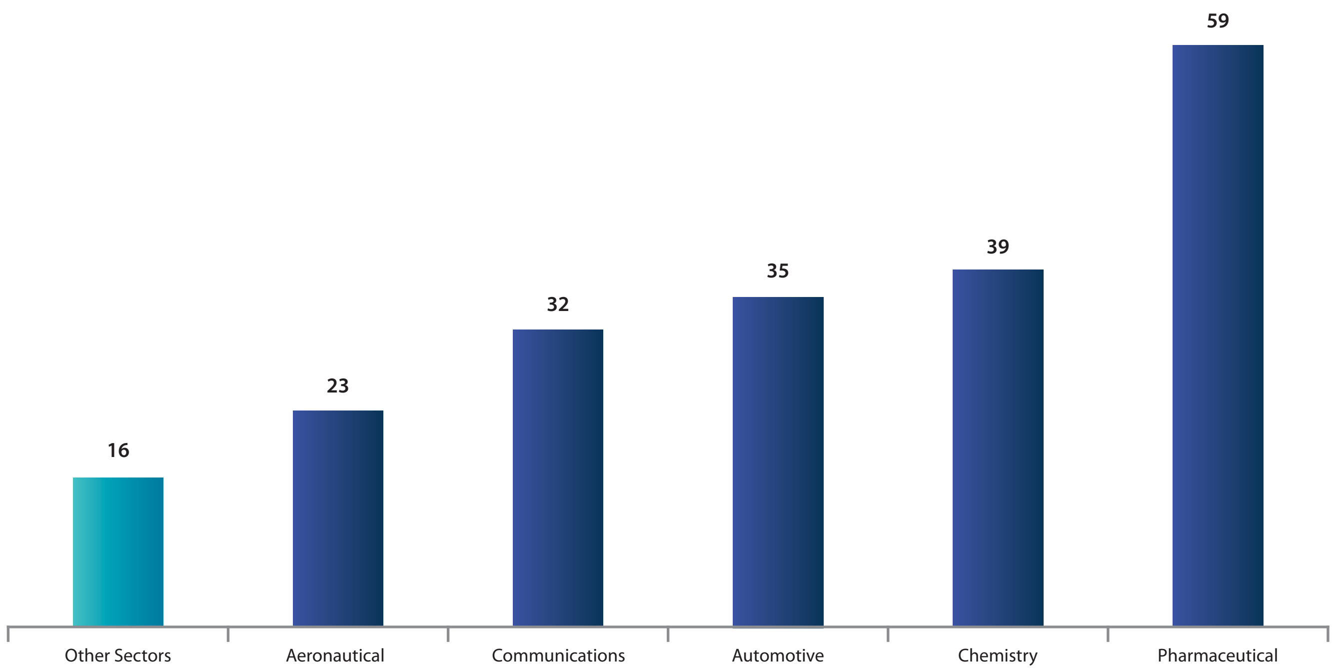


Source: Spanish national accounts 2011 (INE), ICEX, ANFAC, SERNAUTO, ASEBIO, AFM.

These are also usually extremely innovation-intensive industries (see Figures 54 and 55[45]), assigning an average of almost 2% of their revenue to R&D, practically three times the amount assigned by other sectors of the economy.

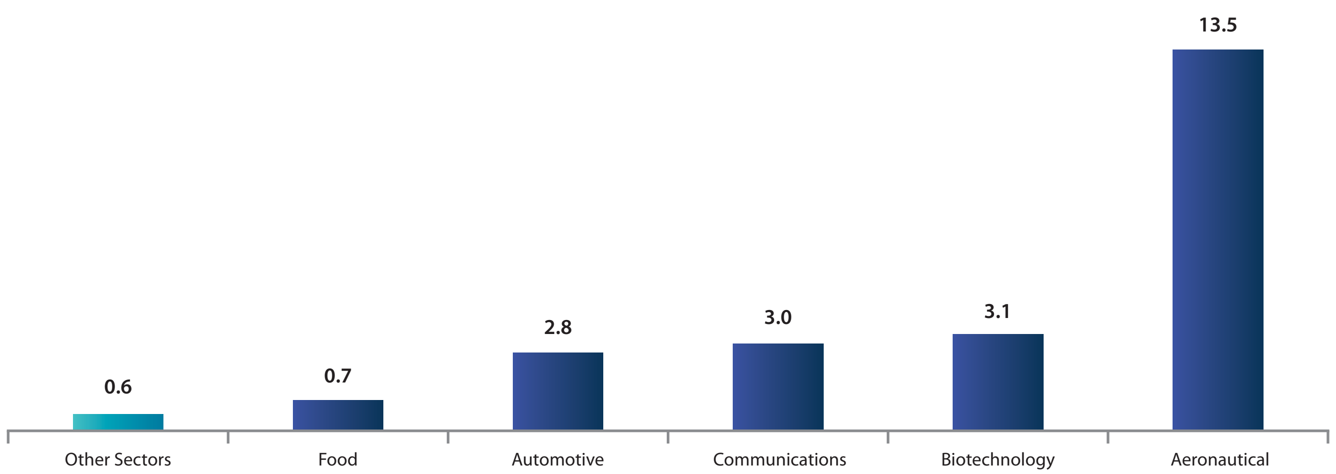
45 An innovative company is considered to be a company that carries out product, process, marketing or organisational innovations (in line with the definition contained in the Business Innovation Survey drawn up by the INE).

Figure 54: Innovative businesses (as a % of total businesses)



Source: Business Innovation Survey 2011, INE.

Figure 55: Innovation intensity (expenditure on innovation as a % of revenues)



Source: Business Innovation Survey 2011, INE.

Lastly, and largely the result of the above, these are **important sectors in the international field**, ranking in the TOP 10 production and export sectors in Europe and the world in most cases (see Figure 56).

Figure 56: International positioning of key Spanish sectors

	UE	Mundial
Food and agriculture	4th in food exports 1st in canned food production	8th in food exports 2nd in canned food production
Automotive	1st in industrial vehicle production 2nd in vehicle manufacturing 3rd in parts and equipment	12th in vehicle manufacturing 6th in parts and equipment
Machinery-tooling	4th in exports	10th in exports
Biotechnology	5th in scientific output	10th in scientific output
Aerospace	5th in production and employment	

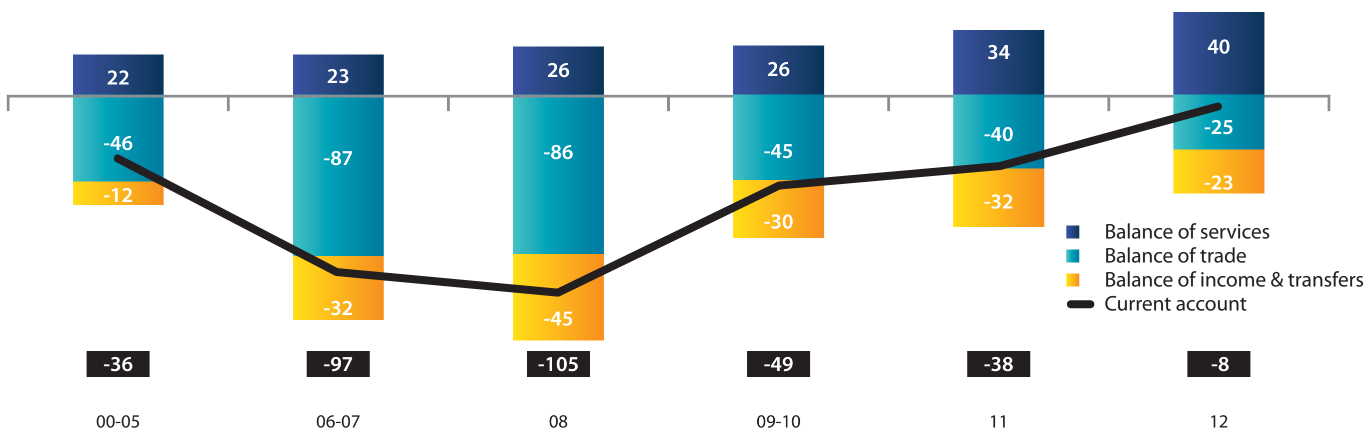
In addition to the afore-mentioned sectors, **non-tourism sectors** (engineering and construction, business services, insurance, IT services, cultural services, transport, communications and financial services) as a whole are also identified as having strong growth potential, due to the increase in exports seen over the past few years and particularly during the recession.

The development and promotion of these activities is key to shoring up economic recovery as the outlook for global demand is extremely favourable in most of these areas and they are also activities with a strong knock on effect in other sectors (especially ICTs and biotechnology).

The driver of exportable services

Since the start of the crisis, one of the Spanish economy's greatest achievements has been the correction of its trade deficit, which has fallen from over €100 billion in 2008 to a trade balance in 2012 according to preliminary information released by the Bank of Spain. This performance is the result of two items, the balance of trade, where the deficit has been reduced by a third despite the rise in oil prices, and **the balance of services where the surplus in 2012 will be 75% larger than it was in 2006-2007** (see Figure 57).

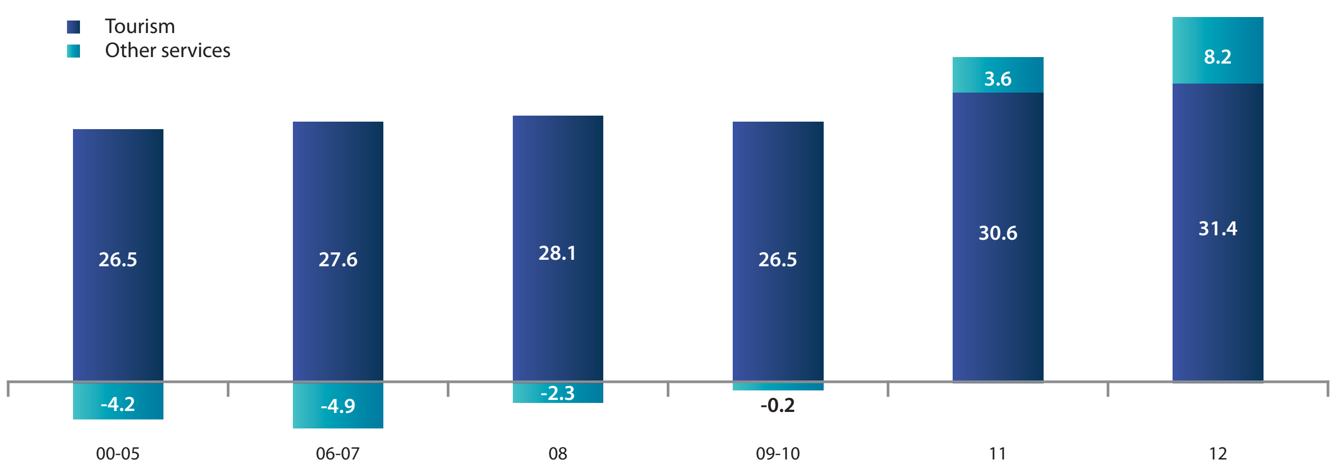
Figure 57: Current account balance and components (€ billion)



Source: Bank of Spain

25% of the increase in the balance of services surplus is due to tourism revenue, but the remaining 75% relates to non-tourism services, the balance of which moved from a negative €4.9 billion to a positive €8.2 billion in 2012, i.e. an improvement of over €13 billion (see Figure 58).

Figure 58: Balance of services and components (€ billion)



Source: Bank of Spain.

Tourism services

It is widely known that Spain's attractiveness and position of leadership as a tourist destination has increased over the last few years and the country is now 4th largest tourist destination in terms of visitor numbers and the 2nd largest in terms of revenues. In 2012, this sector reported **revenues of €56 billion (national and international tourism), the highest figure ever reported**. This is an increase of 7% compared to 2011 and suggests that tourists visiting Spain spent 20% more than prior to the economic crisis.

The **strong rise** can be explained by various factors that should not be ignored, despite the challenging backdrop in 2012:

- Higher foreign tourism expenditure per person and per day (reaching €108/day), almost three times the amount spent by national tourists, with a notable market share in the golf and nautical tourism segments.
- Growth in the largest tourist source markets has increased: UK (+7%) and Germany (+5%).
- 80% of visitors from the main tourist source markets return to Spain, declaring themselves extremely satisfied with their stay.
- Increased diversification into non-traditional source markets such as the US (moving up the ranking with growth of 21%), Scandinavia (up 13%), other North and South American countries (17%) and non-traditional European markets (+13%).
- Increasingly competitive since 2005[46], especially compared to other Northern and Southern Mediterranean destinations and the Americas, which is keeping the employment figure at close to 2 million.

But there is still **enormous potential for growth**, bearing in mind that there are three areas in which Spain remains outside the ranking:

- **Cultural and non-beach tourism**, as Spain has the second largest cultural heritage in the world and ranks third in terms of protected areas.
- **Business tourism**, where Spain is gaining market share due to the high international recognition accorded to the cities of Madrid and Barcelona. If, as expected, growth more than doubles the rest of Europe[47], it will cement its position as third in the ranking for this type of tourism.

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46 According to the IET's ITCT (Tourism Competitiveness Index) indicator.
47 Source: World Travel & Tourism Council.

- **Tourism from emerging markets**; Spain has already received over a million and a half visitors from BRIC countries (Brazil, Russia, India and China), quality tourism with an average daily spend that is 44% higher than tourists from other areas.

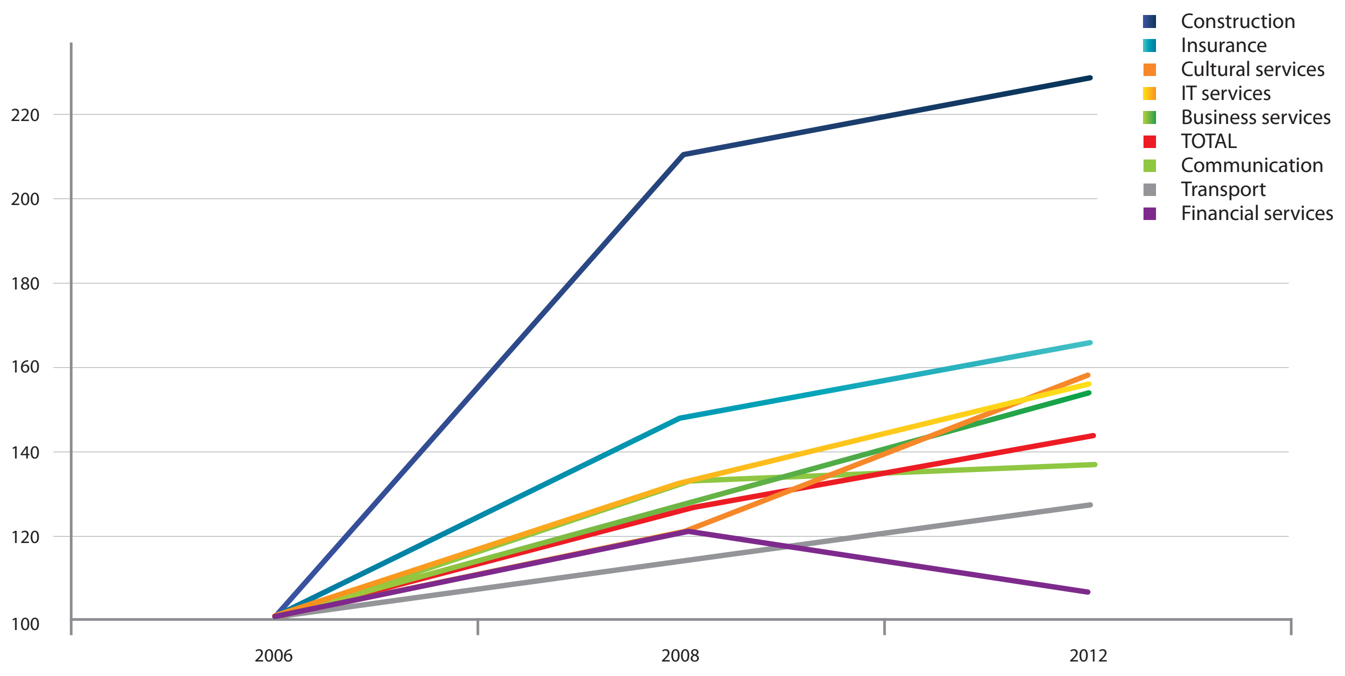
Non-tourism services

The Bank of Spain publishes a breakdown of the ten most important non-tourism services which include transport, communications, construction, insurance, financial services, IT services, business services, cultural services and other (government services and royalties). **Between 2006 and 2012, foreign sales of this type of services climbed by 44%, implying an annual average increase of over 7%** vs. 5% for exports of goods and 2% for exports of tourism services. By component (see Figure 59), highlights include the 21% average annual growth in construction service exports, the 13% increase in exports of cultural services, the 11% rise in insurance exports and the 9% growth in IT and business services.

The breakdown by destination follows a similar pattern to destinations for goods exports. **Exports to European destinations are showing single digit growth (around 5% to the EU-27 and 3% to eurozone countries in the past year), while exports to Latin America, Africa, Asia and emerging European nations have recently seen increases of 32%, 21%, 16% and 18% respectively**.

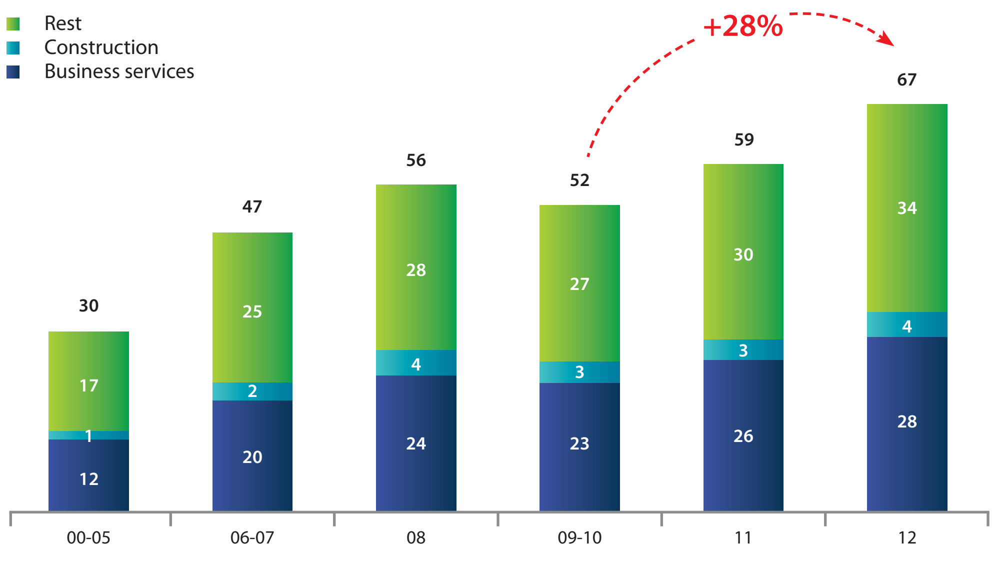
By volumes, exports of non-tourism services brought in revenues of €67 billion in 2012 (see Figure 60), more than double the amount in 2000-2005 and surpassing revenues from tourism since 2006. Therefore, if revenues from non-tourism services were equal to 88% of revenues from tourism in 2000-2005, by 2012 this figure was 140%. **Business services account for half of this improvement seen since 2000-2005, while construction services are still largely insignificant even though they have increased fourfold. Half the remaining increase is due to higher exports of transport services tied to the burgeoning export business.**

Figure 59: Breakdown of non-tourism services exports evolution (2006 = 100)



Source: Bank of Spain – 2012 figures are for 3Q12.

Figure 60: Balance of services and main components (€ billion)



Source: Bank of Spain – 2012 figures are for 3Q12.

Spanish internationalisation success stories:

A) <u>A strong engineering (and construction) sector</u>. The recent internationalisation of Spanish construction companies thanks to the know-how, capacity and experience gained in the past few years has been key to enabling the substitution of domestic for foreign demand. **Spanish construction companies currently manage 272 transport infrastructures, 37% of the world's total[48], heading the world ranking in transport infrastructure management**. They specialise in roads, railway lines, bridges, airports, ports, and above all motorways. The four largest groups in Spain have more than 4,400 km of motorways under construction or in operation, 248 km of railways lines, 129,000 square metres of rail transport hubs, and manage airports in 15 countries across the globe.

- The major civil infrastructure contracts won recently by Spanish companies for the amount of c.€10,000 million are particularly noteworthy. These companies are also currently bidding at several other tenders worth €26,000 million, evidencing the growth potential of this business line.

- In the water business the desalination and water treatment projects underway in various continents headed by Spanish companies stand out.

B) <u>A robust energy sector, with a broad international presence</u>. **Spanish energy companies** service more than 65 million customers across the world, with a firm foothold in the US, UK, Mexico, Brazil, Colombia and other Latin American countries. The sector has a turnover of over €120,000 million (11.5% of Spain's GDP) and creates approximately 400,000 jobs across the world.

Spanish electric utilities are increasingly expanding abroad, allowing them to minimise the impact of the recession and offset weakening demand. This is evidenced by the international turnover reported by these sector companies, which has increased threefold over the past six years, from €10,000 million to €30,000 million. This has been made possible by the higher number of investments made, with organic investments abroad also rising threefold over the past six years, surpassing €30,000 million during the period.

48 *According to the latest information released by Public Works Financing.*

The sector also spends a **substantial amount on innovation activities** in Spain. According to Unesa, in 2011 electric utilities assigned around €300 million to investment in R&D and innovation, increasing this figure by 100% in the past five years. If we consider global sector figures, including figures of manufacturers of electric equipment, universities and research centres, investment in R&D and innovation exceeds €1,300 million, around 10% of total expenditure on R&D in Spain.

- In the energy business, thanks to the experience in **renewable energies** built up in the last few years, major contracts have been awarded in the areas of wind energy, hydroelectric energy, thermo-solar power and photovoltaic energy in all continents.
- Spanish power companies have also become a world reference in the construction and operation of **nuclear and combined cycle plants**.
- Spanish companies also carry out large-scale power **transmission and distribution** projects throughout the world. In addition to the construction of high-voltage lines and substations, they play an important role in the development of intelligent networks, rolling out projects in Spain and abroad.
- **Biomass** is another promising sector. In Spain, the development of this business is lagging other neighbouring countries[49], despite the plentiful primary resources available and there is enormous scope to use forest and agricultural waste. Eurostat has confirmed that Spain has the second largest forest area in the European Union but the utilisation rate stands at only 36.5%, compared to the European average of 69%.

C) <u>A financial and insurance sector expanding into countries with growth potential</u>. After the crisis, exports of financial services have increased by almost 20% on 2006 levels, despite the sector restructuring. This reflects how the international expansion undertaken by the major sector players in the past few years has allowed them to refocus on other geographical locations. As a result, the major Spanish banks are not only among the biggest in the world but are also some of the safest and located in countries with growing

49 *In 2010, Spain ranked sixth in the EU for primary energy production using solid biomass fuel behind Germany, France, Sweden, Finland and Poland. However, measured in terms of production by inhabitant, Spain ranks 18th, with a rate of 0.103 tep/inhabitant, which is lower than the EU average (0.158), and a long way short of the European leader in this field (Finland with a rate of 1.435 tep/inhabitant). In 2010, Spain ranked tenth in the EU for gross electricity production using solid biomass.*

middle classes. Additionally, exports of insurance related services have increased by over 50% since 2006-07. Spanish insurance companies are in the European top 10 and also hold a leadership position in Latin America.

Lastly, according to a recent study made by the Bank of Spain[50], there are several differences between companies that export non-tourism services and those that export goods, for instance, in terms of average size (the average services export company is 25% smaller than the average exporter of goods) or the degree of qualification of its workers (30% more qualified than service export companies). In contrast, service exports are more geographically concentrated than good exports; for instance, while 60% of goods exporters sell to less than 5 countries, this figure rises to 80% for services exporters.

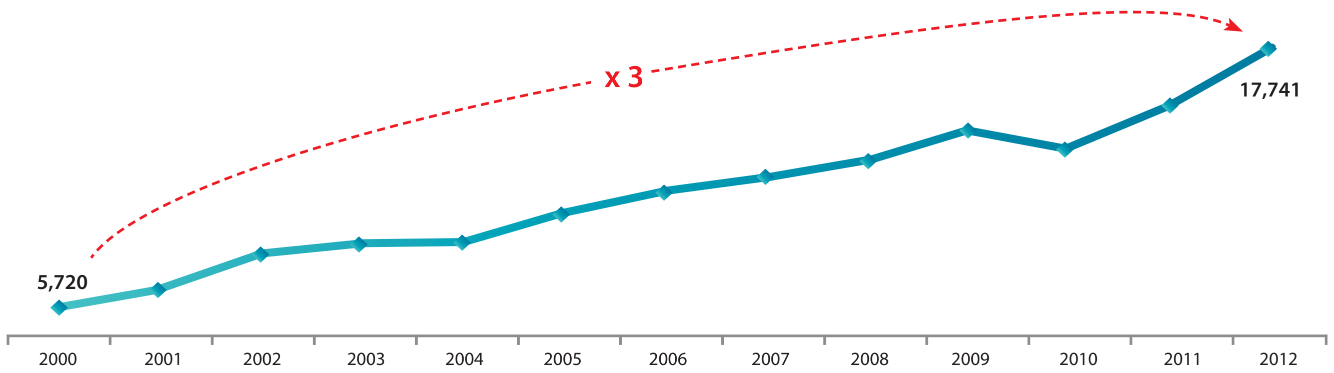
D) Logistics services also have strong growth potential in Spain (transport and storage of goods). This industry accounts for around 5% of GDP and has grown by 21% in the last five years, making it an attractive option for foreign investors for several reasons:

1. Good positioning in Europe: The Spanish logistics market ranks 5th in Europe in terms of volumes and employment.
2. Spain's geostrategic position in Europe as a gateway to Latin America and North Africa makes it the ideal logistics platform for Southern Europe with potential access to more than 1,300 million customers; also, having the largest coastline in the EU (more than 8,000 km) makes it an important international port hub. Ports such as Algeciras, Valencia and Barcelona are among the 10 largest in Europe.
3. Quality and scale of infrastructures: Spain has the largest European network of toll roads and motorways, with a higher proportion of toll roads/motorways in its total road network (5.9%) than the EU average (1.2%), the US (1.4%) and Japan (0.6%); two of the ten largest passenger airports in Europe are located in Spain and it boasts the third highest passenger traffic in Europe. It also ranks 5th in the EU-15 for its 13,853 km rail network.
4. The logistics industry is playing an increasingly important role in the global economy, due to globalisation and specialisation in production.
5. Spanish distribution companies have become world leaders in the area of logistics, exporting directors and picking up numerous international awards.

The strength of the automotive sector: vehicles and parts

The automotive sector (manufacturing of vehicles and parts) accounts for around 6% of domestic production and employs more than 250,000[51] workers in Spain, or 9% of the active population[52]. **Throughout the recession, the sector has taken advantage of its growing international bias to offset the weakness of internal demand**. This is evidenced by the 40% rise in the number of export companies from 2008, increasing threefold from 2000 levels (see Figure 61).

Figure 61: Number of export companies (automobiles, motorcycles and auto parts)



Source: DataComex.

50 "Spanish exporters of goods and non-tourism services: a comparative analysis and impact of the crisis".

51 58,000 in vehicle manufacturing and more than 200,000 in the equipment and parts sectors.

52 2011 figures.

In the equipment and parts subsector, this international focus has also meant a favourable scenario for total turnover and job creation despite the crisis: in 2011 (latest available figures) total turnover exceeded €29,000 million (+9% yoy) while the number of jobs created rose by 7%.

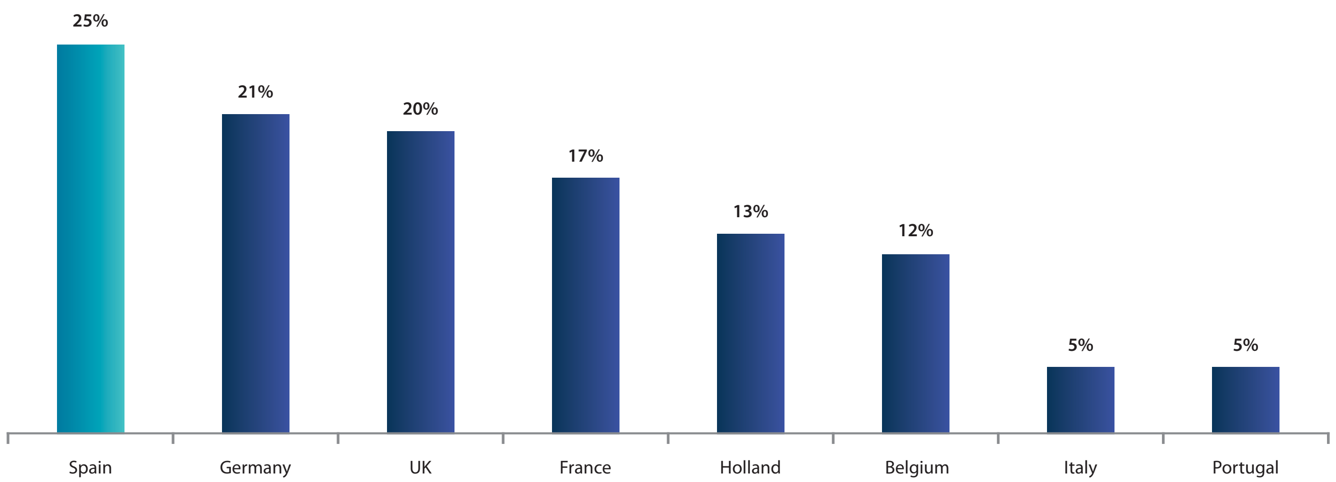
Leading automobile manufacturer in Europe: Spain is the leading manufacturer of commercial vehicles in Europe, ranking second in terms of total vehicle production and the twelfth largest in the world. Almost 90% of vehicles manufactured in Spain are exported to over 90 different countries. There are 17 plants belonging to 8 international business groups operating in Spain located in ten different autonomous regions, with a strong sector presence. Moreover, the most diverse technologies are represented in the sector, specifically the electric vehicle[53].

Despite the recession, the major world automobile groups retain their trust in the potential of Spanish plants, as evidenced by the investments announced in 2012 for the next few year, while plant closures are the norm in the rest of Europe[54]. Foreign automobile manufacturers are investing in Spain not only because of the country's moderate labour costs (half the cost of central Europe), but also because of its flexibility, high potential for outsourcing, the proximity of suppliers, and the high quality of the country's logistics infrastructure and connectivity[55].

Spain is a global leader in auto equipment and parts: the sixth largest business in the world by turnover and the third largest in Europe. The sector employs more than 200,000 people in Spain, exporting to more than 150 countries and boasting leading world companies in interior panelling segment.

In both the automobile manufacturing business and the production of equipment and parts, one of the main attractions offered by Spain is its highly-skilled workforce (see Figure 62), in addition to labour costs that are lower than in comparable European countries. Although Spanish manufacturing plants became less competitive between 2000 and 2007, they have taken advantage of the recession to advance in this area compared to plants in other areas of Europe. The flexibility measures included in agreements between companies and trade unions have reduced ULCs in the sector in Spain by 4% in the past four years (while in other European countries they have grown between 5% and 10%) and the number of hours worked by employees are now higher than the hours worked in other major manufacturing nations such as Germany, France and the UK.

Figure 62: Automotive sector % of highly skilled workers



Source: Europa Innova. The Network driving European Innovation 2008.

These activities also boast high levels of investment in technology and R&D, with nine automotive technology parks distributed across Spain and research teams specialising in sector-related aspects.

Biotechnology - a dynamic business

A highly dynamic sector in recent years. The Spanish biotechnology industry has been one of the most dynamic sectors in recent years (2006-2011)[56]: the number of biotechnology companies, i.e. companies carrying out biotechnology research,

53 There are committed projects to manufacture electric vehicles by domestic and foreign manufacturers including RENAULT, MERCEDES, FORD, PEUGEOT- CITRÖEN, NISSAN and SEAT.

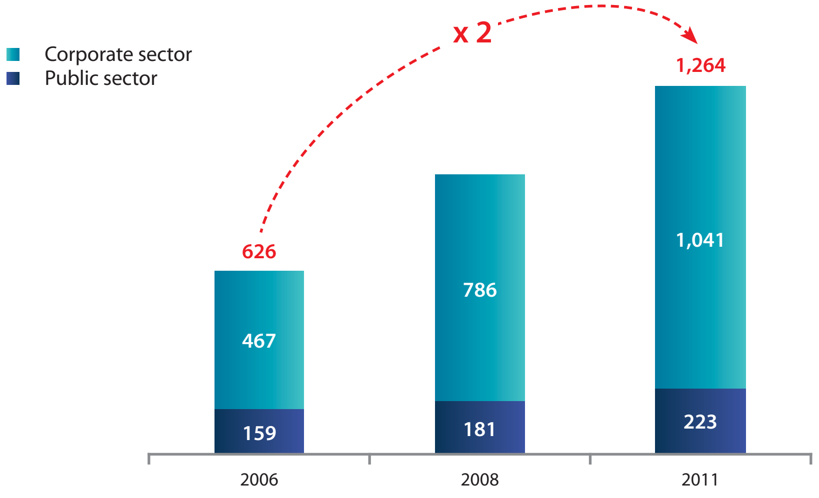
54 Renault-Nissan, Ford, Iveco and Seat have announced or embarked on new industrial programmes for their plants in Spain, worth a total of €3,000 million and set to create more than 4,000 jobs in the next few years.

55 "Plan 3 million". Anfac, 2012.

56 Note: INE statistics for 2008 take data from a random sample while 2006 figures are census data.

has doubled (see Figure 63), increasing by more than 240% in the private sector, while employment in the sector has risen by 98%. Further, the industry has grown throughout the recession, with more than 250 new companies founded since 2008, creating more than 3,000 jobs[57].

Figure 63: Number of companies carrying out R&D in biotechnology



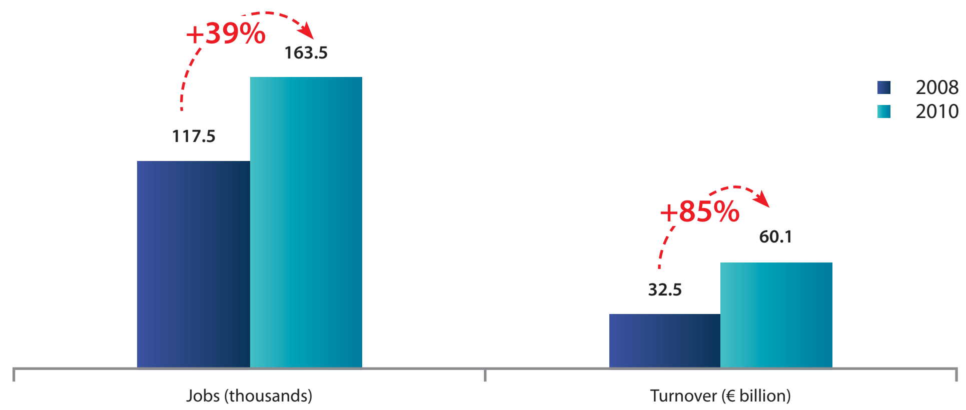
Source: Statistics on the use of biotechnology, INE.

In a broader sense, the performance of the wider sector[58] (including all companies carrying out activities relating to biotechnology, of which there were 1,700 in 2011) has also been spectacular, as reflected by employment and turnover data for the two years prior to 2010 (latest available data - see Figure 64).

57 Biotechnology R&D jobs: Variation between 2008 and 2011 according to INE statistics on the use of biotechnology.

58 This would include two main groups of companies: (i) pure biotechnology companies, i.e. those that carry out R&D activities or make productive investments, with a large part of their business focused on biotechnology, and (ii) industrial services and commercial companies with biotechnology interests, developments and products (Source: Importance of biotechnology in Spain, Fundación Genoma).

Figure 64: Companies carrying out activities relating to biotechnology



Source: ASEBIO, 2011 annual report.

A sector where results impact positively on the remaining sectors of the economy. However, although the direct weight of the sector in Spain's GDP is still small (1.8% for the pure biotechnology sector and almost 6% of GDP if we include companies carrying out activities related to biotechnology), the industry has the potential to have an substantial knock-on effect on more mature sectors accounting for up to 20% of GDP, including medicine, pharmaceuticals, energy, environment, food and agriculture or chemicals. Two thirds of biotechnology companies currently have a healthcare bias, followed by food and agriculture[59].

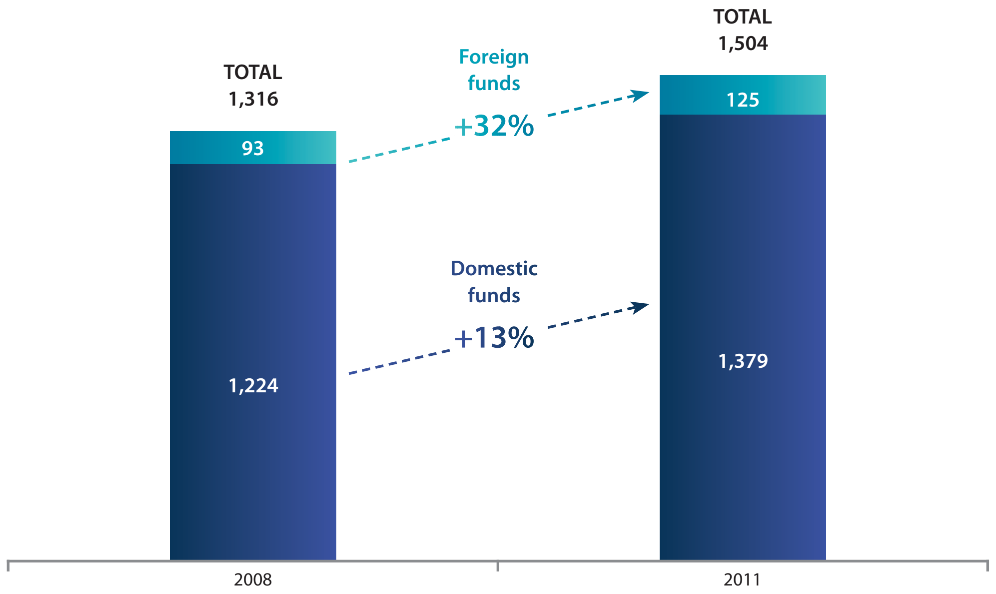
On the international stage, Spain still falls short of countries like the US although the gap has been closing rapidly in the past few years: based on the situation in 2000, the differential in terms of public investment in R&D has been reduced by 17 pp; 12 pp if we consider the number of sector jobs.

59 The most salient projects in this area include: (i) development of a technology to regenerate damaged bone by extracting stem cells from the patient's fatty tissue; (ii) development of a technology to eradicate a physical condition without harming surrounding cells using RNA interference capacity, a molecule discovered in 1998 that interrupts specific cell processes when they are no longer necessary; (iii) another non-medical project has been designed to convert waste into fuel using micro-organisms: 'Rhodosporidium' yeast and a bacteria; (iv) biotechnology applications for the security sector include a system that amplifies DNA thousands of millions of times in a few hours and which is between 1,000 and 10,000 times more efficient than other systems, and; (v) in the food and agriculture sector biosensors are being built to allow the food quality controls to be implemented.

Forging ahead in international scientific output. The area in which the Spanish biotechnology industry has advanced furthest is in scientific output, where it ranks 5th among European countries (EU-15). Additionally, between 2000 and 2008, Spain contributed 1.4pp of global scientific output growth (accounting for 2.4% of total global research in 2000 and 3.2% in 2008). The strength of this industry is reflected in the number of patents applied for, which have increased fourfold in the past five years.

An increasingly attractive market for foreign investors. The good performance marked by the biotechnology industry has been achieved thanks to public and private investment, with a growing portion of funding deriving from foreign investors. Therefore, since 2008, the internal R&D expense of biotechnology companies has climbed 14%, with a notable increase in funds from abroad -32% in total-, and 62% considering only funds destined for the private sector (see Figure 65). However, the weight of foreign investment in the biotechnology industry is still less than 10%.

Figure 65: R&D spending by technology companies (€ million)



Source: Statistics on the use of biotechnology, INE.

International leadership, quality infrastructure and a highly-skilled workforce are the strong points of the sector. The sector remains attractive for foreign investors, not only thanks to a position of leadership in the international arena in areas such as clinical trials (5th in ranking for the number of clinical trials carried out in the EU-27) and agro biotechnology (in Europe, 80% of transgenic corn is grown in Spain), but also thanks to its state-of-the-art infrastructure to facilitate innovation, with exponential growth in the number of scientific and technology parks (around 80) and highly-skilled professionals, among other factors.

Immersed in the internationalisation process: According to the latest survey carried out by the Association of Biotechnology Companies (ASEBIO), 86% of companies interviewed carried out some kind of international activity in 2011. The most common international operation is the export of goods and services (58% of the total), followed by partnerships with foreign companies. This type of operation increased by 7% in 2011 vs. 2010, with partnerships in Europe and US the most commonly sought by Spanish companies (65% weighting and 21% of total partnerships). Also according to the survey, 90% of companies with no international experience are prioritising international expansion. Overall, Spanish biotechnology companies have more than 90 subsidiaries abroad, with operations in more than 30 countries.

The potential of the ICT[60] and Audiovisual sector

Strong growth in pre-crisis years, with a strong potential knock-on effect on the rest of the economy. The ICT sector was one of the most dynamic in Spain during the pre-crisis years, with turnover growing by an average of more than 7.4% a year. In the past four years[61] the sector has welcomed almost 1,400 new companies (annual growth of nearly 2%). Today, the ICT sector accounts for 5.7% of GDP (9.5% if we look at the income/GDP ratio), in line with the automobile and residential sectors, and employs more than 444,000 people. In addition, the cross disciplinary importance of ICTs as a driver of growth, and hence productivity, must be noted: for every million euros invested in ICTs, 33 jobs are created. The ICT sector accounts for 50% of the productivity increase in an economy[62].

60 Includes (i) manufacture of produces for information processing and dissemination, including transmission and presentation, and (ii) services for processing and disseminating information using electronic means. The contents subsector is also included (Ontsi Annual Report, 2012).
61 2010 - latest available data.
62 Source: Agenda Digital .

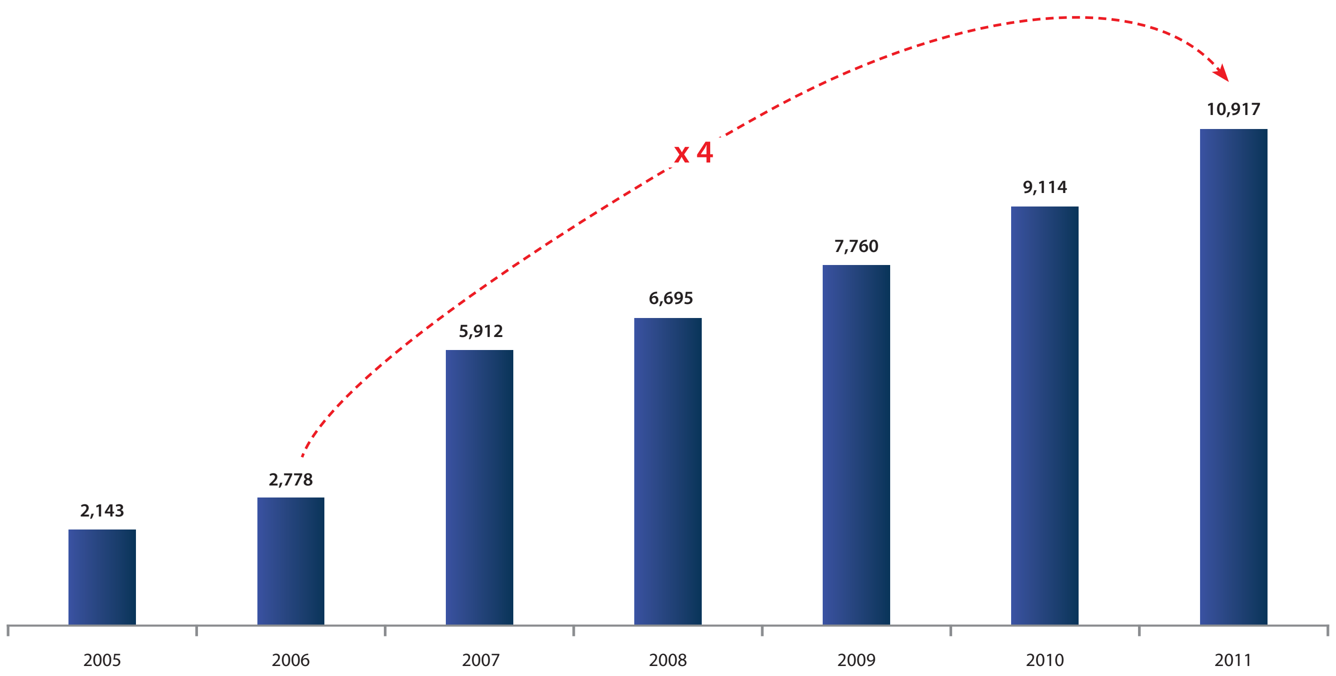
Strong investment and focus on innovation. The ICT sector invested almost €18 billion (1.7% of Spain's GDP) in 2011, 9% more than in the previous year, the highest investment made since 2007, and averaging growth of c.3% in the 2008-2011 period. Investment in innovation and development has increased significantly over the last decade, virtually doubling from 2003. Moreover, investment in innovation and development in the sector accounts for almost 40% of total private sector investment in Spain.

IT activities, e-commerce, e-health, e-Government and digital content are among the segments offering the greatest potential. ICT activities that stood out for their buoyancy prior to the crisis included IT activities carried out by companies (IT consulting, programming, web portals, equipment repair, edition of computer games, etc.), accounting for more than half the jobs in the sector. Between 2006 and 2011 jobs in this segment increased by 16%, while turnover rose by 27%. It also offers high export potential, as barely 15% of total turnover relates to sales made abroad.

e-commerce[63] is another promising subsector with a great potential. This business has enjoyed exponential growth over the last five years: business generated has multiplied by four[64] (see Figure 66), from 4.3 million buyers in 2005 to 13.2 million in 2011. There is also ample scope for further expansion as growth in Spain is higher than in the rest of the European Union and there is also scope for convergence in the next few years (see Figure 67). Another of the government's objectives under the Digital Agenda for Europe 2020, is to promote and stimulate the use of e-commerce.

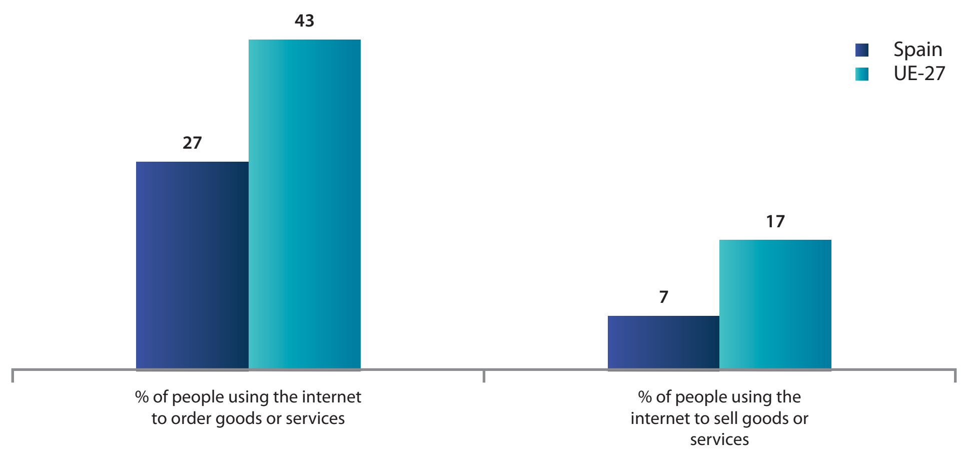
63 Business to consumer.
64 Annual increase of c.20% in 2011 and early 2012.

Figure 66: Spain: e-commerce business volumes (€ million)



Source: "e-commerce business opportunities". Invest in Spain, January 2013.

Figure 67: Use of e-commerce: Spain vs. EU-27

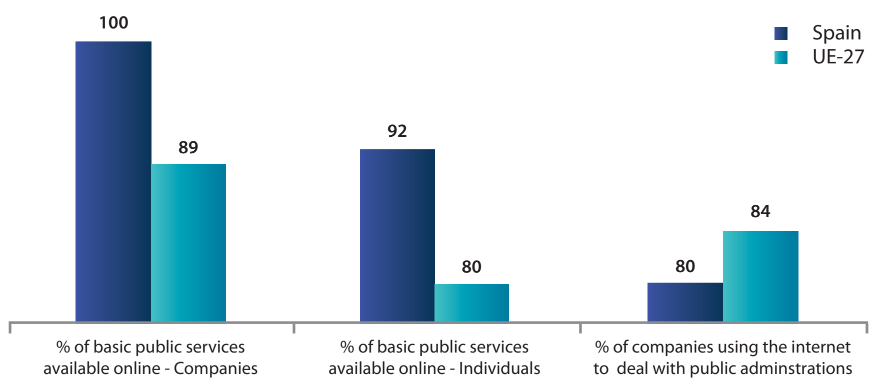


Source: Ontsi, 2011 data.

e-Health: Spain holds a leading position in the e-health sector in Europe, with sounder infrastructure and a more competitive advantage than other EU members, especially in relation to primary healthcare[65]. One of the most promising areas is the development of mobile technology for healthcare. This revolutionary system has huge potential for global growth as reflected by data signalling 800% annual market growth in e-health applications for mobile devices. According to a study carried out by The Boston Consulting Group in 2012, e-health applications and services are expected to: i) help reduce the cost of care for elderly people by 25%, ii) double the number of patients in rural areas receiving medical attention, iii) significantly improve compliance with prescribed treatments and iv) enable savings of up to 24% in the collection of information.

European leader in e-Government. In Spain, 70% of public services and almost 100% of basic public services for companies and individuals may now be carried out online, figures that are much higher than the EU average (62% of public services and around 85% of basic services - see Figure 68). The availability of e-Government processes is an advantage for foreign investors as it facilitates all the administrative procedures required for a company located in Spain. However, as stipulated in the Digital Agenda for Spain, it is still important to promote the use of internet among SMEs and generalise this use, as despite the wide availability of e-Government processes, the take-up rate is still lower than the EU average.

Figure 68: e-Government: Spain vs. EU-27



Source: Ontsi, 2011 data.

65 *Accenture report: "Healthcare connections in Spain. The most advanced". March 2012.*

Digital content: This sector has not experienced any fall in turnover despite the recession, due to the popularity of digital leisure activities among the public at large. In 2011, more than 68% of the population aged between 16 and 74 consumed some type of digital content online, 8.6pp more than in 2010, putting sector turnover at more than €9 billion, for growth of 14%. The good performance of the animation industry stands out; turnover in 2011 exceeded c.€300 million and the sector employed 5,150 people. It also has a strong R&D and innovation focus, assigning more than 10% of revenues to this type of investment, with 12-30% of personnel dedicated to these tasks (vs. an average of 1.2% in the economy as a whole). The outlook for the next few years is extremely bright as employment is expected to increase by an annual average of 20% to 2017, with revenue growth of more than 30%.

A notable presence in the international marketplace. Lastly, it should be noted that Spain is home to one of the leading international telecommunications operators, and other leading companies in advanced technologies such as 3D radar, flight simulators, air traffic control systems, satellite communications, organisation and management of international events (IT systems for the Olympic Games). Additionally, the large sector multinationals are present in Spain. Since 2006, an average of around 10% of total foreign investment in Spain has been made in the ICT sector, with average annual inflows the equivalent to 1.5% of GDP.

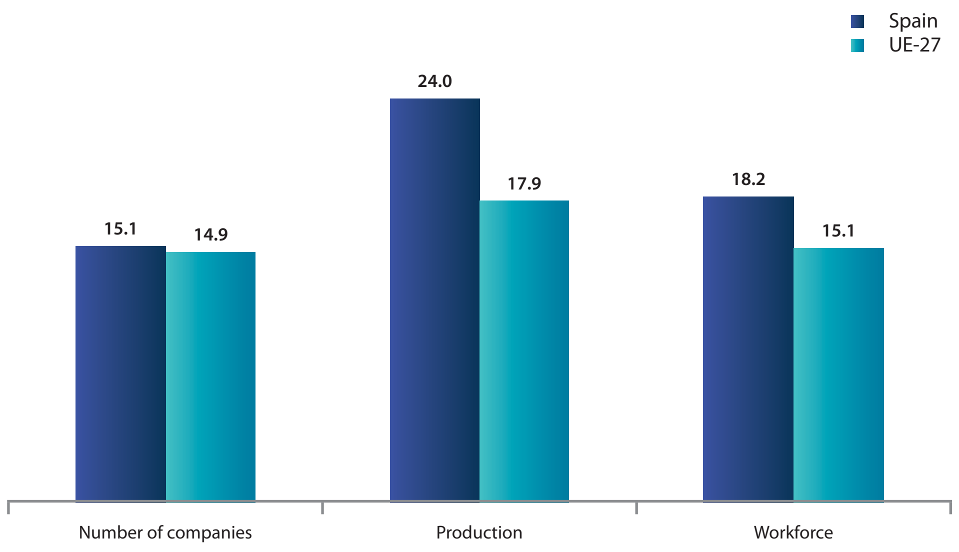
The key to the food and agriculture sector

This sector boasts turnover of over €130,000 million[66] (12% of GDP), with more than a million jobs.

More productive than the European average. Comparing the importance of the sector in Spain and Europe, the percentage of companies and imports is similar. However, the weight of the sector in comparison to the total industrial sector is almost 30% higher in Spain, while the difference is lower for sector employees, suggesting that productivity is higher than in the rest of Europe (see Figure 69).

66 *Sum of food and agriculture sector turnover in 2011. Source: Ministry of Agriculture, Food and the Environment.*

Figure 69: Food and agriculture sector as a % of total manufacturing industry



Source: Ministry of Industry, Energy and Tourism based on Eurostat data.

Strong exports are boosting the trade surplus. Exports totalled €33,970 million 2012 (15% of Spain's total goods exports), rising almost 10% yoy. This gave rise to a trade surplus of €6,100 million. z countries remain the leading destinations of Spanish food and agricultural product exports, headed by France (€6,000 million, with yoy growth of 9% in June), followed by Germany (€4,500 million, +16%).

However, Spanish food and agricultural product exports are also growing in other markets such as the US (€1,050 million worth of sales, up 13%) and Russia (€787 million, up c.12%). In Asia, exports to China and Japan also grew by 20% and 30% respectively, while exports to the Middle East (Arabia) rose almost 40% and in Latin America, sales of goods to Brazil climbed 30%.

Over the last decade, Spanish exports of food, beverages and tobacco were largely in line with the trend marked by global exports in this sector, with Spain's market share remaining above 3%.

According to the Massachusetts Institute of Technology (MIT), the food and agriculture sector "is one of the key economic sectors in Spain due to its strength and recognition abroad".

As a result, the coverage ratio (exports/imports) for the food and agriculture sector stood at 122% in 2012. The largest subsectors are fruits (exports worth €5,500 million/year), vegetables (€4,000 million/year), meat and meat products (€3,800 million/year), wine (€3,000 million/year) and vegetable oils (€2,700 million/year).

The food and agriculture sector is of strategic importance to Spain for several reasons:

A) It enhances recognition of the Spain brand with unique home-grown products such as Rioja wine, Ibérico ham, Spanish oranges, virgin olive oil and manchego cheese.
B) The sector encompasses 48% of Spanish territory, providing ecosystem services (prevention of fires, erosion and flooding, CO2 capture, etc), and essential habitats for the preservation of biodiversity through agro-ecosystems. These include the traditional and complex landscapes that form part of Spain's heritage and heighten its tourist value.
C) It provides jobs across the nation (and is the main source of direct and indirect employment in rural areas), thereby preventing the depopulation and desertification of the country.
D) It is the origin and support of Spain's culture and traditions, which are key to preventing the cultural de-capitalisation of a solely-urban country, and stands out as an attraction in the competitive international tourist sector.

Salient points include:

A) The main strength of the Spanish food and agriculture industry is its **production capacity**, predicated on extraordinary productivity improvements. Over the past two decades, Spanish agriculture production has increased by more than 55%, compared to the rise of 15% seen in the EU-15. This has brought positive economic and environmental repercussions.
B) The food and agriculture industry comprises 29,000 companies (96% of these are SMEs).
C) The Spanish food and agriculture industry also stands out as the most innovative of all non-durable goods sectors. Additionally, it is gaining recognition in the European marketplace. Spain presented 241 proposals at the EU's 7th Framework Programme for Research and Development for Food, Agriculture, Fishing and Biotechnology, 57% of the total presented.

D) Outward foreign investment of this sector amounted to €733 million (20% of outward FDI of the Spanish industry), and the investment of foreign companies in the Spanish food and agriculture industry totalled more than €700 million (41% of FDI in Spanish industry).

Leader in haute cuisine. As a result of its high quality raw materials and creativity Spanish haute cuisine is widely praised, and Spain is one of the countries with the most Michelin stars in Europe. There are 150 Michelin-star establishments across the country. Seven of these hold the highest accolade: one in the Valencia region, two in Catalonia and four in the Basque Country. New markets are being opened and the country is home to some of the world's top chefs (male and female), according to the specialized press.

The development of greenhouses in Spain is a world reference in innovation. Greenhouses cover a surface area of 44,000 hectares in Spain, the largest area in the Mediterranean region, followed by Italy (32,000 hectares), Turkey (23,000 hectares, Morocco (11,000 hectares) and France (9,000 hectares). The Mediterranean basin is also home to the world's second largest concentration of plastic covered crops, with 30% of production, behind south-east Asia with 65%. In addition to having a large amount of land, Spain ranks among the leaders in the development of technology designed to improve this type of crop production, carrying out numerous trials, research projects and structural improvements to make intensive harvesting more profitable. This has enabled the start up and subsequent sale of innovative ventilation, irrigation and temperature systems, among others.

At the forefront of the canning industry, with a growing international focus. Spain is the leading producer of canned products in the EU and second in the world, after Thailand, and this industry is the main driver of growth in large areas of the coast[67]. Sector turnover exceeds €2,400 million a year, with growth of 5% in 2011. The sector exports more than €600 million a year, 2% of total food exports and marking growth rates of over 16%. 88% is exported to countries in the EU, 5% to North America and 3% to Africa.

The local benchmark in the Aerospace sector

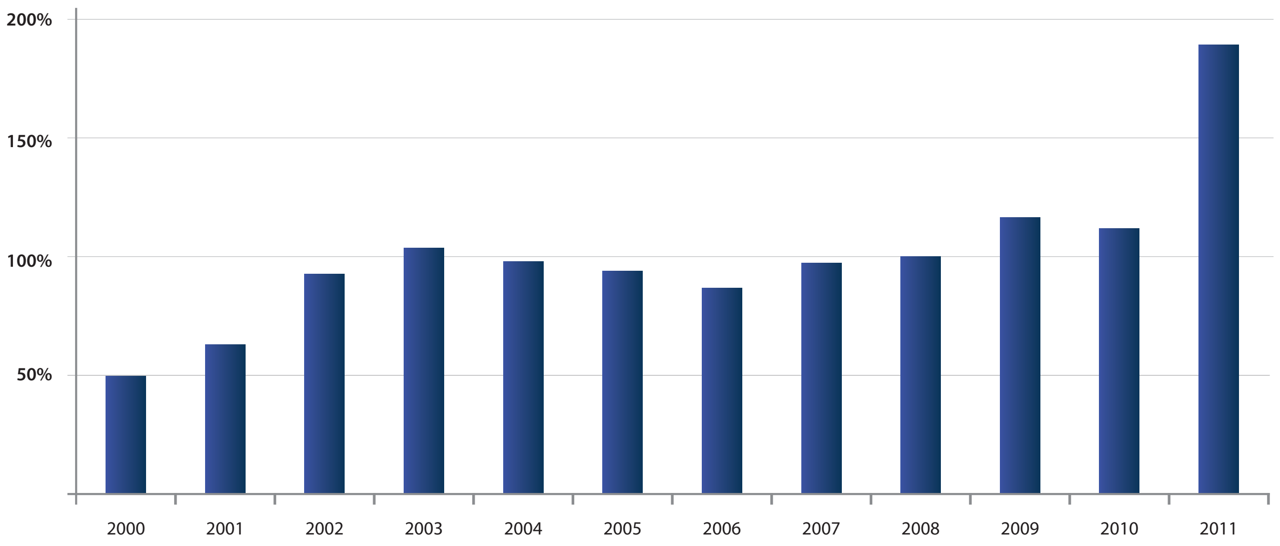
Well positioned in the European market. The Spanish aerospace sector is the fifth largest in Europe in terms of turnover (€5,400 million) and employment (36,000 direct jobs, and four times more than this if we include indirect jobs). Further, it is one of the few Spanish industries capable of providing the whole value chain for a complete aeroplane.

Favourable growth outlook. Even though this sector accounts for very little of GDP (less than 1%), it has been one of the most dynamic in the past decade, reporting annual average turnover growth of close to 10%. The medium-long term outlook is extremely bright if we consider potential global demand for aircraft: the latest sector report published by Boeing forecasts a 50% increase in the world's commercial aircraft fleet will double in less than 20 years.

A sector focused on exports. 76% of turnover derives from foreign sales and the sector has shown a trade surplus since 2009, exporting almost €2 for every import in 2011 (see Figure 70). As a result, the global market share of Spanish aerospace exports has virtually doubled in the past ten years, standing at 1.9% in 2010.

67 *For example, in Galicia, it contributes 3% of GDP and 6.5% of employment.*

Figure 70: Coverage ratio for the aeronautical construction and aerospace sector (exports/imports)



Source: Minetur based data from the Department of Customs and Special Taxes.

Extremely innovation intensive. This manufacturing sector has the highest R&D expense as a percentage of turnover (13.5% in 2011), with 60% of companies carrying out innovation initiatives. Innovation is also favoured by significant aerospace clusters in Spain, particularly those in Madrid and Andalusia, which are home to more than 300 companies accounting for more than 80% of sector turnover and employment. The potential of the Spanish aerospace sector is also evidenced by the presence of the large multinationals in Spain, for instance, Boeing's first major R&D technology centre outside the US is located here.

Local companies made world references in areas such as the manufacture of military transport aircraft, low pressure turbines, maintenance activities, aerial refuelling aircraft and for space missions, composite material aero-structures and air traffic management systems (3 out of every 5 flights in the world uses Spanish landing software). As we will see below, Spanish companies are leaders in the development of medium technology capacity systems, technological support for electronic systems, telecommunications, mission analysis, and satellite-based navigation instruments and systems.

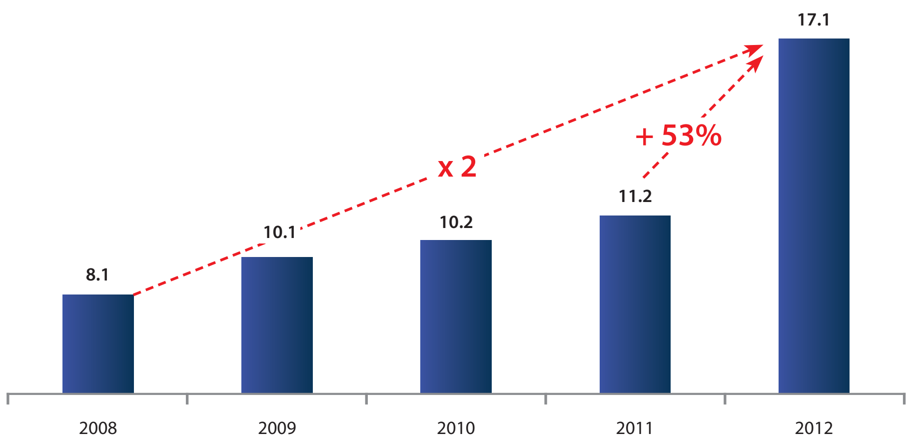
Spain is also an international benchmark in machinery-tooling, another sector closely related to the aerospace and automotive industries. It is the fourth largest producer in the EU[68] and tenth in the world by production and exports. The sector has a clear export focus, with more than 90% of production assigned to foreign sales. The industry has staged a spectacular recovery after two years of contraction: in 2011 production increased by 22% and exports grew by more than 40%, recovering all the jobs lost in previous two years. By geographical area, the industry is centred in the Basque Country, which accounts for more than 80% of total production and exports, housing more than 70% of sector companies. The sector also invests in innovation initiatives, assigning approximately 6% of turnover to R&D and innovation. Lastly, although it contributes little to GDP and employment (in both cases less than 0.1% of the Spanish total), the machinery-tooling industry is closely connected with key sectors of the Spanish economy as a major supplier of the automobile industry, aeronautics and space, wind energy and railways.

Increasing internationalisation of Spanish franchises

The success of Spanish business internationalisation is seen by the rapid expansion of Spanish franchises abroad since the beginning of the crisis (2008-2012). The number of franchises overseas increased by nearly 30%, to 271 at the end of 2012, while the number of foreign establishments doubled in four years (see Figure 71). Another 12 franchise destinations were added, with Spanish brands now present in a total of 118 countries.

68 Source: AFM.

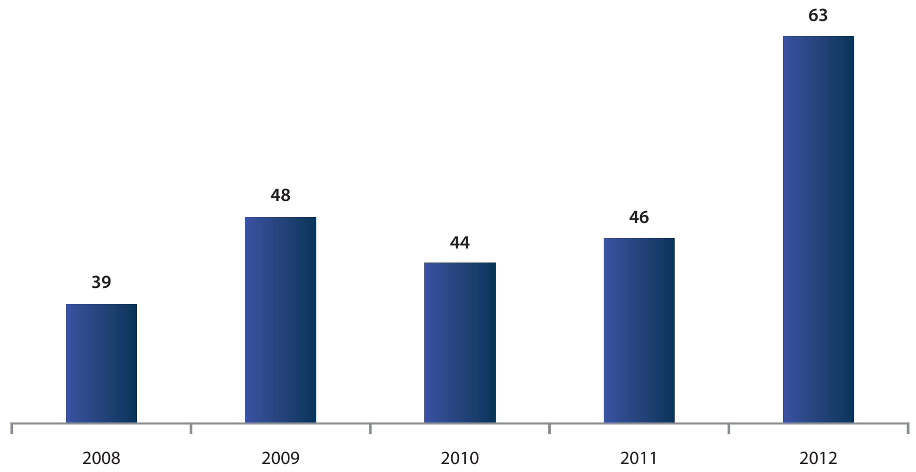
Figure 71: Foreign franchises: number of establishments (thousands)



Source: Report on Spanish Franchises around the world, Spanish Franchise Association.

Spanish franchises abroad performed especially well in 2012, with a 12% increase in the number of franchises and a 53% jump in the number of establishments. Both increases outstripped levels of previous years. Driving growth was expansion by international franchises already up and running in both years, judging by the nearly 50% increase in the average number of establishments per franchise in just one year (see Figure 72). In line with this expansion, there are now 28 Spanish brands with more than 100 establishments overseas, compared to 18 in 2011. Noteworthy is that among these 28 franchises, 11 are in the fashion industry.

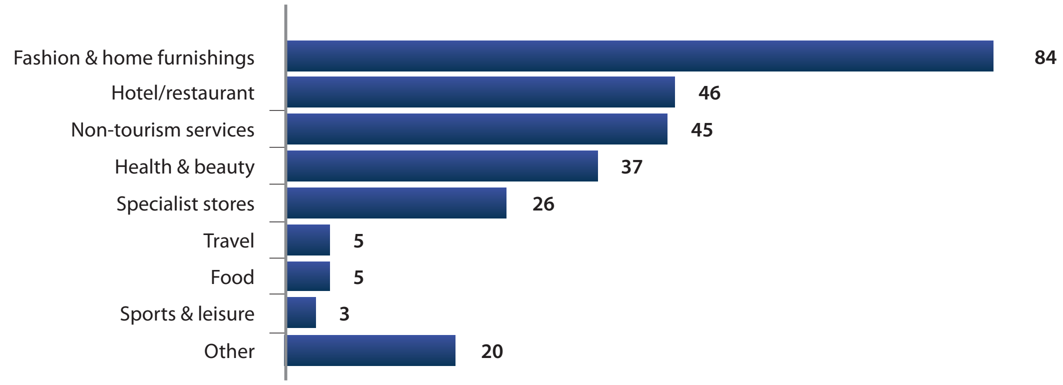
Figure 72: Foreign franchises: number of establishments/franchise (annual average)



Source: Report on Spanish Franchises around the world, Spanish Franchise Association.

By industry, fashion & home furnishings easily makes up the bulk of overseas franchises, with 84, and represent nearly 40% of all franchised establishments abroad (see Figure 73). Looking at trends over the past year, in addition to fashion there was strong growth in travel agencies, food companies and health & beauty, with all posting increases in both franchises and number of establishments of over 20% in 2012.

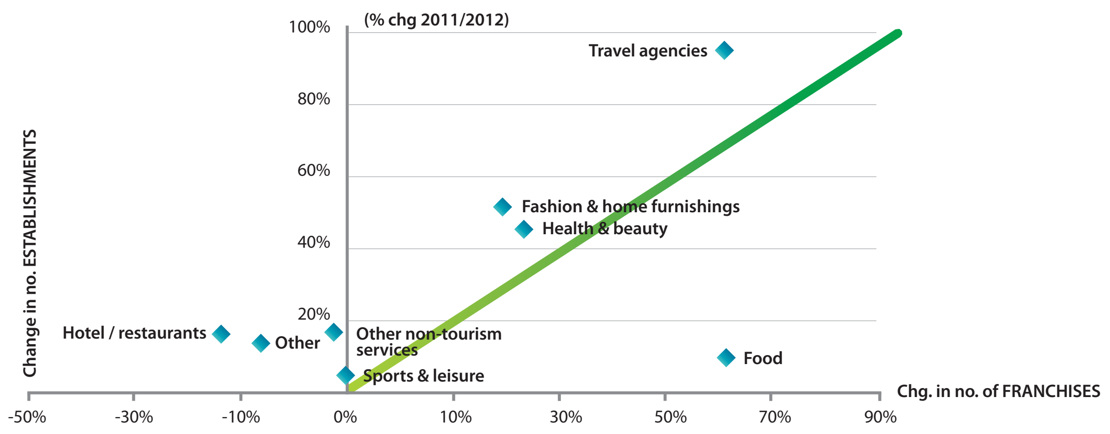
Figure 73: Foreign franchises by industry (data from 2012)



Source: Report on Spanish Franchises around the world, Spanish Franchise Association.

In most franchise industries, the growth in number of establishments last year was far higher than the growth in new franchises (see Figure 74). This may be attributed to expansion processes and efforts to reinforce franchises that already exported, as well as to more aggressive strategies (larger number of establishments) after the franchise's initial international experience.

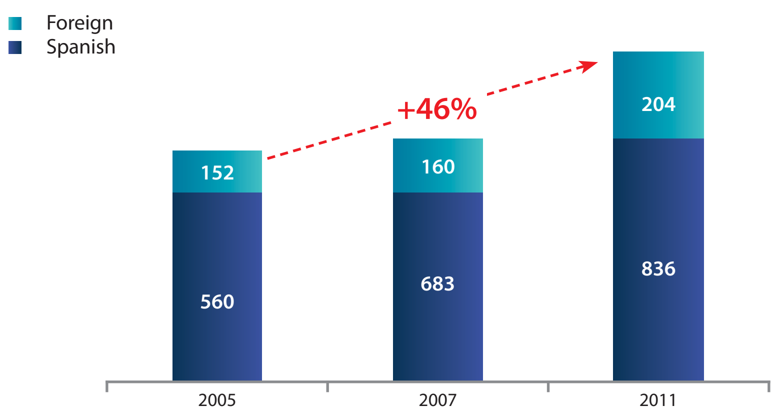
Figure 74: Foreign franchises: growth by industry (% chg, 2011/2012)



Source: Report on Spanish Franchises around the world, Spanish Franchise Association.

2012 was also a good year for franchises in Spain. Even amid the crisis, the number of franchises in Spain has grown by 23% since 2007 and nearly 50% since 2005 (see Figure 75). Turnover has also risen, but to a lesser extent, by 4.6% and 10%, respectively.

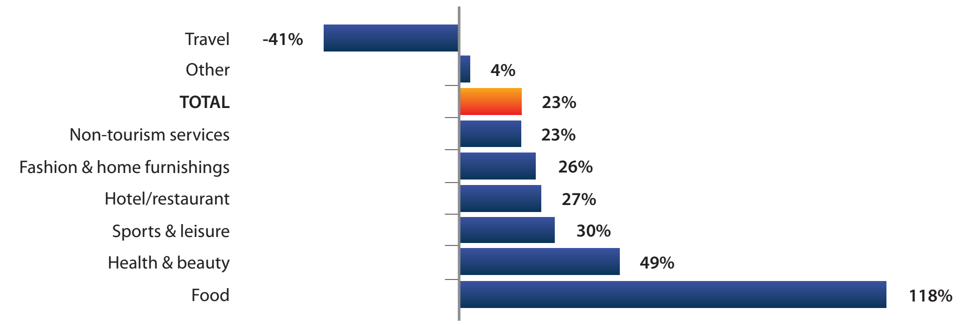
Figure 75: Growth in no. of franchises in Spain, 2005-2012



Source: Spanish Franchise Association.

Looking at the past five years, virtually all sectors show increases in the number of franchises in Spain, with strong growth in the food industry, activities related to health & beauty, and fashion & home furnishing (see Figure 76). At the same time, foreign investment in Spain under the franchise formula has heightened in recent years, with a total of 204 foreign franchises now operating in the country, 28% more than in 2007.

Figure 76: Growth in no. of franchises in Spain, 2007-12 (% CAGR)



Source: Spanish Franchise Association.

Taking a step back, it is fair to say that Spain's economy has been a success story. Nonetheless, this should not lead to a false complacency and inaction with regards to using this crisis as a springboard to continue transforming the economy to ensure strong economic growth in the medium term. Undoubtedly, reform is the best solution to resolving the labour market challenges arising as a result of the austerity measures being applied.

In our opinion, three main steps need to be taken not only to continue adapting the economic growth model, but also to provide further fuel for the opportunities Spain offers discussed throughout this report.

Reform of Public Administrations, giving priority to productive public investment

Despite the progress made in rolling out the necessary quantitative and qualitative fiscal adjustments set forth in this report, efforts should be stepped up to reform, Public Administrations based on the goal of achieving "more with less". In other words, a reform should aim to eliminate overlaps between Public Administrations, cut unnecessary public sector overheads, and streamline the complex institutional framework, while giving priority to three core tasks that should continue to be performed:

A) Improving the quality of regulations governing the public sector.
B) Strengthening economic performance by making productive public investments.
C) Guaranteeing a welfare state that is sustainable in the medium term.

Further reforms to the labour market

The enormous burden on society of high unemployment across the entire population and among young people in Spain puts labour market reform at the top of the political agenda. The successful labour market reform implemented a year ago, which (as already mentioned in this report) is beginning to bear its first fruits, should be followed up by additional measures and action to:

A) Simplify the number of employment contracts available, to continue reducing dualism in the labour market and further boost productivity.
B) Further develop active labour market policies which really focus on unskilled members of the labour force.
C) Reduce the tax wedge of labour, above, OECD countries on average[69].

Increase relative share of the knowledge economy: guaranteed to boost productivity and competitiveness

As discussed in this report, the intensive knowledge economy as a percentage of the entire Spanish economy outstrips the European average, enabling the country to drive up productivity and competitiveness in major sectors of the Spanish economy. The prevalence of ITC companies and rising university participation are the main drivers of this development. That said, efforts must continue to ride this wave and extend its benefits to other areas of activity, especially to parts of the economy that are not knowledge-intensive; in other words, increase professional training, average education levels, and investment in capital goods and machinery.

Education reform is need to stimulate the first two factors (average education levels and professional training), which must drive quantitative and especially, qualitative progress as a sure fire way to success. What is most important is not what productivity model we have, but how we produce using the model at our disposal. In this respect, Spain must continue to make good use of its scientific output through an effective patenting system and close collaboration between business and academia which allows the latter to continue driving up quality.

Lastly, as Spain's SMEs show, these businesses are clearly competitive when they reach a certain threshold, beyond which they begin to expand internationally and enter a virtuous circle of innovation and competitiveness. The public and private sectors should join forces to take the necessary steps to ensure that a growing number of the 335,000 companies established in Spain each year push through this threshold.

69 *Structural Policy Indicators, "Going for Growth", OECD, 2012.*

Appendix 1 Initiatives to promote entrepreneurship in IBEX-35 companies

Figure 78: Initiatives of IBEX-35 companies to promote entrepreneurship in Spain

Company	Initiative	Objective/Description
Abengoa	Palmas Altas Campus	Promote technological innovation for research at a business park for employees.
Abertis	Abertis Foundation	Promote studies on the impact of major infrastructures, co-operate with universities.
Acciona	"Innovation for sustainability"	Teach young people how to start a business.
Acerinox	Acerinox Chair	Promote investment, technology transfer and dissemination of knowledge in stainless steel.
ACS	ACS Foundation	Promote technological research and dissemination, co-operate with universities.
Amadeus	Amadeus Ideas	Share innovative ideas in tourism, transfer technology for growth.
Arcelor Mitall	Member of Spain Innovation Foundation	Improve interaction with universities to foster knowledge transfer.
Banco Popular	"Ideas Verdes" (Green Ideas)	Provide funding for energy efficiency and renewable energy projects.
Banco Sabadell	Banco Sabadell Foundation	Enhance knowledge in the area of innovation and research.
Bankia	ICO Emprendedores 2012	Finance assets and working capital.
Bankinter	Platform Promoción Innovación	Support innovative ideas based on emerging technologies.
BBVA	Open Talent & Red Innova 2012	Contribute €200,000 to technological innovation in financial services.
BME	Promote contests	Promote innovation in finance by sponsoring investment contests (e.g. BOLSALIA).
CaixaBank	Emprendedor XXI	Advise entrepreneurs and promote/strengthen businesses.
DIA	Franchise system	Promote business initiatives, help entrepreneurs to undertake business by themselves.
Enagás	Agreements with universities	Offer training, knowledge-exchange between the company and universities.
Endesa	Endesa Foundation	Promote research, co-operation in economic and social development initiatives and environmental protection.

Source: PwC report Key issues in innovation, 2013.

Company	Initiative	Objective/Description
FCC	"Cortas con las barreras" (Bring down barriers)	Sponsor tenders for research projects on degenerative diseases.
Ferrovial	Passion for innovation and entrepreneurship	Bring entrepreneurs and the business world together.
Gamesa	Gamesa Venture Capital	Support emerging/growth companies that develop high potential technologies.
Gas Natural	Gas Natural Foundation	Develop Gas Natural 2007 social entrepreneur programmes.
Grifols	European Alpha Antitrypsin	Promote grants for research on genetic disorders.
IAG	Co-operation with National Cancer Research Centre	Support and sponsor innovation and technology initiatives applied to cancer.
Iberdrola	Energy Campus	Scholarships and grants for post-graduate energy and environmental studies.
Inditex	Inditex Chair	Support innovation and knowledge transfer, bring universities and private enterprise together.
Indra	"Piensa en innovar" (Think innovation)	Awards for international entrepreneurial ideas based on technology.
Mapfre	Mapfre Foundation	Grant scholarship, aid for final projects, research.
Mediaset	Mediaset Scholarships	Scholarships for students of journalism and visual communication.
OHL	Foro Nueva Economía Fondo ABC	Participate in R&D&i events.
REE	Co-operation with research centres	Co-operate and promote research into high-voltage networks.
Repsol	Entrepreneurship Foundation	Promote innovation and business development in the field of energy efficiency.
Sacyr	"Hacemos lo imposible" (We do the impossible)	Award innovative projects.
Santander	Campus Vida	Promote science and technology through the International Campuses of Excellence programme.
Técnicas Reunidas	CENIT Verde	Promote research, positioning strategies for the Spanish economy.
Telefónica	Wayra	Advise and promote technology start-ups.

Source: PwC report Key issues in innovation, 2013.

Examples of innovation in high added-value industries

Following are highlights of the use of technology in cutting-edge business sectors that underscore Spain's position at the forefront in Europe in key industries:

Automotive:

- Development of the electric vehicle.
- New vehicle brake systems.
- Passive testing approaches for security.
- Advances in passenger security and safety systems.
- Preparation of lightweight materials.
- Pilot testing of driverless cars.

Biotech:

- Optic issue and nerve repair.
- Biomass and use of microorganisms in waste management.
- DNA amplification systems.
- Preparation and use of biosensors.
- Global forefront in biomedicine for advances in vaccinations against malaria, research in human microbiome, discovery of new molecules for green chemistry and international leadership in microalgae research.
- Leader in the manufacture of medical systems, software and technology, with groundbreaking advances in telemedicine, biotechnology and ADN. chip implementation.
- Global leadership in hemoderivatives, nanotechnology and nanophotonics.
- World leader in organ transplants.

Aerospace

- Automotive and aerospace engineering, software development and systems.
- Development of composite materials and passive radar systems.
- Development of advanced surveillance systems.
- Flight dynamics, observation, telecommunication, exploration, transportation and orbital infrastructure.

Transport management:

- Smart transportation, traffic, security and signalling systems.
- World's most advanced railway traffic management platform.
- World power in high-speed connection, network management, transport, certification of rolling stock, and research and testing of new technological developments.
- Ticketing systems.
- Border surveillance systems.

Food:

- Food processing systems using existing technology (radiofrequency, high pressure, electrical pulses, microwaves, microfiltration).
- Streamlining packaging lines and development of new sensors for inclusion in production lines.
- Packaging, cleaning and pasteurization systems.
- Organoleptic property control systems.
- Development of organic farming.
- Irrigation and sowing systems.

Energy:

- Global leadership in wind farms, wind turbines and wind turbine generators.
- International benchmark in combined cycle and hydroelectric plant construction.
- Vast experience in nuclear power plant construction and operation projects.
- Strong presence in smart grid development.
- Global leadership in solar thermal production and STE plant construction.
- Global leadership in systems designed to boost the yield of photovoltaic solar panels, control deposits and heat storage.
- Global forefront in variable geometry plants and roof-top solar fields.
- Major player in the construction and management of offshore wind power plants.

Environment:

- World leader in inverse osmosis and optical biosensors to improve water quality.
- World leader in seawater desalination.
- Among the global leaders in drinking water, purification, sedimentation and water management systems.
- Europe's most advanced seismic image centres for application in oil and gas exploration.
- Global forefront in the reuse of excess energy.
- Major player in the development of natural disaster, red tide and harvest quality measuring and alert systems.

ICT:

- High value added services; e.g. Europe's most advanced low-cost space technology, global leader in the implementation of smart technologies in cities.
- Development of global, cutting-edge start-ups in services with strong potential, leveraging the advantage of a "Spanish" market of more than 300 million people and growing:
  - Digital services related to smart machines and digital warehousing.
  - Social software development.
  - Mobile app development.
  - 3D solutions for graphic resolutions, audiovisual and printing systems and audiovisual animation.

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