ANNUAL REPORT 2014

BANCO DE ESPAÑA
Eurosistema

This English translation of the *Informe Anual* of the Banco de España comprises a foreword by the Governor, Chapters 1, 3, 4 and 5 the boxes published in the remaining chapters of the Spanish edition and the Annual Accounts of the Banco de España. Readers interested in other chapters are referred to the Spanish edition available at **http://www.bde.es/bde/es/secciones/ informes/Publicaciones_an/Informe_anual/.**

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ANNUAL ACCOUNTS OF THE BANCO DE ESPAÑA 2014

FOREWORD BY THE GOVERNOR

Luis M. Linde

For the first time since the start of the crisis, GDP and employment grew significantly in Spain in 2014, outstripping the figures for the euro area as a whole. This dynamism has taken root during the opening months of 2015, and forecasts by both the Banco de España and other private-sector and institutional analysts point to the prolongation of this pattern in the short and medium run. This scenario reflects the firming of a sustained recovery, leaving behind the most severe recession in Spain's recent economic history.

The analysis of the factors behind the recovery in the Spanish economy and of the challenges posed in entrenching this trajectory constitutes the core of this *Annual Report*.

The growth of activity and employment in 2014 and in 2015 to date is underpinned especially by the progress in the ongoing correction of the macroeconomic imbalances built up in the Spanish economy during its last upturn, against the background of the improvement in some of its external conditioning factors.

The growing dynamism of GDP in Spain is in contrast to the loss of momentum the global economy – and most particularly the euro area – experienced in 2014. On this occasion, moreover, the weakness of activity in the euro area did not only affect the most vulnerable economies, but was also visible in others such as Germany and France.

The fall in oil prices, on the contrary, contributed to increasing Spanish household purchasing power and to lowering firms' output costs, with their exports outside the euro area also benefiting from the progressive depreciation of the euro. But the most significant and lasting positive impulses stemmed from the increasingly expansionary stance of the Eurosystem's monetary policy and from the milestone marked by the start-up of the Banking Union. Against the backdrop of the normalisation of the area's financial markets, the effects were felt with greater intensity in the economies, such as Spain, which had been most severely affected by the fragmentation prompted by the crisis of the euro. In the original Spanish version of this Report, Chapter 2 analyses in detail the behaviour of the single monetary policy and its divergence from that implemented by the US Federal Reserve and the Bank of England.

The recovery is underpinned above all by the support provided by the progress in macroeconomic re-balancing and the reforms implemented, which have placed the Spanish economy in a healthier and more competitive position. That has provided not only for more buoyant activity but also for the more intensive pass-through of activity to job creation.

The dynamism of employment was one of the highlights of 2014, reflecting, inter alia, the effects of the reforms made since 2012. Set against the reduction in the working population, there has been a significant decline in numbers unemployed and in the unemployment rate, a rate which nevertheless remains at an unacceptably high level.

The competitive adjustment of the Spanish economy based on internal devaluation also continued in 2014. Despite the lesser tempo of the increase in productivity, labour costs moved further along a path of moderation which, in recent years, is proving greater than what the behaviour of their determinants might have inferred. The improvement in competitiveness has been extensive to a broad range of price indices. Given their relevance, the dynamics of

price and cost formation in Spain and the challenges posed by a low-inflation environment are addressed in Chapter 4 of this Report.

For the third year running, the Spanish economy generated a net lending position vis-à-vis the external sector. The scale of this net lending was, however, less than that of the previous year. The reduction in the sizeable net debtor International Investment Position (IIP) is, in any event, proving very gradual.

The adjustment of the housebuilding sector appears to have been completed in 2014, following a drastic reduction in its contribution to GDP and a severe correction of prices. Its recovering trajectory is surrounded by some uncertainty given the high volume of unsold houses and the particular geographical distribution involved, and the doubts over the incidence of demographic developments on the potential demand for housing.

Turning to public finances, the general government deficit met its established target for the third year running. The public debt/GDP ratio also trended in line with the official target, although it posted a further increase, thereby highlighting the importance of promptly achieving, as planned, stabilisation that paves the way for its progressive reduction.

Conversely, Spanish households and firms substantially reduced their debt ratios. Although the process continues to rest on the fall-off in bank lending, last year saw a significant easing in this variable and, from a more disaggregated perspective, there were signs pointing to a reallocation of new flows towards firms better placed to invest and hire. A chapter in the original Spanish version of the Report is dedicated to analysing this trajectory of progressive normalisation and its implications for the economic recovery.

To conclude the review of domestic adjustment processes, I should also highlight the fact that the effectiveness of the clean-up, restructuring and recapitalisation of our banking system was substantially vindicated by the ECB's publication in October 2014 of the results of the comprehensive assessment of significant euro area credit institutions, which was conducted as part of the groundwork for the entry into force of the Single Supervisory Mechanism.

While all these advances have been substantive, the adjustment and re-balancing of the Spanish economy is not yet over. Economic policies continue to face major challenges to overcome the consequences of the crisis and achieve sustained economic growth.

As regards strictly national policies, and in particular fiscal policy, co-responsibility in the fulfilment of objectives by the different tiers of government (central, regional and local) remains a necessity. The Budgetary Stability Law provides the tools for this and the recently created Independent Authority for Fiscal Responsibility can contribute to making them effective. Also, in the event of contingencies that were to make it necessary to reinforce the fiscal consolidation plan, it would seem reasonable to review in depth the different public spending items and to identify those exerting most of an impact on growth. On the revenue side, the relative weight of indirect tax and the rationalisation of the extensive range of deductions, rebates and reductions that erode tax-raising capacity should be prioritised, as proposed by international experts and agencies.

With regard to pensions, the reform adopted in 2013 will contribute to making the growth of public spending associated with population ageing sustainable. But to avoid uncertainty and false expectations, the new system must be implemented transparently, in keeping

with the legal provisions laid down. And there is also a pressing need to promote insurance and saving mechanisms that help supplement the unfunded public pension system.

In the labour market, the challenges continue to be to reduce unemployment and raise productivity. In this connection it is vital to maintain reform momentum. The possible avenues for progress include improving the effectiveness of active policies, enhancing the role of firm-level negotiations under collective bargaining and, with regard to employment contracts, increasing the incentives for stable employment, narrowing the gap between the termination conditions for the different forms of hiring arrangements and promoting greater continuity among such forms.

It is also important to maintain and reinforce the structural policies aimed at lowering the obstacles that prevent productive resources from being channelled to those companies and sectors showing greater growth potential. Given the major implications both in the short term and, especially, in the long run, Chapter 3 of the *Annual Report* in its English-language version is dedicated to analysing this subject. The main obstacles identified relate to regulatory problems, too-small average company size, limited regional and sectoral labour mobility, a degree of educational mismatch between labour supply and demand, and limited innovative capacity. The amount of ambition deployed to overcome these limitations will determine the speed and consistency of the process of convergence of the Spanish economy towards the standards of well-being in the core EU countries.

1 Introduction

In 2014 the Spanish economy posted significant growth rates in output and employment that exceeded those in the euro area and confirmed the entrenchment of the recovery initiated the previous year following several years of prolonged recession. The recovery was underpinned by a notable improvement in certain external conditioning factors and by significant headway towards restoring macroeconomic equilibrium. In the second half of the year, it was also assisted by the additional expansionary boost of the fall in oil prices and the depreciation of the euro. However, the depth of the crisis in the previous years, which led certain structural fragilities of the Spanish economy to emerge, has left a weighty legacy in terms of debt and unemployment, the full re-absorption of which will require time and further efforts by economic policies to complete the adjustments undertaken and to strengthen the foundations of the recovery.

This chapter analyses the factors underpinning this recovery and addresses the challenges economic policies must meet for a new sustained growth path to take root. The rest of this Report analyses in depth some of the issues of particular relevance for the future growth of the Spanish economy, such as the role of the expansionary monetary policy measures, the importance of the reallocation of resources towards the most efficient firms and industries for sustaining growth, price- and cost-formation dynamics in a low-inflation environment and the contribution of the reactivation of credit in a manner consistent with the necessary ongoing deleveraging of the economy.

2 The firming of the recovery in 2014

The firming of the recovery in the Spanish economy in 2014 was in contrast to the loss of momentum seen in the world economy as a whole

The Spanish economy moved in 2014 on a trajectory marked by firming recovery. For the first time since the start of the crisis, GDP grew significantly over 2014 as a whole (1.4%) and ended the year posting an annual rate of increase of 2% (see Chart 1.1).

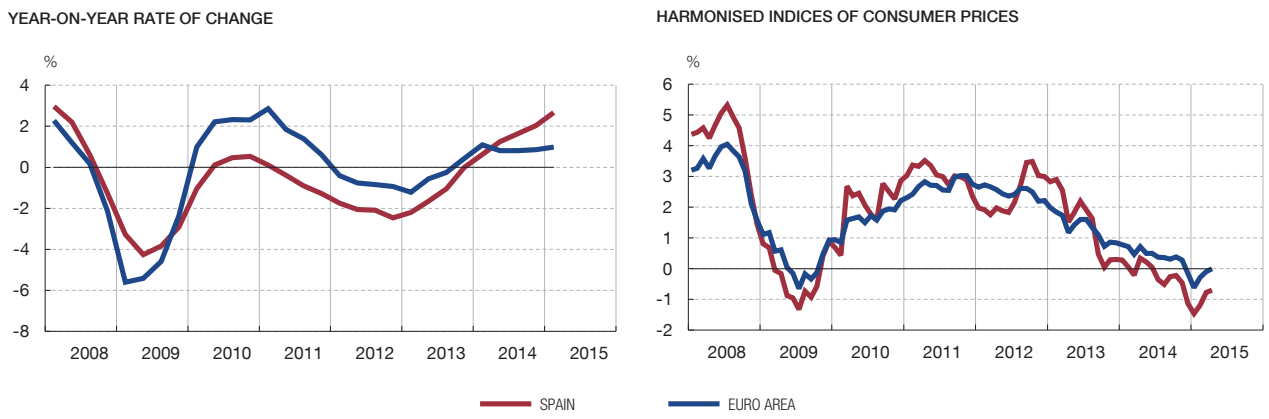
This progressive buoyancy of Spanish activity was in contrast, however, to the loss of momentum in the ongoing recovery of the global economy. Contrary to the expectations of most analysts at the start of the year, 2014 ended with the same annual rate of increase in GDP as in 2013 (3.3%). As the months unfolded, global growth forecasts were revised downwards and, at the time of this Report going to press, they point to rates of expansion in 2015 only slightly higher than those of the past two years. This trajectory shows that the positive impulses induced by the fall in energy prices and the easing of financial conditions are largely being offset by other, contrary signs linked probably to the weakness of growth potential in the medium term in extensive areas of the world economy and their contractionary effects on investment.

From a more disaggregated perspective, the gap between GDP growth in the emerging and in the advanced economies narrowed by almost 1 pp, largely as a result of the differential effect on both groups of countries of the decline in commodities prices. The heterogeneity of the behaviour in each of these blocks, however, remained notable.

The loss of momentum was particularly significant in the euro area during the central months of the year and this, combined with the persistence of excessively low inflation

Given its significance for the Spanish economy, the euro area's loss of buoyancy in the central months of the year proved particularly important, thwarting the expectations generated at the start of 2014. GDP for the area as a whole increased by only 0.1 pp in Q2 and by scarcely 0.2 pp in Q3. Unlike in other years, the weakness affected on this occasion not only the most vulnerable euro area economies but also others such as Germany and France. As regards prices, the inflation rate held on a declining trajectory, posting figures

GDP AND INFLATION IN SPAIN AND IN THE EURO AREA (a) CHART 1



SOURCES: ECB, INE and Banco de España.

a Year-on-year rate of change of seasonally adjusted series in the case of GDP and of original series in that of consumer price indices.

rates, led to a further deepening of the expansionary stance of the ECB's monetary policy

that would ultimately turn negative at the end of the year and in the opening months of 2015.

In combination, inflation rates far removed from the medium-term objective of 2% and the marked weakness of demand shaped a scenario posing risks to the anchoring of price expectations, thereby obliging the ECB to take fresh steps towards deepening the expansionary stance of its monetary policy. This movement diverged clearly from the course followed by other central banks such as the US Federal Reserve and the Bank of England. The ECB made additional cuts to its official interest rates, it embarked on new measures to boost the growth of credit to the private sector and, finally, it launched in March this year an extended programme of public and private asset purchases, scheduled to run until September 2016 at least and, in any case, until it sees a sustained adjustment in the path of inflation consistent with its price stability objective.

Combined with lower energy costs, the depreciation of the euro and the more neutral fiscal policy stance in the area, the new monetary policy impulses and enhanced transmission mechanisms have led a good number of analysts to revise upwards the growth outlook for the area this year and next, thereby consolidating the positive signs recorded in the final stretch of 2014, which enabled the quarter-on-quarter growth rate of GDP to rise to 0.3% in the final quarter.

GDP in Spain quickened over the course of the year as the recovery in domestic demand strengthened and job creation stepped up

In Spain, GDP moved on a markedly accelerating path during the year. The buoyancy of the components of private demand (which contributed 2.2 pp to GDP growth) confirmed the capacity of the economy's domestic expenditure to sustain and entrench the recovery, in contrast to the weakening of net external demand, which made a negative contribution to growth. Ongoing job creation, reflected in annual average growth of 1.2% in numbers employed – the first positive rate since 2008 – and a year-on-year rate of 2.4% at year-end, gathered notable momentum over the course of 2014. Overall, both domestic demand and employment expanded more than expected in 2014, and the re-balancing of domestic and external demand also came about earlier than anticipated (see Table 1.1 and Chart 1.2).

The change in sign of the contributions of domestic spending and of external demand to the increase in GDP marked a drastic turnaround on the patterns prevailing in the 2008-2013 period, with continuous declines in national demand (for a cumulative amount of

MAIN INDICATORS OF THE SPANISH ECONOMY (a)

TABLE 1.1

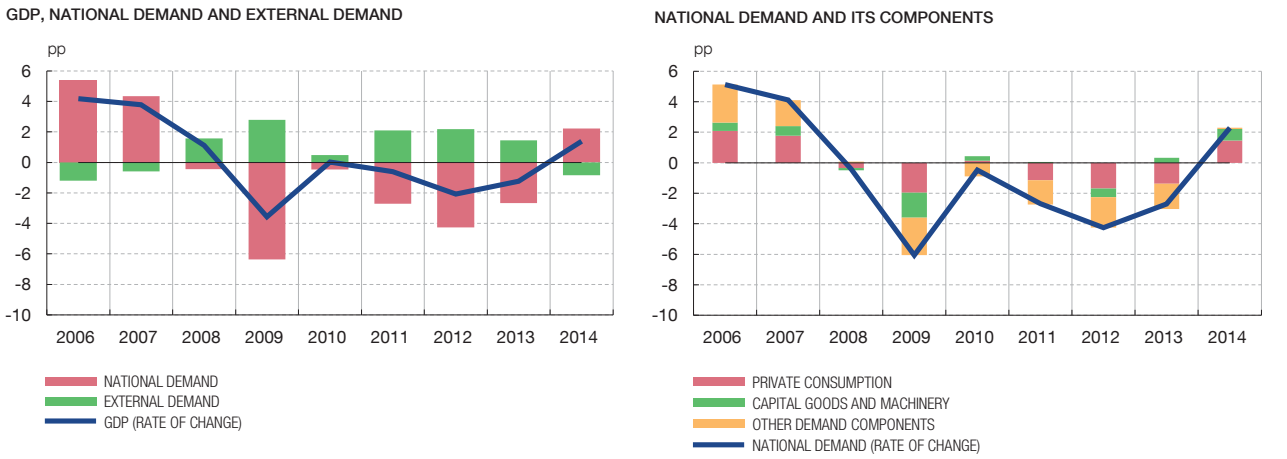
	2009	2010	2011	2012	2013	2014
Demand and output (b)						
GDP	-3.6	0.0	-0.6	-2.1	-1.2	1.4
Private consumption	-3.6	0.3	-2.0	-2.9	-2.3	2.4
Government consumption	4.1	1.5	-0.3	-3.7	-2.9	0.1
Gross capital formation	-17.2	-3.8	-6.4	-8.3	-3.7	4.2
Equipment investment	-23.5	5.1	0.8	-9.0	5.6	12.2
Construction investment	-16.5	-10.1	-10.6	-9.3	-9.2	-1.5
Housing	-20.6	-11.6	-12.8	-9.0	-7.6	-1.8
Other construction	-11.8	-8.5	-8.6	-9.6	-10.5	-1.3
Exports of goods and services	-11.0	9.4	7.4	1.2	4.3	4.2
Imports of goods and services	-18.3	6.9	-0.8	-6.3	-0.5	7.6
Contribution of national demand to GDP growth	-6.4	-0.5	-2.7	-4.3	-2.7	2.2
Contribution of net external demand to GDP growth	2.8	0.5	2.1	2.2	1.4	-0.8
Employment, wages, costs and prices (c)						
Total employment	-6.1	-2.7	-2.5	-4.4	-3.3	1.2
Employment rate (d)	60.8	59.7	58.8	56.5	55.6	56.8
Unemployment rate	17.9	19.9	21.4	24.8	26.1	24.4
Compensation per employee	4.4	1.1	0.9	-0.6	1.7	-0.2
Apparent labour productivity	2.7	2.7	2.0	2.4	2.1	0.2
Unit labour costs	1.6	-1.6	-1.1	-3.0	-0.4	-0.4
GDP deflator	0.3	0.2	0.1	0.2	0.7	-0.5
Consumer price index (12-month % change)	0.8	3.0	2.4	2.9	0.3	-1.0
Consumer price index (annual average)	-0.3	1.8	3.2	2.4	1.4	-0.2
Consumer price differential with the euro area (HICP)	-0.5	0.4	0.3	-0.1	0.2	-0.6
Net lending (+) or net borrowing (–) and financial balance (e)						
Resident sectors: domestic net lending (+) or net borrowing (–)	-4.0	-3.4	-2.9	0.1	2.1	1.0
General government	-11.0	-9.4	-9.4	-10.3	-6.8	-5.8
General government (excluding aid to financial institutions)	-11.0	-9.3	-8.9	-6.6	-6.3	-5.7
Households and NPISHs	4.2	1.8	3.0	2.3	3.6	3.2
Companies	2.7	4.2	3.6	8.1	5.3	3.7
Financial institutions	1.8	1.0	2.0	6.7	2.1	2.6
Non-financial corporations	0.9	3.1	1.6	1.4	3.2	1.1
Net international investment position	—	—	—	-90.0	-93.8	-93.5
General government gross debt	52.7	60.1	69.2	84.4	92.1	97.7
Monetary and financial indicators (f)						
ECB minimum bid rate on MROs	1.2	1.0	1.3	0.9	0.5	0.2
Ten-year government bond yield	4.0	4.2	5.4	5.8	4.6	2.7
Synthetic bank lending rate	3.8	3.3	4.1	4.1	4.1	3.9
Madrid Stock Exchange General Index (Dec 1985 = 100)	1,042.4	1,076.5	971.8	767.5	879.8	1,066.6
Dollar/euro exchange rate	1.4	1.3	1.4	1.3	1.3	1.3
Nominal effective exchange rate vis-à-vis developed countries (g)	103.5	101.9	101.8	100.4	101.7	101.7
Real effective exchange rate vis-à-vis developed countries (h)	119.2	116.1	113.8	106.7	106.2	104.4
Real effective exchange rate vis-à-vis the euro area (h)	111.8	110.4	108.4	103.1	99.9	99.9
Households: total financing	-0.3	0.2	-2.4	-3.8	-5.1	-3.7
Non-financial corporations: total financing	-1.4	0.7	-2.0	-6.4	-6.6	-4.4

SOURCES: INE, IGAE, AMECO and Banco de España.

a Spanish National Accounts data, base year 2010.
b Volume indices. Rate of change.
c Rate of change, except the unemployment rate, which is a level.
d Employment rate (16-64).
e Levels as a percentage of GDP.
f Annual average levels for the Madrid Stock Exchange General Index, interest rates and exchange rates, and rates of change for finanancial assets and liabilities
g 1999 Q1 = 100.
h 1999 Q1 = 100. Measured with unit labour costs.

SPAIN: GDP AND NATIONAL DEMAND. CONTRIBUTIONS TO GROWTH
FIXED CAPITAL FORMATION

CHART 1.2



SOURCES: INE and Banco de España.

16 pp) and systematically positive contributions by the external sector (for up to a total amount of 9 pp), which had been pivotal to containing contractionary trends and to the start of the recovery.

The improvement in financing conditions and in employment were determining factors in the intensity of the recovery, as was too the additional expansionary boost provided by the fall in oil prices

Among the growth-boosting factors, mention should be made of the reduction in the degree of financial fragmentation in the euro area and the progressive normalisation of financial conditions in Spain. Favourable labour market trends also played a key role in reactivating demand as they contributed to sustaining household disposable income and to improving confidence. The marked decline in oil prices from June entailed a further expansionary impulse since it increased household purchasing power and lowered firms' production costs. Finally, the depreciation of the euro had a galvanising effect on Spanish sales outside the euro area which added to the indirect impact on exports of the recovery of the area in the final stretch of the year. All these factors have continued supporting domestic spending and activity in 2015 to date.

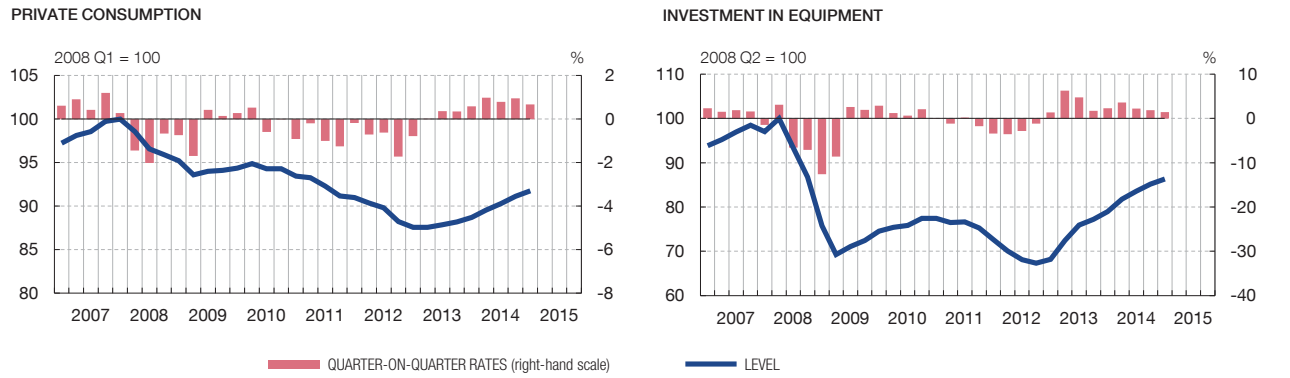
The increase in domestic demand was underpinned by the pick-up in household consumption and in business investment

Among the domestic demand components, there was a notable recovery in household consumption, which grew by close to 2.5% in 2014 as a whole, compared with a 2.3% decline the previous year. Household spending was assisted by an improvement in its main determinants. Real disposable income increased moderately, as a result above all of the rise in labour income, boosted by the buoyancy of employment and, in the final stretch of the year, the improvement in purchasing power induced by lower oil prices. Financial wealth gradually rose and, for the first time in six years, real estate assets ceased to lose value as the year unfolded. As has been the case in recent years, consumption outpaced disposable income, meaning the saving rate continued on its declining trajectory, to stand at 9.8%, below its average for the past 15 years (10.6%).

To properly understand the substantial dynamism of household spending in 2014, regard must be had, among other factors, to the low level of consumption at the start of the recovery (see Chart 1.3), which in per capita terms stood at a level equivalent to that of 2001. This points to the existence of pent-up demand for certain goods and services (in particular durables and non-staple goods), that would only begin to be met further to the improvement in labour market prospects and the reduction in uncertainty. The aggregate behaviour of consumption is the outcome of relatively differentiated patterns having to do with income levels, labour market status or the level of household debt. Job creation must have particularly

PRIVATE CONSUMPTION AND INVESTMENT IN EQUIPMENT

CHART 1.3



SOURCE: INE.

boosted consumption by a segment of households whose labour market situation has improved (after exiting unemployment) and which are characterised by a high propensity to consume. This latter aspect also appears significant when it comes to understanding the sizeable consumption response by the most indebted households in light of increases in their disposable income, as illustrated by the evidence analysed in Box 1.1.

Business investment in 2014 continued on the path of recovery initiated in 2013, which translated into annual average growth of 12% and a positive contribution by this component to GDP growth for the second year running. The brighter economic outlook spurred firms' spending plans, in a financial setting in which the generation of own funds during the crisis would have provided a buffer with which to negotiate the potential financial constraints in place and in which the thrust of domestic consumption would have added to the buoyancy shown by exports in the early stages of the recovery, reducing the possible slack in capacity utilisation. In comparative terms, the recovery in business investment in Spain is proving sharper than that in other European countries.

The contribution of net external demand to output was negative owing to the buoyancy of goods and services imports. One year more, exports increased their market share

Foreign trade flows exhibited sizeable changes in 2014, prompted by the loss of momentum of export markets, more markedly so in the central months of the year, and by the acceleration in imports, as the pick-up in domestic demand took root. As a result, net external demand subtracted 0.8 pp from output and checked the improvement in the nation's net lending, which stood at 1% of GDP (2.1% of GDP in 2013).

Goods exports increased by 4.5% in 2014 (5.7% in 2013), in a setting in which our export markets grew by around 2.5%; accordingly, Spain's export shares increased, albeit on a lesser scale than in previous years. The improvement in relative costs and the depreciation of the euro had a positive effect on the price-competitiveness of exports and were also felt in the greater buoyancy of sales abroad in the final stretch of the year. It was, once again, a record year for tourism.

The growth of goods imports was very high in 2014 (7.8%, against 0.4% the previous year). The recovery in the domestic demand components with a higher import content (consumption and investment) and the very structure of Spanish exports, with a growing weight of activities integrated into global production chains, boosted the notable increase in goods purchases from the rest of the world. Despite the possible temporary component linked to pent-up demand following the long recession, the vigour of imports in 2014 is indicative of the Spanish economy's high dependence on imported goods, chiefly on those with highest value added.

The inflation rate moved on a markedly declining trajectory. The containment of prices was extensive to all CPI components against a background marked by the absence of domestic inflationary pressures

The rate of change of consumer prices continued on the declining path initiated in the second half of 2013 (once the effects of the VAT increase and other measures adopted in 2012, such as the increase in administered prices or charges, were absorbed). This pattern was largely influenced by the trajectory of the most volatile components, which underwent year-to-year oscillations that were particularly marked in the case of fuel prices. However, in a situation characterised by the absence of domestic inflationary pressures, the containment of prices was extensive to all CPI components. Attesting to this was core inflation, which posted zero rates for practically the entire year. The change in the pattern of behaviour of services and processed food prices is perhaps the most characteristic feature of the disinflationary process the Spanish economy is undergoing. The slowdown in inflation intensified from the second half of the year, further to the decline in oil prices, which placed the CPI at negative year-on-year rates as from July, and consumer prices have continued in negative territory in the opening months of 2015. The CPI declined by 0.2% over the year as a whole (-1% year-on-year in December).

This is the second bout of negative inflation since the euro area came into being, following that recorded in 2009 and, as was then the case, the decline in oil prices has played a leading role. On this occasion, however, there have been elements of greater persistence as part of a tendency towards lower inflation that is affecting most of the CPI components and having a greater bearing on medium-term inflation expectations. The fall in prices in Spain is proving more marked than in the euro area, whereby the inflation differential has remained negative since September 2013, indicating improved competitiveness.

To date, the flatness of prices is proving compatible with a strong recovery in private consumption. It is important, however, to determine the macroeconomic consequences of a persistent reduction in inflation. Chapter 4 of the *Annual Report* offers a detailed analysis of the disinflationary process of the Spanish economy, its causes and its macroeconomic implications.

3 The factors underpinning growth

The firming of the recovery in 2014 was underpinned by the progress made in restoring the Spanish economy's macroeconomic equilibria, linked to the fiscal consolidation, restructuring and reform pursued in recent years, but also to other, more temporary factors such as the decline in oil prices and the depreciation of the euro. From a broader standpoint, however, the role played by the strengthening of the euro area should be underscored, as this prompted a substantial improvement in Spanish household, corporate and general government financing and a recovery in investor confidence about the future of the euro and our economy.

3.1 THE STRENGTHENING OF THE EURO AREA

The creation of the Single Supervisory Mechanism marked significant progress by the euro area towards a genuine economic and monetary union

Last year the euro area took significant steps in evolving towards a genuine economic and monetary union. This translated into substantial progress in the ongoing reintegration of the area's financial markets and, by extension, had significant beneficial effects on the financing conditions of the Spanish financial, private and public sectors.

The Single Supervisory Mechanism (SSM) formally commenced operating in November, with the ECB, assisted by the national competent authorities, assuming micro-prudential supervisory functions in the area. The SSM is a basic – but not the only – pillar of the Banking Union. In 2014 and in 2015 to date, progress has also been made in relation to the Single Resolution Mechanism (SRM). The SRM is entrusted with ensuring that when a bank in the area enters into difficulties requiring its resolution, this is carried out efficiently and irrespective of the bank's geographical location. In turn, the SRM comprises two parts: the Single Resolution Board, which heads an integrated system of national resolution

authorities, and a Single Resolution Fund, under the control of the Board. Lastly, the Banking Union also resides on the legal harmonisation of the euro area's Deposit Guarantee Schemes, which was implemented by means of the Directive on Deposit Guarantee Schemes agreed upon in late 2013.

The results of the Comprehensive Assessment dispelled the uncertainties weighing on part of the sector

It should likewise be recalled that prior to the start-up of the SSM and as part of the process of creating the Banking Union, the ECB, assisted by the national supervisory authorities, conducted a comprehensive assessment of the significant credit institutions that would from November be under their supervision. A total of 130 institutions were assessed, jointly accounting for 82% of the euro area's banking assets. The results were made public in October and contributed to increasing investor confidence in European credit institutions and to normalising the situation on the area's financial markets, helping bring about the reversal of the fragmentation caused by the crisis. Spanish banks comfortably passed the test, which contributed to dispelling uncertainty and reducing their financing costs (and, as a result, those of a substantial part of our economy).

The expansionary measures adopted by the ECB also contributed to reducing financial costs in the area and in Spain, and to the gradual normalisation of the situation on European financial markets

Financing conditions in the Spanish economy also benefited from the new monetary policy measures adopted by the ECB both in 2014 and in early 2015. Among other decisions, the fresh cuts to official rates and the new credit-linked lending facility and securities purchase programmes contributed not only to further reducing the level and slope of the yield curve in the area but also provided for a more uniform transmission of monetary impulses and, consequently, a reduction in the dispersion of financial costs among the different member countries. As explained in detail in Chapter 2 of the Spanish original of the *Annual Report*, this process was given particularly significant momentum at the start of the year when the ECB Governing Council announced that it would launch an extended programme of private and government securities purchases from March.

All these developments affected to a greater extent financing conditions in economies which, like Spain's, had undergone with greater intensity the adverse effects of the euro crisis

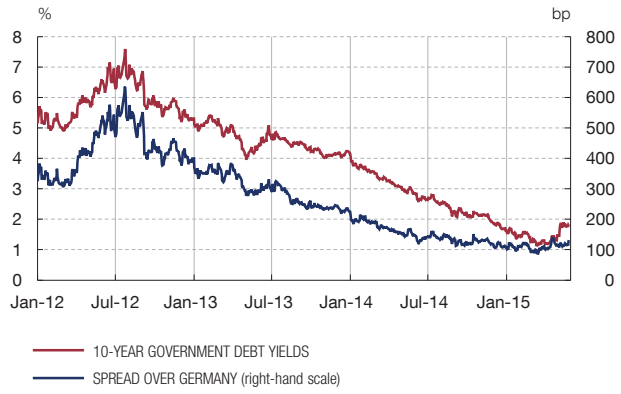
Jointly considered, all these factors contributed to substantially reducing the Spanish economy's financing costs, which have now drawn closer to a greater extent to levels more in keeping with the strongly expansionary stance of the single monetary policy (see Chart 1.4).

Spanish 10-year government bond yields, which at the height of the euro crisis exceeded 7.5%, stood below 1.8% at the time of this Report going to press. The spread over the related German benchmark, which was over 600 bp in the summer of 2012, currently stands at 130 bp. And in terms of volumes, the proportion of Spanish public debt held by non-residents had increased to similar levels to those recorded in 2010.

The improvement has also been notable in the financing costs of credit institutions. Credit default swaps, yields on covered bonds and asset-backed bonds, and the cost of deposits stood, at the cut-off date for this Report, at the levels corresponding to the rest of the euro area, after having undergone significant additional cuts over the course of 2014 and to date in 2015.

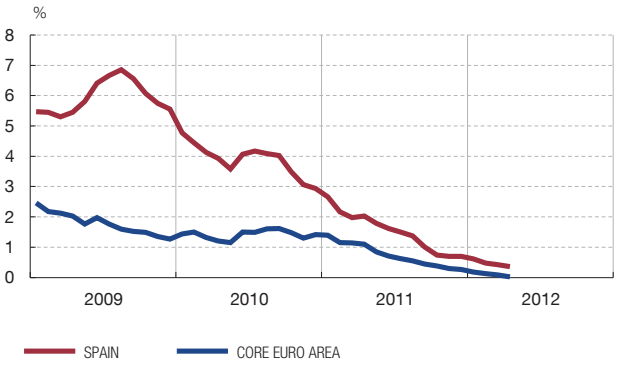
This contraction in banks' financing costs was ultimately passed through, albeit with some delay, to interest rates on bank loans, which also underwent substantial cuts which have translated into a closer proximity to lending costs in other euro area countries. The process has, however, unevenly affected the different types of loans. This has been most evident in the case of consumer loans and loans for purposes other than house purchase extended to households, and in loans to firms for amounts less than €1 million, under which heading those granted to SMEs are mainly included. In the case of loans for house purchase and to

TEN-YEAR GOVERNMENT DEBT YIELDS AND SPREAD OVER GERMANY

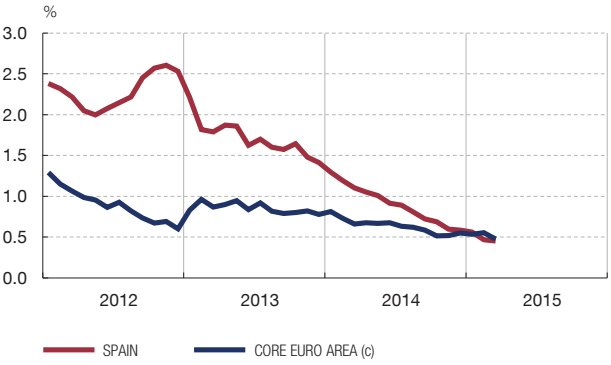


5-YEAR NON-FINANCIAL CORPORATIONS' CDS PREMIUM (a)

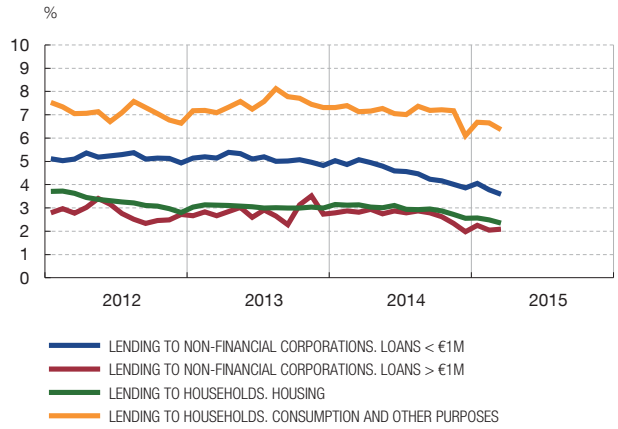
5- TO 7-YEAR YIELDS ON COVERED BONDS (b)



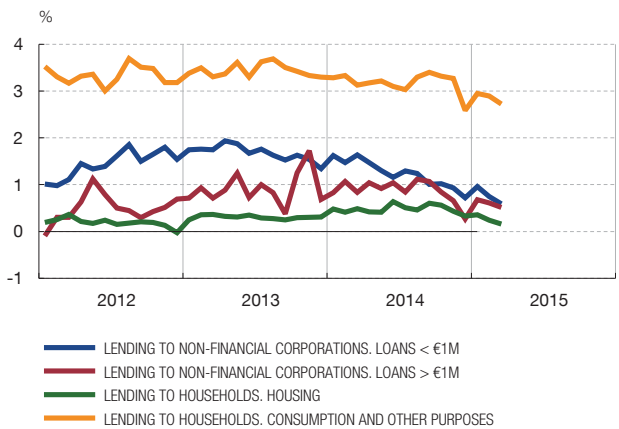
BANK INTEREST RATES: FIXED-TERM DEPOSITS



BANK INTEREST RATES: SPAIN



BANK INTEREST RATES. SPAIN -CORE EURO AREA (c)



SOURCES: Datastream, Reuters, ECB and Banco de España.

a Series constructed by weighting the CDS premia of the corporations included in the iTraxx Europe index and domiciled in each country on the basis of their stock market capitalisation as at 31 December the previous year. The core euro area series aggregates the CDS of Germany, Austria, the Netherlands, Finland and Luxembourg, weighted by GDP at current prices for the same year. In 2015, 2014 GDP has been used.

b Series constructed for each country as the average of the yields on the covered bonds included in J.P. Morgan's Maggie index. The core euro area series aggregates the covered bonds of Germany, Austria, the Netherlands, Finland and Luxembourg, weighted by GDP at current prices for the same year. In 2015, 2014 GDP has been used.

c Defined as the aggregate weighted by the GDP at current prices for the same year of Germany, Austria, the Netherlands, Finland and Luxembourg. In 2015, 2014 GDP has been used. To aggregate the different categories by maturity within each country, the same weights (turnover) are used as in Spain, meaning that the comparison is not affected by differences between these weights from one area to another.

companies for amounts over €1 million, the decline has been on a lesser scale (around 50 bp since mid-2013, compared with approximately 110 bp in the other two cases). Regarding this latter type of loan, however, it should be borne in mind that it is dominated by the behaviour of large corporations, which during the crisis largely replaced this source of financing by directly tapping the markets. In this respect, it is important to note that the credit default swaps of this type of company, which are a relevant indicator of the changes in their direct financing costs on the markets, have also shrunk significantly since mid-2013.

Notwithstanding, the distance between financing costs in Spain and in other euro area countries remains significant in some segments, most particularly in those in which borrower risks are more marked (consumer loans and loans to firms for amounts less than €1 million).

3.2 PROGRESS IN RESTORING MACROECONOMIC EQUILIBRIUM

The improvement in financing conditions has been significantly buoyed by the progress made in the ongoing adjustment and domestic reforms that have placed the Spanish economy in a healthier and more competitive position, which is paving the way for the pick-up in activity to feed through forcefully to job creation and the take-off of investment.

One of the key features in 2014 was the change in employment dynamics following five years of consecutive declines. The recovery was across all sectors and more intense in temporary employment

Employment growth quickened progressively during the year, to the point of outpacing the rate of increase of GDP in Q4. Actual productivity slowed markedly, increasing by scarcely 0.2% after having posted an average rate of change of 2.4% in the five preceding years (see Chart 1.5). The behaviour of employment shows, among other things, the effects of the legislative changes introduced since 2012, which may be said to have contributed to smoothing the adaptation of firms' working conditions to their cyclical and competitive situation. Labour flows in 2014 (number of transitions from employment to unemployment, or vice versa) were indeed along these lines, showing a progressive easing in the pace of job destruction, especially of permanent employment, and some pick-up in exit flows from unemployment, more markedly so for workers who had been jobless for less time and with higher levels of educational attainment.

The recovery in temporary employment gathered steam (5.3% at the end of the year) although permanent employment also showed a progressive improvement over the course of the year (2% year-on-year in Q4). However, this latter result should be seen as still insufficient in light of the numerous measures taken in the recent past to encourage permanent hiring, including most notably the reduction in 2014 in the employer's contribution in respect of common contingencies for new hires of this type. Into 2015, this measure has been replaced by a new scheme that will direct incentives towards the lower part of the wage distribution, where the least employable groups and those with the highest unemployment rates are concentrated.

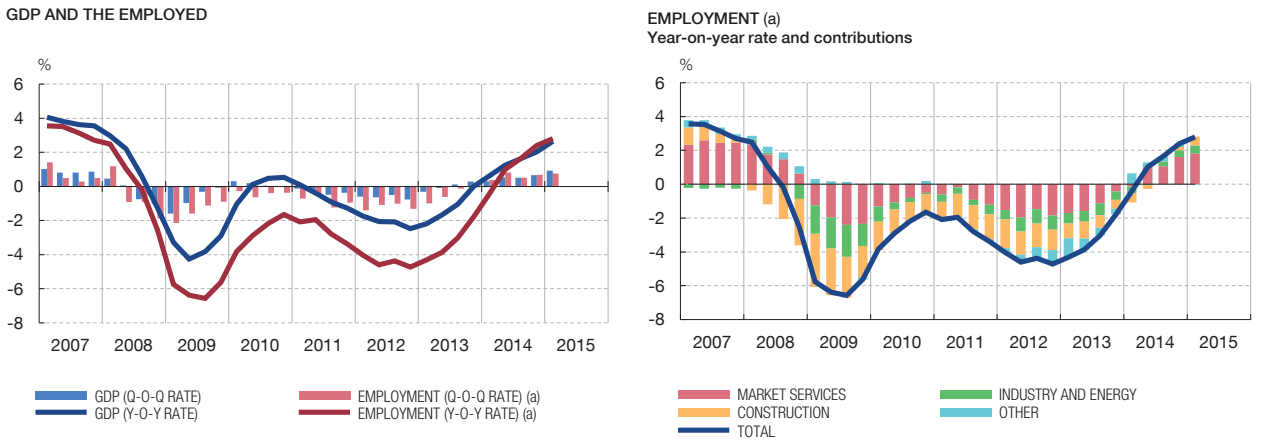
The labour force declined in 2014 at a similar rate to that observed the previous year (-1%). Contributing to this was both the fall in the working-age population concentrated among foreign nationals, and the decline in the participation rate, more marked among the immigrant population. The rate of decline of labour supply eased over the course of the year, virtually stabilising in the final quarter.

The unemployment rate declined but continues to be very high for youths and the less skilled, who face greater difficulties in re-joining the labour market

Against the background of the fall in labour supply in 2014, the dynamism of employment was conducive to a significant reduction in the number of unemployed (8% for the year on average, taking the jobless total to 5,485,000 people), and the unemployment rate fell by 2 pp during 2014 to 23.7% of the labour force, more than 15 pp above its 2008 level. The unemployment rates for the young and the less skilled remained at very high levels (39.7% and 41.2%, respectively) and, in this latter case, it scarcely declined in 2014. Long-term

GDP AND EMPLOYMENT

CHART 1.5



SOURCES: INE and Banco de España.

a FTEs in Quarterlty National Accounts.

unemployment rose to a level close to 62.8%, although it moved on a declining trend in the second half of the year.

The competitive adjustment of the economy continued as a result of the internal devaluation process…

Labour costs continued to move on the moderate path of recent years. Compensation per employee fell back slightly (-0.2% in annual average terms) as a result of its stabilisation in the market economy and of a small decline in the non-market economy. Wage increases agreed under collective bargaining were in a very similar vein to the preceding year (0.6 %). In addition, the temporary modification of working conditions and the activation of collective bargaining opt-out clauses, along with the composition effects arising from the wage-level differences between employment entry and exit flows, also contributed to turning labour costs downwards.

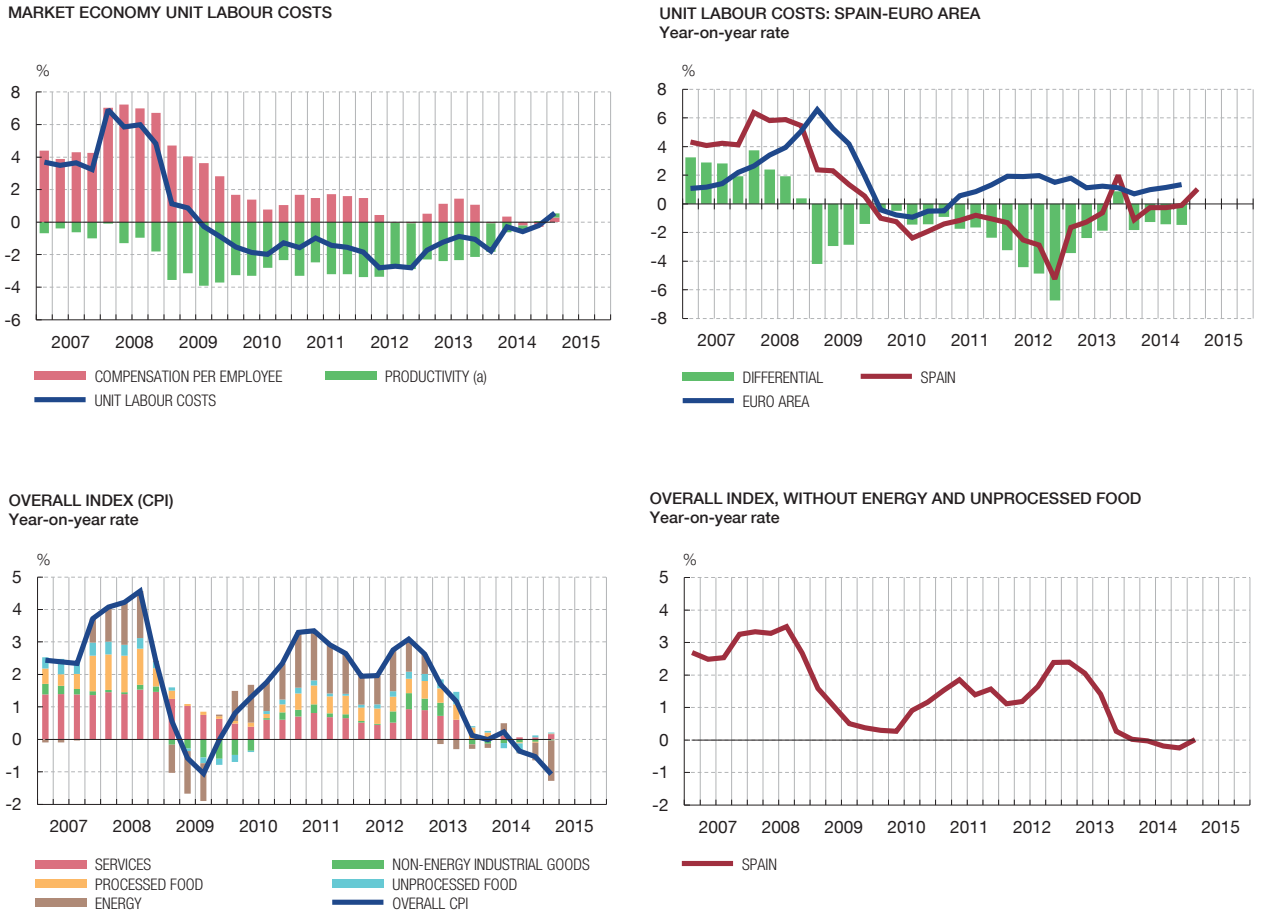
In recent years, the easing in labour costs has been somewhat greater than can be explained by their determinants, which might be attributable to the effect of the aforementioned legislative changes, in particular those that have permitted a greater response by wages to the cyclical situation. But a growing proportion of negotiation outcomes can be seen to set wages at the minimum levels of collective bargaining agreements and a high concentration of wage rates at around 0% in a context of negative inflation for most of the year. Wage increases under firm-level agreements were somewhat smaller than sector-wide agreements, but continue to affect a very small percentage of workers, meaning that the room for a greater decentralisation of collective bargaining remains very extensive.

As indicated in Chapter 4 in this Report, the regulatory changes made in the labour market may be conducive to the adaptation by the Spanish economy to the patterns of stability in the euro area, enhancing its responsiveness to shocks and cyclical oscillations. A greater degree of flexibility in wage formation allows adjustments to operate through relative prices, reducing the impact of wages on economic activity and employment. From this standpoint, it is important to avoid a return to now-superseded wage indexation practices.

Unit labour costs fell for the fifth year running, causing a further adjustment of relative costs with respect to the euro area (see Chart 1.6). Nonetheless, the intensity of the adjustment is slackening, partly as a result of the lessening rate of increase of productivity.

LABOUR COSTS AND INFLATION

CHART 1.6



SOURCES: Eurostat and Banco de España.

The improvement in competitiveness spread to a broad range of price indices. Overall, the competitive adjustment of the Spanish economy continued in 2014 via the internal devaluation process.

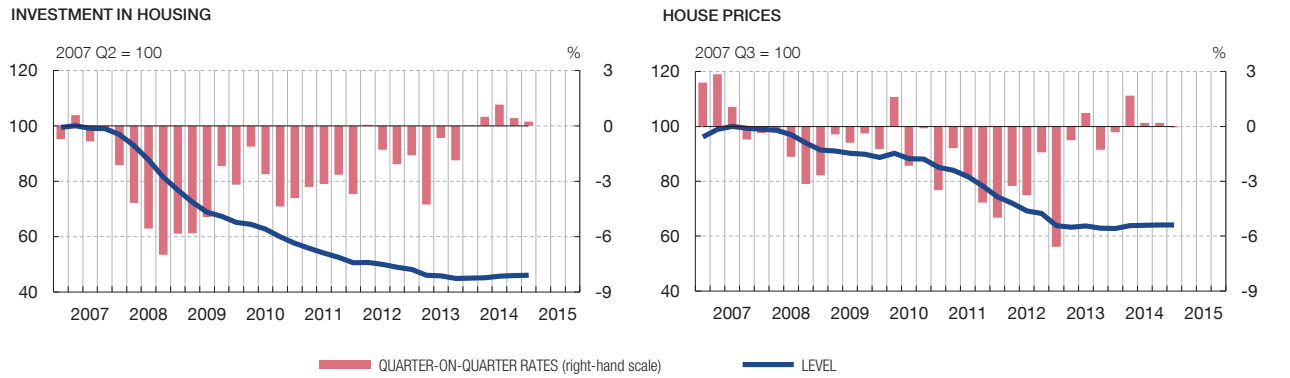
... although maintaining external equilibrium calls for further and deeper gains in competitiveness

Hereafter, the necessary continuity in improving competitiveness will face a somewhat less propitious environment, given the widespread low inflation in the euro area, and potential obstacles as a result of the nominal rigidity of wages and, above all, the low productivity growth envisaged, given the habitual countercyclical behaviour of this variable.

The correction of the external imbalance over recent years has acquired great intensity, as the generation of external surpluses in the past three years has shown. In 2014 the nation's net lending was on a slightly lower scale than that of 2013, largely as a consequence of the rise in imports (see Box 1.2). Despite the improved balance of flows vis-à-vis the external sector, headway in reducing the International Investment Position (IIP) is proving to be very gradual, standing at 93.5% of GDP in 2014 (93.8% the previous year), which illustrates the need for perseverance in attaining external surpluses over a sufficiently prolonged period. As analysed in Box 1.2, the high import content of final demand, excessive energy dependence on the rest of the world and sizeable interest payments – all of which should gradually ease – require a further drive in terms of exports, which should continue on the path of gaining market share, through additional price-competitiveness and quality improvements.

INVESTMENT AND HOUSE PRICES

CHART 1.7



SOURCE: INE.

The residential sector stabilised following a large-scale adjustment, although its recovery is not free from uncertainty

Following six years of contraction, activity in the residential sector evidenced small positive changes from the onset of 2014 Q2. Despite this turnaround, the contribution of housing investment to activity in 2014 was slightly negative (0.1 pp), far removed from the level of subtraction it exerted during the crisis (1 pp on average over the six previous years). Both new building permits, on the supply side, and housing transactions, on the demand side, rose slightly, albeit from very low levels. The absorption of the high stock of unsold new houses generated following the collapse of the sector continued at a slow tempo owing to the small number of new-house transactions and showed sizeable differences at the regional level. The biggest supply-demand mismatches are concentrated in the coastal areas, where the biggest overhang built up during the expansion.

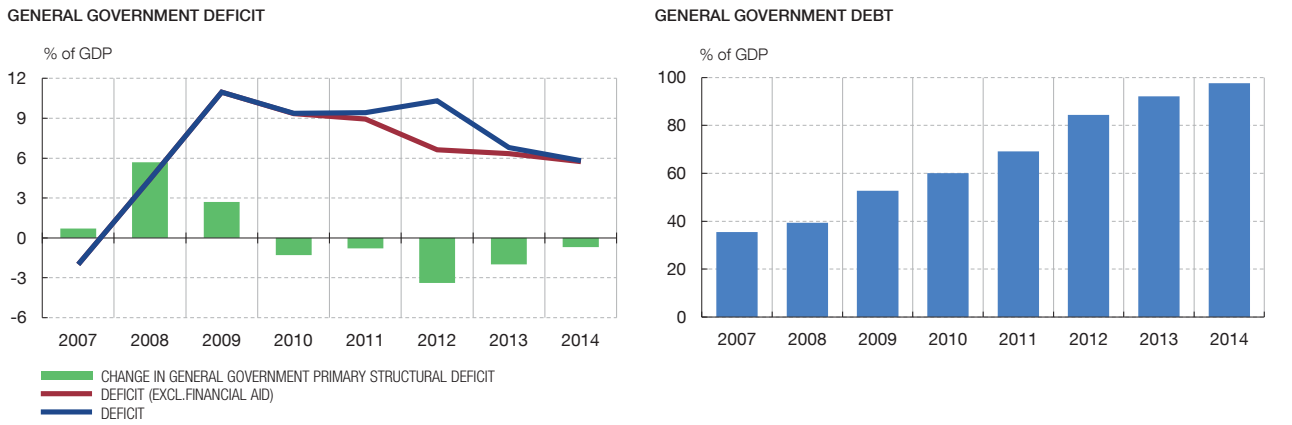
The fall in house prices bottomed out in 2014 Q1 according to the information from the INE index, increasing by 0.3% in annual average terms following six years of declines and ending the year with a positive year-on-year rate of 1.8%. House prices also behaved unevenly across the different geographical areas, although at the close of the year practically all the Spanish regions were posting house price rises.

Developments in 2014 indicate that the severe adjustment of the residential sector appears to have culminated in a drastic reduction in its size and a large-scale correction of prices. The weight in GDP of residential activity shrank by 68% from its last cyclical peak to 4% of GDP in 2014, and real estate prices fell by 36% in nominal terms (44% in real terms) from their peak, thereby correcting a high proportion of the increase witnessed during the expansionary phase (see Chart 1.7). With a view to the future, the outlook for recovery in the sector is not free from uncertainty. On one hand, it is difficult to determine to what extent the change in trend observed will be reflected in a sustained recovery in activity, given the high volume of unsold houses and their particular geographical distribution. On the other, into the medium term, there are doubts over the incidence of demographic developments on the potential demand for housing.

The general government deficit target was met, while fiscal policy began to be a less prominent determinant of macroeconomic developments

The general government deficit fell in 2014 to 5.8% of GDP (5.7% once the impact of the assistance to financial institutions is excluded), attaining the target set for this year by the European Council (5.8% of GDP); however, this final figure was somewhat higher than that set by the Government in the April 2014 Updated Stability Programme. The fiscal policy stance (approximated by the change in the primary structural balance) was moderately contractionary, in marked contrast to the strongly restrictive stance of recent years (see Chart 1.8). In turn, meeting the deficit target for the third year running

GENERAL GOVERNMENT DEFICIT AND DEBT CHART 1.8



SOURCE: IGAE.

contributed to improving macroeconomic agents' confidence in the sustainability of public finances and, thereby, to lessening uncertainty over the overall performance of the Spanish economy.

The reduction in the deficit came about as the result of similar-sized contributions by public revenue, whose ratio relative to GDP increased by 0.3 pp to 37.8% of GDP, and by public spending, which fell by a similar amount, to 43.5% of GDP. The increase in revenue gathered steam during the year, in step with the cyclical improvements and the change in composition of GDP, shifting from external demand towards domestic demand, which is conducive to a higher indirect tax take. In addition, growing labour market buoyancy boosted the bases of the taxes linked to employment income (personal income tax and social security contributions).

The decline in the public spending ratio was due to the adjustment of primary spending, based on the reduction of the weight of government consumption and of welfare benefits (owing to the decline in unemployment), and of public investment, which contracted moderately from already very low levels. The rate of increase of interest payments slackened as these began to reflect the significant decline in the cost of financing for the Treasury over the course of the year, meaning they maintained a similar level to that of the previous year (3.3% of GDP) despite the increase recorded in public indebtedness.

Measures taken in relation to payments to general government suppliers have helped normalise financial relations with the private sector

The latest payments under the Supplier Payment Plan were made in February last year, but a new set of funds intended chiefly for payments to regional and local government suppliers has been launched. All these initiatives have given rise to an increase in regional and local governments' debt with the State and, in parallel, a reduction in private-sector debt, and they should be accompanied by a demand for strict compliance with the adjustment plans upon which these extraordinary financing mechanisms are conditional.

In the short and medium term, perseverance with the fiscal consolidation strategy is unavoidable given the challenges posed by the stabilisation and subsequent reduction in the public debt ratio

The public debt/GDP ratio increased by around 3 pp in 2014 to 97.7% of GDP, in line with the official target. The increase in debt was chiefly the outcome of the still-high primary deficit. In 2015 debt will continue rising, according to official plans, up to 98.9% of GDP, beginning to fall timidly thereafter in 2016. The challenges posed by such a high level of public debt for the economy as a whole, even in a process of gradual debt reduction in the medium term, should not be minimised.

Private-sector deleveraging advanced significantly. Although the contraction in lending remained the driving force of the process, this eased substantially in 2014

Spanish household and corporate debt fell once more to levels of 71% and 92% of GDP, respectively, at the close of the year. The related gaps between these ratios and those in the euro area as a whole narrowed to 10 pp and 12 pp, namely one-half and one-third of the figures recorded in 2010, when Spanish private-sector debt reached its relative peak.

Real GDP growth contributed to the reduction in these ratios but inflation developments, which up to this year had also helped reduce them (albeit moderately), had the opposite effect. In any event, the driving force behind private-sector deleveraging was once more the contraction in bank lending. Yet it should be stressed that last year, and for the first time since this necessary correction process began, the rate of decline of bank loans to households and firms eased significantly. Additionally, from a more disaggregated perspective, there were once more signs pointing to a reallocation of new lending flows to firms in a more favourable economic and financial situation. Thus, taking both the aggregate and disaggregated perspectives together, the trend of credit over the course of last year is consistent with a trajectory of progressive normalisation, whose consequences for the financing of the economic recovery are analysed in detail in Chapter 5 of the original Spanish version of this Report.

The results of the Comprehensive Assessment attested to the effectiveness of the clean-up, restructuring and recapitalisation of the banking system

The Comprehensive Assessment undertaken as part of the groundwork for the launch of the SSM revealed, first, that Spanish banking assets were fairly valued, since the revisions required affected only 0.2% of their total risk-weighted assets, the lowest percentage in the whole of the euro area. And further, it was evident that Spanish banks had the required capital to overcome a potential extremely adverse macroeconomic scenario, since the stress tests performed did not detect capital shortfalls for any of them.

The process of adjustment of the banks that received public aid advanced as scheduled, whereby at the end of 2014 virtually the entire projected reduction in terms of assets, number of offices and employees have been completed. The FROB (Fund for the Orderly Restructuring of the Banking Sector) formalised the sale, via auction, of two (NCG and Catalunya Banc) of the four banks under its control, and it also sold, by means of a public offering, 7.5% of its stake in Bankia (through BFA).

Further ahead, the sector's capacity to finance the economy will also be reinforced by the regulatory progress being made on the agenda set by the G-20 to achieve a sounder and more stable global financial system. In Europe, the year 2014 also saw the entry into force of the Basel III Accord, once it was transposed into Community law. The methodology and list of global systemically important institutions was updated and the FSB tabled its proposal to increase the total loss-absorption capacity of these banks and its initiatives to improve the resolution mechanisms for banks active in numerous jurisdictions.

4 Challenges in entrenching the recovery and the role of economic policies

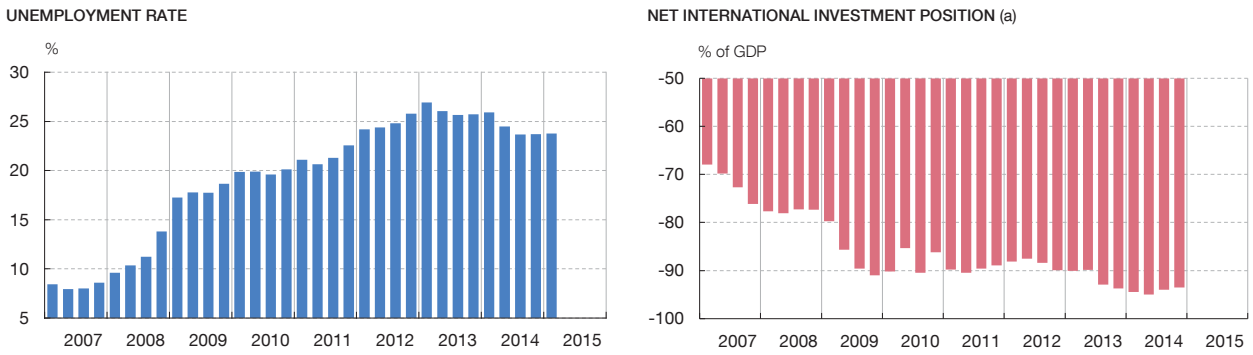
Underpinning the recovery in the economy in 2014 was the progress made in restoring macroeconomic equilibrium, but also other, more temporary factors with less influence on the medium-and long-term growth of the Spanish economy.

Economic policies must build on the adjustments in order to entrench and prolong the recovery phase

The results achieved in economic growth and job creation are encouraging and indicative of the success yielded by the efforts made; but it should not be forgotten that the adjustment and re-balancing of the Spanish economy is not yet over and that the impact of the depth of the crisis on Spain's situation has not been fully dispelled.

Although the recovering trajectories of GDP and employment have firmed, they are still below their respective levels at the onset of the crisis. Per capita GDP, too, has begun to

UNEMPLOYMENT RATE AND NET INTERNATIONAL INVESTMENT POSITION CHART 1.9



SOURCES: INE and Banco de España.

a Data prior to 2012 Q4 follow previous methodology based on 5th Balance of Payments Manual.

increase, but it has not regained its 2007 level. The demographic setting has changed in the past six years, with population declines that might continue in the future.

From the financial standpoint, the upward trajectory of the public debt ratio has not yet come to a halt and the high levels of private debt, despite notable headway in deleveraging, continue to bear on the dynamism of spending and are a factor of vulnerability given the possible emergence of fresh bouts of uncertainty.

Economic policies must therefore continue to play a leading role to ensure the re-balancing of the economy, further sound growth and the re-absorption of the durable effects of the heavy legacy of the crisis, the most visible features of which are high unemployment and high debt (see Chart 1.9).

The euro area must continue advancing towards a genuine economic and monetary union

Although it exceeds the exclusive remit of Spanish economic policy, the importance of the euro area continuing to move towards a genuine economic and monetary union should be reaffirmed. Despite the significant progress made in the reform of the governance of the area and in the construction of the Banking Union, the tensions generated by the situation in Greece show that the risks and challenges for the euro have not disappeared. The course was clearly set in the roadmap detailed in the so-called Four Presidents Report and was clearly assumed and backed by the area's Heads of State and of Government. What are involved are undoubtedly complex steps which, as in the case of the fiscal union, will require major efforts to extend the areas of shared sovereignty in directions that will prove key to consolidating the euro and the euro area, and which, as the recent experience with the Banking Union suggests, will ultimately entail more benefits than costs for member countries and their citizens.

And in Spain, economic policies must ensure that the recovery is underpinned by durable conditions of stability

As regards national public finances, the fiscal consolidation process of recent years has been supported by the stronger commitment to budgetary stability and the oversight of public finances, in which connection various instruments such as the Budgetary Stability Law and the start-up of the Independent Authority for Fiscal Responsibility (AIReF by its Spanish name) have been developed, under the new European Governance framework. After the experience of the sovereign debt crisis, one of the priorities of this raft of measures is to step up co-responsibility in the fulfilment of deficit targets by the different tiers of government (central, regional and local). Pre-emptive and corrective mechanisms have been devised to avert the risk of persistent slippage by each level of government, along with extraordinary financing formulas, subject to conditionality, in situations of tension in the financial conditions of the different general government sectors.

There has been progress in strengthening budgetary discipline, but there are ways of enhancing the preventive procedures in place to ensure the fulfilment of fiscal targets

There have been significant achievements here. However, in 2014 a majority of regional governments exceeded their deficit targets. This means new avenues for improving the application of the existing procedures must be explored. In particular, strict compliance must be ensured with the early warning mechanisms envisaged under the Budgetary Stability Law and, in cases where recurring slippage occurs, the corrective steps stipulated by the Law must be activated. The AIReF, as part of its remit, should contribute to making these procedures effective.

The generalisation of the regional government financial support mechanisms poses certain challenges that need to be jointly addressed with the reform of regional government financing arrangements, so that a transparent and stable financing framework is ensured for the implementation of spending powers.

Meeting budgetary targets might require reinforcing the fiscal consolidation

The government's medium-term budgetary strategy establishes that the adjustment will fall in the coming years on public spending. This item is expected to be reduced by the efficiency gains brought about by the various expenditure-rationalisation reforms enacted under the aegis of the CORA (Commission for General Government Reform) report, which considers simplifying competencies as they are currently outlined, in particular in the corporate public sector and in respect of local government reform. In addition, the Government's Budgetary Plan bases the achievement of its objectives on a more expansionary behaviour of public revenue, against a background of tax reform.

Overall, the objectives are demanding and to ensure their fulfilment it may be necessary, were the risks of slippage to materialise, to reinforce the fiscal consolidation plan with supplementary measures. With regard to public spending, the effectiveness of the rationalisation plans in place would have to be guaranteed, conducting a thoroughgoing review of the different expenditure items with the aim of prioritising those with a greater impact on growth. In respect of revenue, consideration would have to be given to a tax structure enabling sufficient resources to be raised so as to finance the desired level of public spending. In this respect, regard could be had to increasing the relative weight of indirect tax (broadening of VAT bases, rise in excise duties and environmental taxation) and rationalising the wide range of deductions, rebates and reductions that erode tax-raising capacity, in line with the proposals by experts and international agencies. It is vital that both the composition of the spending adjustment and the revision of the tax basket should be designed attempting to minimise the potential adverse effects on the economy's long-term growth.

And the challenges posed by population ageing for public finances in the medium term must be addressed

The pension system reform adopted in 2013 will contribute decisively to easing the growth in public spending that foreseeable population ageing will entail. The latest available projections at the European level (using harmonised methodology) foresee a slight decline in the weight of public spending in pensions in Spain between 2013 and 2060 (of 0.8 pp, accounting in the latter year for a ratio of 11.7% of GDP) compared with the 3.6 pp increase that would have come about in the absence of the aforementioned reform. To avoid uncertainties over the future amount of pensions, the new system needs to be implemented with the greatest possible transparency, in keeping with the procedures established by the Law. Enacting these changes raises the need to promote the introduction of insurance and saving mechanisms that will help complement pensions under the unfunded public system in the future, along with tax incentives.

The ongoing transformation of the labour market must continue…

The labour market faces the twin challenges of reducing unemployment to rates comparable with those in other developed economies and of adding greater dynamism to productivity so as to encourage sustained growth in per capita income in the medium term. The short-

term outlook is favourable, but it is vital to maintain the reform-inspired momentum that will give the Spanish economy the flexibility needed to prevent the high unemployment rate from becoming structural and to drive improvements in productivity and the continuity of gains in competitiveness.

… with better-working active employment policies…

The effectiveness of the raft of active policies whose main goal is to provide for the reinsertion of the unemployed into the labour market should be improved. As indicated throughout this chapter, this task is proving particularly difficult for those groups who have been unemployed for longest and who have a lower level of educational attainment. Significant steps have been taken in this connection over the past year with a view to improving coordination between central and regional government, increasing the link between the financing and outcome of different programmes and promoting participation by the private sector. Along these same lines, the recent reform of vocational training arrangements includes competition among different skills-providers, reducing the role of social agents in the management and imparting of training. But resolute progress in the effective implementation of this broad set of changes will be vital, requiring, in some cases, a regulatory roll-out that has yet to be undertaken. The experience of other countries shows that the effectiveness of such programmes depends on the economic and institutional conditions in place. Accordingly, the change in strategy in Spain should be accompanied by a rigorous assessment of the different programmes, which will call for better information on the cost and effectiveness of the different measures of support to the unemployed.

The weight of rebates for new hires as part of the overall spending on active policies is very high, and its impact on employment possibilities for the most underprivileged groups is uncertain. An assessment and reorganisation of the group of rebates in place, such as that envisaged in the 2015 National Reforms Programme, would help free up resources that could be used to further the ongoing modernisation of public employment services, enabling, for example, individualised insertion itineraries to be efficiently designed for the unemployed in terms of their characteristics and of the needs detected in firms' demand for labour.

… more extensive changes in collective bargaining…

The different changes made to the collective bargaining framework have sought to increase the system's degree of decentralisation and to adapt working conditions to the specific situation of firms and sectors. Progress has been made here, but the degree of wage dispersion across sectors and firms remains limited. Further action in this field would involve reviewing the automatic extension principle governing industry-wide agreements to promote the adaptation of negotiations to the specific situation of firms and to workers' participation therein. Such measures would bring the Spanish labour market closer to common practices in other European countries.

… and the rationalisation of hiring arrangements

Progress in reducing the duality of the labour market appears to be less visible. It would seem reasonable that after a prolonged episode of job destruction, marked by high levels of uncertainty, the pick-up in employment should turn initially on temporary hiring. However, the resort to permanent hiring remains weak, despite the changes introduced to promote it. It is acknowledged that a high temporary employment ratio ultimately shapes a labour market with excessive employment volatility and adversely affects productivity, essentially through the scant incentives that excessive labour turnover generates for investment in human and technological capital by firms and employees. Here, then, measures should be aimed at re-balancing incentives in favour of permanent hires, narrowing the gap between termination conditions and the different types of hiring arrangements, and providing for greater continuity between these modalities.

Increasing the Spanish economy's long-term growth possibilities calls for structural reforms to be sustained and deepened

The future growth of the Spanish economy will be influenced by the way in which it manages to overcome the effects wrought by the crisis on productive factor endowment but also by its capacity to raise the low productivity growth rates that have continuously beset it.

In this respect, growth potential will be greatly influenced by the capacity to reduce the unemployment rate and its persistence, and to increase the economy's degree of capitalisation by means of higher business investment seeking to harness the appreciable improvement in Spanish firms' financing conditions and costs. It will also depend on the possibility of speeding gains in efficiency through an appropriate allocation of productive resources across sectors and firms.

Against this background, investment- and job-creation-boosting structural reforms must be maintained and furthered, lowering obstacles to competition and eliminating barriers that prevent the appropriate reallocation of productive resources towards firms and industries with greater growth potential. As analysed in the next chapter of this *Annual Report*, these barriers are the outcome of inadequate regulations, a small average business size, limited regional and sectoral mobility in employment, a degree of educational mismatch between labour supply and demand, which increased during the crisis, and low innovative capacity. To overcome these shortcomings, precise and ambitious economic policy responses will be required. Furthermore, the implementation of structural reforms may bring about positive synergies with the expansionary monetary policy the ECB is pursuing by means of the application of non-standard measures, including in the short run, owing to their impact on expectations about higher growth in incomes in the future.

Despite recent progress, some reforms are still outstanding in various sectoral areas

In recent years there has been progress in various regulatory fields and, more recently, reforms have been introduced geared to lessening the degree of indexation in the economy, eliminating the build-up of further tariff deficits in the electricity sector and improving the climate for entrepreneurship. These include the various amendments to insolvency legislation, most notably the recent Royal Legislative Decree 1/2015, which extends the mechanisms for the restructuring of and reprieve from debt (the so-called "fresh-start" legislation) for sole proprietors and individuals; progress in the application of the legislation guaranteeing market unity; and improvements in the area of retail trade. However, the room for improvement is still significant in various areas and there should be no let-up here. In particular, it is a priority to push through full implementation of the guidelines of the law guaranteeing market unity at all levels of government, and to build up the reforms outstanding in the fields of justice, professional services and infrastructure.

It is likewise necessary to improve the level and quality of education and the economy's technological capacity

The Spanish economy continues to exhibit a level and quality of education and a degree of technological capitalisation below those of the developed countries, which diminishes the capacity for growth of productivity. In this respect, the academic year 2014-2015 saw the initial implementation of a new education law and certain specific aspects of basic vocational training were regulated with the aim of helping keep pupils in the educational system. However, on the university front, progress has been more limited. Enhancing Spain's stock of technological capital will require a reassessment of the current instruments for fomenting private-sector innovation, closer links with public research institutions and changes in the governance and funding of such institutions, an objective that may be assisted by the creation of the new State Agency for Research, as set out in the 2015 National Reforms Programme.

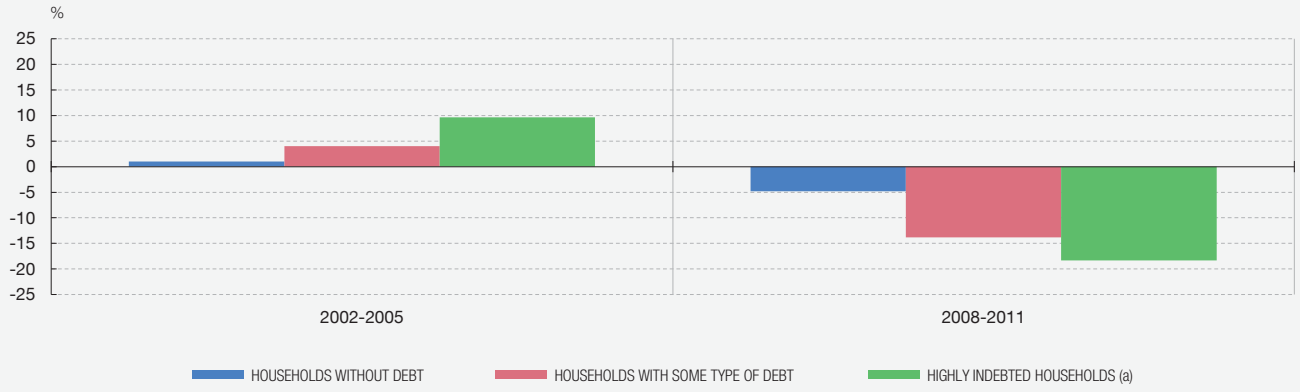
The financial situation of households, and particularly their level of indebtedness, can affect their spending decisions. The debt/income ratio of Spanish households – a standard indebtedness indicator – rose significantly up to 2010 and has subsequently declined, also significantly. However, it remains high compared both with past periods of economic recovery and with other developed countries. This box analyses the implications for recent and future consumption patterns.

Panel 1 compares consumption patterns among different groups of households, according to their level of indebtedness, and shows that the most marked decline in consumption during the crisis was among the most highly indebted households. Further regressions to explain household level consumption growth on the basis of income, wealth and indebtedness levels confirm this inverse relationship between debt and spending.[1]

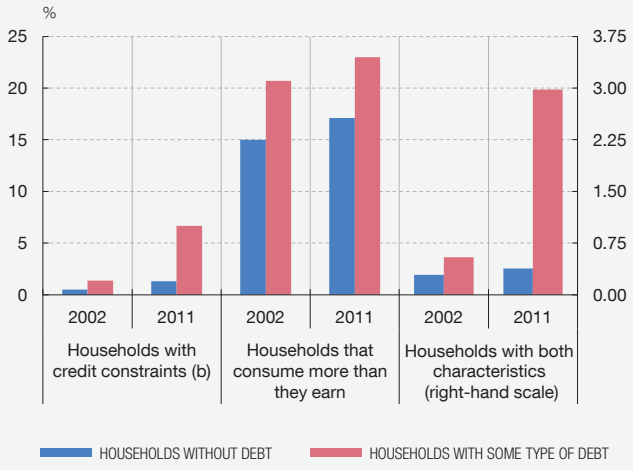
However, for a more in-depth analysis of the possible effects of the present indebtedness levels on Spanish household consumption (and, therefore, on the economic recovery momentum), a further angle must be included in the study, namely the behaviour of households that have no ability to save after debt servicing and that find it more difficult to access new credit. Panel 2, obtained from the Spanish Survey of Household Finances (EFF), depicts the percentage of households whose annual spending is in excess of their income and the percentage of households that reported credit

1 See Casado and Folch (2015) for more details on these findings.

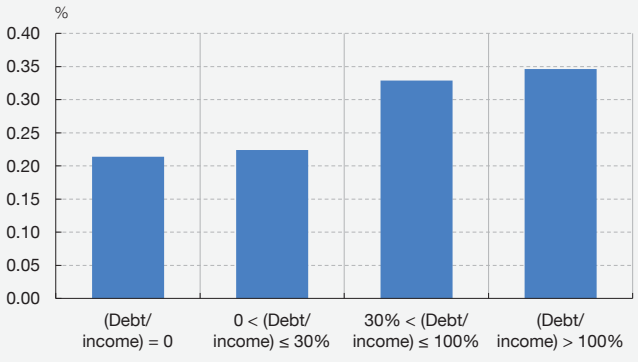
1 CONSUMPTION GROWTH



2 HOUSEHOLDS WITH FINANCIAL DIFFICULTIES



3 RESPONSE OF CONSUMPTION TO CHANGES IN INCOME BY DEBT LEVEL (c)



SOURCE: Survey of Household Finances (EFF).

a Households that have a debt/income ratio of over 300%, a debt/wealth ratio of over 75%, or who pay more than 40% of their income on loan interest and principal repayments.
b Households with credit constraints are defined as those whose loan application has been partly or fully rejected.
c This panel shows the elasticity of consumption to income. See J.M. Casado and M. Folch (2015) for further details.

constraints[2] (as well as the percentage of households that simultaneously conform to both criteria). As may be observed, these figures are clearly higher for indebted households and they have risen during the crisis. For these households, consumption growth relies more on their current income than on possible expected increases in their future income, as these cannot be transformed into spending until they actually materialise. The above-mentioned regressions confirm this hypothesis and show that the consumption response to changes in (current) income rose during the crisis. Panel 3 depicts the estimates of this response for different groups of households, according to their level of indebtedness, and shows that higher consumption associated with higher income is most marked among the more highly indebted households.

2 Defined as the proportion of households whose loan applications have been partly or fully rejected.

Accordingly, the conclusion may be drawn that high indebtedness levels among Spanish households have adversely affected household consumption, which was to be expected, but at the same time that they have also rendered it more sensitive to changes in current income. This increased sensitivity of consumption to current income helps to explain the recent growing momentum in household consumption, in light of the clear recovery observed in household income. It also signals that, in this recovery phase, the improvement in employment could have a comparatively more positive effect on consumption than in comparable periods in the past. In any event it should also be recalled that the still-high level of indebtedness makes household demand more sensitive to changes in borrowing costs, although in the medium term a sharp rise in interest rates that could have a significantly contractionary effect on household spending levels is unlikely.

The Spanish economy, on balance of payments data, again recorded net lending in 2014 (1.2% of GDP), although the level was lower than in 2013 (2.1%). This box identifies the variables that contributed to the slowdown in the improvement in the external balance in 2014, as well as the factors underlying its behaviour, in an attempt to determine the effects of the recent moderation on the external balance.

Both the current account balance and, to a much lesser extent, the capital account balance helped to reduce the external surplus last year (by 0.6 pp and by 0.3 pp of GDP, respectively). In relation to the current account, the component that caused the largest reduction in its balance (to 0.8% of GDP, from 1.4% the previous year) was the goods and services balance, the surplus of which shrank notably in 2014 (by 0.8 pp to 2.6% of GDP). In contrast, the primary and secondary income balances improved slightly (by 0.2 pp, to -1.8% of GDP).

The deterioration of the goods and services balance was a result, in turn, of the reduction in the non-energy goods surplus, which was only partly mitigated by the improvement in the energy goods and services balances (see Panel 1). In particular, as regards goods trade, the sharp recovery in non-energy imports counteracted the growth in exports (see Panel 2), which continued to gain world market share, and the positive impact on the energy bill derived from the decline in the price of oil, which became more obvious by the end of the year.[1] Accordingly, most of the reduction in the current surplus in 2014 was notably due to external purchases of non-energy goods, while exports continued to grow at a high rate.

The healthy performance of goods exports, which since the start of the crisis have grown at a faster rate than world demand and price competitiveness,[2] reflects the impact of several developments that, together, would indicate that there has been a certain structural change in their behaviour. A simple way of illustrating this possible effect is to analyse whether the relationship between exports and their determinants has changed during the crisis. The historical relationship between these variables is therefore estimated for the period 1998-2008 and, on the basis of this estimate, the growth of exports is predicted for subsequent years using the observed path of world demand and the competitiveness of Spanish products.[3] If the predicted path of exports is similar to the actual path then there would appear to have been no change in the relationship between this variable and its determinants.

As seen in Panel 3, exports have grown systematically at a faster rate than predicted by the estimated equation, which suggests that there have been significant changes in the historical relationship between external sales and their determinants. The geographical diversification of exports, the increase in the number of regular exporters (15.6% more than in 2008) and, also, the increasing internationalisation of SMEs would explain the improved performance of exports, in relation to their determinants, in the most recent period. Especially important, given the average small size of Spanish companies, is the increasing role of SMEs in recent export developments (see Panel 4). Without a doubt, the wage moderation that began in 2010, along with the consequent competitiveness gains,[4] has facilitated the internationalisation of Spanish businesses and their penetration of increasingly competitive markets, since their lower costs have enabled Spanish firms to access markets in which prices were low in comparison with production costs in Spain. Against this backdrop of recovering cost competitiveness, the attractiveness of the Spanish economy as a destination for direct investment flows has increased, which has had a positive impact on the efficiency and competitiveness of the target firms. Thus, insofar as a large part of the competitive adjustment achieved in recent years has been of a structural nature, the level of exports can be expected to remain higher in future.

With regard to imports, as mentioned above, one of the most significant developments in 2014 was the sharp recovery in purchases of goods from abroad. In order to try to determine whether this surprisingly sharp increase was a consequence of a change in the historical relationship between imports and their determinants (basically final demand and competitiveness) or of the latter's own behaviour, a similar exercise to the one described for exports was performed. On this occasion, the growth of total imports is observed to have been in line with that derived from the estimated prediction, so that there does not appear to have been any significant change in the historical relationship between purchases from abroad and their main determinants (see Panel 5).

A similar conclusion is reached for 2014 when this analysis is performed at a disaggregated level, except in the case of imports of non-energy intermediate goods,[5] which continued to grow at a faster rate in 2014 than would have been expected on the basis of the behaviour of their main determinants, reflecting the dynamism of certain vertically integrated industries (e.g. the car industry).[6] By contrast, the notable rise in consumer durables and capital goods imports is in keeping with the greater buoyancy displayed by these components in final demand (see Panel 6).

1 The energy bill appears to have fallen by 5% in 2014 as a whole (0.2 pp of GDP). This decline reflects the impact of cheaper oil (8%), while the energy balance in real terms deteriorated by 2.7%. The decline in the oil price predicted for 2015 can be expected to reduce the energy bill further this year. On average, the energy bill falls by around 0.5% of nominal GDP for every €10 by which the price of a barrel of oil declines.

2 García, C. and E. Prades (2015), "Actualización de la función de exportaciones españolas de bienes", *Boletín Económico,* April, Banco de España.

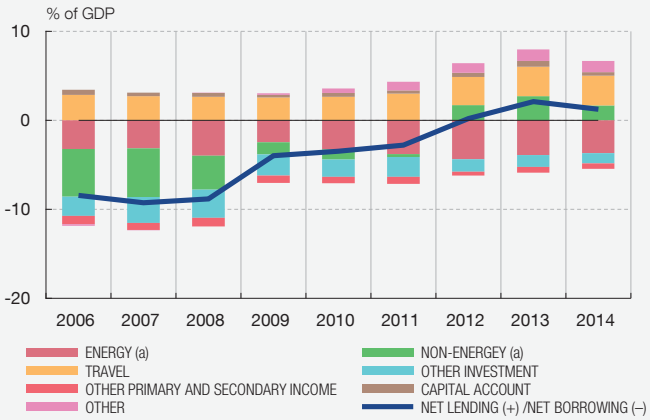
3 Specifically, the equation includes the variable that reflects the evolution of Spain's export market and goods export and import deflators. In alternative specifications national demand is also included.

4 See Box 5, "Competitividad, costes laborales y empleo", in Informe Trimestral de la Economía Española, *Boletín Económico,* December 2014.

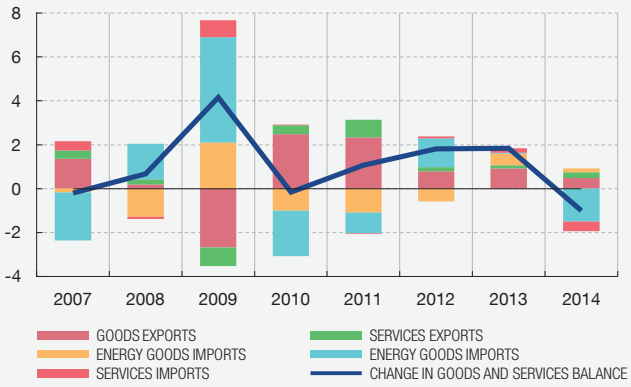
5 Energy imports declined, in nominal terms, in response to the fall in the price of oil.

6 See Box 5, "The recent behaviour of imports and their determinants", *Economic Bulletin,* April 2014.

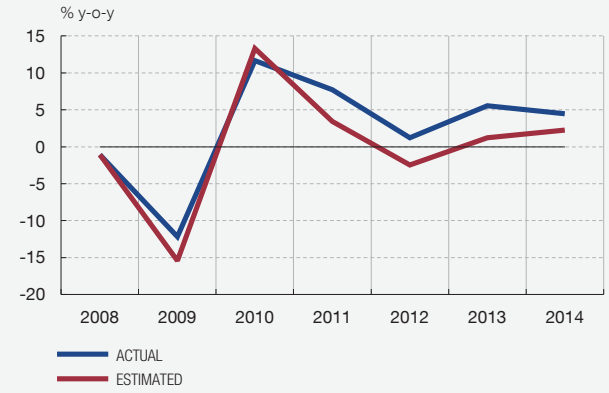
1 NET LENDING/ NET BORROWING



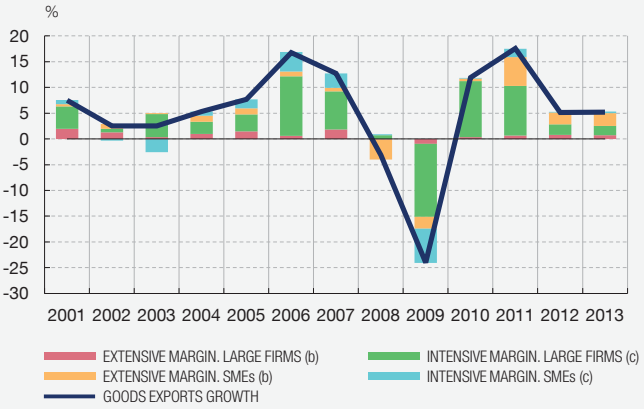
2 CHANGE IN GOODS AND SERVICES BALANCE: CONTRIBUTION BY COMPONENT



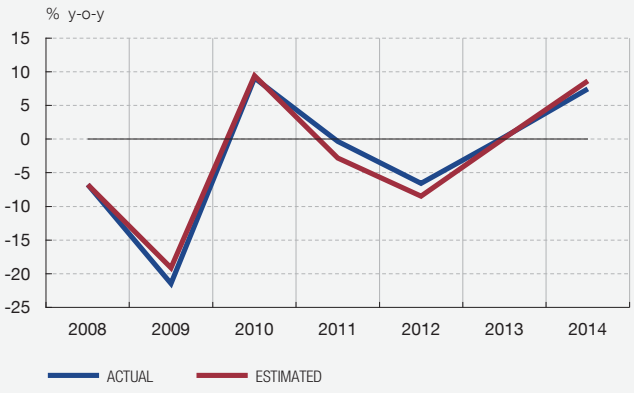
3 GOODS EXPORTS



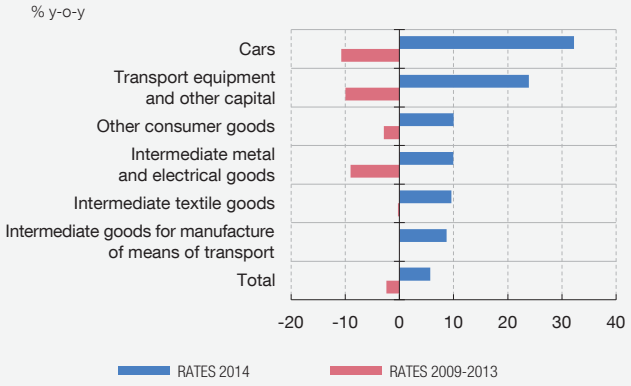
4 EXTENSIVE AND INTENSIVE MARGIN: CONTRIBUTION TO CHANGE IN GOODS EXPORTS



5 GOODS IMPORTS



6 GOODS IMPORTS (NOMINAL)



SOURCES: Banco de España (based on Balance of Payments, CBA and mercantile registries statistics) and the AEAT (Spanish Tax Revenue Service) Customs and Excise Department.

a The energy and non-energy balances are estimates by the Banco de España drawing on Customs data.
b The extensive margin is defined as the contribution to the increase (decrease) in the exported value derived from an increase (decrease) in the number of "firm-country of destination" trade relations.
c The intensive margin is defined as the contribution to the increase (decrease) in the exported value derived from an increase (decrease) in the amount exported by each firm to each country.

In any event, in the current stage of the cycle, spending is being directed towards goods with a high import content, which suggests that the effects of the changes in the composition of demand have been contributing to the recent growth in imports. The rise in capital goods imports (18.7% year-on-year in 2014 as a whole), linked to the recovery of investment and to the above-mentioned growth in exports, reflects the dependence of Spanish industry on high value added imported inputs. Also notable in this respect is the vigorous growth of consumer durables imports (20% year-on-year in real terms), which may reflect a certain overreaction linked to the large cumulative fall in the consumption of such goods since the start of the crisis (-6.2% over the period 2008-2013, as against –1.9% in the case of total spending). As for imports of non-durable consumer goods, with the firming of the recovery, a greater coincidence has been observed between actual purchases abroad and those predicted by the model, so that no significant substitution effect between domestic production and imports has yet been detected.

In conclusion, the improvement in the cyclical position of the Spanish economy, along with the realisation of purchase decisions that had been postponed during the crisis, appears to have had a significant impact on the external balance in 2014, having led to strong import growth. On the other hand, the fall in the price of oil, competitiveness developments and the expansion of the export base and its geographical diversification partly offset the negative impact of the cycle. In the future, while the business cycle will continue to support import growth, the impact of pent-up demand will ease over time. Moreover, despite the lack of evidence of a substitution effect on total imports, one would expect the gains in competitiveness arising from the still-ongoing internal devaluation, together with the changes in the productive structure, to be conducive to a reduction in import dependence in the medium term.[7]

7 See Chapter 3 "Growth and reallocation of resources in the Spanish economy", *Annual Report,* 2014, Banco de España.

1 Introduction

Global growth prospects are constrained both by the lasting effects of the crisis and by prior structural conditioning factors…

Recovery in the advanced economies after the Great Recession is proving slow and the medium-term growth outlook is moderate. This is as a result both of the fact that the previous expansion was associated with unsustainable factors – in particular private-sector over-indebtedness, excessive growth in asset prices and the excessive size of the financial and real estate sectors – and of the very consequences of the crisis, in terms of high public debt, an increase in structural unemployment and uncertainty.[1] These factors compounded prior structural constraints such as the ageing of the population or the trend reduction in productivity.[2]

…especially in the European countries

Growth prospects are particularly moderate in the European economies. The latest estimates of potential growth for the EU countries in the coming decade place it at around 1.3%, significantly below the estimate for the pre-crisis period (see left-hand panel of Chart 3.1). Specifically, if these prospects are compared with those existing before the crisis, the previous medium-term growth rate can be seen to have fallen by around 0.5 pp owing, above all, to the worse-than-expected performance of productivity and capital accumulation.

In Spain, the economic crisis gave rise to very high losses in output and employment…

In the case of the Spanish economy, the onset of the crisis evidenced the build-up of strong macroeconomic imbalances in the expansionary phase, whose origin lay in an excessive concentration of resources in the real estate sector, high private-sector debt, the excessive scale and accumulation of risks by the financial sector and significant losses in competitiveness, which were manifest in a high external deficit and a continuous increase in external debt. The outcome was very high cumulative losses in output and employment that exceeded those observed in other economies. Moreover, the unfolding of the crisis prompted an extraordinary increase in unemployment and a rapid increase in the budget deficit and in public debt.

… and the medium- and long-term growth outlook is also moderate

The available estimates project a potential growth rate for the Spanish economy below its historical pattern (see right-hand panel of Chart 3.1). This outlook is conditional upon both overall and characteristic factors of the Spanish economy, including most notably the necessary process of public and private deleveraging, the high unemployment level, low productivity growth and population ageing.

The improvement of this outlook will require efficient resource reallocation

For the recovery to firm and the growth outlook to brighten, it will be necessary to see through the ongoing correction of imbalances, reduce the unemployment rate and increase productivity. In this connection, resources in the economy must be reallocated to the most productive industries and firms and the rise in unemployment must be prevented from becoming structural. Economic policies have a crucial role to play, fomenting better-quality factors of production and eliminating the obstacles to their efficient allocation.

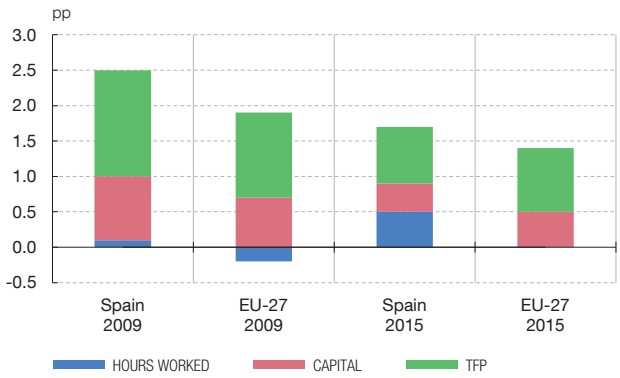
This chapter analyses the process of reallocation of resources since the onset of the crisis and during the incipient recovery with the aim of identifying the factors behind it and the potential distortions checking it. The chapter is structured as follows. The second section

1 See I. Hernando, P. del Río and I. Pablos (2015), "Adjustment and growth prospects in the developed economies", *Economic Bulletin,* March, Banco de España.

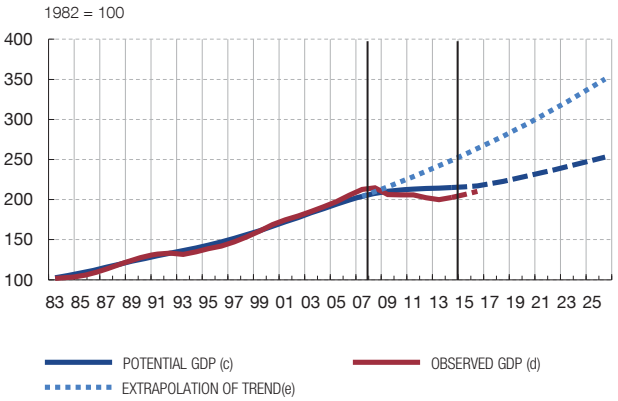
2 Against the background of this downturn in growth prospects, some authors have set out what is known as the secular stagnation hypothesis, under which the economy might be trapped in a situation of low growth over a prolonged period. See CEPR (2014), "Secular stagnation: facts, causes and cures", *A VoxEU.org Book*, CEPR Press.

IMPACT OF CRISIS ON POTENTIAL GDP AND MEDIUM-TERM OUTLOOK CHART 3.1

POTENTIAL GROWTH PROJECTIONS AND CONTRIBUTIONS IN 2025 ACCORDING TO EUROPEAN COMMISSION BEFORE AND AFTER THE CRISIS (a)



GDP AND POTENTIAL GDP IN SPAIN (b)



SOURCES: EC, INE and Banco de España.

a See «The 2009 Ageing Report: Economic and Budgetary Projections for the EU-27 Member States (2008-2060)» and «The 2015 Ageing Report: Underlying Assumptions and Projection Methodologies».
b In each case, continuous lines are for estimates and dotted lines are for projections.
c Between 1983 and 2007, the annual average rate of change estimated for potential GDP was 2.9 %. Between 2008 and 2013, this rate declined to 0.8 %.
d Between 1983 and 2007, the annual average rate of change of observed GDP was 3 %. Between 2008 and 2013, this rate was –1 %.
e Trend scenario for potential GDP before the crisis, corresponding to annual average growth of 2.9 %.

describes, from an aggregate standpoint, the Spanish economy's medium-term growth prospects and analyses some of the challenges it faces. The rest of the chapter adopts a more disaggregated approach in order to determine whether recent developments in relation to the ongoing reallocation of factors of production across both sectors and firms allows the scope of these challenges to be better discerned. Specifically, the third section describes, from a sectoral perspective, the reallocation process observed since the onset of the crisis. The fourth section analyses the intra-sectoral reallocation of resources. Finally, the fifth section discusses certain economic and institutional factors that may be preventing the allocation process from unfolding efficiently.

2 The impact of the crisis on growth capacity and the medium-term outlook

The analysis of the impact of the economic crisis on growth capacity and the medium-term outlook can be addressed drawing on the estimates of potential growth, discounting the cyclical factors that influence its course in the short term. In this connection, the Banco de España estimates of the Spanish economy's potential growth by its Directorate General Economics, Statistics and Research are set out and discussed hereafter. These projections, like those of international institutions[3], are based on a production function approach in which the economy's output capacity is inferred drawing on estimates, at their potential levels, of the factors of production, employment and capital, and total factor productivity (TFP), with the latter defined as that portion of output growth which is not explained by changes in the factors of production and which approximates the economy's level of efficiency[4]. Potential growth estimates are highly controversial owing, among other

3 K. Havik, K. Mc Morrow, F. Orlandi, C. Planas, R. Raciborski, W. Roger, A. Rossi, A. Thum-Thysen, and V. Vandermeulen (2014), *The production function methodology for calculating potential growth rates and output gaps,* Economic Papers No. 535, European Commission; A. Johansson, Y. Guillemette, F. Murtin, D. Turner, G. Nicoletti, C. Maisonneuve, P. Bagnoli, G. Bousquet, and F. Spinelli (2013), *Long-Term Growth Scenarios,* OECD Economics Department Working papers No. 1000, OECD Publishing.

4 The fundamental assumptions of this estimate are: (1) technological progress is neutral in that it increases output in the same way that the employment factor does; (2) marginal factor productivity is given by factor prices; (3) there are constant returns to scale; (4) to estimate the structural component of unemployment, a micro-founded Phillips curve relationship is used which provides less procyclical estimates than other methodologies available in the literature.

aspects, to their habitual procyclicality and to the difficulty of calculating them in real time. Beyond point estimates, their analysis allows, in any event, for a discussion of the main conditioning factors of growth. These results are set out below, firstly reviewing the impact of the crisis, and subsequently analysing the medium-term outlook.[5]

2.1 THE IMPACT OF THE CRISIS ON POTENTIAL OUTPUT

The economic crisis had a significant impact on the Spanish economy's potential growth…

The recent economic crisis had a most adverse effect not only on economic activity but also on the estimated rate of the Spanish economy's potential growth (see right-hand panel of Chart 3.1). If potential growth stood at close to 3% on average in the period running from 1983 to 2007, it is estimated it would have stood below 1% during the crisis. Growth in the upturn was based on a high contribution by the factors of production (labour and capital), which increased over time and enabled the negative trend of productivity to be offset (see top left-hand panel of Chart 3.2), whereas the crisis prompted a sharp slowdown in the contribution of the factors of production which was not offset by the slight recovery in TFP. These results placed Spain, along with Italy, among the European countries with the biggest slowdown in the rate of potential growth between 2009 and 2013 (see top left-hand panel of Chart 3.3).

...as a result, above all, of the negative trend in employment…

The impact of the crisis was particularly felt in employment, whose contribution to growth turned negative during the recession after it had maintained contributions of over 1 pp per year since the 1990s. Among the different components of employment[6], the contributions of the population of working age, the participation rate and the NAIRU (or structural unemployment rate) evidenced a very sharp slowdown, while the negative contribution of hours worked per employee that had been observed over the previous period was checked slightly (see top right-hand panel of Chart 3.2).

…with a strong deceleration in the population of working age, following the reversal of migratory flows…

The demographic component played a key role in these developments. The population of working age, which had moved on a rising trajectory in recent decades, began to post declines from the start of the crisis which translated into a slightly negative contribution to potential growth, chiefly as a result of the reversal of emigration flows. Immigrants inflows accounted for 1.4% of the total population between 2000 and 2007, placing the weight of the foreign population in the total population at 12.6% in 2007 against 1% in 2000. However, the crisis drastically curbed immigrant inflows while outflows from Spain increased notably, essentially involving recent foreign arrivals in Spain, making for a negative migratory balance since 2010[7]. In addition, the gradual process of national population ageing began to be felt in the aggregate population figures. In particular, the growth of the national population of working age dipped from 0.4% in 2007 to 0.1% in 2013.

…a slowdown in the increase in the participation rate...

Further, the trend increase observed in past decades in the participation rate has been checked in the most recent period, despite the fact that during the crisis the decline in

5 Attempts have been made in recent years to develop alternative methodologies for estimating potential growth. These seek to include financial variables or are based on an alternative concept of growth adjusted for domestic and external macroeconomic imbalances (in the current account balance, the real effective exchange rate, the international investment position, public- and private-sector saving and investment, residential investment and the weight of the non-tradables sector); (see Borio, C., P. Distyatat and M. Juselius (2013), *Rethinking potential output: Embedding information about the financial cycle,* BIS Working Papers no. 404; and Alberola, E., A. Estrada and D. Santabárbara (2013), *Growth Beyond Imbalances. Sustainable Growth Rates and Output Gap Reassessment,* Documentos de Trabajo, no. 1313, Banco de España. The estimates of potential growth based on these alternative methodologies are in line with those presented in this chapter.

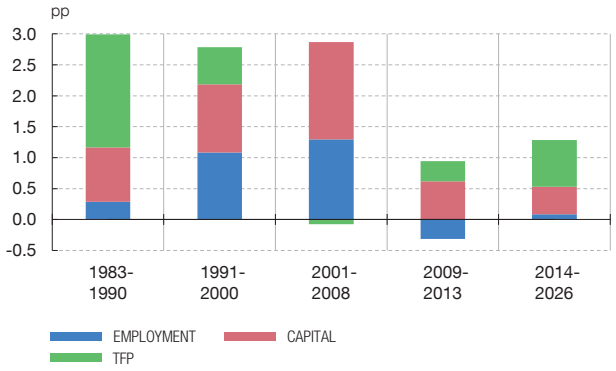
6 The level of employment, measured in total hours worked, can be written as a function of the population of working age, the participation rate, the unemployment rate and the number of hours worked per employee.

7 M. Izquierdo, J. F. Jimeno and A. Lacuesta (2015), *Spain: from immigration to emigration?*, Documentos de Trabajo, No. 1503, Banco de España.

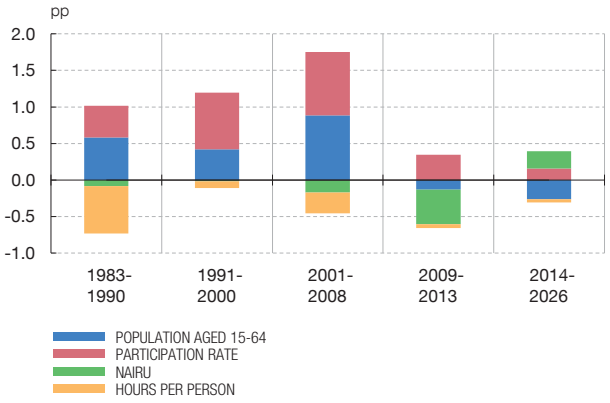
DETERMINANTS OF POTENTIAL GROWTH

CHART 3.2

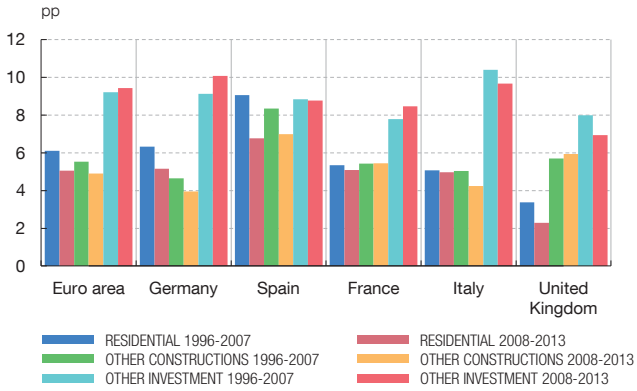
GROWTH OF POTENTIAL GDP



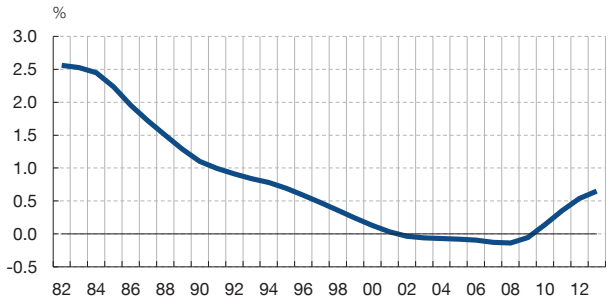
GROWTH OF POTENTIAL EMPLOYMENT



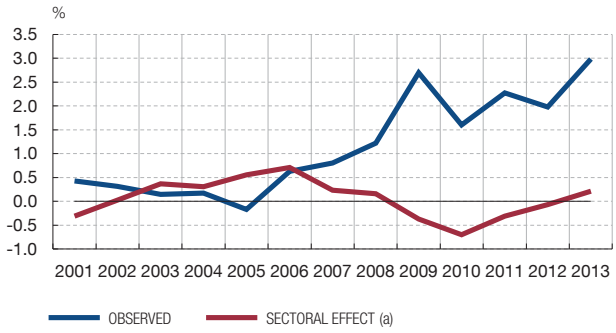
GDP RATIOS OF DIFFERENT TYPES OF INVESTMENT



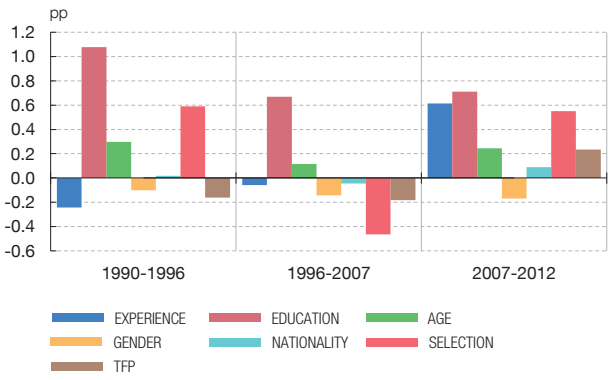
TOTAL FACTOR PRODUCTIVITY (TFP) (y-o-y rate)



ESTIMATED COMPOSITION EFFECT ON APPARENT LABOUR PRODUCTIVITY (y-o-y rate)



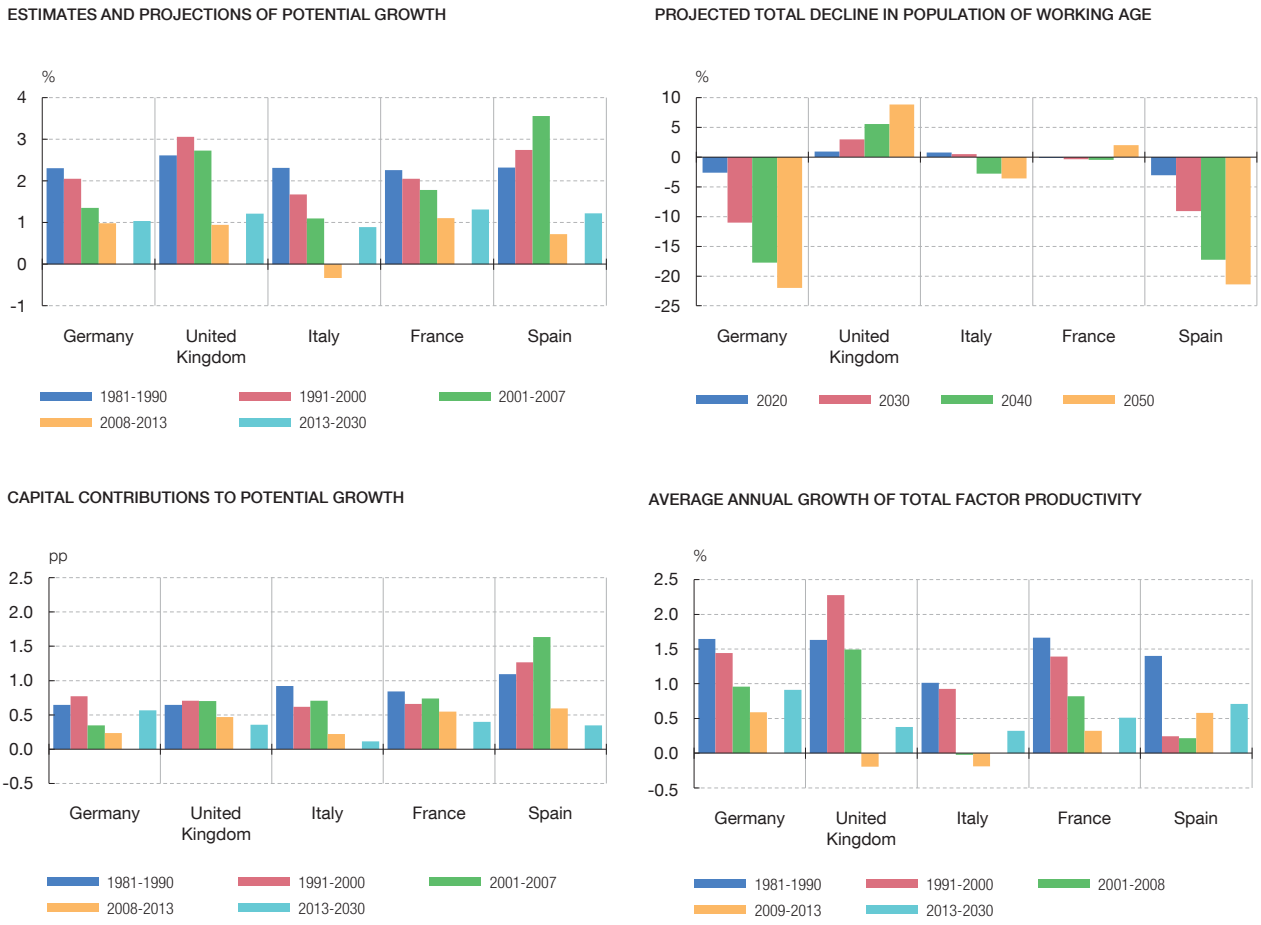
AVERAGE CONTRIBUTION TO THE QUALITY OF EMPLOYMENT FACTOR (b)



SOURCES: INE and Banco de España.

a Relates to apparent labour productivity growth held constant in different sectors, allowing only for temporary changes in their relative weights in the economy.
b See Cuadrado, Lacuesta and Puente (2008). The «selection» variable attempts to proxy the contribution of the differences in the productivity levels of workers with identical observable characteristics (education, age, etc.), and would therefore include the composition effect not attributable to these characteristics. For example, redundant (hired) workers foreseeably have the lowest (highest) productivity level within each group of workers with the same observable characteristics.

EUROPEAN COMMISSION ESTIMATES OF POTENTIAL GROWTH (a) CHART 3.3



SOURCE: Europena Commission.

a See «European Economic Forecast, Autumn 2014» and «The 2015 Ageing Report: Underlying Assumptions and Projection Methodologies».

the participation rate of older employees was less than that observed in other recessionary periods. That might be linked to the pension system reforms approved in recent years. The increase in this variable since the mid-1980s was essentially determined by women, this participation rate climbed from 38.3% in 1983 to 69.7% in 2013.[8]

…and a significant increase in structural unemployment

The dramatic increase in unemployment observed in the Spanish economy as from 2008 passed through with force to its structural component, which is consistent with the strong increase in long-term unemployment (which exceeded 62% in 2014[9]) with the significant deterioration in unemployment outflows (especially for specific less-skilled groups) and with the greater degree of mismatch between the skills demanded by the labour market and those available among the unemployed.[10]

8 P. Cuadrado, A. Lacuesta, J. M. Martínez and E. Pérez (2007), *El futuro de la tasa de actividad española: un enfoque generacional,* Documentos de trabajo, no. 0732, Banco de España.

9 Measured as the percentage of the unemployed who have been looking for work more than one year. This percentage stood at 22% in 2007. The related percentage for the unemployed who have been looking for work for more than two years increased to 43.7% in 2014.

10 M. Izquierdo, S. Puente and P. Font (2013), «Evolución del desajuste educativo entre la oferta y la demanda de trabajo en España», *Boletín Económico,* June, Banco de España, pp. 43-50.

The negative trend of investment during the crisis also strongly impacted the stock of capital…

The contribution of the stock of capital[11] to growth was also checked appreciably, following a very positive impact in the previous period (see central left-hand panel of Chart 3.2). This was the outcome of a very buoyant investment cycle, in which investment expressed as a percentage of GDP rose to rates close to 30% in 2006 and 2007, far exceeding those recorded in other European countries, although the composition of this investment process was strongly biased towards residential construction and other buildings, which detracted from its positive effects on productivity and on infrastructure. As a result, the capital/output ratio moved on a rising trend, especially from the 1990s. With the onset of the crisis, investment accumulated very high declines, whereby its level in 2013 was 38% lower than that observed in 2007. Overall, investment as a proportion of GDP fell by almost 10 pp from the start of the crisis, to 19.3% in 2013, a level close to that observed in other euro area countries. This impact on capital formation is consistent with the strong financial component of the economic crisis, which gave rise to reduced incentives for investment in capital as a result of the decline in demand, the increase in uncertainty, the tightening of financing conditions and a more restrictive supply of credit.[12]

...while productivity is expected to have picked up slightly

As regards productivity, TFP – the variable that proxies the economy's efficiency[13] – slowed significantly during the upturn, to the point of posting slightly negative rates from 2000 (see the central right-hand panel of Chart 3.2). Since the start of the crisis there has been a rise in this variable, which grew at an estimated rate of 0.7% in 2013. The rise does not appear to be linked to possible composition effects derived from the reallocation of factors of production to sectors with higher levels of productivity over the course of the period in question. As can be seen in Chart 3.2 (bottom left-hand panel), had productivity levels[14] held constant in each sector in the period, productivity growth attributable to the temporary change in the weights of the different sectors would have been virtually zero. Also, composition effects in employment or lower capacity utilization during the crisis may explain, at least partially, the aforementioned rise in TFP in recent years. [15]

2.2 MEDIUM-TERM OUTLOOK

So as to distinguish the more or less durable effects of the recent economic crisis on the Spanish economy's growth capacity, an estimate of growth potential over the medium-term horizon (2014-2026) is presented hereafter. It should be stressed that this exercise is subject to high uncertainty, given that its construction requires that a series of what may be debatable assumptions be made. Specifically, a decline in structural unemployment to its historical average is assumed and, for the remaining components, trends similar to those observed during the recent recovery are expected to be maintained. The results and their interpretation are, therefore, conditional upon these assumptions holding.

---

11 The stock of productive capital is estimated adjusting for the differences in the depreciation rate (years of useful life) of each asset and for the different user costs of each sector of activity and asset. The statistical source used is IVIE (the Valencian Economic Research Institute), which provides a series aggregating 18 types of asset and 31 sectors of activity. The latest figure from the IVIE series is updated for subsequent years on the basis of the observed trend of investment according to the information provided by National Accounts and using the permanent inventory method.

12 See the Banco de España 2013 *Annual Report*.

13 Efficiency which would depend, inter alia, on technological improvements in productive processes and on organisational and management system innovations applied by firms.

14 This illustrates the sectoral composition effect on apparent labour productivity. The following section analyses in greater detail the effect on TFP.

15 An important factor when assessing TFP in Spain is that of composition effects in employment, derived from the fact that in recessions job destruction is concentrated among those groups of workers with a lower level of productivity (see bottom right-hand panel of Chart 3.2). Further, it should be borne in mind that TFP, as a residual variable, reflects all the measurement errors of the other factors. In particular, the potential capital stock estimate does not take into account the different degree of utilisation at different times in the cycle, which might also generate a countercyclical pattern in the TFP estimate.

The outlook for potential growth is for a recovery after the crisis, but at lower levels than during the previous upturn

On available estimates, a recovery in the Spanish economy's potential growth is projected in the coming years to around 1.5% on average between 2014 and 2026[16], based on a continuing positive contribution by TFP and of capital accumulation, combined with a positive contribution by employment (see top left-hand panel of Chart 3.2). This growth is lower than that observed in the pre-crisis period, essentially owing to the lesser dynamism of the population, although in per capita terms average growth (likewise around 1.5%) is expected to stand below the figure of 2.2% estimated for the 1983-2007 period. This outlook is in line with that estimated for the United Kingdom, Germany and France, and above that for Italy (see top left-hand hand panel of Chart 3.3).

Demographic developments will continue to exert downward pressure on the growth outlook and the cohort effects on the participation rate will progressively peter out

Potential employment will once again be highly influenced by demographic developments. Specifically, on INE projections, a continuous decline is foreseen in the population of working age over the coming years (-0.4% in annual average terms from 2014 to 2026). These developments are similar to those forecasts for other European countries, such as Germany, although more negative than those for Italy and France (see top right-hand panel of Chart 3.3). Over a longer-term horizon, these trends are expected to intensify, in parallel with population ageing, giving rise to a very marked decline in the population of working age. However, a somewhat more favourable course of immigration flows than that anticipated in these ultimately highly uncertain projections cannot be ruled out, in particular against a background of recovery and falling unemployment, which would provide for a higher increase in potential growth. As regards the participation rate, a still-positive contribution is projected in respect of the female participation rate, albeit on a declining trend that will detract from its significance as a driver of labour force growth.[17]

A progressive reduction in structural unemployment is expected…

The envisaged improvement in the contribution of employment to potential growth is closely linked to the projected reduction in the NAIRU, which is expected to move in the coming years on a progressively declining path (see top right-hand panel of Chart 3.2). In any event, changes in this variable are subject to a high degree of uncertainty. In principle, the absorption of the effects of the crisis might warrant a decline in the NAIRU, whose medium-term level would be determined by the institutional characteristics of the labour market and by the level around which it has fluctuated in recent decades. However, a more permanent impact of the sharp increase in unemployment recorded during the crisis, in particular on those groups among which a very notable increase in unemployment duration is observed, cannot be ruled out. Conversely, labour market reforms have been geared to increasing the degree of flexibility of the labour market and should, in this way, contribute to a lower level of structural unemployment.

… as is a moderate contribution of the stock of capital ...

With regard to the growth of the stock of capital, a small contribution to potential growth is expected following the high growth recorded in the previous upturn (see bottom left-hand panel of Chart 3.3).[18] This lower growth would be consistent with lower investment in residential capital and infrastructure, which is expected to hold at lower levels, given the need to absorb the imbalances in respect of the real estate sector and of private debt and to see through the process of fiscal consolidation.

… and the continuation of the recent recovery in TFP

Finally, TFP growth might stand at around 0.8% on average in the 2014-2026 period, in line with the average growth observed in recent decades. Nonetheless, it should be borne

16 European Commission estimates place this growth at around 1.2% on average between 2013 and 2030 (see Chart 3.3).

17 See J. M. Montero, P. Cuadrado and A. V. Regil (2015), "The cyclical resilience and the determinants of the participation rate in Spain", *Economic Bulletin,* May, Banco de España.

18 Under the assumption that the economy's capital/output ratio grows at the same rate as technological progress.

in mind that the slowdown in productivity is a generalised phenomenon in the European countries (see bottom right-hand panel of Chart 3.3). Further technological progress and a more efficient use of productive resources might boost TFP growth.

The future growth outlook for the Spanish economy is conditional upon a series of factors, including most notably demographic developments, the high level of unemployment and its persistence, the tailing off of the cohort effects in the participation rate and the impact of public- and private-sector deleveraging, among others. While in the short term growth potential will be highly influenced by the capacity to reduce the unemployment rate, in the long term the chief factor constraining potential growth is productivity, which depends – inter alia – on the economy's capacity to efficiently reallocate resources across sectors and firms. The structural reforms approved in recent years, and those still outstanding, which are analysed in section 5 of this chapter, might help significantly improve this outlook.

3 Changes in the sectoral composition of the economy

The crisis has led to changes in the weight of different sectors, with that of construction, industry and real estate activities diminishing, and that of other services increasing

One of the specific features of the impact of the crisis on the Spanish economy is the scale of the sectoral restructuring it has brought about. The growth in the weight of construction in GDP seen during the expansion reversed notably during the crisis (see Chart 3.4). Conversely, both non-market services – in line with the countercyclical nature of the tiers of government included in this sector – and other services unrelated to real estate activities gained weight. Specifically, there were more favourable performances by trade, transport and accommodation and food services; professional, scientific, technical and auxiliary activities; other services, including most notably those relating to domestic staff; and the information and communications sectors.

Taking a broader time perspective, the share of the construction industry in the economy has moved on a declining trajectory in Spain over the past 20 years, as have agriculture and industry (see Chart 3.4). The greater weight of services, with the sole exception of the trade, transport and accommodation and food services sector, is also part of a context of continuous growth in recent decades, to which phenomena such as the externalisation of certain industrial firms' activities have contributed.

Most sectors have become more export-oriented, although there remains a bias towards exports of goods with a low technological content...

Against the background of a strong contraction in domestic demand, the most favourable developments during the crisis were to be found in those industries with a higher export content. Further, a widespread change can be seen in the behaviour of firms, at which the likelihood of them exporting goods has increased. Hence, if tourism and trade are excluded, around 53% of the manufacturing sectors improved their exports in the most acute period of the crisis. Spanish exports are biased towards medium-low technology content and labour-intensive goods[19] (following the OECD classification), a pattern which became more marked after the collapse of world trade in 2009, although recently there has been some pick-up in exports of medium-high (automobiles) and high (aircraft) technology content. The goods Spain exports also generally show a level of quality, proxied by the level of prices of goods exported to the same market, below that of the major euro area economies.

... a bias that is also maintained in production

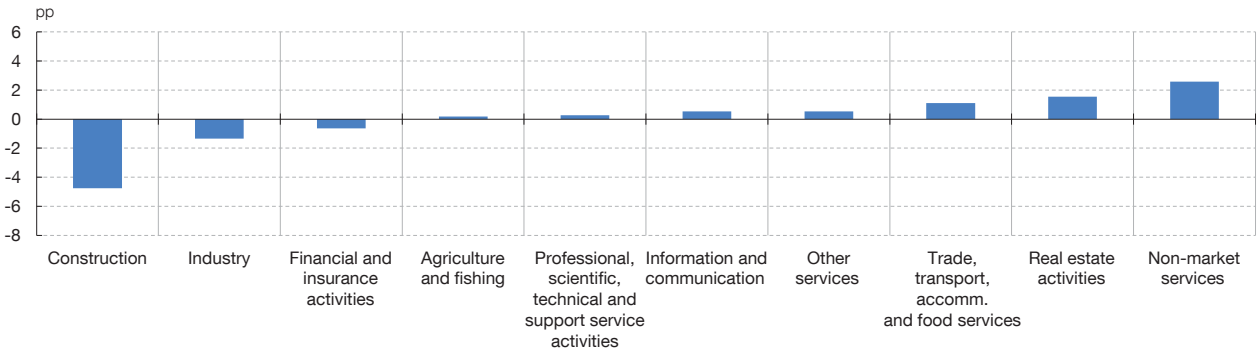
It is also notable that the medium-high and high-technology sectors only account for around 7% of GVA (6% of employment). That said, they are generally sectors that have

19 Notable under the medium-low technology heading are machinery and mechanical equipment construction, non-metal mineral products and basic metal industries, while the labour-intensive heading includes food and clothing.

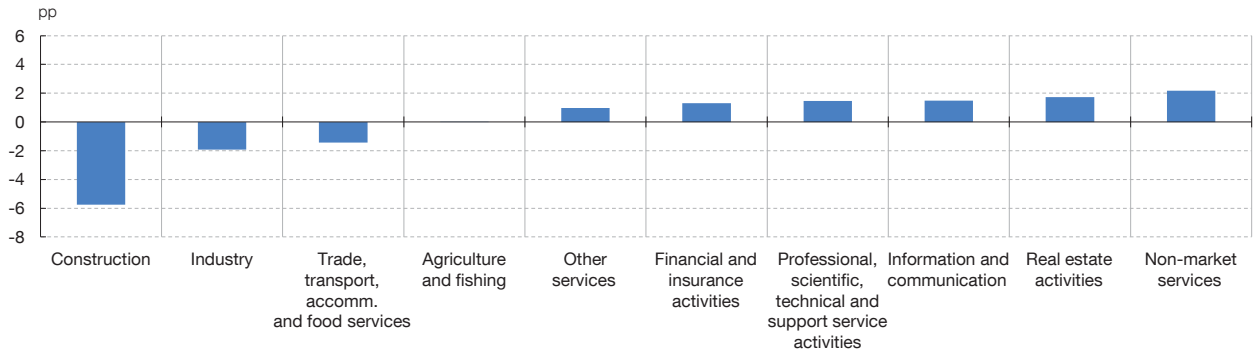
CHANGES IN THE SECTORAL COMPOSITION OF THE SPANISH ECONOMY (a)

CHART 3.4

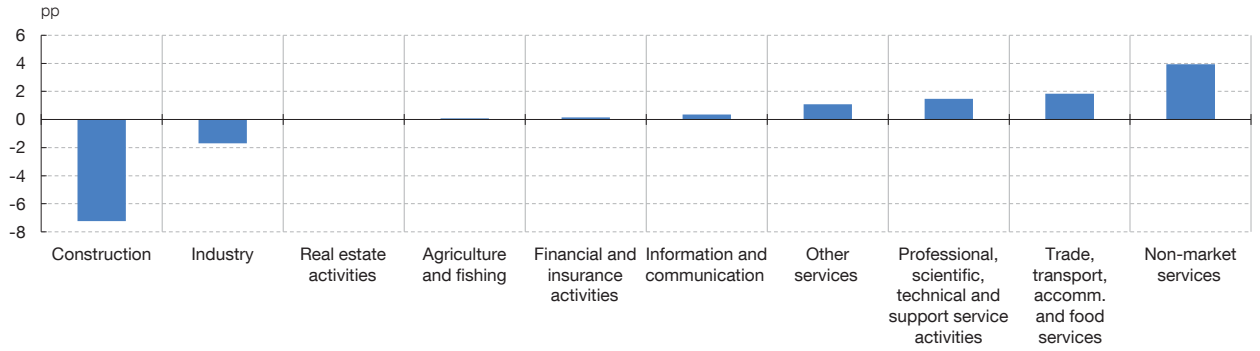
CHANGES IN GVA STRUCTURE BETWEEN 2013 AND 2007



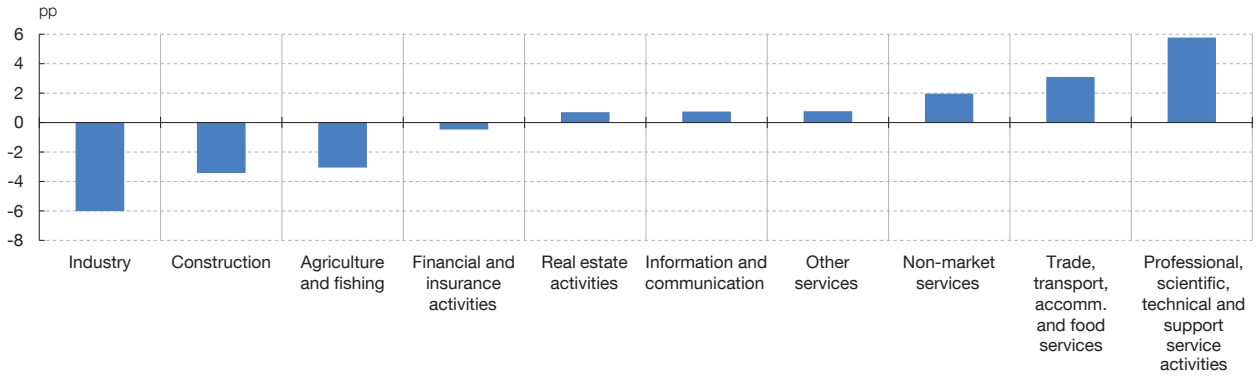
CHANGES IN GVA STRUCTURE BETWEEN 2013 AND 1995



CHANGES IN EMPLOYMENT STRUCTURE BETWEEN 2013 AND 2007



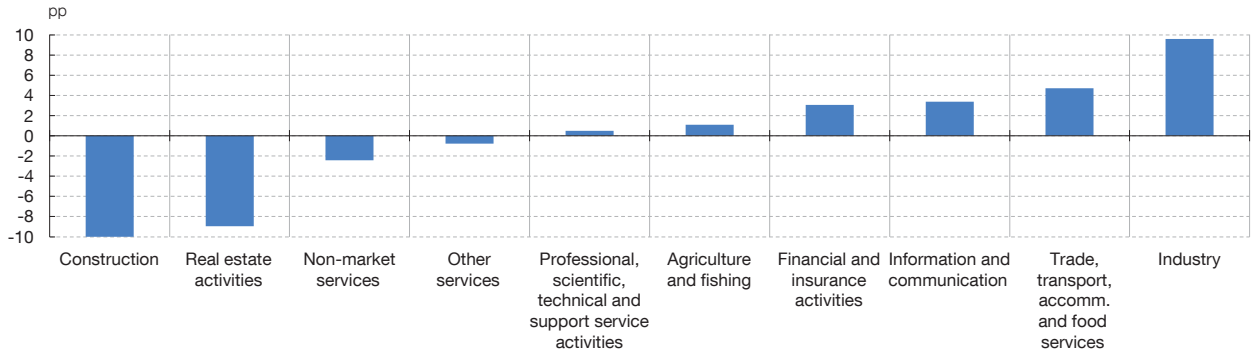
CHANGES IN EMPLOYMENT STRUCTURE BETWEEN 2013 AND 1995



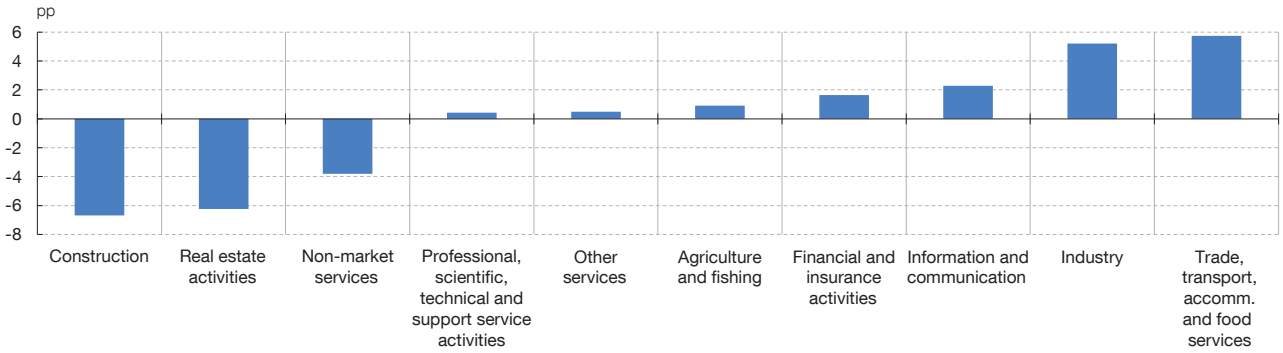
CHANGES IN THE SECTORAL COMPOSITION OF THE SPANISH ECONOMY (a) (cont'd)

CHART 3.4

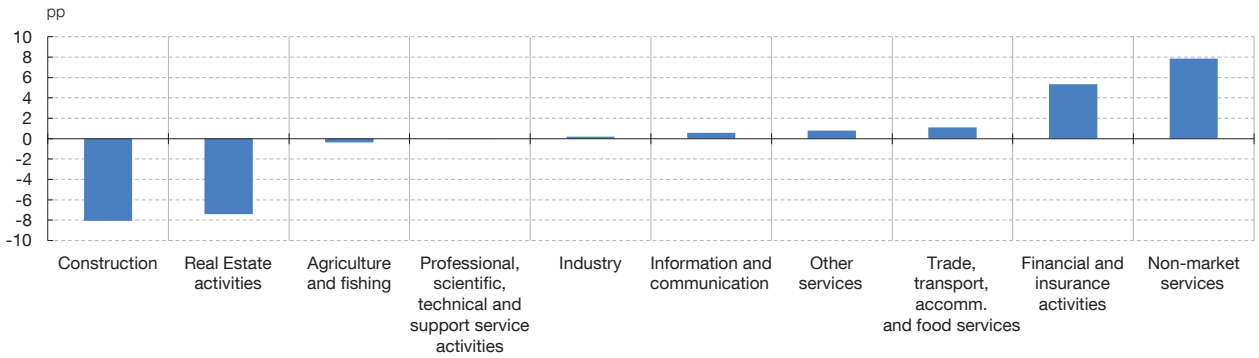
CHANGES IN REAL INVESTMENT STRUCTURE BETWEEN 2012 AND 2007



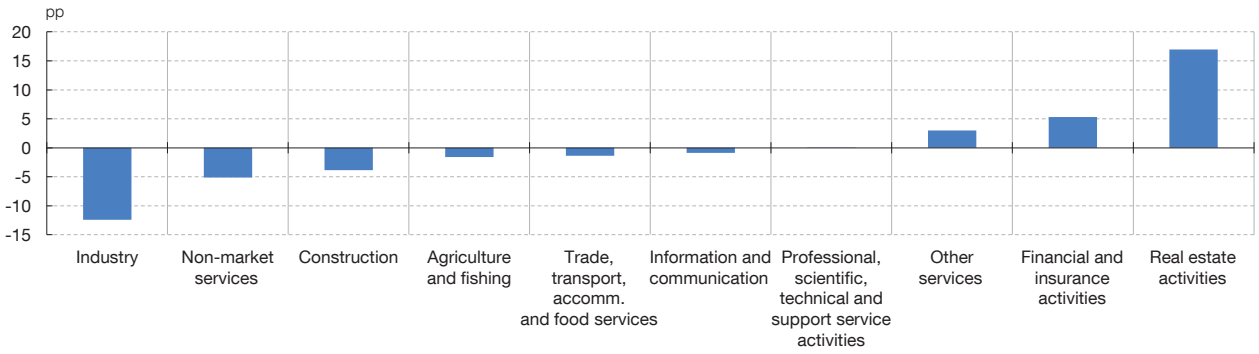
CHANGES IN REAL INVESTMENT STRUCTURE BETWEEN 2012 AND 1995



CHANGES IN CREDIT STRUCTURE BETWEEN 2013 AND 2007



CHANGES IN CREDIT STRUCTURE BETWEEN 2013 AND 1995



SOURCES: INE, Instituto Valenciano de Investigaciones Económicas and Banco de España.

a Real estate activities do not include imputed rents. Credit data include credit extended to finance productive activites and general government.

better withstood the fallout of crisis in terms of activity. The pharmaceutical and vehicle manufacture industries even stepped up their rate of activity in relation to the pre-crisis years, while the chemical industry maintained its tempo.

Compared internationally, the productive structure of value added in Spain remains more biased towards trade, accommodation and food services, transport, construction, agriculture and other services

The move towards the tertiarisation of the economy and the decline in the share of construction, industry and agriculture are in step with what has been observed in the main EU countries (Germany, United Kingdom, France and Italy) (see Chart 3.5). Beyond these similarities, the sectoral weights of certain sectors which were under-represented in Spain, such as financial activities (see Chart 3.5), have drawn closer. Elsewhere, industry and the professional, scientific, technical and auxiliary sectors, along with the information and communications sector, have performed more unfavourably in Spain, despite initially being under-represented sectors. Finally, the composition of value added in Spain remains relatively more biased towards trade, accommodation and food services, transport, construction, agriculture and other services.[20]

The changes in the sectoral composition of employment have been similar, though on a greater scale

In relation to employment, developments have been similar to those in value added, although the sectoral reallocation is on a greater scale than that observed for production (see Chart 3.4). The weight of industry and of construction in employment fell to a greater extent than that observed in production, giving rise to a greater increase in apparent labour productivity in these sectors than in the rest. Meanwhile, the weight of the non-market services sector and that of other services increased during the crisis.

The sectoral composition of the stock of capital has, however, undergone few changes, while the weight of the real estate sector and agriculture has diminished in terms of credit extended

The sectoral breakdown of the economy's real stock of capital has shown few changes during the crisis, given the widespread decline in investment (in particular residential and public investment) and the greater relative depreciation of non-real estate private productive capital. A slight increase can be seen in the weight of investment in services, and in industry, although in this latter case it is because of the contribution of the energy supply sector (see Chart 3.4). In terms of financing, bank lending flows show that both construction and real estate activities and agriculture have diminished in weight in respect of aggregate credit in recent years, while the weight of services has increased (greater details are offered in Chapter 5 of the Spanish original of this Report).

Overall, the contribution of the ongoing sectoral restructuring to productivity growth has been limited

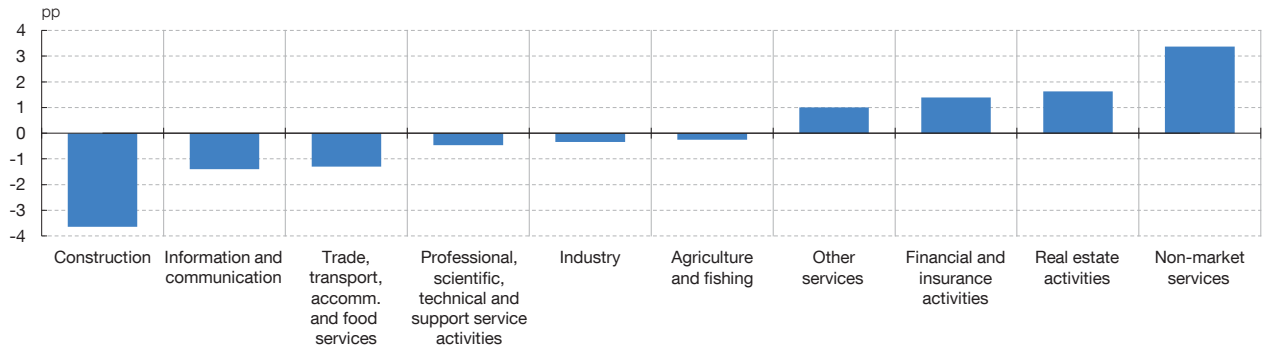
In order to analyse the effects of the sectoral changes on the economy's degree of capitalisation and productivity, a breakdown can be made, with firm-level data, of the trend of each of these variables (capital/employment ratio and TFP) into two contributions: that arising from changes in the relative weights of the sectors over time (sectoral reallocation) and that derived from intra-sectoral changes[21] (see Table 3.1). During the 2001-2007 expansion, the increase in the capital/employment ratio observed in the Spanish economy was due essentially to the fact that Spanish firms stepped up the use of capital-intensive technologies, whereas sectoral reallocation played a marginal role. From 2008 to 2011, the weight in the economy of sectors with a lower capital/employment ratio increased, while Spanish firms destroyed much more employment than capital, meaning

20 Indeed, the latter two sectors evidence a more favourable performance in Spain than in the other EU-4 countries.

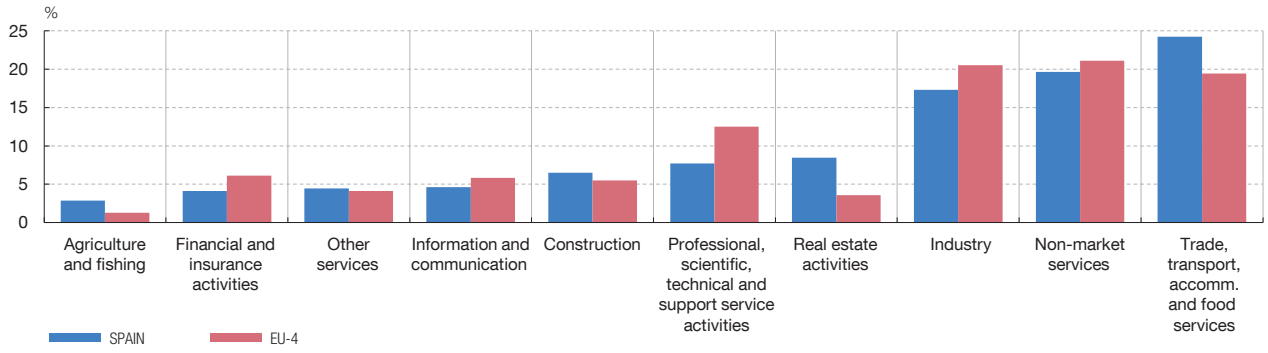
21 See S. Olley and A. Pakes (1996), «The Dynamics of Productivity in the Telecommunications Equipment Industry», *Econometrica,* vol. 64 (6), pp. 1263-1297. In the case of the application for Spain, the analysis is made for a level of disaggregation of 25 sectors over the 2000-2011 period.

CHANGES IN GVA STRUCTURE BY SECTOR AND RELATIVE EMPLOYMENT IN SPAIN AND EU-4 (a) CHART 3.5

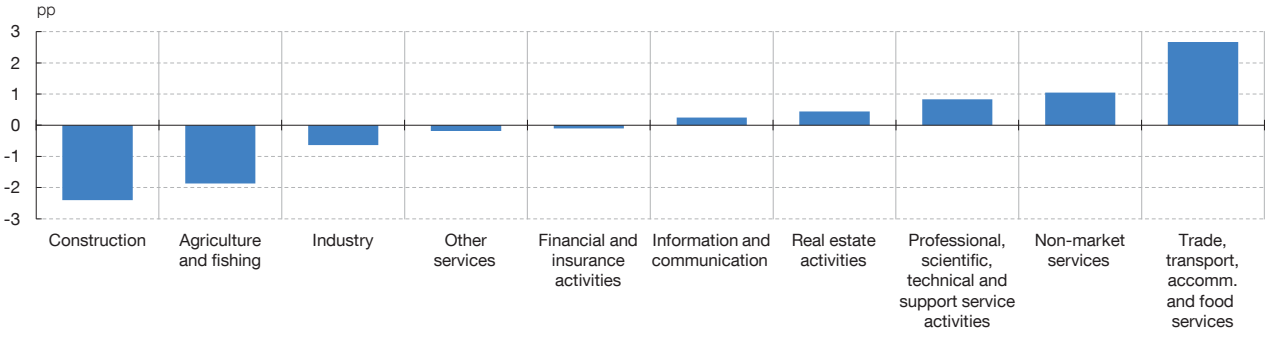
RELATIVE CHANGE IN SPANISH GVA VIS-À-VIS EU-4 BETWEEN 1995 AND 2013



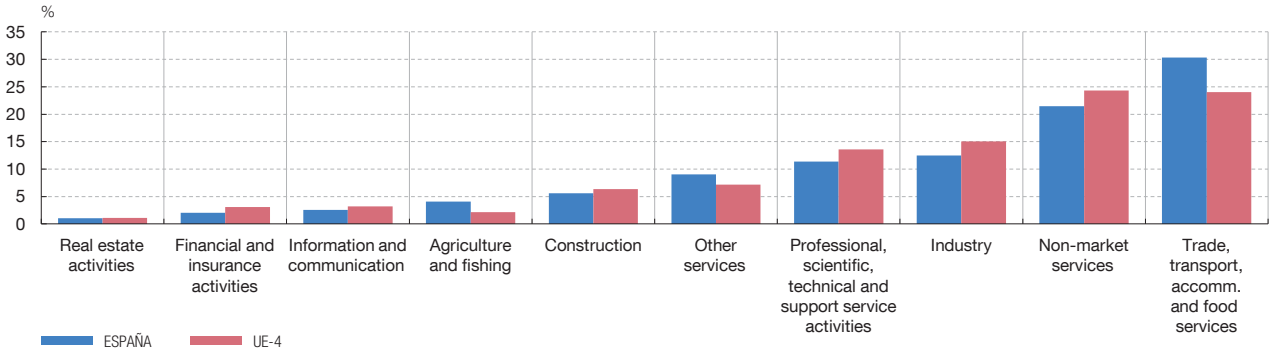
GVA STRUCTURE. 2013



RELATIVE CHANGE IN SPANISH EMPLOYMENT VIS-À-VIS EU-4 BETWEEN 1995 AND 2013



EMPLOYMENT STRUCTURE. 2013



SOURCES: Eurostat, INE and Banco de España.

a EU-4 countries: Germany, United Kingdom, France and Italy. Real estate activities include imputed rent.

BREAKDOWN OF THE CAPITAL/EMPLOYMENT RATIO AND TFP IN SPAIN TABLE 3.1

Percentage

	2001-2007	2008-2011
CAPITAL/EMPLOYMENT RATIO		
Observed annual average growth	1.8	4.1
Due to:		
Sectoral reallocation (a)	0.0	-0.4
Within-sector changes (b)	1.8	4.5
TOTAL FACTOR PRODUCTIVITY		
Observed annual average growth	-1.0	0.6
Due to:		
Sectoral reallocation (a)	-1.4	0.0
Within-sector changes (b)	0.4	0.7

SOURCES: Instituto Valenciano de Investigaciones Económicas and Banco de España.

a The effect of sectoral reallocation explains what would have happened if the capital/employment ratio for the year 2000 had been maintained and the relative weights of the sectors had changed.
b The effect of within-sector changes explains the changes in the capital/employment ratio or the TFP in each sector since the year 2000.

that in aggregate terms there was a greater increase in the economy's capital/employment ratio than in the previous period. The reallocation of resources across sectors in the 2001-2007 period contributed significantly to reducing TFP, an effect which disappeared during the crisis.[22] In any event, the reason for the increase in productivity observed during the crisis must be sought, above all, in the better reallocation of resources among firms.

4 Reallocation of resources among firms

Intra-sectoral reallocation accounts for a good part of the changes in productivity in the developed economies

In Spain's case, the reallocation of resources towards the more efficient firms fell off during the upturn, but it improved during the crisis

The economic literature emphasises the importance of the allocation of resources among firms within each sector of activity as a determinant of countries' aggregate productivity and of the differences between them.[23] Specifically, economies in which the more efficient firms of each sector absorb most resources tend to show a greater level of productivity, exceeding the effect exerted on this variable by sectoral composition.

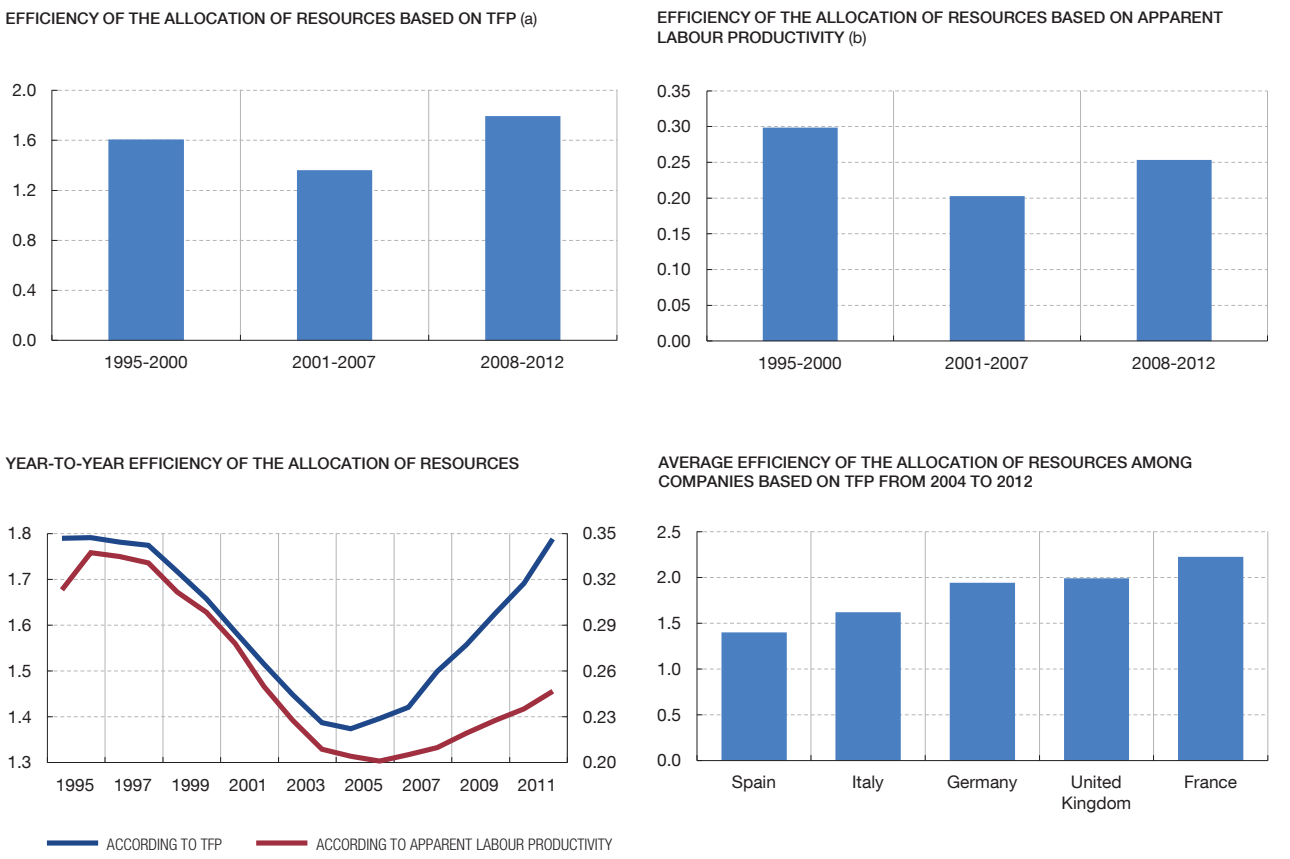
The role played by the reallocation of resources among firms in recent productivity developments in Spain is analysed by means of two measures intended to proxy the ratio of the relative weight of a firm in its sector to its level of efficiency or productivity, measured by TFP or apparent labour productivity.[24] In both cases, a higher value of these indicators can be interpreted as a better allocation of resources among firms, since it indicates that the more productive firms account for a larger percentage of the output (or employment) of the sector. These measures show a worsening in the allocation of resources among firms from 1995 to 2007, which is consistent with the scant dynamism of productivity in that period (see Chart 3.6). However, this trend has apparently reversed in recent years, which would indicate an improvement in resource allocation since the onset of the crisis. Specifically, productivity is observed to increase in a group of large firms which, moreover,

22 Analysis of job destruction and creation flows in the EU countries during the crisis confirms these results in this case in relation to the scale of the impact of the sectoral reallocation of employment on productivity. See J. M. Casado, C. Fernández-Vidaurreta and J. F. Jimeno (2015), *Worker Flows in the European Union During the Great Recession,* Documentos de Trabajo, forthcoming, Banco de España.

23 See, for example, D. Restuccia and R. Rogerson (2008), «Policy Distortions and Aggregate Productivity with Heterogeneous Establishments», *Review of Economic Dynamics,* vol. 11 (4), pp. 707-720.

24 Specifically, these indicators are calculated, for each sector and year, as the covariance between the market share of the firms (proxied by value added) and their TFP or apparent productivity relative to the average for the sector. To do this, use is made of the individual data reported by firms from more than 500 sectors to the Banco de España Central Balance Sheet Data Office in the period 1995-2012 (disaggregation to the four-digit level of the NACE Rev. 2 classification).

EFFICIENCY OF THE ALLOCATION OF RESOURCES AMONG COMPANIES OF THE SAME SECTOR IN SPAIN CHART 3.6



SOURCES: Amadeus, Eurostat, INE, Mercantile Register and Banco de España.

a The annual average in each of the periods of covariance between the market share of firms in each sector, calculated in terms of value added, and their total factor productivity relative to their sector average. The higher the covariance, the more efficient the allocation of productive resources among same-sector firms.
b The annual average in each of the periods of covariance between the share of employment of each firm in the sector and their apparent labour productivity relative to their sector average. The higher the covariance, the more efficient the allocation of productive resources among same-sector firms.

raised their market shares at the cost of a majority of small firms, whose productivity decreased.[25] Despite this improvement, according to these measures, Spain's level of efficiency is lower than that of some of the larger EU countries (see lower right-hand panel of Chart 3.6). Furthermore, the evidence for some countries does not show any relationship between efficiency and the business cycle, whereas it does in the case of Spain.[26]

The reallocation of resources to more productive firms during the crisis has been a key factor in the recently observed recovery of aggregate productivity

The effect of resource reallocation among firms on aggregate productivity can be illustrated by considering what would have been the hypothetical growth if the aforementioned measures of intra-sectoral efficiency had remained constant at their 1995 level. According to this exercise, the average growth of TFP would have been 0.7 pp higher between 1995 and 2007 and 1.5 pp lower between 2008 and 2012, which suggests that the low growth of productivity during the expansion is the result of a resource allocation which raised the relative weight of less productive firms. By contrast, during the crisis, resource reallocation seems to have worked in favour of more productive firms, acting as a key factor in the recent recovery of productivity. Analysis of these developments by sector of activity shows that the worsening/improvement in the intra-sectoral resource allocation during the

25 See L. Hospido and E. Moreno-Galbis (2015), *The Spanish productivity puzzle in the Great Recession,* Documentos de Trabajo, n.º 1501, Banco de España.
26 See E. Bartelsman, J. Haltiwanger and S. Scarpetta (2013), "Cross-Country Differences in Productivity: The Role of Allocative Efficiency", *American Economic Review,* vol. 103 (1), pp. 305-334.

ENTRY AND EXIT RATES OF FIRMS (a) CHART 3.7

SOURCE: INE.

a Rates calculated on the basis of total number of firms.

expansionary/contractionary phase is common to the three major sectors analysed (industry, construction and services).

The entry and exit of firms plays a crucial role in resource reallocation

To gain more insight into the determinants of resource reallocation among firms, a distinction can be made between resource allocation among active firms and that occurring as a result of the creation and destruction of productive units. Under normal conditions, the entry and exit of firms promotes productivity, since it allows more inefficient units to shut down, freeing their resources to be used by more efficient new firms, in a process known as "creative destruction". The economic literature reports that that the contribution of these industry dynamics to productivity growth may be between 20 % and 50 %.[27] However, this role may be constrained by various institutional factors, such as the existence of barriers to entry, high exit costs and the protection of less efficient firms by, for example, subsidies. Moreover, the intensity and duration of the crisis may have altered previously existing patterns, acting to hinder the creation of productive firms or to cause the shutdown of others which may have been viable and efficient in other circumstances.

This is also the case in Spain, where the changes in efficiency are closely related to entry and exit of firms

The role of these mechanisms of creation, destruction and persistence of firms in the changes in efficiency over time is analysed in Spain using the aforementioned measures of efficiency for a sub-sample of firms operating during the whole of the analysis period. This indicator behaves similarly to the aggregate, although its fall and subsequent recovery are both less pronounced, suggesting that a significant portion of the changes in efficiency may have been due to entry and exit of firms.

During the crisis there was a significant increase in closures of firms and a slowdown in the creation of new ones, concentrated in the construction and, to a lesser extent, services sectors

In the expansionary period the creation of firms amply outstripped their destruction (see left-hand panel of Chart 3.7). However, from 2007 the destruction of firms accelerated considerably and simultaneously their creation slowed, resulting in net falls in the number of firms until 2012. In 2013 there was a timid recovery in the net change in firms. Disaggregated sectoral analysis shows significant differences across sectors (see right-hand panel of Chart 3.7). Thus throughout the expansionary phase the number of firms being created in construction and in services considerably exceeded that of firms ceasing operations. In industry, however, this dynamism was less marked owing to a much lower rate of creation of firms. Qualitatively the recession had a similar impact across sectors,

27 For the Spanish case, see P. López-García, S. Puente and Á. L. Gómez (2007), *Firm productivity dynamics in Spain,* Documentos de Trabajo, n.º 0739, Banco de España.

BUSINESS DEMOGRAPHY AND PRODUCTIVITY (a) TABLE 3.2

Percentage

	Total		Industry		Construction		Services	
	1998-2007	2008-2011	1998-2007	2008-2011	1998-2007	2008-2011	1998-2007	2008-2011
Average of the relative levels of apparent labour productivity for the period								
Total corporations	100	100	100	100	100	100	100	100
New corporations in the current year and two previous years	80.1	86.9	82.1	85.6	83.5	97.4	79.0	85.3
Remaining corporations	114.2	112.1	109.2	111.7	112.5	108.3	116.0	111.9
Corporations closed in the current year and two subsequent years	73.1	56.9	70.4	55.0	80.5	59.8	71.9	63.8
Average of the contributions to apparent labour productivity growth for the period								
Total corporations	100	100	100	100	100	100	100	100
New corporations in the current year and two previous years (b)	-7.7	-2.7	-4.4	-2.4	-7.1	-0.8	-8.8	-3.6
Corporations closed in the current year and two subsequent years (c)	3.4	7.0	3.3	7.3	2.6	5.7	3.7	5.7

SOURCES: National Statistics Institute (INE) and Banco de España.

a Based on data from the microdata files of the Central Companies Directory (DIRCE), together with microdata from the Central Balance Sheet Data Office.
b Calculated as the change in the productivity level in a given period, by including corporations created in the current year and two previous years in the calculation of average productivity.
c Calculated as the change in the productivity level in a given period, by excluding the corporations closed in the current year and two subsequent years in the calculate.

but quantitatively it differed markedly. Specifically, the construction sector was the most severely affected, both in the decrease in entries and in the increase in exits, showing significant net falls in the number of firms from 2008. The crisis also had a major effect on the services sector, albeit smaller in magnitude, such that a slight net creation of firms persisted over the contractionary period. Finally, the industrial sector was the least affected by the crisis. Nevertheless, it has seen net falls in firms in the last few years due to the scant net creation in the expansion.

The destruction of firms has been concentrated among the least productive ones

To comprehend the role that the entry and exit of firms has in productivity growth, it is useful to analyse the relative productivities of the firms being created and shut down (see top panel of Table 3.2). In the period of expansion, the average (apparent labour) productivity achieved by new firms in their first years of life was lower than that of already existing firms, so they contributed negatively to productivity in the short term. Meanwhile, the firms which ceased operations had substantially lower productivities than those which survived, so their disappearance had a positive effect on average productivity. The arrival of the recession altered these patterns quantitatively, but not qualitatively. Thus the differences in productivity between the new firms created since the onset of the crisis and already-existing ones were somewhat smaller than the differences before the crisis, while shutdowns became even more concentrated in the low-productivity segment of firms.

The improved allocation of resources among firms observed since 2008 is therefore apparently related to the disappearance of a considerable number of scantly productive firms

The impact on aggregate productivity of these changes can be quantified by estimating how much productivity has changed in each period as a result of the entry/exit of firms (see bottom panel of Table 3.2). The contribution of new entrants to aggregate productivity growth was nearly -8% up to 2007 and it stood at nearly –3% in the crisis, as a result of the smaller number of entries in this second period and a somewhat higher productivity of the entrants. Meanwhile, the exit of less productive firms contributed around 3.5% to productivity growth in the expansionary phase and it more than doubled during the crisis

as a result of higher exit rates and a higher negative productivity difference of these firms. Thus the net contribution of the entry and exit of firms has gone from being negative in the run-up to the crisis to having a positive sign during the recession. The better allocation of resources among firms since 2008 therefore seems to be related, at least partly, to the shutdown of numerous scantly productive firms.

In all sectors the firms shut down during the crisis were the less productive ones

During the crisis the relative productivity of the new firms improved in the three sectors of activity analysed, although particularly in construction (see Table 3.2). In the case of exits, the selective effect of the destruction of firms was also significant in all sectors. In the case of manufacturing industry, the productivity of the firms which closed was 45% lower than that of surviving firms. Overall, the net entry of firms made a positive contribution to the three sectors of activity, although it was stronger in manufacturing industry and construction.

5 Barriers to resource reallocation

The foregoing analysis demonstrates the importance of resource allocation for strengthening potential growth. Economic policy must therefore facilitate the process of allocation by removing the barriers which hinder it. The factors which may influence sectoral specialisation and resource reallocation among firms and sectors in an economy and which merit special attention in economic policy actions include the level of sectoral completion, the regulation of product, services and factor markets and the quality of the available factors of production, to mention the ones normally highlighted in the literature as being most important.[28]

5.1 SECTORAL COMPETITION

A lower degree of competition is associated with a lower level of output, employment and productivity

The degree of competition is a basic determinant of the allocation of resources in an economy. Generally speaking, in the absence of market failure, perfect competition would provide a suitable allocation of resources. In contrast, restrictions on competition tend to make for a higher equilibrium price, which reduces the amount of goods exchanged and produced by market participants. Thus, the lower the level of competition in an economy, the farther its level of production and employment will be from the potential level to which it could aspire. Moreover, higher competition can have a positive effect on productivity.[29] Market regulation is one of the factors determining the degree of sectoral competition, although cost and demand conditions engender differences in the degree of competition between sectors. Inadequate regulation may limit the entry of competitors or permit collusion of incumbents, thereby leading to higher business margins and lower production.[30]

The lower productivity of the Spanish economy may be related to barriers to entry/exit of firms…

Market regulations often tend to limit competition by restricting firm entry and exit flows, which may hinder the efficient allocation of resources among firms and have negative effects on productivity. Spain is notable for its low rate of creation, and particularly destruction, of firms,[31] which be detrimental to aggregate productivity. The correlation between the sum of entries and exits into and out of a sector and the measure of efficient allocation used in the preceding section is positive, suggesting that the improvement in

28 The role which may be played by financial factors is analysed in Chapter 5 in the original Spanish version of this Report.

29 See, inter alia, Nickell (1996), "Competition and Corporate Performance", *Journal of Political Economy,* 104 (4), pp 726-746. This positive effect of competition on productivity comes about because greater competition stimulates incumbent firms to move towards their production possibility frontier, thus reducing so-called "X-inefficiency", motivates more efficient firms to grow and displace less efficient ones (which may even disappear and be replaced by new, more productive entrants) and may enhance firms' willingness to engage in research and innovation. This latter effect is, however, more controversial at both theoretical and empirical level, because investment in R+D+I usually entails high fixed costs and requires some time before it delivers benefits, and only firms with monopolistic profits will have the necessary resources to undertake such investment.

30 A recent study using microdata of Spanish firms by C. Fernández, A. Lacuesta, J. M. Montero and A. Urtasun (2015), *The cyclical behaviour of mark-ups: composition versus changes in pricing strategies,* Documentos de Trabajo of the Banco de España, forthcoming, finds that sectors with fewer firm entries and exits have higher margins.

31 See S. Núñez (2004), "Salida, entrada y tamaño de las empresas españolas", *Boletín Económico,* March, and European Commission (2013), *Product Market Review: Financing the real economy.*

CORRELATION BETWEEN ENTRIES AND EXITS OF FIRMS AND INTRA-SECTOR REALLOCATION TABLE 3.3

Correlation

	Intra-sector reallocation (a)	
	COV (1995-2012)	ΔCOV (b) (2008-2012)
Entries and exits (c)	1.1833*	0.28469*
Observations	778	56
R^2	0.069	0.053

SOURCE: Banco de España.
NOTE: * Significance ratio at 10%.

a Measures efficiency in resource allocation in each sector quantified by the covariance between the productivity and market share of each company.
b Change in the efficiency measure for resource allocation of each sector between 2008 and 2012, mentioned in footnote (a).
c Sectoral data based on NACE-93 and NACE-09 two-digit level of disaggregation. The intra-sector reallocation variable refers to the covariance within a sector of the size of the firms and their TFP. The entry and exit variable is the sum of the entry and exit rates as a ratio of these variables divided by the total of firms in existence that year. The level regression of the first column includes dummy variables for the year.

intra-sectoral resource reallocation observed in the period 2008-2012 is concentrated in those sectors that underwent a greater reallocation of resources through the turnover of firms (see Table 3.3).

… which seem to be associated with higher entry costs and administrative barriers

Examination of the OECD indicators on the degree of product market regulation (PMR) shows that Spain has greater difficulty than other EU countries in creating firms and greater administrative complexity, although notable progress has been made in both these areas in recent years. These results are confirmed by other available indicators, such as the index measuring the business-friendliness of regulations formulated by the World Bank and used in its *Doing Business* project. In this respect there still seems to be room to rationalise the administrative burden on firms, particularly that derived from the existence of multiple levels of government. Here it is essential to continue the work of the *Comisión para la Reforma de las Administraciones Públicas* (Commission for Government Reform), to expedite agreements in sectoral conferences held under the Law to Ensure Market Unity and to allow the so-called puntos de atención al emprendedor (entrepreneur service points), particularly the virtual ones, to manage directly all the procedures for setting up a company.

In the sectoral arena, the distributive trade, transport and professional services sectors are subject to more restrictive regulation than in other European countries

The aforementioned PMR indicators are intended to approximate, on the basis of the regulations in each country, the relative severity of the restrictions. According to these indicators, the distributive trade, transport and professional services sectors are more heavily regulated in Spain than in other OECD countries and in the main euro area economies.[32] Specifically, the case of retail trade, which is described in Box 3.1, is a good example of the channels through which regulation, particularly at regional level, affects the allocation of resources. As regards transport, there is room for making more efficient use of transport infrastructure by improving the connection between different means of transport and increasing competition, particularly in the railway sector, where some progress has been made recently. For their part, entry barriers in professional services take the form of qualifications required to enter the profession which are generally higher than in other developed countries.

32 See J. S. Mora-Sanguinetti and M. Martínez (2014), "La regulación en el mercado de productos en España según los indicadores de la OECD", *Boletín Económico,* December, Banco de España.

The low level of competition in these sectors is confirmed by other measures, such as profit margins

Profit margins also provide an approximation of the degree of competition in markets. Various studies have found a positive relationship between this variable and PMR indicators[33]. Assuming that the international differences in the demand structure faced by the various sectors and their technology are small, the comparison of sectoral margins across countries allows the relative severity of regulatory restrictions to be approximated. This analysis shows that Spain had higher margins than other developed countries in distributive trade, professional services and, to a lesser extent, transport.[34] Also, in these sectors the price-cost margin tended to increase over the crisis, perhaps reflecting, as discussed in greater detail in Chapter 4 of this Report, apart from financial tensions, the persistence of a low degree of competition.[35]

5.2 FIRM SIZE

The average firm size in Spain is smaller than in other developed countries…

The available evidence shows a positive relationship between firm size and productivity, both at individual level and in the aggregate of the economy. Specifically, the economies with a higher proportion of large firms, such as the United States and Germany, have a higher productivity.[36] In this respect, the average firm size in Spain is smaller than in other developed economies, as a result of a higher proportion of SMEs.[37] This pattern holds in every sector.

… which may explain, at least partially, the low productivity of the Spanish economy

Therefore, part of the difference in productivity between Spain and other developed countries may be due to the lower weight of large firms. The skewing of firms in Spain towards those of small size is explained on the basis of assumptions associated with market inefficiencies, such as limitations on competition in the services markets or the difficulties of SMEs in accessing stable sources of funds for new investments and growth, or with firms' internal organisation and management systems. However, these assumptions do not seem sufficient to explain the bias towards small firm size.[38]

The small size of firms may be associated with different regulations which discourage company growth.

A complementary argument emphasises the disincentive to business growth stemming from certain regulations intended to favour small and medium-sized enterprises.[39] For example, taxwise there are advantages in corporate income tax (e.g. lower tax rates) and laxer tax scrutiny for SMEs, or, in the labour field, a *workers' committee* is compulsory for firms with more than 49 employees. The available evidence indeed shows a significant reaction of Spanish firms to these thresholds (see Chart 3.8),[40] which indicates the need to adapt existing legislation to avoid disincentives to business growth.

5.3 LABOUR MARKET FUNCTIONING

Different aspects of the functioning of the labour market, which bear on wage-setting and on incentives for training, effort and labour mobility, may hinder the reallocation of

33 See R. Griffith and R. Harrison (2004), *The link between product market reform and macro-economic performance,* Economic Paper, n.º 209, European Commission, and Hoj *et al.* (2008). Despite the foregoing, the price-cost margin may not be an adequate measure of the degree of competition in a market insofar as there may be differences between firms in the technology used, the degree of product differentiation/quality and other demand specificities which prompt reallocation of resources to more efficient firms [Boone (2008)], whose margins tend to be higher regardless of the degree of competition.

34 See Á. Estrada (2009), *The mark-ups in the Spanish economy: international comparison and recent evolution,* Documentos de Trabajo, n.º 0905, Banco de España.

35 C. Fernández, A. Lacuesta, J. M. Montero and A. Urtasun (2015), *The cyclical behaviour of mark-ups: composition versus changes in pricing strategies,* Documentos de Trabajo del Banco de España, forthcoming.

36 See OECD (2012), "Entrepreneurship at a Glance, 2012".

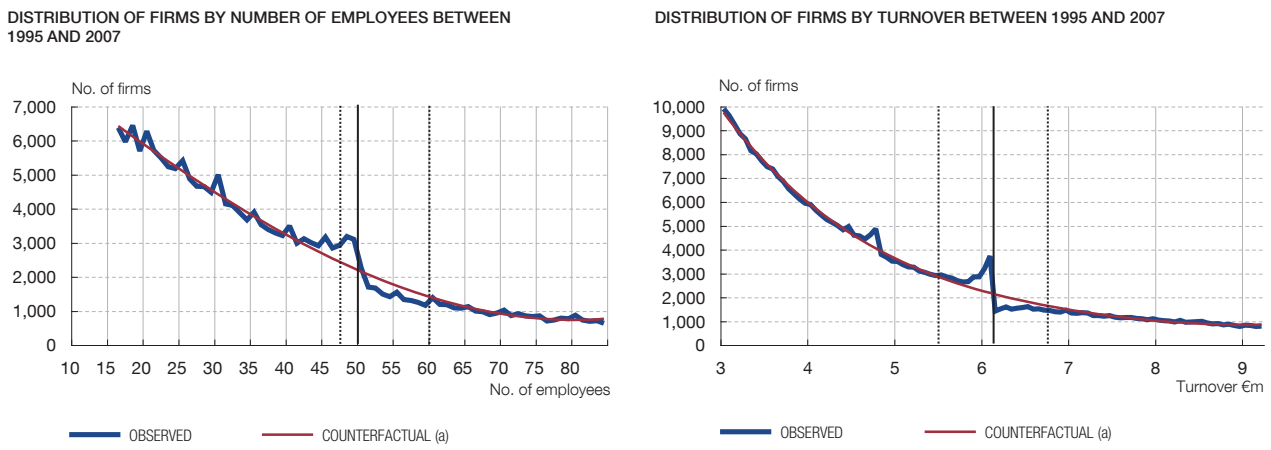
37 See OECD (2014), "Entrepreneurship at a Glance, 2014".

38 See La Caixa (2012), "Crisis y fractura social en Europa. Causas y efectos en España", Colección Estudios Sociales, n.º 35, and OECD, *Structural and Demographics Business Statistics*.

39 See European Commission (2013), *Product Market Review: Financing the real economy.*

40 See M. Almunia y D. López-Rodríguez (2014), *Heterogeneous Responses to Effective Tax Enforcement: Evidence from Spanish Firms,* Documentos de Trabajo, n.º 1419, Banco de España.

FACTORS DETERMINING COMPANY SIZE. EFFECTS OF FISCAL AND LABOUR REGULATIONS CHART 3.8



SOURCES: Mercantile Register and Banco de España.

a Distribution of firms estimated in the absence of fiscal and labour regulation. See Almunia and López-Rodríguez (2014).

The geographical mobility of Spanish workers continues to be very low…

resources in the economy. In Spain, the labour market is characterised by low inter-regional mobility, despite the very different regional unemployment rates. During the crisis, inter-regional mobility even decreased slightly from 0.9% of the total population in 2007 to 0.8% in 2013, this figure being even lower among the population of Spanish nationals (0.6%) and unrelated to regional unemployment rates (see top left-hand panel of Chart 3.9).

…and labour mobility is concentrated in temporary workers, with negative consequences for productivity

Mobility between the different types of employment, unemployment and inactivity is concentrated above all in temporary workers. This gives rise to a very high level of labour turnover in Spain compared with other European countries,[41] which coexists with a highly protected group of workers who are practically insulated from the flow of labour market entries and exits. Several studies have underlined the negative effects of this marked duality of the Spanish labour market on variables such as productivity,[42] decisions to invest in human capital or collective bargaining.[43] In occupational mobility, the changes also involve temporary workers (see top right-hand panel of Chart 3.9), since the greater job protection enjoyed by permanent employees reduces the incentive to change jobs.[44] Also, this turnover occurs between temporary jobs and, to a lesser extent, as a result of moves to permanent employment, which again may have negative consequences for productivity (see middle left-hand panel of Chart 3.9). In an international comparison, Spain is among the countries with the highest labour turnover, mainly due to the high incidence of temporary employment. That turnover thus occurs mostly within the same sector of activity, while changes of sector are less frequent than in other countries (see middle right-hand panel of Chart 3.9).

41 See ECB (2015), *Comparisons and contrasts of the impact of the crisis on euro area labour markets,* Occasional Paper series, no. 159.

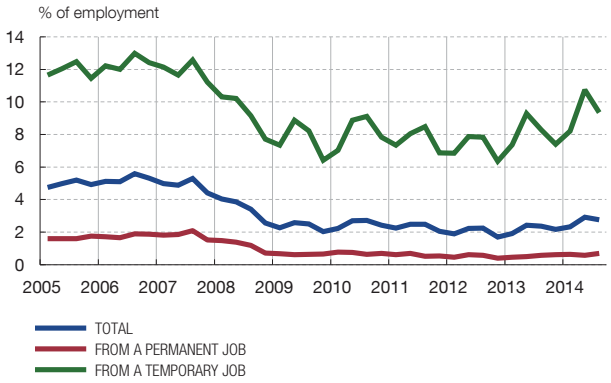
42 In terms of the impact of temporary employment on TFP, L. Hospido and E. Moreno-Galbis (2015), *The Spanish Productivity Puzzle in the Great Recession,* Documentos de Trabajo, n.º 1501, Banco de España, find a negative correlation between TFP and the incidence of temporary employment, although it should be noted that, since the onset of the crisis, temporary employment may have helped the reallocation of factors in firms, with the correlation turning positive. J. J. Dolado, S. Ortigueira and R. Stucchi (2012), *Does dual employment protection affect TFP? Evidence from Spanish manufacturing firms,* CEPR Discussion Papers 8763, report a positive relationship between labour market duality and the sharp slowdown in TFP between 1990 and 2005.

43 See C. Albert, C. García Serrano and V. Hernanz (2005), "Firm-Provided Training and Temporary Contracts", in *Spanish Economic Review,* vol. 7, n.º 1, pp. 67-88.

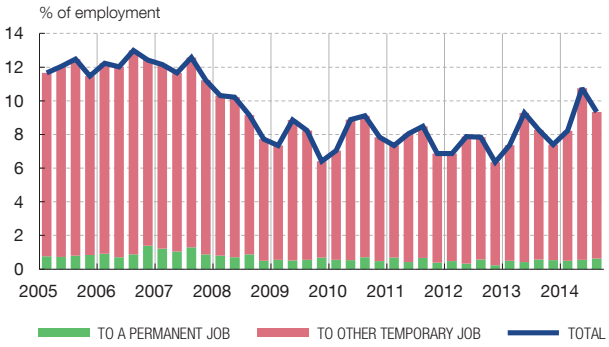
44 See A. Bassanini and A. Garnero, Andrea (2013), "Dismissal protection and worker flows in OECD countries: Evidence from cross-country/cross-industry data", *Labour Economics,* vol. 21 (C), pp. 25-41 and A. C. Gielen and K. Tatsiramos (2012), "Quit behaviour and the role of job protection", *Labour Economics,* vol.19 (4), pp. 624-632.

INTER-REGIONAL NET MIGRATION AND UNEMPLOYMENT RATE INCREASE SINCE 2008

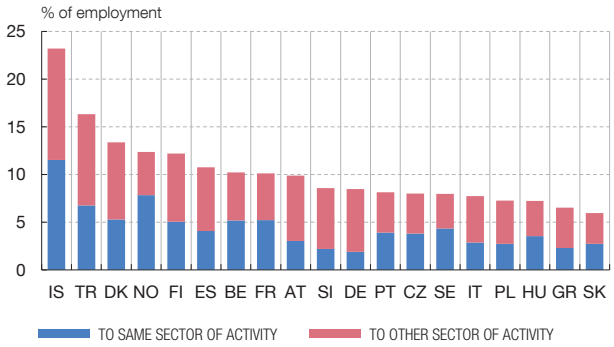
EMPLOYMENT TO EMPLOYMENT FLOWS



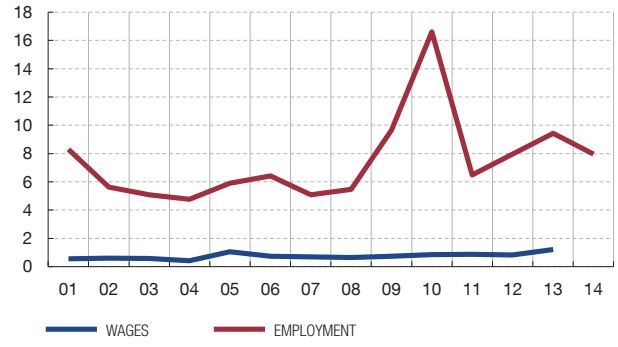
EMPLOYMENT TO EMPLOYMENT FLOWS FROM A TEMPORARY JOB



CHANGE OF EMPLOYMENT



WAGE AND EMPLOYMENT DISPERSION BY SECTOR OF ACTIVITY (a)



EDUCATIONAL MISMATCH INDEX (b)

SOURCE: Banco de España.

a Measured using the standard deviation of wage increases and changes of employment across sectors, at the NACE two-digit level of disaggregation.
b Index comparing the distribution, by education level, of labour demand, proxied by the number of people in employment, with labour supply, proxied by the number of unemployed people.

The degree of sectoral wage dispersion continues to be very low and the proportion of workers receiving the minimum wage has increased following the crisis

An additional factor which may limit job reallocation among sectors of activity is that wages are only weakly related to the specific conditions of sectors and firms. The dispersion of the wage increases negotiated in the various sectors of activity is slight and much lower than that of employment growth (see bottom left-hand panel of Chart 3.9). Underlying this phenomenon is the collective bargaining structure, characterised by the prevalence of sectoral agreements which are automatically extended to all firms and by a

low incidence of firm-level agreements, which affect only 10% of workers.[45] These sectoral agreements may act as barriers to entry, hindering market access by new firms which have to equal, from inception, the employment conditions negotiated in industry-, region- and nationwide agreements. Moreover, this collective bargaining structure limits wage dispersion between firms and sectors with different economic conditions. During the crisis the greater dispersion in employment behaviour between sectors of activity did not give rise to larger wage differences. Against this background, the various labour reforms adopted in recent years have sought to move to a more decentralised collective bargaining system by fostering the non-application of industry-, region- and nationwide agreements and the prevalence of firm-level agreements. The available information tends to show a limited increase in the use of the opt-out options of firm-level agreements, although the incidence of other flexibility measures has enabled firms, especially large ones, to adjust employment conditions to the minimums negotiated in collective bargaining agreements. Thus wages have moved towards these minimum levels. In the current setting of low or even negative inflation, and given the current nominal rigidities, this wage trend generates an accumulation of near-zero wage changes which now affect around 30% of wage-earners in the private sector. This reduces wage dispersion and its links to firm-specific conditions.

There is a need to reduce contractual duality further and, in line with the recent labour reforms, to advance in wage flexibility

In short, the high differences in unemployment across regions in Spain do not induce high geographical mobility. Among other things, this may point to inefficiencies in the unemployment benefits system and in the functioning of the housing market, which reduce incentives for labour mobility. Also, the recruitment framework generates a markedly dual labour market in which changes in employment almost exclusively involve temporary workers. The excessive labour turnover derived from the high incidence of temporary employment does not provide incentives to invest in human capital, while the protection of permanent employment discourages the labour mobility of these workers. Finally, greater wage differentiation between firms and between workers would make for the smoother absorption of differences in employment across educational levels or across regions. This would be helped by greater decentralisation of collective bargaining, which would raise the cyclical sensitivity of wages and tighten their relationship with the specific conditions of workers and firms.

5.4 HUMAN CAPITAL

The fact that a significant portion of the unemployed have developed skills in very specific sectors may condition the allocation process in the Spanish economy

The re-absorption of unemployment hinges crucially on the human capital of job-seekers. In this respect, the occupational skills of the unemployed in Spain are generally low and associated with expertise and experience in very specific sectors, such as construction, which may pose an obstacle to factor reallocation insofar as labour demand needs cannot be met by existing labour (see Box 3.2).

The educational mismatch between labour supply and demand has increased during the crisis

The crisis has caused a concentration of job destruction among the low-skilled and, in this way, it has substantially raised the degree of educational mismatch between labour supply and demand (see bottom right-hand panel of Chart 3.9). Hence the percentage of the employed with a primary education or less has declined from 18% in 2007 to 10.3% in 2014, while the weight of employees with a university education has increased from 23.1% in 2007 to 29.4% in 2014. The opposite is seen among the unemployed, since 22% of the

45 L. Hospido and E. Moreno-Galbis (2015), *The Spanish Productivity Puzzle in the Great Recession,* Documentos de Trabajo, n.º 1501, Banco de España, find a positive relationship between TFP and firm-level agreements which has become stronger since the onset of the crisis, suggesting that firms with their own firm-level agreement are better able to adapt to change in the economic situation.

PROBABILITY OF TRANSITION IN RELATIVE TERMS OF EMPLOYEES WITH UNIVERSITY EDUCATION IN RESPECT OF THOSE WITH BASIC EDUCATION (a) TABLE 3.4

	2005-2014	2005-2007	2008-2014
Exit from unemployment			
To employment	1.19	1.14	1.20
To temporary employment	1.16	1.12	1.17
To permanent employment	1.12	1.15	1.11
To inactivity	0.83	0.80	0.84
Exit from employment			
Total	0.79	0.87	0.74
From permanent employment	0.66	0.78	0.61
From temporary employment	0.88	0.92	0.86

SOURCES: INE and Banco de España.

a Values over one imply that individuals with higher eduction are more likely to make each employment transition than individuals with basic studies. For example, in the transitions from unemployment to employment between 2005 and 2014, unemployed individuals with higher education had a 19% higher probability of finding employment than unemployed individuals with basic studies. The results are obtained using a probit model to calculate the probabilities of each transition using the following variables: gender, age, level of studies, time in unemployment, autonomous community and GDP growth in exit from unemployment; and gender, age, level of studies, activity sector, type of contract, seniority and occupation in exits from employment.

total have primary-level studies or less and only 13.7% have a university education. This educational mismatch might hinder the employability of the least skilled groups, given that the probability of exiting unemployment increases with level of educational attainment.[46]

Low-skilled workers have greater difficulties both finding and holding on to new jobs

Indeed, since the start of the crisis difficulties have increased for low-skilled workers seeking both to hold on to a job and find a new one from unemployment. While it is true that the likelihood of losing a job is always lower for more skilled workers, the differences in comparison with the least skilled have widened since 2008. Moreover, once unemployed, the probability of finding a job is much greater among those with higher levels of training and, once again, the relative difficulties of less skilled workers have increased since the start of the crisis (see Table 3.4). As a result, less skilled workers are more likely to abandon job-search and move to a situation of inactivity, which heightens the risks of labour market exclusion for this group.

Improving the skills of the unemployed and adapting them to labour demand are crucial for their employability

Overall, the Spanish labour market faces a situation of growing educational mismatch, on which action must be taken to improve the employability of the unemployed. Measures should focus on fomenting the return to formal education of those young people with a low level of educational attainment, especially in those vocational training sectors in which firms can be seen to have needs. It would also be desirable to modernise public employment services so as to help define training activities for each unemployed person, on the basis of their training and professional experience.

Furthermore, a sectoral change in the medium term will unavoidably involve an increase in the population's level of educational attainment and quality improvements

The human capital available in the economy, in terms both of average educational attainment and of distribution across the population, conditions productive specialisation.[47] In Spain's case, the improvement observed since 1993 in the quality of labour has been highly significant. However, there is still room for educational convergence on the part of the labour force in comparison with other European countries.[48] In particular, the Spanish education system stands out in terms of its early school-leaver rate, the under-use of the

46 See M. Izquierdo, S. Puente and P. Font (2013), «Evolución del desajuste educativo entre la oferta y la demanda de trabajo en España», *Boletín Económico,* June, Banco de España.

47 See M. Bombardini, G. Gallipoli and G. Pupato (2012) «Skill Dispersion and Trade Flows», *American Economic Review,* vol. 102 (5) pp. 2327-2348.

48 See, inter alia, OECD (2008), *OECD Economic Surveys: Spain 2008.*

vocational training system and a low level of quality.[49] In this respect, it is necessary to ensure the implementation of the new education legislation provides both for a reduction in early school-leavers and an improvement in the quality of compulsory education. In parallel, headway is required in reforming vocational training and university education. On this latter point, it is important to amend key areas such as the selection of teaching staff, the governance of universities and financing, in line with the 2013 conclusions of the Expert Committee for the Reform of the Spanish University System.

5.5 TECHNOLOGICAL CAPITAL

The Spanish economy's stock of technological capital is limited...

A characteristic feature of the Spanish economy is that its stock of technological capital is significantly lower than that of other developed countries. Specifically, its weight in GDP was 25% below the average for the euro area countries in 2012. The level of spending on both R + D+ i and on information and communications technologies (ICT) remains significantly lower in Spain than in our peer countries. The low intensity of investment in R + D + i activities affects both the public sector and, especially, the private sector.

... a phenomenon that is linked to various structural factors

The Spanish economy's low technological capitalisation is no doubt related to aspects such as workers' relative skills, the excessive weight of small firms, which habitually have a lesser propensity to innovate, and the limited development of alternative financial markets, such as the private equity market, which is widely used in other countries by technology start-ups.[50] Spanish firms are further seen to have low technological absorption capacity.[51] The public-sector research system is, for its part, characterised by its high fragmentation and its scant connections to business.

Turning this pattern around will call for a reform of the national R + D + I system

The European Commission's 2014 assessment report of innovation underscores the need to review crucial aspects of the innovation system, such as the number and degree of specialisation of centres, the rigid and bureaucratic governance of the related institutions, the introduction of evaluation and incentives-based schemes in their funding, and the review of researcher hiring and career-monitoring mechanisms. The new State Agency for Research, which is scheduled to be set up this year, should see through the necessary changes for improvement in these areas. Also, despite the headway made with the recent 2011 Law on Science, certain obstacles to public-private initiative projects have been identified and it is estimated that the current tax incentives for business R + D are very costly and relatively ineffective, in particular in the case of SMEs and start-ups, meaning they should be revised.

49 In this respect, for example, the results of the OECD PIAAC (2013) (http://www.mecd.gob.es/inee/Ultimos_informes/PIAAC.html) highlight the fact that the Spanish population's poor scores in maths are extensive to individuals with different levels of educational attainment, including tertiary education.

50 Indeed, there is evidence that investment in R + D + i by Spanish firms is significantly affected by difficulties in access to bank lending and the absence of alternative financing mechanisms [see P. López-García, J. Montero and E. Moral-Benito (2013), "Business Cycles and Investment in Productivity-Enhancing Activities: Evidence from Spanish firms", *Industry and Innovation,* 20 (7), pp. 611-636)].

51 See P. López-García and J. Montero (2012), "Understanding the Spanish business innovation gap: the role of spillovers and firms' absorptive capacity", *Economics of Innovation and New Technology,* 21 (7), pp. 589-612.

The degree of competition is a fundamental determinant of an economy's productive structure and may affect its sectoral composition and the effective allocation of resources among firms in each sector. Regulation is one factor that can influence the degree of sectoral competition. Indeed, in some cases regulation is justified precisely as a means of bringing competition to markets that could intrinsically be oligopolies.[1] However, excess or, in general, inappropriate regulation can be a barrier to entry for competitors or can permit collusion between established firms, boosting profit margins and reducing output and efficiency.

This box aims to show how regulatory changes may have affected the degree of efficiency of the intra-sectoral reallocation of resources, based on the analysis of a specific sector, namely Spanish retail trade. This is a highly important sector, owing not only to its share of GVA (6.7%) and employment (13.4%), in both cases in terms of the market economy, but also to the role the distribution channels play in productivity and price formation. Regulation of retail trade is extensive and complex and has traditionally posed numerous barriers to competition. In Spain, powers over domestic trade are devolved to the regions, which are responsible for regulating retail trade, although the central government has the power to establish basic general rules. As a result, sector regulations vary significantly from region to region.

These differences and how they have evolved can be illustrated by building synthetic regulation indicators by region.[2]

As shown in Panel 1, which aggregates the synthetic regulation indicators of the regions, weighted by population, 1999 saw the start of a period of intense regulatory activity in the retail trade sector, with the regional authorities, in an endeavour to protect traditional retailers, introducing increasingly stringent regulations. Restrictions – moratoria – were set on new openings[3] and second trading licences were required of ever smaller retailers and even of hard discount stores,[4] pitching them in together for that purpose

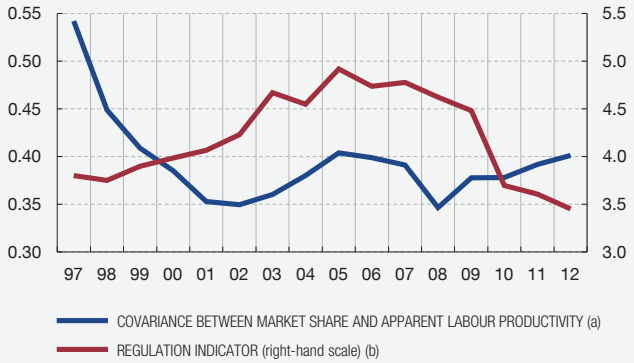
1 Aside of regulation, there are demand conditions and cost structures that would lead to natural differences in the degree of competition between sectors.

2 See Matea and Mora (2012), "El comercio minorista y regulación autonómica: efectos en la densidad comercial, el empleo y la inflación", *Revista de Economía Aplicada*, no. 59, vol. XX, pp. 5-54. In that article, synthetic indicators are built reflecting a series of legislative aspects of the sector, aggregated using the factorial analysis method. These are, specifically, regulation on Sunday and public holiday trading, weekly opening hours, sales periods, taxes on large retail outlets, moratoria on new openings, the definition of large retail outlet which entails the need for a regional licence (save in Madrid in recent years) and the need for a regional licence for hard discount stores. By design, these indicators take values between 0 (no regulation) and 10 (maximum regulation). Evidence is found to show that greater regulation of retail trade in Spain is associated with higher inflation, lower employment in the sector and higher retail density.

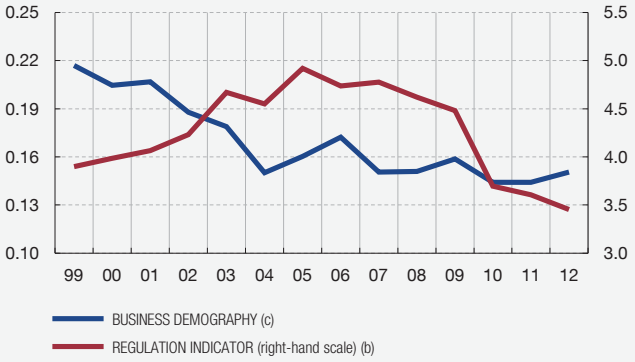
3 A ban on new openings of large retail outlets in a specific region in a given period.

4 The definition of hard discount stores varies somewhat from region to region but is based on a minimum number of own (private label) brand products on sale and a minimum number of stores of the same size trading under the same name.

RETAIL TRADE: REGULATION AND PRODUCTIVITY



RETAIL TRADE: REGULATION AND BUSINESS DEMOGRAPHY



SOURCE: Banco de España.

a The annual average in each of the periods of covariance between the share of employment of retail sector firms and their labour productivity relative to their sector average has been calculated using the CBSO and mercantile registers. The higher the covariance, the more efficient the allocation of employment among sector firms. The covariance has been calculated for NACE Rev. 2, Division 47, retail trade, except for retail trade, except for motor vehicles and motorcycles, excluding groups 47.3, 47.8 and 47.9 and class 47.73 as they are not affected by the regulatory aspects considered.

b Population-weighted average of the synthetic regulation indicators of the regions. The synthetic indicator of each region takes into account regulation on Sunday and public holiday trading, weekly opening hours, sales periods, taxes on large retail outlets, moratoria on new openings, the definition of large retail outlet and the regional licence for hard discount stores. By design, this indicator takes values between 0 (no regulation) and 10 (maximum regulation). See Matea and Mora (2012).

c The Central Companies Directory (DIRCE) has been used to calculate the sum of the entry and the exit rates of firms over existing firms in the retail sector. The data to 2007 have been taken using NACE Rev. 1.1 and the data from 2008 using NACE Rev. 2.

with large retail outlets. Also during the period, a special tax on large retail outlets was first introduced in some regions. This regulatory surge peaked in 2005 when opening hours were reduced (in terms of Sunday and public holiday trading and maximum opening hours per week), with the brunt of these regulations borne by the large outlets.

However, in 2009, some regions started to adopt measures ahead of the transposition of the Services Directive in March 2010 and the regulatory surge was brought to a halt. The Services Directive marked a turning point, as from then on barriers to competition were gradually eliminated or at least lowered. Specifically, although large retail outlets still need a regional licence (except in Madrid), most authorities have raised the threshold for stores to be considered large outlets, withdrawn the specific licence for hard discount stores and removed the moratoria on new openings. In addition, the administrative procedures for opening small stores have been simplified and the restrictions on opening hours and sales periods have been eased. The criteria to be met to be deemed a "major tourist area"[5] have also been relaxed, meaning that more areas now have unlimited opening hours. More recently, in 2013 and 2014, the rules on opening hours and sales periods were further relaxed.

The impact of these regulatory changes on sector efficiency may be approximated by the relationship between the regulation indicator described above and various efficiency measures (see section 4 of this chapter). Based on the information supplied by the Central Balance Sheet Data Office (CBSO), Panel 1 depicts the aforementioned regulation indicator together with a sector efficiency indicator calculated as the covariance between the share of employment of the retail sector firms and their labour productivity relative to the sector average. The higher the value of the indicator, the higher the proportion of employment concentrated in the most productive firms and, in consequence, the better the allocation of employment among the sector firms. The relationship between the two indicators shows, broadly speaking, that more (less) stringent legislation is associated with lower (higher) aggregate sector productivity. Specifically, it is observed that when regulation was most stringent (between 1997 and 2001) the allocation of employment was increasingly inefficient; subsequently, when regulation eased (between 2008 and 2012) the allocation of employment became more efficient. A similar message can be drawn from the relationship between the regulation indicator and a measure of sectoral momentum such as business demography (entry and exit rates of retail trade firms; see Panel 2) which traces a continuous downward pattern until 2005, holds steady until 2010 and then turns upward.[6]

5 Major tourist areas may be municipalities or areas of municipalities that meet at least one of the following criteria: a) have sufficient concentration of tourist accommodation or second homes; b) are declared a world heritage site or house a site or building of cultural interest; c) border on or consist of areas of influence of border zones; d) host certain national or international sporting or cultural events; e) are close to tourist cruise ports; f) are key shopping tourism areas; g) meet other criteria that warrant their inclusion. These areas have unlimited opening hours.

6 This upturn continued throughout 2013 and 2014.

ESTIMATION OF RELATIONSHIP BETWEEN EFFICIENCY IN ALLOCATION OF RESOURCES AND REGULATON IN RETAIL TRADE (1997-2012)

Dependent variable: efficiency in allocation of resources (a)

Regression	Explanatory variables (b)	Estimate not population-weighted	Estimate population-weighted
1	Synthetic regulation indicator (c)	-0.095*	-0.131*
2	Sunday and public holiday trading	-0.176*	-0.155*
3	Weekly opening hours	-0.073*	-0.084*
4	Sales period	-0.108*	-0.149*
5	Taxes on large retail outlets	-0.011*	-0.013*
6	Moratoria on new openings	-0.008	-0.018*
7	Definition of large retail outlets	-0.006	-0.015*
8	Regional licence hard discounters	-0.002	-0.001*

SOURCE: Banco de España.
NOTE: * Significant coefficicent at 5%.

a Measured as the covariance between labour productivity and the share of employment calculated for NACE Rev. 2, Division 47, retail trade, except for motor vehicles and motorcycles, excluding groups 47.3, 47.8 and 47.9 and class 47.73 as they are not affected by the regulatory aspects considered.
b In regression 1 the explanatory variable is the synthetic regulation indicator, whereas in the other regressions the explanatory variable is each of the separate regulatory aspects that make up the synthetic regulation indicator. All the variables are calculated by region and year. Annual dummy variables are included in all cases.
c The synthetic regulation indicator is built on the basis of regulation on Sunday and public holiday trading, weekly opening hours, sales periods, taxes on large retail outlets, moratoria on new openings, the definition of large retail outlet and the regional licence for hard discount stores. See Matea and Mora (2012).

In order to analyse the extent to which the different regulatory policies have determined the degree of sector efficiency, the regulatory differences from region to region over time are exploited to estimate the impact of different regulatory aspects on the first of the efficiency measures mentioned (see table).[7] As can be seen, greater regulation, measured by the synthetic indicator, results in less efficient allocation of employment (equation 1).[8] The adverse effect of stricter regulation is also observed in the relationship with each of the regulatory aspects separately (equations 2 to 8), although the taxes on large retail outlets, the moratoria on new openings and the licence for large retail outlets and hard discount stores have a lesser impact than aspects such as opening hours (Sunday and public holiday trading and opening hours per week) and sales periods.

In short, this analysis illustrates how economic regulation can affect economic efficiency. In the specific case of retail trade, the analysis performed confirms that transposition of the Services Directive and other recent measures adopted relating to opening hours and sales periods has boosted productivity in the sector.

7 This exercise cannot be conducted with entry and exit rates of firms as these rates are not available for the sector by region.

8 The regression made includes annual dummy variables to prevent temporary factors, such as the crisis, which should affect all regions equally, from being confused with the regulation effect. In this respect, the regulation difference by region is being exploited. The findings also hold if regional dummy variables are included in the above equations, in this case to exploit the change over time of the covariance and regulation in each region.

During the economic crisis, certain employment segments bore the brunt of job destruction. In particular, approximately 60% of all jobs lost since 2008 are in the construction sector, which accounted for 5.7% of total employment in 2014, down from 12% in 2008. It is important to analyse how construction workers have been affected, not only because of the scale of the job losses in the sector but also because of the workers' particular characteristics,[1] such as their lower skill levels, which could, *a priori,* make them less employable in other sectors, even against a backdrop of economic recovery such as that envisaged for Spain in the coming years.

It is possible to analyse the employment situation of construction workers who lost their jobs during the crisis using the social security administrative labour records (MCVL).[2] Panel 1 traces the change, in the period 2007 to 2013, in the employment situation of construction workers who were employed in the sector at the start of 2007, according to whether they continue to work in the sector, found work in another sector or are unemployed. Panel 2 shows the same information for workers from the rest of the economy. As a result of the high level of job destruction, by 2009 less than 50% of construction workers were still in their jobs and by 2013 only 17.6% were still employed in the industry. These figures are much lower than for the rest of the economy, where almost 50% of workers continued to be employed in the same sector throughout the period.

Moreover, the percentage of workers who found jobs in a different sector is relatively low. Specifically, only 22.9% of those employed in the construction sector at the start of 2007 were working in other industries in 2013, which is 27.8% of those who lost their jobs in construction, compared with 40% for those who lost their jobs in other industries in the period. Analysing the sectors in which workers found employment, Panel 3 shows that more former construction workers than those from other sectors found jobs in manufacturing and in certain service industries, such as transport, trade or hotels and catering, reflecting a greater similarity between the skills required in these industries and the skills offered by former construction workers. Conversely, significantly fewer former construction workers than workers from the rest of the economy found jobs in financial services, healthcare or education. As regards geographical mobility, 18.9% of construction workers who found employment in other industries did so in a different province than where they were working in 2007, which would indicate greater labour mobility than in other sectors (13.2%).

In order to identify the characteristics of construction workers that may explain the problems involved in their sectoral reallocation, Table 1 analyses the effect of certain personal characteristics on the likelihood of finding oneself unemployed, employed in the same sector or employed in another sector, drawing a distinction between workers who were employed in construction at the onset of the crisis and those who were employed in the rest of the economy. The table shows that older, less-skilled workers with more years of service have had particular difficulties finding other work, which probably reflects their higher level of firm-specific human capital and the greater obstacles they face to achieve professional re-training. Specifically, younger workers are less likely to be unemployed, which is because they are more employable in other sectors, since the likelihood of their remaining in the construction industry is similar to that observed among older workers. By skill level, construction workers with higher skill levels are less likely to be unemployed, because more of them keep their jobs in construction and because it is also easier for them to find jobs in other sectors. Workers with fewer years of service at the onset of the crisis were more likely to lose their jobs and are more likely to be unemployed in 2013. However, they are also more likely to have found work in other sectors than workers who had more years of experience at the start of the crisis.

This sectoral reallocation process may be analysed further by examining the wages received[3] by these workers in 2013. Table 2 shows how median wages evolved between 2007 and 2013, according to the sector of employment during that time. Among workers who remained in the construction industry, wage adjustment was not consistent with the severity of the crisis in the industry, since wages remained steady in real terms (0.3%). Indeed, workers with higher skill levels saw their wages grow by 3.3% in cumulative terms, similar to the wage rise observed in the rest of the economy, although the increase in real terms in less-skilled workers' wages was lower than in the rest of the economy.

Among workers who found jobs in other sectors, former construction workers experienced a significant wage adjustment in real terms (10.6% less than in 2007) that is not observed among other workers. The drop in wages was most severe among less-skilled workers with fewer years' experience, which would reflect, among other factors, the loss of firm-specific human capital by former construction workers who found jobs in other industries. This wage adjustment could approximate the cost, in terms of loss of productivity, associated with the sectoral reallocation process.

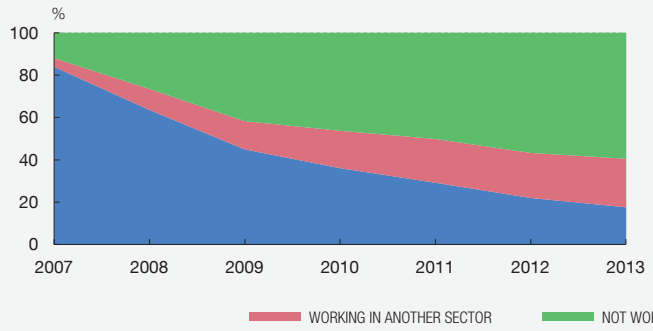
1 According to the Spanish Labour Force Survey (EPA), compared with the unemployed from other sectors, they have more years of service and lower skill levels, they have had less ongoing training and they have been mostly employed in low-skilled posts.

2 For a description of this database, see S. Galán and S. Puente (2015), "Minimum Wages: Do They Really Hurt Young People?" in *The B.E. Journal of Economic Analysis and Policy*, 15 (1), pp. 299-328.

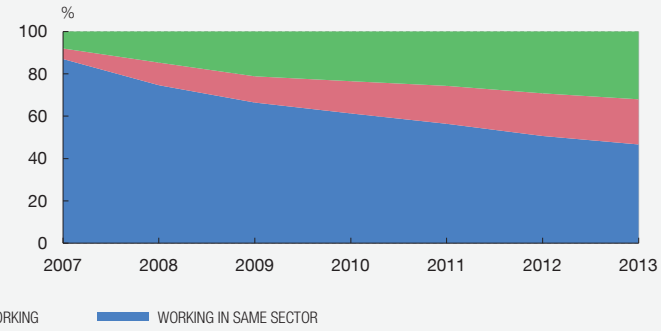
3 The social security administrative labour records (MCVL) contain information on reported contribution bases which approximate the wages received by workers, save for those whose wages exceed the maximum contribution base. The calculations presented are not affected by the exclusion of these workers from the analysis.

(cont'd)

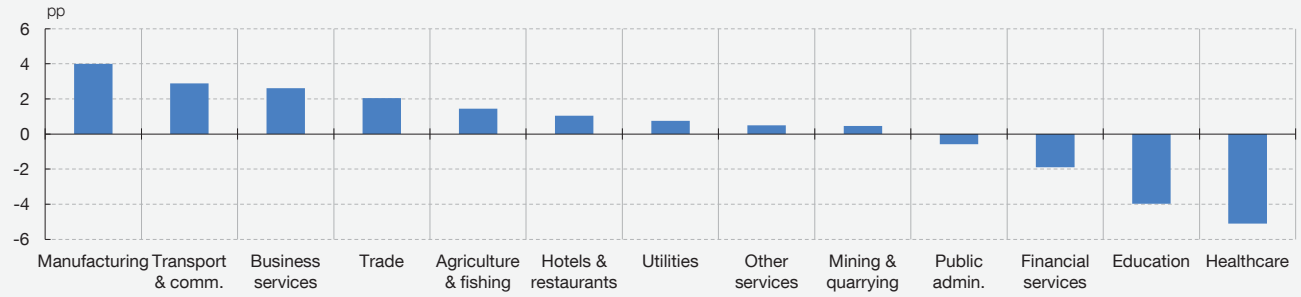
1 LABOUR MARKET SITUATION BETWEEN 2007 AND 2013 OF WORKERS EMPLOYED IN THE CONSTRUCTION SECTOR AT THE START OF 2007



2 LABOUR MARKET SITUATION BETWEEN 2007 AND 2013 OF WORKERS EMPLOYED IN OTHER SECTORS AT THE START OF 2007



3 SECTOR OF DESTINATION FOR WORKERS CHANGING SECTOR BETWEEN 2013 AND 2007
DIFFERENCES IN PERCENTAGE POINTS BETWEEN WORKERS FROM THE CONSTRUCTION SECTOR AND WORKERS FROM OTHER SECTORS



1 IMPACT OF PERSONAL CHARACTERISTICS ON PROBABILITY OF EMPLOYMENT SITUATION IN 2013 BY SECTOR OF ORIGIN IN 2007 (a)

	Workers in construction sector in 2007			Workers in rest of economy in 2007		
January 2007	Without employment	In same sector	In another sector	Without employment	In same sector	In another sector
Foreign nationals	0.189 ***	-0.103***	-0.086***	0.210***	-0.178***	-0.031***
Male	0.048***	-0.005	-0.042***	0.009***	-0.032***	0.023***
Aged between 16 and 35	-0.165***	0.005	0.159***	-0.047***	-0.077***	0.124***
Aged between 35 and 45	-0.109***	0.012***	0.097***	-0.063***	-0.001*	0.065***
Length of service: < 6 months	0.185***	-0.227***	0.042***	0.200***	-0.286***	0.086***
Length of service: 6 to 12 months	0.138***	-0.176***	0.038***	0.153***	-0.212***	0.059***
Length of service: 1 to 3 years	0.096***	-0.120***	0.024***	0.086***	-0.119***	0.032***
Contribution group: between 1 and 3	-0.144***	0.112***	0.031***	-0.099***	0.112***	-0.012***

2 PERCENTAGE CHANGE IN MEDIAN WAGE BETWEEN 2013 AND 2007 BY SECTOR IN 2013 AND SECTOR OF ORIGIN IN 2007 (b)

	Construction in 2007		Rest of economy in 2007	
	Same sector in 2013	Other sector in 2013	Same sector in 2013	Other sector in 2013
Total	0.3	-10.6	3.0	5.0
Skill level				
High	3.3	-5.5	2.7	5.8
Low	0.8	-11.3	2.7	4.6
Experience				
More than one year in company	-0.2	-8.1	1.1	0.1
Less than one year in company	0.2	-14.2	8.6	11.4

SOURCES: Ministerio de Empleo y Seguridad Social and Banco de España.
NOTE: *, ** and *** Significance coefficients at 1%, 5% and 10%, respectively.

a Probability of being unemployed, employed in the same sector or employed in another sector, by sector of activity in 2007 and workers' personal characteristics, estimated using a multinomial logit model. Reference group: female, Spanish national, over 45, with more than three years' service and contribution group between 4 and 11.
b CPI-deflated wages.

In short, the above analysis shows that the process of sectoral reallocation of construction workers who have lost their jobs since the onset of the crisis is far from over, as the proportion of workers having found employment in other sectors is still relatively low. Moreover, this is proving to be a particularly costly process for certain groups, such as older and less-skilled workers, who may be less employable in other sectors. Active employment policies should focus on providing these groups of workers with the skills needed in other sectors of the economy.

4 INFLATIONARY DYNAMICS OF THE SPANISH ECONOMY IN THE CONTEXT OF THE EURO AREA

1 Introduction

The positive inflation differential vis-à-vis the euro area during the first decade of the single currency has been reversed in recent years, in a disinflationary context…

Consumer price dynamics in Spain during the first decade of monetary union were characterised by the build-up of a positive inflation differential vis-à-vis the euro area. This differential, which was notably sizeable and persistent for most of the decade, gave rise to a strong loss of competitiveness with respect to our euro area partners. However, this tendency reversed during the crisis and the inflation differential has turned favourable to the Spanish economy, showing – as in the previous upturn – a considerable degree of inertia.

The lesser, relative tempo of prices in Spain over the recent period has run in tandem with a very marked easing in the inflation rate. The annual rate of increase of prices has fallen from levels slightly over 5% at the previous cyclical peak to clearly negative figures during most of the current recovery phase, standing on occasion at negative rates of around -1%, a level unprecedented in the recent past. From a sectoral standpoint, the moderation of prices in services, a sector which has traditionally maintained a clear inflationary bias, has been the factor that has most contributed to narrowing the inflation differential with the euro area in the past two years.

… that has been the outcome of several demand- and supply-side factors

The recent disinflationary phase has been characterised by the conjunction of diverse factors, which are analysed in the following section of this chapter. On the demand side, the contraction in domestic private spending has given rise to a wide capacity utilisation gap (see Chapter 3 of this Report). The subsequent increase in cyclical slack has contributed to keeping inflation low throughout this entire episode. In parallel, the reforms to certain markets, most particularly to the labour market, have provided a further – and, foreseeably, more durable – fillip to the moderating path of inflation. This impulse has been reinforced by the negative course of prices in some of the more volatile components of the consumption basket and, especially, by the marked fall in oil prices.

Some of these factors may have lasting consequences on inflationary dynamics and improve the adaptability of the Spanish economy to cyclical fluctuations

The presence of certain new structural elements among the foregoing factors suggests that the relationship between inflation and economic activity, which had held relatively stable in the previous phase of the crisis, may have permanently altered. The entrenchment of a change of this nature in price-setting processes, on which the initial evidence is offered in the second section of this chapter, might entail considerable effects at the aggregate level. In particular, a greater degree of nominal flexibility, especially if this is extensive to wages, might enhance the responsiveness of the Spanish economy to adverse shocks, providing for the greater relative adjustment of prices and less volatility in the level of economic activity and in employment.

Disinflation has essentially been underpinned by the strong easing in labour costs

That said, the moderation in the path of producer prices has, in general, been less than that in the case of costs, on which much of the internal devaluation drive in recent years has turned. Indeed, the gross operating surplus of the economy as a whole has behaved countercyclically since the start of the crisis, which has contributed to partially softening the adverse impact of the easing in unit labour costs (ULCs) on prices. As regards this phenomenon, with which other European economies are not unfamiliar, the third section of this chapter offers evidence on some of the determinants of the recent behaviour of the operating surplus.

Inflation in the euro area and in Spain is expected to resume a level close to 2% in the medium term, but the risk of a low-inflation scenario over an extensive period persists

Looking ahead, the indicators available on inflation expectations, which are analysed in the fourth section of the chapter, are consistent with a relatively slow pick-up in inflation, both in Spain and the euro area as a whole, towards levels closer to the Eurosystem's price-stability benchmark (an inflation rate below, but close to, 2%). However, this pick-up is not free from certain risks, among which a hypothetical disanchoring of long-term inflation expectations would pose the biggest challenge. In fact, the core objective of some of the unconventional monetary policy measures recently adopted by the Eurosystem is to prevent low levels of inflation from ultimately affecting long-term expectations and to dispel the risks – albeit remote – of a deflationary spiral (see Chapter 2 of the original Spanish version of this Report).

The possibility of a low-inflation scenario over a prolonged period evokes matters pertinent to the macro-financial adjustment in which the Spanish economy is immersed. The need to maintain and build on the recent gains in competitiveness calls for a continuing improvement in relative prices vis-à-vis our main trading partners, and the euro area in particular. Hence the pick-up in activity and in the degree of euro area-wide inflation dynamism is a key factor of support for the Spanish economy. At the same time, the absorption of still-high Spanish household and corporate debt would be assisted by the greater dynamism of these agents' nominal income.

The joint application of structural reforms, countercyclical fiscal policies and accommodative monetary measures within the euro area can reduce these risks

The factors underlying low inflation and the attendant risks portray a complex scenario for the euro area as a whole, and especially for those economies such as Spain that are still absorbing the imbalances built up during the crisis and the preceding upturn. The scant leeway available for countercyclical fiscal policies in this latter group of economies and for further interest rate cuts by the ECB limits the number of levers available to reduce the risks of a scenario such as that described. Nonetheless, as analysed in the final section of this chapter, the joint application of structural reforms (in the countries still undergoing adjustment), of fiscal stimuli (in the euro area countries with the headroom to do so) and of monetary policy measures that induce expectations of lower interest rates over a prolonged period can play a very relevant role in this respect.

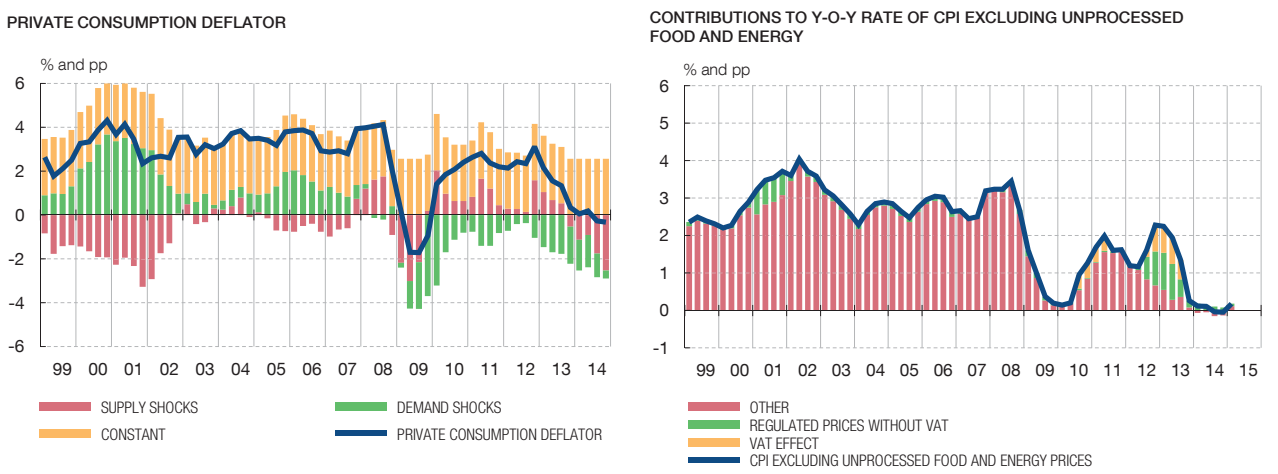
This chapter analyses the disinflation process observed in recent years in the Spanish economy, placing particular emphasis on its determinants, its potential effects on inflationary dynamics and the adjustment of relative prices, and the role of different policies in an environment in which inflation remains at very low levels over a prolonged period. In this connection, the chapter is structured as follows. The second section gives an overview of inflationary dynamics in the Spanish economy in recent years, highlighting the increase further to the crisis in the degree of price sensitivity to changes in aggregate demand. The third section analyses costs and mark-ups, and their influence on inflation in the most recent period. The fourth section presents various measures of agents' medium-term inflation expectations for the Spanish economy. The fifth section studies some of the main channels through which a hypothetical environment of very low inflation over a prolonged period might affect the process of adjustment in an economy such as Spain's, still immersed in the absorption of its macro-financial imbalances, and the role of different economic policies in that environment. The final section draws the main conclusions of the chapter.

2 Inflation in Spain in the context of the euro area

Since the introduction of the single currency, the behaviour of inflation in the Spanish economy has been clearly differentiated, according to the cyclical juncture prevailing. This section firstly analyses inflation developments in Spain in terms relative to the rest of the euro area, underscoring the dynamics of prices in services, a key sector when it comes to explaining the fluctuations in the inflation differential before and during the crisis period.

CHANGES IN INFLATION

CHART 4.1



SOURCES: INE and Banco de España.

a Contributions calculated using the BEMOD model [see J. Andrés, P. Burriel and Á. Estrada (2006), *BEMOD: A DSGE Model for the Spanish Economy and the Rest of the Euro Area,* Documentos de Trabajo, no. 0631, Banco de España]. Supply shocks added relate to productivity, mark-ups, salaries and oil prices and demand shocks to household preferences, interest rate, public expenditure, world demand and exchange rate.

An assessment is then made of the potential change in price sensitivity to the economy's cyclical position as a possible determinant, on top of the weakness of national demand, of the recent inflation moderation in our country.

During the upturn, Spanish inflation extensively outpaced that of the euro area…

During the expansion period that began in the mid-1990s, and which was interrupted by the onset of the crisis, the Spanish economy's output gap was persistently positive. Demand pressure then gave rise to inflation rates in Spain systematically above 2% (see left-hand panel of Chart 4.1), thereby continuously outpacing prices in the euro area as a whole.[1] In terms of the harmonised index of consumer prices (HICP), the average annual differential was 1.1 pp over the 1999-2008 period.

…but this trend was reversed over the course of the crisis and, recently, Spanish inflation has stood below that of the euro area as a whole

The recession that began in late 2008 prompted a more marked contraction in national demand in Spain than in the euro area, which translated into a lower relative rate of increase of consumer prices in our economy. This latter effect is particularly visible once the upward impact that the ongoing fiscal consolidation process in Spain has had on inflation in recent years is taken into account. Among other measures, this process has entailed increases, on two occasions, in VAT rates[2], along with several rises in regulated-price goods (see right-hand panel of Chart 4.1). Hence, from 2009, Eurostat's inflation differential in terms of the HICP at constant taxes turned negative, standing at -0.5 pp on average over the 2009-2014 period.

Services prices have eased substantially during the recession…

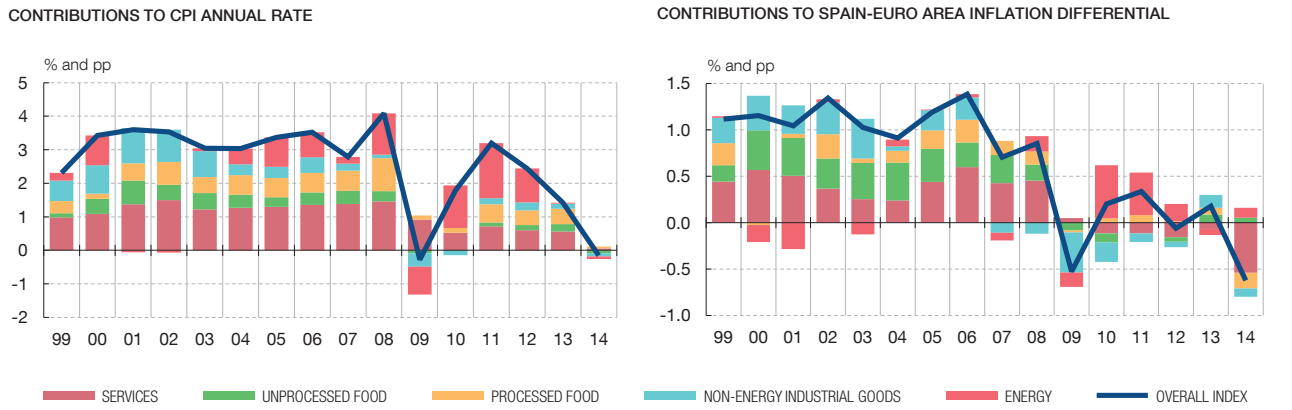
In the Spanish economy's recent process of relative disinflation vis-à-vis the euro area, there has been a notable change in services prices dynamics, clearly so since 2009. Indeed, in the pre-crisis period, services prices had posted increases of around 4%, while evidencing high stickiness and scant sensitivity to business cycle conditions. The

1 For a detailed analysis of the determinants of the Spanish economy's inflation differential during the early years of the Monetary Union, see, for example, J. D. López-Salido, F. Restoy and J. Vallés (2005), *Inflation differentials in EMU: the Spanish case,* Documentos de Trabajo, no. 0514, Banco de España.

2 However, the pass-through of these tax increases was relatively low (around 40%), in contrast to the practically full degree of pass-through observed in the 1990s.

CONTRIBUTIONS TO CHANGES IN INFLATION

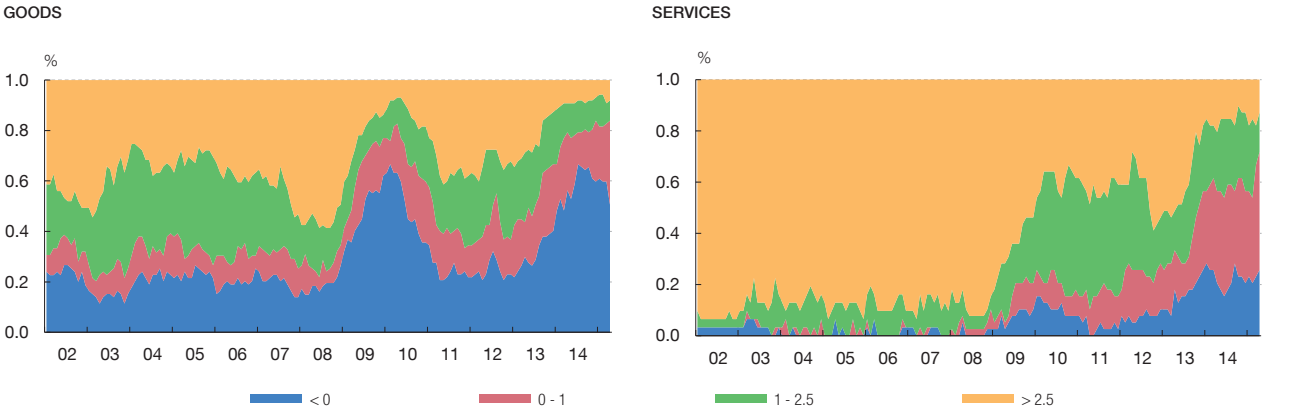
CHART 4.2



SOURCES: INE and Banco de España.

CPI: PROPORTION OF SUBCLASSES WITH YEAR-ON-YEAR RATES BY INTERVAL

CHART 4.3



SOURCES: INE and Banco de España.

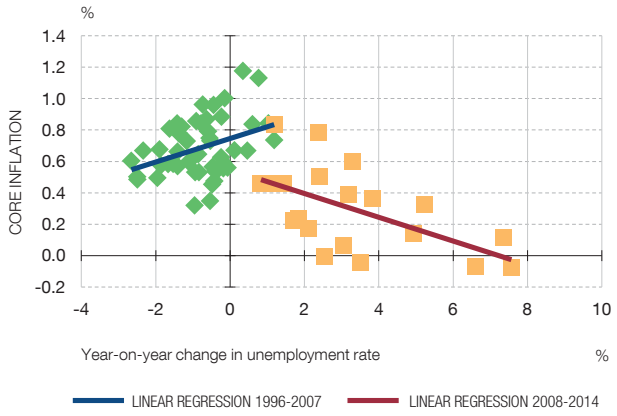
dynamism of prices in this sector, along with their high weight in the household consumption basket (almost 40% of total spending), accounts for the fact that these articles made the biggest contribution to the increase in the CPI during the first decade of the single currency (see left-hand panel of Chart 4.2). This situation reversed over the course of the recessionary period, meaning that, since end-2009, increases close to zero have been observed in the prices of these items, once the effects of tax rises and administered prices are stripped out. The contraction in household spending and the reduction in unit labour costs, in a particularly labour-intensive sector, are likely to have prompted the sharp adjustment in the relative prices of services over the most recent period.

… as part of a widespread process affecting most items of spending on these articles

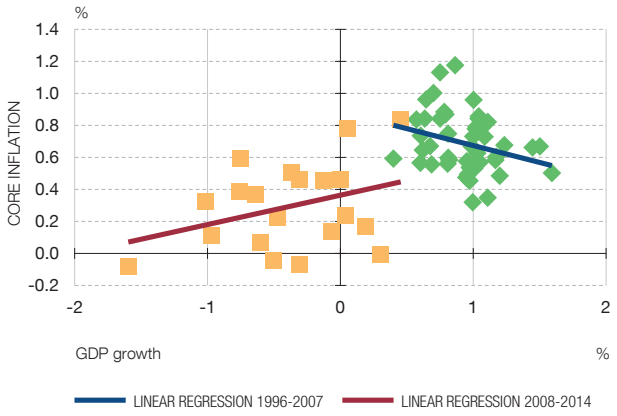
Chart 4.3 depicts the percentage of items (weighted by their weight in total household consumption spending) in respect of goods (left-hand panel) and of services (right-hand panel), in terms of the year-on-year rate of change in their prices. The chart clearly illustrates the recent process of relative disinflation in services. Specifically, it can be seen that in the pre-crisis years, the vast majority of services items were increasing at a rate of over 2.5% per annum, while practically none of them were becoming cheaper. Conversely, in the case of goods, the shares of articles showing high price rises (of over 2.5%) and those undergoing very moderate falls or rises (below 1%) were rather more balanced. Nonetheless, in the

RELATIONSHIP BETWEEN INFLATION AND THE BUSINESS CYCLE CHART 4.4

CPI EXCL. UNPROCESSED FOOD AND ENERGY PRICES AND YEAR-ON-YEAR CHANGE IN THE UNEMPLOYMENT RATE (a)



CPI EXCL. UNPROCESSED FOOD AND ENERGY PRICES AND GDP GROWTH (a)



SOURCES: INE and Banco de España.

a CPI excluding unprocessed food and energy prices, regulated prices and taxes.

recent period the weight of items of spending on services showing high price increases has diminished considerably. At the same time, the proportion of services whose prices are easing has ceased to be marginal, rising to over 20% at end-2014.

Various supply-side factors of a structural nature may have provided for an increase in the cyclical sensitivity of inflation…

The recent inflation moderation in the Spanish economy has been partly caused by the strong contraction in spending during the most acute phases of the crisis. Over the past three years, however, various supply-side factors, such as the heavy fall in oil prices throughout the second half of 2014 and the application of reforms to the labour market and to specific goods and services markets, have likewise contributed to tempering the path of prices (see left-hand panel of Chart 4.1). Insofar as some of these factors are structural in nature, their presence may have provided for lasting changes in the sensitivity of prices to changes in the degree of slack in the economy.[3]

Chart 4.4 offers initial evidence on a possible structural change in the relationship between inflation and economic slack. In each of the panels in the chart, a variable representing cyclical slack is related to a measure of inflation constructed drawing on the CPI excluding unprocessed food and energy prices (which are normally more directly affected by supply fluctuations) and adjusted for the effects arising from changes in indirect taxation and in regulated prices. As regards the measures of slack, the quarter-on-quarter rate of change of GDP is taken as one, and the year-on-year change in the unemployment rate as another. Each set of observations constructed in this way is divided into two periods, one running from 1996 to 2007, and another spanning the crisis, from 2008 to 2014.

Irrespective of the measure of slack used, the behaviour of the relationship between the variables proxying the cyclical moment and inflation is clearly differentiated from one period to another. Specifically, before the onset of the crisis, a higher level of activity or a lower increase in unemployment, in general, were not accompanied by higher inflation. Conversely, the sharp contraction in activity further to the crisis has prompted a change in

3 For an initial analysis of this matter, see L. J. Álvarez and A. Urtasun (2013), "Variation in the cyclical sensitivity of Spanish inflation: an initial approximation", *Economic Bulletin,* July-August , Banco de España.

the sign of this relationship, whereby increases in the unemployment rate or declines in activity have coincided, on the whole, with significant reductions in the inflation rate.

… which Phillips curve model estimates confirm

One strategy for analysing this phenomenon more accurately involves estimating Phillips curve-type relationships between inflation and activity, in which current inflation depends on expected inflation and on the degree of cyclical slack in the economy.[4] Table 4.1 shows the results of the estimates of two alternative specifications of a model of these characteristics, using as the inflation measure the CPI excluding unprocessed food and energy prices (with the effect of tax changes and regulated prices stripped out) and proxying the degree of slack by means of the year-on-year change in the unemployment rate, in one case, and the quarter-on-quarter rate of change of GDP, in the other. According to these estimates for the period 1995-2007, a higher level of activity or a lower rate of unemployment would have translated into higher inflation rates, although the effect is not statistically significant. Also for this period, a sizeable backward-looking component is estimated in the dynamics of prices, whereby inflation would be characterised by notable inertia. For the most recent period (2008-2014), the estimates reveal an increase in the cyclical sensitivity of inflation. Indeed, the coefficient of the cyclical slackness variable under the two specifications increases notably in scale and becomes statistically significant.

The increase in the cyclical sensitivity of inflation is in step with a lesser degree of nominal rigidity

This latter result is consistent with the reduction in the degree of nominal rigidity in the economy during the crisis period, possibly caused by a more frequent adjustment of prices during that period than in the past. Information from the recently conducted Banco de España wage- and price-setting survey points in this direction. Thus, weighted by the level of employment, more than 40% of firms indicate that they have raised the frequency of price changes compared with the pre-2010 period, while fewer than 10% say they have lowered it. The remaining firms would not have altered the frequency of change.

A greater cyclical sensitivity of inflation has also been detected in other European countries, although it is not a global phenomenon

The increase in cyclical sensitivity can also be observed in other countries. Thus, focusing likewise on the latest crisis, Oinonen *et al.* (2013) find an increase in the cyclical sensitivity of inflation across the euro area as a whole.[5] However, there is also evidence to the contrary, which points to some easing in the responsiveness of prices to cyclical conditions in the US economy [Matheson and Stavrev (2013)] and in the advanced economies as a whole [IMF (2013)][6], which might be indicative of the fact that the increase in the cyclical

4 Specifically, following the specification proposed by L. Ball and S. Mazumder (2011), "Inflation Dynamics and the Great Recession", *Brookings Papers on Economic Activity,* Phillips curves of the following type are estimated:

$$\pi_t = \gamma\pi^0 + (1-\gamma)\ \frac{1}{4}(\pi_{(t-1)} + \pi_{(t-2)} + \pi_{(t-3)} + \pi_{(t-4)}) + \alpha h_{(t-1)} + e_t$$

where π_t is inflation in quarter t, π^0 is the central bank's medium-term inflation reference or target, h^t is a measure of slackness, e^t reflects the impact that other explicitly non-modelled factors may have on current inflation (i.e. the error term) and γ and α are the parameters that have to be estimated. According to this specification, inflation expectations are a combination of a forward-looking component, which is normally linked to the reference or target that the monetary authority follows for medium-term inflation, and another, backward-looking component, proxied in this case by average inflation over the past four months.

5 See S. Oinonen, M. Paloviita and L. Vilmi (2013), *How have inflation dynamics changed over time? Evidence from the euro area and the USA,* Bank of Finland Research Discussion Papers. M. Riggi and F. Venditti (2014), *Surprise! Euro area inflation has fallen,* Occasional Papers, no. 237, Banca d'Italia, offers similar results for the cases of Italy, France and Spain; and S. Fabiani and M. Porqueddu (2013), "La flessibilitá dei prezzi in Italia: evidenze per il período 2006-2012", mimeo, Banca d'Italia, find evidence of some increase in the degree of flexibility of prices in the Italian economy during the crisis, which they associate, in part, with business demography dynamics.

6 See T. Matheson and E. Stavrev (2013), "The Great Recession and the Inflation Puzzle", *Economics Letters,* 120 (3), pp. 468-472, and IMF (2013), "The dog that didn't bark: Has Inflation been muzzled or was it just sleeping?", *World Economic Outlook,* April.

PHILLIPS CURVE ESTIMATE (a) TABLE 4.1

	GDP growth		Changes in unemployment rate	
	1996-2007	2008-2014	1996-2007	2008-2014
Degree of cyclical slack	0.06	0.35	-0.10	-0.22
	(0.20)	(0.0)	(0.38)	(0.0)
Expected inflation	0.42	0.34	0.28	0.51
	(0.02)	(0.0)	(0.02)	(0.0)

SOURCE: Banco de España.

a The estimated model is $\pi_t = \gamma\pi\text{^}o + (1-\gamma)\ 1/4\ (\pi_{(t-1)} + \pi_{(t-2)} + \pi_{(t-3)} + \pi_{(t-4)}) + \alpha h_{(t-1)} + e_t$, where π_t is inflation in quarter t, $\pi\text{^}o$ is the central bank's medium-term inflation reference or target, h_t is a measure of slackness, e_t reflects the impact that other explicitly non-modelled factors may have on current inflation (i.e. the error term), and γ (expected inflation) and α (degree of cyclical slack) are the parameters that have to be estimated. The p-value is shown in brackets.

sensitivity of inflation in the recent period may be a phenomenon relatively confined to the case of certain European economies.

Greater cyclical sensitivity is a result that is very robust to different measures of prices and of the cycle

That said, comparing different papers in this area is subject to certain limitations, as a result of the use of different measures of inflation and of expectations, and also of different ways of proxying the degree of cyclical slackness. To verify the robustness of the previous results for the case of the Spanish economy (and in particular, that relating to the increase in the cyclical sensitivity of inflation during the crisis), different specifications of the foregoing general Phillips curve model have been estimated in which alternative variables are used to proxy inflation, inflation expectations and the degree of slackness, along with various combinations of these three groups of variables. Specifically, combinations of 10 alternative measures of inflation, inflation expectations and degree of slackness are considered, which gives rise to a thousand possible configurations of the base model.

Chart 4.5 depicts the distribution of all the estimates of the cyclical sensitivity parameter in the pre-crisis period, along with the related estimates for the subsequent period. On the basis of these results, it is evident that, during the most recent period, there has been a considerable increase in the proportion of base model specifications for which an increase in the cyclical sensitivity of inflation in our economy is detected. Specifically, in 73% of the estimated specifications, elasticity in the post-crisis period is higher than that identified in the prior period.

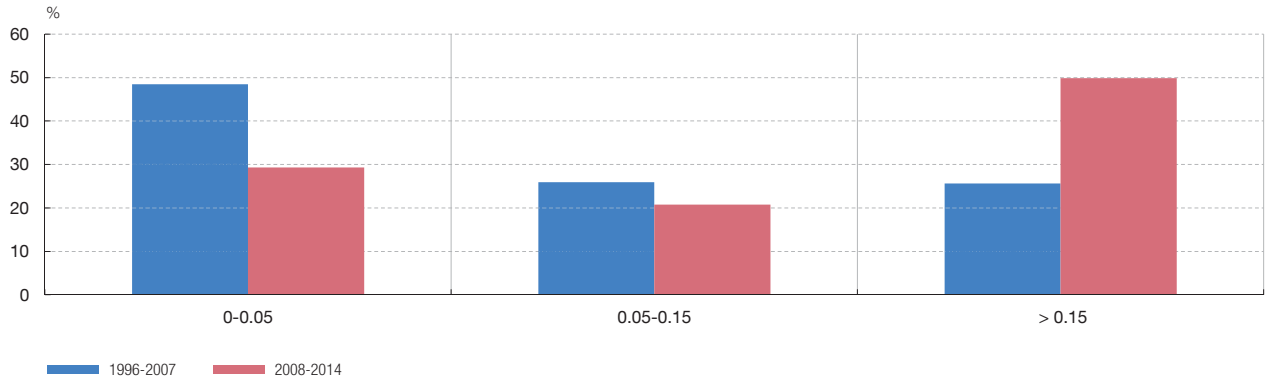
A greater degree of price responsiveness to cyclical fluctuations should improve the Spanish economy's adaptability...

Consolidation of the greater degree of responsiveness of prices to the cyclical moment identified in the foregoing analysis would, looking ahead, entail a clear improvement in the Spanish economy's capacity to adjust to demand shocks. That would enable the effects of the shocks on prices to be better deflected and thus reduce the extent of the fluctuations in activity and employment, and the associated costs in terms of welfare. In this respect, some of the regulatory developments in recent years (such as the greater internal flexibility of firms following the entry into force of the labour market reform and the recently approved de-indexation legislation) should contribute to reducing the incidence of nominal rigidities, which have traditionally limited the Spanish economy's capacity to adapt in recessionary phrases.

... although evidence of this phenomenon in expansionary phases is still very limited

Nonetheless, the evidence to date about the recent increase in the cyclical sensitivity of inflation is still limited, insofar as most of the sample period after 2008 corresponds to periods marked by a strong contraction in activity; a note of caution is thus required when projecting this phenomenon forward. In particular, it is necessary to be able to analyse

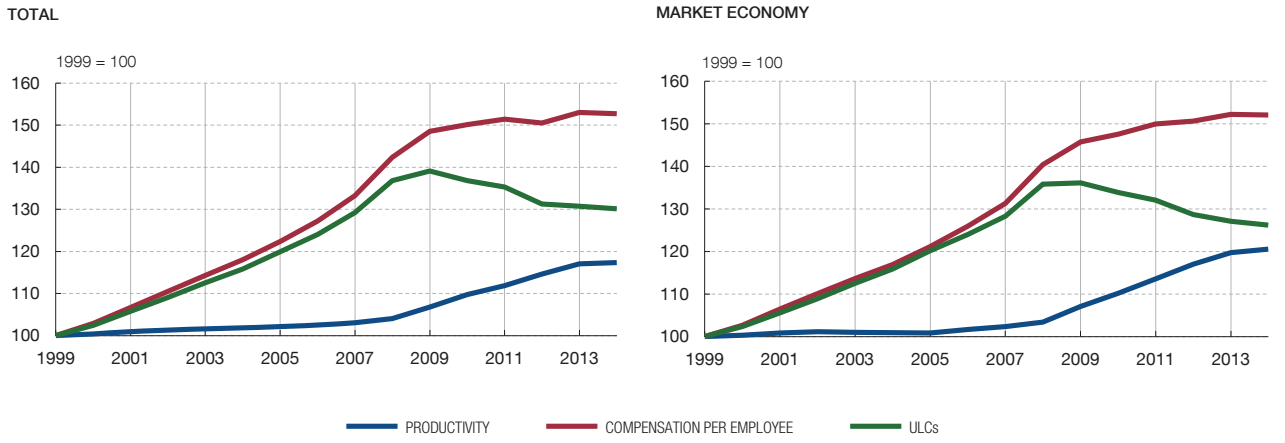
DISTRIBUTION OF THE COEFFICIENT OF CYCLICAL SENSITIVITY (a) CHART 4.5



SOURCE: Banco de España.

a Histogram showing the coefficient of cyclical slackness in a thousand different configurations of the base model for the pre-crisis period and another thousand configurations for the post-crisis period. Specifically, it is based on combinations of 10 alternative measures of inflation (CPI, CPI excluding administered prices and taxes, CPI excluding unprocessed food and energy prices, CPI excluding unprocessed food and energy prices, administered prices and taxes, CPI excluding energy and food, CPI excluding energy, food, administered prices and taxes, GDP deflator, value added deflator, value added deflator of the market economy and private consumption deflator), 10 different ways of proxying inflation expectations (Eurosystem target, expected inflation according to *Consensus Forecasts,* European Commission consumer survey, survey measures of manufacturing PMI and services PMI expectations, inflation implicit in swap transactions at 1, 2, 3, 4 and 5 years) and 10 ways of proxying the degree of cyclical slackness (GDP growth, change in consumption, capacity utilisation, output gap as per the Banco de España and European Commission estimates, year-on-year change in the unemployment rate, unemployment rate, recession gap, cyclical unemployment and employee compensation as a percentage of nominal GDP.

UNIT LABOUR COSTS AND COMPONENTS CHART 4.6



SOURCE: INE.

inflationary dynamics over a sufficiently prolonged expansionary phase so as to be able to draw firm conclusions not only about the persistence of the change in price-setting patterns, but also on their potentially differentiated nature in economic recessions and expansions.

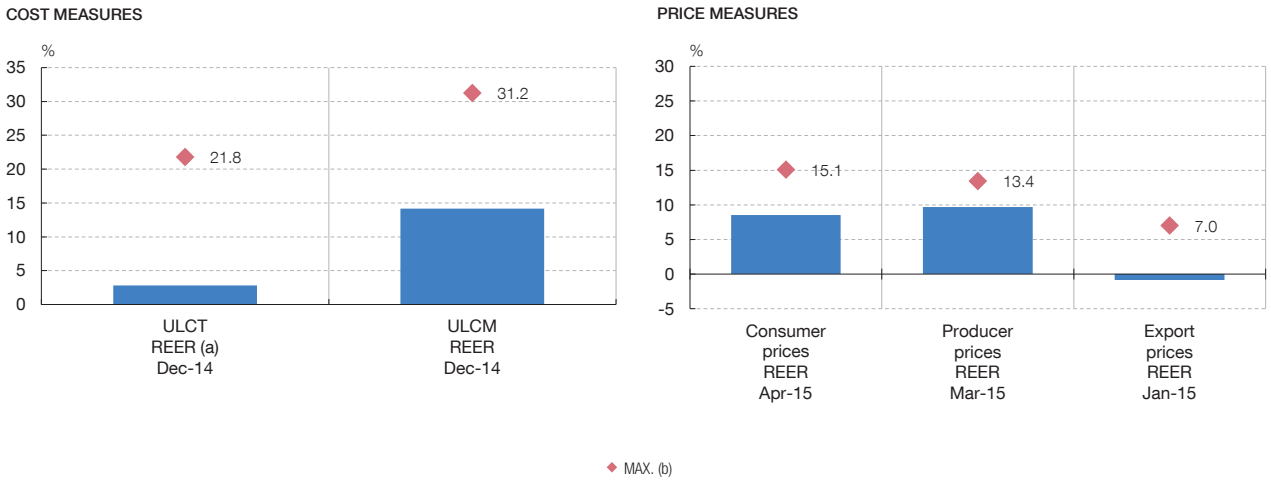
3 Prices, costs and mark-ups

The gains in competitiveness observed during the crisis have been essentially underpinned by the moderation of unit labour costs…

The moderation in the rate of increase of consumer prices experienced by the Spanish economy – both in absolute terms and in relation to the euro area – in recent years has largely rested on the strong reduction in labour costs recorded practically throughout the crisis period. Following a phase of continuous growth, ULCs slowed sharply in 2009, posting sustained declines thereafter. The increase in apparent labour productivity, linked to the high rate of job destruction, is the factor that most explains the disinflation in labour costs during the initial phases of the crisis (see Chart 4.6). Subsequently, the moderation

INDICES OF SPANISH COMPETITIVENESS VIS-À-VIS THE EURO AREA
Cumulative rates of change from December 1998

CHART 4.7



SOURCE: Banco de España.

a REER: Real effective exchange rate.
b Maximum loss of competitiveness since 1998.

in wage growth, which has become more patent in recent years, has contributed to prolonging the squeeze on labour costs to date.

The pass-through of the reduction in labour costs to prices has, however, been partial and, indeed, competitive gains during the recent period are significantly greater when estimated via cost measures, instead of price measures. In fact, while measures constructed on the basis of cost indicators show how the Spanish economy's cumulative loss in competitiveness during the past expansion has been notably corrected, the related price-based indices reveal that this correction is less marked, although, in this latter case, the misalignment of relative prices during the expansionary phase was far lower (see Chart 4.7). As indicated in the previous section, the successive rises in indirect taxes and in certain regulated prices, linked to the fiscal consolidation process, have partly countered the adverse impact of the reduction in labour costs on final prices. In addition, the behaviour of business mark-ups also plays a key role in price-setting, reflecting as it does the capacity or readiness of producers to pass through changes in costs and taxes to their selling prices.

… while the unit surplus has behaved countercyclically

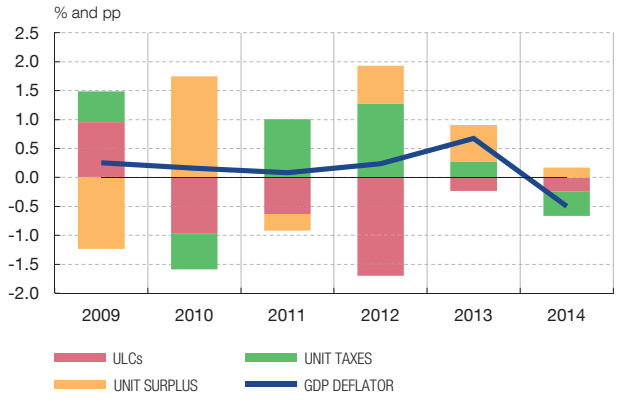
Chart 4.8 shows the components of the GDP deflator (costs, indirect taxes and gross operating surplus per unit of output)[7] over the past five years. In addition to the contraction in ULCs and the positive impact that the indirect tax rises made in 2010 and 2012 had, the chart highlights the marked countercyclical behaviour of the unit surplus, which essentially reflects the course of business mark-ups[8], a variable which, however, is difficult to directly estimate. According to the information in Table 4.2, the GVA deflator in Spain in the period 2008-2013 grew less than in the euro area as a whole, as a result of the negative contribution of relative ULCs. Conversely, the unit surplus maintained its positive contribution to the differential. An analysis by sector of activity reveals that in all of them, to a greater or lesser

7 For a description of how the deflators are broken down into their different components, see Servicio de Estudios del Banco de España (2005), *El análisis de la economía española.*
8 The gross operating surplus further includes, among other factors, the return on capital and depreciation costs.

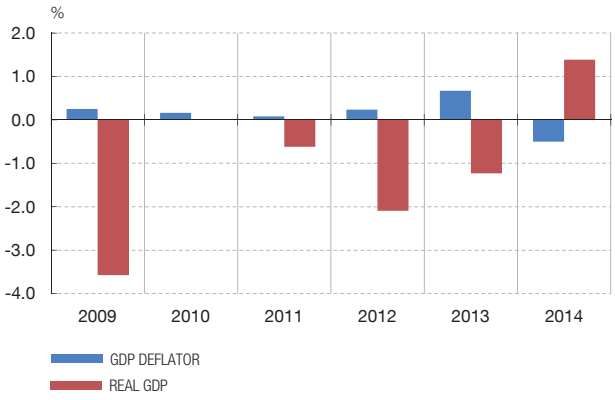
GDP DEFLATOR AND ITS COMPONENTS

CHART 4.8

CONTRIBUTIONS TO THE CHANGE IN THE GDP DEFLATOR



GDP DEFLATOR AND REAL GDP. Year-on-year rates



SOURCE: INE.

extent, ULCs contributed negatively to the inflation differential with the euro area in the period 2008-2103, while the gross surplus per unit of output, in all instances, operated in the opposite direction, which contributed to lessening the intensity of the relative adjustment of prices in our economy.[9]

Changes in the surplus appear to be related to the financial conditioning factors prevailing during the crisis…

The countercyclical behaviour of the surplus, which is extensive to practically all the productive sectors, even in those most exposed to foreign competition, suggests the possible presence of some common factor having led Spanish companies on the whole to increase their mark-ups, irrespective of the sector of activity in question. Among the possible determinants of this behaviour, financial constraints appear to have played a key role. Indeed, the tightening of financing conditions at the onset of the crisis, along with the high indebtedness of the business sector as a whole at the start of this episode, may have exerted some upward pressure on the prices set by companies, with the aim of achieving higher mark-ups with which to offset the higher costs and possible shortage of foreign financing sources. Along these lines, some previous papers focusing on the US economy, such as Chevallier and Scharfstein (1996) and Gilchrist, Schoenle, Sim and Zakrajsek (2013)[10], find evidence that, in recessions in which business financing conditions worsen, companies tend to increase mark-ups to strengthen their cash flow-generating capacity in the short term, even at the risk of incurring durable losses in their market share.

The financial source of the crisis that began in 2008 and its strongly adverse impact on credit markets substantiates, in principle, the foregoing hypothesis, which positively links

9 It should be borne in mind that the measurement of the gross operating surplus may differ from one statistical source to another, which reflects the methodological discrepancies in how it is compiled. For example, in the context of the Spanish economy's statistics, whereas National Accounts data are compiled following National Accounts accounting criteria (harmonised in keeping with the ESA-2010 accounting standard), other sources, such as the Central Balance Sheet Data Office or the Tax Authorities, are governed by business accounting rules. This means that, beyond sample differences, the treatment of inputs and of tax payments may differ in the respective databases, altering thereby the calculation of the different approaches to the surplus.

10 J. A. Chevallier and D. S. Scharfstein (1996), "Capital-Market Imperfections and Countercyclical Markups: Theory and Evidence", *American Economic Review,* American Economic Association, vol. 86 (4), and S. Gilchrist, R. Schoenle, J. W. Sim and E. Zakrajsek (2013), *Inflation Dynamics During the Financial Crisis,* Working Papers, no. 78, Brandeis University, Department of Economics and International Business School.

VALUE ADDED DEFLATOR: CONTRIBUTIONS TO THE SPAIN-EURO AREA DIFFERENTIAL

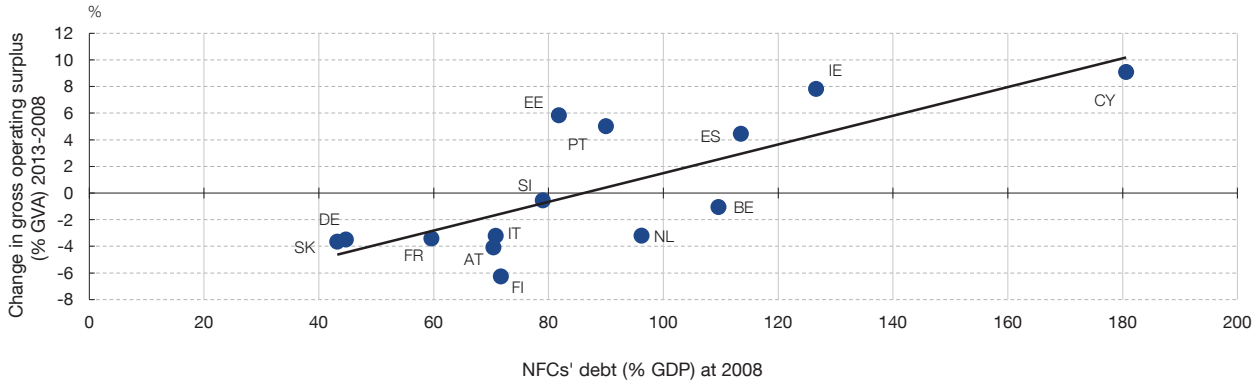
TABLE 4.2

	2001-2007	2008-2013
1 Whole economy		
Unit labour cost	1.2	-1.0
Gross operating surplus per unit, including taxes	0.6	0.6
VA deflator	1.7	-0.4
2 Agriculture		
Unit labour cost	-0.3	-0.5
Gross operating surplus per unit, including taxes	0.8	0.5
VA deflator	0.5	-0.1
3 Industry and energy		
Unit labour cost	1.4	-1.0
Gross operating surplus per unit, including taxes	1.1	1.5
VA deflator	2.5	0.6
4 Construction		
Unit labour cost	2.1	-3.4
Gross operating surplus per unit, including taxes	0.3	0.3
VA deflator	2.4	-3.1
5 Total services		
Unit labour cost	0.8	-0.8
Gross operating surplus per unit, including taxes	0.5	0.4
VA deflator	1.3	-0.4

SOURCES: Eurostat, INE and Banco de España.

RELATIONSHIP BETWEEN SURPLUS AND DEBT

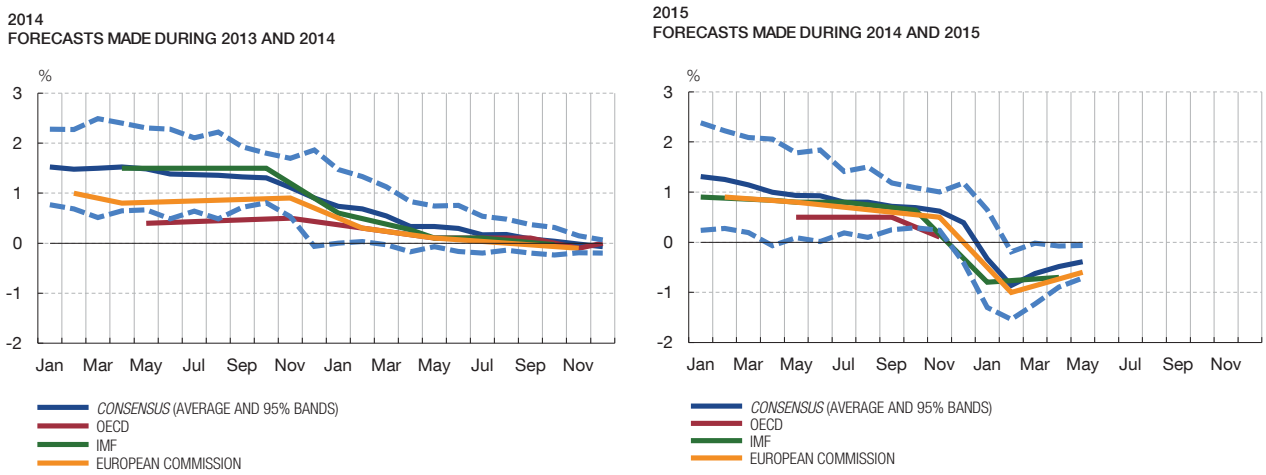
CHART 4.9



SOURCE: Eurostat.

the degree of financial tightening and business mark-ups. The evidence at the international level would likewise be along these lines. In particular, in European countries – Ireland, Portugal and Spain – where the corporate sector evidenced a higher level of debt at the onset of the crisis and which have witnessed with particular intensity the tightening of credit conditions during the crisis, the increase in the operating surplus as a proportion of GVA has been particularly marked (see Chart 4.9).

CPI INFLATION FORECASTS FOR SPAIN CHART 4.10



SOURCES: OECD, IMF, European Commission and *Consensus Forecasts*.

… and with the presence of competition constraints in some sectors

Based on disaggregated firm-level information from the Banco de España Central Balance Sheet Data Office, Montero and Urtasun (2014)[11] find evidence in favour both of the financial hypothesis and of the presence of certain constraints on the degree of competition in certain sectors. In particular, in those sectors whose level of debt was higher in 2007, firms would have set relatively higher mark-ups. This latter effect is also identified in the case of those sectors where the degree of concentration is higher and, presumably, competitive forces are weaker. In this respect, the application of reforms aimed at increasing the degree of competition should provide for a greater pass-through of fluctuations in costs to selling prices (and a lesser impact on the volume of activity) in those activities with a more limited level of competition.

4 Medium-term inflation scenario

In 2014 and the opening months of 2015 the inflation forecasts were revised progressively downward, particularly following the fall in oil prices

The process of disinflation which began in 2013 has not only continued since then, but has intensified in the most recent period, largely owing to the marked decline in oil prices. Indeed, since summer last year, inflation has posted systematically negative rates and most of the forecasts by private analysts and the main international institutions are for prices to continue decreasing in the short term. Chart 4.10 shows that the inflation forecasts for Spain in 2014 and 2015, published by the main public bodies and by private analysts over the last few quarters,[12] have been revised downwards, particularly as a result of the abrupt adjustment in oil prices in the international markets throughout the second half of 2014.

The indicators of inflation expectations point to a very low inflation scenario in the coming months

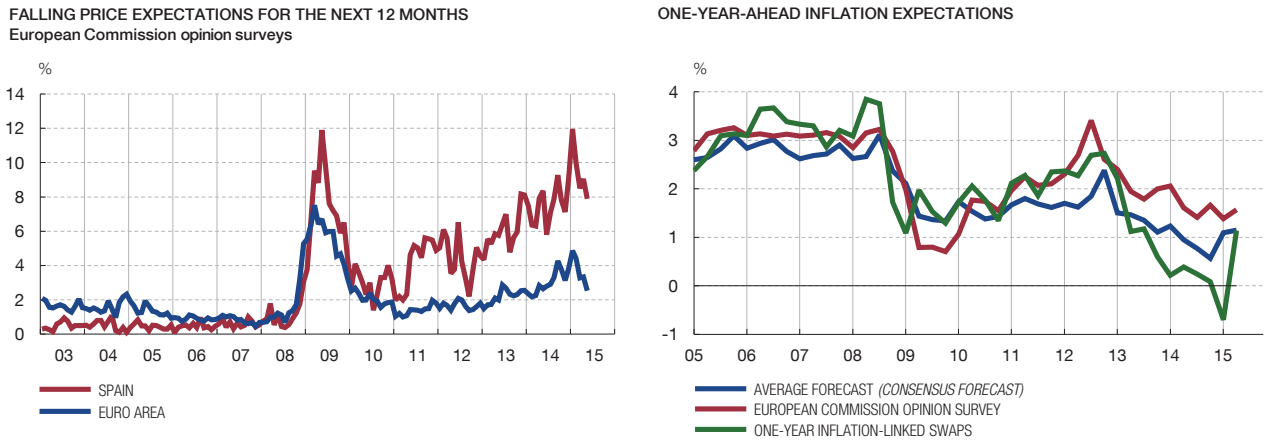
The available survey-based indicators also point to a very low inflation scenario in the coming months. For example, the European Commission's consumer survey (left-hand panel of Chart 4.11) shows that the percentage of households –in Spain and in the euro area as a whole– which expect prices to fall in the next twelve months continued to be relatively high in the opening months of 2015. The right-hand panel of Chart 4.11 shows

11 J. M. Montero and A. Urtasun (2014), *Price-Cost Mark-ups in the Spanish Economy: a Microeconomic Perspective,* Documentos de Trabajo, no. 1407, Banco de España.

12 Specifically, the inflation forecasts for Spain include those regularly published by the OECD, the European Commission and the IMF, as well as the average and the 95% bands of the distribution of forecasts published monthly by Consensus Forecast, which are based on those issued by about twenty private Spanish and foreign analysts.

INFLATION EXPECTATIONS FOR SPAIN AND THE EURO AREA

CHART 4.11



SOURCES: European Commission, *Consensus Forecasts* and Bloomberg.

the one-year-ahead inflation forecast obtained from the various available sources: the average of the one-year-ahead forecasts of Consensus Forecast, the implied expected rate of the aforementioned European Commission survey and the information based on one-year inflation-linked swaps. Although there is some discrepancy between these sources, it seems clear that in all cases the one-year-ahead inflation expectations for the Spanish economy began to fall at the end of 2012 and are for low rates in 2015.

In the medium and long term, the expectations are consistent with a low-inflation scenario

At longer-dated horizons, the information from inflation swaps[13] indicates that the expected annual average rates in Spain trended downward from 2012 Q4, coinciding with the sharp disinflation in the euro area as a whole in that period. For example, as shown in Chart 4.12, the expected inflation in these markets in the next five and ten years has been systematically below 2% since 2013.

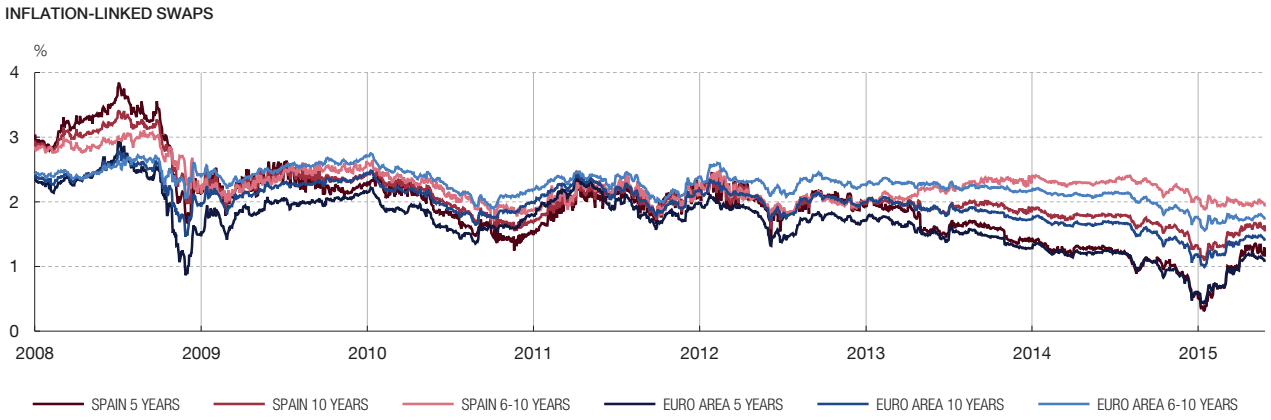
To isolate the impact of short-term price fluctuations on longer-term inflation, a commonly used metric is the five-year expected average inflation rate five years ahead. This measure for the Spanish economy has hovered between 2.5% and 2% for most of the crisis period except in temporary episodes, but in the final stretch of last year it also fell below 2%. As in the euro area as a whole (see Chapter 2 in the Spanish original of this Report), this downward trend was not interrupted virtually until the beginning of 2015, coinciding with the announcement and implementation of the extension of the ECB's asset purchase programme.

In short, the various sources of information on the envisaged behaviour of consumer prices suggest that agents expect the recent low inflation will continue in the near future. Also, despite the economic recovery currently under way and projected to continue in the coming years both in Spain and in the euro area as a whole,[14] the evidence for the most

13 The expected inflation rates reflected by these data should be viewed with caution, particularly in the longer term, since they incorporate the markets' assessment of various risks (particularly inflation risk, although also counterparty and liquidity risk) and their relative weight may increase with increasing contract term and, therefore, greater uncertainty.

14 The Banco de España's most recent macroeconomic projections for the Spanish economy are published in the April 2015 Economic Bulletin, while those for the euro area, prepared by ECB staff, are available in the March 2015 *ECB staff macroeconomic projections for the euro area*.

INFLATION EXPECTATIONS FOR SPAIN AND THE EURO AREA CHART 4.12



SOURCE: Bloomberg.

recent period is consistent with a certain gap between medium-term inflation expectations and the ECB's price stability target.

5 Macro-financial adjustment in a low inflation scenario: conditioning factors, risks and policies

In an environment characterised by very low inflation expectations over a prolonged period, such as that described in the previous section, it is necessary to analyse the mechanisms through which the scant dynamism of prices might affect the macro-financial adjustment process in which the Spanish economy is currently immersed, and the role that various policies may play to mitigate the adverse effects of a hypothetical entrenchment of inflation expectations at levels which are inconsistent with price stability. The purpose of this section is to analyse these issues.

There are very few direct historical references to a scenario of very low inflation over a relatively long period in the context of a monetary union. In the Spanish economy, this inflation scenario runs in tandem with a highly complex and intense process of adjustment of the imbalances built up during the previous expansionary phase, and with the adoption of far-reaching structural reforms which have had a far from negligible impact on economy activity and prices. In combination, these factors pose considerable challenges when analysing how a low level of inflation, depending on its source, affects the correction of the main imbalances and the capacity of the Spanish economy to bring about a lasting recovery. Likewise, it is important to examine how the ongoing macro-financial adjustment process and the factors conditioning monetary policy might, in turn, influence inflation dynamics.

This section analyses all these aspects, focusing, on one hand, on the factors which currently determine monetary policy in the euro area, and on the role that various economic policies may play in the current context of the Spanish economy, on the other. Chart 4.1 offers a qualitative approach to the different mechanisms and effects described below, using a macroeconomic model based on a monetary union comprising two regions with varying degrees of macro-financial vulnerability.

The persistently low inflation rates reflect -and have an effect on- the inertia of the private-sector deleveraging process

The financial nature of the recent crisis, which was partly caused by the over-accumulation of debt by the private sector in the expansionary phase, has accentuated and entrenched the downward trend of inflation in the Spanish economy over the recent period. Thus, mirroring the gradual deleveraging currently under way in households and firms and the consequent reduction in the spending capacity of these sectors, domestic demand

remained notably weak in recent years and only started to pick up with the onset of recovery halfway through 2013. However, the sharp contraction of domestic demand since the start of the crisis has had a marked and lasting impact on price developments.[15]

A particularly important aspect of this is the possible feedback effect on inflation and on the level of economic activity of private-sector deleveraging and its negative consequences. In an environment of high indebtedness, falling inflation could give rise to a further contractionary effect through the positive impact on the real value of outstanding debt, which would in turn exert greater downward pressure on prices. Specifically, a fall in the rate of inflation caused by a moderation of nominal income, in a scenario of contracting demand, tends to lead to a longer, more acute and more costly deleveraging process.[16]

In normal circumstances, a reduction of nominal interest rates softens the adverse effects of contracting demand in an environment of high indebtedness...

In such a situation, monetary policy can play an important role in mitigating a negative dynamic of sharp falls in prices, income, production levels and employment. In normal circumstances, in which the central bank is able to accommodate its nominal interest rates to a negative demand shock, the ensuing positive effect on inflation lessens the costs of the recession through a number of channels. Specifically, a sufficiently firm response on the part of the monetary authority can be effective in reducing real interest rates, thus supporting private-sector consumer spending and investment. Moreover, monetary stimuli generally promote exchange rate depreciation and, therefore, the more expansionary behaviour of net exports. Also, a higher pace of price growth alleviates the real debt burden and contributes to a less costly clean-up of the balance-sheet position of indebted sectors. This could have marked expansionary effects on aggregate spending capacity, especially in an economy like Spain's, which has a sizeable negative external position.

...but, if interest rates are kept at their effective lower bound, the disanchoring of expectations could adversely affect the macro-financial adjustment process

However, the fact there is practically no leeway for additional cuts in the interest rates on the main refinancing operations in the current euro area context substantially limits the stabilisation capacity of this monetary policy instrument. In such circumstances, and in the absence of alternative measures such as those recently adopted by the ECB, a negative demand shock could clearly amplify its negative effects on economic activity and prices. Specifically, in the absence of a reduction of nominal interest rates, the initial disinflationary effect translates into a direct increase in real rates, with the ensuing contractionary impact on aggregate demand and prices, added to that produced by the initial shock.

A protracted period of abnormally low inflation rates could eventually trigger adverse effects on agents' inflation expectations. In this event, the possible disanchoring of inflation expectations would prompt an additional and lasting adverse shock to aggregate demand.

The possibility of such a risk scenario poses major economic policy challenges

The possibility of a risk scenario which includes these adverse factors - weak internal demand and very low inflation over an extensive period, with possible disanchoring of inflation expectations and effective interest rates at their lower bound- poses major challenges for the economic authorities. Among the measures proposed to reduce the

15 At the lowest point of the cycle, reached in 2013 Q2, private-sector domestic demand had fallen by 18% from its peak before the crisis. By the end of 2014, this decline had moderated and stood at slightly over 12% from the aforementioned peak.

16 This Fisher or debt-deflation effect is examined in detail in J. Andrés, Ó. Arce and C. Thomas (2014), *Structural reforms in a debt overhang*, Documentos de Trabajo, no. 1421, Banco de España. The authors show, however, how the presence of long-term debt (which is the case of most Spanish household mortgages) tends to mitigate the intensity of this effect.

likelihood of such a scenario, two have attracted much attention among economic authorities: unconventional monetary policy measures and structural reforms in product and labour markets.[17]

Unconventional monetary policy measures which reduce expected interest rates help stimulate short-term demand

The restriction that the existence of a lower bound on short-term nominal interest rates entails can be partly overcome by the central bank taking action on longer-term interest rates, in the form of unconventional monetary policy measures (see Chapter 2 in the Spanish original of this Report). The different tools available to the monetary authority (forward guidance, asset purchases, etc.) have a common, overarching objective to reduce real interest rates over long time horizons, consistent with the relevant time period for agents' decisions on consumer spending and investment. The negative impact of this type of unconventional measure on real interest rates usually resides in contrary (downward) nominal interest rate movements and (upward) inflation expectations in the reference periods. Box 4.2 analyses how a measure designed to keep nominal interest rates at their lower bound over a longer period than that required by standard monetary measures (based on current inflation) can also be used effectively to mitigate the possible short-term adverse effects triggered by certain disinflationary developments, such as recent fall in oil prices.

Structural reforms may play a major role in a context in which the central bank applies an expansionary monetary policy through unconventional measures.

As a natural outcome of the higher degree of competition and efficiency of the product and labour markets, structural reforms normally lead to some wage moderation and lower short-term inflation rates. These two effects may initially have a partly negative impact on aggregate demand, mainly as a result of the effect on household income of lower wages per hour worked and the increase in the real value of debts produced by the disinflationary effect of the reforms. To counter these adverse effects, which are described in the related literature as mostly transitory and short-lived following application of the measures, the reforms will have a lasting and positive impact through various relevant channels. Most notably, they will have a galvanising effect on competitiveness (which will help to improve the external balance), on employment (which will rise as a result of wage moderation and the increase in external demand) and on future growth expectations. The latter, which reflects the fact that the activity and long-term employment of an economy depend inversely on the inefficiencies of its product and factor markets, also has a positive impact on agents' permanent income. Expectations of a higher growth pace for output and income in the future usually have a favourable effect on spending and activity in the short term, proving conducive to a faster recovery of asset prices, of firms' financial capacity and of credit and investment. Thus, the galvanising effect of structural reforms may even supersede the transitory short-term contractionary effects mentioned earlier.[18]

The joint implementation of structural reforms and unconventional monetary policy measures can generate considerable positive synergies in the short term

The above arguments highlight the fact that, even when standard monetary policy is restricted, the two types of policies considered -structural reforms and unconventional monetary policy measures- may potentially lessen the costs associated with real and financial negative shocks. It should be noted that each of these measures delivers its effects through different channels, with potentially asymmetrical repercussions on certain

17 See, for example, M. Draghi (2014), "Unemployment in the euro area", speech delivered at the Annual Central Bank Symposium in Jackson Hole, 22 August 2014; B. Coeuré (2014), "Structural reforms: learning the right lessons from the crisis", speech delivered at the Central Bank of Latvia, 17 October 2014, and European Commission (2014), *Annual Growth Survey 2015.*

18 J. Andrés, Ó. Arce and C. Thomas (2014) provide a detailed analysis of the mechanisms through which this type of reforms can influence economic activity and prices in the short term, in an economy undergoing a deleveraging process. Other recent studies have highlighted that, under certain circumstances, the lack of leeway for further interest rate cuts can lead to such reforms having a slightly contractionary, but not lasting, effect in the short term (see, for example, G. Eggertsson, A. Ferrero and A. Raffo (2014), "Can structural reforms help Europe?" *Journal of Monetary Economics*, vol. 61, p. 2-22].

relevant variables, such as short-term inflation, and a duration which will vary depending on the measure implemented. In this context, the *joint* application of these two types of policies, and the existence of possible synergies between them[19], are of particular interest.

Box 4.1 offers evidence of how the joint application of these measures can give rise to positive synergies between them, using the aforementioned macroeconomic model of a monetary union. The logic behind this outcome is intuitive. Structural reforms deliver most of their positive effects in the medium and long term, when the efficiency improvements achieved by these measures in the various markets fully materialise, on one hand, and when the aforementioned short-term contractionary effects are dispelled, on the other. Unconventional monetary policies may also be conducive to a reduction of real interest rates in the short and medium term (as also occurs with temporary fiscal expansion in a context of constant nominal interest rates). Thus, the short-term expansionary effects of expected growth in activity and income in the medium and long term, resulting from the efficiency gains produced by the structural reforms, are amplified by the application of monetary policies aimed at moderating the path of real interest rates. This last effect operates through the ensuing reduction in the economic agents' discount factor brought about by the downward trend in interest rates which, for example, may lead to an increase in the expected net yield on investments and thus encourage current decisions on spending, activity and employment.

6 Conclusions

The crisis has prompted an ongoing correction of the main imbalances built up by the Spanish economy during the pre-crisis expansion period. Thanks to the moderation in price growth, the loss of competitiveness which characterised most of the first decade of the single currency has largely been recouped. This disinflationary process, which is still under way, is the outcome of the conjunction of various factors. Some of these are linked to weak domestic demand and others to various supply-side developments, including some of the structural reforms recently applied to the labour market and to specific goods and services markets, but also to other, less durable factors, such as the fall in oil prices over the past year. This chapter provides evidence on how inflation in the Spanish economy, which had traditionally shown a high degree of downward stickiness, has become increasingly sensitive to changes in the economic cycle. This may reflect a change in cost and price-setting processes resulting from the presence of the structural factors mentioned earlier. Maintaining a high degree of price responsiveness to economic fluctuations is vital to ensure that markets adjust more efficiently, and to avoid a situation where, as has occurred in the past, activity and employment levels are disproportionately affected by the adjustments as a result of excessive price rigidities.

Furthermore, the disinflationary process experienced by the Spanish economy in recent years has allowed for the reversal of the positive inflation differential of the initial years of the single currency. However, the low inflation levels recently observed in the euro area add more complexity to the need to combine the continued recovery of competitiveness, on one hand, with the deleveraging of households and firms, on the other. In this connection, it is worth noting that the joint application of unconventional monetary policy measures and structural reforms would lessen the risk of disa nchoring inflation expectations and could have expansionary effects, even in the short term.

19 The possibility of synergies arising between these two types of measures has been stressed, for example, by Draghi (2014).

This box analyses the potential macroeconomic impact of a persistently very low-inflation environment arising from a contraction of aggregate demand aggravated by a possible disanchoring of long-term inflation expectations. Similarly, the role that various economic policies may play to mitigate the contractionary effects of this environment is assessed. To this end, several scenarios are presented which are constructed from a general equilibrium model developed by Arce, Hurtado and Thomas (2015)[1] and designed to include certain key features of the Spanish economy as it is at present. This model includes two regions within a monetary union with the aim of showing some of the most significant differences between the macroeconomic environment of those countries in the euro area which have experienced greater financial strains during the crisis (region A, in terms of the model), compared with other countries which were less affected in this episode (region B)[2]. An essential differentiating feature between the two regions is that in region A there is a financial shock which gives rise to a gradual and lasting private-sector deleveraging process.

The first of the following scenarios illustrates the contractionary effect which may be produced by some disanchoring of long-term inflation expectations in a setting in which interest rates have reached their effective lower bound. Taking this as a starting point, in the second scenario, the individual effects of the following are analysed: using non-standard monetary policy measures aimed at reducing expected medium-term interest rates; structural reforms in product and labour markets; and an expansionary fiscal policy in the region of the monetary union which is not undergoing private-sector deleveraging (region B).[3] Finally, the effects of applying these policies simultaneously and possible synergies between them are analysed[4].

Panel 1 shows a scenario in which the deleveraging process in region A occurs in tandem with a sharp contraction of aggregate demand across the area, triggered by a fall in households' propensity to consume, which is similar to that which would be prompted, for example, by an increase in aggregate uncertainty. This shock is sufficiently intense for the central bank to hold its interest rates at the lower bound for a year, from which the recovery in inflation in the area as a whole leads it to set positive rates again (blue line). A disanchoring of long-term inflation expectations, which under normal circumstances would involve a very moderate real impact – insofar as the central bank would reduce nominal interest rates in order to avoid an increase in real rates – may be particularly contractionary when it occurs once interest rates are already at their lower bound. Specifically, the restriction imposed by the lower bound of nominal interest rates, together with abnormally low inflation expectations, results in the short term in lower inflation and in higher real interest rates in relation to the scenario without the *disanchoring* of expectations. The combination of these two factors triggers additional negative effects on economic activity which are particularly intense in the region which is reducing its indebtedness (red line).

Panel 2 includes the marginal effect (with respect to the previous scenario and with the disanchoring of expectations) produced by the implementation of: (i) non-standard monetary policy which induces a decline in the expected path of future interest rates (green line); (ii) structural reforms in product and labour markets in region A (blue line), and (iii) temporary fiscal expansion in region B (red line)[5]. First, a monetary policy measure which puts downward pressure on the path of expected nominal interest rates triggers an increase in GDP in the area as a whole[6], due to a reduction in expected real interest rates. Second, as a natural outcome of the higher degree of competition and efficiency of the product and labour markets, structural reforms in region A generate a positive impact on the competitiveness of these markets which prompts a significant increase in this region's exports, in employment (which grows as a result of wage moderation and the increase in external demand) and in future growth expectations. The foregoing gives rise to more buoyant activity in the short term. Finally, a fiscal stimulus in the region least affected by the crisis (region B) produces, albeit with a certain lag, clearly positive effects on the activity elsewhere in the area through exports and also through the consequent positive effect on inflation, which reduces real interest rates and erodes the real value of the debt.

1 O. Arce, S. Hurtado and C. Thomas (2015), *Policies for a low-inflation environment in a monetary union,* Documentos de Trabajo de Banco de España (forthcoming). See also J. Andrés, O. Arce and C. Thomas (2014), *Structural reforms in a debt overhang,* Documentos de Trabajo, No. 1421, Banco de España.

2 Although the model incorporates a broad set of realistic elements, its calibration is not designed to reproduce quantitative responses by the variables that may be interpreted from an empirical perspective. Accordingly, the magnitudes in the exercises presented below are merely illustrative of the qualitative behaviour of the key channels and variables in the model.

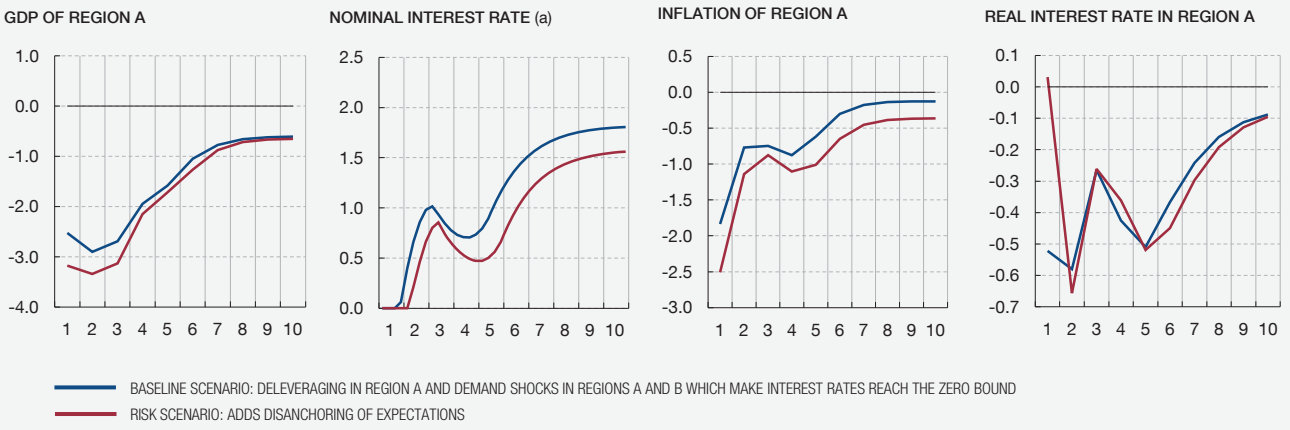
3 The aim of using expansionary fiscal policy is to illustrate the theoretical effect of measures such as those recommended recently in different circles to attempt to stimulate activity in the euro area as a whole, using in this connection the fiscal capacity of those economies in a more comfortable public finances position. See, for example, International Monetary Fund (2014), "Is it time for an infrastructure push? The macroeconomic effects of public investment", *World Economic Outlook,* Chapter 3, October.

4 The idea about the possible existence of synergies between the types of policies analysed here is implicit, for example, in President Draghi's introductory statement following the ECB Governing Council meeting of 15 April 2015.

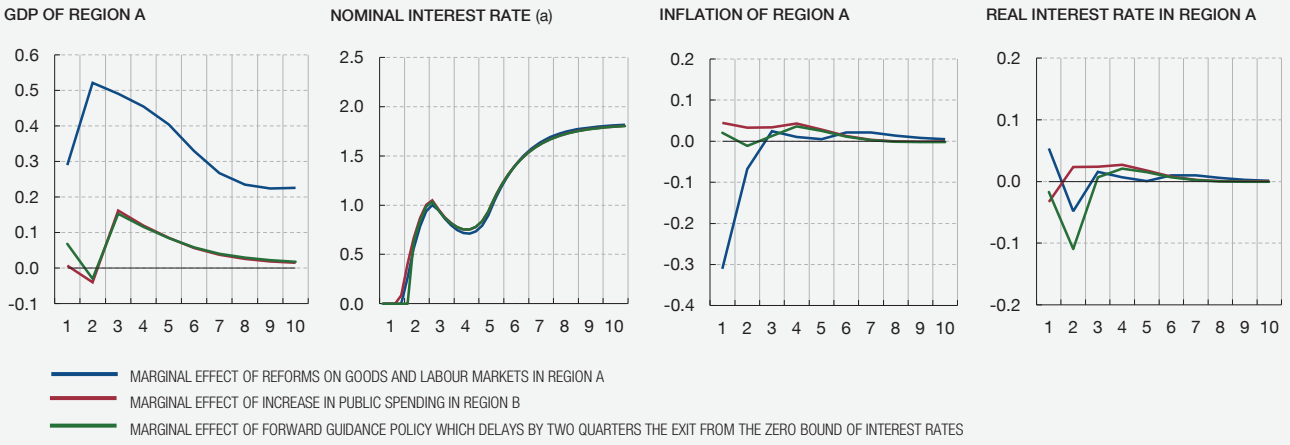
5 In the context of the model, the product market reform comprises a permanent reduction in mark-ups set by companies. In a symmetrical manner, the labour market reform involves a decrease in the margin between the wage earned by employees and their reservation wage, together with a greater degree of flexibility in the adjustment of nominal wages. The fiscal expansion in region B is instrumented by increasing the level of public spending, which will gradually decrease in terms of size following the implementation of the fiscal expansion.

6 For a recent analysis of the impact of this type of policies in the context of a closed economy (with an independent monetary policy), see P. Benigno, G. Eggertsson and F. Romei (2014), *Dynamic debt deleveraging and optimal monetary policy,* NBER Working Paper No. 20556.

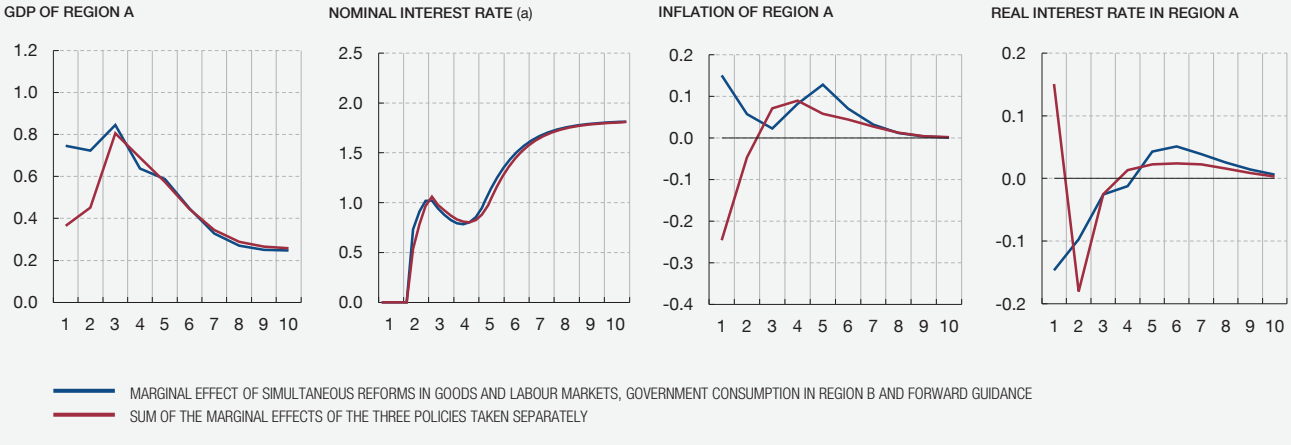
1 SIMULATIONS WITH INTEREST RATES LIMITED BY THE ZERO BOUND
Deviations from initial state. % difference (vertical axis), year (horizontal axis)



2 MARGINAL IMPACT OF ECONOMIC POLICIES ON THE ZERO BOUND OF INTEREST RATES
Deviations from scenario with shocks but without policies. % difference (vertical axis), year (horizontal axis)



3 IMAPCT OF THE THREE ECONOMIC POLICY MEASURES TAKEN JOINTLY OR SEPARATELY
Deviation from shock scenario but without policies. % difference (vertical axis), year (horizontal axis)



SOURCE: Banco de España.

a Variable presented as a level (not as a deviation from initial scenario).

With the aim of analysing the possible synergies between the three measures above, Panel 3 represents their marginal effects in two alternative scenarios. In the first scenario (red line), the marginal effects described in the previous paragraph are added together, that is to say, those effects arising from implementing each measure *separately*. In the second scenario (blue line), the marginal effects of applying *jointly* structural reforms in region A and temporary fiscal expansion in region B are calculated, in a setting in which the central bank also applies non-standard monetary policy such as that considered in this box. The main result of this exercise is that the joint implementation of structural reforms (in the region that suffers the crisis more directly), counter-cyclical fiscal policies (in the region with margin to do so) and non-standard monetary policy measures produces considerably higher expansionary effects in the short term than those which could be obtained if these policies were applied separately.

In the second half of 2014, oil prices decreased considerably from levels of more than $110 (€80) per barrel in June 2014 to lows in January 2015 of slightly more than $45 (€40) per barrel, and have risen moderately since then. This box quantifies, first, the impact of these changes in oil prices on some of the main macro magnitudes of the Spanish economy, using the Quarterly Macroeconometric Model of the Banco de España (MTBE by its Spanish abbreviation)[1]. Second, it analyses in depth the interplay between a persistent decrease in oil prices and some of the specific conditioning factors of the Spanish economy at present, such as the current situation of monetary policy, for which purpose the general dynamic equilibrium model of Arce, Hurtado and Thomas (2015)[2] is used.

The direct impact of the fall in oil prices on consumer prices was felt rapidly, mainly via its pass-through to heating and vehicle fuel prices. As indicated in the main text of this report, the negative year-on-year rates of the CPI since July 2014 are essentially explained by the behaviour of fuel prices. Accordingly, it should be noted that, in Spain, the rate of indirect taxation levied on heating and vehicle fuels has a high fixed component, which amplifies the impact of changes in oil prices on the CPI when the starting point for these prices is a high level[3].

According to the MTBE, which estimates both direct and indirect effects via their pass-through to the economy as a whole, a permanent unanticipated reduction in crude oil prices of 10%, at the beginning of a three-year projection horizon (2015-2017)[4], would rapidly pass through to the inflation rate, prompting a fall of 0.4 pp in the HICP in the first year, which would continue in subsequent years (see accompanying table). In terms of activity, the greatest effects would be felt in household spending (consumption and residential investment) as a result of the positive impact on their disposable income and wealth in real terms. In turn, higher spending would encourage private productive investment and employment. An increase in domestic demand would have an expansionary effect on imports, which would trigger a fall in the external sector's contribution to GDP growth. Nevertheless, the decline in the energy bill would, in net terms, improve the economy's net lending position. The second-round effects on prices and wages, according to this model's estimates, are very moderate, owing, on one hand, to the degree of nominal rigidity inherent in the model and, on the other, to the effect of higher employment, which causes the decrease in inflation to have a small impact on wages. Overall, for this fall of 10% in oil prices, the model estimates that GDP would increase by 0.15 pp in the first year and by a further 0.04 pp in the second and third year, making for a cumulative increase of 0.23 pp over three years.

The above estimated impacts are of the sign expected under normal circumstances, considering that the Spanish economy is highly dependent on imported crude oil. However, these estimates should be interpreted with a degree of caution, insofar as the MTBE does not consider certain factors specific to the current economic situation which, might otherwise condition the sign of the effect of lower oil prices on economic activity. One of these specific factors is the role of the monetary policy of the ECB, which is currently deploying several non-standard measures in a setting where benchmark interest rates have reached levels close to their lower bound (see Chapter 2 of this report).

1 See S. Hurtado, P. Manzano, E. Ortega and A. Urtasun (2014), *Update and re-estimation of the quarterly model of Banco de España (MTBE),* Documentos Ocasionales, No 1403, Banco de España.

2 See O. Arce, S. Hurtado and C. Thomas (2015), *Policies for a low-inflation environment in a monetary union,* Documentos de Trabajo, Banco de España (forthcoming). See Box 4.1 of this chapter for a description of the main features of this model.

3 Thus, for example, the estimated direct effect on the overall HICP of a reduction of 10% in oil prices when oil is trading at €80/barrel is –0.4% (–3.4% on the energy component of the HICP), whereas if the starting level is €40/barrel the impact is –0.3% on the overall HICP and –2.5% on the energy component

4 Taking €65/barrel as the starting level for oil prices, which would be the average of the previous quarters.

FALL OF 10% IN OIL PRICES

	Accumulated level differences		
	2015	2016	2017
GDP	0.15	0.19	0.23
Contributions to real GDP growth			
Domestic demand	0.12	0.18	0.24
Net exports	-0.04	-0.07	-0.09
Net lending position	0.10	0.09	0.08
HICP	-0.40	-0.41	-0.42
Wages	-0.06	-0.05	-0.05
Employment	0.19	0.25	0.31

SOURCE: Banco de España.

Certain recent papers have argued that, where nominal rates are constrained by the zero bound[5], a fall in oil prices might not be expansionary since its deflationary effect could prompt rises in real interest rates which limit short-term domestic demand. However, this literature has omitted the potential role of non-standard policies which entail a reduction in the expected path of interest rates. Accordingly, presented below are the effects which would be produced by a shock, similar to a fall in oil prices, in the model [Arce, Hurtado and Thomas (2015)] comprising two regions in a monetary union. Specifically, the effects of a supply-side shock are considered which causes inflation to fall and increases real household disposable income in three different scenarios (see accompanying panel): (i) where the shock occurs when interest rates are far removed from the lower bound (blue line); (ii) where nominal interest rates are constrained at the lower bound (red line), and (iii) where rates are at the lower bound but the central bank applies non-standard monetary policy to reduce long-term nominal interest rates (for example, by managing the size and composition of its balance sheet or by guiding expectations) (green line).

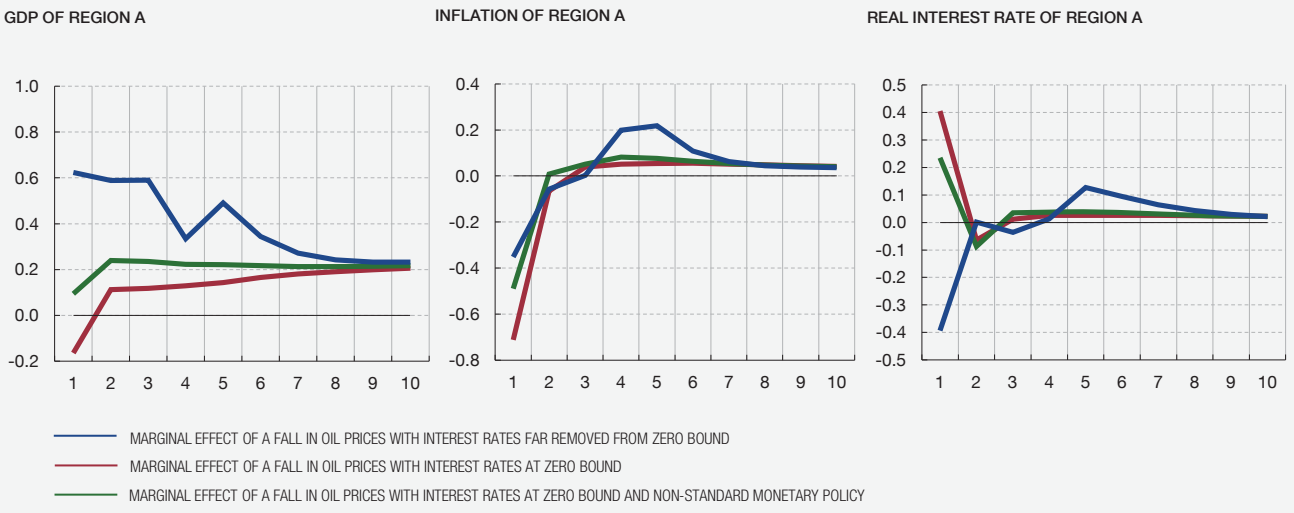
As shown in the panel, the model concludes that a shock of this type would trigger a fall in inflation in the three scenarios[6]. However, the monetary policy response, which varies in the different cases, has significant effects on the response of inflation and GDP. First, where interest rates are clearly above the lower bound, the fall in inflation leads the monetary authority to cut nominal rates substantially and, consequently, real interest rates moderate and GDP responds positively. By contrast, in the second scenario, it is considered that nominal interest rates are restricted by the lower bound and lower inflation, in the absence of a counterbalancing response by nominal rates, which pushes real interest rates higher, giving rise to an impact of a contraction in GDP. In this case, although the medium and long-term effect continues to be positive, GDP declines during the first two or three quarters.

As highlighted in the latter scenario, the previous short-term contractionary effect of the moderation in oil prices might be mitigated largely where the monetary authority responds to a fall in short-term inflation (and lower medium-term expectations) with a non-standard policy of managing its balance sheet and providing forward guidance, which keeps interest rates at their lower bound for longer than the rules governing their usual behaviour would suggest. In short, this central bank policy affects agents' expectations and neutralises the contractionary effect of a fall in oil prices which, in fact, becomes slightly expansionary from as early as the initial quarters.

5 See, for example, S. Neri and A. Notarprieto (2014), *Inflation, debt and the zero lower bound,* Occasional Paper No 242, Banca de Italia, I. Fisher (1933), "The debt-deflation theory of great depressions", *Econometrica,* B. Bernanke (2007), "Inflation expectations and inflation forecasting", in his speech at the NBER Summer Institute of July 2007 and D. Laxton, P. N'Dyiage and P. Pesenti (2006), "Deflationary shocks and monetary policy rules: an open-economy scenario analysis", *Journal of the Japanese and International Economies.*

6 The panel shows the responses of economy A in the two-region model, which is in a deleveraging phase. The responses of region B are qualitatively similar.

MARGINAL IMPACT OF A FALL IN OIL PRICES
% deviations from scenario with no change in oil prices. % difference (vertical axis), year (horizontal access).



SOURCE: Banco de España.

1 Introduction

The economic recovery which began in 2013 has been accompanied by a prolongation of the decline in the aggregate stock of bank credit to firms and households…

The Spanish economy moved into recovery in the second half of 2013, after a long and severe crisis. However, the decline in the aggregate outstanding amount of bank credit (hereinafter "credit") extended to households and non-financial corporations has continued, although at a more moderate rate, against a background of deleveraging in these sectors, which, despite the significant progress made in recent years, has still to be completed. Indeed, the historical evidence shows that when deleveraging occurs in the wake of a financial crisis it tends to be slow and that, during the initial years, it is largely based on a contraction in the total amount of outstanding credit.[1]

… which raises the question of whether the availability of credit may affect the extent of the recovery

It is therefore worth analysing whether the availability of credit may be affecting the economic recovery under way and, if so, through what alternative channels the recovery might be financed. The literature on creditless recoveries (understood to be episodes in which output grows again following a recession, while the total amount of outstanding credit extended to the private sector declines) shows that they are not exceptional either in emerging or in advanced economies, although they are characterised by more moderate GDP growth than recoveries with credit growth. (See Box 5.1).

When the economy requires aggregate deleveraging the processes of reallocation of credit between sectors and agents play a key role in the behaviour of spending …

When, as is the case in Spain, the firming of a recovery requires a correction in the high level of aggregate private sector indebtedness, the possibility of obtaining credit to finance new spending decisions is limited. In this situation, the potential growth of such spending depends crucially on the degree to which the processes for reallocating credit between agents and sectors enable the volume of funds available to the most productive and dynamic ones to increase and continue to contribute to the restructuring of the balance sheets of others with a greater need to adjust. The more extensive these processes, the greater the economy's short and medium-term growth capacity.

… as does the availability of other alternative sources of funding

The possibilities for spending growth also depend on the role played by other sources of funding apart from credit, such as own funds, bond issuance and trade credit. These instruments may be substitutes for credit and relieve the effects of the greater limitations on the expansion of aggregate bank lending to non-financial firms. In the case of households, however, these alternative sources are hardly relevant.

This chapter analyses the role of credit and alternative instruments in financing economic growth during the current cycle

Against this background, the main objective of this chapter is to analyse the role of credit and alternative instruments in the financing of economic growth and to discuss the main implications for the current economic recovery. For this purpose, Section 2 reviews the recent aggregate developments in this source of funding and presents evidence on the scope of the processes for reallocating funds between sectors and agents. Section 3 considers which are the most important determinants of the recent behaviour of bank lending. Section 4 examines the role played by alternative sources of funding. Finally Section 5 summarises the main conclusions.

1 See, for example, O. Aspachs, S. Jódar-Rosell and J. Gual (2011), "Perspectivas de desapalancamiento en España", *Documentos de Economía "La Caixa",* and Mckinsey (2012), *Debt and deleveraging: uneven progress on the path to growth,* Mckinsey Global Institute.

2 Recent credit developments

2.1 THE AGGREGATE PERSPECTIVE

During the upturn, credit to households and non-financial corporations grew at a very high rate, which led the indebtedness of these sectors to reach very high levels both from a historical perspective and in comparison with other advanced countries.[2] Since 2009, the aggregate stock of loans to households and firms has been falling, which has enabled the aggregate private debt ratios to moderate gradually and to draw closer to the average euro area levels, although they still remain above them.

Since 2009, the aggregate outstanding amount of credit to the private sector has been falling …

… although in recent quarters the rate of decline has been slowing

The economic recovery that began in the second half of 2013 has been accompanied by a prolongation of the trend for the aggregate stock of credit to the private sector to contract, although the rate of decline has tended to slow gradually (see the upper panels of Chart 5.1).[3] The latest data, for March 2015, reflect a year-on-year decline of 4.1%. Therefore, although the net flow of credit is still negative, in parallel with the recovery in GDP there has been an increase in such flow, in line with what has been observed in other historical episodes of growth in the context of credit weakness, known in the literature as "creditless recoveries" (see Box 5.1). From this perspective, the recent buoyancy of domestic demand and the behaviour of credit does not seem to be out of line with the historical relationship between these two variables.

The slower contraction of credit is seen across institutional sectors and purposes

The sector breakdown shows that the pattern of recovery of credit flows extends to most institutional sectors and purposes, although the intensity of this process varies somewhat. In the case of households, the largest year-on-year fall was recorded in December 2013, with a decline of 5.1%. By March 2015, the rate of decline had decreased to 3.3%. The breakdown by purpose reveals that the moderation in the decline is apparent both in the case of housing credit and, to a greater extent, in that of consumer and other loans. In the first case, the year-on-year rate of decline decreased from 4.6% in December 2013 to 3.3% in March 2015, while in the second it fell from 6.9% to 3% over the same period.

As regards non-financial corporations, although the largest year-on-year fall in outstanding credit was recorded in February 2014, a change in trend began to be detected from mid-2013. The latest data (March 2015) show a decline of 5.2%, 4.5 percentage points (pp) down from May 2013. It should be noted, moreover, that the behaviour of this variable in recent quarters has partly been influenced by the changes in the composition of liabilities undertaken by some larger firms, which have replaced part of the credit supplied by resident institutions with other forms of financing, such as bond issuance and loans from the rest of the world. Thus, an indicator that includes these two other sources of financing shows a sharper recovery, which also dates back to mid-2013, with the rate of contraction reaching 2.7% in March 2015, 5.5 pp down from May 2013.

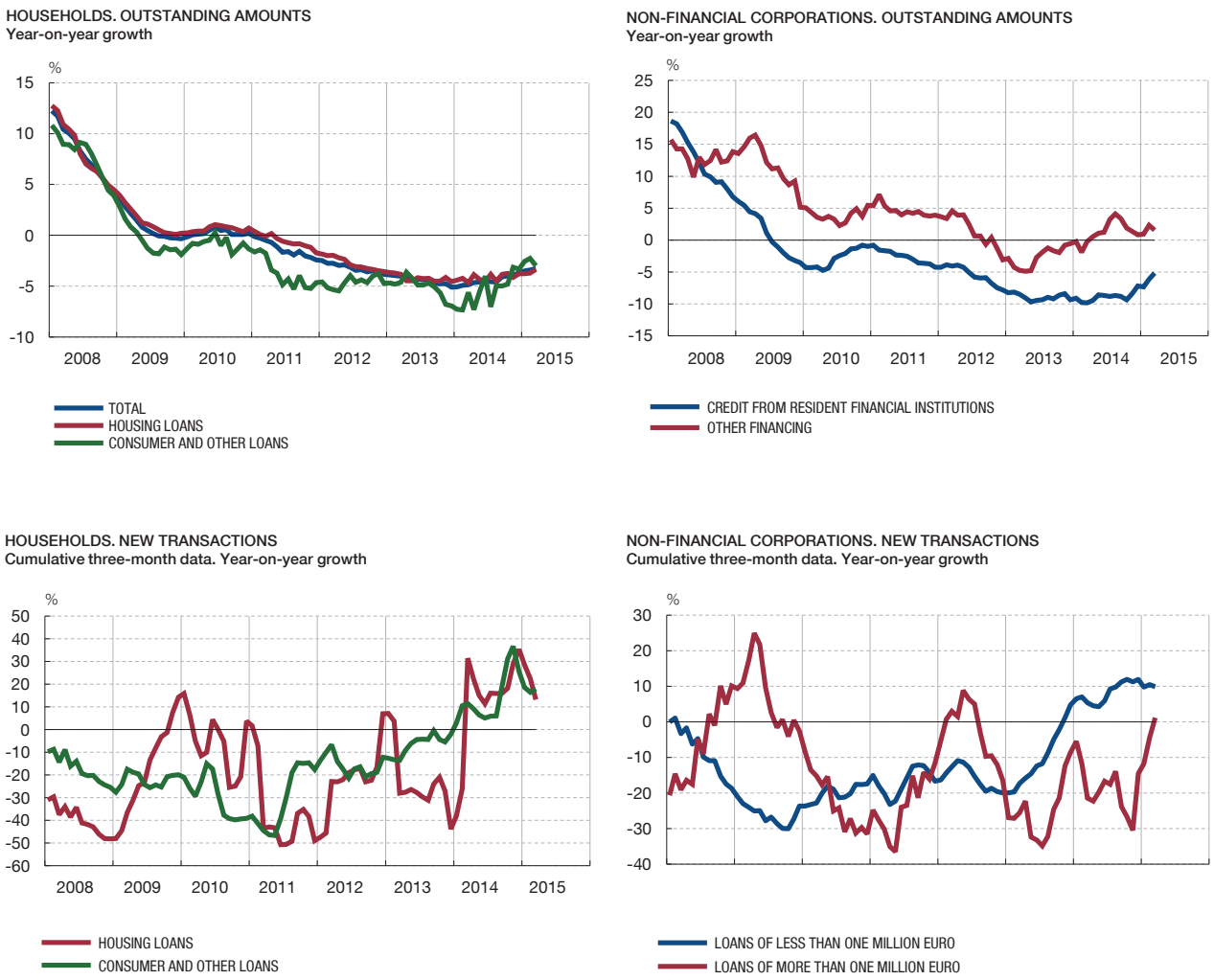
The macroeconomic implications associated with the evolution of the aggregate stock of credit may vary significantly depending on which are the main forces driving it …

The aggregate evolution of the outstanding amount of credit is determined by two opposing forces. The first is the course of gross funds raised by agents who borrow funds in order to implement new spending decisions (which raises the outstanding amount), while the second is the repayment of debt generated in the past (which has the opposite effect). The macroeconomic implications of any particular evolution of the aggregate stock of credit

2 For further details on the developments in the indebtedness of households and non-financial corporations in Spain, see Chapter 2 of the *Annual Report, 2013,* Banco de España.

3 In this chapter, unless otherwise stated, the year-on-year growth rates for the stock of credit are calculated as the ratio between the annual flow and the outstanding amount of a year earlier. Thus, changes in the stock that are not associated with credit transactions or repayments (such as loan write-offs, which are removed from credit institutions' balance sheets, or transfers to Sareb) do not affect this indicator.

AGGREGATE EVOLUTION OF CREDIT TO HOUSEHOLDS AND NON-FINANCIAL CORPORATIONS CHART 5.1



SOURCE: Banco de España.

may be very different depending on the individual behaviour of each of these two components. In general, debt repayments will have more positive effects on medium-term growth when they are concentrated among excessively indebted agents. In the case of firms, for example, the consequent balance sheet strengthening will reduce their vulnerability, facilitating future spending decisions and hiring. Likewise, increases in gross credit flows will support the recovery more if they go to households or corporations that, on account of their more solid starting point, are in a better position to undertake viable new spending plans. In the case of firms, moreover, the effects will be amplified if the funds reach the most productive ones.

… so that it is necessary to supplement the information on stocks with other indicators, such as volumes of new transactions, which have recovered since the end of 2013

Accordingly, to carry out a more accurate assessment of the macroeconomic implications of the evolution of credit it is necessary to supplement the analysis based on outstanding amounts with other indicators, such as, for example, the volume of new credit transactions. The information available on this variable shows a pattern of recovery since the end of 2013 in all segments, except in that of loans of more than one million euro to businesses, in which declines have continued to be seen, partly linked to the greater use of other sources of financing that has been discussed above (see the lower panels of Chart 5.1). Specifically, the volume of new credit transactions grew in 2014 at rates of 23% in the

segment of loans to households for house purchase, 15% in that of loans to households for other purposes, and 9% in that of loans of less than one million euro to businesses (which includes loans granted to SMEs). In 2015 to date, these volumes have continued to display positive year-on-year growth rates. The buoyancy of these gross flows of financing is consistent with the recovery in consumption and in residential and productive investment.

These results suggest, therefore, that the pattern of moderation in the contraction of aggregate outstanding amounts of credit does not stem from a reduction in the volume of repayments, but rather from the greater buoyancy of new credit. However, in order to analyse the extent to which the increase in activity in credit markets has been accompanied by a reallocation of credit between agents and sectors, with credit channelled to a greater degree towards those with a more robust financial position and higher productivity, it is necessary to use more disaggregated information. This is the main aim of the following sub-section.

2.2 PROCESSES OF REALLOCATION OF CREDIT BETWEEN SECTORS AND AGENTS

The breakdown of credit to firms by sector shows a sharper contraction in activities linked to the real estate market, in which the need for balance sheet adjustment is greater, and a stronger recovery in the rest

The aggregate credit data mask the important processes of fund reallocation between sectors and agents that have occurred in recent years. In particular, the breakdown of bank lending by activity shows that the contraction of loans to firms since the start of the crisis has been most marked in sectors in greatest need of balance sheet restructuring, like those linked to the real estate market, which built up a higher volume of debt during the upturn (see upper left-hand panel of Chart 5.2). Thus, between the end of 2008 and the end of 2014 (the latest available data) the outstanding amount of credit in construction and real estate services contracted by 50.1%,[4] while the decline in other sectors over the same period was 26.1%. The latest information shows that the rates of decline continue to be most marked in the sectors linked to the real estate market, and moreover they have heightened in recent quarters, with the year-on-year declines standing at the end of 2014 at 12.6%, as against 9.9% in 2013 Q3. Meanwhile, in the other sectors the falls have tended to moderate and are substantially smaller. Specifically, between September 2013 and December 2014 the annual rate of contraction of credit to industry fell from 12.5% to 2.1%, and that to non-real estate services fell from 6.9% to 3.5%.

The micro data reveal a high degree of heterogeneity in the evolution of corporate credit

The data of the Banco de España's Central Credit Register (CCR) enable the evolution of credit to be explored at a higher level of disaggregation, since they contain information on individual loans of more than €6,000 at the borrower level, for individuals and legal persons. The analysis of these data for the sample of non-financial corporations shows a high degree of heterogeneity in the recent evolution of bank lending to firms. Specifically, the aggregate contraction in credit to this sector is seen to be compatible with the existence of a significant proportion of companies whose stock of bank financing is not declining (see upper right-hand panel of Chart 5.2). This percentage declined progressively from the start of the crisis until 2012, when it reached 34%. Subsequently this indicator has tended to rise, in parallel with the economic recovery, and in 2014 it stood at 40%. The weight of the gross value added generated by these companies also increased in 2014, to 40.5%,[5] having declined in previous years. This pattern of gradual recovery is seen in most sectors, even those in which credit contracted most strongly, such as construction and real estate. This would seem to indicate that the intra-sectoral heterogeneity of the evolution of credit is even more marked than the inter-sectoral heterogeneity.

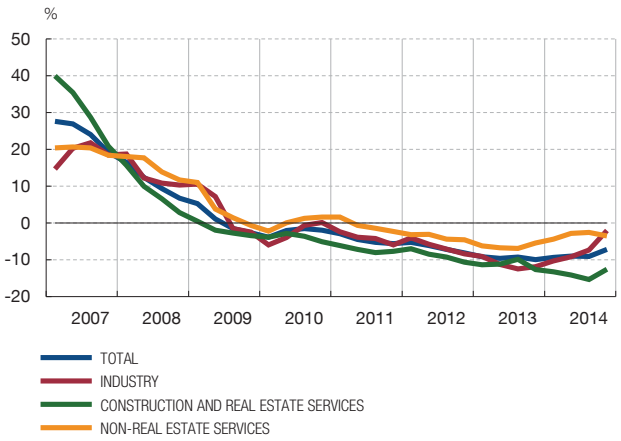
4 In this case, owing to a lack of information, the flow for calculating the rates is approximated as the difference between stocks, having been corrected for the effect of the transfer of loans to Sareb.

5 Of this 40.5%, the bulk (39.7%) corresponds to firms whose credit increased.

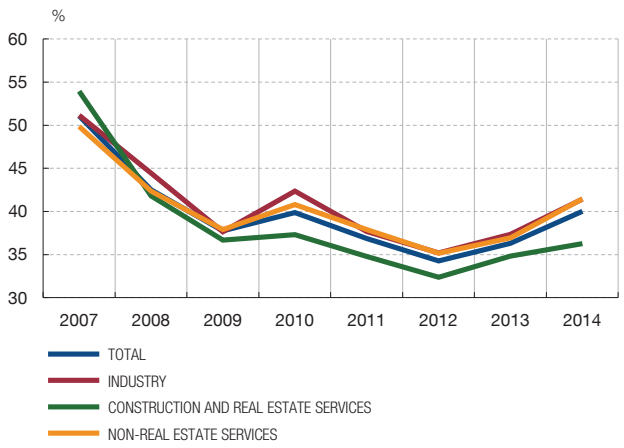
REALLOCATION OF LENDING BETWEEN SECTORS AND FIRMS

CHART 5.2

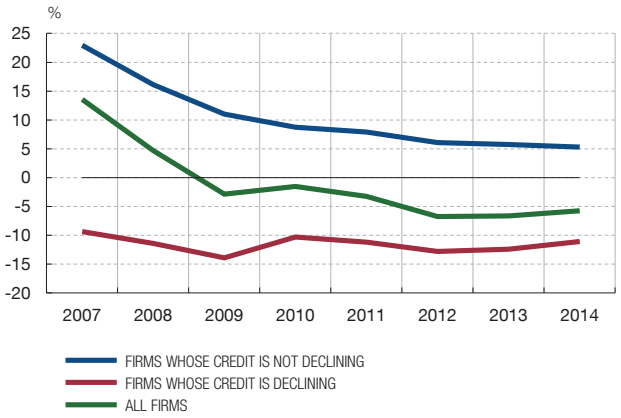
CREDIT TO PRODUCTIVE ACTIVITIES (a)



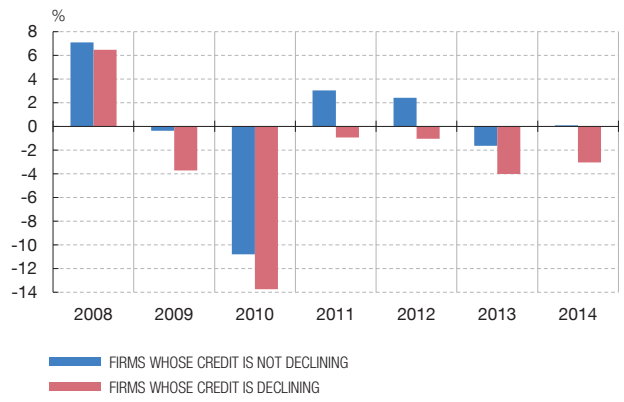
PERCENTAGE OF FIRMS WHOSE CREDIT IS NOT DECLINING



FLOW OF FINANCING AS A PERCENTAGE OF GDP



YEAR-ON-YEAR GROWTH RATE OF SALES IN T-1 (b)



TOTAL FACTOR PRODUCTIVITY IN T-1 (c)

MEDIAN DEBT BURDEN IN T-1 (c) (d)

SOURCE: Banco de España.

a Excluding credit to financial services.
b Calculations based on matched CCR and CBSO data. Weighted average of the growth rates of sales at the sector level. The weights are assigned in accordance with the gross value added of each industry.
c Calculations based on matched CCR and CBSO data. Total factor productivity measures the relationship between the productive factors used and the output obtained, and approximates the firm's level of efficiency. The chart shows the evolution of median productivity, calculated as the weighted average of the sectoral medians, the weights being assigned according to the gross value added of each industry. The resulting value is standardised on the basis of the value of the median productivity of the firms whose credit is declining in 2008.
d Ratio defined as financial expenses/(gross operating profit + financial income).

Matching CCR data with the information of the accounts of firms obtained from the integrated database of the Banco de España's Central Balance Sheet Data Office (CBI) enables the characteristics of the companies in which the stock of bank lending is not declining to be compared with those of companies in which it is. This exercise shows that the former are characterised by having, on average, a stronger economic and financial position (their profitability is higher and their debt and debt burden are lower), by operating in more dynamic sectors, by showing higher growth in activity (proxied by turnover) and by being more productive. In addition, the differences between these two groups seem to have widened in recent years (see lower panels of Chart 5.2).[6]

Credit is being reallocated towards the most productive firms and those in a more favourable position to implement spending decisions

Thus, these results show that the aggregate contraction in credit to non-financial corporations is proving compatible with a healthy reallocation of credit towards companies in a more favourable position to implement spending decisions. This process would have tended to accelerate, moreover, since 2013, in parallel with the economic recovery. The greater availability of funds to firms with a more robust financial position would have served to finance the current spending of this type of company, while the balance sheet restructuring of those in a less favourable financial position would have permitted progress with the adjustment necessary for these to be in a position to implement spending decisions in future or to free up resources for more productive activities (in the case of non-viable firms). Likewise, the shift of financial resources towards more productive companies would be contributing to the increase in efficiency of the sector as a whole and the economy's potential growth.

Despite this increase in the proportion of corporations whose volume of credit increased or remained unchanged in 2014, the aggregate net flows channelled by these firms were slightly smaller than in 2013. However, this decline is basically explained by developments in large one-off transactions; in fact, the median increase in the credit of corporations in this group was higher than in 2013, and the distribution of such increases shifted towards higher values.

The proportion of individuals whose credit financing increased also rose

In the case of households, the CCR information also shows that the proportion of individuals whose level of debt was unchanged or increased in 2014 rose, for the first time since the start of the crisis. This development was accompanied, moreover, by an increase in the net flow of financing to such individuals, to 3.2% of GDP, up 0.5 pp from a year earlier (see Chart 5.3). The breakdown by borrower shows that this rise occurred both for individuals with business activity (0.5% of GDP, up 0.1 pp from 2013) and for those others who are in paid employment or inactive (2.7% of GDP, up 0.4 pp from the previous year).

In the case of households, unlike that of firms, it is not possible to match the CCR information with micro databases on their socio-economic characteristics, so the particular characteristics of the group whose debt increased cannot be identified. In any case, this evidence seems to confirm what is suggested by the information based on the aggregate amount of new credit transactions with this sector, namely that the greater availability of funds since 2014 would have enabled households to finance a higher volume of spending.

3 The main determinants of recent credit developments

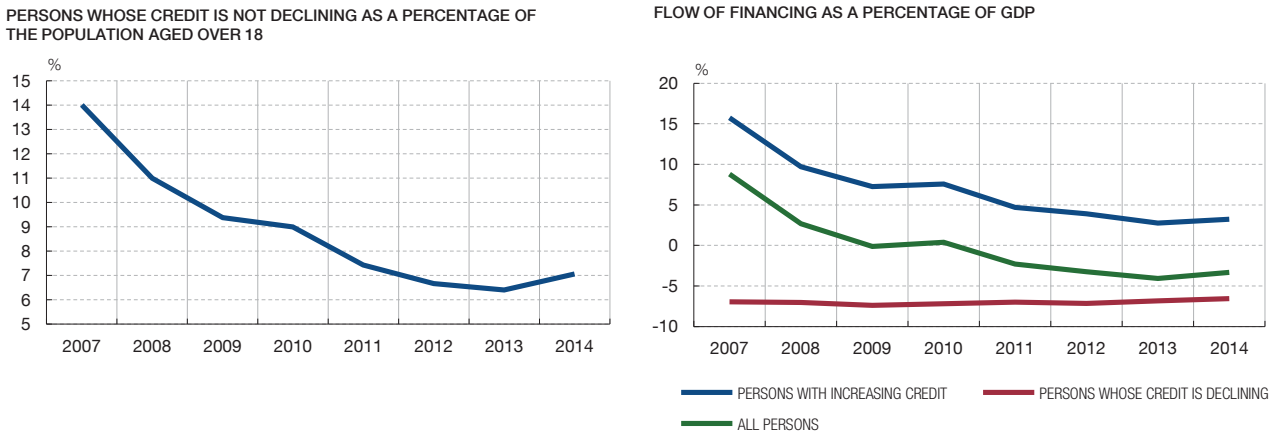
The recovery in credit flows is explained by various factors, such as the adjustments to the balance sheets of borrowers …

Various interrelated factors, whose specific relative importance is difficult to identify, have contributed to the recent recovery in credit flows to the private sector. First, there are those relating to the adjustments made during the crisis to the balance sheets of both borrowers and lenders. In the first case, the recovery, since mid-2013, in the net wealth of households

6 For further details, see C. Martínez, Á. Menéndez and M. Mulino (2014), "A disaggregated analysis of recent developments in lending to corporations", *Economic Bulletin,* June, Banco de España.

REALLOCATION OF CREDIT WITHIN THE HOUSEHOLD SECTOR

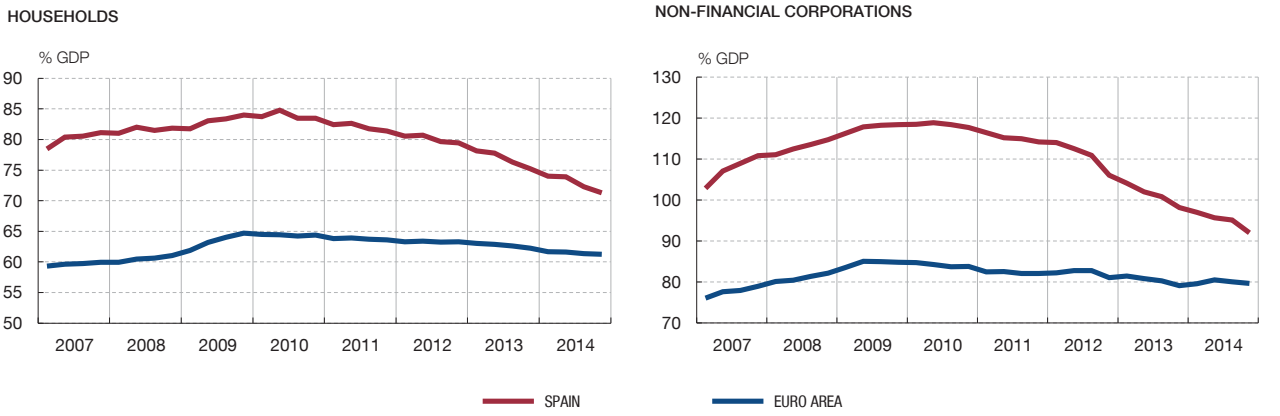
CHART 5.3



SOURCES: INE and Banco de España.

DEBT RATIOS

CHART 5.4



SOURCE: Banco de España.

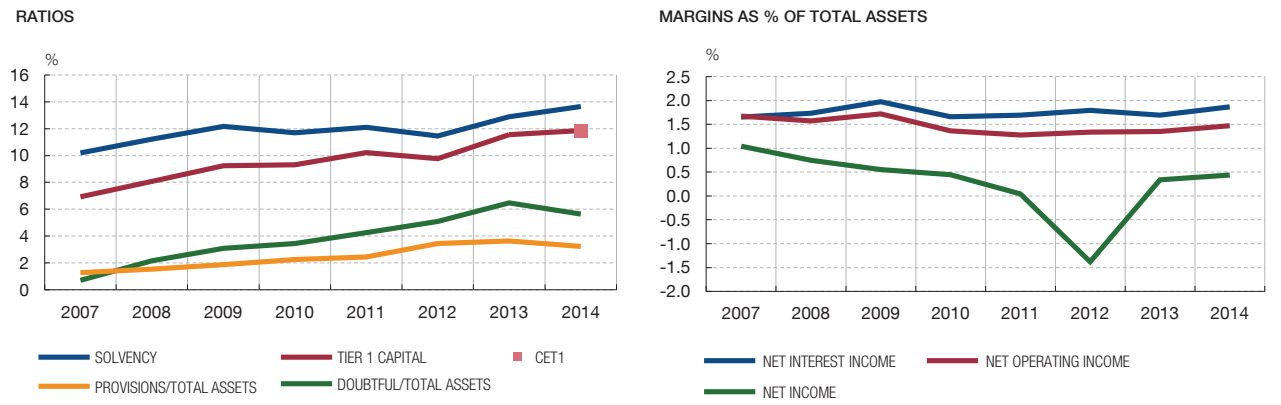
and the fall in the debt and debt service ratios of households and firms have resulted in an improvement in their financial position, which increases their capacity to assume new debts. Specifically, as seen in Chart 5.4, from its peak in 2010 Q2 to end-2014 (the latest available data), the household debt ratio fell by 13.5 pp of GDP. Over the same period, the fall in the corporate debt ratio was even greater (27 pp). This correction is explained basically by the accumulation of negative net financing flows and, in the case of firms, valuation adjustments and write-offs have also played an important role. The gap between these ratios and the average euro area ones has been almost halved.

… the adjustments in the balance sheets of lenders …

In the case of lenders, the conclusion of the clean-up, recapitalisation and restructuring of the financial system has contributed to an increase in the capacity of this sector to finance the economy.[7] At the end of 2014 (latest available data, which correspond to the new prudential standards, known as Basel III), the common equity tier 1 (CET 1) of Spanish credit institutions amounted to 11.8% of their total risk-weighted assets, practically the

7 See Section 3.3 of Chapter 1 of the Banco de España's *Annual Report, 2013* on this process.

CREDIT INSTITUTIONS. FINANCIAL POSITION INDICATORS. CONSOLIDATED DATA CHART 5.5



SOURCE: Banco de España.

same figure as for Tier 1 capital and 1.8% lower than total capital (see Chart 5.5). The aggregate ratios stood clearly above the regulatory minimum requirements, both if one takes into account the transitory adjustments that facilitate their gradual application and, to a lesser extent, if their full application in 2019 is considered.[8] The quality of the balance sheet improved, also on account of the restructuring and provisions made and the transfer of certain assets to Sareb, and in this way it contributed (along with the economic recovery) to a reduction in the doubtful loans ratios. The weight of doubtful assets in the total balance sheet of Spanish credit institutions fell from 6.5% in December 2013 to 5.6% twelve months later. Also, the lower loan loss provisions contributed to the increase in net profit in 2013 and 2014, which stood at 0.44% of total assets last year.

The results for Spanish banks of the ECB's AQR and stress test confirmed the quality of the valuations of their assets and their comfortable solvency situation. Thus, even in the extreme unfavourable macroeconomic scenario considered, all who participated in the exercise (representing more than 90% of the total assets of the sector) would have sufficient capital to cover the losses that may be generated.[9] All this has contributed to the substantial improvement in the financing conditions of Spanish credit institutions on the markets, which would have begun to be passed on with greater clarity to the conditions on which they supply funding.

The evidence available suggests that the process of restructuring the financial system has, in the short term, had a certain effect on the supply of credit, since it has not been possible for other credit institutions to replace the whole of the decline in funds provided by those institutions subject to restructuring plans.[10] These frictions would have been more evident in the case of SMEs, since it is more difficult to assess the credit quality of these companies and, consequently, their bank relationships play an important role. However, these effects

8 The total capital requirement, under Pillar 1 of Basel III, is currently 8% of risk weighted assets (6%, for Tier 1 capital, and 4.5% for common equity tier 1). These values will be increased gradually from 2016 to 2019, with the application of the capital conservation buffer (2.5%) and other possible buffers, such as the one applicable to systemic institutions, the countercyclical one and other systemic buffers. In addition, certain deductions of intangible assets are also gradually applied over the transitional period from 2015 to 2019. For further details, see the November 2014 edition of the Banco de España's *Financial Stability Report.*

9 One Spanish bank had net capital needs, which would have been more than covered by the actions taken in 2014.

10 For further details, see J. Martínez (2014), "Impact of restructuring plans on lending to non-financial corporations", *Economic Bulletin,* July, Banco de España.

have tended to become less significant as the restructuring process has advanced, as shown by the fact that, according to the information available in the CCR, there is currently no appreciable difference between institutions intervened by the FROB and others as regards their percentage rates of acceptance of firms' new requests for credit.

… the regulatory changes for loans to SMEs …

At the same time, the Spanish authorities have been taking a number of measures to facilitate the flow of financing to SMEs, including notably measures that have resulted in a lower consumption of capital for credit institutions in relation to their loans to such firms. Specifically, two measures were adopted in this respect in September 2013.[11] First, Circular 4/2013 significantly widened the regulatory definition of an SME, bringing it into line with that predominating at the European level and so extending the benefit of the lower capital requirements generally associated with loans to such firms (both new and existing ones) to a larger set of companies. Second, the Law on support for entrepreneurs (Law 14/2013) brought forward by three months the introduction in Spain of the reduction factor (0.7619) for the capital requirements in respect of retail transactions with SMEs that is envisaged in the European capital requirements regulation and directive (CRR and CRD-IV). Following the introduction of these two changes, financing SMEs, a segment in which the frictions in the supply of credit were more evident, is more attractive for credit institutions.[12]

… the expansionary monetary policy and the progress made in correcting national imbalances and weaknesses detected in the functioning of the euro area …

The Eurosystem's conventional and unconventional expansionary monetary policy measures have also made an important contribution to stimulating credit flows through their impact on financing conditions. In addition to the cuts in official interest rates, measures were adopted to improve the transmission mechanisms linked to the problems of financial fragmentation that arose during the sovereign debt crisis which hindered the transmission of monetary stimuli to countries, like Spain, that had been more affected by the financial tensions (see Chapter 2 of this report). Also notable in this context are the actions taken, both at the national (specifically, structural reforms and fiscal consolidation) and European level (strengthening of euro area governance and, in particular, the progress made towards establishing the Banking Union), to correct the macroeconomic imbalances built up before the crisis and the weaknesses in the functioning of the euro area revealed by the crisis, which have also contributed to increasing reintegration of European financial markets since 2013. All this has contributed to a significant easing in financing conditions in Spain. Thus, as Chart 5.6 shows, since mid-2013 there has been a progressive decline in the cost of credit in Spain, which has been most evident in those segments in which it displayed most downward stickiness during the crisis, such as the financing of SMEs. Thus, the interest rate on loans of less than one million euro (which include transactions with SMEs) was reduced by 1.9 pp between April 2013 and March 2015 (the latest data available). For other types of loan, the falls over the same period ranged from 0.7 pp to 1 pp.

… the change in the cyclical position of the Spanish economy …

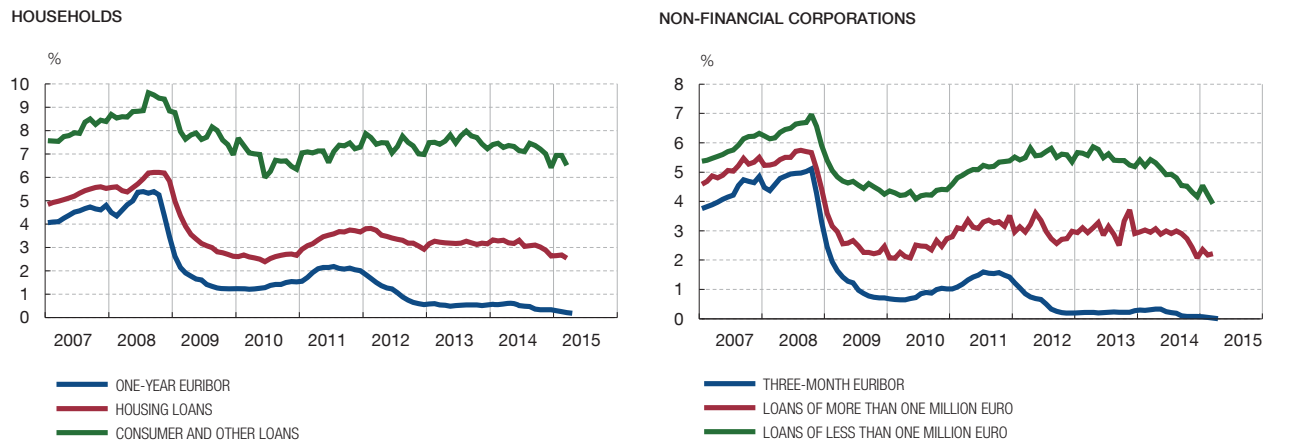
Credit flows have also been stimulated by the change in the cyclical position of the Spanish economy, which began in the second half of 2013. Firstly, because it has resulted in an increase in current and expected income, boosting the capacity of borrowers to pay their debts and reducing the risk perceived by lenders (see the left-hand panel of Chart 5.7). The improvement in the macroeconomic outlook and, in particular, the recovery in employment must have made a significant contribution to the reduction in uncertainty, as the rise in confidence indicators shows, favouring the expansion of spending by households and firms and their greater willingness to finance it out of future income through credit.

11 See Section 3.1 of the May 2014 issue of the Banco de España's *Financial Stability Report.*

12 For further details, see J. Ayuso (2013), "An analysis of the situation of lending in Spain", *Economic Bulletin,* October, Banco de España.

CREDIT INTEREST RATES

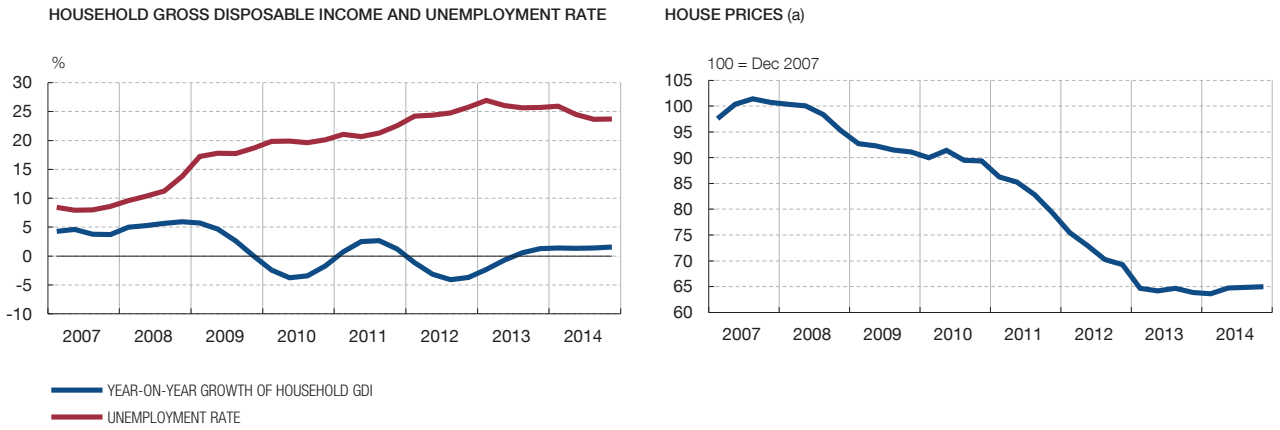
CHART 5.6



SOURCE: Banco de España.

MACROECONOMIC INDICATORS

CHART 5.7



SOURCE: INE.

… and the signs of stabilisation of house prices

The signs of stabilisation of house prices, following the significant adjustment recorded since the start of the crisis (44% in real terms, according to the INE's house price index), may also have had a positive effect on the supply and demand for credit through various channels (see the right-hand panel of Chart 5.7). On one hand, the more favourable outlook in the real estate market, along with the economic recovery, may have helped to stimulate residential investment, which is largely financed by credit. Thus, in 2014 this component of demand began to show some signs of recovery, after the sharp fall of previous years. On the other, it must be taken into account that these assets serve as collateral for loans, so that their value affects the amount of financing available. Finally, real estate wealth is the most important component of the value of household wealth, so that a more favourable evolution of house prices translates into a strengthening of the financial position of this sector, which has a positive impact on their solvency and, therefore, their chances of obtaining credit.

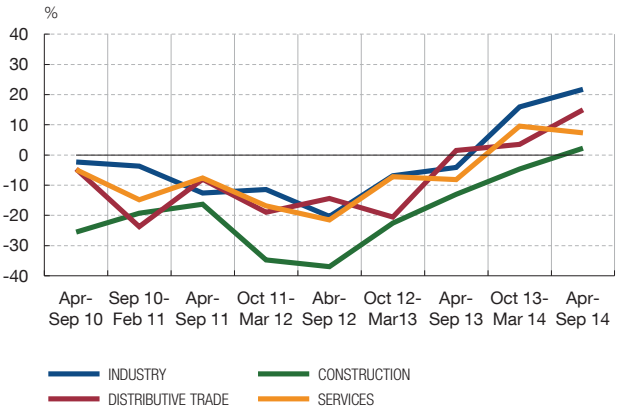
Different indicators confirm the rise in the supply and demand for credit

Different indicators (quantitative and qualitative) confirm that the greater buoyancy of activity in the credit market has been linked both to supply and demand factors. Thus, CCR data appear to show that the increase in the number of credit transactions with non-financial corporations has been both a consequence of the increase in loan applications

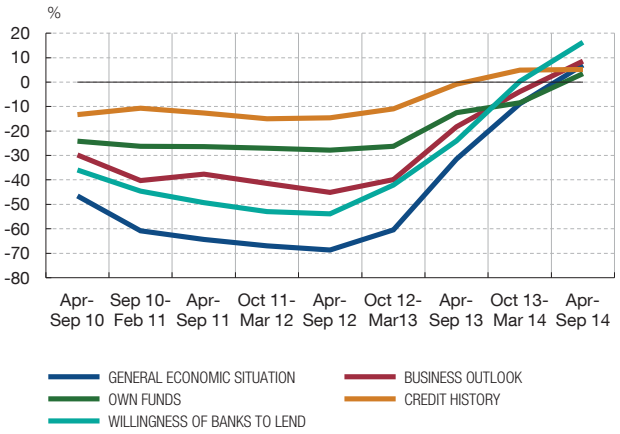
CREDIT SUPPLY AND DEMAND INDICATORS

CHART 5.8

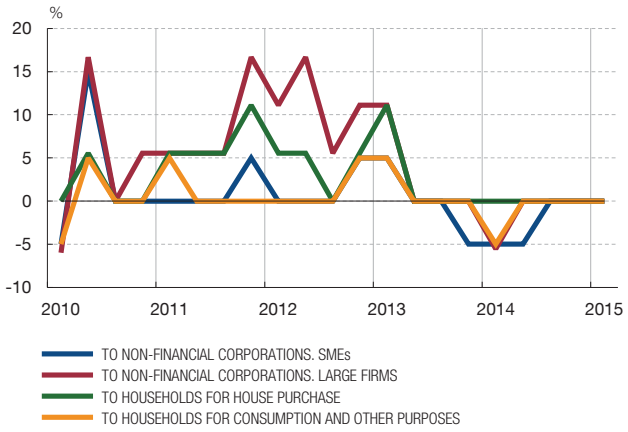
EVOLUTION OF AVAILABILITY OF BANK LOANS. SECTOR BREAKDOWN. SAFE (a)



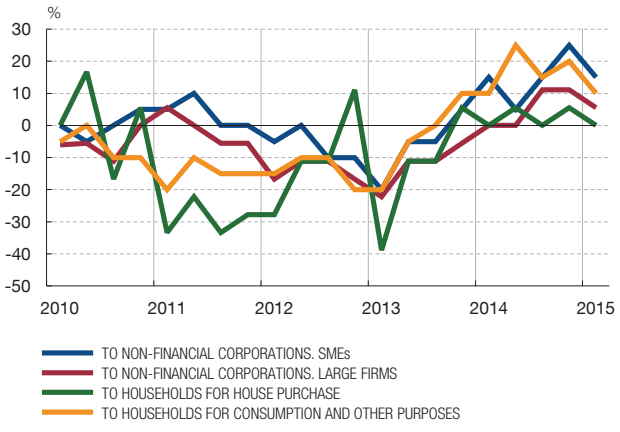
EVOLUTION OF FACTORS AFFECTING THE AVAILABILITY OF EXTERNAL FINANCING. SAFE (a)



CHANGE IN CREDIT STANDARDS FOR BANK LOANS. BLS (b) (c)



CHANGE IN THE DEMAND FOR BANK LOANS. BLS (b) (d)



SOURCES: European Central Bank and Banco de España.

a SAFE: Survey on the access to finance of firms in the euro area. Percentage of firms indicating an improvement less that of those indicating a deterioration.
b BLS: Bank Lending Survey.
c Changes in the diffusion index. A positive sign denotes a tightening of credit standards.
d Changes in the diffusion index. A positive sign denotes an increase in the demand for loans.

and of an increase in their approval rates (see Box 5.2). The rise in these rates is fairly widespread across sectors and has been larger in the case of newly formed firms. The estimates made on the basis of this information also suggest that the improvement in access to credit has been more marked for companies with a sounder financial position. This evidence is, moreover, consistent with the results of the survey on the access to finance of firms conducted by the ECB every six months on the basis of a sample of European companies, including around 1,300 from Spain. Thus, as seen in the upper left-hand panel of Chart 5.8, since the end of 2013 Spanish SMEs have reported a clear improvement in their perception of access to credit.[13] This has occurred against a background in which an increasing proportion of SMEs state that they have detected a

13 For further details of the recent results of this survey, see Á. Menéndez and M. Mulino (2015), "Evolución reciente del acceso de las pymes españolas a la financiación externa según la encuesta semestral del BCE", *Boletín Económico,* February, Banco de España

greater willingness on the part of credit institutions to grant financing and report a more favourable outlook for their business (see upper right-hand panel of Chart 5.8).

The Bank Lending Survey, conducted on a quarterly basis by the Eurosystem and addressed to a sample of euro area banks, including ten Spanish ones, also shows a clear easing of the credit standards applied by national institutions, although it is very slight and limited to certain segments, including, in particular, loans to SMEs and lending to households for consumption and other purposes[14] (see the lower left-hand panel of Chart 5.8). It should be noted, however, that surveys of banks of this type tend to underestimate increases in supply, especially when they occur gradually.[15] As seen in the lower right-hand panel of Chart 5.8, this survey also points to a clear recovery in the demand for loans from the end of 2013, which appears to have been more marked in the case of the demand from firms, and from households for credit for consumption and other purposes apart from house purchase.

4 The role of other sources of financing

The alternatives to bank credit have played an important role in the financing of firms' spending in recent years

In a highly bank-based economy like the Spanish one, bank credit provided by resident credit institutions is the main source of funding for non-financial corporations. However, firms also make use, albeit to a more limited extent, of alternative instruments, like capital increases, bond issuance or foreign loans. Finally, firms also finance part of their spending out of retained earnings. According to the financial accounts of the Spanish economy, the alternatives to funds provided by resident credit institutions have gained weight in recent years (see upper left-hand panel of Chart 5.9). Thus, for example, the (negative) net flow of total financing in 2014 amounted to -1.2% of GDP, while that corresponding to bank credit was -4.3% of GDP.

Among the liabilities other than loans supplied by national credit institutions, the behaviour in recent years of own funds has been notable. These increased on average by 3.1% of GDP per annum between 2009 and 2014, driven largely by retained earnings. The net amount of funds raised through bond issuance by non-financial firms and their resident financial subsidiaries[16] has been relatively less important, although the flow associated with this source has recently been positive in most years, and equivalent on average to 0.6% of GDP. Net funds obtained through foreign loans, which basically include both syndicated loans and funds provided by subsidiaries in the rest of the world (some of which are financed, in turn, by means of bond issues in international markets), have changed sign. In 2012, they had a negative value equivalent to 2.1% of GDP. During the next two years, the flow tended to recover, and last year the amount was positive (0.1% of GDP). Trade credit, a financial instrument that arises from the postponement of payment for purchases, is another source of financing for firms, although the bulk of these flows take place in the non-financial corporations sector itself, so that the amount of net funds raised through this channel at the aggregate level is low and tends to have a negative sign.[17]

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14 For further details of the results of this survey, see the quarterly articles published in the Banco de España's *Boletín Económico*.

15 See, for example, Lown et al. (2000), "Listening to loan officers: the impact of commercial credit standards on lending and output", *FRBNY Economic Policy Review,* July. The authors find, in the case of the equivalent US survey, a certain reticence on the part of banks to signal relaxation of their supply conditions, especially in the initial years of the survey. A factor that may contribute to this is the greater difficulty identifying, from one quarter to another, changes in conditions that occur smoothly and gradually, as compared with situations of tightening of supply, which tend to occur in periods of crisis and more abruptly.

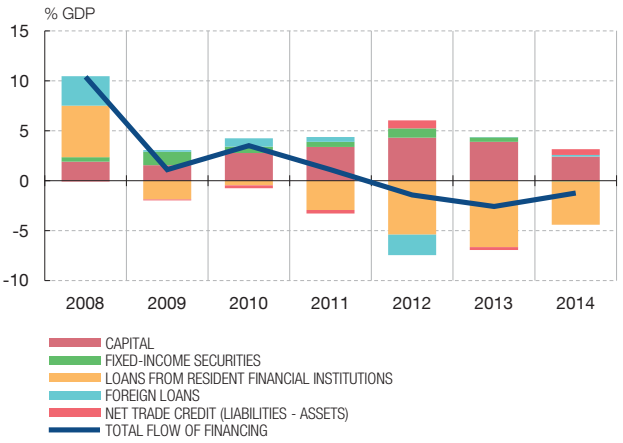
16 A significant part of the financing raised by Spanish non-financial corporations on bond markets comes from issues made through resident and non-resident financial subsidiaries.

17 The negative sign of the net flow associated with trade credit in the corporate sector means that, overall, non-financial corporations grant financing to other sectors (households, general government and the rest of the world). For further details of recent developments in trade credit, see V. García-Vaquero and M. Mulino Ríos (2015), "Recent behaviour of the trade credit of non-financial firms in Spain", *Economic Bulletin,* January, Banco de España.

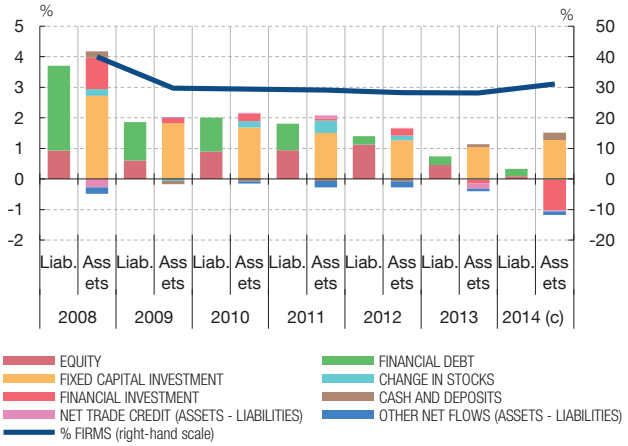
FINANCING OF NON-FINANCIAL CORPORATIONS

CHART 5.9

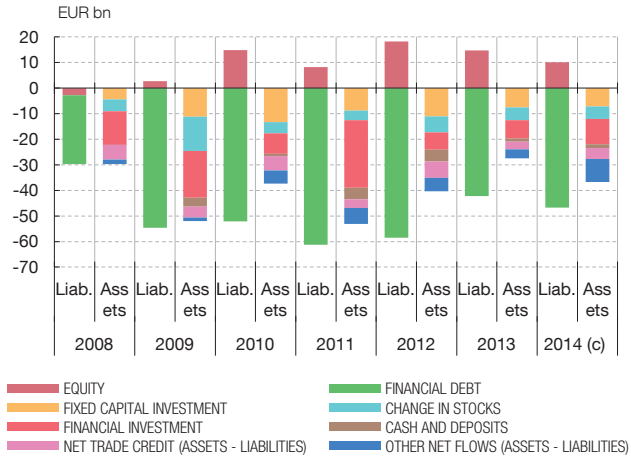
FINANCING FLOWS OF NON-FINANCIAL CORPORATIONS. FASE (a)



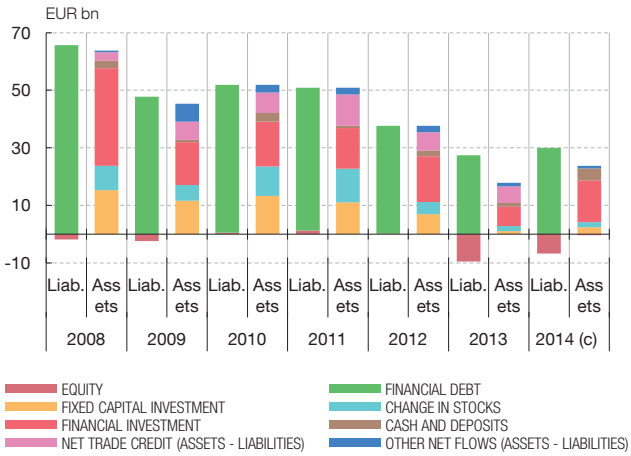
FLOWS OF FIRMS WITH NET POSITIVE INVESTMENT. CBI (b) (c) (d)



FLOWS OF FIRMS WHOSE TOTAL DEBT IS DECLINING. CBI (b) (c) (e)



FLOWS OF FIRMS WHOSE TOTAL DEBT IS NOT DECLINING. CBI (b) (c) (e)



SOURCE: Banco de España.

a Financial Accounts of the Spanish Economy.
b Until 2013, the data are obtained from the integrated database of the Banco de España's Central Balance Sheet Data Office (CBI).
c Cumulative four-quarter data for 2014 (CBQ), linked to the 2013 data.
d Excluding holding companies. Flows as a percentage of the «total assets» of the previous year.
e Excluding holding companies and firms without debt.

The more disaggregated information from the CBI enables the role played in the funding of non-financial corporations' spending in recent years by alternative sources to bank credit to be examined in greater depth. In particular, these data reveal that the rise in own funds, especially in the case of larger companies, has helped to increase company investment in recent years through two channels. First, companies that have raised their stock of capital financed part of the increase in their balance sheet by means of an increase in own funds (see upper right-hand panel of Chart 5.9). Second, these same instruments served to finance part of the debt repayments undertaken by companies conducting deleveraging processes, thereby moderating the negative impact of such processes on their spending on tangible assets (see lower left-hand panel of Chart 5.9). Also, trade credit may have played a similar function in recent years. Specifically, as seen in the lower right-hand panel of Chart 5.9, firms with greater capacity to borrow would have used part of the funds raised through debt to grant financing to companies that needed to adjust their balance sheets, thereby helping to smooth the contractionary effect of deleveraging on investment.

In short, both the aggregate and disaggregated information available suggests that the alternative sources of financing to credit provided by resident credit institutions have in recent times played an important role in financing the spending of the corporate sector.

In the case of households, the alternative financial instruments to credit play a marginal role in the financing of spending

In the case of households, bank credit is practically the only financing instrument available. This sector – in particular the self-employed – also finances a small portion of its purchases through trade credit, but the importance of the latter is marginal. Between 2009 and 2014, households raised through this channel, an average net flow equivalent to 0.1% of GDP.

5 Conclusions

The outstanding amount of credit will have to continue to decline until the private sector has completed the deleveraging necessary to sustain economic growth in the medium and long term

Deleveraging still being undertaken by a significant part of the private sector continues to be reflected in a decline in the aggregate stock of bank financing, although the rate of decline is slowing. In the short term deleveraging limits the capacity of private demand to expand, but the balance sheet adjustment is necessary to stimulate economic growth in the medium and long term, since it either increases the capacity of agents to implement future spending decisions, or else it frees up resources for other more productive activities.

But aggregate deleveraging is proving compatible with a recovery in credit flows and a reallocation of credit towards more productive agents, which is helping to support the growth of private demand

However, aggregate deleveraging is proving to be compatible with more buoyant activity on credit markets. This recovery is explained by a number of factors of various kinds, such as the adjustments made to the balance sheets of lenders and borrowers in recent years, the change in the cyclical position of the Spanish economy and the Eurosystem's expansionary monetary policy. The microeconomic evidence shows, moreover, that new credit tends to go to more productive agents, which are in a more favourable position to undertake spending decisions. Thus, the recovery of credit flows is one of the factors supporting the growth of private demand that has been seen since the end of 2013.

Alternatives to credit have been playing an important role in the financing of corporate spending

At the same time, the available evidence suggests that alternatives to bank credit have in recent years played an important role in the financing of corporate spending. Among them, own funds (significantly underpinned by retained earnings) are notable for their greater relative importance. By contrast, the recourse to other instruments, such as bond issuance, has been of residual importance for the corporate sector as a whole, since this option is only available to larger companies.

In the short term the recovery of credit flows is expected to continue, but its intensity will depend on several factors

In the short term, the pattern of recovering credit flows can be expected to remain in place, although the aggregate stock of credit will continue to contract for several quarters, in line with the experience of other historical episodes of deleveraging in the wake of financial crises. The buoyancy of credit will be determined by a number of factors. First, it will depend on the future outlook for income and employment, as these impact both the supply and demand for funds. In the segment of lending to households the recovery of the flows will be especially linked to the increase in youth employment, since, for life cycle reasons, the demand for financing is concentrated among households with a younger family head, especially in the case of loans for purchase of a principal residence, which make up the bulk of the liabilities of this sector.[18] Second, the adaptation of credit institutions to the new regulatory requirements that have been introduced at the international level in response to the crisis may have some impact in the short and medium

18 According to the 2011 Spanish Survey of Household Finances, 61% of households that own the dwelling in which they reside acquired it when the head of household was under 30 years of age.

term on their supply of funds.[19] However, in the long term these changes will reinforce the resilience of the financial system to adverse shocks and will result in greater macroeconomic and financial stability.

In the more medium term, credit growth may be influenced by demographic factors

In the more medium term, demographic factors can be expected to tend to reduce the demand for household financing. Specifically, the fall in population in the youngest segments will foreseeably result in a reduction in the number of potential loan applicants, especially in the segment of financing for house purchase, since, as already mentioned, households' demand for funds is concentrated among those with a young head.

Alternatives to bank credit will continue to play an important role in financing

The alternatives to bank credit can be expected to continue to play an important role in the short term in the financing of corporate spending. In the more medium term, insofar as progress is made with the European Commission's Capital Markets Union initiative, which pursues greater development of capital markets in Europe, the relative importance of instruments such as bonds in the financing of the real economy may increase. Companies would then have more diversified liabilities, and would be less vulnerable to potential frictions in one particular financing channel. In the case of smaller firms, for which direct access to markets is not feasible due to problems of scale, the development of the securitisation markets seems to be a more promising alternative, since the task of analysing credit quality in these transactions continues to fall to credit institutions, which have a comparative advantage in performing this job, given their greater knowledge of such companies. In a subsequent phase, which does take place through the capital markets, these institutions, by securitising the loans, transmit part of the risk to third parties.

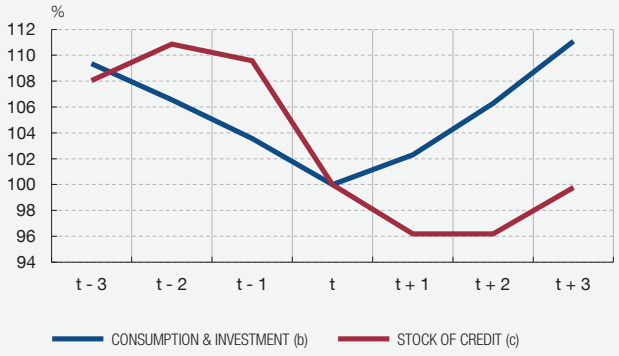
19 The new regulation entails stricter capital requirements, the implementation of which has already begun and will be completed in 2019. In addition, new leverage ratio and liquidity requirements are planned to come into force in 2018, except for the liquidity coverage ratio which will be brought into force progressively from October 2015 (see J.P. Ibáñez and B. Domingo, "La transposición de Basilea III a la legislación europea", in *Revista de Estabilidad Financiera,* No 25, of the Banco de España). Mention should also be made of the additional requirements for global systemically important institutions currently under discussion (requirement for a minimum total loss absorption capacity (TLAC)) and possible structural measures to separate market risks from commercial banking risks.

Creditless recoveries are generally defined as periods when GDP grows in real terms after a recession and the aggregate stock of credit to the private sector contracts. The literature on these episodes, which originated with the seminal work by Calvo *et al.* (2006),[1] shows that they are not rare, since they affect between 20% and 25% of all economic recoveries [Abiad *et al.* (2011),[2] Sugawara and Zalduendo (2013),[3] Bijsterbosch and Dahlhaus (2011)[4]] and, although they are more frequent in emerging economies, they also occur in developed ones [Claessens *et al.* (2009),[5] Coricelli and Roland (2011)[6]]. Examples of creditless recoveries in developed countries include those that followed the Great Depression of the 1930s in the United States or the Nordic banking crises of the early 1990s.

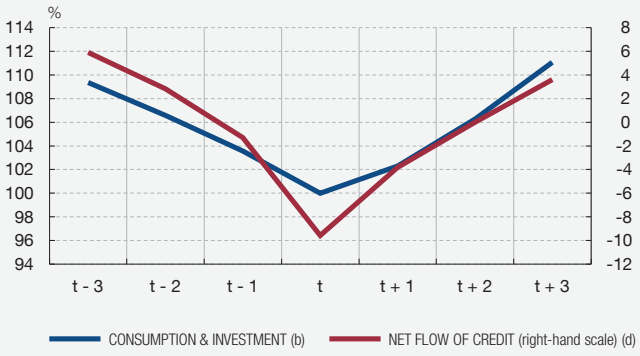
The works cited identified certain factors that significantly increase the probability of a creditless recovery. These include, in particular,

1 G. Calvo, A. Izquierdo and E. Talvi (2006), "Sudden Stops and Phoenix Miracles in Emerging Markets", *American Economic Review Papers and Proceedings*, vol. 96, No. 2, pp. 405-410.
2 A. Abiad, G. Dell'Ariccia and B. Li (2011), *Creditless Recoveries,* IMF Working Paper WP/11/58.
3 N. Sugawara and J. Zalduendo (2013), *Creditless Recoveries. Neither a Rare nor an Insurmountable Challenge,* World Bank Policy Research Working Paper No. 6459.
4 M. Bijsterbosch and T. Dahlhaus (2011), *Determinants of Creditless Recoveries,* ECB Working Paper Series No. 1358.
5 S. Claessens, M. A. Kose and M. E. Terrones (2009), "A recovery without credit: possible, but…", VoxEU.org, 22 May 2009.
6 F. Coricelli and I. Roland (2011), *How do Credit Conditions Shape Economic Recoveries?* CEPR Discussion Paper Series No. 8325.

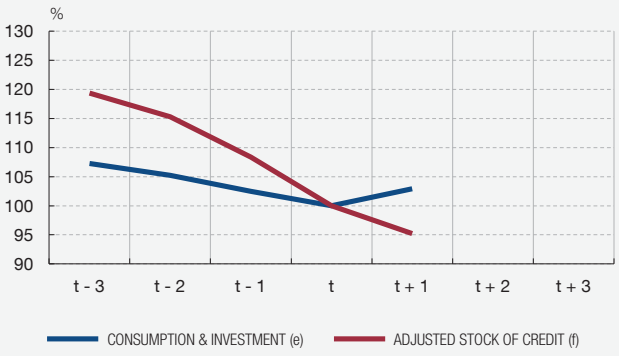
1 DOMESTIC DEMAND AND STOCK OF CREDIT. AVERAGE OF BANKING CRISES (a)



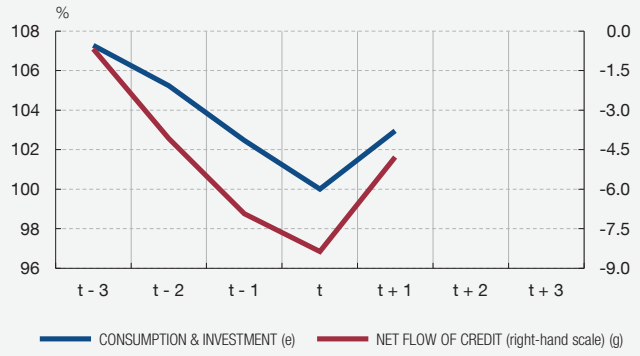
2 DOMESTIC DEMAND AND NET FLOW OF CREDIT. AVERAGE OF BANKING CRISES (a)



3 DOMESTIC DEMAND AND ADJUSTED STOCK OF CREDIT. SPAIN 2010-14



4 DOMESTIC DEMAND AND NET FLOW OF CREDIT. SPAIN 2010-14



SOURCE: Banco de España.

a The data correspond to Finland (1990-96), Japan (1990-96), Norway (1988-94), Spain (1981-87) and Sweden (1990-96). Source: M. Biggs, T. Mayer and A. Pick (2010), *Credit and Economic Recovery: Demystifying Phoenix Miracles,* mimeo.
b Arithmetical mean of the volume indices of private consumption and investment of Finland, Japan, Norway, Spain and Sweden, with base 100 at the minimum point of the series.
c Arithmetical mean of the stock of credit of Finland, Japan, Norway, Spain and Sweden, with base 100 at the minimum point of their corresponding consumption and investment series.
d Annual change in the stock of credit index of Panel 1.
e Sum of the volume indices of private consumption and investment, with base 100 at the minimum point of the series.
f Base 100 at the minimum point of the consumption and investment series. The series includes the securitisation vehicles and loans transferred to Sareb and is adjusted for changes not linked to financial flows, such as valuation effects and loan write-offs.
g Annual change in the stock of credit index of Panel 3.

that the recovery follows a recession that was accompanied by a banking crisis and was preceded by a major credit surge.[7] Separately, these two factors also raise the probability significantly, along with other factors such as high private sector debt, a housing market slump or an exchange rate crisis. In addition, economies that are highly reliant on flows of foreign capital are more susceptible to creditless recoveries. Lastly, expansionary tax policies increase the incidence of these episodes, while expansionary monetary policies reduce it.

There are several factors that set creditless recoveries apart. One such factor is significantly lower GDP growth,[8] especially in the first two years [Sugawara and Zalduendo (2013)]. As a result, and since creditless recoveries are usually preceded by deeper recessions, it takes longer to return to potential output levels. The growth breakdown is also different. In turn, domestic demand grows at a slower pace, although no differences are observed in the contribution of foreign demand relative to with-credit recoveries. The most dynamic component of domestic demand is generally consumption, while investment — especially non-residential investment — takes longer to recover. On the supply side, the contributions of capital and productivity are much lower than in with-credit recoveries, while there is no difference in employment. In the breakdown by sector, growth is lower in sectors that are more reliant on external financing [Abiad *et al.* (2011), IMF (2009)[9]] and higher in sectors that are reliant on trade credit rather than bank credit [Coricelli and Roland (2011)]. This finding, together with the observation that creditless recoveries are much more frequent after banking crises, leads Coricelli and Roland (2011) to argue that these episodes are, at least partially, a consequence of deterioration in the supply of bank credit. Accordingly, they argue, policies designed to restore efficient financial intermediation should generate higher growth. The IMF (2009) and Kannan (2010)[10] also suggest that credit supply constraints may have a significant impact on the strength of recoveries.

Various explanations for creditless recoveries have been proposed in the literature. Calvo *et al.* (2006) argue that using the economic slack that has built up during a crisis may boost output with no need for higher investment and, therefore, for credit. According to the IMF (2009) and Darvas (2013),[11] higher foreign demand and depreciation of the real exchange rate are both factors that can play a prominent role in creditless recoveries, allowing export companies to fund their business growth out of higher sales revenues. Claessens *et al.* (2009) and Coricelli and Roland (2011) suggest that in creditless recoveries sources of funding other than bank loans (trade credit, bonds, internal financing) may be used to fund private sector spending. These same authors indicate that a reallocation of credit to less credit-intensive and more productive sectors can generate economic growth even in a setting of private-sector deleveraging on the back of productivity gains.

In turn, Biggs *et al.* (2010)[12] highlight that in economic recoveries, changes in the flow of credit play a more important role than growth in the stock of credit, because the former are a better proxy of new credit, which is that used to fund consumption and investment growth. Specifically, the authors show that an increase in the net flow of credit (which may even be negative) alone is sufficient to trigger domestic demand growth. They illustrate this argument by analysing the main creditless recoveries that followed banking crises in developed countries in the 1980s and 1990s (see Panels 1 and 2). Thus, although the stock of credit continued to decline in the two years after private domestic demand touched bottom, the net flow of credit – albeit still negative – began to recover as domestic demand increased. This is observed in the present cycle in Spain, although the cumulative contraction in credit has been more marked than in the average of the episodes depicted in Panels 1 and 2 (see Panels 3 and 4). Thus, in 2014, when domestic demand first started to recover, the stock of credit held by households and firms continued to decline, but the net flow of credit rose. If the regularity observed in past banking crises is repeated in this case, the stock of private sector credit would not start to increase in Spain until end-2015.

7 Probability of 80%, according to Abiad *et al.* (2011).

8 According to Abiad *et al.* (2011), a third lower than in with-credit recoveries.

9 IMF (2009), World Economic Outlook, April, Chapter 3.

10 P. Kannan (2010), *Credit Conditions and Recoveries for Recessions Associated with Financial Crises,* IMF Working Paper WP/10/83.

11 Z. Darvas (2013), *Can Europe recover without credit?* Bruegel Policy Contribution, February 2013.

12 M. Biggs, T. Mayer and A. Pick (2010), *Credit and Economic Recovery: Demystifying Phoenix Miracles,* mimeo.

The information contained in the Banco de España's Central Credit Register (CCR) database permits a disaggregated analysis of recent changes in the supply of and demand for credit, and in access to credit, by non-financial corporations. The CCR compiles monthly individual information on the credit balances and credit situation of loans over €6,000 provided by all the credit institutions operating in Spain. The database also contains the requests for information that the institutions file with the CCR to ascertain the debt position of firms that apply to them for funding and with which they have no exposure (they receive this information automatically on firms with which they already have exposure). Using these information requests it is possible to identify a subgroup of firms that are seeking bank funding (only firms applying for loans to banks with which they do not already have loans). Moreover, by observing how their credit balances evolve, it is also possible to know if those firms actually obtain the funding.[1] Therefore, the number of requests may be used as a proxy variable for demand for credit, while the proportion of firms that obtain funding is a measure of access to credit which depends both on the lending standards applied by institutions and the credit quality of the firms applying for funding. Panels 1 to 4 depict both indicators, together with the number and volume of bank loans granted proxied by the growth in firms' credit balances.

As Panel 1 shows, the onset of the crisis in 2008 was accompanied by a severe contraction in demand for credit by Spanish firms which lasted through to early 2013. However, by sector, the demand performance was not uniform either in terms of timing or intensity. Thus, while demand in construction and real estate services fell sharply between 2008 and end-2010, demand in all other sectors was virtually unchanged. Subsequently, loan applications gradually declined across the board, so that by end-2013 the number of firms seeking funding was 60% and 16% below the pre-crisis levels in the real estate and other sectors, respectively. At the same time, the proportion of firms that applied for and obtained funding (with institutions with which they had no exposure) dropped markedly in 2008-09 and then fell more gradually thereafter, touching bottom in April 2013 at 36%, almost 20 pp below the early 2008 level (see Panel 2). This was most likely the result of the tightening of credit supply conditions and of the institutions' perception of deterioration of credit quality of the applicants. The drop in credit demand and in the proportion of successful loan applications resulted in a sharp decline in the volume of new lending (see Panels 3 and 4). Both these factors played a more important role in the real estate sector, triggering a more pronounced decline both in the proportion of corporations obtaining funding and in the volume of new lending.

From early 2013, the improved economic situation and macroeconomic outlook prompted a reversal in these patterns. Thus, the demand for credit by firms tended to recover, driven exclusively by non-real-estate firms, and the proportion of firms obtaining the requested funding tended to increase, in general, growing by some three percentage points from the 2013 low to approximately 40% in October 2014. In the real estate-related sector, the number of credit applications remained stable in the period, although a larger number of these applications for bank funding were successful. Lastly it should be noted that despite the improved access to credit and the growth in demand, the volume of new lending has barely risen, indicating that for the subgroup of firms analysed here more loans are being granted but for lower average amounts than in the past.

In order to ascertain the extent to which the recent recovery observed in the proportion of firms obtaining funding reflects a genuine improvement in access to credit or changes in the characteristics of the corporations concerned, the probability of a firm being granted a loan has been modelled as a function of a series of firm-specific variables and a set of fixed effects[2] and also permitting time-varying coefficients by sub-period (see Table 5). In particular three sub-periods are considered: the expansionary phase (2003-07), the crisis (2008-12) and the recovery (2013-14). In general, the estimated coefficients of the variables have the expected sign and are statistically significant. Thus, as the table shows, the debt ratio, the interest burden and the fact that a firm has an NPL balance with a bank in the month previous to the loan application all have a negative effect on the probability of it obtaining funding from a bank with which it has no previous lending ties. Also according to the estimates, and counter-intuitively, the asset volume of a firm has an adverse effect on the probability of it obtaining a loan, which may be linked to a possible bias in the sample of firms used in the estimations.[3] Analysis of the findings by sub-period shows that after the crisis the probability of obtaining a loan became more sensitive to changes in financial determinants of firms, which suggests that institutions would be discriminating between firms to a greater extent than in the expansionary phase.

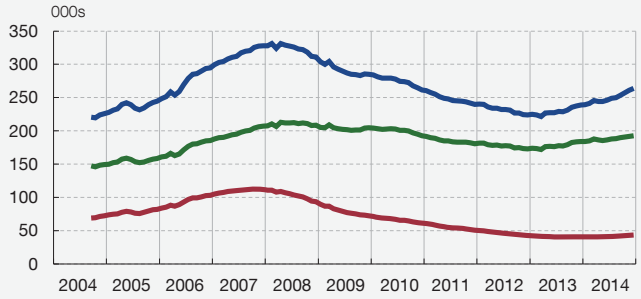
Lastly, Panel 6 shows the different probabilities of obtaining a loan by type of corporation: 1) the median firm, which proxies a typical firm; 2) firms with a sounder financial position; 3) firms with a

1 More specifically, a firm is considered to have obtained funding when its credit balance (including both the amount drawable and the amount drawn) increases between t-1 and t+3 with banks with which it had no exposure.

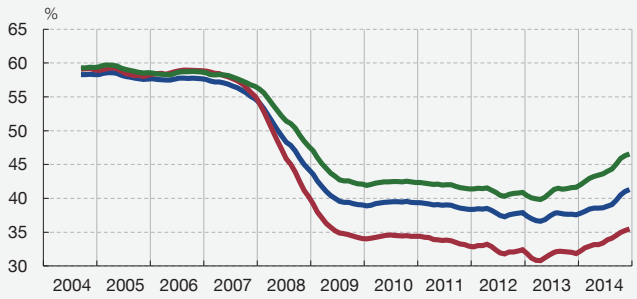
2 The estimates derive from a linear probability model that includes as explanatory variables asset size, a binary variable that indicates whether the firm has an NPL balance, the logarithm of 1 plus the age in years of the firm, the debt ratio and the interest burden ratio. It also includes fixed firm effects, fixed year effects and fixed time effects combined with an age binary variable. The estimates were made for the subgroup of firms in the CCR for which there is information at the Central Balance Sheet Data Office (CBSO). The data cover the period 2003-14.

3 In particular, the CCR only identifies firms that apply for funding to institutions with which they have no exposure. One possible explanation for this result could be that the larger firms applying for loans from institutions with which they have no exposure are precisely those whose usual banks have refused to grant them funding in view of their perceived poor credit quality.

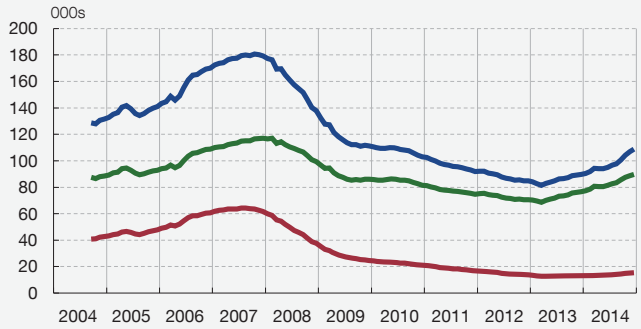
1 NUMBER OF LOAN APPLICATIONS



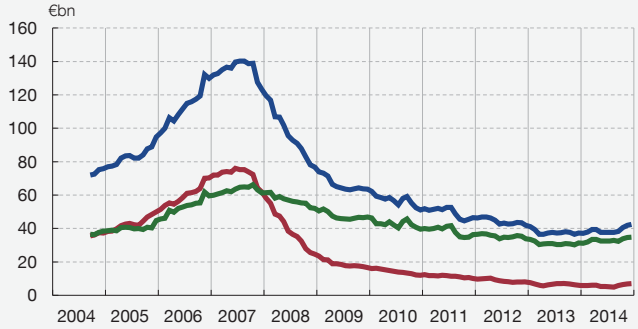
2 PERCENTAGE OF FIRMS THAT OBTAIN A LOAN



3 NUMBER OF LOANS GRANTED



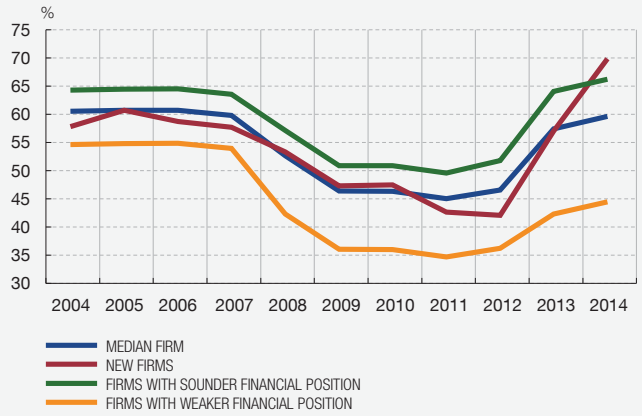
4 VOLUME OF LOANS GRANTED



5 MARGINAL IMPACT ON PROBABILITY OF LOANS BEING OBTAINED (a) (b) (c)

	2003-2007	2008-2012	2013-2014
NPL	-0.111*	-0.133*	-0.132*
Debt	-0.053*	-0.073*	-0.073*
Interest burden	-0.002*	-0.005*	-0.005*
Assets	-0.062*	-0.052*	-0.046*
Age	-0.002	0.014	0.009

6 ESTIMATED PROBABILITY OF LOANS BEING OBTAINED (d)



SOURCE: Banco de España.

a Results based on a linear probability model estimated using data from the period 2003-14 for the subgroup of firms in the CCR for which there is information at the CBSO. The coefficients represent the marginal effects of each of the variables one period lagged on the probability of loans being obtained.

b The total assets variable is the logarithm of total assets of the firm. The NPL variable is a binary variable that takes the value of 1 if the firm has an NPL balance with any bank in the previous period, and a value of 0 otherwise. The age variable is the logarithm of 1 plus the age in years. The debt ratio is calculated as total debt minus the most liquid assets minus loans granted over total assets. The interest burden is calculated as interest over gross operating profit plus financial income.

c (*) Indicates coefficient significance at 1% confidence level.

d Probability for four types of corporations: 1) median firm (for which the median value of all the variables is taken); 2) firms with a sounder financial position (for which the value of the 10th percentile of the interest burden and of the debt ratio is taken); 3) firms with a weaker financial position (for which the value of the 90th percentile of the distribution of the interest burden and of the debt ratio is taken): and 4) new firms (those that are two years old or less).

weaker financial position;[4] and 4) new firms.[5] The results show that the deterioration in access to credit was similar for new and established firms in the period 2007-10, whereas in 2011-12 the tightening continued for new firms but remained unchanged for established ones. Since then access to credit has improved, especially for new firms, returning even to pre-crisis levels, although this finding should be viewed with caution as the coefficient associated with this effect cannot be measured precisely. In turn, in terms of financial position, the panel shows how the probability of obtaining a loan during the crisis declined more severely for firms with higher debt and a higher interest burden and how, since 2012, that probability is recovering at a slower pace than for firms with a better financial position. Thus for this last group, in accordance with the results of the estimates, by 2014 the probability of obtaining a loan had returned to pre-crisis levels, whereas in the case of firms with a weaker financial position it was still very much below those levels. In any event, all these results must be viewed with caution as they are based on estimates.

4 To calculate the probability of firms with a weaker and a sounder financial position obtaining a loan, the value of the 90th and 10th percentiles, respectively, of the interest burden and the debt ratio are taken and the median for the other variables.

5 New firms are considered to be those that are two years old or less. The median value of the other variables is taken to calculate the probability.

BOXES

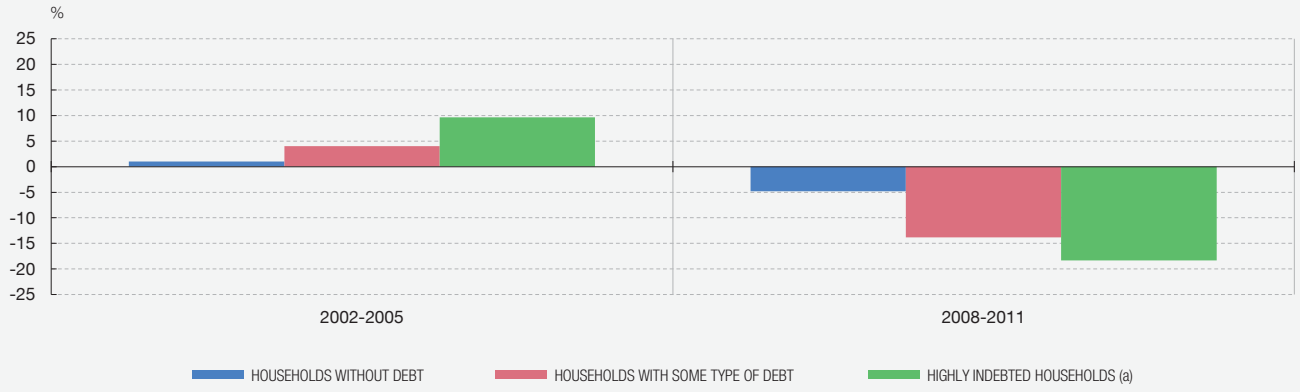
The financial situation of households, and particularly their level of indebtedness, can affect their spending decisions. The debt/income ratio of Spanish households – a standard indebtedness indicator – rose significantly up to 2010 and has subsequently declined, also significantly. However, it remains high compared both with past periods of economic recovery and with other developed countries. This box analyses the implications for recent and future consumption patterns.

Panel 1 compares consumption patterns among different groups of households, according to their level of indebtedness, and shows that the most marked decline in consumption during the crisis was among the most highly indebted households. Further regressions to explain household level consumption growth on the basis of income, wealth and indebtedness levels confirm this inverse relationship between debt and spending.[1]

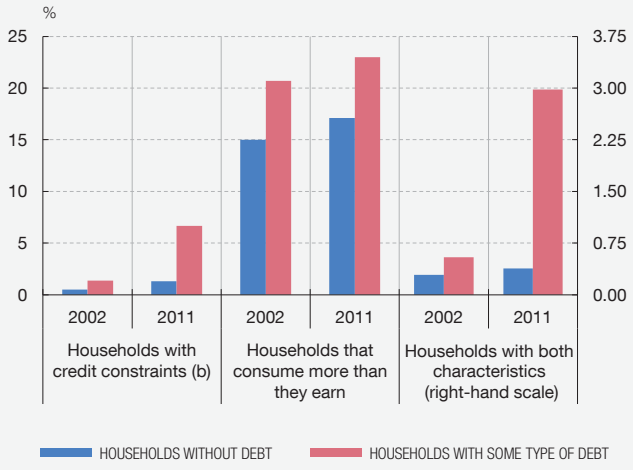
However, for a more in-depth analysis of the possible effects of the present indebtedness levels on Spanish household consumption (and, therefore, on the economic recovery momentum), a further angle must be included in the study, namely the behaviour of households that have no ability to save after debt servicing and that find it more difficult to access new credit. Panel 2, obtained from the Spanish Survey of Household Finances (EFF), depicts the percentage of households whose annual spending is in excess of their income and the percentage of households that reported credit

1 See Casado and Folch (2015) for more details on these findings.

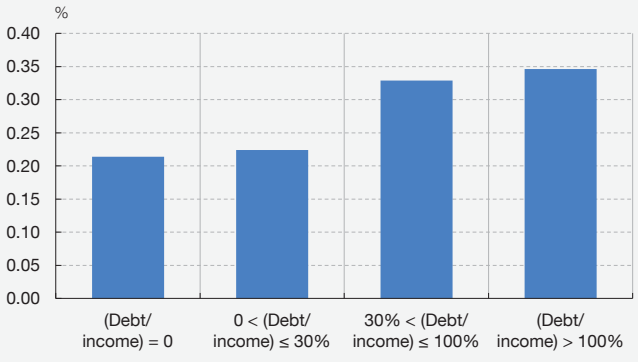
1 CONSUMPTION GROWTH



2 HOUSEHOLDS WITH FINANCIAL DIFFICULTIES



3 RESPONSE OF CONSUMPTION TO CHANGES IN INCOME BY DEBT LEVEL (c)



SOURCE: Survey of Household Finances (EFF).

a Households that have a debt/income ratio of over 300%, a debt/wealth ratio of over 75%, or who pay more than 40% of their income on loan interest and principal repayments.
b Households with credit constraints are defined as those whose loan application has been partly or fully rejected.
c This panel shows the elasticity of consumption to income. See J.M. Casado and M. Folch (2015) for further details.

constraints[2] (as well as the percentage of households that simultaneously conform to both criteria). As may be observed, these figures are clearly higher for indebted households and they have risen during the crisis. For these households, consumption growth relies more on their current income than on possible expected increases in their future income, as these cannot be transformed into spending until they actually materialise. The above-mentioned regressions confirm this hypothesis and show that the consumption response to changes in (current) income rose during the crisis. Panel 3 depicts the estimates of this response for different groups of households, according to their level of indebtedness, and shows that higher consumption associated with higher income is most marked among the more highly indebted households.

Accordingly, the conclusion may be drawn that high indebtedness levels among Spanish households have adversely affected household consumption, which was to be expected, but at the same time that they have also rendered it more sensitive to changes in current income. This increased sensitivity of consumption to current income helps to explain the recent growing momentum in household consumption, in light of the clear recovery observed in household income. It also signals that, in this recovery phase, the improvement in employment could have a comparatively more positive effect on consumption than in comparable periods in the past. In any event it should also be recalled that the still-high level of indebtedness makes household demand more sensitive to changes in borrowing costs, although in the medium term a sharp rise in interest rates that could have a significantly contractionary effect on household spending levels is unlikely.

2 Defined as the proportion of households whose loan applications have been partly or fully rejected.

The Spanish economy, on balance of payments data, again recorded net lending in 2014 (1.2% of GDP), although the level was lower than in 2013 (2.1%). This box identifies the variables that contributed to the slowdown in the improvement in the external balance in 2014, as well as the factors underlying its behaviour, in an attempt to determine the effects of the recent moderation on the external balance.

Both the current account balance and, to a much lesser extent, the capital account balance helped to reduce the external surplus last year (by 0.6 pp and by 0.3 pp of GDP, respectively). In relation to the current account, the component that caused the largest reduction in its balance (to 0.8% of GDP, from 1.4% the previous year) was the goods and services balance, the surplus of which shrank notably in 2014 (by 0.8 pp to 2.6% of GDP). In contrast, the primary and secondary income balances improved slightly (by 0.2 pp, to -1.8% of GDP).

The deterioration of the goods and services balance was a result, in turn, of the reduction in the non-energy goods surplus, which was only partly mitigated by the improvement in the energy goods and services balances (see Panel 1). In particular, as regards goods trade, the sharp recovery in non-energy imports counteracted the growth in exports (see Panel 2), which continued to gain world market share, and the positive impact on the energy bill derived from the decline in the price of oil, which became more obvious by the end of the year.[1] Accordingly, most of the reduction in the current surplus in 2014 was notably due to external purchases of non-energy goods, while exports continued to grow at a high rate.

The healthy performance of goods exports, which since the start of the crisis have grown at a faster rate than world demand and price competitiveness,[2] reflects the impact of several developments that, together, would indicate that there has been a certain structural change in their behaviour. A simple way of illustrating this possible effect is to analyse whether the relationship between exports and their determinants has changed during the crisis. The historical relationship between these variables is therefore estimated for the period 1998-2008 and, on the basis of this estimate, the growth of exports is predicted for subsequent years using the observed path of world demand and the competitiveness of Spanish products.[3] If the predicted path of exports is similar to the actual path then there would appear to have been no change in the relationship between this variable and its determinants.

As seen in Panel 3, exports have grown systematically at a faster rate than predicted by the estimated equation, which suggests that there have been significant changes in the historical relationship between external sales and their determinants. The geographical diversification of exports, the increase in the number of regular exporters (15.6% more than in 2008) and, also, the increasing internationalisation of SMEs would explain the improved performance of exports, in relation to their determinants, in the most recent period. Especially important, given the average small size of Spanish companies, is the increasing role of SMEs in recent export developments (see Panel 4). Without a doubt, the wage moderation that began in 2010, along with the consequent competitiveness gains,[4] has facilitated the internationalisation of Spanish businesses and their penetration of increasingly competitive markets, since their lower costs have enabled Spanish firms to access markets in which prices were low in comparison with production costs in Spain. Against this backdrop of recovering cost competitiveness, the attractiveness of the Spanish economy as a destination for direct investment flows has increased, which has had a positive impact on the efficiency and competitiveness of the target firms. Thus, insofar as a large part of the competitive adjustment achieved in recent years has been of a structural nature, the level of exports can be expected to remain higher in future.

With regard to imports, as mentioned above, one of the most significant developments in 2014 was the sharp recovery in purchases of goods from abroad. In order to try to determine whether this surprisingly sharp increase was a consequence of a change in the historical relationship between imports and their determinants (basically final demand and competitiveness) or of the latter's own behaviour, a similar exercise to the one described for exports was performed. On this occasion, the growth of total imports is observed to have been in line with that derived from the estimated prediction, so that there does not appear to have been any significant change in the historical relationship between purchases from abroad and their main determinants (see Panel 5).

A similar conclusion is reached for 2014 when this analysis is performed at a disaggregated level, except in the case of imports of non-energy intermediate goods,[5] which continued to grow at a faster rate in 2014 than would have been expected on the basis of the behaviour of their main determinants, reflecting the dynamism of certain vertically integrated industries (e.g. the car industry).[6] By contrast, the notable rise in consumer durables and capital goods imports is in keeping with the greater buoyancy displayed by these components in final demand (see Panel 6).

1 The energy bill appears to have fallen by 5% in 2014 as a whole (0.2 pp of GDP). This decline reflects the impact of cheaper oil (8%), while the energy balance in real terms deteriorated by 2.7%. The decline in the oil price predicted for 2015 can be expected to reduce the energy bill further this year. On average, the energy bill falls by around 0.5% of nominal GDP for every €10 by which the price of a barrel of oil declines.

2 García, C. and E. Prades (2015), "Actualización de la función de exportaciones españolas de bienes", *Boletín Económico,* April, Banco de España.

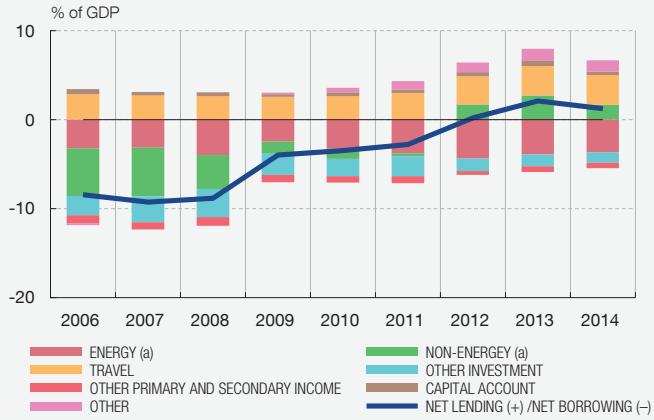
3 Specifically, the equation includes the variable that reflects the evolution of Spain's export market and goods export and import deflators. In alternative specifications national demand is also included.

4 See Box 5, "Competitividad, costes laborales y empleo", in Informe Trimestral de la Economía Española, *Boletín Económico,* December 2014.

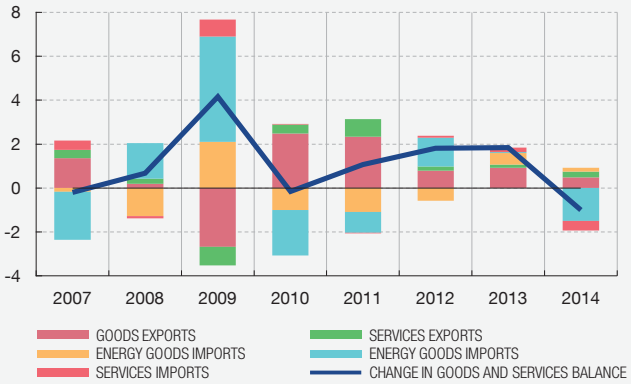
5 Energy imports declined, in nominal terms, in response to the fall in the price of oil.

6 See Box 5, "The recent behaviour of imports and their determinants", *Economic Bulletin,* April 2014.

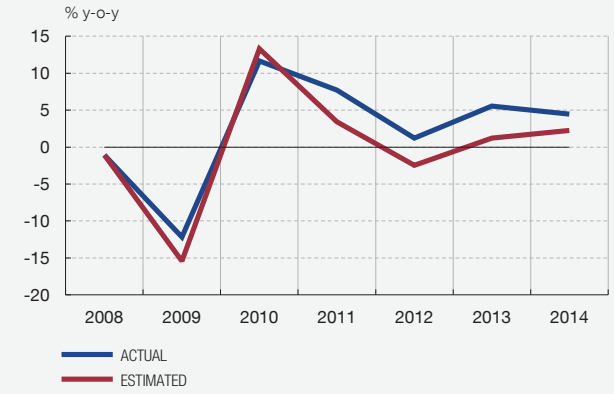
1 NET LENDING/ NET BORROWING



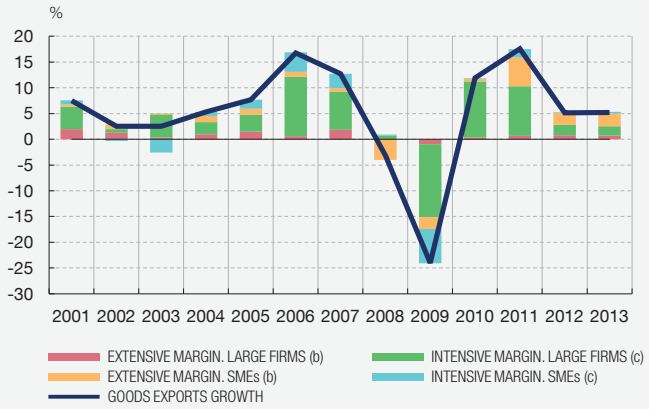
2 CHANGE IN GOODS AND SERVICES BALANCE: CONTRIBUTION BY COMPONENT



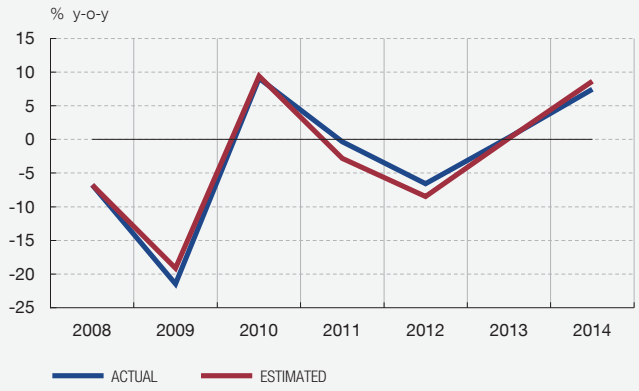
3 GOODS EXPORTS



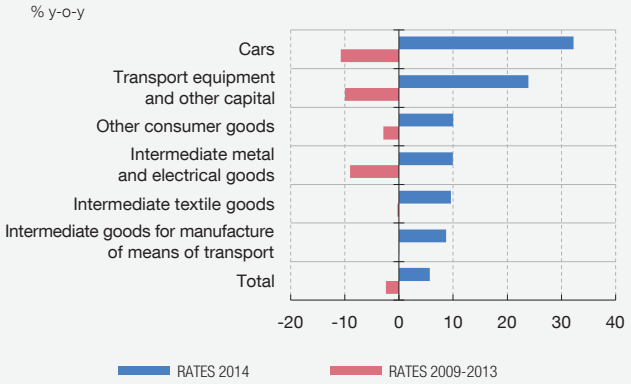
4 EXTENSIVE AND INTENSIVE MARGIN: CONTRIBUTION TO CHANGE IN GOODS EXPORTS



5 GOODS IMPORTS



6 GOODS IMPORTS (NOMINAL)



SOURCES: Banco de España (based on Balance of Payments, CBA and mercantile registries statistics) and the AEAT (Spanish Tax Revenue Service) Customs and Excise Department.

a The energy and non-energy balances are estimates by the Banco de España drawing on Customs data.
b The extensive margin is defined as the contribution to the increase (decrease) in the exported value derived from an increase (decrease) in the number of "firm-country of destination" trade relations.
c The intensive margin is defined as the contribution to the increase (decrease) in the exported value derived from an increase (decrease) in the amount exported by each firm to each country.

In any event, in the current stage of the cycle, spending is being directed towards goods with a high import content, which suggests that the effects of the changes in the composition of demand have been contributing to the recent growth in imports. The rise in capital goods imports (18.7% year-on-year in 2014 as a whole), linked to the recovery of investment and to the above-mentioned growth in exports, reflects the dependence of Spanish industry on high value added imported inputs. Also notable in this respect is the vigorous growth of consumer durables imports (20% year-on-year in real terms), which may reflect a certain overreaction linked to the large cumulative fall in the consumption of such goods since the start of the crisis (-6.2% over the period 2008-2013, as against –1.9% in the case of total spending). As for imports of non-durable consumer goods, with the firming of the recovery, a greater coincidence has been observed between actual purchases abroad and those predicted by the model, so that no significant substitution effect between domestic production and imports has yet been detected.

In conclusion, the improvement in the cyclical position of the Spanish economy, along with the realisation of purchase decisions that had been postponed during the crisis, appears to have had a significant impact on the external balance in 2014, having led to strong import growth. On the other hand, the fall in the price of oil, competitiveness developments and the expansion of the export base and its geographical diversification partly offset the negative impact of the cycle. In the future, while the business cycle will continue to support import growth, the impact of pent-up demand will ease over time. Moreover, despite the lack of evidence of a substitution effect on total imports, one would expect the gains in competitiveness arising from the still-ongoing internal devaluation, together with the changes in the productive structure, to be conducive to a reduction in import dependence in the medium term.[7]

7 See Chapter 3 "Growth and reallocation of resources in the Spanish economy", *Annual Report,* 2014, Banco de España.

The Great Recession has highlighted the difficulties facing monetary policy when additional monetary stimulus measures are needed and policy rates are already close to their effective lower bound. In response to this challenge, monetary authorities have introduced various unconventional measures that seek to achieve financial conditions that are more likely to allow them to meet their targets. In particular, two types of instruments have been used. First, as discussed in Chapter 2 of the Spanish version of the Annual Report, regular use has been made of forward guidance,[1] a strategy that seeks to influence the formation of agents' expectations, putting downward pressure on long-term interest rates and, therefore, affecting the slope of the yield curve. Second, central banks have resorted to purchasing public and private assets, in some cases on a large scale.

This box analyses the transmission channels through which these asset purchases operate and their effectiveness in a setting in which monetary policy has exhausted its conventional room for manoeuvre. For this purpose, the accompanying panels present various simulations made with a model calibrated for the euro area, one fundamental aspect of which is the existence of financial restrictions on the borrowing capacity of agents, and in particular of banks.[2] The exercise considers a recession caused by turbulence originating in the financial sector – a decline in the quality of assets on banks' balance sheets – that drives down both GDP and inflation, in the baseline scenario (the green line in the panels) by more than 6 and 3 pp, respectively.

This turbulence is transmitted to the economy through various channels. Initially, impairment of bank assets reduces the value of banks' capital and raises their already high borrowing levels, forcing them to deleverage, selling assets at prices far short of their acquisition cost. These "fire sales" amplify the initial turbulence, driving asset prices down further, prompting additional balance sheet losses for banks and pushing up their financing costs which will subsequently be passed through to the cost of credit, with contractionary effects on productive investment, consumption and, in short, aggregate demand and activity. Moreover, these interactions display important feedback effects, as the deterioration in the economic outlook drives down asset prices yet again and further debilitates the financial situation of banks, heightening both the depth and the duration of the recession.

Typically, the conventional monetary policy response to this concatenation of events (the red line in the panels) would be to cut short-term interest rates sharply, partially offsetting the increase in financing costs and thus curbing the impact on aggregate demand. This would, in turn, mitigate the adverse negative amplifying effect that the decline in activity has on banks' balance sheets. However, this hypothetical scenario is not feasible, since the monetary authority's capacity to act may be restricted by the fact that interest rates are already at their effective lower bound, as is the case in this simulation just three quarters after the original turbulence. The existence of this curb on monetary policy's countercyclical response exacerbates the increase in financing costs and depresses aggregate demand even further, generating a considerably deeper and more protracted recession. In accordance with the simulation (the green line in panels 3 and 4), in this baseline scenario GDP and inflation would fall 0.75% and 1 pp respectively more than if there was no effective lower bound, while financing costs would rise 1 pp more.

To overcome these hurdles, central banks have at their disposal other unconventional instruments, such as purchases of non-financial private sector assets, if need be on a large scale. The blue line in the panels depicts an alternative scenario where the monetary authority launches a sufficiently large quantitative easing programme so as to approximately offset the adverse effect of the zero interest-rate bound being reached.[3] Such measures directly affect the prices of the assets purchased, and indirectly affect, through the subsequent portfolio reallocation process, the prices of other substitute assets, narrowing the spreads between them. The pass-through of the overall drop in yields to the cost of private sector borrowing cushions both the initial drop in aggregate demand and the amplifying effects arising from deleverage at the banks. In the exercise presented, an asset purchase programme equivalent to around 9% of GDP overcomes the drag on monetary policy's countercyclical response that the existence of a lower bound on short-term interest rates entails, allowing GDP and inflation to behave as if conventional monetary policy were not subject to the zero lower bound (the red line). Despite the uncertainty as to the calibration of a simplified model such as this, the findings are consistent with the empirical evidence on the impact of a quantitative easing programme, available for the recent experience in the United States and the United Kingdom (see Table 1).

It is important to note that, owing to its necessarily simplified nature, the exercise does not include many aspects that may be relevant when it comes to assessing how effective the instrument is. Thus, for example, the model considered relates to a closed economy and, therefore, there is no consideration of the exchange rate channel, which may play a very important role in certain circumstances. In addition, other key aspects of the interaction

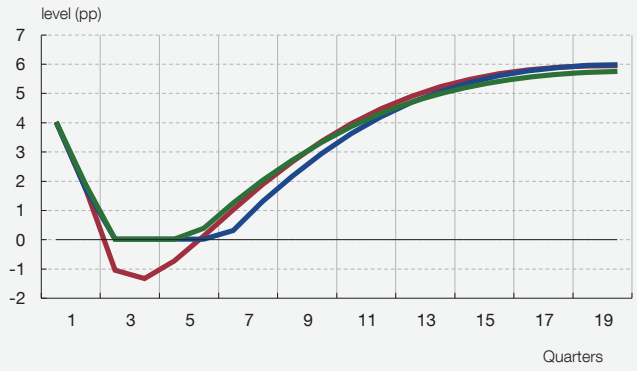
1 For a general discussion on how central banks have used forward guidance see, for example, M. Woodford (2013), "Forward Guidance by Inflation-Targeting Central Banks", *Sveriges Riksbank Economic Review,* 3, pp. 81-120, presented at 'Two Decades of Inflation Targeting,' Sveriges Riksbank, 3 June 2013.

2 The macroeconomic model used is a version of the model developed in M. Gertler and P. Karadi (2011), "A model of unconventional monetary policy", *Journal of Monetary Economics,* vol. 58 (1), pp. 17-34.

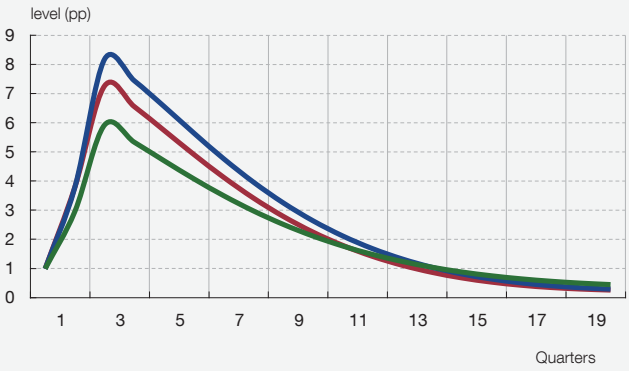
3 The theoretical exercise envisages a programme of purchases of securities issued by private entities, whereas, in practice, the programmes launched by central banks, shaped by relative market size, have largely focused on purchases of public debt securities. This difference could qualify the scale of the impact of the quantitative easing shown here, since for a specific volume of purchases, the macroeconomic impact of purchases of public debt securities is smaller, as it is a deeper and more efficient market (see M. Gertler and P. Karadi, 2013, "QE1 vs. 2 vs. 3: A Framework to Analyze Large Scale Asset Purchases as a Monetary Policy Tool", *International Journal of Central Banking,* vol. 9, pp. 5-53).

with other economic policies, such as fiscal policy, are excluded, as is the fact that the financial structure of an economy – understood as the financing and investment instruments available, financial intermediaries and relations between them – is too complex to be fully covered by the model. Nevertheless, the quantitative exercise clearly illustrates the potential effectiveness of the large-scale asset purchase programmes that the main central banks, and in particular most recently the ECB, have implemented since 2008, once they had exhausted their respective room for manoeuvre in terms of conventional measures.

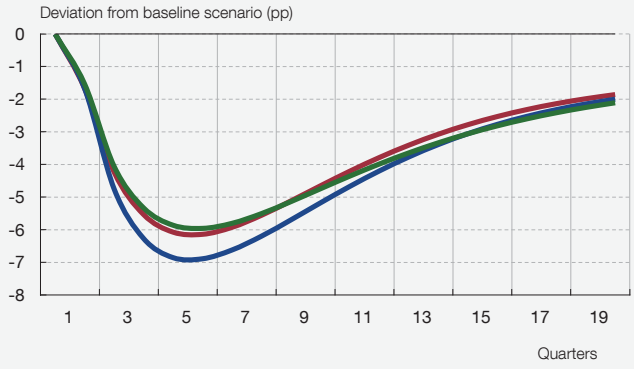
1 NOMINAL INTEREST RATE



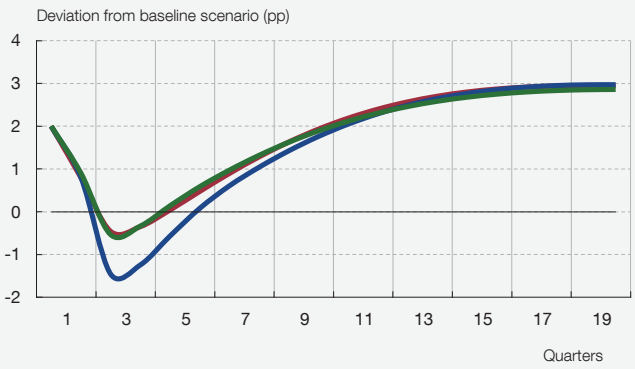
2 FINANCING COST



3 GDP



4 YEAR-ON-YEAR INFLATION RATE



1 EMPIRICAL EVIDENCE ON THE MACROECONOMIC IMPACT OF QUANTITATIVE EASING (a)

	United States (asset purchases $1,000 bn)			United Kingdom (asset purchases £200 bn)	
	GDP level	Inflation rate		GDP level	Inflation rate
Gertler & Karadi (2013)	1.7	1.7	Ashworth & Goodhart (2012)	3	0.4
Del Negro et al. (2011)	1.4	0.7	Joyce et al. (2011)	1.5 - 2.5	0.7 - 2.5
Fuhrer & Olivei (2011)	0.8 - 1.3	0.2	Bridges & Thomas (2012)	2	1
Chung et al. (2011)	1.2	0.35	Kapetanios et al. (2012)	1.5	1.2
Chen et al. (2012)	0.2	0.1	Pesaran & Smith (2012)	1	…

SOURCE: Banco de España.

a Based on V. Constâncio (2015), presentation at the 2015 US Monetary Policy Forum, Panel discussion on Central Banking with Large Balance Sheets. To enhance the comparability, the impact has been rescaled to the size of each programme. The figures reflect deviations from the baseline scenario, expressed as a percentage for the level of GDP and in percentage points for the inflation rate.

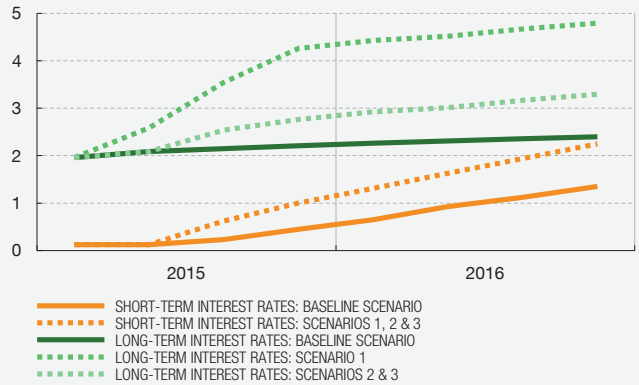
This box analyses the possible repercussions on the main macroeconomic variables of both the euro area and the United States of various monetary policy tightening scenarios in the United States, based on simulations made using the global NiGEM model.[1] These simulations present different paths for short-term interest rates in the period 2015-16. The main macroeconomic effects are transmitted through some of the channels described in Chapter 2 of the Spanish version of the Annual Report: the exchange rate (which in the simulations is based on uncovered short-term interest rate parity), long-term interest rates and multilateral trade.

By way of illustration, in the baseline scenario, interest rates behave in accordance with the expectations being factored in by futures markets in early March 2015, i.e. that short-term rates in the United States would start to rise in 2015 Q3, increasing by more than 100 bp by end-2016, below the figure projected by the FOMC following its December 2014 meeting. Long-term rates would also start to rise in Q3, but at a slower pace, by just 40 bp, resulting in a flatter yield curve. In the euro area, the short-term rate would remain at zero throughout the simulation period in all the scenarios, while the German long-term rate would rise by 25 bp by end-2016. For all other euro area countries, it is assumed that the sovereign spreads with Germany would be maintained, meaning that the degree of financial fragmentation of the euro area would remain unchanged.

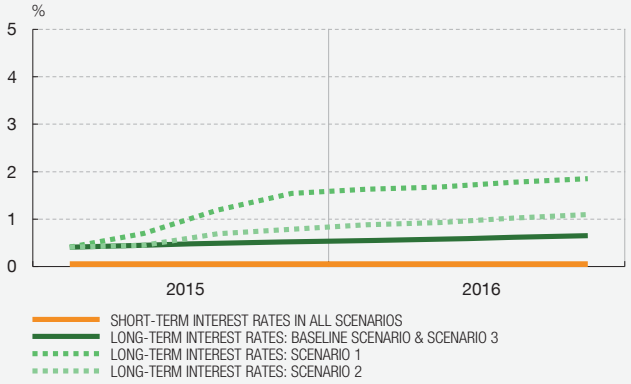
This box analyses three alternative scenarios. The first two draw on two previous episodes of monetary tightening in the United States (1994-95 and 2004-06), which coincided in both cases with periods when there were cyclical divergences among the developed economies and also marked differences in the behaviour of financial markets. In both scenarios it is assumed that short-term rates in the United States will be in line with the projections of the FOMC, which point to an increase of more than

1 NiGEM is an estimated quarterly macroeconometric model, which includes standard relationships between the different economic variables. It is a global model covering, with a varying degree of detail, some 60 countries or geographical areas and the interactions between them. For more information on the main characteristics of NiGEM see: http://nimodel.niesr.ac.uk.

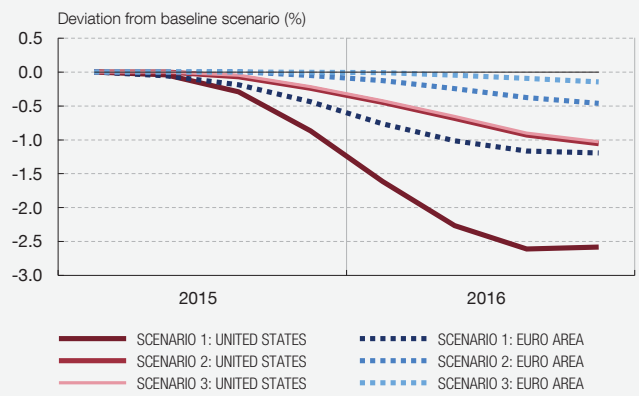
1 INTEREST RATES
United States



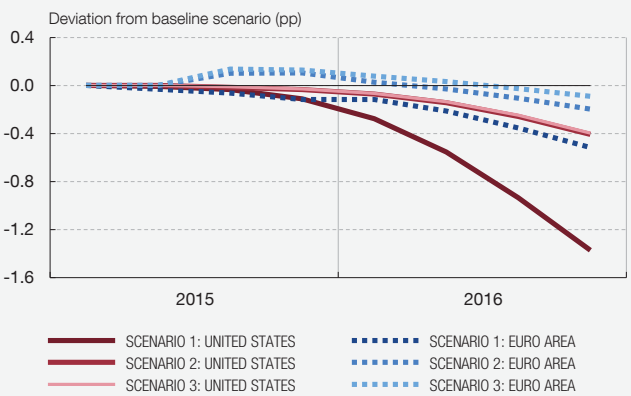
2 INTEREST RATES
Euro area



3 IMPACT ON GDP
United States and euro area



4 IMPACT ON INFLATION
United States and euro area



SOURCE: Banco de España.

200 bp, entailing greater tightening than that discounted in the baseline scenario.

In the first scenario there is also a higher increase in long-term rates, in accordance with the pattern seen after the US recession of the early 1990s. In February 1994 good macroeconomic data prompted the Federal Reserve to make surprise rate increases, embarking on a monetary tightening cycle. This move was accompanied by an increase in long-term rates, higher asset price volatility and heavy losses for market participants owing to their excessive leverage. The international repercussions were also unexpected and far-reaching, as bond yields rose in the United Kingdom, Japan and the euro area member countries. At that time most of those economies were at the initial recovery stage, there was no sign of inflation and monetary policies were expansionary. Compared with the baseline scenario, short-term rates in the United States would be 80 bp higher and long-term rates more than 200 bp higher at end-2016, reflecting a gradual increase in the term premium (see Panel 1).

In the case of the euro area (see Panel 2), short-term rates would remain at zero, as there is no room for more expansionary monetary policy using conventional measures, but long-term rates would increase by slightly more than 100 bp compared with the baseline scenario, assuming, in keeping with historical evidence,[2] that 50% of the increase in long-term rates in the United States would pass through. This assumption regarding the pass-through rate is, in any event, disputable in the present circumstances. The fact that official interest rates in the euro area have reached their zero lower bound could make long-term rates more sensitive than in the past. Conversely, with the launch of the securities purchase programme, the Eurosystem could influence the long end of the yield curve, neutralising the effect of monetary tightening in the United States.[3]

Panels 3 and 4 trace the impact of this scenario on growth and inflation in the United States and in the euro area. As was to be expected, monetary policy tightening has an adverse effect on both variables in both areas. Beyond the specific quantitative effect, which seems rather high in view of the findings using other models, it is noteworthy that the impact is much greater in the United States than in the euro area, which would help to smooth out the cyclical differences between the two economies.

In the second scenario there is no increase in the term premium, in keeping with what was named the "conundrum" in the period 2004-06, which was the last time that interest rates were raised in the United States. Between June 2004 and June 2006 the official interest rate was increased to smooth the strong economic momentum and high inflation. The extraordinary nature of this period was that long-term government bond yields remained virtually unchanged. During this period there were also cyclical differences between the US economy and the other developed economies, but there was no financial contagion or heightened market volatility. Europe and Japan were both in a downturn, monetary policy remained expansionary and long-term rates continued to head downward, not responding to the monetary tightening in the United States. Among the factors cited as a possible explanation for this are the greater credibility of the Fed reducing the macroeconomic risk and the growth in savings in emerging countries which drove up the demand for safe assets. In consequence, long-term interest rates would increase by less than 100 bp compared with the baseline scenario in the United States, and by approximately 60 bp in the euro area (see Panels 1 and 2). As increases in long-term interest rates are lower in both areas, the effects on growth and inflation are also negative, albeit less so (see Panels 3 and 4). Naturally, they are still higher in the United States, so the cyclical differences are corrected in this case also.

The third scenario envisages the possibility that the launch of the ECB's securities purchase programme will immunise the euro area from the increase in long-term interest rates in the United States. Accordingly, this scenario repeats the second scenario, but with euro area interest rates as in the baseline scenario. Panels 3 and 4 show that the impact of this third scenario on the US economy is largely similar to that of the second scenario; however, in the case of the euro area, GDP is practically unchanged on the baseline scenario and inflation is even slightly higher, as the exchange rate depreciation effect predominates, so this would be an additional boost for achievement of the ECB's goal.

To conclude, the exercise shows how monetary tightening in the United States could have a significant impact on economic activity in the euro area. Although this would help to smooth out the cyclical differences between the two areas, it would be at the cost of lower growth. The main effects are channelled through the increase in long-term interest rates in the United States and the pass-through to long-term interest rates in the euro area. In both cases there is considerable uncertainty regarding the scale of these effects. In the case of the euro area, although there is no scope for a more expansionary conventional monetary policy, the securities purchase programme launched by the Eurosystem could mitigate the effect on long-term interest rates. It is difficult to include these aspects in the analytical framework considered, but they highlight the need for the ECB Governing Council to remain alert, in view of the possibility of undesirable episodes of spillover of US interest rate rises.

2 See, for example, S. Gilchrist, V. Yue and E. Zakrajsek (2014), "U.S. Monetary Policy and Foreign Bond Yields", presented at the IMF's 15th Jacques Polak Annual Research Conference; and also S. Arslanalp and Y. Chen (2014), "U.S. Interest Rates: The Potential Shock Heard Around the World", http://blog-imfdirect.imf.org/2014/05/21/u-s-interest-rates-the-potential-shock-heard-around-the-world/.

3 The IMF's April 2015 "Global Financial Stability Report" presents some evidence to support the view that the causal relationships between US and euro area interest rates may have changed since the ECB announced its securities purchase programme.

The degree of competition is a fundamental determinant of an economy's productive structure and may affect its sectoral composition and the effective allocation of resources among firms in each sector. Regulation is one factor that can influence the degree of sectoral competition. Indeed, in some cases regulation is justified precisely as a means of bringing competition to markets that could intrinsically be oligopolies.[1] However, excess or, in general, inappropriate regulation can be a barrier to entry for competitors or can permit collusion between established firms, boosting profit margins and reducing output and efficiency.

This box aims to show how regulatory changes may have affected the degree of efficiency of the intra-sectoral reallocation of resources, based on the analysis of a specific sector, namely Spanish retail trade. This is a highly important sector, owing not only to its share of GVA (6.7%) and employment (13.4%), in both cases in terms of the market economy, but also to the role the distribution channels play in productivity and price formation. Regulation of retail trade is extensive and complex and has traditionally posed numerous barriers to competition. In Spain, powers over domestic trade are devolved to the regions, which are responsible for regulating retail trade, although the central government has the power to establish basic general rules. As a result, sector regulations vary significantly from region to region.

These differences and how they have evolved can be illustrated by building synthetic regulation indicators by region.[2]

As shown in Panel 1, which aggregates the synthetic regulation indicators of the regions, weighted by population, 1999 saw the start of a period of intense regulatory activity in the retail trade sector, with the regional authorities, in an endeavour to protect traditional retailers, introducing increasingly stringent regulations. Restrictions – moratoria – were set on new openings[3] and second trading licences were required of ever smaller retailers and even of hard discount stores,[4] pitching them in together for that purpose

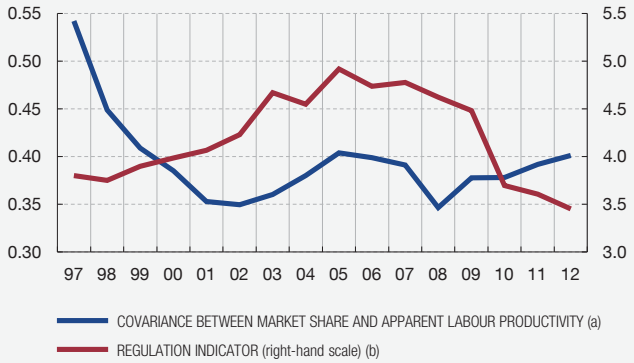
1 Aside of regulation, there are demand conditions and cost structures that would lead to natural differences in the degree of competition between sectors.

2 See Matea and Mora (2012), "El comercio minorista y regulación autonómica: efectos en la densidad comercial, el empleo y la inflación", *Revista de Economía Aplicada*, no. 59, vol. XX, pp. 5-54. In that article, synthetic indicators are built reflecting a series of legislative aspects of the sector, aggregated using the factorial analysis method. These are, specifically, regulation on Sunday and public holiday trading, weekly opening hours, sales periods, taxes on large retail outlets, moratoria on new openings, the definition of large retail outlet which entails the need for a regional licence (save in Madrid in recent years) and the need for a regional licence for hard discount stores. By design, these indicators take values between 0 (no regulation) and 10 (maximum regulation). Evidence is found to show that greater regulation of retail trade in Spain is associated with higher inflation, lower employment in the sector and higher retail density.

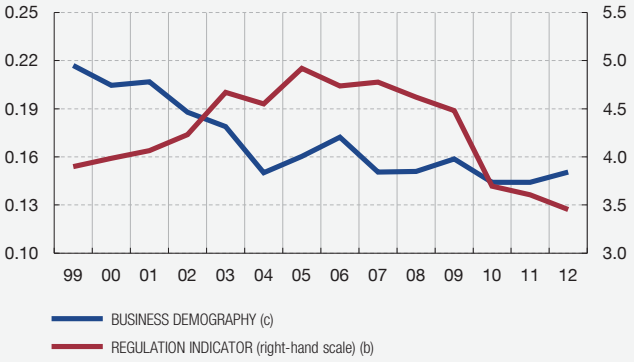
3 A ban on new openings of large retail outlets in a specific region in a given period.

4 The definition of hard discount stores varies somewhat from region to region but is based on a minimum number of own (private label) brand products on sale and a minimum number of stores of the same size trading under the same name.

RETAIL TRADE: REGULATION AND PRODUCTIVITY



RETAIL TRADE: REGULATION AND BUSINESS DEMOGRAPHY



SOURCE: Banco de España.

a The annual average in each of the periods of covariance between the share of employment of retail sector firms and their labour productivity relative to their sector average has been calculated using the CBSO and mercantile registers. The higher the covariance, the more efficient the allocation of employment among sector firms. The covariance has been calculated for NACE Rev. 2, Division 47, retail trade, except for retail trade, except for motor vehicles and motorcycles, excluding groups 47.3, 47.8 and 47.9 and class 47.73 as they are not affected by the regulatory aspects considered.

b Population-weighted average of the synthetic regulation indicators of the regions. The synthetic indicator of each region takes into account regulation on Sunday and public holiday trading, weekly opening hours, sales periods, taxes on large retail outlets, moratoria on new openings, the definition of large retail outlet and the regional licence for hard discount stores. By design, this indicator takes values between 0 (no regulation) and 10 (maximum regulation). See Matea and Mora (2012).

c The Central Companies Directory (DIRCE) has been used to calculate the sum of the entry and the exit rates of firms over existing firms in the retail sector. The data to 2007 have been taken using NACE Rev. 1.1 and the data from 2008 using NACE Rev. 2.

with large retail outlets. Also during the period, a special tax on large retail outlets was first introduced in some regions. This regulatory surge peaked in 2005 when opening hours were reduced (in terms of Sunday and public holiday trading and maximum opening hours per week), with the brunt of these regulations borne by the large outlets.

However, in 2009, some regions started to adopt measures ahead of the transposition of the Services Directive in March 2010 and the regulatory surge was brought to a halt. The Services Directive marked a turning point, as from then on barriers to competition were gradually eliminated or at least lowered. Specifically, although large retail outlets still need a regional licence (except in Madrid), most authorities have raised the threshold for stores to be considered large outlets, withdrawn the specific licence for hard discount stores and removed the moratoria on new openings. In addition, the administrative procedures for opening small stores have been simplified and the restrictions on opening hours and sales periods have been eased. The criteria to be met to be deemed a "major tourist area"[5] have also been relaxed, meaning that more areas now have unlimited opening hours. More recently, in 2013 and 2014, the rules on opening hours and sales periods were further relaxed.

The impact of these regulatory changes on sector efficiency may be approximated by the relationship between the regulation indicator described above and various efficiency measures (see section 4 of this chapter). Based on the information supplied by the Central Balance Sheet Data Office (CBSO), Panel 1 depicts the aforementioned regulation indicator together with a sector efficiency indicator calculated as the covariance between the share of employment of the retail sector firms and their labour productivity relative to the sector average. The higher the value of the indicator, the higher the proportion of employment concentrated in the most productive firms and, in consequence, the better the allocation of employment among the sector firms. The relationship between the two indicators shows, broadly speaking, that more (less) stringent legislation is associated with lower (higher) aggregate sector productivity. Specifically, it is observed that when regulation was most stringent (between 1997 and 2001) the allocation of employment was increasingly inefficient; subsequently, when regulation eased (between 2008 and 2012) the allocation of employment became more efficient. A similar message can be drawn from the relationship between the regulation indicator and a measure of sectoral momentum such as business demography (entry and exit rates of retail trade firms; see Panel 2) which traces a continuous downward pattern until 2005, holds steady until 2010 and then turns upward.[6]

5 Major tourist areas may be municipalities or areas of municipalities that meet at least one of the following criteria: a) have sufficient concentration of tourist accommodation or second homes; b) are declared a world heritage site or house a site or building of cultural interest; c) border on or consist of areas of influence of border zones; d) host certain national or international sporting or cultural events; e) are close to tourist cruise ports; f) are key shopping tourism areas; g) meet other criteria that warrant their inclusion. These areas have unlimited opening hours.

6 This upturn continued throughout 2013 and 2014.

ESTIMATION OF RELATIONSHIP BETWEEN EFFICIENCY IN ALLOCATION OF RESOURCES AND REGULATON IN RETAIL TRADE (1997-2012)

Dependent variable: efficiency in allocation of resources (a)

Regression	Explanatory variables (b)	Estimate not population-weighted	Estimate population-weighted
1	Synthetic regulation indicator (c)	-0.095*	-0.131*
2	Sunday and public holiday trading	-0.176*	-0.155*
3	Weekly opening hours	-0.073*	-0.084*
4	Sales period	-0.108*	-0.149*
5	Taxes on large retail outlets	-0.011*	-0.013*
6	Moratoria on new openings	-0.008	-0.018*
7	Definition of large retail outlets	-0.006	-0.015*
8	Regional licence hard discounters	-0.002	-0.001*

SOURCE: Banco de España.
NOTE: * Significant coefficicent at 5%.

a Measured as the covariance between labour productivity and the share of employment calculated for NACE Rev. 2, Division 47, retail trade, except for motor vehicles and motorcycles, excluding groups 47.3, 47.8 and 47.9 and class 47.73 as they are not affected by the regulatory aspects considered.
b In regression 1 the explanatory variable is the synthetic regulation indicator, whereas in the other regressions the explanatory variable is each of the separate regulatory aspects that make up the synthetic regulation indicator. All the variables are calculated by region and year. Annual dummy variables are included in all cases.
c The synthetic regulation indicator is built on the basis of regulation on Sunday and public holiday trading, weekly opening hours, sales periods, taxes on large retail outlets, moratoria on new openings, the definition of large retail outlet and the regional licence for hard discount stores. See Matea and Mora (2012).

In order to analyse the extent to which the different regulatory policies have determined the degree of sector efficiency, the regulatory differences from region to region over time are exploited to estimate the impact of different regulatory aspects on the first of the efficiency measures mentioned (see table).[7] As can be seen, greater regulation, measured by the synthetic indicator, results in less efficient allocation of employment (equation 1).[8] The adverse effect of stricter regulation is also observed in the relationship with each of the regulatory aspects separately (equations 2 to 8), although the taxes on large retail outlets, the moratoria on new openings and the licence for large retail outlets and hard discount stores have a lesser impact than aspects such as opening hours (Sunday and public holiday trading and opening hours per week) and sales periods.

In short, this analysis illustrates how economic regulation can affect economic efficiency. In the specific case of retail trade, the analysis performed confirms that transposition of the Services Directive and other recent measures adopted relating to opening hours and sales periods has boosted productivity in the sector.

7 This exercise cannot be conducted with entry and exit rates of firms as these rates are not available for the sector by region.

8 The regression made includes annual dummy variables to prevent temporary factors, such as the crisis, which should affect all regions equally, from being confused with the regulation effect. In this respect, the regulation difference by region is being exploited. The findings also hold if regional dummy variables are included in the above equations, in this case to exploit the change over time of the covariance and regulation in each region.

During the economic crisis, certain employment segments bore the brunt of job destruction. In particular, approximately 60% of all jobs lost since 2008 are in the construction sector, which accounted for 5.7% of total employment in 2014, down from 12% in 2008. It is important to analyse how construction workers have been affected, not only because of the scale of the job losses in the sector but also because of the workers' particular characteristics,[1] such as their lower skill levels, which could, *a priori,* make them less employable in other sectors, even against a backdrop of economic recovery such as that envisaged for Spain in the coming years.

It is possible to analyse the employment situation of construction workers who lost their jobs during the crisis using the social security administrative labour records (MCVL).[2] Panel 1 traces the change, in the period 2007 to 2013, in the employment situation of construction workers who were employed in the sector at the start of 2007, according to whether they continue to work in the sector, found work in another sector or are unemployed. Panel 2 shows the same information for workers from the rest of the economy. As a result of the high level of job destruction, by 2009 less than 50% of construction workers were still in their jobs and by 2013 only 17.6% were still employed in the industry. These figures are much lower than for the rest of the economy, where almost 50% of workers continued to be employed in the same sector throughout the period.

Moreover, the percentage of workers who found jobs in a different sector is relatively low. Specifically, only 22.9% of those employed in the construction sector at the start of 2007 were working in other industries in 2013, which is 27.8% of those who lost their jobs in construction, compared with 40% for those who lost their jobs in other industries in the period. Analysing the sectors in which workers found employment, Panel 3 shows that more former construction workers than those from other sectors found jobs in manufacturing and in certain service industries, such as transport, trade or hotels and catering, reflecting a greater similarity between the skills required in these industries and the skills offered by former construction workers. Conversely, significantly fewer former construction workers than workers from the rest of the economy found jobs in financial services, healthcare or education. As regards geographical mobility, 18.9% of construction workers who found employment in other industries did so in a different province than where they were working in 2007, which would indicate greater labour mobility than in other sectors (13.2%).

In order to identify the characteristics of construction workers that may explain the problems involved in their sectoral reallocation, Table 1 analyses the effect of certain personal characteristics on the likelihood of finding oneself unemployed, employed in the same sector or employed in another sector, drawing a distinction between workers who were employed in construction at the onset of the crisis and those who were employed in the rest of the economy. The table shows that older, less-skilled workers with more years of service have had particular difficulties finding other work, which probably reflects their higher level of firm-specific human capital and the greater obstacles they face to achieve professional re-training. Specifically, younger workers are less likely to be unemployed, which is because they are more employable in other sectors, since the likelihood of their remaining in the construction industry is similar to that observed among older workers. By skill level, construction workers with higher skill levels are less likely to be unemployed, because more of them keep their jobs in construction and because it is also easier for them to find jobs in other sectors. Workers with fewer years of service at the onset of the crisis were more likely to lose their jobs and are more likely to be unemployed in 2013. However, they are also more likely to have found work in other sectors than workers who had more years of experience at the start of the crisis.

This sectoral reallocation process may be analysed further by examining the wages received[3] by these workers in 2013. Table 2 shows how median wages evolved between 2007 and 2013, according to the sector of employment during that time. Among workers who remained in the construction industry, wage adjustment was not consistent with the severity of the crisis in the industry, since wages remained steady in real terms (0.3%). Indeed, workers with higher skill levels saw their wages grow by 3.3% in cumulative terms, similar to the wage rise observed in the rest of the economy, although the increase in real terms in less-skilled workers' wages was lower than in the rest of the economy.

Among workers who found jobs in other sectors, former construction workers experienced a significant wage adjustment in real terms (10.6% less than in 2007) that is not observed among other workers. The drop in wages was most severe among less-skilled workers with fewer years' experience, which would reflect, among other factors, the loss of firm-specific human capital by former construction workers who found jobs in other industries. This wage adjustment could approximate the cost, in terms of loss of productivity, associated with the sectoral reallocation process.

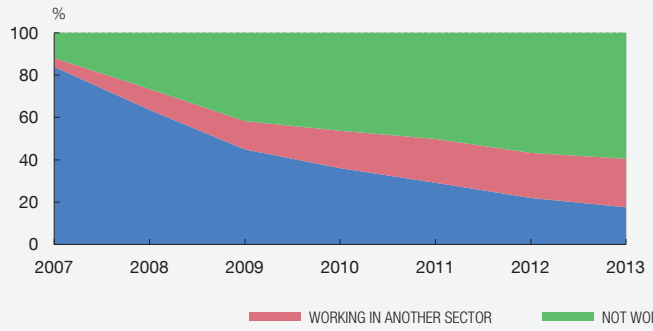
1 According to the Spanish Labour Force Survey (EPA), compared with the unemployed from other sectors, they have more years of service and lower skill levels, they have had less ongoing training and they have been mostly employed in low-skilled posts.

2 For a description of this database, see S. Galán and S. Puente (2015), "Minimum Wages: Do They Really Hurt Young People?" in *The B.E. Journal of Economic Analysis and Policy*, 15 (1), pp. 299-328.

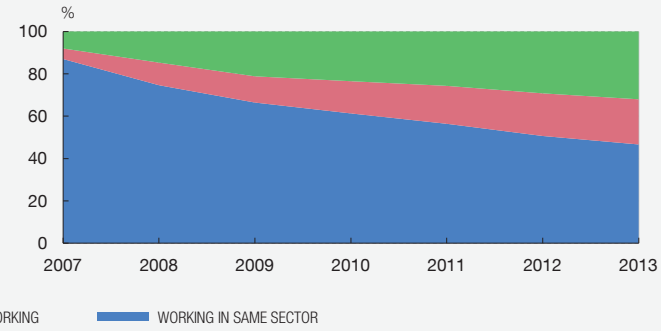
3 The social security administrative labour records (MCVL) contain information on reported contribution bases which approximate the wages received by workers, save for those whose wages exceed the maximum contribution base. The calculations presented are not affected by the exclusion of these workers from the analysis.

(cont'd)

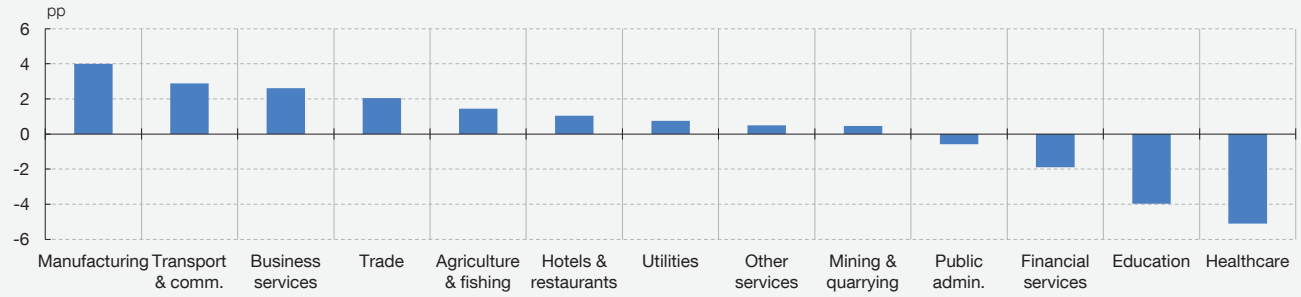
1 LABOUR MARKET SITUATION BETWEEN 2007 AND 2013 OF WORKERS EMPLOYED IN THE CONSTRUCTION SECTOR AT THE START OF 2007



2 LABOUR MARKET SITUATION BETWEEN 2007 AND 2013 OF WORKERS EMPLOYED IN OTHER SECTORS AT THE START OF 2007



3 SECTOR OF DESTINATION FOR WORKERS CHANGING SECTOR BETWEEN 2013 AND 2007
DIFFERENCES IN PERCENTAGE POINTS BETWEEN WORKERS FROM THE CONSTRUCTION SECTOR AND WORKERS FROM OTHER SECTORS



1 IMPACT OF PERSONAL CHARACTERISTICS ON PROBABILITY OF EMPLOYMENT SITUATION IN 2013 BY SECTOR OF ORIGIN IN 2007 (a)

	Workers in construction sector in 2007			Workers in rest of economy in 2007		
January 2007	Without employment	In same sector	In another sector	Without employment	In same sector	In another sector
Foreign nationals	0.189 ***	-0.103***	-0.086***	0.210***	-0.178***	-0.031***
Male	0.048***	-0.005	-0.042***	0.009***	-0.032***	0.023***
Aged between 16 and 35	-0.165***	0.005	0.159***	-0.047***	-0.077***	0.124***
Aged between 35 and 45	-0.109***	0.012***	0.097***	-0.063***	-0.001*	0.065***
Length of service: < 6 months	0.185***	-0.227***	0.042***	0.200***	-0.286***	0.086***
Length of service: 6 to 12 months	0.138***	-0.176***	0.038***	0.153***	-0.212***	0.059***
Length of service: 1 to 3 years	0.096***	-0.120***	0.024***	0.086***	-0.119***	0.032***
Contribution group: between 1 and 3	-0.144***	0.112***	0.031***	-0.099***	0.112***	-0.012***

2 PERCENTAGE CHANGE IN MEDIAN WAGE BETWEEN 2013 AND 2007 BY SECTOR IN 2013 AND SECTOR OF ORIGIN IN 2007 (b)

	Construction in 2007		Rest of economy in 2007	
	Same sector in 2013	Other sector in 2013	Same sector in 2013	Other sector in 2013
Total	0.3	-10.6	3.0	5.0
Skill level				
High	3.3	-5.5	2.7	5.8
Low	0.8	-11.3	2.7	4.6
Experience				
More than one year in company	-0.2	-8.1	1.1	0.1
Less than one year in company	0.2	-14.2	8.6	11.4

SOURCES: Ministerio de Empleo y Seguridad Social and Banco de España.
NOTE: *, ** and *** Significance coefficients at 1%, 5% and 10%, respectively.

a Probability of being unemployed, employed in the same sector or employed in another sector, by sector of activity in 2007 and workers' personal characteristics, estimated using a multinomial logit model. Reference group: female, Spanish national, over 45, with more than three years' service and contribution group between 4 and 11.
b CPI-deflated wages.

In short, the above analysis shows that the process of sectoral reallocation of construction workers who have lost their jobs since the onset of the crisis is far from over, as the proportion of workers having found employment in other sectors is still relatively low. Moreover, this is proving to be a particularly costly process for certain groups, such as older and less-skilled workers, who may be less employable in other sectors. Active employment policies should focus on providing these groups of workers with the skills needed in other sectors of the economy.

This box analyses the potential macroeconomic impact of a persistently very low-inflation environment arising from a contraction of aggregate demand aggravated by a possible disanchoring of long-term inflation expectations. Similarly, the role that various economic policies may play to mitigate the contractionary effects of this environment is assessed. To this end, several scenarios are presented which are constructed from a general equilibrium model developed by Arce, Hurtado and Thomas (2015)[1] and designed to include certain key features of the Spanish economy as it is at present. This model includes two regions within a monetary union with the aim of showing some of the most significant differences between the macroeconomic environment of those countries in the euro area which have experienced greater financial strains during the crisis (region A, in terms of the model), compared with other countries which were less affected in this episode (region B)[2]. An essential differentiating feature between the two regions is that in region A there is a financial shock which gives rise to a gradual and lasting private-sector deleveraging process.

The first of the following scenarios illustrates the contractionary effect which may be produced by some disanchoring of long-term inflation expectations in a setting in which interest rates have reached their effective lower bound. Taking this as a starting point, in the second scenario, the individual effects of the following are analysed: using non-standard monetary policy measures aimed at reducing expected medium-term interest rates; structural reforms in product and labour markets; and an expansionary fiscal policy in the region of the monetary union which is not undergoing private-sector deleveraging (region B).[3] Finally, the effects of applying these policies simultaneously and possible synergies between them are analysed[4].

Panel 1 shows a scenario in which the deleveraging process in region A occurs in tandem with a sharp contraction of aggregate demand across the area, triggered by a fall in households' propensity to consume, which is similar to that which would be prompted, for example, by an increase in aggregate uncertainty. This shock is sufficiently intense for the central bank to hold its interest rates at the lower bound for a year, from which the recovery in inflation in the area as a whole leads it to set positive rates again (blue line). A disanchoring of long-term inflation expectations, which under normal circumstances would involve a very moderate real impact – insofar as the central bank would reduce nominal interest rates in order to avoid an increase in real rates – may be particularly contractionary when it occurs once interest rates are already at their lower bound. Specifically, the restriction imposed by the lower bound of nominal interest rates, together with abnormally low inflation expectations, results in the short term in lower inflation and in higher real interest rates in relation to the scenario without the *disanchoring* of expectations. The combination of these two factors triggers additional negative effects on economic activity which are particularly intense in the region which is reducing its indebtedness (red line).

Panel 2 includes the marginal effect (with respect to the previous scenario and with the disanchoring of expectations) produced by the implementation of: (i) non-standard monetary policy which induces a decline in the expected path of future interest rates (green line); (ii) structural reforms in product and labour markets in region A (blue line), and (iii) temporary fiscal expansion in region B (red line)[5]. First, a monetary policy measure which puts downward pressure on the path of expected nominal interest rates triggers an increase in GDP in the area as a whole[6], due to a reduction in expected real interest rates. Second, as a natural outcome of the higher degree of competition and efficiency of the product and labour markets, structural reforms in region A generate a positive impact on the competitiveness of these markets which prompts a significant increase in this region's exports, in employment (which grows as a result of wage moderation and the increase in external demand) and in future growth expectations. The foregoing gives rise to more buoyant activity in the short term. Finally, a fiscal stimulus in the region least affected by the crisis (region B) produces, albeit with a certain lag, clearly positive effects on the activity elsewhere in the area through exports and also through the consequent positive effect on inflation, which reduces real interest rates and erodes the real value of the debt.

1 O. Arce, S. Hurtado and C. Thomas (2015), *Policies for a low-inflation environment in a monetary union,* Documentos de Trabajo de Banco de España (forthcoming). See also J. Andrés, O. Arce and C. Thomas (2014), *Structural reforms in a debt overhang,* Documentos de Trabajo, No. 1421, Banco de España.

2 Although the model incorporates a broad set of realistic elements, its calibration is not designed to reproduce quantitative responses by the variables that may be interpreted from an empirical perspective. Accordingly, the magnitudes in the exercises presented below are merely illustrative of the qualitative behaviour of the key channels and variables in the model.

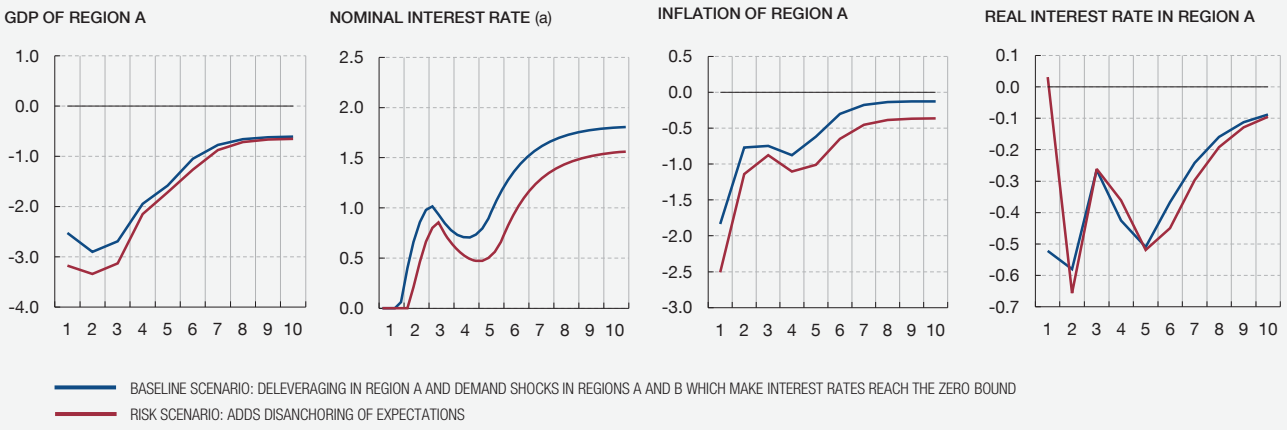
3 The aim of using expansionary fiscal policy is to illustrate the theoretical effect of measures such as those recommended recently in different circles to attempt to stimulate activity in the euro area as a whole, using in this connection the fiscal capacity of those economies in a more comfortable public finances position. See, for example, International Monetary Fund (2014), "Is it time for an infrastructure push? The macroeconomic effects of public investment", *World Economic Outlook,* Chapter 3, October.

4 The idea about the possible existence of synergies between the types of policies analysed here is implicit, for example, in President Draghi's introductory statement following the ECB Governing Council meeting of 15 April 2015.

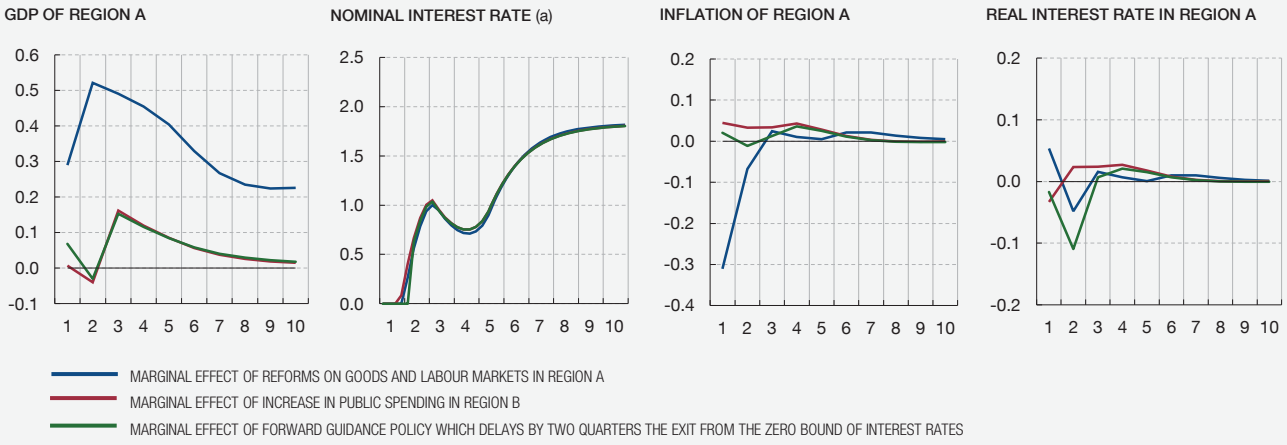
5 In the context of the model, the product market reform comprises a permanent reduction in mark-ups set by companies. In a symmetrical manner, the labour market reform involves a decrease in the margin between the wage earned by employees and their reservation wage, together with a greater degree of flexibility in the adjustment of nominal wages. The fiscal expansion in region B is instrumented by increasing the level of public spending, which will gradually decrease in terms of size following the implementation of the fiscal expansion.

6 For a recent analysis of the impact of this type of policies in the context of a closed economy (with an independent monetary policy), see P. Benigno, G. Eggertsson and F. Romei (2014), *Dynamic debt deleveraging and optimal monetary policy,* NBER Working Paper No. 20556.

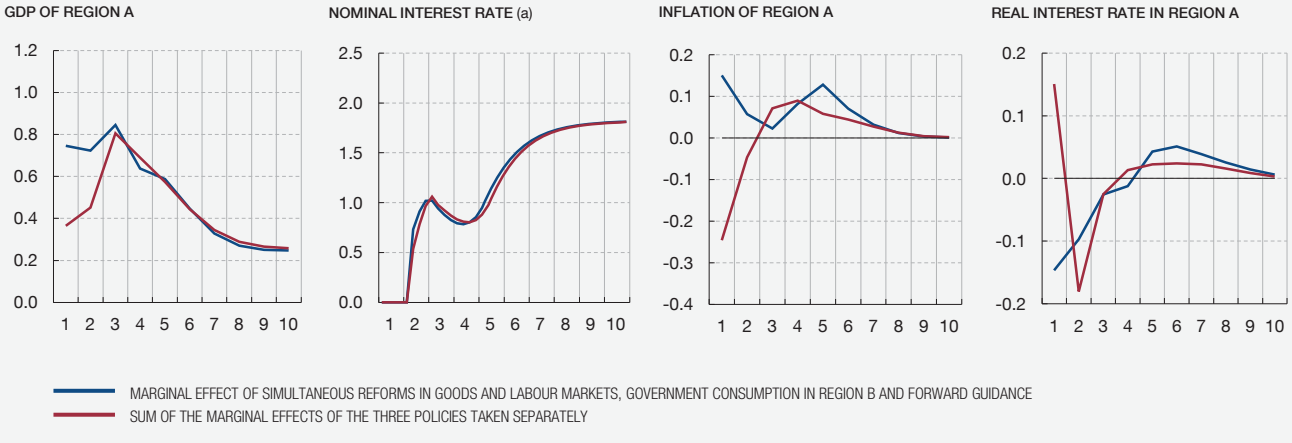
1 SIMULATIONS WITH INTEREST RATES LIMITED BY THE ZERO BOUND
Deviations from initial state. % difference (vertical axis), year (horizontal axis)



2 MARGINAL IMPACT OF ECONOMIC POLICIES ON THE ZERO BOUND OF INTEREST RATES
Deviations from scenario with shocks but without policies. % difference (vertical axis), year (horizontal axis)



3 IMAPCT OF THE THREE ECONOMIC POLICY MEASURES TAKEN JOINTLY OR SEPARATELY
Deviation from shock scenario but without policies. % difference (vertical axis), year (horizontal axis)



SOURCE: Banco de España.

a Variable presented as a level (not as a deviation from initial scenario).

With the aim of analysing the possible synergies between the three measures above, Panel 3 represents their marginal effects in two alternative scenarios. In the first scenario (red line), the marginal effects described in the previous paragraph are added together, that is to say, those effects arising from implementing each measure *separately*. In the second scenario (blue line), the marginal effects of applying *jointly* structural reforms in region A and temporary fiscal expansion in region B are calculated, in a setting in which the central bank also applies non-standard monetary policy such as that considered in this box. The main result of this exercise is that the joint implementation of structural reforms (in the region that suffers the crisis more directly), counter-cyclical fiscal policies (in the region with margin to do so) and non-standard monetary policy measures produces considerably higher expansionary effects in the short term than those which could be obtained if these policies were applied separately.

In the second half of 2014, oil prices decreased considerably from levels of more than $110 (€80) per barrel in June 2014 to lows in January 2015 of slightly more than $45 (€40) per barrel, and have risen moderately since then. This box quantifies, first, the impact of these changes in oil prices on some of the main macro magnitudes of the Spanish economy, using the Quarterly Macroeconometric Model of the Banco de España (MTBE by its Spanish abbreviation)[1]. Second, it analyses in depth the interplay between a persistent decrease in oil prices and some of the specific conditioning factors of the Spanish economy at present, such as the current situation of monetary policy, for which purpose the general dynamic equilibrium model of Arce, Hurtado and Thomas (2015)[2] is used.

The direct impact of the fall in oil prices on consumer prices was felt rapidly, mainly via its pass-through to heating and vehicle fuel prices. As indicated in the main text of this report, the negative year-on-year rates of the CPI since July 2014 are essentially explained by the behaviour of fuel prices. Accordingly, it should be noted that, in Spain, the rate of indirect taxation levied on heating and vehicle fuels has a high fixed component, which amplifies the impact of changes in oil prices on the CPI when the starting point for these prices is a high level[3].

According to the MTBE, which estimates both direct and indirect effects via their pass-through to the economy as a whole, a permanent unanticipated reduction in crude oil prices of 10%, at the beginning of a three-year projection horizon (2015-2017)[4], would rapidly pass through to the inflation rate, prompting a fall of 0.4 pp in the HICP in the first year, which would continue in subsequent years (see accompanying table). In terms of activity, the greatest effects would be felt in household spending (consumption and residential investment) as a result of the positive impact on their disposable income and wealth in real terms. In turn, higher spending would encourage private productive investment and employment. An increase in domestic demand would have an expansionary effect on imports, which would trigger a fall in the external sector's contribution to GDP growth. Nevertheless, the decline in the energy bill would, in net terms, improve the economy's net lending position. The second-round effects on prices and wages, according to this model's estimates, are very moderate, owing, on one hand, to the degree of nominal rigidity inherent in the model and, on the other, to the effect of higher employment, which causes the decrease in inflation to have a small impact on wages. Overall, for this fall of 10% in oil prices, the model estimates that GDP would increase by 0.15 pp in the first year and by a further 0.04 pp in the second and third year, making for a cumulative increase of 0.23 pp over three years.

The above estimated impacts are of the sign expected under normal circumstances, considering that the Spanish economy is highly dependent on imported crude oil. However, these estimates should be interpreted with a degree of caution, insofar as the MTBE does not consider certain factors specific to the current economic situation which, might otherwise condition the sign of the effect of lower oil prices on economic activity. One of these specific factors is the role of the monetary policy of the ECB, which is currently deploying several non-standard measures in a setting where benchmark interest rates have reached levels close to their lower bound (see Chapter 2 of this report).

1 See S. Hurtado, P. Manzano, E. Ortega and A. Urtasun (2014), *Update and re-estimation of the quarterly model of Banco de España (MTBE),* Documentos Ocasionales, No 1403, Banco de España.

2 See O. Arce, S. Hurtado and C. Thomas (2015), *Policies for a low-inflation environment in a monetary union,* Documentos de Trabajo, Banco de España (forthcoming). See Box 4.1 of this chapter for a description of the main features of this model.

3 Thus, for example, the estimated direct effect on the overall HICP of a reduction of 10% in oil prices when oil is trading at €80/barrel is –0.4% (–3.4% on the energy component of the HICP), whereas if the starting level is €40/barrel the impact is –0.3% on the overall HICP and –2.5% on the energy component

4 Taking €65/barrel as the starting level for oil prices, which would be the average of the previous quarters.

FALL OF 10% IN OIL PRICES

	Accumulated level differences		
	2015	2016	2017
GDP	0.15	0.19	0.23
Contributions to real GDP growth			
Domestic demand	0.12	0.18	0.24
Net exports	-0.04	-0.07	-0.09
Net lending position	0.10	0.09	0.08
HICP	-0.40	-0.41	-0.42
Wages	-0.06	-0.05	-0.05
Employment	0.19	0.25	0.31

SOURCE: Banco de España.

Certain recent papers have argued that, where nominal rates are constrained by the zero bound[5], a fall in oil prices might not be expansionary since its deflationary effect could prompt rises in real interest rates which limit short-term domestic demand. However, this literature has omitted the potential role of non-standard policies which entail a reduction in the expected path of interest rates. Accordingly, presented below are the effects which would be produced by a shock, similar to a fall in oil prices, in the model [Arce, Hurtado and Thomas (2015)] comprising two regions in a monetary union. Specifically, the effects of a supply-side shock are considered which causes inflation to fall and increases real household disposable income in three different scenarios (see accompanying panel): (i) where the shock occurs when interest rates are far removed from the lower bound (blue line); (ii) where nominal interest rates are constrained at the lower bound (red line), and (iii) where rates are at the lower bound but the central bank applies non-standard monetary policy to reduce long-term nominal interest rates (for example, by managing the size and composition of its balance sheet or by guiding expectations) (green line).

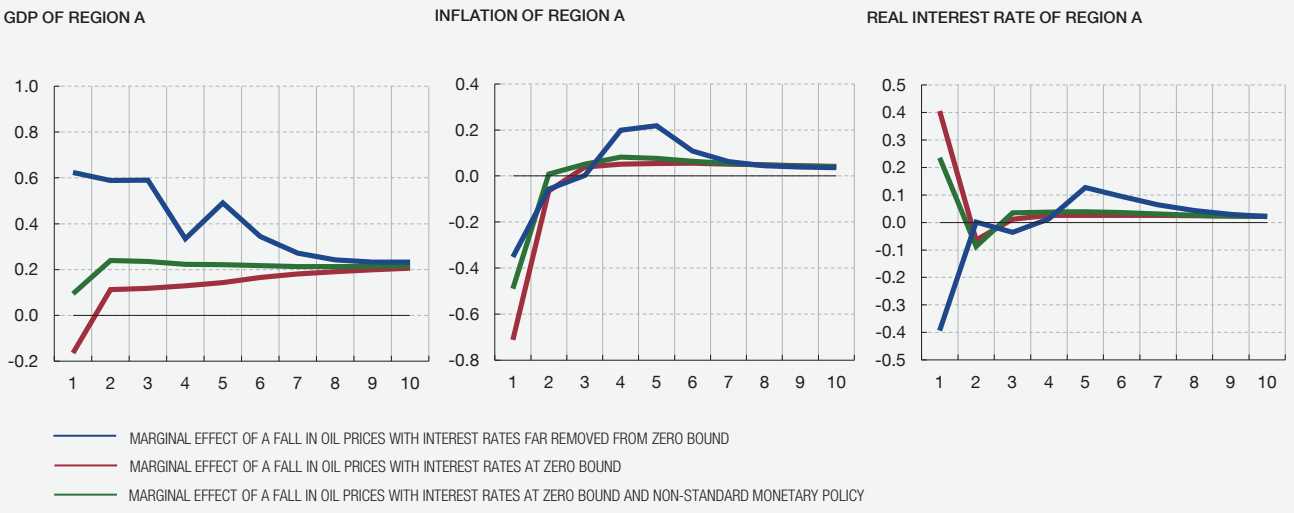
As shown in the panel, the model concludes that a shock of this type would trigger a fall in inflation in the three scenarios[6]. However, the monetary policy response, which varies in the different cases, has significant effects on the response of inflation and GDP. First, where interest rates are clearly above the lower bound, the fall in inflation leads the monetary authority to cut nominal rates substantially and, consequently, real interest rates moderate and GDP responds positively. By contrast, in the second scenario, it is considered that nominal interest rates are restricted by the lower bound and lower inflation, in the absence of a counterbalancing response by nominal rates, which pushes real interest rates higher, giving rise to an impact of a contraction in GDP. In this case, although the medium and long-term effect continues to be positive, GDP declines during the first two or three quarters.

As highlighted in the latter scenario, the previous short-term contractionary effect of the moderation in oil prices might be mitigated largely where the monetary authority responds to a fall in short-term inflation (and lower medium-term expectations) with a non-standard policy of managing its balance sheet and providing forward guidance, which keeps interest rates at their lower bound for longer than the rules governing their usual behaviour would suggest. In short, this central bank policy affects agents' expectations and neutralises the contractionary effect of a fall in oil prices which, in fact, becomes slightly expansionary from as early as the initial quarters.

5 See, for example, S. Neri and A. Notarprieto (2014), *Inflation, debt and the zero lower bound,* Occasional Paper No 242, Banca de Italia, I. Fisher (1933), "The debt-deflation theory of great depressions", *Econometrica,* B. Bernanke (2007), "Inflation expectations and inflation forecasting", in his speech at the NBER Summer Institute of July 2007 and D. Laxton, P. N'Dyiage and P. Pesenti (2006), "Deflationary shocks and monetary policy rules: an open-economy scenario analysis", *Journal of the Japanese and International Economies.*

6 The panel shows the responses of economy A in the two-region model, which is in a deleveraging phase. The responses of region B are qualitatively similar.

MARGINAL IMPACT OF A FALL IN OIL PRICES
% deviations from scenario with no change in oil prices. % difference (vertical axis), year (horizontal access).



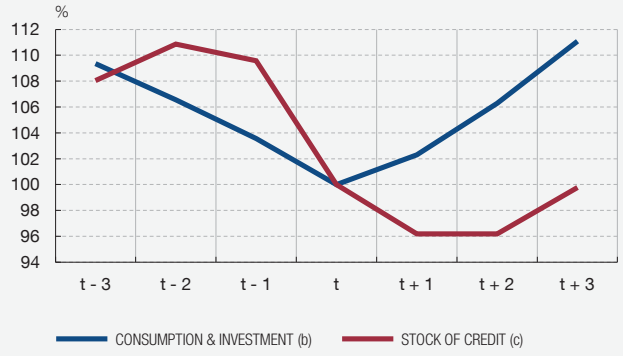
SOURCE: Banco de España.

Creditless recoveries are generally defined as periods when GDP grows in real terms after a recession and the aggregate stock of credit to the private sector contracts. The literature on these episodes, which originated with the seminal work by Calvo *et al.* (2006),[1] shows that they are not rare, since they affect between 20% and 25% of all economic recoveries [Abiad *et al.* (2011),[2] Sugawara and Zalduendo (2013),[3] Bijsterbosch and Dahlhaus (2011)[4]] and, although they are more frequent in emerging economies, they also occur in developed ones [Claessens *et al.* (2009),[5] Coricelli and Roland (2011)[6]]. Examples of creditless recoveries in developed countries include those that followed the Great Depression of the 1930s in the United States or the Nordic banking crises of the early 1990s.

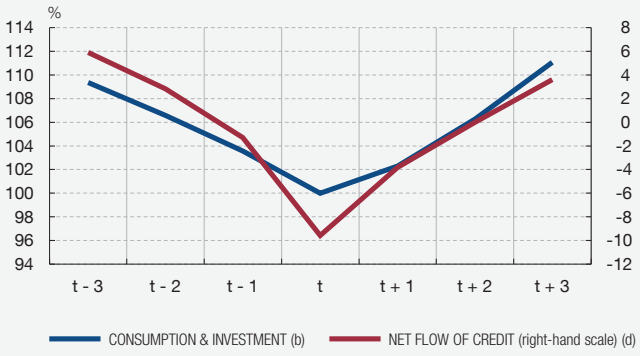
The works cited identified certain factors that significantly increase the probability of a creditless recovery. These include, in particular,

1 G. Calvo, A. Izquierdo and E. Talvi (2006), "Sudden Stops and Phoenix Miracles in Emerging Markets", *American Economic Review Papers and Proceedings*, vol. 96, No. 2, pp. 405-410.
2 A. Abiad, G. Dell'Ariccia and B. Li (2011), *Creditless Recoveries,* IMF Working Paper WP/11/58.
3 N. Sugawara and J. Zalduendo (2013), *Creditless Recoveries. Neither a Rare nor an Insurmountable Challenge,* World Bank Policy Research Working Paper No. 6459.
4 M. Bijsterbosch and T. Dahlhaus (2011), *Determinants of Creditless Recoveries,* ECB Working Paper Series No. 1358.
5 S. Claessens, M. A. Kose and M. E. Terrones (2009), "A recovery without credit: possible, but…", VoxEU.org, 22 May 2009.
6 F. Coricelli and I. Roland (2011), *How do Credit Conditions Shape Economic Recoveries?* CEPR Discussion Paper Series No. 8325.

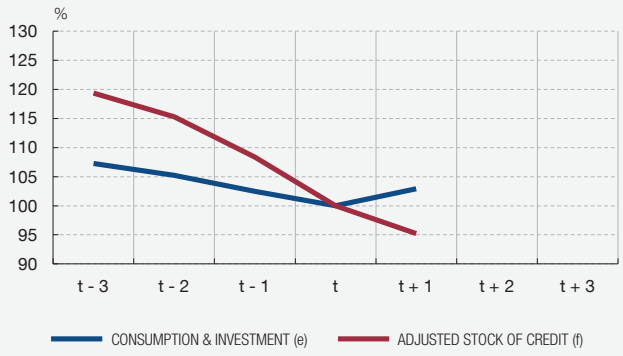
1 DOMESTIC DEMAND AND STOCK OF CREDIT. AVERAGE OF BANKING CRISES (a)



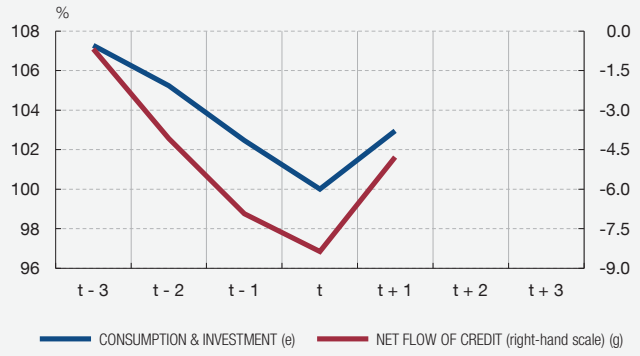
2 DOMESTIC DEMAND AND NET FLOW OF CREDIT. AVERAGE OF BANKING CRISES (a)



3 DOMESTIC DEMAND AND ADJUSTED STOCK OF CREDIT. SPAIN 2010-14



4 DOMESTIC DEMAND AND NET FLOW OF CREDIT. SPAIN 2010-14



SOURCE: Banco de España.

a The data correspond to Finland (1990-96), Japan (1990-96), Norway (1988-94), Spain (1981-87) and Sweden (1990-96). Source: M. Biggs, T. Mayer and A. Pick (2010), *Credit and Economic Recovery: Demystifying Phoenix Miracles,* mimeo.
b Arithmetical mean of the volume indices of private consumption and investment of Finland, Japan, Norway, Spain and Sweden, with base 100 at the minimum point of the series.
c Arithmetical mean of the stock of credit of Finland, Japan, Norway, Spain and Sweden, with base 100 at the minimum point of their corresponding consumption and investment series.
d Annual change in the stock of credit index of Panel 1.
e Sum of the volume indices of private consumption and investment, with base 100 at the minimum point of the series.
f Base 100 at the minimum point of the consumption and investment series. The series includes the securitisation vehicles and loans transferred to Sareb and is adjusted for changes not linked to financial flows, such as valuation effects and loan write-offs.
g Annual change in the stock of credit index of Panel 3.

that the recovery follows a recession that was accompanied by a banking crisis and was preceded by a major credit surge.[7] Separately, these two factors also raise the probability significantly, along with other factors such as high private sector debt, a housing market slump or an exchange rate crisis. In addition, economies that are highly reliant on flows of foreign capital are more susceptible to creditless recoveries. Lastly, expansionary tax policies increase the incidence of these episodes, while expansionary monetary policies reduce it.

There are several factors that set creditless recoveries apart. One such factor is significantly lower GDP growth,[8] especially in the first two years [Sugawara and Zalduendo (2013)]. As a result, and since creditless recoveries are usually preceded by deeper recessions, it takes longer to return to potential output levels. The growth breakdown is also different. In turn, domestic demand grows at a slower pace, although no differences are observed in the contribution of foreign demand relative to with-credit recoveries. The most dynamic component of domestic demand is generally consumption, while investment — especially non-residential investment — takes longer to recover. On the supply side, the contributions of capital and productivity are much lower than in with-credit recoveries, while there is no difference in employment. In the breakdown by sector, growth is lower in sectors that are more reliant on external financing [Abiad *et al.* (2011), IMF (2009)[9]] and higher in sectors that are reliant on trade credit rather than bank credit [Coricelli and Roland (2011)]. This finding, together with the observation that creditless recoveries are much more frequent after banking crises, leads Coricelli and Roland (2011) to argue that these episodes are, at least partially, a consequence of deterioration in the supply of bank credit. Accordingly, they argue, policies designed to restore efficient financial intermediation should generate higher growth. The IMF (2009) and Kannan (2010)[10] also suggest that credit supply constraints may have a significant impact on the strength of recoveries.

Various explanations for creditless recoveries have been proposed in the literature. Calvo *et al.* (2006) argue that using the economic slack that has built up during a crisis may boost output with no need for higher investment and, therefore, for credit. According to the IMF (2009) and Darvas (2013),[11] higher foreign demand and depreciation of the real exchange rate are both factors that can play a prominent role in creditless recoveries, allowing export companies to fund their business growth out of higher sales revenues. Claessens *et al.* (2009) and Coricelli and Roland (2011) suggest that in creditless recoveries sources of funding other than bank loans (trade credit, bonds, internal financing) may be used to fund private sector spending. These same authors indicate that a reallocation of credit to less credit-intensive and more productive sectors can generate economic growth even in a setting of private-sector deleveraging on the back of productivity gains.

In turn, Biggs *et al.* (2010)[12] highlight that in economic recoveries, changes in the flow of credit play a more important role than growth in the stock of credit, because the former are a better proxy of new credit, which is that used to fund consumption and investment growth. Specifically, the authors show that an increase in the net flow of credit (which may even be negative) alone is sufficient to trigger domestic demand growth. They illustrate this argument by analysing the main creditless recoveries that followed banking crises in developed countries in the 1980s and 1990s (see Panels 1 and 2). Thus, although the stock of credit continued to decline in the two years after private domestic demand touched bottom, the net flow of credit – albeit still negative – began to recover as domestic demand increased. This is observed in the present cycle in Spain, although the cumulative contraction in credit has been more marked than in the average of the episodes depicted in Panels 1 and 2 (see Panels 3 and 4). Thus, in 2014, when domestic demand first started to recover, the stock of credit held by households and firms continued to decline, but the net flow of credit rose. If the regularity observed in past banking crises is repeated in this case, the stock of private sector credit would not start to increase in Spain until end-2015.

7 Probability of 80%, according to Abiad *et al.* (2011).

8 According to Abiad *et al.* (2011), a third lower than in with-credit recoveries.

9 IMF (2009), World Economic Outlook, April, Chapter 3.

10 P. Kannan (2010), *Credit Conditions and Recoveries for Recessions Associated with Financial Crises,* IMF Working Paper WP/10/83.

11 Z. Darvas (2013), *Can Europe recover without credit?* Bruegel Policy Contribution, February 2013.

12 M. Biggs, T. Mayer and A. Pick (2010), *Credit and Economic Recovery: Demystifying Phoenix Miracles,* mimeo.

The information contained in the Banco de España's Central Credit Register (CCR) database permits a disaggregated analysis of recent changes in the supply of and demand for credit, and in access to credit, by non-financial corporations. The CCR compiles monthly individual information on the credit balances and credit situation of loans over €6,000 provided by all the credit institutions operating in Spain. The database also contains the requests for information that the institutions file with the CCR to ascertain the debt position of firms that apply to them for funding and with which they have no exposure (they receive this information automatically on firms with which they already have exposure). Using these information requests it is possible to identify a subgroup of firms that are seeking bank funding (only firms applying for loans to banks with which they do not already have loans). Moreover, by observing how their credit balances evolve, it is also possible to know if those firms actually obtain the funding.[1] Therefore, the number of requests may be used as a proxy variable for demand for credit, while the proportion of firms that obtain funding is a measure of access to credit which depends both on the lending standards applied by institutions and the credit quality of the firms applying for funding. Panels 1 to 4 depict both indicators, together with the number and volume of bank loans granted proxied by the growth in firms' credit balances.

As Panel 1 shows, the onset of the crisis in 2008 was accompanied by a severe contraction in demand for credit by Spanish firms which lasted through to early 2013. However, by sector, the demand performance was not uniform either in terms of timing or intensity. Thus, while demand in construction and real estate services fell sharply between 2008 and end-2010, demand in all other sectors was virtually unchanged. Subsequently, loan applications gradually declined across the board, so that by end-2013 the number of firms seeking funding was 60% and 16% below the pre-crisis levels in the real estate and other sectors, respectively. At the same time, the proportion of firms that applied for and obtained funding (with institutions with which they had no exposure) dropped markedly in 2008-09 and then fell more gradually thereafter, touching bottom in April 2013 at 36%, almost 20 pp below the early 2008 level (see Panel 2). This was most likely the result of the tightening of credit supply conditions and of the institutions' perception of deterioration of credit quality of the applicants. The drop in credit demand and in the proportion of successful loan applications resulted in a sharp decline in the volume of new lending (see Panels 3 and 4). Both these factors played a more important role in the real estate sector, triggering a more pronounced decline both in the proportion of corporations obtaining funding and in the volume of new lending.

From early 2013, the improved economic situation and macroeconomic outlook prompted a reversal in these patterns. Thus, the demand for credit by firms tended to recover, driven exclusively by non-real-estate firms, and the proportion of firms obtaining the requested funding tended to increase, in general, growing by some three percentage points from the 2013 low to approximately 40% in October 2014. In the real estate-related sector, the number of credit applications remained stable in the period, although a larger number of these applications for bank funding were successful. Lastly it should be noted that despite the improved access to credit and the growth in demand, the volume of new lending has barely risen, indicating that for the subgroup of firms analysed here more loans are being granted but for lower average amounts than in the past.

In order to ascertain the extent to which the recent recovery observed in the proportion of firms obtaining funding reflects a genuine improvement in access to credit or changes in the characteristics of the corporations concerned, the probability of a firm being granted a loan has been modelled as a function of a series of firm-specific variables and a set of fixed effects[2] and also permitting time-varying coefficients by sub-period (see Table 5). In particular three sub-periods are considered: the expansionary phase (2003-07), the crisis (2008-12) and the recovery (2013-14). In general, the estimated coefficients of the variables have the expected sign and are statistically significant. Thus, as the table shows, the debt ratio, the interest burden and the fact that a firm has an NPL balance with a bank in the month previous to the loan application all have a negative effect on the probability of it obtaining funding from a bank with which it has no previous lending ties. Also according to the estimates, and counter-intuitively, the asset volume of a firm has an adverse effect on the probability of it obtaining a loan, which may be linked to a possible bias in the sample of firms used in the estimations.[3] Analysis of the findings by sub-period shows that after the crisis the probability of obtaining a loan became more sensitive to changes in financial determinants of firms, which suggests that institutions would be discriminating between firms to a greater extent than in the expansionary phase.

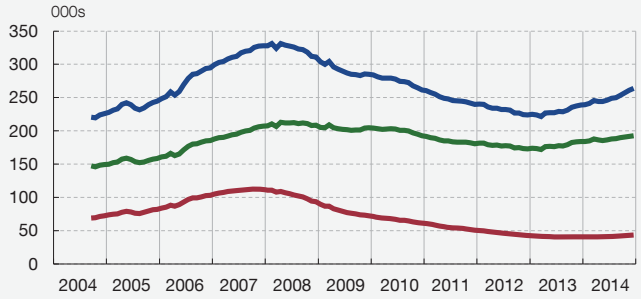
Lastly, Panel 6 shows the different probabilities of obtaining a loan by type of corporation: 1) the median firm, which proxies a typical firm; 2) firms with a sounder financial position; 3) firms with a

1 More specifically, a firm is considered to have obtained funding when its credit balance (including both the amount drawable and the amount drawn) increases between t-1 and t+3 with banks with which it had no exposure.

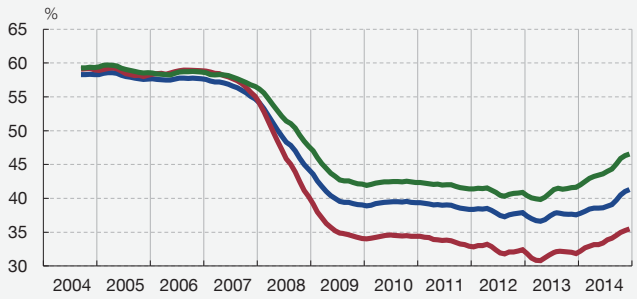
2 The estimates derive from a linear probability model that includes as explanatory variables asset size, a binary variable that indicates whether the firm has an NPL balance, the logarithm of 1 plus the age in years of the firm, the debt ratio and the interest burden ratio. It also includes fixed firm effects, fixed year effects and fixed time effects combined with an age binary variable. The estimates were made for the subgroup of firms in the CCR for which there is information at the Central Balance Sheet Data Office (CBSO). The data cover the period 2003-14.

3 In particular, the CCR only identifies firms that apply for funding to institutions with which they have no exposure. One possible explanation for this result could be that the larger firms applying for loans from institutions with which they have no exposure are precisely those whose usual banks have refused to grant them funding in view of their perceived poor credit quality.

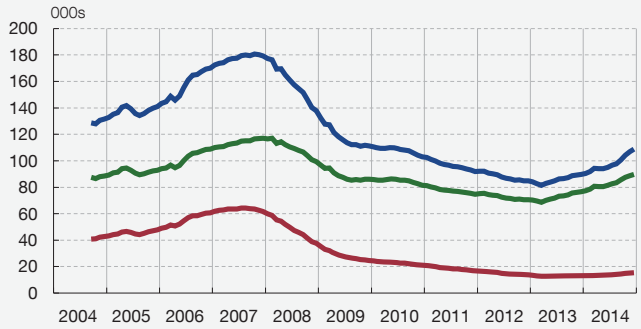
1 NUMBER OF LOAN APPLICATIONS



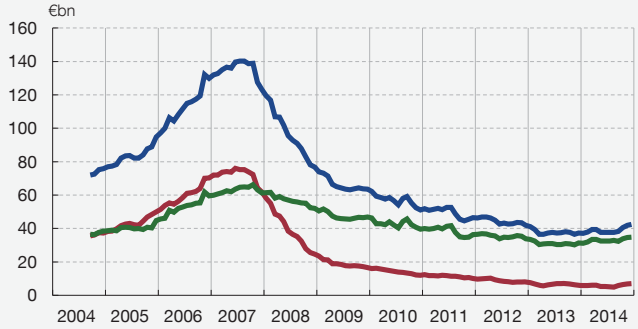
2 PERCENTAGE OF FIRMS THAT OBTAIN A LOAN



3 NUMBER OF LOANS GRANTED



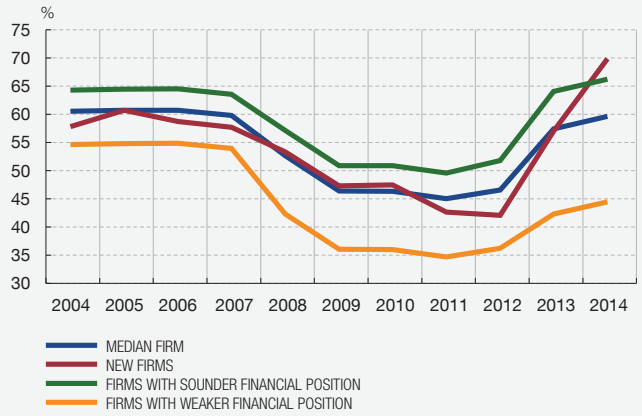
4 VOLUME OF LOANS GRANTED



5 MARGINAL IMPACT ON PROBABILITY OF LOANS BEING OBTAINED (a) (b) (c)

	2003-2007	2008-2012	2013-2014
NPL	-0.111*	-0.133*	-0.132*
Debt	-0.053*	-0.073*	-0.073*
Interest burden	-0.002*	-0.005*	-0.005*
Assets	-0.062*	-0.052*	-0.046*
Age	-0.002	0.014	0.009

6 ESTIMATED PROBABILITY OF LOANS BEING OBTAINED (d)



SOURCE: Banco de España.

a Results based on a linear probability model estimated using data from the period 2003-14 for the subgroup of firms in the CCR for which there is information at the CBSO. The coefficients represent the marginal effects of each of the variables one period lagged on the probability of loans being obtained.

b The total assets variable is the logarithm of total assets of the firm. The NPL variable is a binary variable that takes the value of 1 if the firm has an NPL balance with any bank in the previous period, and a value of 0 otherwise. The age variable is the logarithm of 1 plus the age in years. The debt ratio is calculated as total debt minus the most liquid assets minus loans granted over total assets. The interest burden is calculated as interest over gross operating profit plus financial income.

c (*) Indicates coefficient significance at 1% confidence level.

d Probability for four types of corporations: 1) median firm (for which the median value of all the variables is taken); 2) firms with a sounder financial position (for which the value of the 10th percentile of the interest burden and of the debt ratio is taken); 3) firms with a weaker financial position (for which the value of the 90th percentile of the distribution of the interest burden and of the debt ratio is taken): and 4) new firms (those that are two years old or less).

weaker financial position;[4] and 4) new firms.[5] The results show that the deterioration in access to credit was similar for new and established firms in the period 2007-10, whereas in 2011-12 the tightening continued for new firms but remained unchanged for established ones. Since then access to credit has improved, especially for new firms, returning even to pre-crisis levels, although this finding should be viewed with caution as the coefficient associated with this effect cannot be measured precisely. In turn, in terms of financial position, the panel shows how the probability of obtaining a loan during the crisis declined more severely for firms with higher debt and a higher interest burden and how, since 2012, that probability is recovering at a slower pace than for firms with a better financial position. Thus for this last group, in accordance with the results of the estimates, by 2014 the probability of obtaining a loan had returned to pre-crisis levels, whereas in the case of firms with a weaker financial position it was still very much below those levels. In any event, all these results must be viewed with caution as they are based on estimates.

4 To calculate the probability of firms with a weaker and a sounder financial position obtaining a loan, the value of the 90th and 10th percentiles, respectively, of the interest burden and the debt ratio are taken and the median for the other variables.

5 New firms are considered to be those that are two years old or less. The median value of the other variables is taken to calculate the probability.

ANNUAL ACCOUNTS OF THE BANCO DE ESPAÑA

1 INTRODUCTION

The annual accounts of the Banco de España ("the Bank") as established by Article 29.1 of its internal rules, approved by a Resolution of the Governing Council of 28 March 2000 (Official State Gazette (BOE) of 6 April 2000), comprise the balance sheet, the profit and loss account and the notes to the accounts. The accounts have been prepared in accordance with the internal accounting rules and principles of the Banco de España. These rules and principles are based on the accounting framework established for national central banks (NCBs) of the European System of Central Banks (ESCB)[1] pursuant to Article 26.4 of the Statute of the ESCB on standardisation of accounting and reporting procedures relating to operations undertaken by NCBs. In the cases not regulated by Eurosystem accounting legislation, the Banco de España applies its internal policies based on generally accepted accounting principles adapted to the special characteristics of the operations and functions of a central bank.

In accordance with the provisions of Articles 29 and 32 of its internal rules, the Bank's annual accounts have been audited by the Internal Audit Department and analysed and examined by the Audit Committee appointed for the purpose by the Bank's Governing Council. The accounts have also been audited by independent external auditors, as stipulated by Article 29 of the Bank's internal rules and Article 27 of the Statute of the ESCB.

Under the provisions of Article 4.2 of Law 13/1994 of 1 June 1994 of Autonomy of the Banco de España, it is for the government, upon proposal by the Minister of Economic Affairs and Competitiveness, to approve the Bank's balance sheet and accounts for the year, which will be sent to Parliament (Cortes Generales) for informational purposes. The Governing Council of the Bank, under the provisions of Article 21.g) of the aforementioned Law, is responsible for formulating the Bank's annual accounts.

Unless otherwise indicated, the figures are expressed in millions of euro. Those relating to 2013 are presented solely for comparison with 2014. Due to rounding, on occasions the totals included in the balance sheet, profit and loss account and notes to the annual accounts may not equal the sum of the individual figures. This document presents the accounts for the year 2014. Section 2 includes the balance sheet and profit and loss account at 31 December 2014; Section 3 contains the notes to the accounts, with the accounting policies that have served as a framework for their preparation, the explanatory notes on the most important aspects of the balance sheet and profit and loss account, the changes in equity and the management of risk exposures; and Section 4, in compliance with Article 4.2 of the Law of Autonomy, details the contributions made to the Deposit Guarantee Fund and the loans and transactions agreed on other than an arm's-length basis or which in any other way entail a loss of profit or losses for the Bank, along with the estimated amount.

Finally, Annexes 1 and 2 include the reports of the external auditors and of the Bank's Audit Committee on the annual accounts presented in the preceding sections.

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1 Guideline of the European Central Bank of 11 November 2010 on the legal framework for accounting and financial reporting in the ESCB (ECB/2010/20), as amended.

BALANCE SHEET OF THE BANCO DE ESPAÑA AS AT 31 DECEMBER 2014

EUR m

		Note number	2014	2013	Change
ASSETS					
1	**Gold and gold receivables**	**1**	**8,943.01**	**7,887.81**	**1,055.21**
2	**Claims on non-euro area residents denominated in foreign currency**		**32,295.56**	**25,611.86**	**6,683.71**
2.1	Receivables from the IMF	2	5,433.88	5,593.31	-159.43
2.2	Balances with banks and security investments, external loans and other external assets	3	26,861.69	20,018.55	6,843.14
3	**Claims on euro area residents denominated in foreign currency**	**4**	**2,800.44**	**2,175.35**	**625.10**
4	**Claims on non-euro area residents denominated in euro**		**306.89**	**402.28**	**-95.39**
4.1	Balances with banks, securities investments and loans	5	306.89	402.28	-95.39
4.2	Claims arising from the credit facility under ERM II		—	—	—
5	**Lending to euro area credit institutions related to monetary policy operations denominated in euro**	**6**	**143,888.80**	**195,170.41**	**-51,281.61**
5.1	Main refinancing operations		21,579.00	17,106.70	4,472.30
5.2	Longer-term refinancing operations		122,307.44	178,063.59	-55,756.15
5.3	Fine-tuning reverse operations		—	—	—
5.4	Structural reverse operations		—	—	—
5.5	Marginal lending facility		—	—	—
5.6	Credits related to margin calls		2.36	0.12	2.24
6	**Other claims on euro area credit institutions denominated in euro**		**2.47**	**3.78**	**-1.31**
7	**Securities of euro area residents denominated in euro**	**7**	**88,238.31**	**88,211.85**	**26.46**
7.1	Securities held for monetary policy purposes		26,497.76	29,586.07	-3,088.32
7.2	Other securities		61,740.55	58,625.78	3,114.77
8	**General government debt denominated in euro**	**8**	**971.68**	**1,943.37**	**-971.68**
9	**Intra-Eurosystem claims**	**9**	**76,686.08**	**53,105.07**	**23,581.01**
9.1	Participating interest in ECB		1,312.52	1,077.72	234.80
9.2	Claims equivalent to the transfer of foreign reserve assets to the ECB		5,123.39	4,782.87	340.52
9.4	Net claims related to the allocation of euro banknotes within the Eurosystem		70,250.16	47,244.47	23,005.69
9.5	Other claims within the Eurosystem (net)		—	—	—
10	**Items in course of settlement**		**0.68**	**2.12**	**-1.44**
11	**Other assets**		**5,188.06**	**6,457.70**	**-1,269.64**
11.2	Tangible and intangible fixed assets	10	272.37	257.97	14.39
11.3	Other financial assets	11	25.25	25.25	—
11.4	Off-balance sheet instruments revaluation differences	12	60.06	104.07	-44.00
11.5	Accruals and prepaid expenses	13	3,190.68	4,492.89	-1,302.21
11.6	Sundry	14	1,639.70	1,577.52	62.18
TOTAL ASSETS			**359,322.00**	**380,971.59**	**-21,649.59**

BALANCE SHEET OF THE BANCO DE ESPAÑA AS AT 31 DECEMBER 2014 (cont'd)

EUR m

		Note number	2014	2013	Change
LIABILITIES					
1	**Banknotes in circulation**	**15**	**118,152.21**	**104,377.15**	**13,775.06**
2	**Liabilities to euro area credit institutions related to monetary policy operations denominated in euro**	**16**	**17,851.46**	**30,783.49**	**-12,932.03**
2.1	Current accounts (covering the minimum reserve system)		12,631.44	15,949.79	-3,318.35
2.2	Deposit facility		5,220.00	14,833.00	-9,613.00
2.3	Fixed-term deposits		—	—	—
2.4	Fine-tuning reverse operations		—	—	—
2.5	Deposits related to margin calls		0.02	0.70	-0.68
3	**Other liabilities to euro area credit institutions denominated in euro**		**0.26**	**0.63**	**-0.37**
5	**Liabilites to other euro area residents denominated in euro**		**434.06**	**4,164.40**	**-3,730.33**
5.1	General government	17	54.61	2,116.77	-2,062.16
5.2	Other liabilities	18	379.45	2,047.62	-1,668.17
6	**Liabilities to non-euro area residents denominated in euro**	**19**	**519.68**	**144.98**	**374.70**
7	**Liabilities to euro area residents denominated in foreign currency**		**0.86**	**0.95**	**-0.09**
8	**Liabilities to non-euro area residents denominated in foreign currency**		**0.83**	**0.73**	**0.10**
8.1	Deposits, balances and other liabilities		0.83	0.73	0.10
8.2	Liabilities arising from the credit facility under ERM II		—	—	—
9	**Counterpart of special drawing rights allocated by the IMF**	**20**	**3,371.58**	**3,162.06**	**209.52**
10	**Intra-Eurosystem liabilities**	**21**	**189,717.85**	**213,382.14**	**-23,664.29**
10.2	Liabilities related to the issuance of ECB debt certificates		—	—	—
10.3	Net liabilities related to the allocation of euro banknotes within the Eurosystem		—	—	—
10.4	Other liabilities within the Eurosystem (net)		189,717.85	213,382.14	-23,664.29
11	**Items in course of settlement**	**22**	**22.23**	**1,679.49**	**-1,657.26**
12	**Other liabilities**		**129.47**	**176.00**	**-46.53**
12.1	Off-balance-sheet instruments revaluation differences	23	—	—	—
12.2	Accruals and income collected in advance	24	9.93	55.74	-45.81
12.3	Sundry	25	119.54	120.27	-0.72
13	**Provisions**	**26**	**10,184.62**	**9,013.67**	**1,170.95**
14	**Revaluation accounts**	**27**	**14,517.86**	**9,038.52**	**5,479.34**
15	**Capital and reserves**		**1,899.81**	**1,899.81**	—
15.1	Capital	28	1,000.00	1,000.00	—
15.2	Reserves	29	899.81	899.81	—
16	**Profit for the year**	**30**	**2,519.22**	**3,147.58**	**-628.36**
TOTAL LIABILITIES			**359,322.00**	**380,971.59**	**-21,649.59**

PROFIT AND LOSS ACCOUNT OF THE BANCO DE ESPAÑA FOR THE YEAR ENDING 31 DECEMBER 2014

EUR m

		Note number	2014	2013	Change
1	Interest income	1	4,395.18	6,388.48	-1,993.30
2	Interest expense	2	386.33	1,721.62	-1,335.29
3	**Net interest income (1 – 2)**		**4,008.84**	**4,666.86**	-658.02
4	Realised gains/losses arising from financial operations	3	23.72	-1.94	25.66
5	Write-downs on financial assets and positions	4	4.76	285.36	-280.60
6	Transfer to/from provisions for financial risks	5	-1,124.89	-1,268.68	143.79
7	**Net result of financial operations, write-downs and risk provisions (4 – 5 + 6)**		**-1,105.92**	**-1,555.98**	**450.06**
8	Fees and commissions income		17.01	17.55	-0.55
9	Fees and commissions expense		9.23	10.64	-1.42
10	**Net income from fees and commissions (8 – 9)**	**6**	**7.78**	**6.91**	**0.87**
11	Income from equity shares and participating interests	7	115.74	221.36	-105.62
12	Net result of pooling of monetary income	8	41.35	173.55	-132.20
13	Other income and losses	9	19.90	120.88	-100.98
14	**TOTAL NET INCOME (3 + 7 + 10 + 11 + 12 + 13)**		**3,087.68**	**3,633.58**	**-545.90**
15	Staff costs	10	220.56	217.83	2.74
16	Administrative expenses	11	126.81	125.46	1.34
17	Depreciation of tangible and intangible fixed assets	12	30.04	30.43	-0.39
18	Banknote production services	13	82.51	70.31	12.20
19	Other expenses		3.46	3.21	0.25
20	**TOTAL OPERATING EXPENSES (15 + 16 + 17 + 18 + 19)**		**463.38**	**447.25**	**16.13**
21	Transfers and additions to other funds and provisions	14	105.08	38.75	66.33
22	**PROFIT FOR THE YEAR (14 – 20 – 21)**	**15**	**2,519.22**	**3,147.58**	**-628.36**

Countersigned by
The Governor,

LUIS M. LINDE DE CASTRO

The Comptroller,

JAVIER PACIOS RODRÍGUEZ

3 NOTES TO THE ACCOUNTS

3.1 Accounting policies

1 BASIC PRINCIPLES

The annual accounts of the Banco de España present fairly its net worth and financial and economic position. They have been drawn up in accordance with the following accounting principles: prudence, recognition of post-balance-sheet events, going concern, the accruals principle, consistency and comparability, no offset, matching of revenues and expenses, and materiality. These principles conform to those set out in the accounting guides and instructions of the ECB.

2 BASIS OF ACCOUNTING

The annual accounts have been prepared on a historical cost basis, modified as necessary to include market valuation of trading-book securities, gold and the foreign currency position. Futures shall be valued daily at market price and significant participating interests at underlying book value.

Transactions in assets and liabilities are generally recorded on the settlement date, except that forward transactions in foreign currencies are booked at the spot settlement date. If a period-end falls between the trade date and the spot settlement date, both spot and forward foreign currency transactions are recognised at the trade date.

The specific valuation criteria applied to the various assets and liabilities were the following:

Gold

Gold is recorded at acquisition cost,[2] which is determined by the cash amount paid in the transaction including any related expense.

The cost of sales is obtained by applying the daily net average cost method. In the event that the cash to be paid or received is specified in a currency other than the euro, it is translated into euro at the mid-market exchange rate two business days before the settlement date.

On the last day of each month, stocks are valued at the market price in euro per troy ounce of fine gold. Unrealised gains or losses (except for unrealised losses at year-end) are reflected in an adjustment account and credited or debited, respectively, to a revaluation or loss account.

Unrealised losses existing at the end of the year are taken to the profit and loss account and the average book price is modified. Such losses are considered irreversible in subsequent revaluations.

Sales of gold against foreign currency under repurchase agreements are recorded as off-balance-sheet items, with no effect on the balance sheet. The foreign currency received by way of consideration is recorded on the assets side, with the obligation to repay it being recorded simultaneously on the liabilities side. Possible differences arising between gold delivered spot and that received forward are recorded as if there had been an independent outright sale or purchase at the time of maturity of the transaction.

2 As at 31/12/1998 its acquisition cost was adjusted to the market price then prevailing and the unrealised gains were credited to revaluation accounts. These gains are subsequently taken to profit and loss when the asset is sold and they can be used to offset unrealised losses.

Foreign currencies

Spot purchases or sales of foreign currencies are recorded at the settlement date, and affect the foreign currency position from that date. Gains and losses on the spot sale of foreign currencies are similarly considered to be realised from the settlement date. Meanwhile, foreign exchange forward purchase and sale transactions are recognised in off-balance-sheet accounts at the spot date of the transaction, affecting the foreign currency position as at that date. The gain or loss on the transaction is also considered to be realised on that date. If a period-end falls between the trade date and the spot settlement date, the transactions have to be recognised at the trade date.

Purchases are recorded at acquisition cost in euro. Purchases and sales of foreign currencies against euro are valued at the exchange rate agreed in the transaction. When foreign currencies are bought and sold against other foreign currencies, the euro valuation is at the mid-market exchange rate of the currency sold on the trade date. Transactions in a foreign currency that do not modify the overall position therein have no effect on the book value of such position.

The cost in euro of foreign currency sold is calculated using the daily net average cost method.

Accrued interest denominated in foreign currency is recorded on a daily basis, generally using the mid-market rate on each day. If the rate on the relevant day is not available, the latest mid-market rate available shall be applied. Accrued interest receivable or payable denominated in foreign currency forms part of the foreign currency position.

Foreign currencies are revalued monthly to market price. This revaluation is performed without netting unrealised gains against unrealised losses on the various currencies. Unrealised gains and losses (except for unrealised losses at year-end) are reflected in adjustment accounts and credited or debited, respectively, to revaluation and loss accounts.

Unrealised losses existing at the end of the year are taken to the profit and loss account for the year, in which case they affect the average cost of the currency in question. Such losses are considered irreversible in subsequent revaluations.

Foreign banknotes

The criteria applied are the same as those indicated in the preceding section for foreign currencies.

Special drawing rights (SDRs)

SDRs and the net position in the International Monetary Fund (IMF) are valued at the year-end SDR market exchange rate by the same methods used for other currencies.

Securities

The Banco de España holds three separate securities portfolios: a trading portfolio, a held-to-maturity portfolio and a monetary policy portfolio (set up in accordance with the ECB Governing Council decisions of 7 May 2009 and 4 June 2009, 9 May 2010, 6 October 2011 and 4 September 2014).

In all three cases, the securities are recorded initially at acquisition cost, which is determined by the cash amount paid, less any accrued gross coupon. The Governing Council of the ECB decided in 2014 that the securities in the monetary policy portfolio should be valued at amortised cost (subject to impairment), regardless of whether the intention is to trade with them or to hold them to maturity. The new valuation criteria did not give rise to any adjustments or net financial income in 2014, since these securities had been recorded applying such criteria.

The cost of securities sold or redeemed is determined by the average book price of the security in question. The securities in the held-to-maturity portfolio may not be sold except in exceptional, duly authorised circumstances.[3]

Trading portfolio securities are revalued monthly to market price. This revaluation is carried out without any netting of unrealised gains and losses on different security codes. Unrealised gains and losses (except for unrealised losses at year-end) are reflected in adjustment accounts and credited or debited, respectively, to revaluation and loss accounts. Unrealised losses existing at the end of the year are taken to the profit and loss account. Their amount is credited directly to the securities account, and the average book price -and therefore the internal rate of return- of the security code concerned is modified. Such losses are considered irreversible in subsequent revaluations. The year-end adjustment was made using the market prices on the last day of the year.

Securities within the held-to-maturity portfolio and the monetary policy portfolio are not subject to any periodic valuation, except for recognition, where applicable, of loss of value due to asset impairment.

Any premiums, discounts and coupons that have accrued but are not due are recorded in accruals accounts, using the internal rate of return of each security code for their calculation within each portfolio. These accruals are recorded daily.

The above references to acquisition cost and market prices shall, in the case of securities denominated in foreign currency, be understood to refer to the currency concerned. Accordingly, these amounts will be translated into euro, as stipulated in the "Foreign currencies" section.

Repurchase agreements involving securities

Reverse repurchase agreements involving securities are recorded on the assets side of the balance sheet as collateralised outward loans for the amount of the loan. Securities acquired under reverse repurchase agreements are not revalued or included in the securities portfolio.

Repurchase agreements involving securities are recorded on the liabilities side of the balance sheet as an inward deposit collateralised by securities, the balancing entry of which is the cash received. Securities sold under this type of agreement remain on the Bank's balance sheet and are treated as if they had remained part of the portfolio from which they were sold. Repurchase agreements involving securities denominated in foreign currencies have no effect on the average cost of the currency position.

In direct loans of securities, repurchase and reverse repurchase agreements conducted simultaneously are accounted for separately, each being recorded according to the valuation rules set forth in the preceding two paragraphs.

Automated security loans (contracts empowering a depository of securities to lend them to a third party in overnight transactions, subject to certain contractual limitations) are not recorded in the balance sheet. The only item accounted for is the income, which is recorded in the profit and loss account. Transactions outstanding at year-end are recorded off-balance sheet.

3 Securities classified as held-to-maturity may be sold before their maturity in any of the following circumstances: a) if the quantity sold is considered not significant in comparison with the total amount of the held-to-maturity securities portfolio; b) if the securities are sold during the month prior to the maturity date; and c) under exceptional circumstances, such as a significant deterioration of the issuer's creditworthiness.

Doubtful debtors

Where there is any reasonable doubt about the recovery of an asset, it is recorded in a special separate account and the relevant provision set aside.

Loans to financial institutions and balances with EU central banks

These are valued at their nominal amount.

The ECB establishes the conditions applicable to the monetary policy operations conducted by Eurosystem central banks and the need to obtain adequate collateral for them. Also, Article 32.4 of the Statute of the ESCB and of the ECB stipulates that the Governing Council may decide that national central banks shall be indemnified, in exceptional circumstances, for specific losses arising from monetary policy operations undertaken for the ESCB. Indemnification shall be in a form deemed appropriate in the judgment of the Governing Council; these amounts may be offset against the national central banks' monetary income (see Note 26 to the balance sheet and Note 8 to the profit and loss account).

Loans to the State

In accordance with the Guideline of the European Central Bank of 11 November 2010 on the legal framework for accounting and financial reporting in the European System of Central Banks (ECB/2010/20), they are valued at nominal amount (see Notes 8 and 26 to the balance sheet and Note 5 to the profit and loss account).

Shares and participating interests

The shares in the Bank for International Settlements and the participating interest in the European Central Bank (ECB) are valued at cost.

Tangible and intangible fixed assets

Fixed assets are defined as those non-financial assets owned by the Bank that are intended to be used for a period exceeding 12 months and contribute directly or indirectly to fulfilling its objectives and/or to the probable generation of income in the future and, in addition, their cost can be reliably assessed.

Fixed assets are generally valued initially at cost, defined as the amount of the monetary disbursements made or committed to, including any costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the intended manner, such as transport, installation, professional fees for legal services, non-refundable taxes and the fair value of other consideration given.

Trade discounts and those for defects in assets received are recorded as a reduction in the cost of the related assets. Cash discounts and those for late delivery are recorded in the profit and loss account under other income or, where appropriate, as a reduction in expenses, and do not affect the acquisition cost of the asset purchased.

Fixed assets are deemed not to include those assets which, although meeting the conditions to be classed as such, do not generally exceed the amount of €600 (€6,000 in the case of buildings, structures and plant in buildings), although there may be exceptions, normally for control reasons.

Only extensions, replacements, rehabilitations and improvements that exceed €6,000 are capitalised, provided also that the elements replaced can be removed from the balance sheet or that they are fully depreciated.

Computer applications developed specifically for the Banco de España the cost of which does not exceed €300,000 are recorded directly as expenses and are not eligible for subsequent capitalisation.

Computer applications developed for the Eurosystem as a whole are recognised as fixed assets for the related acquisition cost, which is normally calculated on the basis of the Banco de España's share of the ECB capital key, applied to the total acquisition cost of the project.

After initial recognition, fixed assets are valued at acquisition cost less accumulated depreciation or amortisation and any impairment losses.

The acquisition cost of a fixed asset, net of its residual value, is depreciated or amortised systematically during its useful life on a straight-line monthly basis from the month following that in which it was recognised in the accounts. Generally, all depreciable/amortisable fixed assets are estimated to have a residual value of zero unless there is a deep, liquid market for assets similar to the one whose residual value may be received. Land, the art collection and fixed assets under construction are not depreciated.

The depreciation/amortisation rates and estimated useful lives applied to the various fixed assets in 2014 were as follows:

	Depreciation/ Amortisation rate (%)	Useful life (years)
Buildings and structures	2	50
Renovation work	4	25
Plant in buildings	10	10
Security-related plant in buildings	20	5
Furniture and fittings	10	10
Office machines for the handling of banknotes and coins	10	10
Other office machines	20	5
Computer equipment	25	4
Transport equipment. Cars and motor bikes	25	4
Transport equipment. Trucks and buses	10	10
Libraries	10	10
Other tangible fixed assets	20	5
Computer applications	20	5
Industrial property	—	Number of years of exclusive use

An asset is impaired when its book value exceeds the recoverable value. In this case, and only if the amounts are significant, an impairment loss is recognised by simultaneously reducing the item's book value and modifying its depreciable/amortisable base.

Banknotes in circulation

The ECB and the NCBs, which together comprise the Eurosystem, have issued euro banknotes since 1 January 2002.[4] The total value of euro banknotes in circulation is recorded by allocating to each Eurosystem NCB, on the last working day of each month, an amount based on the banknote allocation key.[5]

The ECB has been allocated a share of 8% of the total value of euro banknotes in circulation, whereas the remaining 92% has been allocated to the NCBs and divided

4 Decision of the European Central Bank of 13 December 2010 on the issue of euro banknotes (ECB/2010/29), as amended.

amongst them according to their weightings in the capital key of the ECB. The share of banknotes allocated to each NCB is disclosed under the item "Banknotes in circulation" on the liability side of their respective balance sheets.

The difference between the value of the euro banknotes allocated to each NCB in accordance with the banknote allocation key and the value of the euro banknotes that it actually puts into circulation also gives rise to remunerated intra-Eurosystem balances. These claims or liabilities, which incur interest,[6] are disclosed under the item "Intra-Eurosystem: Net claims/liabilities related to the allocation of euro banknotes within the Eurosystem" (see "Intra-Eurosystem balances" in this section on accounting policies).

From 2002 until 2007, the intra-Eurosystem balances arising from the allocation of euro banknotes were adjusted in order to avoid significant changes in the relative income positions of the NCBs that initially formed part of the Eurosystem as compared with previous years. The adjustments were effected by taking into account the differences between the average value of banknotes in circulation of each NCB in the specified reference period[7] and the average value of banknotes that would have been allocated to them during that period under the ECB's capital key. The adjustments were progressively reduced in annual stages until the end of 2007. However, this mechanism has also been applied in the case of new Member States adopting the euro so as to calculate the amount of compensation corresponding to each of them under the aforementioned calculation method, dividing it amongst the other NCBs according to their respective capital keys in the ECB. This adjustment is gradually reduced over a six-year period, being held unchanged during each financial year.

The interest income and expense on intra-Eurosystem balances relating to banknote allocation is cleared through the accounts of the ECB and is disclosed under "Net interest income" in the profit and loss account.

The ECB's seignorage income arising from the euro banknotes in circulation assigned to it and from securities purchased under the Securities Markets Programme, the asset-backed securities purchase programme and the third covered bond purchase programme are allocated in full to the NCBs in the financial year in which it accrues.[8] Settlement of this income takes place on the last working day in January of the following year, in the form of an interim distribution of the income. The Governing Council may decide to reduce the distributable ECB income on euro banknotes in circulation by the costs incurred by the ECB in connection with the issue and handling of banknotes. The ECB Governing Council shall decide whether all or part of the ECB's income arising from securities purchased under the aforementioned programmes and all or part of the ECB's income on euro banknotes in circulation should be retained to the extent necessary to ensure that the amount of the distributed income does not exceed the ECB's net profit for that year. The ECB Governing Council may also decide to transfer all or part of this income to an ECB provision for foreign exchange rate, interest rate, credit and gold price risks. The amount distributed to NCBs is shown in the profit and loss account item "Income from equity shares and participating interests" in the year in which this income accrued.

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5 The banknote allocation key is that which results from applying 92% to the Eurosystem subscribed capital key.

6 Decision of the ECB of 25 November 2010 on the allocation of monetary income of the national central banks of Member States whose currency is the euro (ECB/2010/23), as amended.

7 The reference period taken has a duration of 24 months and it begins 30 months prior to the euro cash changeover date.

8 Decision of the ECB of 15 December 2014 (ECB/2014/57) on the interim distribution of the ECB's income.

Intra-Eurosystem balances

Intra-Eurosystem balances arise from the Banco de España's participating interest in the ECB, claims equivalent to the reserves transferred to the ECB and the net balance resulting from the transfers issued and received by TARGET2[9] among the national central banks of the ESCB, including the ECB. They also arise from the balances vis-à-vis the ECB resulting from allocation of euro banknotes within the Eurosystem. In addition, the outcome of the contribution and allocation of monetary income to NCBs and the positions vis-à-vis the ECB owing to the deferral of sundry receipts and payments also give rise to intra-Eurosystem balances.

In the case of TARGET2 operations, the resulting balance is included as an asset or liability, as appropriate, under the balance sheet item "Other claims/liabilities within the Eurosystem (net)". Intra-ESCB balances arising from the allocation of euro banknotes within the Eurosystem are included, depending on their net amount, as an asset or liability under "Net claim/liability related to the allocation of euro banknotes within the Eurosystem" (see "Banknotes in circulation" in this section on accounting policies).

Recognition of income and expenses

Income and expenses are recognised in the period in which they accrue.

Realised gains and realised and unrealised losses are taken to the profit and loss account. To calculate the acquisition cost of items sold, the average cost method is used for securities and the daily net average cost method is used for foreign currencies and gold. The first-in first-out method is used for interest rate futures. In the case of unrealised losses on any item at year-end, its average cost is reduced to the end-of-year market price and/or exchange rate.

Unrealised gains are not recognised as income, but are transferred to a revaluation account.

Unrealised losses are taken to the profit and loss account if they exceed previous revaluation gains recorded in the corresponding revaluation account, and are not reversed in subsequent years against new unrealised gains. Unrealised losses in any one security or currency or in gold are not netted against unrealised gains in other securities or currencies.

Premiums or discounts on purchased securities are calculated and shown as reductions of or additions to interest income and accrued over the remaining life of the securities concerned, together with the accrued coupons, according to the effective interest rate method.

Pension Scheme

The Pension Scheme for Bank employees is of the defined-contribution type. The Pension Fund of which this Scheme forms part is external and closed-end. Contributions made by the Banco de España on behalf of the employees who joined the Bank after 1/2/1986, are eligible to and do participate in the Scheme, are recognised as a current expense in the year to which they relate.[10]

Provisions

In application of the principle of prudence, the liabilities side of the balance sheet includes provisions approved by the Executive Commission of the Banco de España which are considered necessary to cover adequately, on objective criteria, the risks

9 Trans-European Automated Real-time Gross Settlement Express Transfer system.

10 Contributions made by the Banco de España are established at 7.5% of the so-called "regulating salary", consisting of the salary items determined in the Scheme Rules.

derived from the financial positions held and other losses of a diverse nature (see Note 26 to the balance sheet).

Financial derivatives

The net position under foreign exchange forward transactions and swaps, and the foreign-exchange gains and losses generated by such position are shown in the balance sheet in item 11.4 on the assets side or item 12.1 on the liabilities side, depending on their sign.

Foreign exchange forward currency positions, which comprise transactions and forward legs of foreign exchange swaps, are included in the net foreign currency positions in order to calculate foreign exchange gains and losses. The difference between the spot and forward exchange rates is recorded as interest income or expense, which can be in euro or in foreign currency, in the latter case forming part of the foreign currency position.

The gain or loss on interest rate futures are considered to be realised at the time when they are settled net each day. Since these futures are denominated in foreign currency, such settlements shall affect the foreign currency position on the day on which they take place.

3 SALIENT FEATURES OF THE ESTIMATES MADE

These annual accounts were prepared using Bank estimates to quantify some of the assets, liabilities, income, expenses, commitments and, in particular, to quantify provisions recorded in them (see Note 26 to the balance sheet). As regards monetary policy operations, since they are conducted jointly in the Eurosystem, the estimates made by the ESCB are also taken into account (see Notes 6 and 7.a) to the balance sheet).

These estimates are based on the best information available at end-2014, and future events may require them to be changed in the coming financial years. Any such changes would be made prospectively in accordance with current accounting rules.

4 POST-BALANCE-SHEET EVENTS

Assets, liabilities and the profit and loss account are adjusted on the basis of events taking place between the end of the accounting period and date of preparation of the annual accounts, should those events materially affect the Banco de España's year-end financial position. The events occurring after year-end which do not affect the assets and liabilities at that date do not give rise to adjustments thereto, although if they are material they are disclosed in the notes to the accounts.

3.2 Notes to the balance sheet

1 GOLD AND GOLD RECEIVABLES

The Banco de España's gold holdings at year-end amounted to €8,943.01 million, consisting of 9.054 million troy ounces[11] of fine gold valued at a market price of €987.77 per ounce. These holdings did not change during the financial year. The value of these holdings is €1,055.21 million more than in 2013, as a result of the increase in the market price (at end-2013 the price per ounce was €871.22). This increase is included in the liability revaluation accounts. The cost of the gold holdings is €850.43 million.

2 CLAIMS ON NON-EURO AREA RESIDENTS DENOMINATED IN FOREIGN CURRENCY. RECEIVABLES FROM THE IMF

This item has three components:

a) The position in the International Monetary Fund (IMF) in the reserve tranche. This is the euro equivalent of the SDRs relating to the foreign currencies assigned to the IMF due to Spain's initial quota and successive increases and due to the net financing granted to the IMF. Spain's IMF quota is SDR 4,023.40 million and only the portion disbursed in foreign currency is reflected on the assets side of the balance sheet.

11 One troy ounce is equal to 31.1035 grams.

b) Special drawing rights (allocations). These represent the euro equivalent of the successive allocations of this currency by the IMF and their subsequent drawdown. These allocations are made by the IMF simply for being a member and their balancing entry is recorded in item 9 of the liabilities side of the balance sheet "Counterpart of special drawing rights allocated by the IMF", also denominated in SDRs. The changes in their balance are essentially due to loan agreement transactions with third countries which are paid out of this account and to interest receipts or payments resulting from positions vis-à-vis the IMF.

c) Other claims on the IMF. These reflect the amount that the Banco de España has provided to the IMF as a contribution to the PRGT,[12] the NAB and the Bilateral Loan Agreement[13] entered into by the IMF and Spain in 2013. For the PRGT, the Banco de España has given a commitment to contribute, through concessional lending to low-income countries, up to SDR 830 million, the amount drawn down at end-2014 being €313.43 million (SDR 262.85 million). The NAB agreement, concluded to support the IMF's ability to provide financial assistance to its members, entailed a financial commitment of up to SDR 6,702.18 million, of which €957.74 million (SDR 803.20 million) had been drawn down up to end-2014. The bilateral loan agreement entailed a commitment of €14,860 million, none of which has been drawn down.

The SDRs in which claims on the IMF are denominated are valued at the year-end market rate, calculated by the ECB for all the Eurosystem NCBs, of €1 = SDR 0.838645. The SDR is defined in terms of a basket of currencies. Its value is determined as the weighted sum of the exchange rates of four major currencies: the US dollar, the euro, the yen and the pound sterling. The SDR interest rate, which is updated weekly, remained at an average of 0.08%, with a high of 0.13% and a low of 0.03% during the year.

The breakdown in 2013 and 2014 is as follows:

EUR m

Type of asset	2014	2013	Change
Reserve tranche position	930.42	1,179.29	-248.87
Special drawing rights (allocation)	3,232.30	3,121.65	110.64
Other claims on the IMF	1,271.16	1,292.37	-21.21
TOTAL	**5,433.88**	**5,593.31**	**-159.43**

The overall amount of claims on the IMF decreased by €159.43 million with respect to the balance at end-2013.

The decrease of €248.87 million in the reserve tranche position account is due to the overall effect of various factors:

— An increase of €51.55 million (SDR 46.09 million) due to the Banco de España's net contributions to the IMF for loans to third countries (Greece, Cyprus and Ukraine). These loans were made in euro through TARGET2 payments.

12 Poverty Reduction and Growth Trust.
13 New Arrangements to Borrow.

— A decrease of €358.23 million (SDR 320.34 million) due to repayments of loans by debtor countries (Romania, Sri Lanka, Greece, Ukraine, Ireland and Bosnia). These collections were in euro.

— An increase of €57.82 million due to the change in the exchange rate of the SDR against the euro.

The "Special drawing rights (allocation)" account increased by €110.64 million due to the overall effect of various factors:

— An increase of €61.48 million (SDR 54.97 million) due to collection of SDRs arising from total or partial repayment of some PRGT loans and to collection of interest on Spain's claims on the IMF.

— Decrease of €151.70 million (SDR 135.65 million) due to SDR sales required by the IMF, to loan disposals under the PRGT IV programme, to transactions under the "Two Way Arrangement" and to payment of interest on Spain's liabilities to the IMF.

— Increase of €200.86 million due to the effect of changes in market exchange rates.

The "Other claims on the IMF" account, which includes loans granted under NAB agreements and under the PRGT programme, decreased by €21.21 million due to the overall effect of certain factors:

— A net decrease of €74.14 million (SDR 66.30 million) in NAB loans. The reasons for this decrease were the new NAB loans granted for €144.26 million (SDR 129.00 million) and the total or partial repayments of the first NAB loans extended for a total of €218.40 million (SDR 195.30 million). These SDR-denominated loans were made through payments in euro.

— A decrease of €26.06 million (SDR 23.30 million) in PRGTs due to total or partial repayments of these loans. These loans are in SDRs.

— An increase of €78.99 million due to the change in the market exchange rate.

3 CLAIMS ON NON-EURO AREA RESIDENTS DENOMINATED IN FOREIGN CURRENCY. BALANCES WITH BANKS AND SECURITY INVESTMENTS, EXTERNAL LOANS AND OTHER EXTERNAL ASSETS

This item includes current accounts, deposits, debt security investments in the trading and held-to-maturity portfolios and other claims on non-euro area residents denominated in foreign currency. The held-to-maturity portfolio consists of securities with fixed or determinable payments which the Banco de España intends to hold until maturity.

The total amount as at 31 December 2014 was €26,861.69 million, with the following breakdown:

EUR m

Type of asset	2014	2013	Change
Deposits	489.90	151.00	338.90
Security investments	26,366.10	19,859.53	6,506.56
Trading portfolio	13,197.82	10,933.43	2,264.39
Held-to-maturity portfolio	13,168.27	8,926.10	4,242.18
Other	5.69	8.01	-2.32
TOTAL	**26,861.69**	**20,018.55**	**6,843.14**

As at 31 December 2014, 96.14% of these assets were denominated in US dollars and 3.84% in yen. The equivalent value in euro of these US dollar and yen amounts was transferred to the balance sheet at the year-end market exchange rate (€1 = USD 1.2141 and €1 = YEN 145.23).

The increase in the balance of this item (€6,843.14 million) was due to the net effect of the factors listed in the following table:

EUR m

Reason for change	Amount
Net investment	3,833.60
Changes of market exchange rates as at 31 December	3,086.35
Changes of securities market prices as at 31 December	29.29
Accrued interest receivable	-106.31
Other	0.21
TOTAL	**6,843.14**

4 CLAIMS ON EURO AREA RESIDENTS DENOMINATED IN FOREIGN CURRENCY

This balance sheet item may include current accounts, balances with banks and security investments. As at 31 December 2014, US dollar-denominated time deposits at monetary financial institutions equivalent to €2,800.43 million (USD 3,400 million) were held.

The increase of €625.10 million in this item with respect to the previous year was due to the increase in US dollar-denominated time deposits (€290.04 million) and to the change in the exchange rate of the US dollar against the euro, which resulted in an increase in the equivalent value in euro of 335.05 million.

5 CLAIMS ON NON-EURO AREA RESIDENTS DENOMINATED IN FOREIGN CURRENCY. BALANCES WITH BANKS, SECURITY INVESTMENTS AND LOANS

Included here is the balance of current accounts at correspondents and trading and held-to-maturity portfolio securities denominated in euro. The held-to-maturity portfolio consists of securities with fixed or determinable payments which the Banco de España intends to hold until maturity.

The breakdown is as follows:

EUR m

Type of asset	2014	2013	Change
Deposits	0.09	0.11	-0.03
Security investments	306.81	402.17	-95.36
Trading portfolio	—	—	—
Held-to-maturity portfolio	306.81	402.17	-95.36
TOTAL	**306.89**	**402.28**	**-95.39**

Of the total of this heading (€306.89 million), most (€306.81 million) relates to fixed-income securities included in the held-to-maturity portfolio, which decreased by €95.36 million with respect to the balance as at 31 December 2013. This portfolio consists of euro-denominated securities issued by the European Investment Bank. The trading portfolio, as in 2013, had a zero balance at the end of the reporting year.

6 LENDING TO EURO AREA CREDIT INSTITUTIONS RELATED TO MONETARY POLICY OPERATIONS DENOMINATED IN EURO

This item includes the amount of the euro-denominated lending to euro area credit institutions through which monetary policy is implemented. The total amount of these loans in the Eurosystem as a whole is €630,341 million, of which €143,888.80 million are included in the balance sheet of the Banco de España. Pursuant to Article 32.4 of the ESCB/ECB Statute, any counterparty risk that may materialise in monetary policy operations must be shared by all Eurosystem central banks in proportion to their share of the subscribed capital of the ECB according to the capital keys in force when this risk materialises (see the provision for counterparty risks in Eurosystem monetary policy operations, in Note 26.- Provisions). The losses may only be recognised if the counterparty fails and insufficient funds are received from resolution of the collateral received from the institution. The Governing Council of the ECB has, in certain cases, excluded from risk sharing a portion of the collateral accepted by central banks.[14]

The breakdown by type of transaction is as follows:

EUR m

Type of operation	2014	2013	Change
Main financing operations	21,579.00	17,106.70	4,472.30
Longer-term refinancing operations	122,307.44	178,063.59	-55,756.15
Fine-tuning reverse operations	—	—	—
Structural reverse operations	—	—	—
Marginal lending facility	—	—	—
Credits related to margin calls	2.36	0.12	2.24
TOTAL	143,888.80	195,170.41	-51,281.61

During 2014, continuing the trend initiated in previous years, there was a decline in the amounts requested in Eurosystem refinancing operations, in line with the normalisation of other sources of funding of credit institutions. This was reflected in the early repayment of a significant part of the three-year loans granted in 2011 and 2012.

As a result, the balance of this item as at 31 December 2014 is 26.3% lower than that of 2013. The average daily balance of the financing granted during the year decreased by 34.2% (€169.963.33 million in 2014, against €258,300.27 million in 2013).

a Main refinancing operations

They are executed through liquidity providing reverse transactions with a weekly frequency and a maturity of one week, normally by means of standard tenders. These operations play a pivotal role in achieving the aims of steering interest rate, managing market liquidity and signalling the monetary policy stance. However, in 2014, continuing the trend initiated in previous years, they were used less than longer-term refinancing operations. In this connection, it should be noted that 14.5% of annual average financing was extended through them. In 2014 these operations were conducted at fixed rate with allotment of the total amount bid.

The balance of this item at 31 December 2014 was €21,579.00 million (€17,106.70 million at 31 December 2013) and its daily average balance during the year was €24,621.03 million (€22,713.90 million in 2013).

14 The total collateral provided by institutions under loan agreements, valued by Eurosystem rules and applying the related haircuts, amounted to €254,045.05 million at 2014 year-end. Of this amount, €1,504.91 million relate to collateral excluded from risk sharing.

b Longer-term refinancing operations

These operations aim to provide counterparties with additional longer-term refinancing. In 2014 operations were conducted with maturities equal to the reserve maintenance period and with maturities of three months. These operations were conducted at fixed rate with allotment of the total amount bid. In 2014, two targeted longer-term refinancing operations were carried out, maturing in 2018, to strengthen the monetary policy transmission mechanism by supporting lending to the real economy. The interest rate on the targeted refinancing operations in 2014 was the rate on the Eurosystem's main refinancing operations prevailing at the time of take-up, plus a fixed spread of 10 basis points.

The balance of these operations at 2014 year-end was €122,307.44 million (85.0% of the total) and arose mainly from three-year refinancing operations carried out in 2011 and 2012, and from new targeted refinancing operations with maturities of up to 4 years. Compared with 2013, their balance decreased by €55,756.15 million. Also, the average balance decreased from €235,585.93 million in 2013 to €145,331.99 million in 2014, representing 85.5% of annual average financing from monetary policy operations. Most of the decrease in this balance is due to the fact that institutions availed themselves of the early redemption option offered by three-year refinancing operations.

c Fine-tuning reverse operations

The purpose of these operations is to regulate the market liquidity situation and control interest rates, particularly to smooth the effects on interest rates caused by unexpected market fluctuations. Owing to their nature, their frequency is not standardised.

No fine-tuning reverse operations took place in the Eurosystem in 2014. Their end-2014 balance was zero.

d Structural reverse operations

These are reverse open-market transactions through standard tenders to enable the Eurosystem to adjust its structural liquidity position vis-à-vis the financial sector.

The end-2014 balance was zero, as it was at the previous year-end. No structural reverse operations took place during the year.

e Marginal lending facility

Counterparties may use the marginal lending facility to obtain overnight liquidity from national central banks at a pre-specified interest rate against eligible assets. This interest rate is penalised with respect to the intervention rate set in the weekly tenders or in main refinancing operations.

The balance at the end of 2014 was zero, with very few operations of this type having taken place.

f Credits related to margin calls

Under Eurosystem rules for monetary policy management, all operations providing liquidity to the banking system must be backed by adequate underlying assets accepted by the system as eligible for use as collateral. If, after daily valuation, the adjusted market value of the assets used as loan collateral has fallen below the lower trigger point set for each security, the counterparty must provide additional assets or cash (see Note 16 to the balance sheet). If the adjusted market value of the underlying assets, following their revaluation, exceeds the amount of the financing obtained from the national central bank plus the variation margin, the counterparty may withdraw an amount of underlying assets equal to that excess (or receive this difference as a cash payment in its account, in the case of repo financing operations).

In the national central banks that make margin calls by debiting or crediting the accounts of credit institutions, as is the case for the Banco de España, these debits or credits are

the balancing entries of the asset-side or liability-side accounts reflecting the changes in these margins. These balance sheet accounts have been remunerated at the deposit facility rate since December 2013.

As at 31 December 2014 this item had a balance of €2.36 million, up €2.24 million with respect to the previous year. Its average balance also increased, from €0.44 million in 2013 to €5.94 million in 2014.

7 SECURITIES OF EURO AREA RESIDENTS DENOMINATED IN EURO

This item includes the amount of euro-denominated fixed-income securities issued by euro area residents which were acquired by the Banco de España for monetary policy purposes under covered bond purchase programmes[15] and under the Securities Markets Programme.[16] These securities were recorded at amortised cost (see "Securities" in Section 3.1 "Accounting policies") and are subject to a yearly impairment test. The balance of this item as at 31 December 2014 was €26,497.76 million. The breakdown is as follows:

a Securities held for monetary policy purposes

EUR m

Monetary Policy Portfolio	2014		2013		Change	
	Amortised cost	Market value	Amortised cost	Market value	Amortised cost	Market value
Covered bond purchase programme	3,337.29	3,597.22	5,508.79	5,708.44	-2,171.50	-2,111.22
Second covered bond purchase programme	1,602.66	1,745.25	2,326.50	2,495.13	-723.84	-749.87
Third covered bond purchase programme	3,663.90	3,687.42	—	—	3,663.90	3,687.42
Securities Markets Programme	17,893.91	20,521.11	21,750.78	23,359.67	-3,856.87	-2,838.56

In May 2009, the ECB Governing Council approved the first programme for the purchase of euro-denominated covered bonds issued by euro area residents. The purpose of this programme was to ease the financing conditions of credit institutions and firms and to encourage banks to expand lending to their customers, by supporting an important segment for bank financing which had been hard hit by the financial crisis. The purchases under this programme were completed in June 2010. The decrease in the balance of this portfolio in 2014 is due to the redemption of securities throughout the year.

On 6 October 2011, the ECB Governing Council announced a second covered bond purchase programme. Under this programme, in November 2011 the European Central Bank and the Eurosystem central banks initiated the purchase of euro-denominated covered bonds issued by euro area residents in order to continue meeting the objectives of the first purchase programme. These purchases were completed at the end of October 2012, when the programme ended. The net decrease in the balance of this item in 2014 was due to the redemption of securities throughout the year.

15 Decision of the ECB of 2 July 2009 on the implementation of the covered bond purchase programme (ECB/2009/16), Decision of the ECB of 3 November 2011 on the implementation of the second covered bond purchase programme (ECB/2011/17) and Decision of the ECB of 15 October 2014 on the implementation of the third covered bond purchase programme (ECB/2014/40).

16 Decision of the ECB of 14 May 2010 establishing a Securities Markets Programme (ECB/2010/5).

On 4 September 2014, the ECB Governing Council resolved to initiate the third covered bond purchase programme, in order to improve the monetary policy transmission mechanism and support the provision of credit to the economy. The operational aspects of the programme, which will last for at least two years, were announced on 2 October 2014. The purchase of euro-denominated covered bonds issued by euro area residents will be completed gradually throughout the euro area, in the form of outright purchases by the ECB and the Eurosystem central banks. These purchases commenced in the second half of October.

Under the Securities Markets Programme established in May 2010, the Eurosystem central banks could purchase public and private euro area debt securities in order to ensure depth and liquidity in those market segments displaying dysfunctional behaviour. The purpose of this programme was to address the poor functioning of securities markets and re-establish an appropriate monetary policy transmission mechanism. On 6 September 2012, the ECB Governing Council decided to end this programme . The net decrease in the balance of this item in 2014 was due to the redemption of securities throughout the year.

The ECB Governing Council periodically evaluates the financial risks associated with the securities held under the four programmes mentioned above.

As a result of the impairment test conducted on the securities purchased under the Securities Markets Programme as at 31 December 2014, the ECB Governing Council decided that there was no evidence of any change in the estimated future cash flows. Hence no impairment losses were recorded on the securities purchased under that programme.

As regards the impairment test conducted on the securities purchased under the covered bond purchase programmes, it was considered that, although one of the issuers of those securities was subject to restructuring in 2014, this did not affect the expected cash flows and therefore no impairment losses were recorded.

Pursuant to Article 32.4 of the ESCB/ECB Statute, any risks that materialise in the securities included in the Securities Markets Programme and in the third covered bond purchase programme must be shared by all Eurosystem central banks in proportion to their share of the subscribed capital of the ECB according to the capital keys in force. The total amounts of the securities acquired by all Eurosystem NCBs under theaforementioned Securities Markets Programme and the third covered bond purchase programme were €134,162 million and €27,333 million, respectively, of which €17,893.91 million were included in the balance sheet of the Banco de España as purchased under the Securities Markets Programme and €3,663.90 million under the third covered bond purchase programme.

b Other securities

This item includes that part of the Bank's trading and held-to-maturity portfolios which consists of euro-denominated fixed-income securities issued by euro area residents that are not held for monetary policy purposes. The held-to-maturity portfolio consists of securities with fixed or determinable payments which the Banco de España intends to hold until maturity.

The breakdown of this item is as follows:

EUR m

Security investments	2014	2013	Change
Trading portfolio	31,748.39	29,831.44	1,916.95
Held-to-maturity portfolio	29,992.16	28,794.34	1,197.83
TOTAL	**61,740.55**	**58,625.78**	**3,114.77**

The balance of this item as at 31 December 2014 was €61,740.55 million, of which 51.4% related to trading portfolio securities and the remainder (48.6%) to held-to-maturity securities. The impairment test conducted on this portfolio concluded that there was no evidence of impairment at year-end.

Overall, these securities increased by €3,114.77 million in 2014, of which €1,916.95 related to the trading portfolio and €1,197.83 million to the held-to-maturity portfolio.

Specifically, the changes were for the reasons reflected in the following table:

EUR m

Reason for change	Trading portfolio	Held-to maturity portfolio	Total
Net purchase/amortization of securities	836.20	1,357.46	2,193.67
Unrealised gains at year-end (a)	1,112.56	—	1,112.56
Unrealised losses at year-end (a)	—	—	—
Accrued implicit interest	-31.82	-159.64	-191.46
TOTAL	**1,916.95**	**1,197.83**	**3,114.77**

a As stated in Section 3.1 "Accounting policies", no periodic valuation is performed on the held-to-maturity portfolio.

This portfolio includes securities issued by general government and by financial institutions in the euro area. It should be noted that all purchases of debt issued by general government are in the secondary market, none being direct subscriptions of security issues.

8 GENERAL GOVERNMENT DEBT DENOMINATED IN EURO

This item includes loans which, by virtue of their respective laws of creation, were granted to the State prior to the entry into force of Law 21/1993 of 29 December 1993 on the State budget for 1994. Initially they were to be repaid at their nominal amount on a straight-line basis over twenty-five years by means of yearly payments as from 1999, inclusive, in accordance with transitional provision seven of the aforementioned law. However, on 26 March 2007 an agreement was entered into with the central government to bring forward the repayment schedule of these loans, such that they mature in full by 2015 at the latest and the Treasury can request early repayment of all or part of them. Loans repaid early are paid by the Treasury at the cash amount of their market value at the time. Since these loans were recorded at their nominal amount, a provision was set up for possible losses from early repayment (see Note 26 to the balance sheet).

In accordance with this agreement, two instalments of each loan (that for 2014 and the last instalment outstanding under the original repayment schedule) were received in 2014.

The outstanding nominal balance as at 31 December 2014 of the loans granted to the State amounted to €971.68 million, broken down as follows:

EUR m

	2014	2013	Change
Treasury. Law 3/1983 special account	195.25	390.50	-195.25
Treasury. Law 4/1990 special account	694.80	1,389.59	-694.80
Treasury. Credits arising from subscription for participating interests, contributions and quotas in international agencies	81.63	163.27	-81.63
TOTAL	**971.68**	**1,943.37**	**-971.68**

The change was solely due to yearly repayments on the above-mentioned loans, as set out above. The amounts are shown in the above table.

9 INTRA-EUROSYSTEM BALANCES

This heading includes the amounts of the following items:

EUR m

Type of asset	2014	2013	Change
Participating interest in the ECB	1,312.52	1,077.72	234.80
Claims equivalent to the transfer of foreign reserve assets to the ECB	5,123.39	4,782.87	340.52
Net claims related to the allocation of euro banknotes within the Eurosystem	70,250.16	47,244.47	23,005.69
TOTAL	**76,686.08**	**53,105.07**	**23,581.01**

a Participating interest in the ECB

Pursuant to Article 28 of the ESCB Statute, the ESCB national central banks are the sole subscribers to the capital of the ECB. Subscriptions depend on the participating interests fixed in accordance with Article 29 of the ESCB Statute based on each country's share in the total population and gross domestic product of the ESCB countries per data furnished by the European Commission. These subscriptions must be adjusted every five years or whenever new Member States join the European Union, i.e. when their NCBs join the ESCB. In this respect, the third five-yearly change in the capital keys took place on 1 January 2014. That date also saw the admission of a new Eurosystem member, the Central Bank of Latvia. Based on the Council Decision of 15 July 2003 on the statistical data to be used for the determination of the key for subscription of the capital of the European Central Bank, the capital keys of the NCBs were adjusted on the aforementioned date, as follows:

	ECB's Capital Key (%)	
	Until 31 December 2013	Since 1 January 2014
Nationale Bank van België/Banque Nationale de Belgique	2.4176	2.4778
Deutsche Bundesbank	18.7603	17.9973
Eesti Pank	0.1780	0.1928
Central Bank and Financial Services Authority of Ireland	1.1111	1.1607
Bank of Greece	1.9483	2.0332
Banco de España	8.2533	8.8409
Banque de France	14.1342	14.1792
Banca d'Italia	12.4570	12.3108
Central Bank of Cyprus	0.1333	0.1513
Banque centrale du Luxembourg	0.1739	0.2030
Central Bank of Malta	0.0635	0.0648
De Nederlandsche Bank	3.9663	4.0035
Oesterreichische Nationalbank	1.9370	1.9631
Banco de Portugal	1.7636	1.7434
Banka Slovenije	0.3270	0.3455
Národná banka Slovenska	0.6881	0.7725
Suomen Pankki – Finlands Bank	1.2456	1.2564
Latvijas Banka	—	0.2821
Subtotal for euro area NCBs	**69.5581**	**69.9783**
Българска народна банка (Bulgarian National Bank)	0.8644	0.8590
Česká národní banka	1.4539	1.6075
Danmarks Nationalbank	1.4754	1.4873
Latvijas Banka	0.2742	—
Lietuvos bankas	0.4093	0.4132
Magyar Nemzeti Bank	1.3740	1.3798
Narodowy Bank Polski	4.8581	5.1230
Banca Națională a României	2.4449	2.6024
Sveriges Riksbank	2.2612	2.2729
Bank of England	14.4320	13.6743
Hrvatska narodna banka	0.5945	0.6023
Subtotal for non-euro area NCBs	**30.4419**	**30.0217**
TOTAL (a)	**100.0000**	**100.0000**

a Due to the rounding, the subtotals and totals may not equal the sum of the individual figures in the table.

On 1 January 2014, the Banco de España's key for subscription of ECB capital (€10,825 million) increased from 8.2533% to 8.8409%, and its participating interest in the ECB rose from €893.42 million to €957.03 million.

This item also includes the participating interest in the rest of ECB equity. This amount rose by €171.19 million during the year to €355.49 million at 31 December 2014, as a result of the aforementioned increase in the share of the ECB capital key on 1 January 2014.

b Claims equivalent to the transfer of foreign reserve assets to the ECB

These represent the ECB's debt to the Banco de España arising from the transfer of foreign reserve assets to the ECB. The claims equivalent to the transferred reserves are denominated in euro at a value fixed from the time of their transfer. They are remunerated at the latest available marginal rate for the Eurosystem's main refinancing operations, reduced by 15% to reflect a zero return on the gold component, which at the time accounted for 15% of the total reserves transferred.

The change in the ECB's capital key on 01 January 2014 made it necessary to adjust the assets that the ECB credited to the NCBs for their contributions of external reserve assets to it. To reflect the increase in the Banco de España's share of the ECB capital key, an additional contribution of €340.52 million was made, as a result of which the balance in 2014 rose to €5,123.39 million.

c Net claims related to the allocation of euro banknotes within the Eurosystem

This item, the balance of which amounted to €70,250.16 million at end-2014, consists of the claims and liabilities of the Banco de España vis-à-vis the Eurosystem in relation to the allocation of euro banknotes within the Eurosystem when there is an overall debit balance (see "Banknotes in circulation" and "Intra-Eurosystem balances" in the section on accounting policies).

The increase with respect to 2013 (€23,005.69 million) can be explained by two factors: on the one hand, the decrease in banknotes put into circulation by the Banco de España in 2014 (-16.2%, €9,231 million) and the contrasting rise in the Eurosystem as a whole (6.3%, €60,352 million); on the other, the increase in the share of the ECB capital key, which took place on 1 January 2014.

d Other claims within the Eurosystem (net)

In accordance with Eurosystem rules, since the accounts making up this item have a net credit balance, this information is presented on the liabilities side of the balance sheet (see Note 21 to the balance sheet).

10 OTHER ASSETS. TANGIBLE AND INTANGIBLE FIXED ASSETS

The balance of this item amounted to €272.37 million at end-2014, of which €704.30 million related to cost and €431.93 million to accumulated depreciation.

The breakdown of this sub-item into its components, together with their accumulated depreciation, is as follows:

EUR m

	2014	2013	Change
Tangible fixed assets	528.87	521.19	7.68
Land and unbuilt plots	5.35	5.35	—
Buildings, structures and renovation work	111.92	111.51	0.41
Plant in buildings	196.55	191.28	5.27
Furniture and fittings	39.37	38.78	0.60
Office machines other than computer equipment	55.53	54.77	0.76
Computer equipment	62.09	61.48	0.60
Transport equipment	8.11	8.12	—
Libraries	4.76	5.02	-0.26
Other tangible fixed assets	5.14	5.11	0.03
Art collection	40.04	39.78	0.26
Intangible fixed assets	95.25	89.10	6.16
Computer applications	95.20	89.04	6.16
Industrial property	0.06	0.06	—
Fixed assets in progress	80.18	53.76	26.42
Buildings, plant in buildings and other structures	8.78	8.15	0.63
Computer applications of Banco de España	25.22	18.60	6.62
Computer applications of Eurosystem	45.37	25.90	19.46
Other fixed assets in progress	0.81	1.10	-0.29
TOTAL	**704.30**	**664.05**	**40.25**

EUR m

Accumulated depreciation or amortization	2014	2013	Change
Tangible fixed assets	-355.27	-338.00	-17.27
Buildings, structures and renovation work	-44.06	-41.50	-2.56
Plant in buildings	-160.34	-151.44	-8.90
Furniture and fittings	-33.05	-31.43	-1.62
Office machines other than computer equipment	-46.70	-45.42	-1.28
Computer equipment	-55.43	-52.96	-2.48
Transport equipment	-7.95	-7.67	-0.28
Libraries	-3.01	-3.06	0.05
Other tangible fixed assets	-4.73	-4.52	-0.20
Intangible fixed assets	-76.66	-68.08	-8.58
Computer applications	-76.61	-68.02	-8.58
Industrial property	-0.06	-0.06	—
TOTAL	**-431.93**	**-406.07**	**-25.85**

The increase in fixed assets in 2014 basically arose from increased investment in development of certain computer applications and implementation of projects, both for the Eurosystem and locally, and from the acquisition and updating of software licences. It was also due to the refurbishment of the general archives and adjacent areas, and to the refurbishment of the Barcelona branch premises. Overall, fixed assets net of depreciation increased with respect to the previous year by €14.39 million.

11 OTHER ASSETS. OTHER FINANCIAL ASSETS

This item includes €25.25 million of financial investments relating mainly to the Banco de España's participating interests in the Bank for International Settlements.

12 OTHER ASSETS. OFF-BALANCE-SHEET INSTRUMENTS REVALUATION DIFFERENCES

This item includes the amount of the net debtor position arising from foreign-exchange forward and swap transactions valued at the exchange rates prevailing at the end of the year. When the position is a creditor one, it is recorded under the same heading in liability item 12.1. Its debit balance of €60.06 million as at end-2014 is the net value of the swap and forward transactions outstanding at that date that are listed below:

			2014			2013
Operation	Position	Currency	Currency amount (million)	Market exchange rate	Equivalent (million €)	Equivalent (million €)
Swap	Debtor	USD	1,324.20	1.2141	1,090.69	2,072.97
	Creditor	JPY	149,678.54	145.2300	1,030.63	1,968.93
Forward	Debtor	EUR	45.09	1.0000	45.09	—
		USD	55.01	1.2141	45.31	0.42
	Creditor	EUR	45.09	1.0000	45.09	—
		USD	55.00	1.2141	45.30	—
		JPY	1.46	145.2300	0.01	0.39
Net position					**60.06**	**104.07**

At year-end there were unexpired US dollar-yen swaps. As regards forward transactions, there are forward sales yet to be executed of yen against US dollars, euro against US dollars and US dollars against euro.

The purpose of the US dollar-yen swaps is to cover the yen-US dollar exchange rate risk on investments in yen-denominated securities.

13 OTHER ASSETS. ACCRUALS AND PREPAID EXPENSES

The main components of this item, the balance of which amounts to €3,190.68 million, are as follows:

EUR m

	2014	2013	Change
Accrued interest arising from securities acquisitions and accrued coupon interest receivable	2,025.50	2,069.67	-44.17
Trading portfolio	752.64	763.85	-11.21
Denominated in foreign currency	39.71	34.17	5.54
Denominated in euro	712.93	729.68	-16.75
Held-to-maturity portfolio	742.41	700.80	41.61
Denominated in foreign currency	80.74	54.46	26.28
Denominated in euro	661.67	646.33	15.34
Held for monetary policy purposes	530.45	605.02	-74.57
Other accrued interest receivable	1,160.12	2,418.18	-1,258.06
On monetary policy operations	1,140.23	2,347.68	-1,207.44
On intra-Eurosystem claims arising from banknotes adjustments	8.70	41.84	-33.14
On claims equivalent to the transfer of foreign reserves to the ECB	7.20	22.81	-15.61
On foreign currency deposits	2.18	3.57	-1.39
Claims on the IMF	0.79	1.28	-0.49
On swap operations	0.72	0.96	-0.24
Other	0.29	0.04	0.25
Accrued commissions receivable and prepaid expenses	5.06	5.04	0.02
TOTAL	**3,190.68**	**4,492.89**	**-1,302.21**

As can be seen in the above table, the most significant item relates to accrued interest receivable on monetary policy operations, which decreased (by €1,207.44 million) due to the smaller volume of outstanding long-term transactions at year-end, as institutions availed themselves of the early redemption options offered by the three-year refinancing operation. The other main accounts are accrued interest arising from securities purchases and accrued coupon interest receivable denominated in euro arising from the trading portfolio (€712.93 million), from the held-to maturity portfolio (€661.67 million) and from monetary policy operations (€530.45 million). Overall, this interest decreased by €44.17 million from the previous year. There was also a decrease in interest receivable on claims equivalent to the transfer of foreign reserve assets to the ECB, the interest accrued on intra-Eurosystem banknote adjustment and offsetting accounts as a result of the lower interest rate on main refinancing operations and the lesser interest receivable on foreign-currency deposits and swap transactions.

14 OTHER ASSETS. SUNDRY

The most significant components of this item, which totals €1,639.70 million, are the transfer to the Treasury on 1 December 2014 of €1,413.15 million, equivalent to 70% of the Bank's profits earned to 30 September 2014, adjusted in line with the projected performance of profits up to year-end (see Note 15 to the profit and loss account), which was €27.59 million higher than in the previous year, and the home loans and repayable advances granted to Bank employees, the balance of which, at €179.70 million, was up €2.14 million with respect to 2013.

15 BANKNOTES IN CIRCULATION

The balance of banknotes in circulation (€118,152.21 million) represents the Banco de España's share in the total euro banknotes in circulation (see "Banknotes in circulation" in Section 3.1 "Accounting Policies") according to the Eurosystem euro banknote allocation key, which went from 10.9160% of the total issue by all central banks at end-2013 to 11.6230% of the total as at 31 December 2014. This key is obtained by taking the Eurosystem capital key and deducting the 8% of the total corresponding to the ECB. The increase arose from the changes in the ECB capital key as a result of the five-yearly revision and Latvia joining the euro area on 1 January 2014.[17]

This balance was €13,775.06 million higher than in the previous year because of the greater volume of euro banknotes in circulation in the Eurosystem and the aforementioned increase in the banknote allocation key. The difference between the balance of the banknotes allocated as per the balance sheet and those put into circulation by the Banco de España is recorded in an adjustment account under this heading, with a balancing entry in item 9.4 on the assets side of the balance sheet.

The composition of the banknotes put into circulation by the Banco de España as at end-2014 is as follows:

Series	Number of banknotes (thousands)	Millions of euro
€ 500	73,263	36,631.31
€ 200	11,032	2,206.31
€ 100	2,906	290.63
€ 50	880,485	44,024.27
€ 20	-1,268,933	-25,378.66
€ 10	-938,603	-9,386.03
€ 5	-97,159	-485.80
Euro Banknotes put into circulation by Banco de España		47,902.05
Adjustment as per banknote allocation key		70,250.16
Banknotes in circulation		118,152.21

16 LIABILITIES TO EURO AREA CREDIT INSTITUTIONS RELATED TO MONETARY POLICY OPERATIONS DENOMINATED IN EURO

The overall balance of the different types of deposit held by credit institutions with the Banco de España amounted to €17,851.46 million at end-2014, €12,932.03 million less than in the previous year. This decline was basically due to the sharp decrease in the deposit facility, and in the balances of credit institution current accounts (including minimum reserves).

The breakdown and the amounts in both reporting years are as follows:

17 Following the accession of Lithuania to the Eurosystem on 1 January 2015, the banknote allocation key decreased from 11.6230% to 11.5550%.

EUR m

Type of liability	2014	2013	Change
Current accounts (covering the minimum reserve system)	12,631.44	15,949.79	-3,318.35
Deposit facility	5,220.00	14,833.00	-9,613.00
Fixed-term deposits	—	—	—
Fine-tuning reverse operations	—	—	—
Deposits related to margin calls	0.02	0.70	-0.68
TOTAL	**17,851.46**	**30,783.49**	**-12,932.03**

The first component, which includes the total current accounts held by credit institutions at the Banco de España, in which they maintain the minimum reserves required for monetary policy implementation purposes, underwent a decrease of €3,318.35 million (20.8%). Its average balance also decreased during the year, from €13,446.87 million in 2013 to €11,886.42 million in 2014 (11.6%). The balances maintained to meet minimum reserve requirements are remunerated at the average of the marginal interest rate on main refinancing operations in the period. According to the Decision of the ECB (ECB/2014/23) on the remuneration of deposits, balances and holdings of excess reserves, reserve holdings exceeding the required minimum reserves shall be remunerated at zero per cent or the deposit facility rate, whichever is lower.[18]

The item "Deposit facility", which includes overnight deposits remunerated at a fixed interest rate (lower than the interest rate on main refinancing operations), decreased from €14,883.00 million in 2013 to €5,220.00 million in 2014. Its average balance also decreased significantly (€1,190.72 million in 2014 compared with €9,446.23 million in 2013), following the ECB Governing Council's decision that these deposits would be remunerated at a negative interest from 11 June 2014.

The balance of fixed-term deposits was zero as at 31 December 2014. They are fine-tuning operations (liquidity withdrawals) that take the form of deposits. During the first half of 2014 the Eurosystem carried several operations of this type, in which no Spanish institutions were involved.

The other captions in this item relate to fine tuning reverse operations, aimed at the withdrawal of liquidity, and deposits related to margin calls. As at 31 December 2014, fine tuning reverse operations had a zero balance, while institutions' deposits related to margin calls (see Note 6 to the balance sheet) amounted to €0.02 million.

17 LIABILITIES TO OTHER EURO AREA RESIDENTS DENOMINATED IN EURO. GENERAL GOVERNMENT

This item includes the deposits held by general government with the Banco de España. The outstanding balance at year-end was €54.61 million, which breaks down as follows:

18 The ECB Governing Council resolved to apply a negative interest rate on the deposit facility as from 11 June 2014.

EUR m

	2014	2013	Change
Central government (State)	15.10	410.92	-395.82
Treasury current account	9.59	100.12	-90.53
Other central government agencies and similar bodies	5.51	310.80	-305.29
Territorial government	12.95	555.44	-542.50
Regional (autonomous) governments, administrative agencies and similar bodies	12.13	554.76	-542.63
Local government	0.81	0.68	0.13
Social security funds	26.57	1,150.41	-1,123.84
Social Security System	26.19	1,148.60	-1,122.40
Other	0.38	1.81	-1.43

The decrease in this item (€2,062.16 million) was due to the lower balances, compared with 2013, held by central government (€395.82 million), by regional and local government (€542.50 million), and by social security funds (€1,123.84 million). As regards average balances, there was a decrease in those held by central government (€445.60 million in 2014 against €4,631.23 million in 2013), by regional authorities (€210.03 million compared with €534.94 million in 2013) and by social security funds (€1,208.39 million in 2014 against €2,820.82 in 2013). The decrease in these balances follows the approval of the aforementioned decision by the ECB (ECB/2014/23), which changes the remuneration applicable to certain deposits held by Banco de España. Specifically, in respect of general government deposits, the decision stipulates that the total amount of all overnight and fixed term general government deposits with an NCB exceeding certain limits shall be remunerated with an interest rate of zero per cent or at the deposit facility rate, if lower.[19]

Most of the balances held by central government are subject to an assignment to credit institutions through an auction conducted on behalf of the Treasury.

18 LIABILITIES TO OTHER EURO AREA RESIDENTS DENOMINATED IN EURO. OTHER LIABILITIES

Included here are the current accounts of financial institutions other than credit institutions, such as the Deposit Guarantee Fund, financial intermediaries associated with securities markets settlement, intermediaries in the debt book-entry market, etc., as well as the current accounts of non-administrative public and autonomous agencies of the State, the current accounts of employees and pensioners and other accounts of legal entities classified in "Other resident non-financial sectors".

The balance of €379.45 million at end-2014 was €1,668.17 million lower than at end-2013, basically due to the closure of current accounts in the name of securitisation special purpose entities, resulting from remuneration at negative interest rates as from June 2014, agreed by the ECB Governing Council.

19 LIABILITIES TO NON-EURO AREA RESIDENTS DENOMINATED IN EURO

This item includes basically the euro-denominated accounts held by international organisations, non-Eurosystem monetary authorities and central banks to which reserve management services are provided. The balance of €519.68 million was €374.70 million higher than a year earlier due to an increase in the deposits of central banks to which reserve management services are provided which was partially offset by a decrease in the deposits of international organisations and non-Eurosystem monetary authorities.

19 The ECB Governing Council resolved to apply a negative interest rate on the deposit facility as from 11 June 2014.

20 COUNTERPART OF SPECIAL DRAWING RIGHTS ALLOCATED BY THE IMF

This item of €3,371.58 million shows the equivalent amount of the special drawing rights allocated to Spain by the IMF, the balancing entry to the initial allocation of SDRs recorded in item 2.1 on the assets side of the balance sheet. The total amount of this item increased by €209.52 million with respect to the previous year, due to the variation in the exchange rate.

21 INTRA-EUROSYSTEM BALANCES

This item, which as at 31 December 2014 had a balance of €189,717.85 million, comprises the following two sub-items:

a Net liabilities related to the allocation of euro banknotes within the Eurosystem

In accordance with Eurosystem rules, since the accounts making up this item have a net debit balance, this information is presented on the assets side of the balance sheet (see Note 9 to the balance sheet).

b Other liabilities within the Eurosystem (net)

The balance of €189,717.85 million as at 31 December 2014 represents the sum of three components: 1) the position of the Banco de España vis-à-vis the ECB in respect of the transfers issued and received through TARGET2 by the ESCB national central banks, including the ECB, plus the balances held with Eurosystem central banks through correspondent accounts; 2) the position vis-à-vis the ECB in respect of the pooling and allocation of monetary income within the Eurosystem pending settlement; and 3) the Banco de España's position vis-à-vis the ECB in respect of any amounts receivable or refundable, basically in respect of the seigniorage income relating to euro banknotes issued by the ECB and of the income on securities acquired by the ECB under the Securities Markets Programme (SMP), the third covered bond purchase programme (CBPP3) and the asset-backed securities purchase programme (ABSPP).

The breakdown of the balance of this item is as follows:

EUR m

	2014	2013	Change
BDE's position vis-à-vis ECB due to transfers made and received through TARGET2 and correspondent banking	189,865.41	213,684.62	-23,819.21
Position with ECB due to contribution and allocation of monetary income	-41.35	-139.97	98.62
Dividend from banknote seigniorage and SMP, CBPP3 & ABSPP income	-106.21	-162.52	56.30
TOTAL	**189,717.85**	**213,382.14**	**-23,664.29**

Regarding the first component, the year-end net transfers via TARGET2 had a credit balance of €189,865.44 million, while the correspondent accounts showed a debit balance of €0.03 million. The remuneration of this position is calculated daily at the marginal interest rate of Eurosystem main refinancing operations. Its average balance decreased considerably during the year from €283,518.09 million in 2013 to €212,381.75 million in 2014, mainly as a result of the decrease in the monetary policy loans on the assets side of the balance sheet.

The second component, i.e. the position vis-à-vis the ECB in respect of the annual pooling and allocation of monetary income within the Eurosystem national central banks, had a debit balance of €41.35 million at year-end (see "Net result of pooling of monetary income" in Note 8 on the profit and loss account).

Finally, in 2014 the ECB Governing Council resolved to distribute substantially all the income obtained from the seigniorage of euro banknotes[20] and from securities purchased under the SMP, CBPP3 and ABSPP. The amount corresponding to the Banco de España was recorded as 2014 income and received on 30 January 2015. Its debit balance at end-2014 was €106.21 million (see "Income from equity shares and participating interests" in Note 7 on the profit and loss account).

22 ITEMS IN COURSE OF SETTLEMENT

Included here are various accounts which as at 31 December 2014 were in the course of settlement, such as transfer instructions pending execution and transfers sent to deposit institutions yet to be reimbursed.

The balance of this item amounted to €22.23 million at end-2014, of which €13.44 million related to transfers ordered by customers of the Banco de España not yet paid to the receiving entities and €3.49 million to transfers received from the TARGET2 Platform but yet to be processed.

23 OTHER LIABILITIES. OFF-BALANCE-SHEET INSTRUMENTS REVALUATION DIFFERENCES

This item includes the amount of the net creditor position arising from foreign-exchange forward and swap transactions valued at the exchange rates prevailing at the end of the year. When the position is a debtor one, as in the reporting year, it is recorded under the same heading in asset item 11.4 (see Note 12 to the balance sheet).

24 OTHER LIABILITIES. LIABILITY ACCRUAL ACCOUNTS AND INCOME COLLECTED IN ADVANCE

This item includes interest accrued but not yet paid, expenses accrued but not yet paid and income collected in advance.

As at 31 December 2014, its balance amounted to €9.93 million and the main component was interest incurred on intra-Eurosystem accounts relating to TARGET2 transactions (€8.21 million, down €43.21 million on the previous year due to decreases in both the balance of these accounts and the interest rate applicable).

25 OTHER LIABILITIES. SUNDRY

This includes other liabilities not classifiable above.

As at 31 December 2014 the balance of this item amounted to €119.54 million (€0.72 million less than in 2013) and its main sub-items were the cash immobilised under EU legislation arising from redemptions of and interest on book-entry government debt (€28.00 million) and the accounts payable relating to accrued operating expenses (€35.20 million).

26 PROVISIONS

With the exception of country-risk provisions, which are presented in the balance sheet as reductions of the value of the assets concerned, provisions are recorded under this item, with the following breakdown:

20 Decision of the European Central Bank of 15 December 2014 (ECB/2014/57) on the interim distribution of the income of the European Central Bank.

EUR m

	2014	2013	Change
For financial risks	9,903.97	8,713.12	1,190.85
For operational risk	84.55	40.75	43.80
For exchange of withdrawn peseta banknotes	50.05	59.86	-9.81
For early repayment of special loans	7.63	99.17	-91.54
For 2011-2014 collective labour agrement	7.73	7.28	0.45
For death and retirement assistance	62.27	61.35	0.92
For early and regular retirement	26.07	27.05	-0.97
For sundry liabilities and charges	42.35	5.10	37.25
TOTAL	**10,184.62**	**9,013.67**	**1,170.95**

Provision for financial risks

This is the most important provision. It encompasses the provisions for exchange rate and interest rate risks and the provision for credit risks.

The balance of this provision as at 31 December 2014 amounted to €9,903.97 million, which was €1,190.85 million more than in 2013. Of the balance as at 31 December 2013 (€8,713.12 million), €0.02 million were used to cover exchange losses and €4.74 million to cover interest rate losses (no credit risk losses were incurred) and €1,195.61 million were provisioned for the estimated risk as at 31 December 2014 (see Note 5 to the profit and loss account).

The balance of this provision is revised annually based on the Banco de España's valuation of its exposure to the aforementioned risks by value-at-risk methodology (VaR). In this connection, on 30 January 2015 the Executive Commission reviewed the methodology for calculating the provision and, as a result, decided to increase the level of risk coverage.

Provision for operational risk

The Executive Commission approved in 2009 a methodology for calculating operational risk with a view to setting aside a provision for any losses arising from operational risk. It recorded a provision equal to 10% of the operational risk exposure. This exposure is quantified on the basis of one-year VaR with a confidence level of 99.9%. On 30 January 2015, the Executive Committee resolved to increase the level of coverage for operational risk to 20%.

This provision was used at end-2014 to cover the operational risk events which occurred during the year (see Note 14 to the profit and loss account) for an amount of €0.03 million, and the €43.83 million set aside took its balance to €84.55 million.

Provision for exchange of peseta banknotes withdrawn from circulation due to the introduction of the euro

This is the most important of the two provisions set aside for the exchange of peseta banknotes withdrawn from circulation.[21] It was recorded initially in 2005 to cater for the exchange of any peseta banknotes withdrawn from circulation due to the introduction of the euro that may be tendered at the Banco de España. At the same time, the Council of Ministers decided that if the amount of banknotes tendered for exchange exceeded the amount of the provision at that time, the Banco de España would meet the excess with a charge to its reserves.

In November 2010 the balance of the provision fell to zero. Accordingly, pursuant to a resolution of the Executive Commission, an additional €50 million were provisioned (provision for a period of approximately five years), using the Banco de España reserves arising from the retention of 2005 earnings. In 2013 an additional amount of €50.19 million was recorded (extending to 2020 the scheduled end-date of the exchange period) with a charge to the Banco de España reserves.

21 The provisions for exchange of peseta banknotes withdrawn from circulation also include another one for €0.76 million.

Provision for losses arising from early repayment of special loans

The agreement in 2007 with the Spanish State government whereby the Treasury can ask to repay a portion or all of these loans early, paying a cash amount equal to their market value at that time instead of their nominal amount, led the Banco de España to set up in that year a provision for the possible losses that may arise from early repayment of special loans, recorded in asset item 8 (see Note 8 to the balance sheet). The balance of this provision was set at the difference between the nominal amount and the current market value of the loans. As at 31 December 2014 it had a balance of €7.63 million, down €91.54 million from the previous year (€25.57 million used in relation to repayment of the amount due in the year and €65.96 million for adjustment of loans to their market value).

Other provisions

In the reporting year there was an increase of €37.25 million in the provision for sundry liabilities and charges, as a result of ongoing lawsuits (see Note 14 to the profit and loss account).

Variations in the remaining provisions (for death and retirement assistance and for early and regular retirement, in application of the collective labour agreement for 2011-2014) were negligible in this reporting year.

27 REVALUATION ACCOUNTS

This item includes the revaluations arising from unrealised gains on financial assets and liabilities valued at market prices and exchange rates at year-end. It may be broken down as follows:

EUR m

Type of account	2014	2013	Change
Gold	8,092.58	7,037.38	1,055.21
Foreign currency	3,276.70	0.02	3,276.68
Securities (trading portfolio)	3,148.58	2,001.13	1,147.45
Issued in foreign currency by non-euro area residents	46.80	11.92	34.88
Issued in euro by euro area residents	3,101.77	1,989.21	1,112.56
TOTAL	**14,517.86**	**9,038.52**	**5,479.34**

The balance of revaluation accounts at end-2014 was €14,517.86 million, up €5,479.34 million with respect to 2013. The main change was in the foreign exchange revaluation accounts, which increased by €3,276.68 million, basically due to the appreciation of the US dollar and the SDR against the euro (€3,150.25 million and €126.40 million, respectively).

With respect to gold, the unrealised gains were €1,055.21 million higher as a result of the increase in its market price (from €871.22 per ounce at end-2013 to €987.77 per ounce at end-2014).

With regard to securities price revaluation accounts, the main change was in trading-book debt securities of euro area residents denominated in euro, the unrealised gains on which increased by €1,112.56 million as a result of the fall in interest rates.

28 CAPITAL

As at 31 December 2014 the capital of the Banco de España amounted to €1,000 million, with no change in the year. Of this amount, €1.37 million were constituted pursuant to Decree-Law 18/1962 of 7 June 1962 and €998.63 million as a capital increase carried out in 2006 through the retention of 2005 earnings.

29 RESERVES

As at 31 December 2014 the reserves of the Banco de España amounted to €899.81 million, unchanged from the previous year. Included in this item is, first, the amount of capital, reserves and profits that arose in 1973 when the now-defunct Spanish Foreign Currency Institute was included in the Banco de España (€3.17 million) and, second, the portion of 2005 and 2006 profit taken to reserves, authorised by the Council of Ministers, respectively, on 28 July 2006 and 29 June 2007.

30 PROFIT FOR THE YEAR

The net profit for 2014 amounted to €2,519.22 million, down 20% from 2013. Of this amount, €1,413.15 million was paid to the Treasury on 1 December 2014, in accordance with Royal Decree 2059/2008 of 12 December 2008 (see Note 15 to the profit and loss account "Profit for the year") and are included in asset item 11.6.

During the year, the following amounts were also paid to the Treasury out of 2013 profits:

a On 3 March 2014, €1,447.26 million, which, together with the payment in December 2013, amounted to 90% of the €3,147.58 million of distributable profit for that year.

b On 15 September 2014, once the balance sheet and profit and loss account for the year 2013 had been approved by the Council of Ministers, €314.76 million, representing the rest of the distributable profit for that year.

The details of the various components of the profit for 2014 and the reasons for the changes in them with respect to 2013 are given in Section 3.3 below on the profit and loss account.

3.3 Notes to the profit and loss account

This item includes income from interest accrued on the financial assets of the Banco de España. The breakdown in 2014 and 2013 is as follows:

1 INTEREST INCOME

EUR m and %

	Interest income			Average investment		Average return	
	2014	2013	Change	2014	2013	2014	2013
Foreign currency	242.92	242.12	0.80	28,467	28,269	0.8	0.8
Securities	217.89	205.21	12.68	20,740	20,495	1.0	1.0
Deposits and other assets	18.32	25.34	-7.02	7,727	7,774	0.2	0.3
Exceptional liquidity-providing operations, swap, forward and others	6.71	11.57	-4.87				
Euro	4,152.25	6,146.36	-1,994.10	319,759	393,341	1.3	1.5
Securities	3,745.87	4,409.83	-663.97	83,442	91,085	4.4	4.8
Trading portfolio	1,364.34	1,728.85	-364.50	27,770	32,809	4.8	5.2
Held-to-maturity portfolio	956.03	977.24	-21.21	29,768	27,196	3.2	3.5
SMP	1,127.77	1,347.00	-219.22	19,146	22,996	5.8	5.8
CBPP, CBPP2 and CBPP3	297.72	356.74	-59.02	6,759	8,083	4.3	4.4
Monetary policy operations	300.90	1,494.88	-1,193.98	169,963	258,300	0.2	0.6
Main refinancing operations	38.21	133.30	-95.09	24,621	22,714	0.2	0.6
Longer-term refinancing operations	262.66	1,361.58	-1,098.92	145,332	235,586	0.2	0.6
Marginal lending facility	0.03	—	0.03	4	—	0.7	—
Changes in the value of collateral	-0.01	—	-0.01	6	—	-0.1	0.5
Intra-Eurosystem accounts	104.47	236.86	-132.39	66,353	43,956	0.2	0.5
Claims equivalent to the transfer of foreign reserves to the ECB	7.20	22.81	-15.61	5,123	4,783	0.1	0.5
Claims related to allocation of euro banknotes within the Eurosystem	97.24	213.78	-116.54	61,218	39,136	0.2	0.5
Other claims within the Eurosystem (net)	0.03	0.27	-0.24	12	37	0.2	0.7
Other assets	1.02	4.78	-3.76				
TOTAL	**4,395.18**	**6,388.48**	**-1,993.30**	**348,226**	**421,610**	**1.2**	**1.5**

Interest income in 2014 amounted to €4,395.18 million, of which €4,152.25 million was euro-denominated interest income, basically from euro-denominated securities portfolios (€3,745.87 million) and monetary policy operations (€300.90 million), the average yield on securities portfolios (4.4%) being notably higher than that on monetary policy operations (0.2%).

This income decreased by €1,993.30 million in 2014 compared with 2013, entirely as a result of the decline in interest on euro-denominated investments (€1,994.10 million).

The main reasons for the decrease of €1,994.10 million in euro-denominated income were the smaller remunerated average balance (down from €393,341 million in 2013 to €319,759 million in 2014) and the lower average yield (down from 1.5% in 2013 to 1.3% in 2014).

Specifically, analysis of the average investment made discloses the significant decreases in monetary policy operations (€258,300 million in 2013 against €169,963 million in 2014), derived from the lower funding requested by Spanish financial institutions from the ECB (see Note 6 to the balance sheet). Investment in securities also fell, to a lesser extent, from €91,085 million in 2013 to €83,442 million in 2014. Furthermore, there was an increase in claims related to the allocation of euro banknotes, the average balance of which rose from €39,136 million in 2013 to €61,218 million in 2014 as a result of changes in banknotes put into circulation (down 16.2% in Spain, compared with a 6.3% increase the Eurosystem as a whole).

There were decreases in the average yield on securities portfolios (from 4.8% in 2013 to 4.4% in 2014), on monetary policy operations (from 0.6% in 2013 to 0.2% in 2014) and on intra-Eurosystem accounts (from 0.5% to 0.2%).

2 INTEREST EXPENSES

This item includes interest expenditure on the liabilities listed below, as follows:

EUR m and %

	Interest expense			Average financing		Average cost	
	2014	2013	Change	2014	2013	2014	2013
Foreign currency	2.75	6.81	-4.06				
Exceptional liquidity-providing operations and other liabilities	2.75	6.81	-4.06				
Euro	383.59	1,714.81	-1,331.23	226,925	313,023	0.2	0.5
Monetary policy operations	16.13	60.64	-44.51	13,083	22,908	0.1	0.3
Remuneration of minimum reserves	16.20	60.56	-44.36	11,886	13,447	0.1	0.4
Deposit facility	-0.07	—	-0.07	1,191	9,446	—	—
Fixed-term deposits	—	—	—	—	5	—	0.1
Changes in the value of collateral	-0.01	0.07	-0.08	6	11	-0.1	0.7
General government deposits	0.61	17.71	-17.10	1,460	6,597	—	0.3
Other liabilities within the Eurosystem (net)	363.65	1,625.49	-1,261.84	212,382	283,518	0.2	0.6
Other liabilities denominated in euro	3.21	10.98	-7.78				
TOTAL	**386.33**	**1,721.62**	**-1,335.29**	**226,925**	**313,023**	**0.2**	**0.5**

The euro-denominated interest expenses (€383.59 million) arise mainly from the remuneration of intra-Eurosystem TARGET2-related balances on the liabilities-side of the balance sheet (€363.65 million) and, to a much lesser extent, from remuneration of monetary policy operations (€16.13 million).

Overall, interest expenses decreased by €1,335.29 million in 2014, mainly due to the lower expense of euro-denominated liabilities (€1,331.23 million).

The decrease in euro-denominated expenses (€1,331.23 million) was basically due to the lower average cost at which liabilities were remunerated, which fell from 0.5% in 2013 to 0.2% in 2014, and to the smaller average balance of liabilities to be remunerated (€313,023 million in 2013 compared with €226,925 in 2014). Specifically, the net credit balance of intra-Eurosystem balances (TARGET2) decreased from €283.518 million in 2013 to €212,382 million in 2014.

The decrease of €17.10 million in interest expenses for general government deposits was basically due to the lower average balance remunerated (down from €6,597 million in 2013 to €1,460 million in 2014) and to the lower average cost (0.27% in 2013 against 0.04% in 2014).

In this reporting year, this item includes the negative expenditure (income) arising from the decision of the Governing Council to remunerate certain deposits of banks and other financial institutions at negative interest rates.

3 REALISED GAINS/LOSSES ARISING FROM FINANCIAL OPERATIONS

This item includes the profits and losses arising from dealing in financial assets. In 2014 the net gains in this connection amounted to €23.72 million, arising from the following sources:

EUR m

	2014	2013	Change
Foreign currency	23.72	-15.25	38.98
Sale of gold	—	—	—
Sale of foreign currency (exchange effect)	30.90	10.66	20.25
Sale of securities (price effect)	29.37	-33.42	62.80
Other gains/losses	-36.56	7.51	-44.07
Euro	—	13.32	-13.32
Sale of securities	—	13.32	-13.32
TOTAL	**23.72**	**-1.94**	**25.66**

With respect to the prior year, the total amount recorded in 2014 increased by €25.66 million due to gains on the sales of foreign currency, SDRs and US dollars as a result of the appreciation of the dollar against the euro, and to the income obtained from the sale of securities denominated in US dollars, compared with the losses reported in 2013. These gains were partially offset by the losses on interest rate futures (recorded under "Other gains/losses").

4 UNREALISED LOSSES ON FINANCIAL ASSETS AND POSITIONS

This item includes the loss arising in the currency position derived from the exchange rate depreciation, as well as that arising from depreciation of securities prices, for that portion that cannot be offset by unrealised gains from previous years. The breakdown in 2014 and 2013 is as follows:

EUR m

	2014	2013	Change
Foreign currency	4.76	285.34	-280.58
Foreign currency (exchange rate losses)	0.02	241.40	-241.38
Securities (price losses)	4.74	43.94	-39.19
Euro	—	0.03	-0.03
Securities (price losses)	—	0.03	-0.03
TOTAL	**4.76**	**285.36**	**-280.60**

Unrealised losses in 2014 amounted to €4.76 million. They mostly related to unrealised price losses on fixed-income securities denominated in foreign currency (€4.74 million), basically due to changes in the market price of these securities.

5 TRANSFERS TO/FROM PROVISIONS FOR FINANCIAL RISKS

The breakdown of and change in this item are as follows:

EUR m

	2014	2013	Change
Net transfers to provisions for financial risks	-1,190.85	-1,438.17	247.32
Transfers to provision	-1,195.61	-1,723.53	527.92
Reversal/transfer from provision	4.76	285.36	-280.60
Transfer/reversal from provision for losses arising from early repayment of special loans	65.96	169.49	-103.52
TOTAL	**-1,124.89**	**-1,268.68**	**143.79**

This includes, first, the transfer of €4.76 million from the provision for financial risks to cover the losses recorded at end-2014 and, second, the transfer of €1,195.61 million to this provision to cover the estimated exposures in the financial positions subject to such risks, in accordance with the criteria for valuing these risks approved by the Executive Commission resolution on 30 January 2015.

Lastly, regarding the provision for losses arising from early repayment of special loans derived from the adjustment of the market value of these assets, in 2014 the provisioning expense underwent a negative change of €103.52 million with respect to 2013, due to the recovery of €65.96 million in 2014 as against the recovery of €169.49 million in 2013.

6 NET INCOME FROM FEES AND COMMISSIONS

This basically includes income and expenses arising from fees and commissions for banking services and the like (TARGET2, transfers, handling of cheques, custody and administration of securities, etc.). It may be broken down as follows:

EUR m

	2014	2013	Change
1 Income from fees and commissions	17.01	17.55	-0.55
Foreign operations	—	—	—
Domestic operations	17.01	17.55	-0.55
2 Expenses from fees and commissions	9.23	10.64	-1.42
Foreign operations	2.58	2.78	-0.20
Domestic operations	6.65	7.86	-1.21
NET INCOME FROM FEES AND COMMISSIONS (1-2)	**7.78**	**6.91**	**0.87**

Net fee and commission income in 2014 (€7.78 million) was €0.87 million more than in 2013. This variation relates basically to the lower expenditure for commissions paid on securities transactions. This decrease in expenditure was partially offset by the lower income from commissions obtained on securities transactions. Both the lower fee income from securities transactions and the lower fees and commissions paid were due to the decrease in the volume of transactions.

7 INCOME FROM EQUITY SHARES AND PARTICIPATING INTERESTS

This item includes the participating interest of the Banco de España in the profit of the ECB from ordinary operations, seigniorage income and income generated by various monetary policy portfolios of the ECB. It also includes the dividends on other shares and participating interests.

EUR m

	2014	2013	Change
ECB	113.40	212.77	-99.37
Ordinary dividend	7.19	50.25	-43.06
Dividend from banknote seigniorage income and SMP, CBPP3 and ABSPP income	106.21	162.52	-56.30
Other	2.33	8.59	-6.25
TOTAL	**115.74**	**221.36**	**-105.62**

Of the total amount of €115.74 million recorded, €106.21 million relate to the ECB dividend from banknote seigniorage income and income from securities purchased under the Securities Markets Programme (SMP), the third covered bond purchase programme (CBPP3) and the asset-backed securities purchase programme (ABSPP), €7.19 million to the ECB ordinary dividend for 2013 and €2.33 million to dividends from holdings in the Bank for International Settlements.

On 7 January 2015 the ECB Governing Council decided to distribute among Eurosystem NCBs €840.72 million relating to practically all the seigniorage income from its banknotes and to the income from its securities portfolio purchased within the framework of the Securities Markets Programme, the third covered bond purchase programme and the asset-backed securities purchase programme. The Banco de España received €106.21 million of this amount. The amount retained by the ECB to add to the provision for its financial risks amounted to €15.01 million and with this addition the upper limit of this provision was reached.

8 NET RESULT OF POOLING OF MONETARY INCOME

The amount of each Eurosystem NCB's monetary income is determined by calculating the annual income generated by the earmarkable assets held against the liability base net of the financial expenses incurred for the related liabilities. The liability base consists of the following items: banknotes in circulation; liabilities to credit institutions related to monetary policy operations denominated in euro; net intra-Eurosystem liabilities resulting from TARGET2 transactions whenever they have a credit balance; and net intra-Eurosystem liabilities related to the allocation of euro banknotes within the Eurosystem whenever they have a credit balance. Any interest paid on liabilities included within the liability base is to be deducted from the monetary income to be pooled. The earmarkable assets include the following items: lending to euro area credit institutions related to monetary policy operations; monetary policy portfolio securities; intra-Eurosystem claims equivalent to the transfer of foreign reserve assets to the ECB; net intra-Eurosystem claims resulting from TARGET2 transactions, whenever they have a debit balance; net intra-Eurosystem claims related to the allocation of euro banknotes in the Eurosystem, whenever they have a debit balance; and a limited amount of each NCBs gold holdings, in proportion to its capital key. Gold is considered to generate no income and the securities acquired under the first two covered bond purchase programmes are deemed to generate income at the interest rate on main refinancing operations. If the value of a NCB's earmarkable assets exceeds or is less than the value of its liability base, the difference will be offset by applying to it the most recent marginal interest rate on main refinancing operations.

The breakdown of this income in 2014 and 2013 is as follows:

EUR m

	2014	2013	Change
Net result of pooling of monetary income	-33.84	138.49	-172.33
Monetary income pooled	1,290.49	1,840.52	-550.03
Monetary income allocated	1,256.65	1,979.01	-722.36
Corrections of prior years	75.18	1.48	73.70
Provision for counterparty risk in monetary policy operations	—	33.58	-33.58
TOTAL	**41.35**	**173.55**	**-132.20**

The monetary income pooled by the Eurosystem is to be allocated or pooled among NCBs according to the ECB subscribed capital key. The difference between the monetary income pooled by the Banco de España in 2014, amounting to €1,290.49 million, and that reallocated to it, amounting to €1,256.65 million, is equivalent to a net contribution of €33.84 million. The basic reason for this contribution was that the Banco de España's monetary policy portfolios generated income in excess of the amount to which it is entitled according to its capital key.

In addition to this ordinary pooling, income was obtained from the insolvency proceedings at Lehman Brothers and Indover Bank, generating additional income of €75.18 million for Banco de España. Consequently, the net result for the year was €41.35 million.

Also, on 31 December 2013 the ECB Governing Council approved the cancellation of the provision for counterparty risk in Eurosystem monetary policy operations, due to the disappearance of the risks covered. Accordingly, the Banco de España released the provision recorded (€33.58 million), which had a balance of zero as from that date.

9 OTHER INCOME AND LOSSES

This includes the income and losses that cannot be included in other items, along with other diverse income of an exceptional nature. It may be broken down as follows:

EUR m

	2014	2013	Change
Extraordinary profit	1.17	0.58	0.58
Sundry	18.73	120.30	-101.57
TOTAL	19.90	120.88	-100.98

This item discloses net income and losses of €19.90 million, mostly relating to the Bank's participation in various projects for the Eurosystem, which generated income of €16.29 million in 2014.

With respect to the previous year, the net income and losses decreased by €100.98 million, basically due to the income on the sale in November 2013 of the shares of Bolsas y Mercados españoles, Sociedad Holding de Mercados y Sistemas Financieros S.A. (€117.42 million).

10 STAFF COSTS

This item includes wages and salaries, social insurance payments, staff welfare expenses and contributions to the pension scheme.

The breakdown of changes by component is as follows:

EUR m and %

	2014	2013	Change	(%)
Gross staff costs	223.13	219.34	3.79	1.7
Wages and salaries	162.64	162.68	-0.04	—
Social Security	34.68	32.11	2.57	8.0
Staff welfare expenses and pension scheme	25.80	24.55	1.26	5.1
Reversal of staff costs due to capitalization of computer applications	-2.57	-1.51	-1.06	70.2
TOTAL	**220.56**	**217.83**	**2.74**	**1.3**

Its balance increased from €217.83 million in 2013 to €220.56 million in 2014, a rise of €2.74 million (1.3%), mainly due to an increase in social security contributions resulting from higher contribution bases.

The following table sets out the changes in permanent and temporary staff, in terms of average number of employees:

	2014	2013	Change	%
Average number of employees	2,686.7	2,655.3	31.4	1.2
Managerial staff	1,696.2	1,656.3	39.9	2.4
Administrative staff	822.8	826.6	-3.8	-0.5
Other	167.8	172.4	-4.7	-2.7

As at 31 December 2014, the Bank's total staff numbered 2,675 employees, 30 more than at the same date of the previous year. Regarding the staff composition by gender, at 31 December 2014 women accounted for 45.8% of the Bank's total workforce.

The compensation of members of the governing bodies is set by the Minister for Economic Affairs and Competitiveness in accordance with the provisions of the Law of Autonomy of the Banco de España. In 2014 the Governor received a gross annual wage of €176,060 and the Deputy Governor received €203,410 in this connection.[22] The elected members of the Governing Council received a gross annual wage of €51,800; if they belonged to the Executive Commission, the gross annual wage was €64,980.

In addition to the foregoing, the members of the governing bodies received equal amounts of fees for attending meetings of the body to which they belonged, set at €1,026.79 per meeting of the Governing Council and €492.46 per meeting of the Executive Commission.

11 ADMINISTRATIVE EXPENSES

This item includes expenses arising from the purchase of current assets and of diverse services received during the year, as follows

22 These gross annual wages include supplementary salary items and wage arrears received by the Governor and the Deputy Governor in 2014, amounting to €1,360 and €29,810, respectively.

EUR m and %

	2014	2013	Change	%
Gross administrative expenses	131.40	129.44	1.96	1.5
Renting and maintenance	37.09	33.09	4.00	12.1
Material and supply	9.97	11.59	-1.62	-13.9
External services	67.33	67.27	0.07	0.1
Training, promotion and selection	3.96	4.51	-0.55	-12.2
Sundry operating expenses	13.04	12.99	0.06	0.4
Reversal of administrative expenses due to capitalization of computer applications	-4.59	-3.97	-0.61	15.4
TOTAL	**126.81**	**125.46**	**1.34**	**1.1**

The above table shows that, as in 2013, in 2014 the most significant administrative expenses were external services (€67.33 million), mainly IT services (€39.60 million) and rental and maintenance (€37.09 million), composed mainly of hardware and software rental and maintenance (€21.69 million) and property rental and maintenance (€10.14 million).

Goods and services expenses increased in 2014 (€1.34 million). The largest increase in the item was in "Rental and maintenance" (€4.00 million), basically due to higher rental and maintenance expenses for computer equipment and programmes (€4.25 million), partially offset by lower material and supply expenses (€1.62 million) and training, promotion and selection expenses (€0.55 million), and by the higher recovery of goods and services expenses (€0.61 million).

In 2014, "External services" include €108,711.00 (including VAT) relating to the fees of the external auditors KPMG Auditores, for the audits of the Bank's annual accounts and of certain aspects of the Bank's management of European Central Bank reserves at the request of this institution's external auditor, the latter being the only service provided by the auditor to the Bank. In 2014 no services were received from and, consequently, no amounts were paid to, other firms related to the auditor.

12 DEPRECIATION OF FIXED ASSETS

Included here is the expense of the estimated depreciation of the Bank's fixed assets, which breaks down as follows:

EUR m and %

	2014	2013	Change	%
Depreciation of buildings, structures and renovation work	2.57	2.54	0.02	1.0
Depreciation of plant in buildings	9.14	9.06	0.08	0.9
Depreciation of furniture and fittings	2.02	2.15	-0.14	-6.3
Depreciation of office machines other than computer equipment	1.58	1.58	—	—
Depreciation of computer equipment	5.22	5.39	-0.17	-3.1
Depreciation of transport equipment	0.30	0.37	-0.07	-18.8
Depreciation of other tangible fixed assets	0.24	0.31	-0.07	-22.4
Depreciation of libraries	0.44	0.46	-0.02	-5.1
Amortization of computer applications	8.53	8.56	-0.03	-0.3
TOTAL	**30.04**	**30.43**	**-0.39**	**-1.3**

13 BANKNOTE PRODUCTION SERVICES

This amount (€82.51 million) corresponds to payments made by the Banco de España to purchase banknotes from the Spanish Royal Mint. The increase with respect to the previous year (€12.20 million) was due both to the larger volume of banknotes supplied by the National Mint, and to the increase in their average price, as a result of the changes in the composition of the production of the new series, with production of €10 notes starting at the end of 2013, as follows:

		Banknotes charged (millions of banknotes)	
Series	Denomination	2014	2013
1	€ 50	459.0	414.7
2	€ 10	482.3	80.1
2	€ 5	170.7	483.5
	TOTAL	**1,112.0**	**978.3**

14 TRANSFERS AND ADDITIONS TO OTHER FUNDS AND PROVISIONS

Included here are sundry amounts provisioned for varying reasons, the provisions used and the additions to the Beneficent Social Fund.

The net transfers to these funds were as follows:

EUR m

	2014	2013	Change
Provision for operational risk	43.80	15.92	27.88
Provision for death and retirement assistance	10.87	5.27	5.60
Provision for early and regular retirement	5.00	5.25	-0.25
Provision for sundry liabilities and charges	37.73	3.78	33.95
Others	0.10	-0.93	1.04
Beneficent social fund	7.58	9.47	-1.89
TOTAL	**105.08**	**38.75**	**66.33**

The net balance of transfers and applications to other funds and provisions in 2014 amounted to €105.08 million, compared with €38.75 million in 2013. Noteworthy was the net provisioning for operational risk of €43.80 million (see Note 26 to the balance sheet), mainly due to the higher level of coverage (from 10% to 20%) approved by the Executive Committee on 30 January 2015, and the provision for sundry liabilities and charges, including the net amount of €36.48 million to the provision for litigation risks, mostly relating to ongoing lawsuits. In 2014, €10.87 million were transferred to the provision for death and retirement assistance expenses and €5.00 million to the provision for expenses relating to early and regular retirees. In 2014, the provision to the Beneficent Social Fund amounted to €7.58 million, compared with €9.47 million in 2013, meaning that the expense was €1.89 million lower.

The Banco de España, because of the nature of its activity, is not an institution with a high environmental risk. Accordingly, in 2014 it was not considered necessary to record any provision for environmental liabilities and charges.

15 PROFIT FOR THE YEAR

Pursuant to Article 1.1.b) of Royal Decree 2059/2008 of 12 December 2008, the Banco de España must pay into the Treasury, on the first working day of March, 90% of the profits earned and recorded up to 31 December of the previous year, less the amount paid on the first working day of December of the previous year.

On 1 December 2014 the Banco de España paid into the Treasury €1,413.15[23] million, equal to 70% of the profit recorded as at 30 September 2014.

Given that the profit for the year amounted to €2,519.22 million, on 2 March 2015 the amount of €854.14 million was paid into the Treasury to complete the distribution of 90% of profits.

The payments to the Treasury of 2014 profit are as follows:

EUR m

1 Total profit for 2014	2,519.22
2 Payments to the Treasury	2,267.29
On 1.12.2014	1,413.15
On 2.3.2015. Difference between the above amount and 90% of profit as at 31.12.2014	854.14
3 Profit payable to the Treasury (at date of approval of the 2014 accounts)	251.92

3.4 Changes in capital, reserves, provisions and revaluation accounts

The following table shows the changes in the reporting year, which, in addition to the accounting profit, include the net gains not recognised as income in the profit and loss account, the change in general provisions and the effect on the balance sheet of the appropriation of profit for the year.

EUR m

	Capital	Reserves	Revaluation accounts	Undistributed profit	Generic provisions	Total
A) 2014 OPENING BALANCE	**1,000.00**	**899.81**	**9,038.52**	**1,762.02**	**8,753.87**	**21,454.21**
1. Unrecognized net gains in profit and loss			5,479.34			5,479.34
In gold			1,055.21			1,055.21
In foreign currency			3,276.68			3,276.68
In securities			1,147.45			1,147.45
Other			—			—
2. Change in provisions					1,234.65	1,234.65
3. 2014 profit				2,519.22		2,519.22
4. Appropriation of profit				-3,175.17		-3,175.17
Payment to the Treasury of 2013 profit				-1,762.02		-1,762.02
Payment to the Treasury of 2014 profit				-1,413.15		-1,413.15
B) CHANGES IN THE YEAR B = 1+2+3+4	—	—	**5,479.34**	**-655.95**	**1,234.65**	**6,058.04**
C) CLOSING BALANCES C = A + B	**1,000.00**	**899.81**	**14,517.86**	**1,106.06**	**9,988.52**	**27,512.26**

The changes reflected in this table have been explained above in the explanatory notes to the balance sheet and profit and loss account that refer to provisions (Note 26 on the balance sheet), revaluation accounts (Note 27 on the balance sheet), capital (Note 28 on the balance sheet), reserves (Note 29 on the balance sheet) and profit for the year (Note 30 on the balance sheet and Note 15 on the profit and loss account).

23 Pursuant to the aforementioned Royal Decree, the payment resolution must take into consideration the foreseeable performance of profits up to the end of the year. For this reason, account was taken of a number of factors which entailed a risk of lower profit estimated at €811.37 million. Accordingly, this amount was subtracted from the Banco de España profit of €2,830.15 million as at 30 September, resulting in a profit of €2,018.79 million, 70% of which was paid into the Treasury.

Equity increased by €6,058.04 million in 2014 due to the higher unrealised gains (€5,479.34 million) and the higher general provisions.

3.5 Risk management

The Banco de España is exposed to financial risks (market risk and credit risk) and to an operational risk which, as a result of its activity, could have a significant financial and reputational impact and affect the Bank's ability to continue meeting its objectives.

The Banco de España manages all its risks taking into account their differing nature.

All the systems and procedures used to assess, control, monitor and mitigate risks are evaluated periodically to ensure they are suitable for their intended purpose and are applied consistently.

Currently the Operations Department, the Financial Risks Department and the Control, Budget and Accounting Department are responsible for identifying, assessing, controlling, monitoring, mitigating and reporting risks.

The Executive Commission is entrusted with approving the rules on financial asset management at the Banco de España and the methodologies to be applied for estimating and mitigating financial risks.

The Operations Committee, at its daily meetings, proposes the distribution by currency, the authorised instruments and the limits per issuer and counterparty. It is the body entrusted with setting the modified duration target of the strategic (long-term) and tactical (short-term) benchmarks of the euro-denominated and US dollar-denominated trading portfolios. The Risk Management Committee is entrusted with proposing the risk assessment methodologies and provisioning levels to be forwarded to the Executive Commission.

1 FINANCIAL RISKS

Financial risks comprise market risk, liquidity risk and credit risk. The risk assessment carried out by the Banco de España in 2014 found that the main risk, from a quantitative standpoint, is the market risk derived from foreign exchange rate and interest rate fluctuations. The Banco de España is also exposed, to a lesser extent, to credit risk.

1.1 Market risk

Market risk includes interest rate, foreign exchange rate and gold price risks.

Interest rate risk

Interest rate risk is the probability or possibility that the Banco de España may incur losses as a result of interest rate fluctuations.

The Bank's exposure to this type of risk derives from the fixed-income securities in the trading portfolio, since their market value is affected by interest rate movements.[24] The level of exposure to this risk depends on the volume and maturity of holdings in this portfolio and on the volatility of interest rates.

The Bank's Operations Committee sets the modified duration of the strategic and tactical benchmarks of the euro-denominated and US dollar-denominated trading portfolios and establishes limits by means of +/- 0.25 fluctuation bands. On 17 December 2013 the target durations of the tactical benchmarks of US dollar-denominated and euro-denominated portfolios were set at 1 and 3, respectively.

24 For accounting purposes, the Bank's trading portfolio is valued at market prices and its held-to-maturity portfolio and monetary policy portfolios are valued at amortised cost.

Also, the level of risk is quantified through Value-at-Risk methodology (VaR) by calculating the maximum expected loss from interest rate fluctuations, with a one-year time horizon and a 99% confidence interval. The VaR figure calculated with this methodology for the trading portfolio is the main factor used to determine the amount to be provisioned for interest rate risk.

As at 31 December 2014 the interest rate exposure on the trading portfolio is €2,981 million and is covered in full by the provision for financial risks.

Foreign exchange rate and gold price risks

Foreign exchange rate risk is the probability or possibility that the Banco de España may incur losses as a result of movements in the exchange rates of the currencies forming part of its position.

The exposure to this risk derives from the currency position and from the volatility of exchange rates.

Foreign exchange rate risk is managed by setting ceilings on investment in each currency.

The Banco de España quantifies the exposure to this risk for the main currencies (USD and SDR) through Value-at-Risk methodology (VaR) by calculating the maximum expected loss with a one-year time horizon and a 99% confidence interval.

Based on the VaR as at 31 December 2014, the exchange rate risk amounts to €3,266 million and is covered in full by the provision for financial risks.

The exposure to gold price risk, which depends on the holdings of gold and on the volatility of its price, is covered in full by the existing revaluation accounts.

1.2 LIQUIDITY RISK

Liquidity risk is the probability or possibility of incurring losses because the institution is forced to liquidate its assets before maturity to meet its obligations.

As a central bank belonging to the Eurosystem, the Banco de España has no liquidity risk.

1.3 Credit risk

Credit risk is the probability or possibility that the Banco de España may incur losses as a result of total or partial non-compliance with their contractual obligations by the issuers, counterparties or depositors of its financial assets, or that it may incur losses derived from impairment of their credit quality.

The exposure to credit risk depends on the volume of the investment and on the credit quality of the counterparties.

Credit risk is managed by selecting creditworthy counterparties and setting quantitative limits per counterparty, issuer and asset, while assuring safety in investments and avoiding concentration risk.

The Banco de España assesses credit risk by VaR methodology with a one-year time horizon and a 99% confidence interval.

Based on VaR methodology, the estimated credit risk as at 31 December 2014 is €3,657 million, which is the total amount to be provisioned for credit risk.

The credit risk on monetary policy loans is not assessed[25] because the transactions are adequately collateralised and, accordingly, the residual risk is small. This risk is managed in accordance with Eurosystem rules.

The risks derived from the securities purchased under the Securities Markets Programme and the third covered bond purchase programme, and from risk-sharing monetary policy loans, are shared by the Banco de España in proportion to its capital key in the Eurosystem, which was 12.63% for 2014.

2 OPERATIONAL RISK

The Banco de España defines operational risk as the risk of incurring losses due to the inadequacy or failure of internal processes, personnel and systems, or due to events outside the organisation. These losses are determined by how strongly the Bank's balance sheet, reputation or objectives are impacted by the materialisation of a risk event.

The Operational Risk Management System developed by the Bank following the guidelines set in the document entitled "International Convergence of Capital Measurement and Capital Standards" (BIS, Basel II, June 2004) sets out policies, functions and procedures for proper operational risk management.

This system takes as its starting point an inventory of the functions, processes and activities of each organisational area of the Bank, which make up the Process Map. This inventory is needed to subsequently identify the attendant risks, which together constitute the Risk Map. This identification is based on an analysis of possible contingencies which may affect the Bank's functioning and of the specific measures taken to prevent them from occurring and/or to reduce damage if they do occur.

To determine the relative importance of the risks identified, these are assessed qualitatively according to: 1) the impact or damage they may cause (whether financial, reputational and/or in the form of non-compliance with objectives) and 2) how often they may occur. The risks thus measured are entered in the Risk Tolerance Matrix to establish the action levels and the trigger thresholds for notification to the related decision-making bodies. The business areas inform the Risk Management Committee of the most significant risks and of the possible mitigation measures to reduce the severity and frequency of the contingencies identified. This committee is responsible for approving them and accepting the residual risks. The results of the assessment conducted by the areas are compared with the information drawn from the systematic register of loss events in order to adjust their impact and/or frequency of occurrence in line with actual events.

Also, the system includes a VaR-type quantitative approach for calculating operational risk exposure, which stems from the Advanced Measurement Approach (AMA), which may serve as a reference for deciding on the possible general provisioning for this risk through the related allowance. The Bank's VaR methodology estimates the maximum financial loss or value at risk due to operational losses affecting net worth, with a one-year time horizon and a 99% confidence interval.

The exposure to operational risk as at 31 December 2014 amounted to €423 million and a provision for operational risk was recorded for 20% of this amount.

25 Except for monetary policy loans with collateral excluded from the risk shared by the Eurosystem NCBs.

4 SPECIFIC INFORMATION REQUIRED BY ARTICLE 4.2 OF THE LAW OF AUTONOMY OF THE BANCO DE ESPAÑA OF 1 JUNE 1994

4.1 Contribution made by the Bank to the Deposit Guarantee Fund

On 15 October 2011, Royal Decree-Law 16/2011 of 14 October 2011 creating the Credit Institution Deposit Guarantee Fund came into force and the three previously existing credit institution deposit guarantee funds were wound up. The contribution of the Banco de España to the Deposit Guarantee Fund continues to be regulated by Article 3 of Royal Decree 2606/1996 of 20 December 1996, in which references to the wound-up funds are deemed to be to the new fund.

Royal Decree 2606/1996 established that the Deposit Guarantee Fund may only exceptionally "be supplemented by contributions from the Banco de España, the amount of which shall be fixed by Law". In 2014 the Banco de España made no contributions whatsoever to this Fund.

4.2 Loss of profit

The table below shows the loans outstanding in 2014 with interest rates below the reference rates used, in order to estimate the loss of profit for the year pursuant to the provisions of Article 4.2 of Law 13/1994 of 1 June 1994 of Autonomy of the Banco de España.

EUR m and %

Type of credit/loan	Average balance in 2014	Interest rate received (%)	Reference interest rate (%)	Estimated loss of profit
Net State debt	1,204.84	—	0.16	1.93
Housing loans and advances to employees	32.71	—	0.16	0.05
Repayable advances	32.71	—	0.16	0.05
TOTAL	**1,237.56**	—	**0.16**	**1.98**

Included under "Net State debt" is the average balance during the year, on a daily basis, of the special loans granted to the State before 1994 less the deposits held by the Treasury with the Banco de España, when there is a net balance in favour of the latter.

The reference rate used to estimate the loss of profit in all the loans is the daily average of the marginal interest rate on main refinancing operations conducted during the year.

4.3 Other transactions

On 26 March 2007 an agreement was entered into with the State government to bring forward the repayment schedule of the loans granted to the State prior to the entry into force of Law 21/1993 of 29 December 1993 on the State Budget for 1994 (Law 3/1983 loan, Law 4/1990 loan and credits arising from subscription for participating interests, contributions and quotas in international agencies), such that they all reach final maturity by 2015 at the latest and the Treasury can request early repayment of part or all of these facilities, paying on the due date the effective market price instead of the nominal amount. Under this agreement, in 2014 payment was received of two instalments of the aforementioned facilities (that for the reporting year and the last outstanding instalment of the original repayment schedule), the repayment date of all of them being brought forward from 31 December to 30 April. In accordance with the foregoing, on 30 April 2014 the Treasury paid to the Banco de España the amount of €946.11 million, the effective market price of the debt repaid on that date, equivalent to a nominal amount of €971.68 million.

ANNEXES

1 REPORT OF THE EXTERNAL AUDITORS

KPMG Auditores S.L.
Edificio Torre Europa
Paseo de la Castellana, 95
28046 Madrid

(Translation from the original in Spanish. In the event of discrepancy, the Spanish-language version prevails.)

Independent Auditors' Report on the Annual Accounts

To the Honourable Governor of the Banco de España,

We have audited the annual accounts of the Banco de España which, in accordance with article 29.1 of its Internal Rules, comprise the balance sheet at 31 December 2014, the income statement for the year then ended and the notes thereto.

Responsibility for the annual accounts

The Executive Commission of the Banco de España is responsible for organising the Bank and appointing its general managers. Under the Internal Rules of the Banco de España, the Directorate General Services is responsible for preparing the annual accounts in accordance with the internal accounting principles of the Banco de España, which are specified in note 3.1 to the accompanying annual accounts, based on the accounting regulations stipulated for the central banks that are members of the European System of Central Banks. This responsibility, which is exercised through the Control, Budget and Accounting Department, includes the audit of operations and, therefore, the design, implementation and maintenance of the relevant internal controls required for the preparation and appropriate presentation of annual accounts that are free from material misstatement due to fraud or error, the selection and application of the pertinent accounting principles, and making such estimates as deemed reasonable in the circumstances (see note 3.1.3 to the accompanying annual accounts). Pursuant to article 21.G) of Law 13/1994 of 1 June 1994 on the autonomy of the Banco de España, these annual accounts are prepared by the Governing Council of the Banco de España.

The auditors' responsibility

Our responsibility is to express an opinion on these annual accounts taken as a whole, based on our audit. We conducted our audit in accordance with International Standards on Auditing, which require that we comply with certain ethical standards and plan and perform the audit in such a way as to obtain reasonable assurance that the annual accounts are free from material misstatement or irregularities.

An audit entails the performance of procedures designed to obtain supporting evidence of the amounts and disclosures contained in the annual accounts. The procedures selected depend on the auditor's judgement, and include an assessment of the risk of material misstatements or irregularities arising in the annual accounts due to fraud or error. In assessing these risks the auditor takes into account the internal control system applied by the entity for the preparation and appropriate presentation of the annual accounts in order to design audit procedures that are suitable in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control system. An audit also includes an evaluation of the appropriateness of the accounting policies used, the reasonableness of the entity's accounting estimates, and the overall presentation of the annual accounts. We consider that the evidence obtained is sufficient and adequate to provide a basis on which to express our auditors' opinion.

Opinion

In our opinion the accompanying annual accounts for 2014 present fairly, in all material respects, the equity and financial position of the Banco de España at 31 December 2014 and its financial performance for the year then ended, in accordance with the internal accounting principles of the Banco de España, which are specified in note 3.1 to the accompanying annual accounts, based on the accounting regulations stipulated for the central banks that are members of the European System of Central Banks.

KPMG Auditores, S.L.

María Eugenia Fernández-Villarán Ara

29 April 2015

2 REPORT OF THE BANCO DE ESPAÑA AUDIT COMMITTEE

We the undersigned, Ángel Luis López Roa, Carmen Alonso Ledesma and Maximino Carpio García, are members of the Governing Council of the Banco de España and of the Audit Committee appointed by the Governing Council. In accordance with Article 29 of the Internal Rules of the Banco de España, we were given the task of reviewing the accounts of the Institution for the year 2014.

As required by the aforementioned precept, the Audit Committee has analysed the operations of the Banco de España. This examination basically involved: 1) studying the annual accounts of the Banco de España for the year 2014, prepared by the Directorate General Services of the Banco de España; 2) studying the audit of the balance sheet and profit and loss account of the Banco de España for 2014, conducted by the Internal Audit Department; 3) studying the documentation requested by the members of this Committee from the independent external auditors; 4) interviewing the persons responsible for the independent external audit, for the Internal Audit Department and for the Control, Budget and Accounting Department; and 5) making proposals for the modification, correction or clarification of various matters, all of which have been satisfactorily incorporated in the annual accounts by the Control, Budget and Accounting Department.

The basic conclusion of our report is that from the analysis carried out of the examination of the accounting procedures, of the accounting records and of the internal controls in place, it can be inferred that the annual accounts for the year 2014 give a true and fair view of the net worth and financial position of the Banco de España.

Madrid, 9 April 2015.

Ángel Luis López Roa

Carmen Alonso Ledesma

Maximino Carpio García

The Banco de España publishes various types of documents providing information on its activity (economic reports, statistics, research papers, etc.). The full list of Banco de España publications can be found on its website at http://www.bde.es/f/webbde/Secciones/Publicaciones/Relacionados/Fic/cat_publ.pdf.

Most of these documents are available in pdf format and can be downloaded free of charge from the Banco de España website at http://www.bde.es/webbde/en/secciones/informes/. Requests for others should be addressed to publicaciones@bde.es.

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ABBREVIATIONS

ABSPP	Asset-Backed Securities Purchase Programme
AIReF	Independent Authority for Fiscal Responsibility
BCBS	Basel Committee on Banking Supervision
BE	Banco de España
BIS	Bank for International Settlements
BLS	Bank Lending Survey
BOE	Official State Gazette
BRICs	Brazil, Russia, India and China
CBA	Central Balance Sheet Data Office Annual Survey
CBQ	Central Balance Sheet Data Office Quarterly Survey
CBSO	Central Balance Sheet Data Office
CCR	Central Credit Register
CDSs	Credit default swaps
CESR	Committee of European Securities Regulators
CNE	Spanish National Accounts
CNMV	National Securities Market Commission
CPI	Consumer Price Index
DGF	Deposit Guarantee Fund
EBA	European Banking Authority
ECB	European Central Bank
ECOFIN	Council of the European Communities (Economic and Financial Affairs)
EDP	Excessive Deficit Procedure
EFF	Spanish Survey of Household Finances
EFSF	European Financial Stability Facility
EMU	Economic and Monetary Union
EONIA	Euro overnight index average
EPA	Official Spanish Labour Force Survey
ESA 2010	European System of National and Regional Accounts
ESCB	European System of Central Banks
ESFS	European System of Financial Supervisors
ESM	European Stability Mechanism
ESRB	European Systemic Risk Board
EU	European Union
EURIBOR	Euro interbank offered rate
EUROSTAT	Statistical Office of the European Communities
FASE	Financial Accounts of the Spanish Economy
FDI	Foreign direct investment
FOMC	Federal Open Market Committee
FROB	Fund for the Orderly Restructuring of the Banking Sector
FSB	Financial Stability Board
FSF	Financial Stability Forum
GDI	Gross disposable income
GDP	Gross domestic product
GFCF	Gross fixed capital formation
GNP	Gross national product
GOP	Gross operating profit
GVA	Gross value added
HICP	Harmonised Index of Consumer Prices
IASB	International Accounting Standards Board
ICO	Official Credit Institute
IFRSs	International Financial Reporting Standards
IGAE	National Audit Office
IIP	International Investment Position
IMF	International Monetary Fund
INE	National Statistics Institute
LTROs	Longer-term refinancing operations
MFIs	Monetary financial institutions
MMFs	Money market funds
MROs	Main refinancing operations
MTBE	Banco de España quarterly macroeconomic model
NAIRU	Non-accelerating-inflation rate of unemployment
NCBs	National central banks
NFCs	Non-financial corporations
NPISHs	Non-profit institutions serving households
OECD	Organisation for Economic Co-operation and Development
OJ L	Official Journal of the European Union (Legislation)
ONP	Ordinary net profit
OPEC	Organisation of Petroleum Exporting Countries
PMI	Purchasing Managers' Index
PPP	Purchasing power parity
QNA	Quarterly National Accounts
SDRs	Special Drawing Rights
SEPA	Single Euro Payments Area
SMEs	Small and medium-sized enterprises
SPEE	National Public Employment Service
SRM	Single Resolution Mechanism
SSM	Single Supervisory Mechanism
TARGET	Trans-European Automated Real-time Gross settlement Express Transfer system
TFP	Total factor productivity
TLTROs	Targeted longer-tem refinancing operations
ULCs	Unit labour costs
VAT	Value Added Tax

COUNTRIES AND CURRENCIES

In accordance with Community practice, the EU countries are listed using the alphabetical order of the country names in the national languages.

BE	Belgium	EUR (euro)
BG	Bulgaria	BGN (Bulgarian lev)
CZ	Czech Republic	CZK (Czech koruna)
DK	Denmark	DKK (Danish krone)
DE	Germany	EUR (euro)
EE	Estonia	EUR (euro)
IE	Ireland	EUR (euro)
GR	Greece	EUR (euro)
ES	Spain	EUR (euro)
FR	France	EUR (euro)
IT	Italy	EUR (euro)
HR	Croatia	HRK (Croatian kuna)
CY	Cyprus	EUR (euro)
LV	Latvia	EUR (euro)
LT	Lithuania	EUR (euro)
LU	Luxembourg	EUR (euro)
HU	Hungary	HUF (Hungarian forint)
MT	Malta	EUR (euro)
NL	Netherlands	EUR (euro)
AT	Austria	EUR (euro)
PL	Poland	PLN (Polish zloty)
PT	Portugal	EUR (euro)
RO	Romania	RON (New Romanian leu)
SI	Slovenia	EUR (euro)
SK	Slovakia	EUR (euro)
FI	Finland	EUR (euro)
SE	Sweden	SEK (Swedish krona)
UK	United Kingdom	GBP (Pound sterling)
JP	Japan	JPY (Japanese yen)
US	United States	USD (US dollar)

CONVENTIONS USED

M1	Notes and coins held by the public + sight deposits.
M2	M1 + deposits redeemable at notice of up to three months + deposits with an agreed maturity of up to two years.
M3	M2 + repos + shares in money market funds and money market instruments + debt securities issued with an agreed maturity of up to two years.
Q1, Q4	Calendar quarters.
H1, H2	Calendar half-years.
bn	Billions (10^9).
m	Millions.
bp	Basis points.
pp	Percentage points.
...	Not available.
—	Nil, non-existence of the event considered or insignificance of changes when expressed as rates of growth.
0.0	Less than half the final digit shown in the series.