2 COMPETITIVE ADJUSTMENT AND RECOVERY IN THE SPANISH ECONOMY

As described in Chapter 1 of this Report, the recovery observed in the Spanish economy since mid-2013 is the result of a combination of various factors, some predominantly of a temporary nature and others more long-lasting. Within the latter group, one of the most significant factors is the increase in recent years in the competitiveness of the Spanish economy, understood in a broad sense, encompassing both lower costs (labour and financing costs) and lower prices, compared with the euro area as a whole. This chapter assesses the role played by this process of competitive adjustment in the current expansionary period.

The adjustment in prices and costs, which has triggered the depreciation in the real exchange rate of the Spanish economy, gave rise in the early years of the crisis to a highly dynamic export performance and a significant correction in the external imbalance. In turn, the strength of export sales drove up demand for production resources, enabling the recovery in activity to spread to domestic expenditure components. Indeed, the export momentum encouraged both business investment decisions, which were also boosted by the decline in the cost of borrowing, and employment creation, in a setting in which the successive reforms of the regulatory framework of the labour market have brought wage costs and, in general, employment conditions more in step with different sector- and firm-specific developments. Lastly, the improved employment dynamic that has accompanied the present expansionary phase has prompted, inter alia, a significant recovery in private consumption, even against the backdrop of moderate wage growth.

The process of competitive adjustment analysed below has played a significant role in the progress made towards restoring the macroeconomic balance of the Spanish economy. This process is, however, far from complete, as illustrated by the combination of high dependence on imports, a substantial net external debt position and an unemployment rate that is still very high. To achieve further progress on these fronts, additional competitive adjustments will be needed and, in the longer term, a reform agenda to boost productivity momentum.

1 Introduction

The Spanish economic recovery is progressing at a good pace, although the fallout from the crisis remains considerable

The recent economic crisis had a profound impact on the Spanish economy: between 2008 Q2 and 2013 Q2, GDP fell by 9.3% and employment by 19.1%. Household and business income contracted, prompting a marked decline in their spending and in their contribution to public revenue. On the back of the recovery that began in mid-2013, GDP and employment regained 5.5 pp and 4.3 pp, respectively, but they are still 3.8 pp and 14.8 pp below the pre-crisis highs.

The prolonged expansionary phase that preceded the crisis resulted in severe losses in competitiveness, which translated into external deficits and economic overheating

During the expansionary phase, the falling cost of debt and plentiful credit, associated to a great extent with the start of monetary union, prompted strong demand growth. This in turn fuelled a positive inflation differential with the rest of the euro area and a relative increase in the price of non-tradable goods compared with tradable goods, against a backdrop of strong sustained growth in relative unit labour costs.[1] These developments helped to slow down the growth in net exports, shifting resources into sectors producing non-tradable goods, especially construction, with the result that those activities gained excessive weight in the economy in terms of value added and employment, giving rise, in turn, to a disproportionate concentration of financial system risk in those sectors.

1 See Chapter 4 of the 2014 *Annual Report.*

The outcome was a very high and protracted external imbalance, which translated into a huge trade deficit and a growing net external debt position, reflecting the high levels of household and non-financial corporation debt.

The initial effect of the recession was a sharp upturn in unemployment and an improvement in the external balance

The sharp drop in activity at the start of the crisis, as a consequence of the collapse of the international financial system and the end of the real estate boom, gave rise to a strong and rapid surge in unemployment and a marked slowdown in private domestic spending, in a setting in which both the budget deficit and government debt rose significantly. Lower domestic demand and growing exports prompted a narrowing of the trade deficit and a consequent decline in the external imbalance. In turn, higher unemployment and lower household and business spending gave rise to a large negative output gap and a deterioration of financial institutions' balance sheets. That dynamic became more pronounced when, in the summer of 2012, the economy faced a sudden contraction in external financing flows.

Among the broad range of factors behind the economic recovery, enhanced competitiveness is key

The subsequent recovery has been based on a wide variety of factors. Some have been mainly short-lived, such as the drop in oil prices, the ECB's quantitative easing policy or the expansionary stance of fiscal policy after several years of budget restrictions, and came into play essentially in the most recent period, driving up GDP and employment growth in 2015, as analysed in Chapters 1 and 3 of this Report. Another set of factors that explain the upturn in the Spanish economy go farther back in time and have more long-lasting effects, owing to their role in helping to correct the sources of the imbalances that built up during the expansionary phase. In addition to certain other significant factors not directly analysed in this chapter, such as the recapitalisation and restructuring of the financial system, this second group includes the enhanced competitiveness of the Spanish economy, which is reflected in the relative price and cost adjustments.

Lower financing costs were also a source of competitiveness gains

Various monetary and financial policy decisions, including the above-mentioned recapitalisation and restructuring of the Spanish financial sector and the successive measures adopted by the ECB (the impact of which is analysed in Chapter 3 of this Report), also made a very significant contribution to economic recovery. One of the fundamental effects of those measures was the improvement in financing conditions, following the severe deterioration observed at the peak of the sovereign debt crisis that was manifested, in particular, in the wide differential that emerged between the cost of credit for Spanish agents and the cost of credit for their peers in the core euro area countries. The subsequent uptick in activity was underpinned by credit conditions converging towards those in force in those countries, constituting an additional source of improvement in the competitive position of the Spanish economy.

Competitiveness gains have helped to improve the external balance and, more recently, to reduce the high level of unemployment

In the period elapsed since the onset of the crisis, the reversal of the competitive losses that had built up in the previous period has helped to restore the external balance of the economy, through relative price and cost adjustments. The share of exports in GDP has risen by almost 8 pp since the crisis began, up to 33.1%; this, together with the decline in the share of imports, has transformed a goods and services trade deficit of 6% of GDP in 2007 into a surplus of 2.5% in 2015.[2] Over time, the improvement in the competitive position has led to employment creation and has encouraged investment decisions, reducing the domestic imbalance, in a setting in which, in the most recent period, private domestic demand has become the driving force behind recovery.

2 The non-energy trade balance has also improved, although somewhat less pronouncedly (by 6.3 pp as a percentage of GDP between 2007 and 2015).

The correction of relative costs, or internal devaluation, is the natural alternative given the unavailability of the exchange rate as an adjustment tool

This chapter describes the competitive adjustment process resulting from these two developments – the correction of both labour and financing costs – and assesses the role they have played in the Spanish economic recovery. This competitive adjustment acts as a substitute for the effect of exchange rate devaluation, insofar as both channels permit a real effective exchange rate depreciation, which is why it is commonly referred to as "internal devaluation". In Spain, the internal devaluation process began shortly after the onset of the crisis in the case of the correction of relative labour costs, and in the autumn of 2012 in the case of the improvement in relative financing costs.

The chapter focuses on the role played by competitiveness gains in the recent economic recovery in Spain

Following this introduction, the second section of the chapter describes the channels through which competitiveness gains feed through to the different components of GDP and compares the recent experience in Spain with that of the crisis of the early 1990s. Subsequently, evidence is provided of the impact of competitiveness gains in terms of relative unit labour costs on exports and the difficulties involved in identifying similar effects on the import side are noted. The fourth section analyses how the decline in labour and financing costs in the economy may have acted as a catalyst for the uptick in domestic demand, and the chapter ends with a set of conclusions.

2 Characterisation of the competitive adjustment

As the exchange rate cannot be used as an adjustment tool, the recovery in external competitiveness must be based on changes in costs and prices

During the expansionary cycle that preceded the crisis, the Spanish economy had built up a significant external imbalance, which gave rise to an extremely high negative net international investment position verging on 100% of GDP. Correcting an imbalance of that magnitude requires shifting expenditure from goods produced abroad to goods produced in Spain, which in turn requires changes in relative prices. Where the exchange rate is available as an additional instrument, nominal exchange rate depreciation helps to restore the external balance, at least in the short term, making exports cheaper and imports more expensive. However, this kind of adjustment is not viable for an economy belonging to a monetary union, where relative cuts in domestic production costs and prices compared with foreign production costs and prices must come from the economy's endogenous response to the recession, which may be reinforced by economic policy measures.

Various economic policies may encourage the internal devaluation process,…

Although the internal devaluation process is an endogenous response to the onset of the crisis, different economic policy measures may affect the intensity and the duration of that response. In particular, as analysed in detail in Box 2.1, a crisis such as that which began in Spain in 2008 drives down private agents' consumption and investment demand, giving rise to price and wage moderation in the economy. As domestic products become cheaper in relative terms, the real effective exchange rate depreciates, encouraging exports and discouraging imports. This partially offsets the fall in domestic demand and helps to mitigate the decline in activity and employment. The intensity of the internal devaluation process and, therefore, its effects on activity hinge on a wide range of factors, including, crucially, the degree of responsiveness of prices and costs to the fall in demand. Thus, economic policy measures that reinforce price and cost adjustments in the economy tend to intensify the beneficial effects of the internal devaluation process.

…including, fundamentally, reform of the labour and product markets

In particular, given the weight of labour in the production structure, labour market reforms designed to make it easier to contain labour costs play an essential role in promoting the internal devaluation process and prolonging its impact. Most especially, in light of the deterioration of the cyclical situation post-crisis, greater wage flexibility makes it easier to adjust costs and, ultimately, prices set by firms, enhancing competitiveness and prompting a stronger upturn in activity. In that respect, it is estimated that the 2010 and especially the 2012 labour reform reinforced the process of moderation of unit labour costs (ULCs) that

had been observed since the crisis began,[3] which not only had positive effects on firms' competitiveness but also reduced their need to make workforce adjustments, with the consequent favourable impact on investment and private consumption. Moreover, reforms that make the product market more competitive maximise the positive effects of wage containment, as they encourage greater pass-through of competitiveness gains from costs to prices and, therefore, its impact on external flows (see Box 2.1).

The internal devaluation process is complex and its effects on activity and employment hinge on a wide range of factors

In addition to wage flexibility, a wide range of factors condition the effects of an internal devaluation process. In particular, the greater the responsiveness of trade to competitiveness gains and the more favourable the external setting in which the internal devaluation process takes place, the greater the impact.[4] In the framework of monetary union, the positive effects of an internal devaluation may be limited if the countries that need to achieve greater competitiveness at the same time account for a high proportion of the area's GDP.[5] Furthermore, the process of price and wage adjustment may have limited effect if the zero lower bound on interest rates becomes binding.[6] In that case, using unconventional monetary policies to reduce long-term interest rates (for example, through quantitative easing or forward guidance) helps to reinforce the positive effects of an internal devaluation process.[7]

Measuring price-competitiveness developments is no easy task

An initial difficulty involved in measuring internal devaluation processes is the imperfect nature of the various indicators used to measure developments in competitiveness. Each of the different price-competitiveness measures includes different groups of products, which, for example, will not necessarily be subject to international competition in all cases or may in some instances include the effect of tax changes that distort the measurement. In addition, although labour cost indicators may be used to establish links between developments in competitiveness and the structural functioning of the economy, the information they provide on countries' relative competitiveness may be incomplete, as they reflect only one of the important elements underlying the concept of competitiveness.[8]

In any event, the indicators point to a considerable improvement in competitiveness since 2008, although uneven in scale and more pronounced in terms of ULCs...

Although the price-competitiveness indicators built using different measures of the real effective exchange rate all signal the large magnitude of the internal devaluation process that emerged in 2008, the intensity of the adjustment observed varies according to the deflator used (see Chart 2.1). The improvement in competitiveness is most visible in terms of ULCs: using that variable, by 2015 the competitive losses accumulated from the start of monetary union up to 2008 – verging on 20% – would have been almost completely corrected. That correction was initially based on a sharp uptick in apparent labour productivity, which grew at a cumulative rate

3 See M. Izquierdo, A. Lacuesta and S. Puente (2013), "The 2012 labour reform: an initial analysis of some of its effects on the labour market", *Economic Bulletin,* September, Banco de España, pp. 17-25. Similar results were found recently in R. Domenech, J.R. García and C. Ulloa (2016), *"Los efectos de la flexibilidad salarial sobre el crecimiento y el empleo",* Documento de Trabajo 1605, BBVA Research, and in European Commission (2016), *Country Report Spain 2016,* Commission Staff Working Document num. 78.

4 This is analysed in detail in J. Andrés, Ó. Arce and C. Thomas (2014), Structural reforms in a debt overhang, Working Paper 1421, Banco de España.

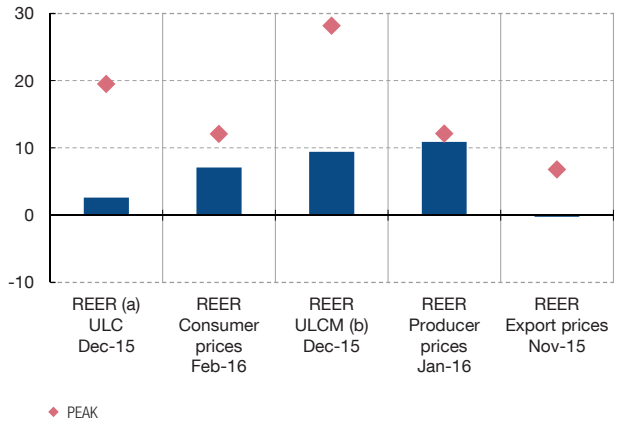
5 See, for example, J. Decressin, R. Espinoza, I. Halikias, D. Leigh, P. Loungani, P. Medas, S. Mursula, M. Schindler, A. Spilimbergo and T. Teng Xu (2015), *Wage moderation in crises: policy considerations and applications to the Euro Area,* IMF Staff Discussion Note 15/22.

6 This question is analysed in G. Eggertsson, A. Ferrero and A. Raffo (2014), "Can structural reforms help Europe?", *Journal of Monetary Economics,* vol. 61(C), pp. 2-22, and in J. Andrés, Ó. Arce and C. Thomas (2014), *Structural reforms in a debt overhang,* Working Paper 1421, Banco de España.

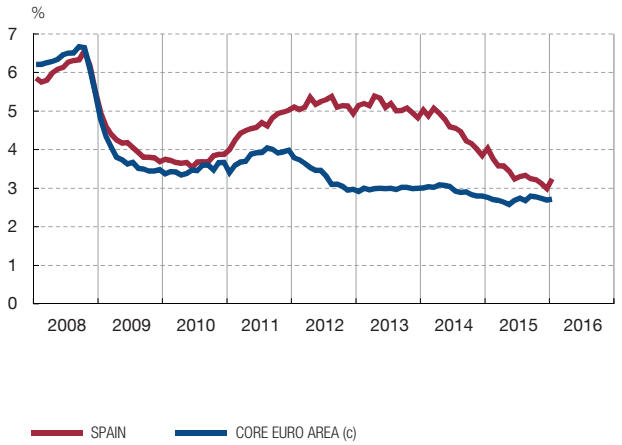
7 See Chapter 3 of this Report; Ó. Arce, S. Hurtado and C. Thomas (2015), *Policy Spillovers and Synergies in a Monetary Union,* Working Paper 1540, Banco de España; and M. Charpe and S. Kühn (2015), *Beggar or prosper-thy-neighbour? The international spillovers of labour cost,* Research Paper num. 11, International Labour Organization.

8 For more details, see Chapter 2 of the 2011 *Annual Report* or A. Crespo, G. Pérez-Quirós and R. Segura-Cayuela (2011), "Competitiveness indicators: the importance of an efficient allocation of resources", *Economic Bulletin,* January 2012, Banco de España, pp. 103-111.

1 COMPETITIVENESS INDICES VIS-À-VIS THE EURO AREA
Cumulative rates since December 1998



2 INTEREST RATES ON LOANS UNDER ONE MILLION EURO



SOURCES: ECB and Banco de España.

a REER: Real effective exchange rate.
b ULCM: Unit labour costs in manufacturing.
c Core euro area: Austria, Finland, France, Germany, Luxembourg and Netherlands.

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of 10% between 2010 and 2012, on the back of large-scale destruction of employment. Subsequently it was based chiefly on wage moderation, especially as from 2012.

...than when other measures are used

However, if the real effective exchange rate deflated by CPI or producer prices is used, the correction of the high differential built up in the period 1999-2008 is more modest.[9] In turn, throughout the period analysed the indicator that measures competitiveness based on export prices was notably more stable. This lower volatility seems to reflect the need for exporting firms to adapt to international competition, leading them to set prices in accordance with global market conditions and to adjust their margins to changes in costs, in order to remain competitive. Thus, during the pre-crisis period, when relative ULCs rose compared with the euro area, exporting firms endeavoured to transfer only part of those increases to prices, squeezing their margins. Post-crisis, when relative ULCs declined, it seems that firms did not pass the full effect through to prices, thus driving up export margins. Those higher margins could also be related, in part, to the increase in the cost of credit and the tighter credit conditions faced by Spanish firms in certain phases of the crisis. In light of those developments, non-financial corporations appear to have had greater recourse to internal funding, which not only enabled them to obtain financing at a lower cost, but also to accelerate deleveraging, with a view to enhancing their credit quality.[10]

Since 2013, competitiveness gains have been reinforced by improved financing conditions

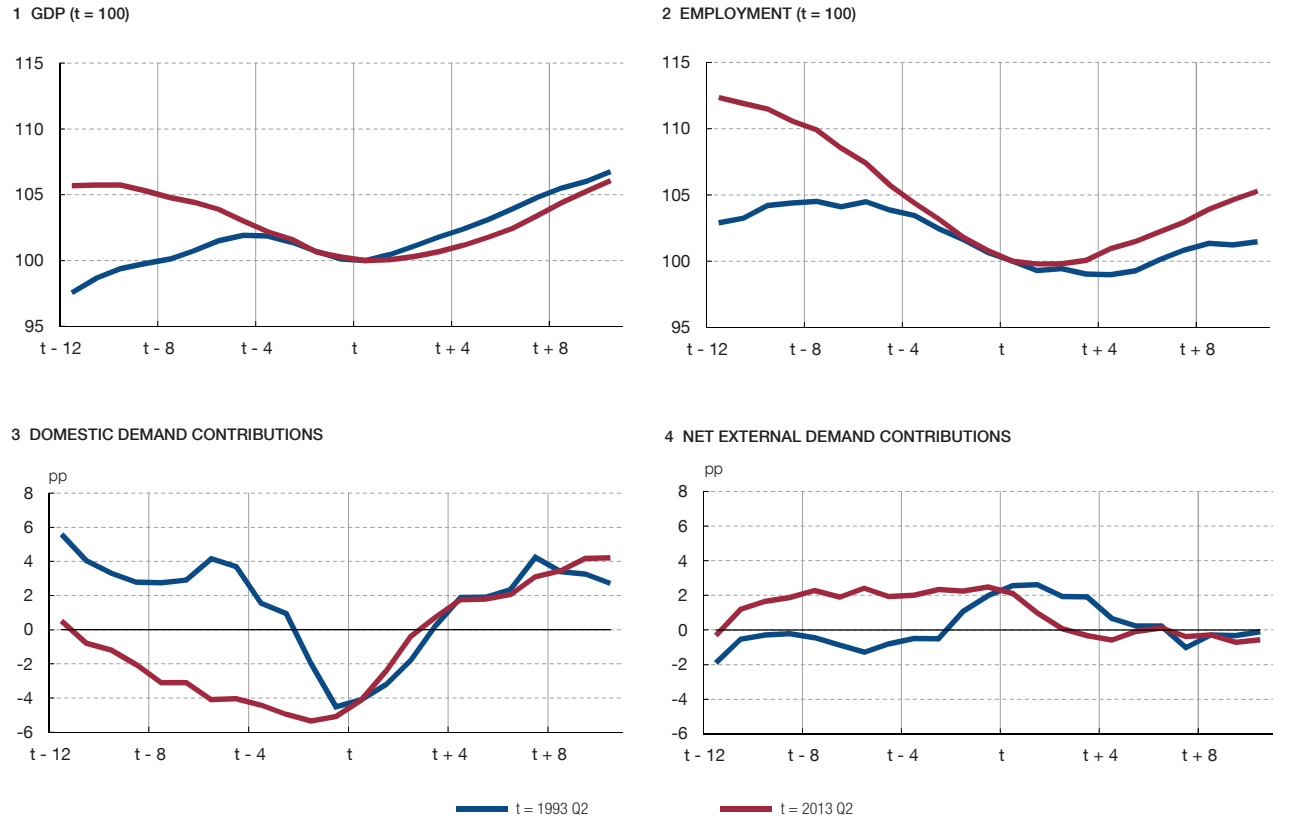
From mid-2013, competitiveness gains were strengthened by the decline in interest rates on bank lending, which, especially in some segments, were very much higher than in the core euro area. They have since converged, following the various measures taken both in Spain (restructuring of the financial system) and at a European level (ECB monetary policy

9 In the case of the CPI-deflated real effective exchange rate, the discrepancy reflects, at least in part, various factors not directly related to the internal devaluation process, such as the increase in indirect taxes and administered prices in the period.

10 See J.M. Montero and A. Urtasun (2014), *Price-cost mark-ups in the Spanish economy: a microeconomic perspective,* Working Paper 1407, Banco de España. Indeed, including credit stock in export equations shows a negative correlation between the two variables, given the deleveraging experienced by manufacturing firms post-crisis.

MAIN MACROMAGNITUDES IN THE MOST RECENT CYCLES IN SPAIN
Quarter "t" is that in which GDP reaches its cyclical trough

CHART 2.2



SOURCES: INE and Banco de España.

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measures and changes in the institutional architecture of the euro area). Specifically, the interest rate spread over the core euro area for new loans to non-financial corporations under €1 million (which tend to coincide with lending to small firms) has narrowed by 1.5 pp since mid-2013, while in the case of loans over €1 million it has narrowed by 0.5 pp (see panel 2 of Chart 2.1).[11] This decline in the cost of borrowing was accompanied by easier access to credit, as shown in the surveys both of credit institutions and borrowers and in the available data on rates of acceptance of loan applications received by credit institutions.

The profile of the current recovery in GDP shares some features with the profile of the recovery from the crisis of the early 1990s, although the recent recession lasted much longer

To characterise the current recovery of the Spanish economy, a comparison may be drawn with Spain's recovery following the crisis of the early 1990s, even though the recent recession lasted much longer and was much more severe, hindering the comparison. Chart 2.2 illustrates how GDP, employment and the contributions of domestic and external demand evolved in the two episodes.[12] In the case of GDP, the profiles of recovery from the cyclical trough are very similar, although the pick-up was slightly more pronounced in the crisis of the early 1990s. In particular, both recoveries are based on a similar upsurge in domestic demand. The differences are somewhat greater in the case of net external demand, which in the 1990s showed a positive contribution in the quarters immediately following the exchange rate depreciation but which gradually faded away after slightly more than a year. In the recent crisis, the external sector contribution was already positive in the years before the cyclical trough, in a setting in

11 In the period considered, these two interest rates fell by 1.7 pp and 0.8 pp, respectively, in Spain.

12 A. Gómez Loscos and C. Martín (2014), "Una comparación de la respuesta del sector exterior en las dos últimas recesiones", *Boletín Económico,* May, Banco de España.

which competitiveness gains resulted in sustained export growth, while domestic demand continued to make a negative contribution to GDP growth.[13] Imports rose as domestic demand recovered, so that even though sustained export growth continued, the contribution of external demand to GDP growth tended to fade. Lastly, employment generation has been stronger in the recent recovery, probably reflecting the containment of labour costs and the more flexible use of labour, in both cases related, at least in part, to the reform of the regulatory framework of the labour market.

The current process is based on gradual cost adjustments and is more long-lasting

Despite these similarities between the two episodes in terms of the profiles of recovery of GDP and the contributions of the domestic and external demand components, the external sector adjustment mechanisms were quite different in each case. In both recoveries the re-establishment of price-competitiveness favoured export growth, with a relatively similar correction in the real effective exchange rate measured using ULCs five years from the onset of each of the two crises. In the 1990s, however, that recovery in competitiveness was linked to successive exchange rate devaluations and the competitive gains were intense but they were also partly short-lived, as domestic costs and prices gradually built up a positive growth differential compared with the main European economies (see Chart 2.3). By contrast, the competitiveness gains achieved following the recent crisis are the result of a much more gradual domestic process of slow but steady adjustment of relative costs.

3 The impact of internal devaluation on Spanish exports

Since 2010, Spanish exports have been very dynamic

Since the internal devaluation process got under way, Spanish exports have been highly dynamic, more so than euro area exports as a whole, meaning that the international market shares of Spain's exporters have evolved comparatively more favourably. This dynamism explains a significant portion of the marked correction in Spain's external imbalance in recent years, as imports, which adjusted cyclically in the recession, have risen sharply since 2014, in step with final demand (analysed in more detail in Box 2.2).

This positive export performance was underpinned by enhanced competitiveness

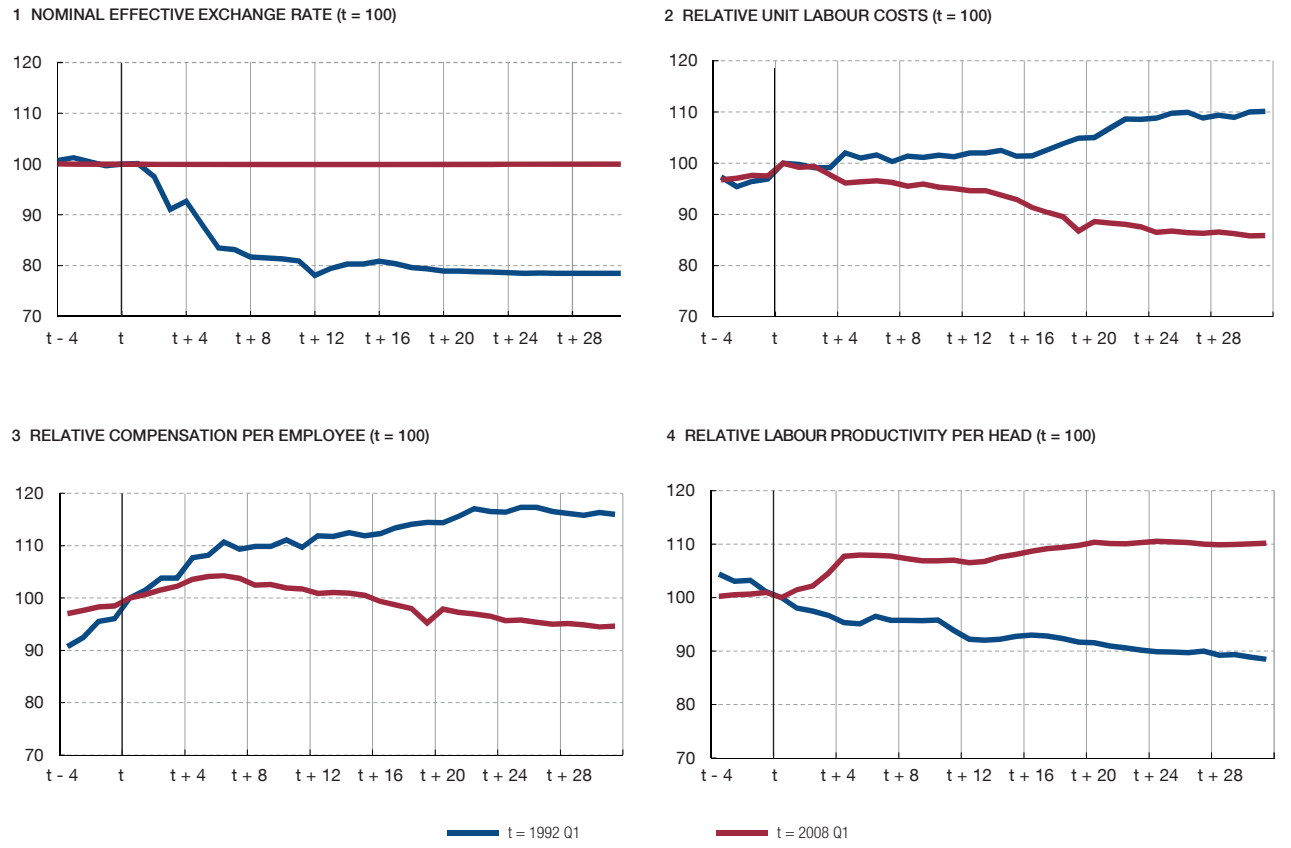
The main determinants that are usually considered to explain export performance include a scale variable that measures the external demand developments – proxied by the import volume of the countries of destination – and another that measures relative prices. Chart 2.4 shows the results of different estimates of the elasticity of Spanish exports to various competitiveness indicators, drawing a distinction between exports within the euro area and exports to the rest of the world. In general, the estimated responsiveness of exports in the long term is somewhat lower when the ULC-based indicator is used compared with other price measures. This appears to be because changes in costs are not typically passed through in full to prices, and are therefore only partially reflected in changes in margins.[14] In terms of geographical breakdown, exports beyond the euro area are more responsive to the competitiveness variable; this could be because products exported to emerging economies generally have a lower degree of differentiation, meaning that price competition may be more intense. Panels 3 and 4 of Chart 2.4 show, as is usual in estimates of this kind, that external demand is the main determinant of exports. However, in the more recent period, competitiveness gains seem to have made a

13 For a more detailed analysis of the different sub-periods of the recent crisis, see E. Ortega and J. Peñalosa (2013), *Algunas reflexiones sobre la economía española tras cinco años de crisis,* Occasional Paper 1304, Banco de España. Note that the economic cycles have been dated to coincide with the quarters in which GDP reached its cyclical trough and do not coincide exactly with the dating used by the Spanish Economic Cycle Dating Committee (CFCEE) in Asociación Española de Economía (2015), "Fechado del ciclo económico español", http://asesec.org/CFCweb/cf_index.htm.

14 In that respect, it should be precisely the exporting sectors (and other sectors where production, although essentially destined for the domestic market, is subject to competition from imports) where the pass-through to prices of changes to costs is less pronounced, given that firms in those sectors have comparatively less market power.

COMPETITIVENESS VIS-À-VIS THE EURO AREA
Quarter "t" is that previous to the start of each recession

CHART 2.3



SOURCES: INE and Banco de España.

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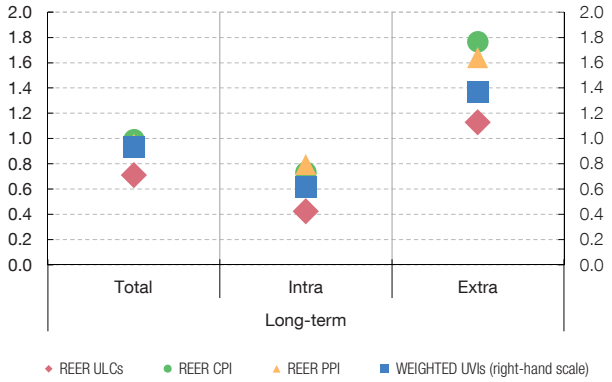
significant contribution to the explanation for export growth. Available estimates signal that between 15% and 33% of export growth in the period 2010-2015 would have come from improvements in competitiveness, according to whether it is measured by export prices or relative ULCs.[15]

External demand and competitiveness indicators do not fully explain the export performance, which signals that competitiveness is a complex concept that goes beyond prices and costs

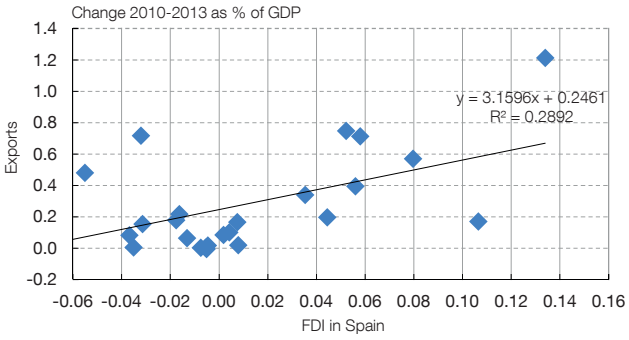
The two main determinants considered, that is, external demand and competitiveness, do not fully explain the recent dynamism of exports, as may be deduced from the residuals in the equations shown in Chart 2.4. A better explanation for the favourable export performance may be found by considering a broader concept of competitiveness, encompassing not only changes in relative prices and costs but also other factors such as the range or quality of goods and services. These additional elements are difficult to measure, which is why export market shares are often analysed as an indicator of competitiveness *ex post,* insofar as they measure the economy's ability to adapt to shifts in external demand or competition from other countries. From that standpoint, the results achieved by the Spanish economy since 2010, approximately coinciding with the start of the process of recovery of competitiveness measured by prices and costs, should be viewed positively (see panel 5 of Chart 2.4).

15 The literature generally finds that the ability of cost or price-competitiveness indicators to explain export performance is quite modest. In A. Crespo, G. Pérez-Quirós and R. Segura-Cayuela (2011), "Competitiveness indicators: the importance of an efficient allocation of resources", *Economic Bulletin,* January 2012, Banco de España, pp. 103-111, competitiveness explains almost 10% of changes in exports, compared with 80% for markets and slightly more than 10% for other factors.

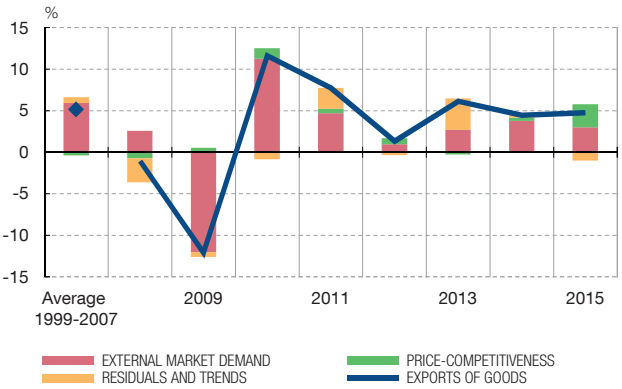
1 ELASTICITY OF SPANISH EXPORTS TO PRICES/COSTS (COMPETITIVENESS INDICES VIS-À-VIS DEVELOPED COUNTRIES) (a)



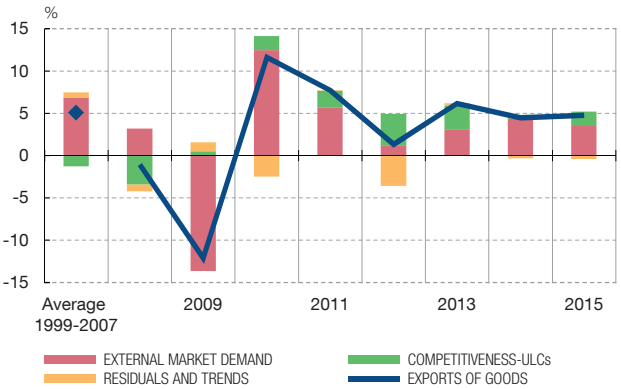
2 CORRELATION BETWEEN FDI IN SPAIN AND EXPORTS BY BRANCH OF ACTIVITY



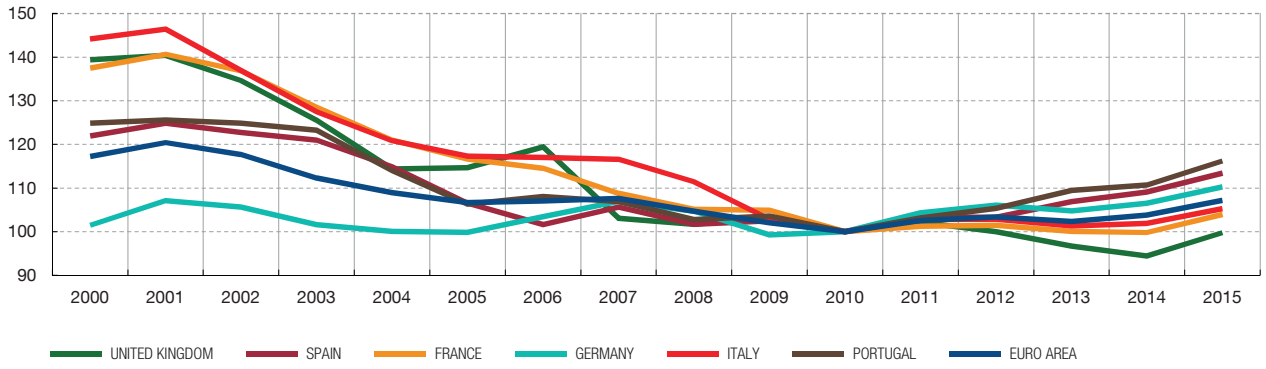
3 GOODS EXPORTS AND THEIR DETERMINANTS (COMPETITIVENESS MEASURED BY EXPORT PRICES)



4 GOODS EXPORTS AND THEIR DETERMINANTS (COMPETITIVENESS MEASURED BY UNIT LABOUR COSTS)



5 GOODS EXPORT MARKET SHARES (REAL TERMS)
Index 2010 = 100



SOURCES: Eurostat, INE, Ministry of Economic Affairs and Competitiveness and Banco de España.

a Competitiveness indices calculated vis-à-vis 22 developed countries. Sample period: 1990-2013.

The decline in domestic demand is also expected to have contributed to the recent favourable export performance as it has encouraged firms to seek new customers for their products

In addition, domestic demand weakness during the protracted recession appears to have increased the incentives for firms to redirect their sales abroad.[16] This would be reflected in higher export volumes at firms that were already exporting their products before the crisis, and in a higher number of exporting firms, which would seem to be particularly related to the role played by SMEs in export growth, an aspect that is analysed below. In this respect there is evidence, for the euro area as a whole, of a negative correlation between the likelihood of firms exporting and domestic demand performance.[17]

The increase in the export base may have been indirectly boosted by enhanced competitiveness, which may also have encouraged FDI

Not only may enhanced price-competitiveness have prompted an increase in the number of exporting firms, it may also have helped to attract foreign investment. In that respect, although the volume of foreign direct investment (FDI) in Spain has not changed significantly since the crisis, the weight of the tradable sectors as a proportion of the total has increased, triggering a certain reallocation of resources to those sectors. A more disaggregated analysis shows that those sectors, within the tradable sectors, that have received most FDI tend to coincide with those that have recorded the highest rate of export growth.[18]

A microeconomic analysis reveals a clear increase in the export base, attributable in part to SMEs

Using firm-level data it is possible to break down the aggregate export performance by number of exporting firms and average export volume by firm, commonly known, respectively, as the extensive and intensive export margins.[19] A first point to note, in this respect, is that there is a growing correlation between export activity and firm size (panel 1 of Chart 2.5). Since 2010, there has been a significant increase in the percentage of exporting firms of all sizes, most particularly among SMEs with between 50 and 199 employees and also among larger firms. In fact SMEs account for almost all the growth in the extensive margin in the period 2010-2013. In the case of the intensive margin, SMEs account for almost half of the increase in the period, a proportion that is much higher in the case of sporadic exporters, reflecting their recent entry into global markets.[20] Panel 3 of Chart 2.5 has a breakdown of aggregate export growth by intensive and extensive margin, also drawing a distinction by firm size. It shows that from 2011, the increase in the export base has gradually gained prominence as a factor behind the aggregate export performance.[21]

Exporting firms have lower labour and financing costs and substantially higher productivity than non-exporters

To analyse the differences observed between firms according to whether or not they engage in export activity, Table 2.1 sets out the results obtained from correlating the likelihood of a firm engaging in export activity with a set of characteristics. This analysis reveals that, on average, exporting firms have lower financing and labour costs, in the case of labour costs owing to their higher productivity, which allows them to pay higher wages. It also shows that the correlation between export activity and labour productivity has strengthened since 2010, making the role of ULCs even more determinant in the likelihood of a firm engaging in export activity.

16 See E. Prades and C. García (2015), "Actualización de la función de las exportaciones españolas de bienes", *Boletín Económico,* April, Banco de España, pp. 31-39.

17 See H. Vandenbussche (2014), "Firm-level productivity and exporting: diagnosing the role of financial constraints", *Product Market Review 2013: Financing the Real Economy,* European Commission.

18 For an analysis of the impact of FDI on Spanish firms, see A. Rodríguez and P. Tello (2014), "El impacto de la inversión exterior directa sobre la productividad y el empleo del sector manufacturero español (2001-2010)", *Boletín Económico,* January, Banco de España, pp. 105-115.

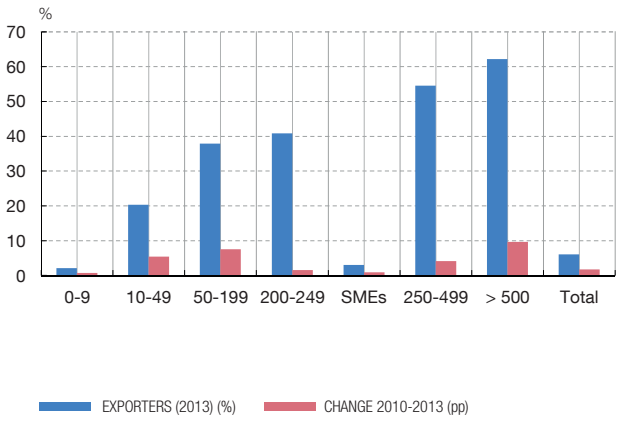
19 The information used comes from crossing data from the Balance of Payments, the Central Balance Sheet Data Office and the Annual Accounts deposited with Mercantile Registries [see C. Martín Machuca, A. Rodríguez and P. Tello (2009), "Determinantes principales de la decisión de exportar de las empresas españolas", *Boletín Económico,* December, Banco de España, pp. 30-42]. Export activity of SMEs may be under-represented as a consequence of the raising, in 2008, of the reporting threshold for the purposes of the Balance of Payments.

20 A sporadic exporter is understood to be a firm that has made sales to a specific export destination for fewer than four consecutive years.

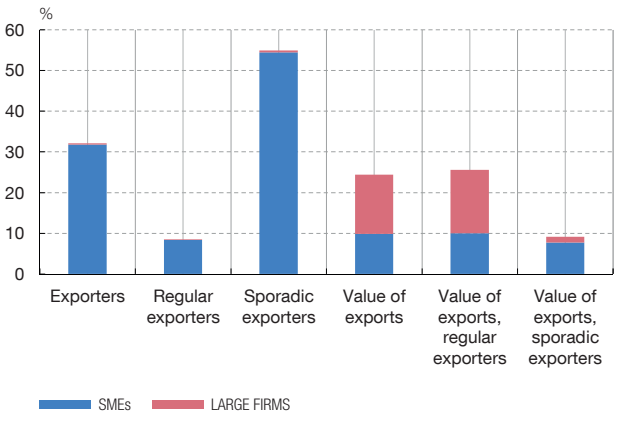
21 See M.J. González and C. Martín (2015), "The internationalisation of Spanish SMEs: main developments and their determinants", *Economic Bulletin,* December, Banco de España, pp. 13-22.

SPANISH EXPORTS OF GOODS: EXTENSIVE AND INTENSIVE MARGINS CHART 2.5

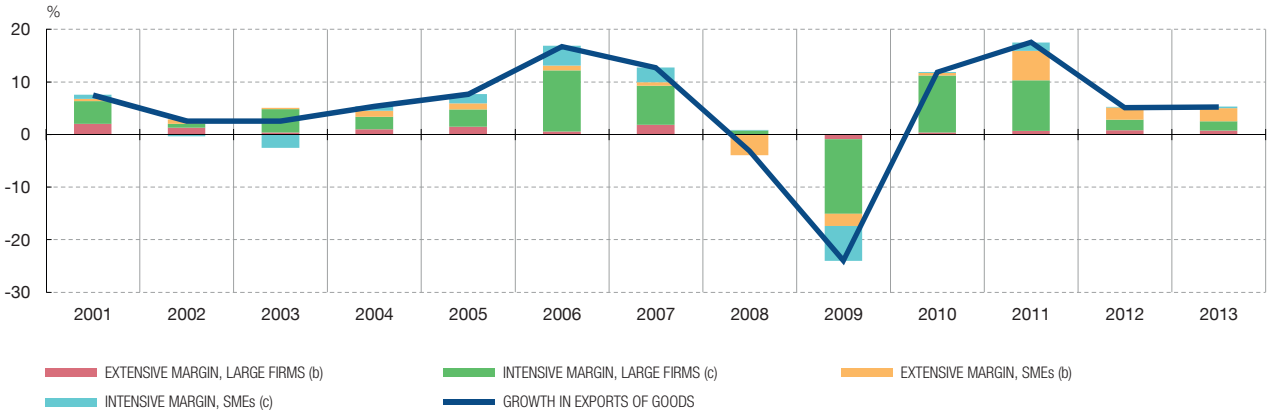
1 PROPORTION OF EXPORTING FIRMS BY SIZE GROUP
Percentage of total firms



2 CONTRIBUTIONS OF SMEs AND LARGE FIRMS TO CHANGES IN EXPORT BASE AND EXPORTS
Changes from 2010 to 2013



3 EXTENSIVE AND INTENSIVE MARGIN: CONTRIBUTION TO CHANGE IN EXPORTS (a)
2001-2013



SOURCES: Banco de España, based on Balance of Payments, CBA and Mercantile Registry statistics.

a Margins calculated for firms whose size is known. Large firms include those with 250 or more employees.
b Extensive margin is defined as the contribution to the increase (decrease) in the value of exports resulting from an increase (decrease) in the number of countries to which a firm exports or with which it has "firm-country of destination" trade relations.
c Intensive margin is defined as the contribution to the increase (decrease) in the value of exports resulting from an increase (decrease) in the amount exported by each firm to each country.

At firm level, there is a significant responsiveness of exports to competitiveness developments

Table 2.2 illustrates the results of an analysis based on a set of regressions correlating labour and financing costs at firm level with export growth, drawing a distinction between different sub-periods. The upper panel shows how a decline of 1% in a firm's ULCs is associated with an increase of 0.6% in its exports in the period 2002-2007, and with a slightly higher increase as from 2010. In addition, a drop of 1 pp in a firm's financing costs prompts an increase of 0.4% in its exports, although in this case a decline is observed in the more recent period, possibly owing to the growing importance of other factors that condition access to funding in a crisis setting. Regarding the impact of a firm's costs on the intensive margin and the likelihood of a firm starting to engage in export activity, Table 2.2 also shows how an increase in ULCs tends to reduce the proportion of total sales bound for export markets in the medium term. At the same time, the adjustment in labour costs appears to have played a significant part in encouraging export activity at

CHARACTERISTICS OF SPANISH EXPORTING FIRMS (a) TABLE 2.1

	Period 2001-2007	Period 2010-2013
Size (by number of employees)	1.4000*** (0.005)	1.861*** (0.008)
Capital/labour ratio	0.646*** (0.007)	0.832*** (0.013)
Labour productivity	0.702*** (0.004)	0.897*** (0.006)
Average wage	0.180*** (0.002)	0.191*** (0.004)
Unit labour costs (ULCs)	-0.522*** (0.003)	-0.705*** (0.006)
Indebtedness	-0.018*** (0.001)	-0.007*** (0.002)
Financial returns	0.032*** (0.006)	0.198*** (0.011)
Financial costs	-0.011*** (0.0004)	-0.076*** (0.001)

SOURCE: Banco de España.

a A total of 157,312 manufacturing sector firms (excluding manufacturers of coke and refined petroleum products) were analysed. Variables expressed in logarithms. Standard deviation in brackets. *, **, *** denote statistical significance at 10%, 5% and 1%, respectively. The table reflects ratios of estimates according to the ordinary least squares of a dummy variable that has a value of 1 for exporting firms and of 0 for non-exporting firms.

CORRELATION BETWEEN EXPORTS AND CHANGES IN LABOUR AND FINANCING COSTS AT FIRM LEVEL (a) (b) TABLE 2.2

	Dependent variables		
	Exports (year-on-year rate) (c)		
Regressors	2002-2013	2002-2007	2010-2013
ULCs (year-on-year rate)	-0.58***	-0.55***	-0.63***
Financing costs (year-on-year rate)	-0.36***	-0.72***	-0.40***

	Exports, intensive margin (year-on-year rate) (d)		
	2002-2013	2002-2007	2010-2013
ULCs (year-on-year rate)	-0.02	-0.05**	-0.09***
Financing costs (year-on-year rate)	-0.04	-0.09	-0.07

	Likelihood of starting to engage in export activity (e)	
	2010-2013 compared with 2001-2007	
ULCs (year-on-year rate)	-0.2***	-0.2***
Financing costs (year-on-year rate)	–	-1.2
SMEs	-2.4***	-1.9***

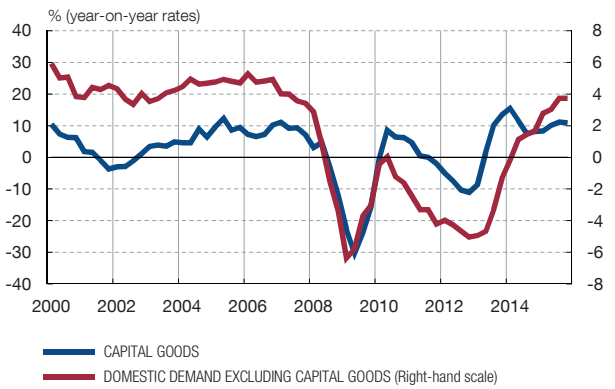
SOURCES: Microdata of Banco de España's CBSO and Balance of Payments.

a Regressions include dummy sector and year variables.
*, **, *** denote statistical significance at 10%, 5% and 1%, respectively.
b Firm-level financial costs are proxied as the result of multiplying the stock of debt of each firm by average interest rates on the total stock of lending to non-financial corporations, drawing a distinction between amounts under €1 million (SMEs) and amounts over €1 million (large firms).
c Includes 25,697 manufacturing sector firms (excluding manufacturers of coke and refined petroleum products).
d Increase in exports to a given destination. Includes 27,547 manufacturing sector firms (excluding manufacturers of coke and refined petroleum products).
e Includes 91,549 manufacturing sector firms (excluding manufacturers of coke and refined petroleum products).

RELATIONSHIP BETWEEN INVESTMENT IN CAPITAL GOODS AND DEMAND CHART 2.6

1 RELATIONSHIP BETWEEN INVESTMENT IN CAPITAL GOODS AND EXTERNAL DEMAND

2 RELATIONSHIP BETWEEN INVESTMENT IN CAPITAL GOODS AND DOMESTIC DEMAND



SOURCE: INE.

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firms whose sales in the previous expansionary period were concentrated on the domestic market.[22]

4 The competitive adjustment and the recovery in investment, employment and private consumption

The deep adjustment observed during the crisis has been followed by a strong recovery in capital goods investment

After falling by more than 30% between 2008 and 2013, in the current recovery phase investment in capital goods is rising fast, posting growth of more than 10% in the last two years and now standing just 5% below the pre-crisis level.[23] Improved financial conditions, lower uncertainty and, from a demand standpoint, export strength and, more recently, household consumption momentum, have all underpinned this investment buoyancy. In particular, it seems that competitiveness gains from relative costs and prices, through their positive impact on exports, have helped to revitalise investment, especially during the recession and in the first stages of the present recovery. The simulations made using the Banco de España's Quarterly Macroeconometric Model show that wage moderation of 1% prompts growth in private productive investment, after two years, of between 0.4 pp and 1 pp, subject to the responsiveness of prices to wage moderation.[24] Chart 2.6 shows how, from among final demand components, investment in capital goods has tracked exports much closer than it has tracked domestic demand (excluding investment in capital goods) since the crisis.

The improvement in firms' financial positions has also underpinned the upsurge in investment

The financial position of Spanish firms has improved significantly in recent years: debt ratios have fallen by more than 30 pp and debt burdens by more than 15 pp from their respective highs in mid-2010 and end-2008. A microeconomic analysis reveals the correlation between these variables relating to the financial position of firms and their demand for factors of production. Specifically, the firms making the most investment efforts are those that have higher profitability levels and lower debt ratios and debt burdens (see Chart 2.7).[25] This correlation appears to have intensified during the crisis

22 As analysed in S. Decramer, C. Fuss and J. Konings (2014), *How do exporters react to changes in cost competitiveness?,* ECB Working Paper Series num. 1752, these results are subject to the endogeneity bias for ULCs, as wages and output are jointly determined by firms. However, when instrumental variables are used to solve this problem (specifically, the second and third lags of the explanatory variables), the results are similar.

23 By comparison, in the euro area as a whole, at end-2015 this variable was still 15% below its level at the start of 2008.

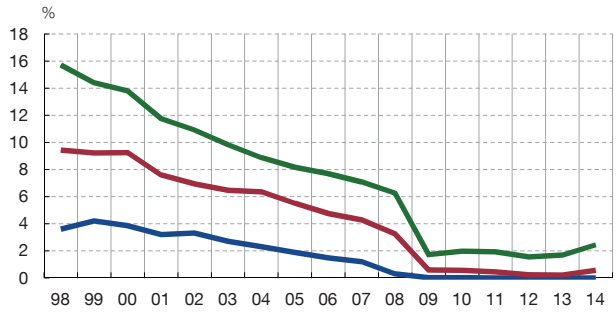
24 The pass-through to investment of the positive effects of wage moderation is greater when prices respond to wage containment in the same proportion, which is explained by the greater responsiveness of exports.

25 Debt burden, debt ratio and profitability are defined, respectively, as the ratio between interest payments on financing received and gross income, the debt-to-assets ratio and the ratio between a firm's gross income and its average volume of assets in the period considered.

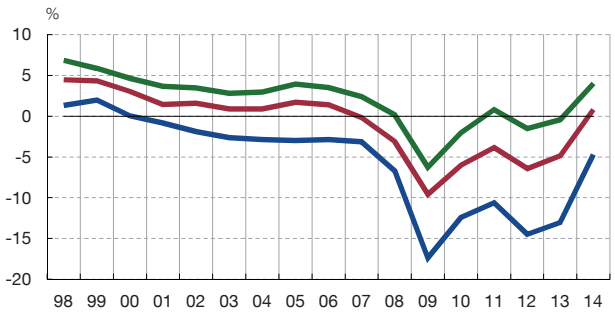
FINANCIAL POSITION AND LEVEL OF ACTIVITY (a)

CHART 2.7

1 INVESTMENT - PROFITABILITY

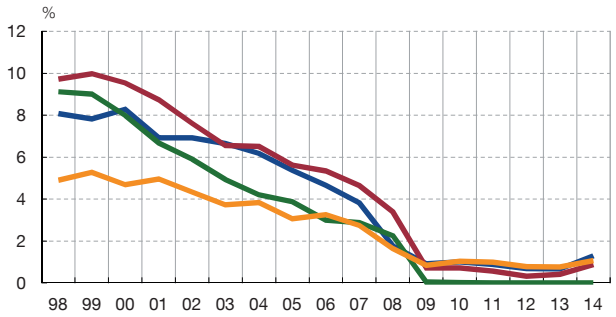


2 EMPLOYMENT GROWTH - PROFITABILITY

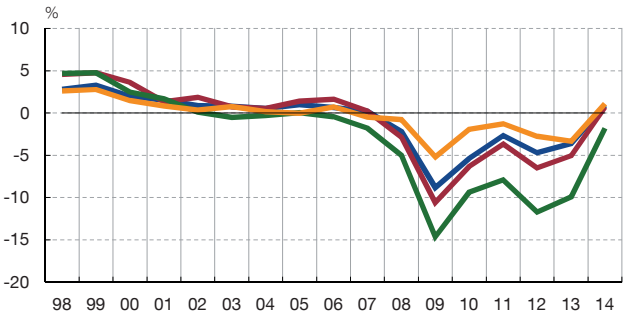


LOW PROFITABILITY MEDIUM PROFITABILITY HIGH PROFITABILITY

3 INVESTMENT - NET DEBT RATIO

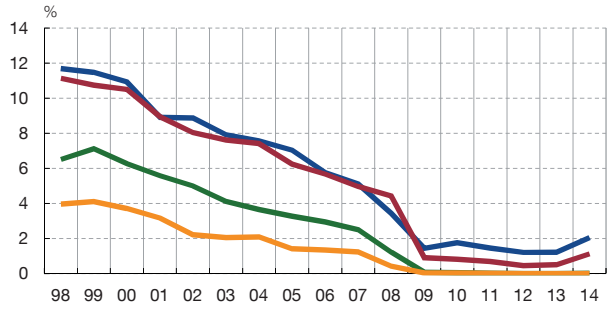


4 EMPLOYMENT GROWTH - NET DEBT RATIO

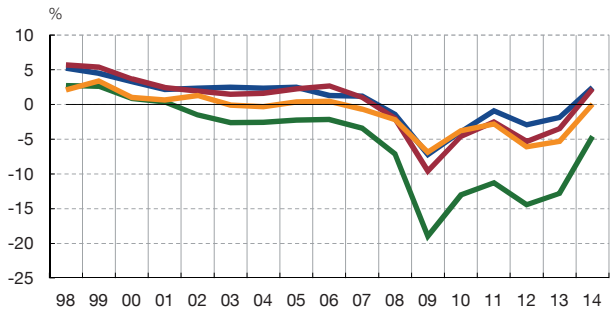


LOW DEBT RATIO MEDIUM DEBT RATIO HIGH DEBT RATIO NO DEBT

5 INVESTMENT - INTEREST BURDEN



6 EMPLOYMENT GROWTH - INTEREST BURDEN



LOW INTEREST BURDEN MEDIUM INTEREST BURDEN HIGH INTEREST BURDEN NO INTEREST BURDEN

SOURCE: Banco de España.

a Each panel depicts the median value of the rate of investment in fixed capital or of the rate of growth in employment for three sets of firms, corresponding to the two extreme quartiles of the distribution and firms with an intermediate financial position (between percentiles 40 and 60) in terms of the relevant financial variable (profitability, debt ratio net of liquid assets and debt burden). Debt burden is defined as the ratio between interest payments on financing received and gross income (sum of gross operating profit and financial revenue); debt ratio, as the the debt-to-assets ratio (net of liquid assets); and profitability, as the ratio between a firm's gross income and its average volume of assets in the period considered. Investment is the ratio between gross fixed capital formation and the stock of capital at the start of the period.

IMPACT OF THE FINANCIAL POSITION OF FIRMS ON THEIR RATES OF INVESTMENT AND LEVELS OF EMPLOYMENT (a) (b) (c) TABLE 2.3

	Impact on rate of investment			Impact on employment		
	Profitability $_{t-1}$	Debt ratio $_{t-1}$	Debt burden $_{t-1}$	Profitability $_{t-1}$	Debt ratio $_{t-1}$	Debt burden $_{t-1}$
Profitability $_{it-1}$ year <2008; >2012	0.162***			0.184**		
Profitability $_{it-1}$ 2008-2012	0.158**			0.313***		
Financial pressure $_{it-1}$ >p75; year <2008; >2012 (d)		-0.024	-0.011**		-0.009	-0.076***
Financial pressure $_{it-1}$ >p75; 2008-2012 (d)		-0.066***	-0.014***		-0.071***	-0.093***
Sargan	0.112	0.094	0.120	0.331	0.420	0.179
AR1	0.000	0.000	0.000	0.000	0.000	0.000
AR2	0.283	0.301	0.290	0.535	0.632	0.192

SOURCE: Banco de España.

a Impacts obtained by estimating standard investment and employment equations, using the generalized momentum method (GMM), based on the CBSO database. Integrated for the period 1997-2014. *, ** and *** denote significance for confidence levels of 90%, 95% and 99%, respectively.
b Profitability is defined as the ratio between a firm's gross income and its average volume of assets in the period considered; debt ratio, as the debt-to-assets ratio (net of liquid assets); and debt burden, as the ratio between interest payments on financing received and gross income (sum of gross operating profit and financial revenue).
c Number of firms: 92,780; number of observations: 387,125.
d The degree of financial pressure is established according to the debt ratio and debt burden indicators [see Note (b)]. p75 denotes percentile 75 of the distribution of those indicators.

when, against a backdrop of higher risk aversion, credit institutions when granting loans seem to have drawn greater distinctions between borrowers according to their financial solvency.[26] In addition, the correlation intensifies when financial pressure crosses a certain threshold, above which firms present considerably lower investment rates, especially during the crisis.

The normalisation of financial conditions that began at the end of 2012 played an important part in reviving investment

The impact of a firm's financial position on its demand for factors of production may be quantified by model estimates that differentiate between the pre- and post-crisis incidence of the variables used to measure firms' financial strength. The results obtained using a methodology that allows this kind of distinction to be drawn are set out in Table 2.3. It shows that a higher net debt ratio or higher debt burden have a negative impact on investment and hiring at firms (although only over a certain threshold),[27] while higher profitability has a positive impact. Based on these estimates, the effect of the fall in the cost of credit on investment at non-financial corporations may be tentatively estimated at 4% in cumulative terms for the period 2014-2015.

The severe employment adjustment prompted sharp falls in private consumption in the first phase of the crisis

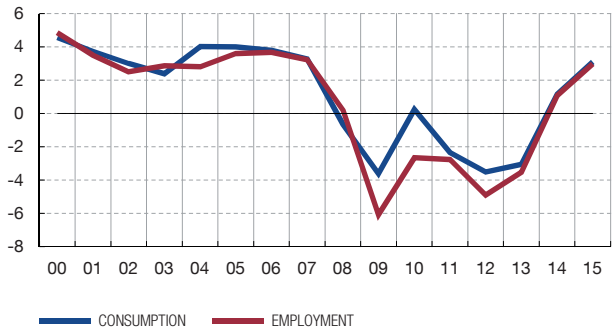
The competitiveness recovery that began in 2008 was initially based on the increase in apparent labour productivity arising from the severe employment adjustment, with no initial response from wages to the abrupt about-turn in the business cycle. These developments triggered a very pronounced adjustment in agents' consumption, as a result of the significant decline in labour income and the increase in precautionary saving in light of the perceived rise in aggregate uncertainty. Thus, in 2009, employment fell by more than 6%, which prompted – despite the high wage increase (4.4%) – a very marked slide (-3.7%) in private consumption (see panel 1 of Chart 2.8). At the same time, the household saving rate rose sharply – by more than 5 pp – to reach 13.4% of gross disposable household income.

26 See Box 5.2 of the 2014 *Annual Report*.
27 As Table 2.3 shows, the negative impact of those variables on investment and employment is only material in the second sub-period.

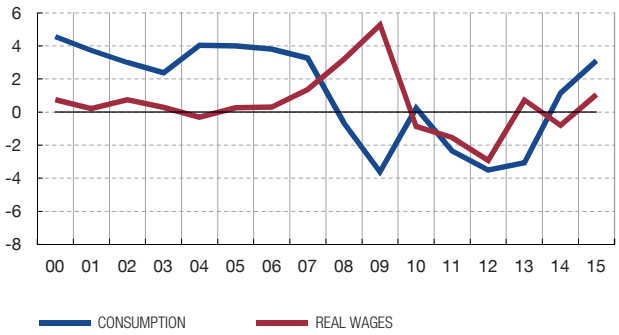
CONSUMPTION, EMPLOYMENT AND WAGES

CHART 2.8

1 CONSUMPTION AND EMPLOYMENT



2 CONSUMPTION AND REAL WAGES (a)



SOURCES: INE and Banco de España.

a Real wages are calculated based on compensation per employee (QNA, INE) and the private consumption deflator.

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Since 2012 the wage moderation process has intensified, driving the recovery in employment…

The protracted negative impact of the crisis on employment and the successive labour reforms approved altered this pattern, as a larger proportion of the adjustment at troubled firms began to be shouldered by wages. This is shown in Font *et al.* (2015) which finds evidence as from 2012 of greater wage responsiveness to unemployment compared with the first phase of the crisis.[28] This greater wage flexibility would seem to have reduced the need for layoffs; in the quarters following the labour reform, the destruction of permanent jobs moderated and, overall, the employment performance was better than expected given the economic situation.[29] Accordingly, the process of wage moderation appears to have encouraged job creation. Moreover, improved financial conditions have also given a further boost to firms' demand for labour; specifically it is estimated that the decline in the cost of credit since mid-2013 may explain 0.8 pp of the employment growth observed in the period 2014-2015 (see Table 2.3).

…and also in private consumption

In turn, job creation seems to have encouraged consumption growth, offsetting a possible negative effect of wage moderation on household spending in the short term.[30] Indeed it is reasonable to believe that if both households and firms factor in the beneficial medium-term effects of the containment of labour costs on investment and employment, the expansionary effects of higher household and business spending will outdo the contractive effects of wage moderation even in the short term (see simulations in Box 2.1).

In the recovery period, the explanatory power of the

The main determinants of private consumption usually considered in the literature are disposable income, wealth and interest rates. In the case of the recent recovery of the

28 See P. Font, M. Izquierdo and S. Puente (2015), *Real wage responsiveness in Spain: asymmetries along the business cycle,* Working Paper 1504, Banco de España.

29 In M. Izquierdo, A. Lacuesta and S. Puente (2013), "The 2012 labour reform: an initial analysis of some of its effects on the labour market", *Economic Bulletin,* September, Banco de España, pp. 17-25, it is shown that positive residuals exist in an "Okun law" type correlation between employment and changes in GDP. Assessments of the effects of the labour reform published by other institutions (such as the OECD or, more recently, the European Commission) coincide in identifying a positive impact on net job creation of the greater wage moderation observed since 2012. See European Commission (2016), *Country Report Spain 2016,* Commission Staff Working Document num. 78, and OECD (2013), *The 2012 labour market reform in Spain: a preliminary assessment,* December.

30 In 2014-2015, a further factor behind private consumption growth was the expansionary effect of the drop in oil prices, which gave rise to a more expansionary performance of real labour income, in a setting of continued nominal wage moderation.

traditional determinants of private consumption increases significantly when labour market variables are included

Spanish economy, the equations that include those variables are not sufficient to fully explain the recent strength of private consumption; this is largely remedied when labour market variables such as changes in employment, the unemployment rate or outflows from employment to unemployment are included. This observation signals the importance of the improved labour market situation to explain the dynamism of household spending in the period.

There is some evidence of the beneficial effects of wage moderation,…

The ability of the usual quantitative tools to explain recent changes in consumption increases when households' disposable income is broken down by employment, real wages and real non-labour income, allowing the marginal propensity to consume to differentiate between those three components of household income.[31] This breakdown by income source permits simulation of how consumption would have reacted had the recent recovery in labour income been based on wage rises, given a constant level of employment. The exercise shows that private consumption would have risen – in this scenario of higher wage increases but stable employment – by just 0.5% in 2014 and 1.1% in 2015, compared with the actual increases of 1.2% and 3.1%, respectively, based on strong employment creation and virtual wage stability in real terms.[32]

…through recovery in consumption among persons taking up employment and a decline in savings on the back of improved employment prospects

A quantitative analysis of the mechanisms of the relationship between consumption and employment may be made by analysing disaggregated consumer behaviour. Panel 1 of Chart 2.9 depicts the rates of change in consumption between 2009 and 2014 according to the employment situation of household heads. The improvement in the economic outlook between the two years prompted a recovery in spending among households where the household head had found employment, seemingly illustrating the direct channel through which an increase in income arising from new employment passes through to a higher level of consumption. Moreover, household spending was higher in 2014, even among households that lost jobs or whose employment situation was unchanged. This seems to show that precautionary saving declined among those households in the most recent period, in light of the general improvement in the labour market situation, even if their own situation did not necessarily improve, as they believed they were less likely to lose their employment or more likely to find employment.[33] Panels 2 and 3 of Chart 2.9 present an additional exercise that depicts the scale of those effects. In particular, they illustrate how consumption performs according to the likelihood of loss of employment in 2009 and 2014, reflecting greater adjustment among households whose heads anticipated that they were less likely to keep their jobs, prompting an increase in saving at the start of the crisis.[34]

---

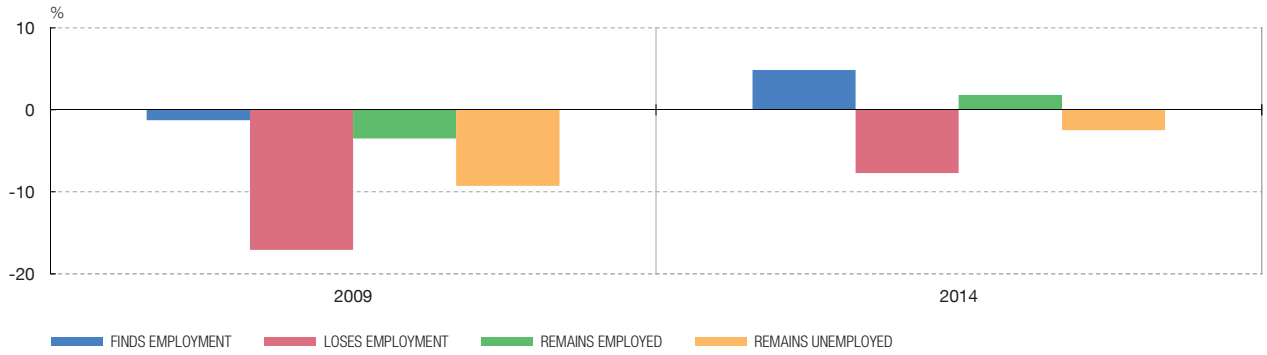
31 Intuitively, households in general will conceivably increase their spending more when they receive an additional unit of money in income from employment growth than when that additional euro of income comes from a wage increase. This is not only because households that find employment spend a larger proportion of that euro compared with households that receive wage rises in the same amount, but also because labour market improvements encourage households that already have employment to reduce their precautionary saving.

32 The difference between the two patterns represents a lower bound to the impact of wage moderation on private consumption, since this partial equilibrium exercise takes no account of other possible negative effects of the lack of containment of labour costs.

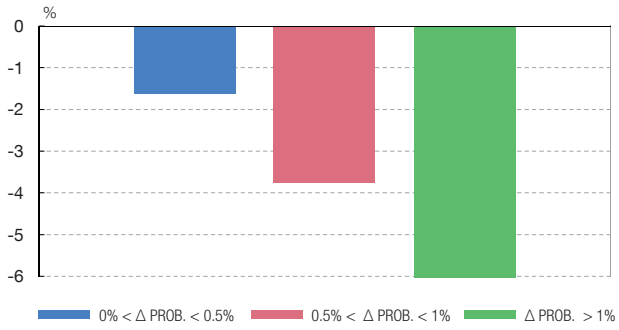
33 Precautionary saving in light of a possible risk of job loss has been documented for the case of Spain by R.G. Campos and I. Reggio (2015), "Consumption in the shadow of unemployment", *European Economic Review,* 78, pp. 39-54, and by C. Barceló and E. Villanueva (2016), "The response of household wealth to the risk of job loss: evidence from differences in severance payments", *Labour Economics,* 39, pp. 35-54. In particular, these articles find that households that are most exposed to job losses reduce their level of consumption and build up their financial wealth until that risk or uncertainty fades. For the United States, see C.D. Carroll, K.E. Dynan and S.D. Krane (2003), "Unemployment risk and precautionary wealth: evidence from households' balance sheets", *Review of Economics and Statistics,* 85, pp. 586-604.

34 See P. Bunn and J.M. Casado (2016), *Precautionary savings and uncertainty during the financial crisis,* forthcoming Working Paper, Banco de España.

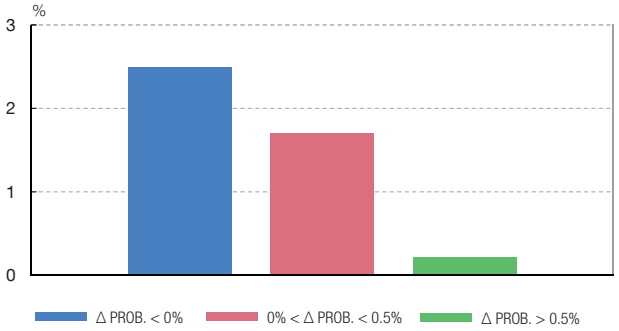
1 GROWTH IN CONSUMPTION (MEDIAN) BY EMPLOYMENT STATUS OF HEAD OF HOUSEHOLD



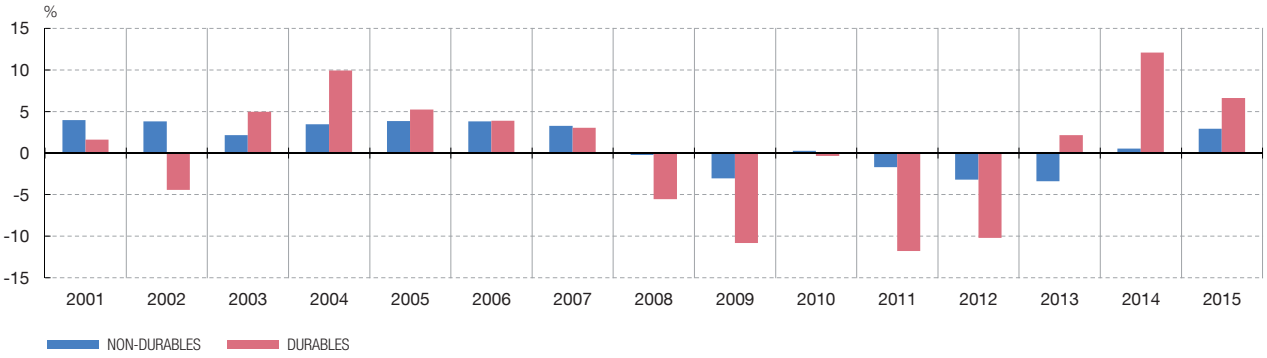
2 RATE OF CHANGE OF CONSUMPTION (by change in likelihood of losing employment) 2009 (a)



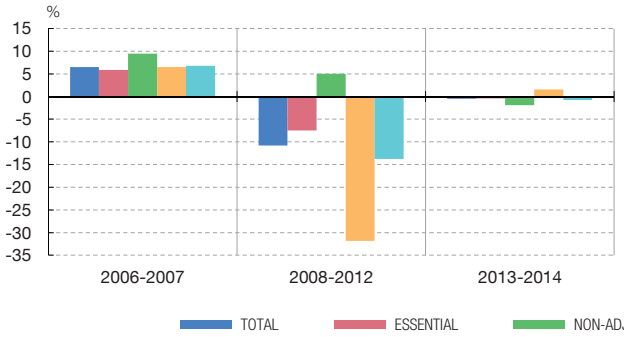
3 RATE OF CHANGE OF CONSUMPTION (by change in likelihood of losing employment) 2014



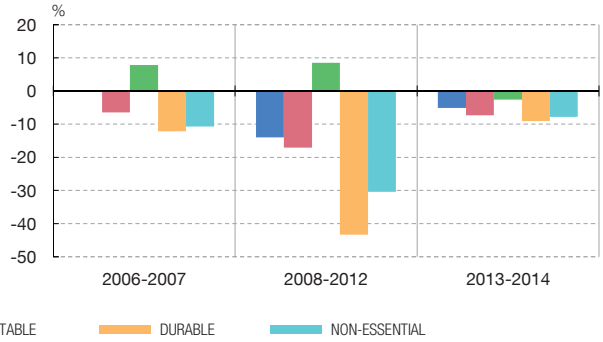
4 RATES OF CHANGE OF CONSUMPTION, DURABLES AND NON-DURABLES



5 CHANGE IN CONSUMPTION BY PERIOD AND TYPE OF GOODS. HEAD OF HOUSEHOLD EMPLOYED



6 CHANGE IN CONSUMPTION BY PERIOD AND TYPE OF GOODS. HEAD OF HOUSEHOLD UNEMPLOYED



SOURCES: INE and Banco de España.

a The likelihood of losing employment is calculated based on the Spanish Labour Force Survery (EPA), while the change in consumption is obtained from Household Expenditure Survey data [see Bunn and Casado (2016) for more details].

Other short-term factors have also underpinned consumption

Lastly, the improvement in consumption in the period 2014-2015 is also underpinned by various other short-term factors relating to spending decisions that were postponed during the recession.[35] In keeping with economic theory, the decline in consumption in Spain during the crisis was uneven between different types of goods and services. In particular, shifting (easily adjustable) demand for durables and non-durables into the future seems to have led to spending decisions being put on hold, giving rise, in the case of durable goods, to a need to rebuild stocks after the deep adjustment that took place during the recession (see panel 4 of Chart 2.9). A more disaggregated analysis shows that, between 2008 and 2012, the adjustment in consumption of different kinds of goods was considerably more pronounced among households where the household head was unemployed (see panels 5 and 6 of Chart 2.9). In addition, in the absence of data for 2015, the recovery in consumption in the economic upturn is proving to be more marked among households where the household head is employed, which are already increasing their spending on durable goods.

5 Conclusions

The competitive adjustment process is important to explain the Spanish economic recovery…

In mid-2013 the Spanish economy began to overcome the consequences of a crisis that has had a profound impact both on activity and employment. The recovery is the result of a combination of highly diverse factors, including the positive effects of policies applied both in Spain and at a European level, together with other more recent, more short-lived and predominantly exogenous factors. One crucial aspect that explains not only the current recovery but also the prospect that it may continue in the medium term is the process of enhanced competitiveness that began with the crisis. This chapter examines the role played by this process when it comes to explaining the present phase of the cycle, through its impact on foreign trade flows and on the various components of private domestic demand. The analysis performed considers two different sources of adjustment compared with the competing economies: on the one hand, relative prices of goods and services, and on the other, production costs, including both labour and financing costs, compared with other European economies.

…that started in external demand developments and subsequently spread to spending by private domestic agents

The positive impact of competitiveness gains on the external imbalance of the economy is first revealed through their ability to boost exports. By contrast, on the import side, the pattern reflects a high degree of synchrony with changes in final demand, with no conclusive evidence found to demonstrate that purchases abroad are being replaced by domestic production. The strength of exports has driven up demand for factors of production, allowing the upturn in external demand to permeate through to domestic spending components, fomenting business investment and employment. In turn, the process of job creation observed over the last three years, which has benefitted from the advantage of it being easier to tailor labour costs and the flexible use of labour to different sector- and firm-specific conditions, has underpinned the recovery in private consumption.

The competitive adjustment process provides considerable support for the medium-term outlook, but it is far from complete

As a result of the relative price adjustment, significant progress has been made in re-establishing the macro-financial equilibrium of the Spanish economy. However, as indicated in Chapter 1 of this Report, this progress is far from sufficient. The external surpluses recorded are based in part on short-term developments and the improvements in cross-border financial flows are still not sufficient to make a significant dent in Spain's high net external debt, which is a source of vulnerability. Lastly, those positive balances with the rest of the world have been achieved in a setting in which, despite the significant progress made in reducing unemployment, full utilisation of productive resources, including labour, is still a

35 See J. González Mínguez and A. Urtasun (2015), "Consumption dynamics in Spain by product type", *Economic Bulletin,* September, Banco de España, pp. 29-37.

very distant target. In order to achieve external surpluses and, at the same time, further reductions in unemployment, the competitive advantages gained in recent years will have to be maintained and further competitive advantages obtained in those areas where there is still room for improvement. In this setting, relative price adjustments are essential to allow resources to be reallocated to sectors with more capacity to generate added value and employment and successfully compete in international and domestic markets.

In the longer term, an ambitious reform agenda is needed to address the challenges outstanding

Moreover, from a long-term perspective, lasting competitive advantages will have to come from enhanced productivity, which in turn hinges on the structural labour and product market reforms analysed in Chapters 1 and 4 of this Report. In addition, this reform agenda is essential to ensure the efficiency of the process of price and cost formation in the economy and to underpin the productive reallocation of resources among firms and sectors and the reduction in the high unemployment rate.

Both the severe economic crisis in the period 2008-2013, which tempered production costs and prices, and the 2010 and, especially, the 2012 labour reforms, designed to allow labour costs to adjust more efficiently to the macroeconomic situation, have helped the Spanish economy to regain competitiveness in recent years. However, the difference between these two factors suggests that it is important to determine which transmission channels operate in each case and their respective impact on economic activity and employment.

The dynamic general equilibrium model developed by Andrés, Arce and Thomas (2014) may be used to illustrate the macroeconomic effects of various shocks and policies that have a moderating impact on production costs and prices.[1] Broadly speaking, this is a model of a small open economy belonging to a monetary union in which both firms and households take on long-term debt to fund their spending and investment decisions.[2] The model simulates two price and cost moderation scenarios: the first resulting from an economic and financial crisis similar to that experienced in Spain since 2008, and the second from reforms in price and wage-setting mechanisms.

In the first scenario, the effects of a negative financial shock leading to tight credit conditions for firms and households[3] are simulated. The blue lines in Chart 1 depict the response of the main macroeconomic variables to the financial shock, which produces a severe contraction in new lending and sets in motion a protracted deleveraging phase that obliges firms and households to cut their consumption and investment spending, at the same time as they gradually pay off their previous debts. The fall in domestic demand gives rise to a sharp contraction in GDP and employment, which translates into a decline in real wages that is partly passed through to producer and consumer prices. As domestic products become cheaper, the terms of foreign trade decline, encouraging exports and import substitution; in addition, purchases abroad are further reduced by lower domestic demand. Accordingly, a negative demand shock similar to that experienced in Spain at the start of the financial crisis gives rise in that setting to a process of persistent decline in domestic costs and prices, fomenting an increase in net exports.

Subsequently, based on the previous scenario, a reform of the wage-setting mechanism that makes the labour market more efficient and nominal wages more flexible is included. This *labour reform* aims to proxy (albeit imperfectly) Spain's 2012 reform.[4] The red lines in Chart 1 depict the response of the economy in that scenario; accordingly, the difference between the red and blue lines measures the impact of the reform. As the chart shows, the reform triggers a further fall in real wages and, therefore, in producer prices and in the terms of trade. This decline in costs and prices has an expansionary effect on demand for goods produced in Spain, in terms both of domestic demand (import substitution) and export demand.[5] Moreover, GDP growth in the medium and long term foments higher investment spending in the short term, insofar as firms anticipate higher future demand. Lastly, the reform also boosts private consumption, largely because its positive impact on employment more than offsets the drop in real wages, with the consequent increase in labour income. In short, the introduction of a supply-side policy such as that analysed here may foment economic activity and employment even in the short term, against the backdrop of an economy hit by recession, with private sector deleveraging resulting from a financial crisis. The beneficial effects of internal devaluation on competitiveness are often weighed against the risk of delaying the deleveraging process and, in consequence, the recovery from recession, owing to the deflationary nature of reforms such as those analysed here. Interestingly, in the context of the model used, even in a highly indebted economy the labour reform considered does not have an overall negative impact on private sector deleveraging. There are two reasons for this: first, the net positive effect of the reform on wage income mentioned earlier, and second, the fact that, as there are long-term nominal debt agreements in place, the deflationary effect of the reform gives rise to only a moderate reduction in agents' current real spending power, since the increase in the real value of debt payments as a result of lower inflation is inversely proportional to the maturity of principal.[6]

As indicated, external competitiveness gains are an important channel for transmission of the expansionary effects of an internal devaluation prompted by a labour reform. A crucial determinant of these gains is the speed at which production costs, and especially wage costs,

1 J. Andrés, Ó. Arce and C. Thomas, *Structural reforms in a debt overhang,* Working Paper 1421, Banco de España,

2 This implies the lack of response by the common monetary policy to the specific developments of that small economy.

3 Specifically, a lasting reduction in loan-to-value (LTV) ratios of loans granted to firms and households.

4 In particular, higher efficiency is instrumented by reducing the mark-ups that workers apply to their wages over and above the level they would have under perfect competition. The decline in these mark-ups has been calibrated so that the reform has an impact of -0.9 pp on the year-on-year rate of growth of nominal wages in the seven quarters following its implementation, which is consistent with the effect of the 2012 labour reform estimated in own calculations by Banco de España staff. In addition, greater nominal wage flexibility is instrumented as a decline in the average duration of nominal wage agreements from four to three quarters.

5 Note that the reform has a scant impact on real imports as a result of two opposite effects: goods produced in Spain become relatively cheaper, which encourages import substitution, while higher domestic demand on the back of the reform drives up purchases abroad.

6 As shown by Andrés, Arce and Thomas (2014), *op. cit.* in footnote 1, where there are nominal debt agreements in place with similar maturities to those observed in Spain in mortgage loans to households and firms, interest payments and repayments of principal made in each period (in the model, in each quarter) are a relatively small portion of total payments throughout the life of the loan. In consequence, in the model, the fall in inflation as a result of the labour reform has a minor impact on the real value of those payments and, therefore, on the spending power of households and firms.

Chart 1
EFFECTS OF TWO INTERNAL DEVALUATION SCENARIOS

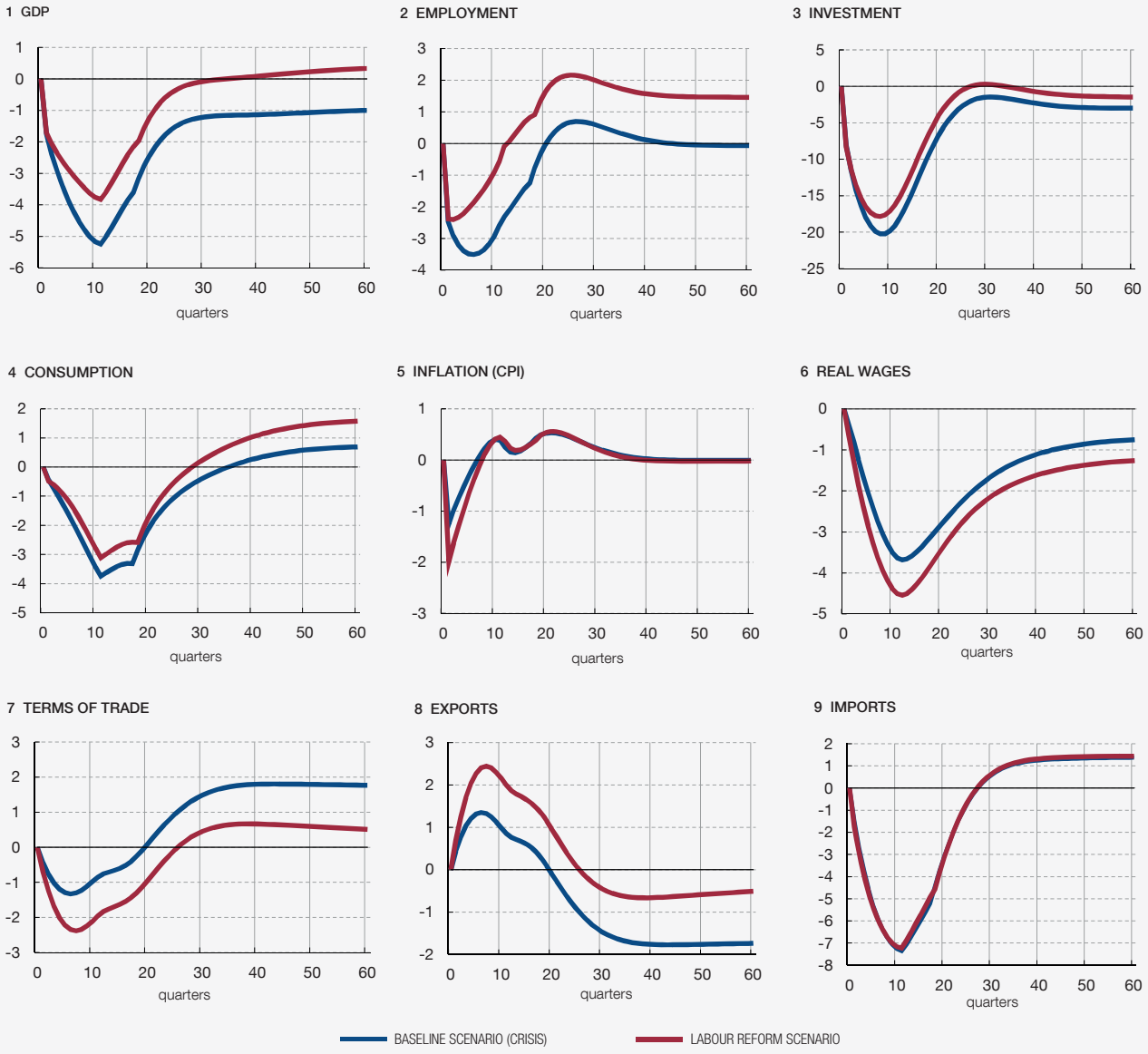


Table 1
SHORT-TERM EFFECTS OF AN INTERNAL DEVALUATION BASED ON STRUCTURAL REFORM (a)

	GDP		Employment	
	Year 1	Year 2	Year 1	Year 2
Base calibration	0.4	1.2	0.7	1.8
Labour reform with no increased wage flexibility	-0.1	0.3	-0.1	0.4
Export elasticity = 0.5	-0.4	0.7	-0.4	1.1
Import elasticity = 0.5	0.1	1.0	0.2	1.5
Labour market reform + goods and services market reform	2.4	3.1	3.6	4.3

SOURCE: Banco de España.

a The table shows annual average effects compared with the no-reform scenario (the baseline "crisis" scenario in the chart). In the "base calibration" scenario, the labour reform includes increased nominal wage flexibility and elasticities both of exports and imports to the terms of trade are unitary.

adjust. To illustrate the importance of this factor, Table 1 compares the effects of the reform described above ("base calibration") with those of a reform that does *not* include increased flexibility of nominal wages. As the table shows, the absence of increased flexibility significantly reduces the expansionary effects of the reform, which may even become contractive in the very short term.

Another determinant of the short-term impact of the labour reform is the degree to which competitiveness gains are passed through to trade flows. In the base calibration of the model, both imports and exports have unit elasticity to the terms of trade, which is consistent with the evidence available for the Spanish economy.[7] As Table 1 shows, against a background of lower elasticity, net exports would appear to be less responsive to wage and price moderation, considerably diminishing the impact of the reform, which could even be negative in the first year.[8] In consequence, for the reform to be successful in the short term in terms of activity and employment, the resultant real effective exchange rate depreciation would have to have a sufficient impact on foreign trade flows, boosting both import substitution and export sales. Otherwise, the improvement in trade flows in the short term will be too feeble to generate sufficient employment to offset, in terms of total labour income, the impact of wage moderation.

Lastly, although to date the analysis has been limited to labour market reforms, simulation of the effects of reforms designed to achieve greater competitiveness in product markets is also relevant. The last line of Table 1 shows the effects of implementing the labour reform described above in conjunction with a reform of product markets, reducing firms' mark-ups between the sale price of their products and the marginal production cost.[9] As shown, including this reform significantly heightens the GDP and employment gains in the short term, largely through the competitiveness channel described earlier. Part of this additional positive effect in the short term is also explained by the fact that, despite its initial impact on inflation, the product market reform helps to shorten the duration of the severe deleveraging process among households and firms, facilitating faster recovery from recession.[10] These results suggest that it is important to complement labour reforms with additional measures in the product markets.

7 See C. García, E. Gordo, J. Martínez-Martín and P. Tello (2009), "Una actualización de las funciones de exportación e importación de la economía española", Occasional Paper 0905, Banco de España.

8 In any event, the expansionary effects as from the second year are robust to low elasticity.

9 The size of the reduction in mark-ups is calibrated so that its impact on competitiveness (measured by the terms of trade) is approximately equivalent to that of the labour reform.

10 See Andrés, Arce and Thomas (2014), *op. cit.* in footnote 1, for a detailed discussion of the similarities and differences between the transmission channels of labour and product market reforms.

The correction of the Spanish economy's external trade imbalance that was first observed at the start of the crisis was essentially linked to the strong export performance. On the import side, there was first a marked adjustment, which lasted throughout the recession. In 2014, however, imports headed sharply upwards, in step with the growth in final demand (see Chart 1). Indeed, the expansionary behaviour of Spanish imports in the period 2014-2015 resulted in the net external balance making a slightly negative contribution to GDP growth. This suggests that the lower import penetration vis-à-vis the pre-crisis level could essentially be a result of the adverse business cycle up to 2013, compared with the secondary role that may have been played by other more structural factors, in particular, the competitive adjustment of the economy.

The literature suggests that the strength of imports throughout the economic cycle is affected by the composition of GDP growth from the demand standpoint, given the differences in terms of import content of the various GDP headings. Specifically in the case of the current economic recovery in Spain, the most dynamic demand components, namely exports and certain sub-components of private domestic demand, are characterised by their high import content (see Chart 2).[1] This would help to explain the strong rate of growth of imports observed in the last two years, making it difficult to identify the opposite effects that the competitiveness gains described in the second section of this chapter may have had.

The importance of the composition of the recovery from the standpoint of demand aggregates when it comes to explaining the strength of imports in the last two years is confirmed by the analysis of purchases abroad from the standpoint of the branches of activity most closely related to the import process, such as those belonging to the manufacturing industry. In particular, there is a very high correlation between the propensity to import and the propensity to export in the industrial sectors (see Chart 3).[2]

The importance of the role of imports in meeting growing demand is confirmed by the fact that fluctuations in demand for finished goods within a specific sector tend to lead to commensurate changes in imports of finished products (see Chart 4), which possibly indicates that not all types of goods are manufactured in Spain. Moreover, the correlation between recent changes in imports by branch of activity and change in relative prices, although positive, is lower (see Chart 5), which suggests that price-competitiveness could also explain part of the changes in imports by branch of activity.

To make a quantitative assessment of the response of imports to the enhanced competitiveness recorded since the crisis, an equation has been estimated that allows the coefficients of the determinants of purchases abroad to change over time. This analysis shows that the response of imports to final demand has changed in recent years, declining at the start of the crisis and then subsequently recovering (see Chart 6). Moreover, the elasticity of imports to relative prices, which was slightly positive throughout the previous expansionary cycle, has been negative since the start of the recession (see Chart 7). This may be interpreted as a first sign that, in the more recent period, purchases abroad may have started to become more sensitive to competitiveness developments.

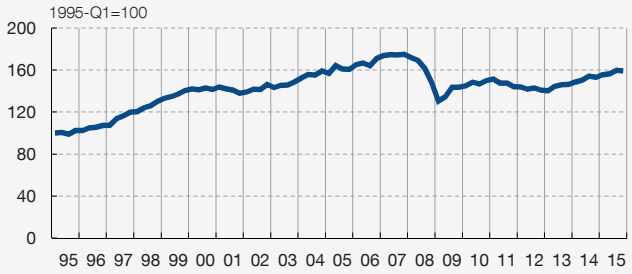
When changes over time in purchases abroad at firm-level are analysed, some additional evidence is found in favour of a certain level of import substitution in recent years, albeit to date still on a very modest scale. In particular, it seems that the composition of Spanish firms' purchases of intermediate goods began to change as from 2012, coinciding with the heightened intensity of the wage moderation process, with a small increase observed in the weight of purchases of goods produced in Spain, to the detriment of those coming from the euro area, while at the same time the proportion of inputs from the rest of the world appears to have steadied (see Chart 8). This is further underpinned by the fact that the increase in the weight of inputs produced in Spain tends to be more pronounced in branches of activity where wage growth has been more moderate.

This evidence of the start of an import substitution process in the Spanish economy is highly tentative, indicating that, for the time being, the scale of the process is limited. The developments observed reflect the fact that reducing reliance on imports is a complex process that requires, by its very nature, a protracted period, even when it is accompanied by competitive advantages that foment the process. In particular, for that process to become widespread and to intensify, the range of goods produced must increase, and especially the proportion of high added value goods, which have relatively high import propensity. However, for that to happen, other ingredients are needed, such as a more highly-skilled workforce and greater capacity for the development of technology innovation, and for implementation of existing technology, which are aspects where progress is expected to be achieved only gradually.

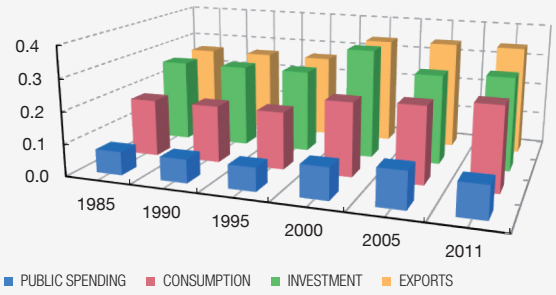
1 The chart depicts the import content of overall investment. Estimates made using the input-output tables show that the import content of the sub-component relating to investment in capital goods is even higher. See J. Martínez-Martin (2016), Breaking down world trade elasticities: a panel ECM approach, forthcoming Working Paper, Banco de España.

2 This correlation may be explained, for instance, by the growing importance of global value chains or the high reliance on purchases abroad for certain products (especially, high technology products) for which there is no domestic market substitute.

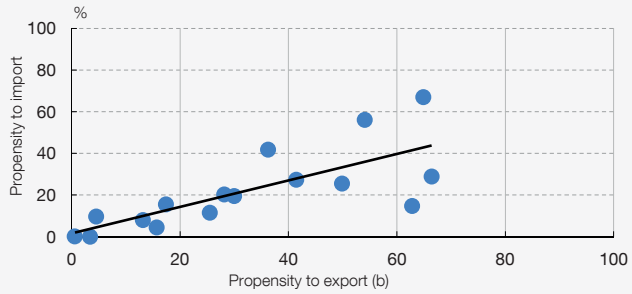
1 IMPORTS / GDP RATIO, SPAIN



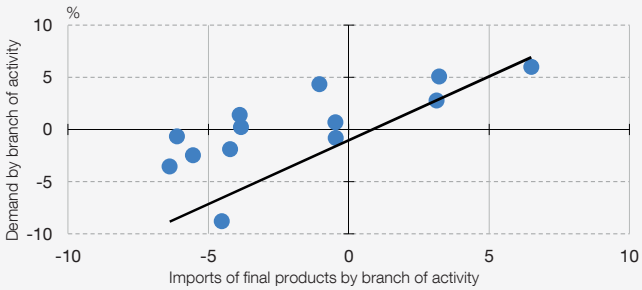
2 IMPORT CONTENT OF GDP COMPONENTS
(based on the OECD's input-output tables)



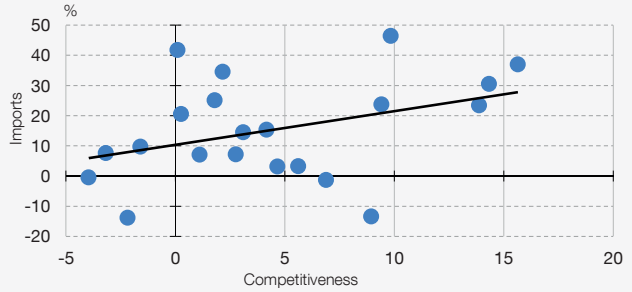
3 PROPENSITY TO IMPORT INTERMEDIATE GOODS: CORRELATION WITH THE PROPENSITY TO EXPORT IN THE POST-CRISIS PERIOD (2009-2013) (a)



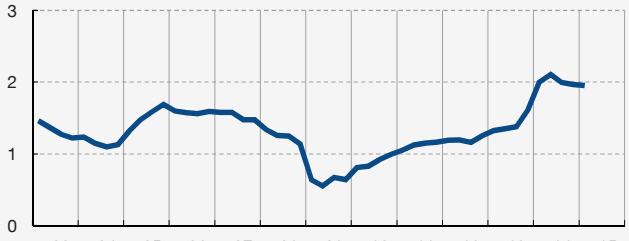
4 CORRELATION BY BRANCH OF ACTIVITY BETWEEN DEMAND AND FINAL IMPORTS
Rates of change in the post-crisis period (2009-2013) (a)



5 IMPORTS OF FINISHED GOODS AND COMPETITIVENESS
Rates of change in the post-crisis period (2009-2013) (a)

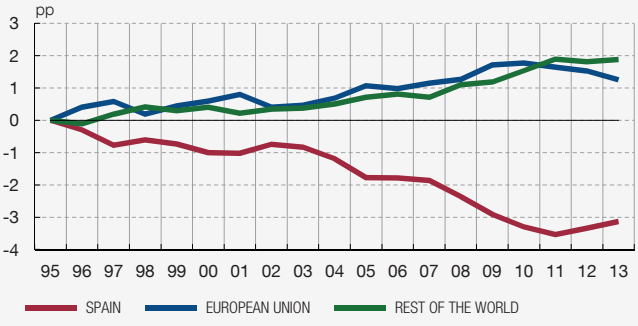


6 ELASTICITY TO DEMAND (LONG TERM)



7 ELASTICITY TO PRICES (LONG TERM)

8 DISTRIBUTION OF INPUTS USED BY SPANISH FIRMS BY GEOGRAPHICAL ORIGIN (c)
Differential since 1995



SOURCES: OECD, INE, Ministry of Economic Affairs and Competitiveness and Banco de España.

a The panels denote different aggregations of the manufacturing branches.
b Propensity to export is defined as the ratio of exports over production.
c Panel of firms for which there are observations for the entire period (estimation with time dummy variables, without fixed effects).