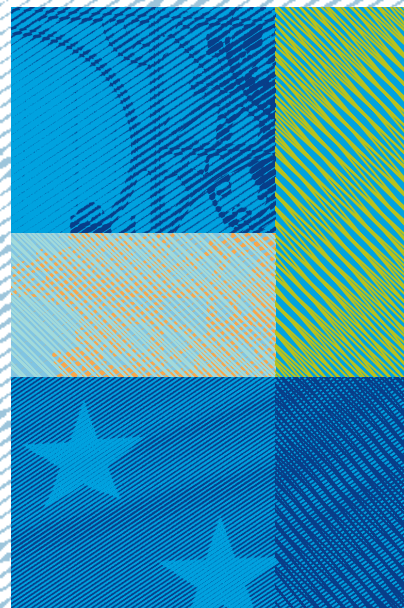


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BANCO DE ESPAÑA
Eurosystem



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FOREWORD BY THE GOVERNOR

Luis M. Linde

In 2017 the recovery in the Spanish economy continued for the fourth year running. GDP grew by 3.1%, only marginally down on the rates for the two previous years. This expansion in output, which amounts to 13% in cumulative terms since the start of the upturn in 2014, is providing for rapid growth in employment and a significant reduction in the unemployment rate which, however, still remains at very high levels. The increase in GDP in 2017 exceeded, as has been the case throughout the recovery, the expectations at the start of the year, which was mainly due in this instance to more favourable than expected developments in the global economy and in international trade, particularly as regards the euro area. Further, for the third year running, output in the Spanish economy expanded at a significantly higher rate than that of the euro area countries as a whole, and this difference was even more marked in terms of job creation.

The recovery is benefiting from the correction of the Spanish economy's imbalances, a correction particularly patent in terms of the gains in external competitiveness and the reduction in private agents' overindebtedness, and discernible in the reduction in the debtor position vis-à-vis the rest of the world. These positive features of the current recovery are fuelling expectations that the expansion will be durable. At the same time, despite the above-mentioned headway, progress remains limited in other areas, notably so as regards any reduction in the high level of public debt. This means that, in the medium term, the Spanish economy will continue to evidence a notable degree of vulnerability to potential shocks, especially in a setting in which demand-side policies are expected to provide an increasingly smaller stimulus to growth. The challenges ahead are more considerable over a longer time horizon, in which structural policies will be called on to play a more active role to ensure a sustained increase in our economy's growth capacity and levels of well-being. Chapter 1 of this Report plots a course between the achievements of the Spanish economy to date, on one hand, and, on the other, the challenges ahead, to which I shall refer later.

The world economy had been posting modest growth in recent years, and showed signs of greater dynamism in 2017, when global GDP recorded its highest rate of increase since 2011. Moreover, international trade appeared to emerge last year from the slackness of the preceding years, which was partly associated with the momentum of investment, an expenditure component that is highly intensive in trade flows. Underpinning these favourable developments was the expansionary stance of economic policies and, in particular, of monetary policy. The gradual firming of the pick-up in activity and the incipient signs that inflation might be embarking on a rising path are beginning to prompt, in some geographical regions, a gradual withdrawal of monetary stimuli, a process not free from risks, as shown by the bout of increased volatility on financial markets at the start of 2018.

In the euro area economies, the head of steam of the recovery was across the board. On available estimates, the increase in activity is estimated to have enabled the negative output gap that gave rise to the crisis to be absorbed in late 2017. Inflation, however, remains at very low levels, meaning that unlike the United States, where the Federal Reserve has already initiated a monetary policy normalisation process, in the euro area it has been necessary to prolong its expansionary stance.

The monetary stimuli have enabled financial conditions to be kept very easy in Spain, with bank lending rates at levels close to all-time lows and rises in flows of new lending, which

are compatible with the ongoing deleveraging by private agents. Among the main GDP components, consumption slowed in 2017, albeit to a lesser extent than household disposable income, meaning that the rate of decline by the saving rate marking recent years increased. Investment, whose trend over the course of the recovery is analysed in detail in Chapter 3 of this Report, continued to expand against a background in which the course of final demand gave rise to further increases in capacity utilisation. Finally, exports reflected the greater buoyancy of foreign markets, despite the brake on gains in competitiveness vis-à-vis the rest of the euro area and of the appreciation of the effective exchange rate against the rest of the world.

There are positive aspects to the provisional assessment of the recovery, whose roots lie in the economic policies implemented since the recession. Although many measures addressing highly diverse areas have been adopted, the significance of some in explaining the current recovery may be highlighted.

Notable on the domestic front is the role played by the labour market reforms (which have contributed to restoring the competitiveness lost during the previous expansionary phase), and the recapitalisation and restructuring of credit institutions; and in the European arena, the launching of the Banking Union, along with the European Central Bank's monetary policy, has provided for the correction of the euro area's fragmented financial markets.

As a result of all these measures, the current recovery evidences characteristics that may be considered to be very favourable. The buoyancy of activity is being accompanied by notably robust employment creation, a typical feature of expansionary phases in the Spanish economy which, in the current cycle, is being bolstered by wage moderation and a greater degree of flexibility in the use of the labour factor. Moreover, the gradual absorption of idle resources in the economy has been no obstacle to maintaining an external surplus.

Undoubted progress has been made. But the collective effort Spanish society at large must make to embed and build on what has been achieved is also significant. On one hand, the economy continues to be somewhat vulnerable to potential external shocks. On the other, the expansion has been underpinned by certain factors whose effects will tend to gradually fade, which includes monetary and fiscal policies. As the momentum of these levers progressively tails off, greater store should be set by the measures aimed at promoting a greater degree of productive factor use, fomenting a more efficient functioning of factor and product markets, and raising our economy's long-term growth capacity.

Several of the sources of fragility of our economy remain significant: the net debtor position vis-à-vis the rest of the world, which remains high; the public debt ratio is close to its historical high; and, as detailed in Chapter 2 of this Report, the financial system still has major challenges to address. In all these areas, moreover, the uneven progress observed rests partly on the very improvement in the business cycle, which spells a warning about the possible fragility of some of the achievements attained in the face of any future downturn.

Prominent among the challenges ahead is the correction of the imbalance in public finances. This is a pressing task, given the adverse consequences that maintaining a level of general government debt as high as that at present entail. In particular, a high level of public debt tends to tighten the financing conditions for private agents, negatively affecting productive investment, and to diminish the headroom available to budgetary policy to counter adverse shocks. Additionally, assigning a high volume of funds to meet the interest burden means that such funds are not available for other productive spending.

The structural correction of the public finances imbalance should, moreover, be compatible with a greater contribution of public finances to the growth of the economy. On the expenditure side, there is room to raise the efficiency of public spending and to tilt its composition more towards those items with a greater bearing on productivity. On the revenue side, a revision and definition of the tax basket should be considered, moving towards structures more favourable to medium-term growth. In the case of regional and local government, which are responsible for more than 40% of public spending, financing arrangements should be reformed with the aim of adapting revenues to expenditure needs, ensuring their transparent distribution and increasing the degree of fiscal co-responsibility. As regards the pensions system, whose initial starting point is one of deficit and will be pressured by the effect of population ageing, a reform strategy would be desirable that increased the transparency of the system, strengthened the relationship between contributions and benefits, and, in particular, maintained an automatic adjustment mechanism ensuring its sustainability.

Despite the progress observed in recent years, the ongoing transformation of the Spanish credit system should continue over the coming years in order to ensure that it efficiently performs its task of intermediating financial flows. In particular, banks should continue striving to reduce the volume of non-performing loans and foreclosures on their balance sheets. Moreover, credit institutions must be proactive when addressing the effects of regulatory changes and technological progress. Lastly, the sector should complete the downsizing process, adapting its size to foreseeable future business volumes, which will be substantially lower than before the crisis.

From a longer-term perspective, in order to raise levels of well-being, the potential growth rate – which on available estimates is somewhat lower than 1.5% – must be increased. Several causes are constraining long-term growth, adversely affecting the degree of use of the labour factor, the level of productivity, or both simultaneously. The obstacles to growth most closely related to the low level of use of the labour factor include high structural unemployment and population ageing which, among other effects, restricts the labour participation rate. Other barriers to long-term growth, such as the high degree of labour market duality, regulations that restrict competition and prevent the efficient reallocation of resources, and human and technological capital shortcomings, all act as a drag on productivity growth.

One particularly pressing challenge is the necessary reduction of unemployment. Joblessness is particularly high and persistent among specific groups, such as the youngest and oldest cohorts, and the least skilled. Here, public policy should be geared to preventing these workers from remaining unemployed for long spells, with the subsequent loss of skills. Indeed, reducing unemployment, and in particular long-term unemployment, is one of the main levers for promoting socially sustainable growth, thereby fomenting the distribution of the benefits of the economic recovery amongst the greatest possible number of population segments. In this respect, a recent study by several Banco de España experts (whose publication is forthcoming)¹ highlights the fact that the strong deterioration in the labour market during the initial phases of the crisis was the main catalyst for the rise in inequality in per capita income at that time. Symmetrically, it is expected that the dynamism of employment creation during the current upturn, and the subsequent decline in unemployment, will have enabled the previous worsening in inequality indices to be corrected in recent years.

¹ Occasional Paper “Income, consumption and wealth inequality in Spain”, forthcoming.

One aspect on which employment dynamics and the distribution of income, wealth and household consumption capacity are largely conditional are demographic trends. The latest such trends, in particular, entail various adverse effects in respect of the use of the labour factor and, therefore, of the economy's potential output. These are manifest, on one hand, in a dip in the total working-age population, which calls for the implementation of policies that promote a life-work balance and therefore foment a higher birth rate, and a migratory policy in step with labour market needs. Further, population ageing negatively affects participation and employment rates. To alleviate these effects, measures are needed to promote the participation in the labour market of the elderly population groups.

Turning to productivity gains, the high degree of labour market segmentation must be tackled. The current recovery is once again evidencing a characteristic feature of upturns in the Spanish economy, involving a rise in the rate of temporary employment contracts, accompanied by a reduction in contract duration and an increase in unwanted part-time employment. These developments have adverse consequences for long-term growth, insofar as they discourage investment in human capital.

In the current upturn we are witnessing something of a rise in the rate of increase of total factor productivity. However, its growth remains limited, highlighting the need to raise investment in both human and technological capital. In the first of these two areas, there has been some perceptible progress since the crisis broke, such as the extension of training periods for the young, which is conducive to human capital accumulation. Evidently, however, lengthening training periods is not, in itself, sufficient; the quality of education must also be raised. In particular, skills acquired must be geared to a greater extent to face the challenges arising from technological progress and globalisation.

As regards technological capital, an increase has been observed since the start of the crisis in the distance separating Spain from the other European economies in terms of R&D spending, especially in the private sector. Closing this gap and promoting innovation by companies calls for action in many different areas, ranging from an increase in the allocation of public funds for research and development to the promotion of financing for innovative activities, and improving human capital endowment. Moreover, actions that improve levels of competition are a powerful stimulus to innovation. In this respect, the fact that the gains in competitiveness in recent years vis-à-vis the euro area as a whole should have borne above all on the correction of unit labour costs, while unit operating surpluses remained practically stable, suggests the need to introduce competition-enhancing measures into different goods and services markets.

The low rates of total factor productivity growth may also be associated with the presence of regulatory obstacles which, in particular, might be hampering business start-ups or hindering their growth. The delays in rolling out the Law on Market Unity or the restrictions to companies growing above certain thresholds due to certain legislative provisions are examples of regulations that may be generating inefficiencies, and that therefore require revision.

Lastly, I should mention that progress has been limited in the construction of the euro area's institutional architecture. Here, the priority continues to be the completion of the Banking Union, with the creation of a common financial backstop for the Single Resolution Fund, a European deposit guarantee scheme, and further headway with the capital markets union. Moreover, the governance of public finances must also be reformed, with the dual aim, first, of promoting healthier public finances and, second, of setting in place the basic building blocks needed to develop a fiscal stabilisation capacity at the overall euro area level.



1 THE RECOVERY IN THE SPANISH ECONOMY: THE LIMITS OF DEMAND-SIDE POLICIES
AND FUTURE CHALLENGES



Screen, 1st Annual Research Conference.

1 THE RECOVERY IN THE SPANISH ECONOMY: THE LIMITS OF DEMAND-SIDE POLICIES AND FUTURE CHALLENGES

1 Introduction

During 2017 the expansionary phase of the Spanish economy continued, with GDP growth exceeding the forecasts in place at the start of the year. Specifically, output in the economy increased by 3.1%, slightly down on the figure observed for the two previous years. The continuation of a high rate of expansion of activity, which has held up in the opening months of 2018, has helped the unemployment rate to continue declining rapidly, although at the end of Q1 this year it still remained at a very high level (16.7%).

The greater increase in activity in Spain compared with previous expectations was largely due to the favourable behaviour of external markets. The acceleration in the pace of growth of the global economy came about against a background of highly favourable financial conditions, higher business and consumer confidence, and a rise in commodities prices. Notable among the advanced economies was the dynamism of the euro area, which experienced robust growth that spread across the board to all its members. Despite the buoyancy of activity, euro area inflation held at very moderate rates.

The recovery in Spain evidences features that should contribute to its prolongation over time. The current expansion is proving compatible with the running of an external surplus. Beyond the contribution of certain transitory factors, such as the low levels of oil prices and of interest rates, the positive external balance is largely due to the gains in competitiveness recorded since the crisis. As a result, and unlike the expansion that preceded the crisis, the current upturn is more balanced in terms of domestic and external demand, and it has been compatible with private-sector deleveraging in the economy.

However, the economy continues to show elements of vulnerability, compounded by an external environment in which pockets of risk and instability persist. Despite the headway in reducing the budget deficit, the structural budgetary imbalance remains pronounced and the correction of the sector's high debt has, to date, been but very modest. Also, the positive external balance since 2013 has not prevented the net debtor position vis-à-vis the rest of the world from continuing to be high. In place alongside these accumulated imbalances are certain inefficiencies in the functioning of the markets for labour and for goods and services, which detract from the quality of the recovery. Population ageing is, moreover, a primordial challenge for economic growth and the sustainability of public finances. In the external environment, while expansionary inertia may be expected to continue in the short term, certain risks persist. These are associated with re-pricing on international financial markets, with uncertainty over the negotiations as to the shape of the new arrangements between the EU and the United Kingdom, and with the changes under way in respect of US trade policy, which point to increased constraints on global trade.

The medium- and long-term challenges should be tackled by a far-reaching reform agenda, both domestically and at the European level. Demand-side policies – both fiscal and, especially, monetary policy – have set in place conditions favourable to economic growth in recent years. In future, however, budgetary policy should be geared to reducing the high public debt. As the recovery takes root in the euro area as a whole, the increase in the degree of capacity utilisation will foreseeably translate into a rise in inflation and, therefore, open the way for a less expansionary monetary policy stance. Against this background, sustained and inclusive economic growth requires reforms that provide for

the replacement of the cyclical impulse of demand-side policies. The necessary reform momentum should take advantage of the exceptional macroeconomic bonanza to resolve the Spanish economy's outstanding structural problems. Momentum is also necessary at the European level to reinforce the Economic and Monetary Union project, which requires combining a greater degree of solidarity and risk-sharing among Member States.

2 Towards an improved external outlook

2.1 A SHARPER AND MORE DIVERSIFIED GLOBAL RECOVERY

The global economy raised its growth rate in 2017 to a greater extent than expected.

Global GDP grew by 3.8% last year, around 0.5 pp up on 2016 (see Chart 1.1.1). Moreover, for the first time since the end of the global financial crisis, growth outperformed the expectations set at the beginning of the year. This acceleration in activity, which was fairly widespread geographically, was more marked in the case of the advanced economies, whose growth increased by 0.6 pp to 2.3%. Among the main countries in this group, the United Kingdom was the sole exception in respect of the greater dynamism shown. The pace of output in the emerging economies increased by 0.4 pp to 4.8%, partly as a result of the emergence by Brazil and Russia from recession.

The greater robustness of the global economy was mainly due to cyclical factors and, in the case of the advanced economies, the momentum of investment was the most notable reason.

The improvement in activity came about against a background of continuing highly favourable financial conditions, a predominantly accommodative macroeconomic policy stance, greater business and consumer confidence, and a pick-up in commodities prices, which eased the delicate situation of the commodities-exporting economies. Moreover, following a prolonged period of weak investment in the main advanced economies, this component rebounded, assisted by the high level of plant capacity utilisation and by the sound behaviour of business profits (see Chart 1.1.2).¹

International trade rose appreciably in 2017, following its marked slackness in 2015 and 2016.

Trade growth during 2017 was 4.9%, the best figure since 2011. The intensity of the various factors behind such growth and its geographical scope changed progressively during the year. In early 2017 Chinese trade activity was highly dynamic, related partly to the fiscal stimuli activated in order to check the slowdown in the Chinese economy, which would have fed through to other Asian economies through the regional value chains. In the second half of the year, the thrust of trade resided to a greater extent on the strength of the euro area and other advanced economies, and was associated with the reactivation of business investment, the domestic expenditure component to which trade is most sensitive.

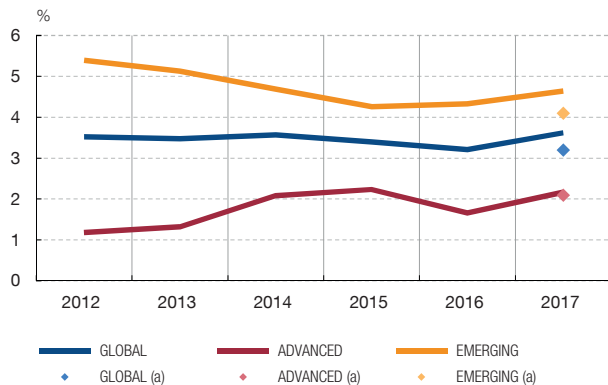
Global inflation in 2017 remained contained despite the rise in oil prices.

Oil has become significantly dearer over the course of 2017 and in 2018 to date, chiefly in response to the widespread recovery in global demand and, to a lesser extent, to the extension of the agreement of the OPEC countries and other producers to cut production throughout the year, to episodes of geopolitical tension in the Middle East and to the depreciation of the dollar (see Chart 1.1.3). In the advanced economies, consumer price inflation rose significantly to 1.7%, after having posted a figure of 0.8% in 2016. This reflected, above all, the rise in oil prices, whose impact was mainly felt in the first half of the year (see Chart 1.1.4). Conversely, in the emerging economies inflation fell by 0.3 pp to 4%, in some cases as the effects of the past depreciations of their currencies petered out. Beyond the energy component, core consumer price inflation has held at moderate levels and, in most advanced economies, below central bank targets.

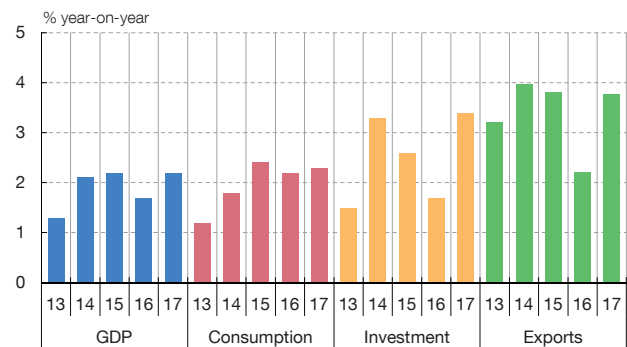
¹ In this respect see Chapter 3 of this Report.

The global economy recorded a higher than expected rate of growth in 2017. This greater dynamism of the global economy was reflected in strong investment momentum and in the recovery of global trade. However, despite the renewed strength of global demand and the rise in oil prices, inflation remained contained in the main geographical areas. As the economic cycle progressed in advanced economies, the Federal Reserve tightened its monetary policy and expectations of rate rises by other advanced economy central banks were factored in, against a backdrop of high risk appetite and low volatility.

1 GDP GROWTH



2 GDP AND DEMAND COMPONENTS IN ADVANCED ECONOMIES



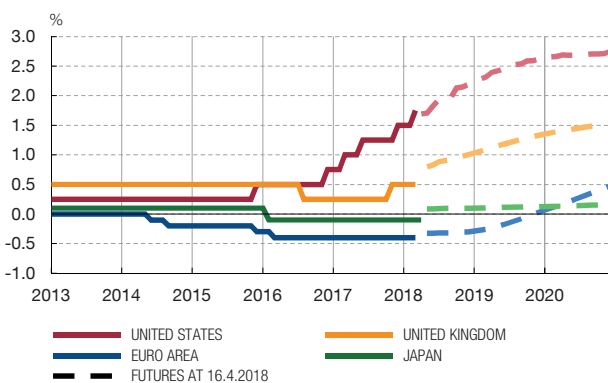
3 COMMODITY PRICES



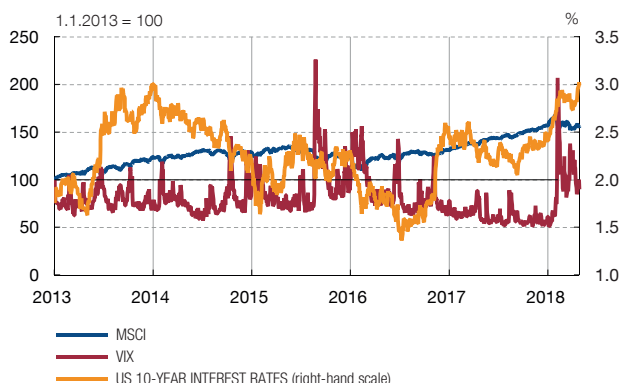
4 UNEMPLOYMENT RATE, WAGE GROWTH AND CORE INFLATION IN ADVANCED ECONOMIES (b)



5 OFFICIAL INTEREST RATES IN ADVANCED ECONOMIES AND EXPECTED FUTURE RATES



6 LONG-TERM INTEREST RATES IN UNITED STATES AND GLOBAL STOCK INDICES



SOURCES: WEO (World Economic Outlook) and Datastream.

- a Forecasts from IMF World Economic Outlook Update, January 2017.
- b Aggregate of United States, euro area, United Kingdom and Japan.



Monetary policy in the United States and the United Kingdom has progressively tilted towards a less easy stance. In the United States, where the economy is relatively ahead in the cycle, the Federal Reserve raised its policy rate by 25 bp on three occasions during 2017 and once again in March 2018, placing it in a range between 1.5% and 1.75% (see Chart 1.1.5). Moreover, in October it began gradually to reduce its balance sheet, following the plans announced before the summer. These movements took place in a setting in which the Federal Reserve has had to address the dilemma of adopting decisions in an economy with moderate inflationary pressures but with a very low unemployment level and with signs of overvaluation in certain financial market segments. The Bank of England, for its part, raised its policy rate by 25 bp in November, the first rise in 11 years, after noting that inflation was holding above target in its forecasting horizon.

The current US Administration announced some significant changes in its economic policies. On the fiscal front, a tax reform was approved in late 2017 and, into 2018, a budgetary agreement was reached to raise the expenditure ceiling and an infrastructure investment plan was announced. Although the fiscal reform was of a more limited scope than that contained in the electoral programme, the set of measures adopted has entailed a significant raising of the US growth forecast in the short term, with growth estimated to stand at around 3% and 2.5% in 2018 and 2019, respectively. As regards trade policy, the negotiations on the reform of the North American Free Trade Agreement (NAFTA), which began in mid-2017, have seen scarcely any progress. Moreover, the tariff rises announced by the US Administration in the opening months of 2018 on specific products from a broad range of countries confirm the feared turn towards protectionist positions. These measures, along with the responses by the authorities of the countries concerned, may ultimately result in a trade war, which could weigh down trade and economic activity globally. The historical evidence available shows that protectionism is harmful to well-being and global growth. Trade barriers distort the allocation of resources in the short term, prompting losses in efficiency. In the medium and long term, they have an adverse bearing on total factor productivity, chiefly as a result of the downturn in innovation and in the adoption and dissemination of new technologies, and lower managerial quality.²

In the emerging economies, macroeconomic policies have been fairly heterogeneous, differing in terms of the cyclical position and of the imbalances accumulated. In the monetary policy sphere, the moderation in inflation has provided for the prolongation of the cycle of easing in the main Latin American economies (with the exception of Mexico) and in Russia, in contrast to the muted rises in policy rates agreed by some central banks in other emerging areas. In particular, in China, the economic authorities have continued to pursue an economic policy course that has had as its dual objectives the lessening of financial risks and support for growth. With regard to the goal of safeguarding financial stability, the central bank adopted, over the course of the year, small-scale rises in interest rates, while the government approved the launch of the fiscal stimulus package ahead of the signs of a slowdown in activity.

The international financial markets saw a continuing appetite for risk and low volatility. This behaviour can be attributed to an environment of favourable economic activity figures, contained inflation and abundant liquidity built up after several years of highly expansionary monetary policies. Against this backdrop, investors' search for yield

² See the box entitled "The possible effects of a reversal of globalisation" in *Annual Report 2016*, Banco de España and the analytical article "Situation of and outlook for the global economy at the start of 2018", *Economic Bulletin*, 2/2018, Banco de España.

remained intense, materialising in increases in the prices of numerous assets. Hence the main stock market indices, for developed and emerging economies alike, increased in 2017, with a notable rise of close to 20% in the United States to a new all-time high (see Chart 1.1.6). Moreover, emerging economies' sovereign debt spreads and those on the worst-rated corporate bonds were squeezed significantly during the year. As a result of these equity and bond market trends, and of the depreciation of the dollar, US financial conditions tended to ease, despite the tightening of monetary policy.

Nonetheless, in the opening months of 2018, there was a bout of notable volatility on the financial markets. At the start of the year, coinciding with a further improvement in the outlook for economic activity and with an increase in inflation expectations, the rise in US 10-year government bond yields that began in September 2017 steepened. In February this year, moreover, there was a significant correction of share prices on the main international markets, following the sudden signs of an increase in wage inflation in the United States which were interpreted as indicative of an inflationary rise and, therefore, of the fact that the pace of policy interest rate rises might accelerate relative to what had hitherto been anticipated. This episode of price corrections and rising volatility, which was amplified by certain market practices, spread to other international stock markets, but scarcely influenced bond markets.³

The global outlook remains complex despite the recent robustness of the world economy. The recent improvement in activity is predominantly rooted in the economic cycle, without significant increases in potential growth having apparently been recorded. Against this backdrop, the rate of increase of output in the advanced economies will foreseeably resume more moderate levels in the medium term and the increases in output above the potential rate may be expected to ultimately feed through to prices, leading inflation to converge on central bank targets. In the case of the emerging economies, expected growth would, on average, be around its potential rate, although there is notable heterogeneity across countries and regions.

Notable among the main risks to global growth are the potential correction of values on certain international financial market segments and the increase in protectionism. While additional positive surprises cannot be ruled out in the short term, in the medium term several significant risks persist. A hypothetical adjustment of asset prices might come about as a result of geopolitical events or in the face of unanticipated economic policy measures which, in some cases, might trigger sharp rises in financing costs and sudden capital switching, which would be particularly harmful for the economies most exposed to external financing. Also, the negotiations on the new shape of the EU-UK economic relationship, along with the protectionist slant adopted by the United States in its trade policy, remain areas of risk insofar as they point to an increase in the restrictions on global trade.

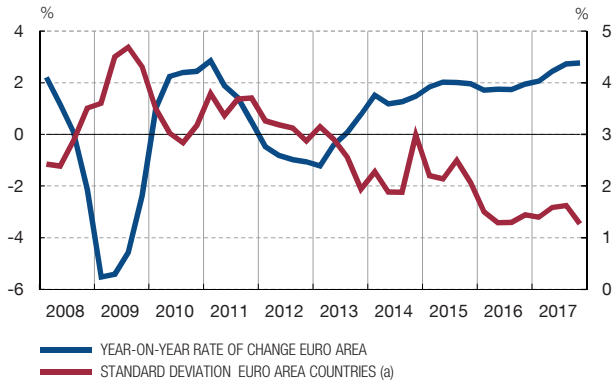
2.2 ROBUST EURO AREA GROWTH

The euro area economy expanded robustly in 2017, across all its members, and, as in other regions, the upturn was greater than forecast at the end of the previous year. Following several years of moderate growth, GDP adjusted for calendar effects increased by 2.5% in 2017, one of the highest rates observed since the launch of the euro (see Chart 1.2.1), set against the Eurosystem's December 2016 forecast of 1.7%. The buoyancy of domestic demand – in terms both of private consumption and investment –

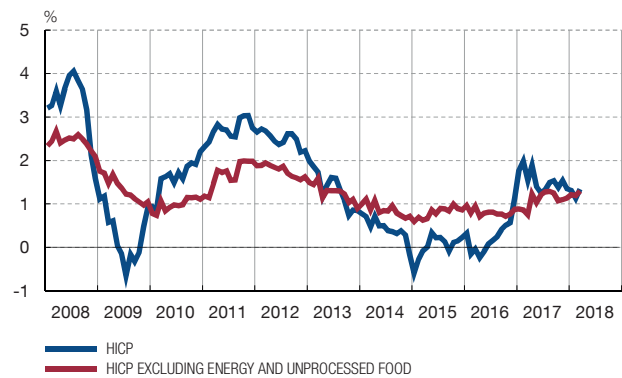
³ See the box "Global stock market correction and volatility episode" in the *Quarterly Report on the Spanish Economy*, March 2018, Banco de España.

Widespread robust economic growth, with a lower level of dispersion in terms of GDP growth between the different countries. Inflation remained at moderate levels, despite the dynamic growth in activity which was accompanied by intense job creation. The unemployment rate continued to fall, although complementary indicators suggest that there is still a high degree of labour market slack, and wages climbed moderately. Financial conditions remain very favourable, despite the appreciation of the euro.

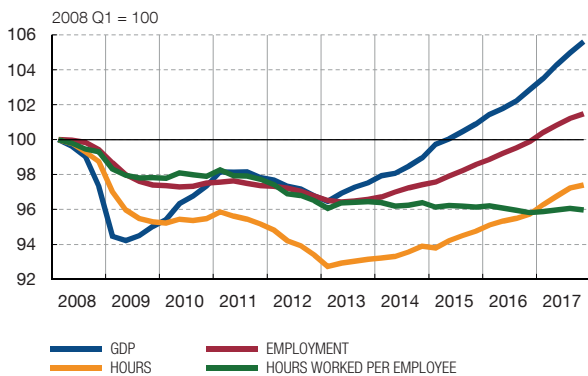
1 GDP



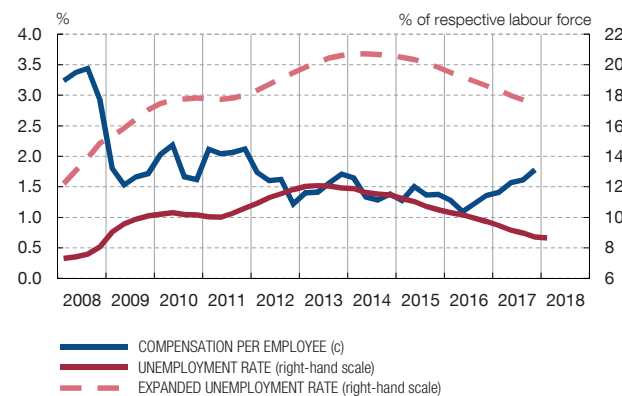
2 HARMONISED INDICES OF CONSUMER PRICES
Year-on-year rates of change



3 GDP, EMPLOYMENT, HOURS AND HOURS WORKED PER EMPLOYEE



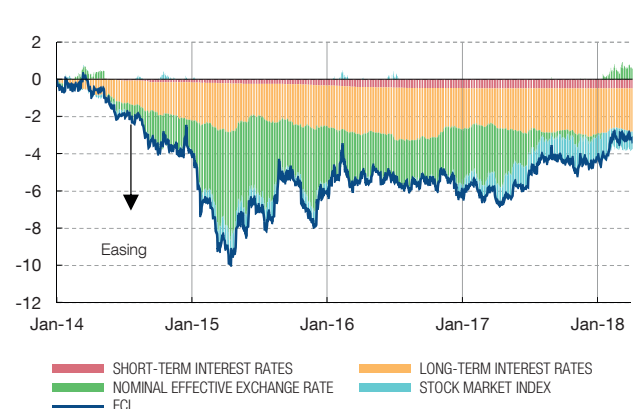
4 COMPENSATION PER EMPLOYEE AND UNEMPLOYMENT RATE (b)



5 EURO EXCHANGE RATES



6 FINANCIAL CONDITIONS INDEX (FCI) (e)



SOURCES: Banco de España, ECB and Eurostat.

- a Unweighted standard deviation of year-on-year rates of change of euro area countries' GDP.
- b The unemployment rate is the quarterly average of the monthly rates. The expanded unemployment rate takes into account individuals who are unemployed, underemployed, available for but not seeking work and unavailable for work. It is calculated by including in the denominator, in addition to the labour force, workers who are available for but not seeking work and those who are unavailable for work. See the influence of these factors on alternative measures of unemployment in "Quarterly report on the Spanish economy", Economic Bulletin, 2/2017, Banco de España.
- c Year-on-year rate of change.
- d NEER-38 is the nominal effective exchange rate of the euro against the currencies of the 38 most important trading partners of the euro area.
- e The FCI is a weighted aggregation of changes in financial variables: 3-month Euribor (with a weighting of 0.18), the euro area 10-year interest rate (0.23), the NEER (0.10) and the EURO STOXX (0.012). It is expressed normalised by the weighting of short-term interest rates.



combined with the strength of exports to drive this acceleration in activity. Moreover, the growth in the economy helped lead, on the estimates available, to the practical disappearance in late 2017 of the negative output gap that arose further to the crisis. The favourable economic situation was extensive to both sectors and countries, as shown by the dispersion indicators, which are at historically low levels.

The expansion in activity is proving intense in terms of employment generation. In 2017, numbers employed grew by 1.6%. The strength of job creation, which has benefited from the labour reforms undertaken in certain member countries and from a moderate rise in real wages, allowed for continuing reductions in the unemployment rate, which stood at the end of the year at 8.6%, still 1.3 pp above its pre-crisis level (see Chart 1.2.4). However, this aggregate figure masks substantial cross-country differences, which range from an unemployment rate below 4% in Germany to 20% in Greece and 16.5% in Spain.

Easy financial conditions prevailed in 2017, fundamentally reflecting the maintenance of a highly accommodative monetary policy. Money and debt market yields held at low levels, with sovereign spreads over the German Bund narrowing, especially in some of the countries that had been most affected by the crisis, such as Portugal and Greece. This narrowing has continued in 2018 to date and has spread to Spain, against a background of perceived improvements in its debt ratings, reflected also in upgrades by several agencies.⁴ Share prices also rose notably in 2017 (the Eurostoxx index was up 10%), as a result of the improvement in expected profits. Private sector financing costs also held at historically low levels, while lending standards did not undergo significant changes during the year, thereby supporting the recovering trajectory of loans granted to households and firms. Nonetheless, the favourable course of these variables was offset by the notable appreciation of the euro (up 14% against the dollar over the year as a whole; see Chart 1.2.5), meaning that, for the purposes of the financial conditions indicator, standards tightened slightly in the second half of 2017 and somewhat more in early 2018 as a result of the stock market correction (see Chart 1.2.6).

The favourable financial conditions, the sound performance of employment and, consequently, the growth of income have all supported private demand. Of note under the private demand heading is the improvement in business investment, further spurred by the increase in confidence, profits growth and the sound behaviour of final demand. Specifically, investment in equipment increased by 4.9%, rising at end-2017 close to its pre-crisis level.

Exports, boosted by the improvement in world trade, have contributed to the momentum of activity, despite the notable appreciation of the euro. The strength of exports, which increased by over 5%, was practically extensive to all the euro area countries, with German and Italian sales standing out. In terms of geographical destinations, goods exports increased within the euro area as did those targeted on China and the United States, despite the adverse impact of the appreciation of the euro observed in 2017, whereby the euro area's share in overall global trade was hardly affected.

Following the consolidation process in the previous years, fiscal policy maintained a practically neutral stance in 2017. The budgetary policy stance took the form of the maintenance of the cyclically adjusted primary balance at approximately its 2016 level.

⁴ Specifically, for the Spanish case, the revisions were as follows: in January, Fitch changed its rating to A-; in March, S&P, also to A-; and in April, DBRS to A and Moody's to Baa1.

The favourable cyclical juncture and lower interest payments led, in the area as a whole, to a reduction in the budget deficit to 0.9% of GDP and to a further reduction in the public debt/GDP ratio to 86.7%, although this variable remains at notably higher levels in some countries.

Despite the buoyancy of activity, inflation has held at very moderate rates. Following the rise in the opening months of 2017, associated mainly with base effects of the energy component, overall consumer price inflation resumed a lower rate, standing in March 2018 at 1.3% (see Chart 1.2.2). Core inflation, too, which excludes the most volatile components from the overall index, has held at very stable levels – at around 1% – for most of the period, despite the narrowing of the output gap and the impact stemming from higher oil prices. Such price behaviour is in response to the confluence of different factors that have also affected other developed economies. These factors include some of a more structural type, such as the increase in competition arising from globalisation or the less inflationary dynamics linked to technological progress, along with others which, though more transitory in nature, have exerted very persistent effects, such as the low levels of oil prices and other commodities in past years. Moreover, in the case of the euro area, the easing in inflation may also have been due in part to predominantly domestic factors, such as the appreciation of the euro and the moderate increase in margins and in unit labour costs (ULCs). Wages grew by 1.6%, rising somewhat at the end of the year. Behind this wage moderation are various factors: low productivity growth, the existence of indexing mechanisms that take as a reference the past behaviour of inflation and the persistence of a certain slackness in the labour market the degree of which exceeds what may be inferred from the more traditional measures of unemployment, owing above all to the presence of a high number of part-time workers who would wish to extend the duration of their working day (see Chart 1.2.3).⁵

The moderate inflation outlook determined the accommodative stance of monetary policy in 2017. The monetary stimulus continued to rest on the operation of a broad set of monetary policy instruments, as has been the case since 2014, in the absence of clear signs of a sustained increase in inflation towards rates consistent with the price stability definition.⁶ The financial indicators of inflation expectations pointed in early 2017 to the prospect of very slow convergence by the rate of change of consumer prices towards levels close to 2%, although they also noted that the risks of deflation had been dispelled (see Chart 1.3.1). In this scenario, policy interest rates held at very low levels, namely 0% on the main refinancing operations and -0.40% on the deposit facility rate (see Chart 1.3.2). The Eurosystem, for its part, continued to inject liquidity through its large-scale private and public asset purchase programmes (APP).⁷ Net public and private bond purchases totalled €780 billion in 2017, meaning that at the end of the year the APP portfolio amounted to almost €2.3 trillion (see Chart 1.3.3). Gross purchases were higher, since the maturing securities acquired in prior years were reinvested, a policy that will continue for a long period after net purchases have finalised. In a complementary fashion, to reinforce monetary transmission through the credit channel, the last targeted longer-term refinancing operation (TLTRO-II) was conducted in March 2017. There was exceptional demand for funds, and the operation concluded with a net injection of almost €217 billion, raising the financing granted under the TLTRO programmes to over €760 billion. Lastly, the ECB

⁵ These factors are analysed in detail in Box 1.3 “Wage growth in the euro area”, “Quarterly report on the Spanish economy”, *Economic Bulletin*, 3/2017, Banco de España.

⁶ Section 4.2 of this chapter describes the actions undertaken during this phase by the ECB, while Box 1.3 assesses their impact on activity and prices.

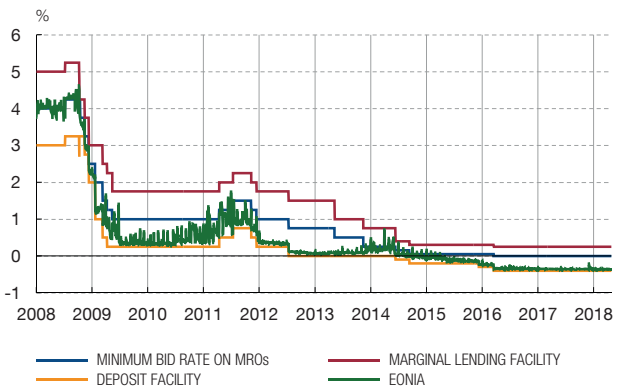
⁷ The private securities are asset-backed bonds, covered bonds (“cédulas hipotecarias” in Spain) and corporate bonds, acquired respectively under the ABSPP, CBPP-3 and CSPP programmes.

The ECB's monetary policy maintained its expansionary stance as there were no clear signs of a sustained rise in inflation towards levels consistent with the reference value, against a backdrop of a small climb in medium-term inflation expectations. Monetary stimulus continued to be based on historically low official interest rates, asset purchases and the communication policy. Interest rate expectations remain low.

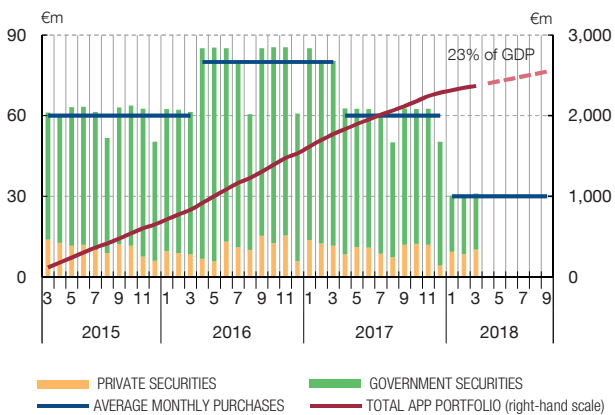
1 EURO AREA INFLATION EXPECTATIONS
Derived from inflation-linked swaps



2 OFFICIAL ECB INTEREST RATES AND EONIA



3 ASSET PURCHASE PROGRAMME (APP)



4 INTEREST RATE EXPECTATIONS



SOURCES: ECB, Bloomberg and Thomson Reuters.



continued to resort to forward guidance in respect both of its policy rates and the APP in order to underscore expectations that monetary policy will retain an accommodative stance over a prolonged period (see Chart 1.3.4).

The expansion of activity in the euro area as a whole progressively firmed, leading to some adjustments in monetary policy instruments. In June 2017, the improved economic outlook and the easing in downside risks for inflation led the ECB to withdraw the accommodative bias still present in its indications as to policy interest rates, eliminating the reference to the possibility of such rates being lowered from those then prevailing. Months later, in October, the temporary extension of the APP until at least September 2018 was announced, along with the reduction in the pace of net monthly purchases from €60 billion to €30 billion as from January 2018 (see Chart 1.3.3).⁸ The improved outlook has led more recently, in March 2018, to the elimination of the reference whereby, faced with a

⁸ See the box “Monetary policy decisions adopted by the Governing Council of the ECB in October”, in “Quarterly report on the Spanish economy”, *Economic Bulletin*, 4/2017, Banco de España.

potential deterioration in the economic situation or in financial conditions to levels not consistent with achieving the inflation objective, the Council would stand ready to increase the size and/or the duration of the purchase programme. Nonetheless, the progress observed in the convergence of inflation towards rates more compatible with the monetary policy medium-term objective is still insufficient, which warrants monetary policy remaining geared to continuing easy financial conditions.

Available forecasts suggest continuity in the medium term of the current upturn and gradual convergence by the inflation rate on the price stability objective. The information received in 2018 to date points to the maintenance of the economic expansion, albeit at a lesser pace than that recorded at end-2017. As regards prices, the widening of the positive output gap is expected to translate into a gradual increase in core inflation.

Over a longer time horizon, there is room for improvement in the use of productive factors so that they may contribute to the continuity of the expansionary phase. High youth and long-term unemployment, along with the high percentage of employees involuntarily working part-time and the moderate recovery in total hours worked, suggest that, despite the significant reduction in the unemployment rate, the degree of underutilisation of the labour factor is still high (see Charts 1.2.3 and 1.2.4). Also, following the low levels of private investment in past years, in an environment of corporate and household deleveraging, a strengthening in the rate of investment may be expected for the coming years, underpinned by the observed improvement in its determinants and supported by the restored health of bank balance sheets. A rebound in public investment is likewise desirable, especially in those countries with greater budgetary headroom, which would contribute to the correction of current account imbalances in the euro area falling more evenly between surplus- and deficit-running countries.⁹ Moreover, greater dynamism in aggregate investment would help correct the persistence of the high current account surplus in the euro area as a whole and raise the potential growth rate.

3 The prolongation of the upturn in the Spanish economy in 2017

The expansionary trajectory of the Spanish economy continued into 2017, with GDP growth once again exceeding 3% for the third year running. Specifically, output increased by 3.1%, 0.2 pp down on the previous year (see Table 1.1 and Chart 1.4.1). The contribution of national demand to the increase in GDP was 2.8 pp, 0.3 pp up on 2016, with the contribution of investment increasing somewhat (see Charts 1.4.2 and 1.4.3). Net external demand made a positive contribution of 0.3 pp, less than that in 2016, when it amounted to 0.7 pp. Also for the third year running, the increase in output clearly outpaced that in the euro area as a whole (see Charts 1.4.1 and 1.4.4).

Growth slowed slightly towards the end of 2017. The rising path of GDP scarcely varied in the course of last year, posting quarter-on-quarter growth of 0.8%, on average, a similar rate to that observed since mid-2014, with a slight downturn at the end of last year. As a result, the increase in political uncertainty in the second half of the year, as a result of the situation in the Catalonia region (see Box 1.1), is estimated to have had a moderate impact on GDP growth for the Spanish economy as a whole, which will moreover have been offset by the improved external setting.¹⁰ The expansion has continued at a similar pace to date

⁹ See Chapter 4 “Fiscal policy in the euro area”, *Annual Report 2016*, Banco de España.

¹⁰ Box 3 of the “Quarterly report on the Spanish economy”, *Economic Bulletin*, 4/2017, Banco de España reviews the effects observed in the final stretch of 2017 as a result of the uncertainty associated with the political situation in Catalonia. In turn, Box 1.1 of the “Financial Stability Report”, 11/2017, Banco de España describes the possible medium-term effects under different hypothetical scenarios relating to the scale and persistence of the rise in uncertainty.

MAIN INDICATORS OF THE SPANISH ECONOMY (a)

TABLE 1.1

	2012	2013	2014	2015	2016	2017
Demand and output (b)						
GDP	-2.9	-1.7	1.4	3.4	3.3	3.1
Private consumption	-3.5	-3.1	1.5	3.0	3.0	2.4
Government consumption	-4.7	-2.1	-0.3	2.1	0.8	1.6
Gross capital formation	-9.5	-4.6	5.8	8.7	3.1	5.5
Investment in equipment	-6.2	4.9	6.0	11.6	4.9	6.1
Construction investment	-12.3	-8.6	4.2	3.8	2.4	4.6
Housing	-10.3	-10.2	11.3	-1.0	4.4	8.3
Other construction	-13.9	-7.3	-1.1	7.9	0.9	1.5
Exports of goods and services	1.1	4.3	4.3	4.2	4.8	5.0
Imports of goods and services	-6.4	-0.5	6.6	5.9	2.7	4.7
Contribution of national demand to GDP growth	-5.1	-3.2	1.9	3.9	2.5	2.8
Contribution of net external demand to GDP growth	2.2	1.5	-0.5	-0.4	0.7	0.3
Employment, wages, costs and prices (c)						
Total employment	-4.8	-3.4	1.0	3.2	3.0	2.8
Employment rate (d)	56.5	55.6	56.8	58.7	60.5	62.1
Unemployment rate	24.8	26.1	24.4	22.1	19.6	17.2
Compensation per employee	-0.6	1.4	0.1	1.6	-0.3	0.1
Apparent labour productivity	2.0	1.8	0.3	0.3	0.3	0.2
Unit labour costs	-2.5	-0.4	-0.2	1.4	-0.6	-0.1
GDP deflator	0.1	0.4	-0.2	0.6	0.3	1.0
Consumer price index (end of period)	2.9	0.3	-1.0	0.0	1.6	1.1
Consumer price index (annual average)	2.4	1.4	-0.2	-0.5	-0.2	2.0
Consumer price differential with euro area (HICP)	-0.1	0.2	-0.6	-0.7	-0.1	0.1
House prices	-13.7	-10.6	0.3	3.6	4.7	6.2
Net lending (+) or net borrowing (-) and financial balance (e)						
Resident sectors: domestic net lending (+) or net borrowing (-)	0.1	2.1	1.5	1.7	2.1	2.0
General government	-10.5	-7.0	-6.0	-5.3	-4.5	-3.1
General government (excluding aid to financial institutions)	-6.8	-6.7	-5.8	-5.2	-4.3	-3.1
Households and NPISHs	2.2	4.0	3.4	2.3	1.6	-0.3
Firms	8.3	5.1	4.1	4.7	5.1	5.4
Financial institutions	6.9	2.2	2.3	1.8	2.0	2.4
Non-financial corporations	1.4	2.9	1.8	2.9	3.1	2.9
Net international investment position	-89.9	-95.2	-97.8	-89.7	-83.4	-80.8
General government gross debt	85.7	95.5	100.4	99.4	99.0	98.3
Monetary and financial indicators (f)						
ECB minimum bid rate on MROs	0.9	0.5	0.2	0.1	0.0	0.0
Ten-year government bond yield	5.8	4.6	2.7	1.7	1.4	1.6
Synthetic bank lending rate	4.1	4.1	3.8	2.9	2.7	2.6
Madrid Stock Exchange General Index (Dec 1985 = 100)	767.5	879.8	1,066.6	1,080.5	879.2	1,034.5
Dollar/euro exchange rate	1.3	1.3	1.3	1.1	1.1	1.1
Nominal effective exchange rate vis-à-vis developed countries (g)	100.2	101.5	101.5	99.3	99.9	100.8
Real effective exchange rate vis-à-vis developed countries (h)	107.2	106.9	106.0	104.7	103.6	103.2
Real effective exchange rate vis-à-vis euro area (h)	106.6	104.8	104.0	105.2	103.5	102.3
Households: total financing	-3.8	-5.2	-3.6	-2.1	-2.0	-1.3
Non-financial corporations: total financing	-6.4	-6.1	-3.7	-0.4	-0.4	0.2

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

a Spanish National Accounts data, base year 2010.

b Volume indices. Annual rates of change.

c Rates of change, except the unemployment rate which is a level.

d Employment rate (16-64 age group).

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 financial liabilities.

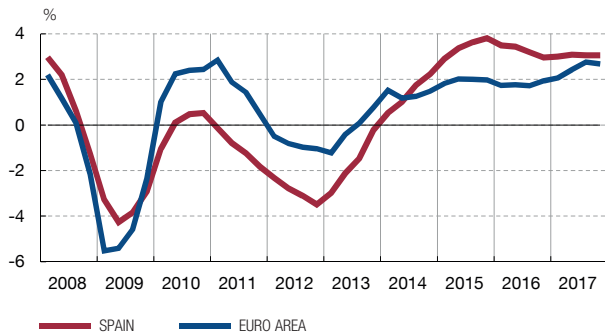
g 1999 Q1 = 100.

h 1999 Q1 = 100. Measured with unit labour costs.

Once again the rate of growth of GDP exceeded 3%, with a relatively uniform time profile throughout the year. The expansionary behaviour of domestic demand was favoured by accommodative financial conditions. The net external demand contribution was positive again, albeit somewhat less so than in 2016, against a backdrop of higher exports and, particularly, higher imports.

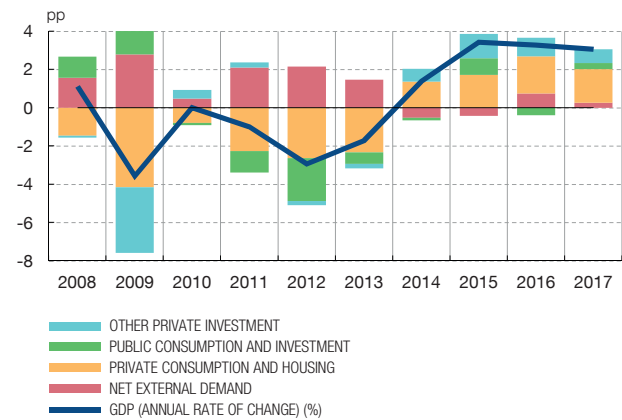
1 GDP: SPAIN AND THE EURO AREA

Year-on-year rates of change in real terms



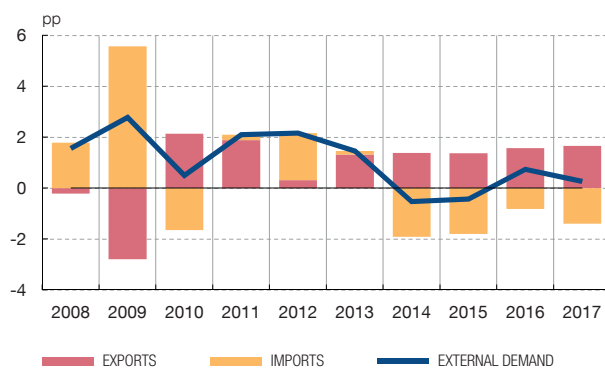
2 GDP: DOMESTIC AND EXTERNAL DEMAND COMPONENTS

Annual rates of change and contributions to growth



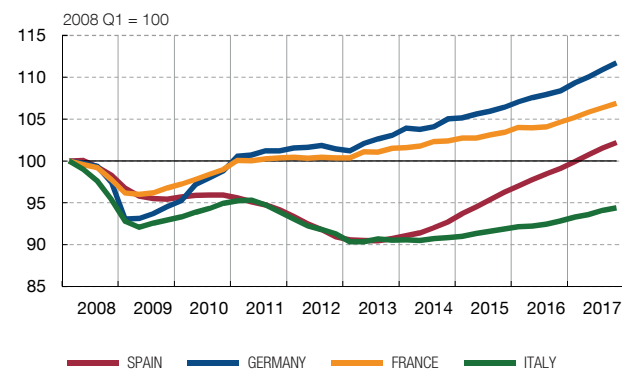
3 NET EXTERNAL DEMAND

Contributions to GDP growth



4 GDP

Levels in real terms



SOURCES: INE and Banco de España.



in 2018, giving rise to a positive cyclical gap which is expected to carry on increasing in the coming years.¹¹

As in previous years, the rate of increase of activity once again exceeded prior expectations at the start of the year. Specifically, the Banco de España projected in December 2016 that growth in 2017 would be 2.5%, 0.6 pp down on the figure finally observed. In general, all the final demand components increased by more than expected, with exports and investment notably strong compared with the projections.

The positive surprise is mainly attributable to external markets performing more favourably than envisaged before the start of the year. The formulation of macroeconomic forecasts usually rests on a set of technical assumptions about various variables upon which the projection is conditional. The gap between the forecast and the actual GDP growth figure observed in 2017 would largely be because there was a significant deviation in the behaviour

¹¹ See Box 6 “The cyclical position of the Spanish economy” in “Quarterly report on the Spanish economy”, *Economic Bulletin*, 1/2018, Banco de España.

of foreign markets, which proved more favourable than was expected at end-2016. The deviations in the rest of the technical assumptions (interest rates, stock market prices, oil prices, etc.) are estimated, overall, to have had a much lesser impact. To reach this conclusion the 2017 GDP growth projections formulated in December 2016, using the MTBE (Quarterly Macroeconomic Model of the Banco de España) with the set of assumptions then prevailing, have been compared with those that would have been formulated had the finally observed figures for the assumptions then been known.¹² The fact that the actual growth of 3.1% should have exceeded the MTBE forecast by 0.2 pp, once the assumptions upon which the projection is conditional were known, suggests that factors other than those captured by the historical relationships estimated in the model may have been operating in a positive direction.

Prices and costs in the economy once again grew very moderately. Consumer prices increased on average by 2% in 2017, but this increase was influenced by the higher level, in annual average terms, of oil prices; as a result, the rate of increase of the indicator that excludes the energy component was far lower, at 1.2%. The GDP deflator, which proxies the prices of domestically produced goods, posted a similar (1%) increase for the latter figure, as a result of very modest growth in labour costs per unit of value added, which increased in the market economy by 0.2%, while the rise in the unit operating surplus, including taxes, was close to 2.5%.

3.1 THE ROBUSTNESS OF ACTIVITY WAS EXTENSIVE TO MOST DEMAND COMPONENTS

In 2017, Spanish households' financial conditions remained very easy. The maintenance of the expansionary monetary policy stance is allowing the average interest rates on bank financing to hold at low levels, close to their historical lows (see Chart 1.5.1). Further, the Bank Lending Survey (BLS) registered a slight improvement in access to lending during the year as a whole, which has helped lending activity continue to recover (see Chart 1.5.2). The increase in new lending business has translated into an easing in the rate of decline of the outstanding balance of household debt (from 1.3% in December 2016 to 0.8% one year later). By end-use, the outcome was a lesser contraction in lending for house purchases and greater dynamism in consumer credit and other lending.

As has been the case since the crisis broke, the low level of financing costs has continued to be a factor supporting household income. It is thus estimated that the cumulative decline in interest rates from 2008 to 2017 has contributed, in net terms, to raising household disposable income in 2017 by around 1 pp.¹³

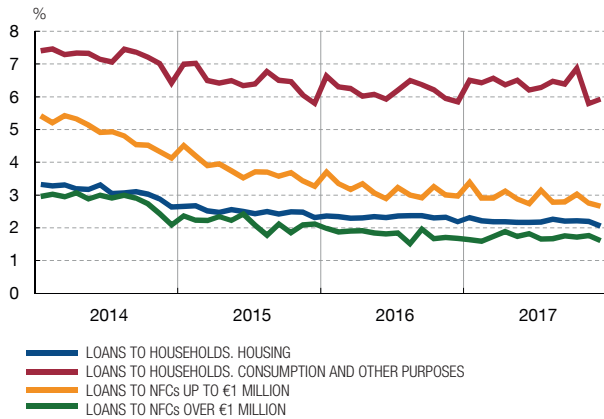
Households' financial situation continued to strengthen during 2017, which also contributed to boosting expenditure in the sector. Household debt fell to below 100% of its gross disposable income (GDI) and 61% of GDP, ratios still somewhat higher than – though now very close to – average euro area ratios. Net wealth in this sector has also been boosted by increased asset values, especially property, with a rise in house prices of 7.2% in 2017 (see Chart 1.6.1).

¹² Specifically, the model's projections before the introduction of the experts' opinions would, in each case, have been 2.5% and 2.9%, respectively. Three-quarters of the difference of 0.4 pp between these two figures would be due to the fact that external markets fared better than projected, with the remainder attributable to the surprises in the remaining assumptions as a whole. See *New version of the Quarterly Model of Banco de España (MTBE)*, *Documento Ocasional*, no. 1709, Banco de España for a description both of the model's main mechanisms and of the simulations of the effects of the errors in the assumptions on those upon which the projection is conditional.

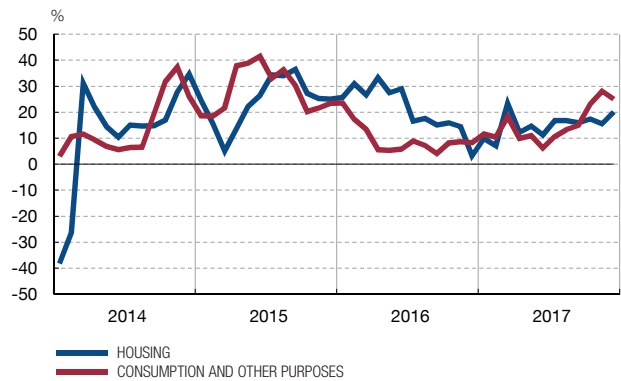
¹³ This reduction in interest rates has affected both asset-side and liabilities-side operations, with a highly heterogeneous impact on the income of different households, depending on the sign and magnitude of their net assets, as illustrated by the fact that the figures relating to the cumulative effect of the fall in interest rates from 2008 to 2017 on disposable income for this latter year through interest received and paid were, respectively, negative of the order of 2.9 pp and 3.9 pp.

Households' and NFCs' financing conditions remained very favourable, with financing costs continuing at historically low levels. In addition, access to bank credit continued to improve for these sectors, especially for SMEs. In this setting, credit activity continued to recover.

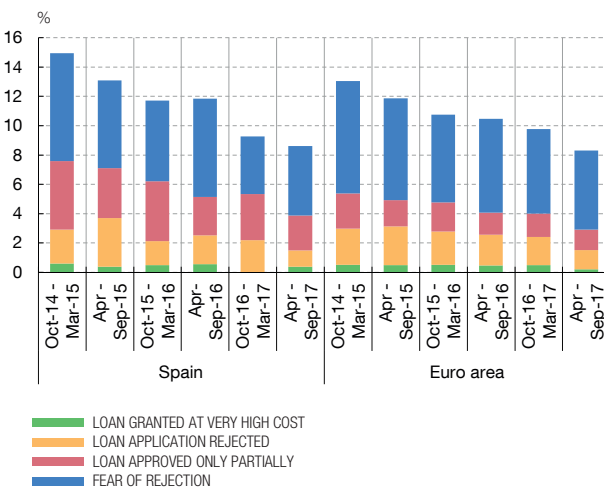
1 BANK LENDING RATES. SPAIN



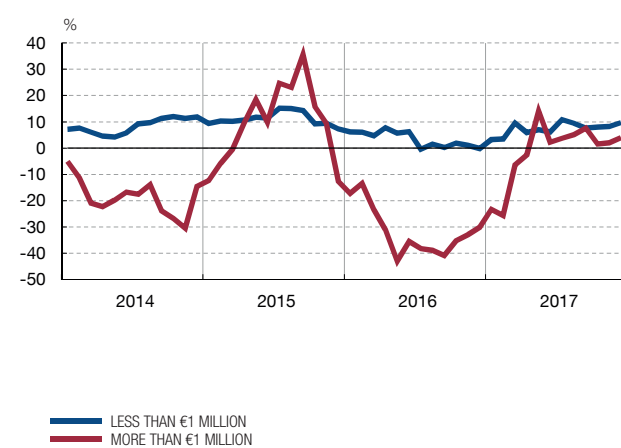
2 NEW LENDING TO HOUSEHOLDS. YEAR-ON-YEAR GROWTH (b)



3 SMEs FINDING IT DIFFICULT TO OBTAIN BANK LOANS (a)



4 NEW LENDING TO FIRMS. YEAR-ON-YEAR GROWTH (b)



SOURCE: Banco de España.

- a This indicator reflects the proportion of firms to which any of the following apply: loan application rejected; loan approved only partially; loan approved at what firm considered to be a very high cost; and loan not requested because firm did not expect it to be approved (fear of rejection).
- b Cumulative 3-month flow.



From 2014 to 2017, real wages grew by 0.4% in cumulative terms. These overall developments mask very different sub-periods, with a 2.4 pp increase in real wages from 2014 to 2015, stabilisation in 2016 and a 2 pp loss in purchasing power in 2017, linked to the rise in the inflation energy component.

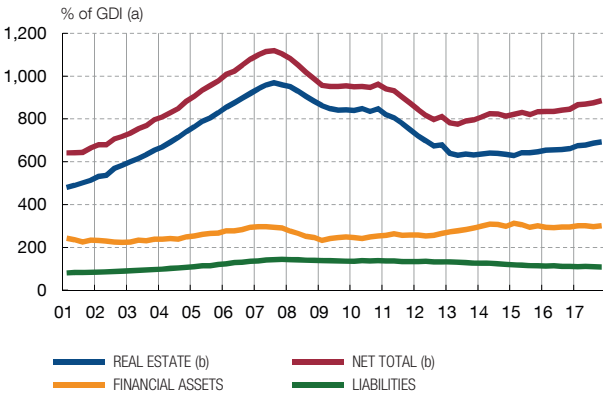
The slowdown in real household income led, given the lesser scale of the loss of momentum in consumption, to a steepening of the decline in the saving rate. Household income grew by 2% in nominal terms in 2017, a similar rate to that observed a year earlier. Nonetheless, the inflationary rise due to the energy component of consumer prices meant that, in real terms, the increase in income was only 0.2% (1.8 pp down on the previous year) (see Chart 1.7). The magnitude of the slowdown in private consumption in real terms was far less (0.6 pp, to 2.4%), whereby the compression of household income gave rise to a 2 pp reduction in the household saving rate, to 5.7% of disposable income, its lowest level since the creation of the monetary union.

THE FINANCIAL POSITION OF HOUSEHOLDS AND NON-FINANCIAL CORPORATIONS CONTINUED TO STRENGTHEN

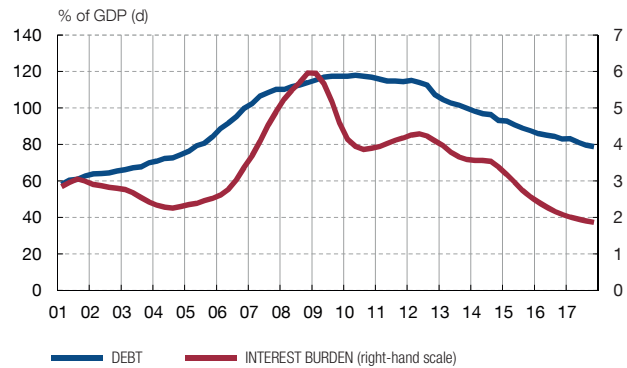
CHART 1.6

In 2017 the financial position of Spanish households and non-financial corporations continued to strengthen, with further reductions in their indebtedness ratios and, in the case of households, increases in their net wealth also, mainly thanks to rising house prices. The lower indebtedness ratios, along with the decline in the average cost of liabilities, led to a reduction in the degree of financial pressure.

1 HOUSEHOLDS. WEALTH



2 NON-FINANCIAL CORPORATIONS. DEBT (c) AND INTEREST BURDEN



SOURCES: INE and Banco de España.

- a Cumulative four-quarter data.
- b Estimate based on estimated change in housing stock, average floor area of housing and price per m2.
- c Interest-bearing borrowing.
- d Seasonally and calendar-adjusted series.

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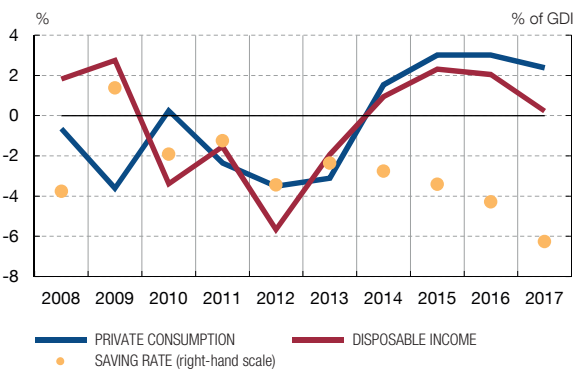
REAL HOUSEHOLD INCOME GROWTH HAS MODERATED AND THE DECLINE IN THE SAVING RATE HAS INTENSIFIED

CHART 1.7

The continued decline in the saving rate in recent years is probably linked to factors such as diminished uncertainty and satisfaction of the demand, especially for durable goods, that built up during the crisis. In 2017 household income continued to grow at a fast pace in nominal terms. However, higher inflation meant that, in real terms, there was a significant slowdown in income. Given that households reduced their consumption to a lesser extent, the decline in the saving rate intensified.

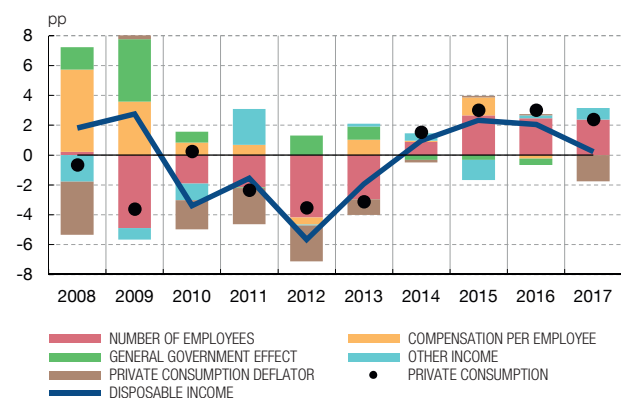
1 PRIVATE CONSUMPTION AND DISPOSABLE INCOME

Real annual rates of change



2 PRIVATE CONSUMPTION AND DISPOSABLE INCOME

Contributions to real annual rate of change



SOURCES: INE and Banco de España.

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The reduction in the saving rate in 2017 entails the prolongation of a downtrend under way over the past eight years. In Spain, the fluctuations in the saving rate since the onset of the crisis have been much greater than in the core euro area countries, since the oscillations in consumption and income have also been greater. The Spanish household saving rate increased at the start of the crisis to a level of over 13% of disposable income

at end-2009.¹⁴ Since then, until end-2017, the rate has gradually fallen (by over 7 pp in cumulative terms). The causes of this decline have varied over time. During the recession, the reduction in the saving rate was linked to the need to maintain spending on essential goods and services against the background of a heavy decline in household income. Greater uncertainty led households to defer a substantial portion of their consumption decisions, but not those taken to meet their most basic needs.¹⁵

Several aspects of the recovery are estimated to have prompted a sustained reduction in household saving. Specifically, the improved labour market situation has contributed to diminishing the need for precautionary saving. Set against the increase in employment and income, and the reduction in uncertainty, households have stepped up their purchases of consumer goods and services and, in particular, they have satisfied the spending decisions they deferred during the crisis, which has led to a progressive absorption of pent-up demand.¹⁶ Moreover, the low level of interest rates may have lessened saving incentives, and the favourable financial conditions have boosted debt-fuelled consumption. Finally, the recovery has coincided with an increase in the share of labour income in total income, a factor that is estimated to have likewise contributed to spurring a reduction in the saving rate, given that the marginal propensity to consume of labour income is greater than in the case of the remaining sources of income.¹⁷

Looking ahead, the room for households to further reduce their saving appears to be limited. Following the cumulative declines, the current level of the saving rate stands somewhat below the pre-crisis level. However, it should be borne in mind that the significant decline in household debt has lessened the portion of saving earmarked for repaying this debt and that it may now be allocated to current spending. For these purposes, an alternative definition may be considered of the saving rate that discounts therefrom an estimate of the payments made by households under the heading of debt repayment. Under this definition, the saving rate would still be 2 pp above its 2008 low, reflecting the deleveraging undertaken by the sector in the period since.

Households posted a net borrowing requirement in 2017, after having recorded a net lending capacity since 2009 Q2, against the background of a significant rise in residential investment. Investment in housing increased by 8.3% last year (3.9 pp up on a year earlier), assisted by the strength of employment creation and propitious financial conditions. Moreover, the momentum of demand from abroad continued, since the fall-off in British buyers was offset by the acquisitions made by residents of other countries. The rise in residential investment, in the above-mentioned setting of diminished saving, led households to cease to be net lenders to the other sectors in the economy. Specifically, households' net borrowing requirements amounted to 0.3% of GDP in 2017, in contrast to the net lending capacity of 1.6% at end-2016 or the average of over 3% in the two years spanning 2014 and 2015.

14 Ó. Arce, E. Prades and A. Urtasun (2013), "*Changes in household saving and consumption in Spain during the crisis*", *Economic Bulletin*, September, Banco de España find as a possible cause of the decline in the saving rate since 2010 the existence of minimum consumption thresholds for certain goods.

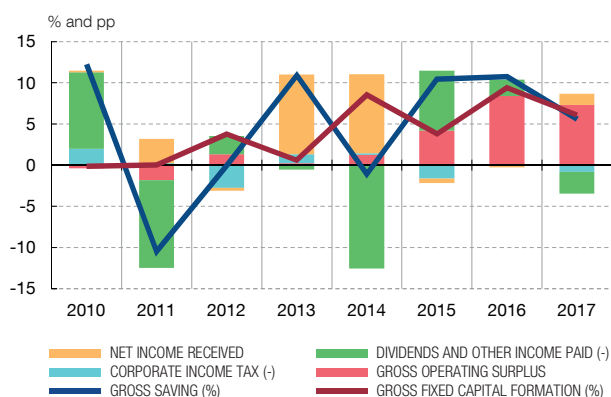
15 See the *Analytical Article "The recovery of private consumption in Spain by product type and household"*, *Economic Bulletin*, 2/2017, Banco de España. J. González Mínguez and A. Urtasun (2015), "*Consumption dynamics in Spain by product type*", *Economic Bulletin*, September, Banco de España, document the differential impact of the crisis on various categories of goods and services, finding that durable goods and non-essential goods and services underwent notably sharper falls in the crisis (and likewise far higher increases in the recovery) than other staple products or products whose consumption it is not possible to adjust (e.g. owing to the existence of contractual obligations).

16 See Box 4 of "*Quarterly report on the Spanish economy*", *Economic Bulletin*, 4/2017, Banco de España.

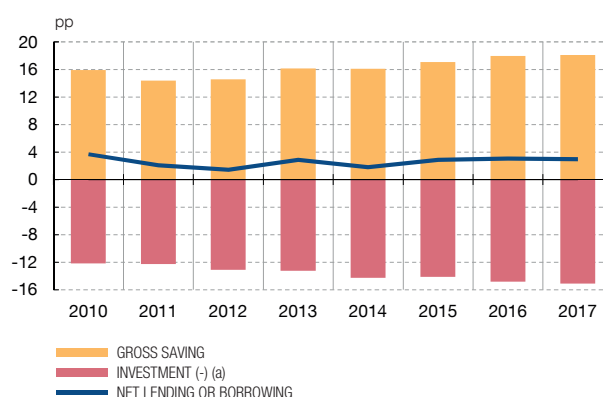
17 G. de Bondt, A. Gieseck and Z. Zekaite (2018), "*Forecasting euro area private consumption using thick modelling*", ECB, mimeo.

The benign financial conditions and the improved financial position of NFCs were conducive to growth in business investment, against a backdrop of strong final demand. High income generation in the sector meant that, despite the investment momentum, net lending remained high.

1 CORPORATE SAVING AND GROSS FIXED CAPITAL FORMATION
Nominal growth and contributions



2 FIRMS' NET LENDING OR BORROWING
% of GDP



SOURCES: INE and Banco de España.

a Includes net capital transfers.



The favourable trend of business profits has continued to spur investment by non-financial corporations (NFCs). On National Accounts data, the sector's gross operating surplus is estimated to have retained its forceful dynamism in 2017, increasing by 5.5%, a slightly lesser pace than that of the previous year (see Chart 1.8.1). In terms of gross corporate saving, the slowdown was greater, dipping from 10.8% to 5.6%, which is due both to the rise in dividends paid and to the impact of the changes in corporate income tax.¹⁸

As in the case of households, the financing conditions of NFCs, both in terms of the cost and availability of funds, remains supportive of spending decisions. The cost of borrowed funds has held at historically low levels, with a further slight decline in the case of loans of less than €1 million, the segment in which operations with SMEs are concentrated (see Chart 1.5.1). The Survey on the Access to Finance of Enterprises (SAFE) evidences a further improvement in access to credit by small companies, such that the percentage of Spanish SMEs reporting themselves to be financially constrained stands below 9%, in line with the euro area average (see Chart 1.5.3).

This context has been conducive to the continued expansion of new borrowing business. The pick-up in activity in the credit market was particularly pronounced in the segment encompassing SMEs (see Chart 1.5.4). In terms of stocks, the increase in the volume of new business has led the rate at which credit to resident NFCs was slipping to ease slightly over the course of 2017 (from 1.1% at end-2016 to 0.6% a year later).¹⁹

18 The information from the Central Balance Sheet Data Office likewise points to a dynamic behaviour of profits for the case of large corporations, with ordinary profit growth of 7.4%. See the *Analytical Article "Results of non-financial corporations to 2017 Q4: preliminary year-end data"*.

19 In June 2017, a credit institution conducted an intra-group operation under which the loans granted to a real estate subsidiary were converted into parent company equity holdings. As a result, there was a 1.6% decline in the outstanding balance of credit to NFCs. Had this operation not taken place, the year-on-year growth rate of credit extended to NFCs in December 2017 would have been 1.6 pp higher.

Fixed-income financing was notably buoyant, particularly in the first half of 2017, contributing to making the flow of external financing (credit from resident institutions, fixed-income securities and external loans), in the year as a whole, positive for the first time since 2010. As a result, the weight of fixed-income financing in the total has increased, thereby providing continuity to the bank disintermediation initiated further to the crisis which, in the most recent period, has been boosted by, inter alia, the ECB's Corporate Sector Purchase Programme (CSPP) launched in June 2016.²⁰

Another significant factor of support for non-financial corporations' investment decisions has been the strengthening of their financial position. The sector's aggregate debt ratio continued to fall in 2017, standing at year-end at 78% of GDP, similar to the euro area average, when it was almost 40 pp above this level in mid-2010. This reduction in debt, combined with a slight decrease in the average cost of its outstanding balance, translated into a further reduction in the debt burden ratio which, set against the figure of 6% in early 2009, stood below 2% of GDP. This historically low level, along with the decline in debt, explains the low degree of financial pressure borne by the sector as a whole (see Chart 1.6.2).

The favourable financial conditions and the improvement in corporate balance sheets were conducive to investment by non-financial corporations increasing in 2017 by around 5% in real terms.²¹ This rate of increase, while high, was slightly below the average for the first three years of the recovery. As has been the case throughout this period, the buoyancy of business investment spending has continued to be underpinned by the momentum of final demand, whose growth, at 3.3%, was once again very similar to that averaged during the previous three years (see Chapter 3 of this Report).²² The increase in investment once again significantly exceeded fixed-capital consumption; however, capacity utilisation continued to increase throughout the year on the back of the strength of demand. As a result, the sector continued to show a notable lending capacity, of 2.9% of GDP (see Chart 1.8.2), reflecting the ongoing balance sheet restructuring at non-financial corporations as a whole.

Exports accelerated slightly in 2017, albeit to a lesser extent than their end-markets. Goods and services exports increased by 5% over the year as a whole (see Chart 1.9.1). This rate, 0.2 pp up on the previous year, was slightly lower than that posted by external markets. These developments were in contrast to 2016, when exports to the rest of the world outgrew end-markets by more than 2 pp. The pattern of diminished relative buoyancy of exports compared with their scale variable is shared when regard is had to the breakdown between the euro area and the rest of the world; that suggests that several factors other than the appreciation of the exchange rate recorded last year may be at play, an appreciation which, vis-à-vis the non-euro area developed countries, was 2.4% in nominal effective terms.²³

20 O. Arce, R. Gimeno and S. Mayordomo (2017), "Making room for the needy: the credit reallocation effects of the ECB's corporate QE", Documento de Trabajo, no. 1743, Banco de España, document the effects of the CSPP on the financing of Spanish firms. In particular, the announcement of the programme led large corporations to replace bank loans with debt issues. In turn, the fall in these corporations' demand for credit enabled an increase in that granted to smaller firms, which do not usually have the capacity to gain access to primary corporate debt markets.

21 This rate is an in-house estimate, since National Accounts offer this magnitude solely in nominal terms.

22 Chapter 3 of this *Annual Report* analyses in detail the trend of investment in equipment and intangibles during the current recovery phase. The determinants of the sound behaviour of these variables include most notably the easing of financial conditions, the availability of own funds, diminished uncertainty and the fact the business sector was more export-oriented.

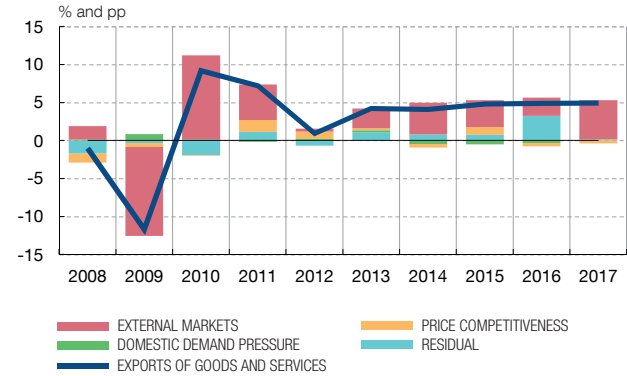
23 Analysis of contributions to export growth by the various explanatory variables suggest that the factors not included in the equations made a zero contribution to the increase in sales abroad, unlike 2016, when they had contributed 3 pp (see Chart 1.9.2).

Export growth was slightly higher than in 2016. However, the rate of growth was lower than that of the external markets. By component, tourism services remained particularly robust, while by contrast other services weakened significantly. The continuing increase in the number of exporting firms had a positive impact on goods exports.

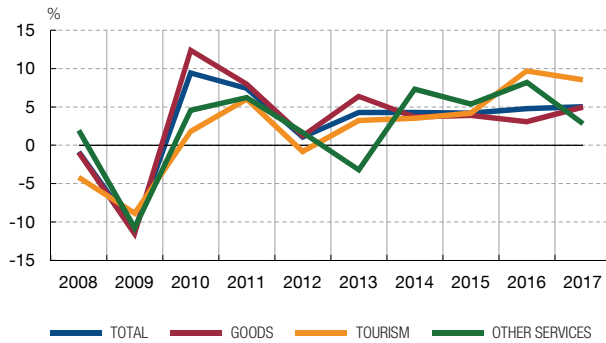
1 GROWTH OF EXPORTS AND EXTERNAL MARKETS
Real rates of change



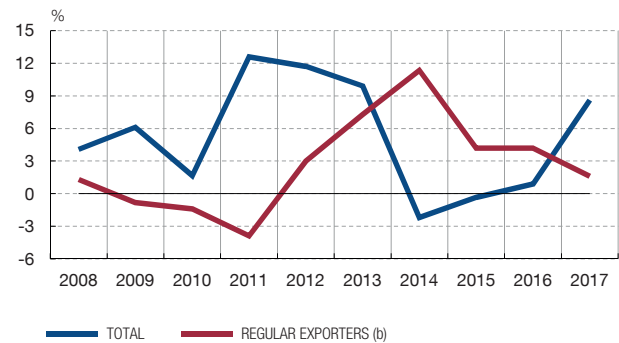
2 TOTAL EXPORTS: GROWTH AND CONTRIBUTIONS (a)



3 EXPORT COMPONENTS
Real rates of change



4 EXPORT FIRMS: REGULAR EXPORTERS AND TOTAL
Rates of change



SOURCES: INE and Banco de España.

- a Using the export equation of the Banco de España's satellite model for the foreign sector.
- b Regular exporters are those that have exported in the year concerned and in each of the three immediately preceding years.



Goods exports were the sole foreign sales component that accelerated. Specifically, goods exports to the rest of the world grew by 5%, 1.9 pp up on 2016 (see Chart 1.9.3). In 2017 the base of firms that started exporting expanded significantly, although there was some easing in the rise in the number of regular exporters (understood to be those that have been exporting for at least four years; see Chart 1.9.4). In any event, the increase recorded since the onset of the crisis in the number of companies that regularly export provides structural support to sales abroad. In particular, the empirical evidence suggests that firms generally begin to export on a small scale, increasing the volume subsequently, once they see that their products are successful in end-markets.²⁴ This mechanism would account for growth in the volume of exports by companies already established in foreign markets, even though the enlargement of the export base were to be checked.

As in 2016, the tourism services component of exports was notable for its greater dynamism. These services grew by 8.5%, 1.2 pp down on the previous year. The

24 See C. Arkolakis, T. Papageorgiou and O. Timoshenko (2018), "Firm Learning and Growth", *Review of Economic Dynamics*, forthcoming.

continuing strength of this variable was underpinned, on the demand side, by the improved economic situation in the euro area countries and the increase in the proportion of tourists from other regions (whose average daily expenditure is higher) and, on the supply side, by the quality improvements to the services provided, which helps lure higher-spending visitors.²⁵ Conversely, the depreciation of sterling would not seem to have exerted any significant impact on arrivals of British tourists, who are Spain's main market.²⁶ That said, since the final stretch of 2017, some weakening in tourist exports has been observed, linked possibly to the August terrorist attacks in Barcelona, to the subsequent period of uncertainty in Catalonia, and to the incipient recovery of competing destinations in the Mediterranean.²⁷ This latter factor, along with the strength of the euro and dearer oil prices, suggests a more moderate growth outlook. Finally, the pace of exports of other services eased notably following their exceptional performance in 2016, centred on business services.²⁸

Generally, the impact of Brexit on the Spanish economy in terms of trade flows appears so far to have been limited. In particular, exports to the United Kingdom do not appear to have suffered from the dearer prices caused by the depreciation of sterling, since they have not behaved differently to those whose end-destination is the EU as a whole, except as regards consumer goods sales, especially of cars.²⁹

The pace of imports accelerated in 2017. Purchases abroad rose to a rate of 4.7% (1.2 pp up on 2016), partly in response to the fact that the growth rate of final demand was somewhat higher, but above all to an increase in the elasticity observed between both variables compared with previous years. In any event, the elasticity observed stood below its average historical value (see Chart 1.10.1), in keeping with the microeconomic evidence suggesting the existence of signs of an incipient process involving the replacement of imported inputs by domestically produced ones.³⁰ In turn, the rise in the elasticity of imports to final demand during 2017 might be partly attributable to the fact that the composition of this latter aggregate was skewed to a greater extent towards more import content-intensive variables, such as investment in capital goods and in intangible assets, and exports.

The lending capacity of the economy as a whole declined slightly to 2% of GDP (see Chart 1.11.1). Maintaining positive balances vis-à-vis the rest of the world over a prolonged period is an unavoidable requisite for reducing the Spanish economy's high external debt. In this respect, the fact that the sharp expansion in domestic demand throughout the recovery phase is proving compatible with relatively high external surpluses is a positive feature of the current expansionary cycle.³¹ In 2017, the merchandise trade deficit widened

25 For a classification of the tourist offer, see "The Travel & Tourism Competitiveness Report 2017", *World Economic Forum* (2017). For greater details about the recent course of the tourism export determinants, see Box 7 "Dynamism of non-resident tourism in 2016 and its determinants", in the "Quarterly report on the Spanish economy", *Economic Bulletin*, 1/2017, Banco de España.

26 See Box 3 in the "Quarterly report on the Spanish economy", *Economic Bulletin*, 2/2017, Banco de España.

27 There were significant increases in 2017 in tourist arrivals in North Africa and the Middle East, with year-on-year rates climbing by around 8 pp. For an assessment of the impact of the changes in tourist flows towards Spain as a result of the trend in these alternative destinations, see Box 7 "Dynamism of non-resident tourism in 2016 and its determinants", in the "Quarterly report on the Spanish economy", *Economic Bulletin*, 1/2017, Banco de España.

28 See Box 7 "Net exports of non-tourism services in Spain since 2008" "Quarterly report on the Spanish economy", *Economic Bulletin*, 1/2018, Banco de España.

29 See Analytical Article, "Un análisis de la expansión comercial de las empresas españolas en el Reino Unido", *Boletín Económico*, Banco de España, forthcoming.

30 See Chapter 3 of the *Annual Report, 2016*, Banco de España.

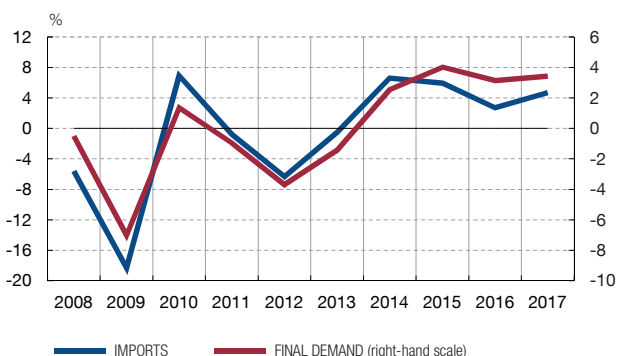
31 Chapter 3 of the *Annual Report, 2016*, Banco de España, contains an estimate of the structural component of the external balance.

IMPORTS ROSE, IN PART OWING TO STRONGER FINAL DEMAND MOMENTUM

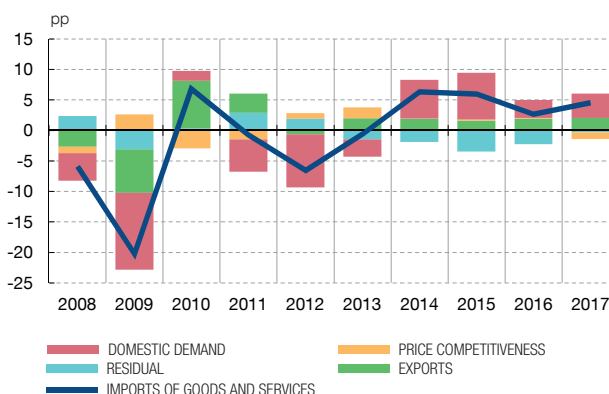
CHART 1.10

Following the unusually low value observed in 2016, the elasticity of imports to final demand rose in 2017. However, it remains low compared with historical values, tending to confirm that the competitive gains achieved by the economy are giving rise to a certain degree of import substitution.

1 IMPORTS AND FINAL DEMAND
Rates of change



2 TOTAL IMPORTS: GROWTH AND CONTRIBUTIONS (a)



SOURCES: INE and Banco de España.

a Using the import equation of the Banco de España's satellite model for the foreign sector.

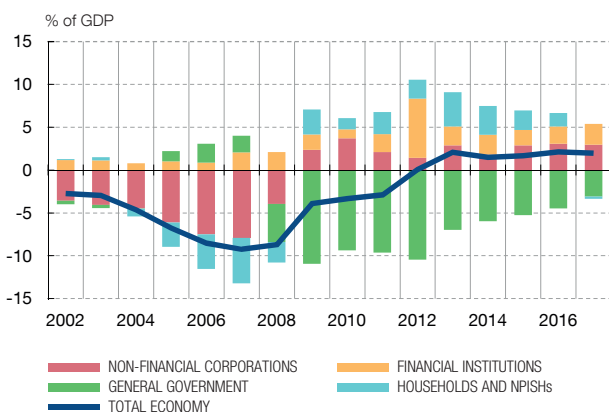


THE EXTERNAL SURPLUS WAS HIGH AGAIN

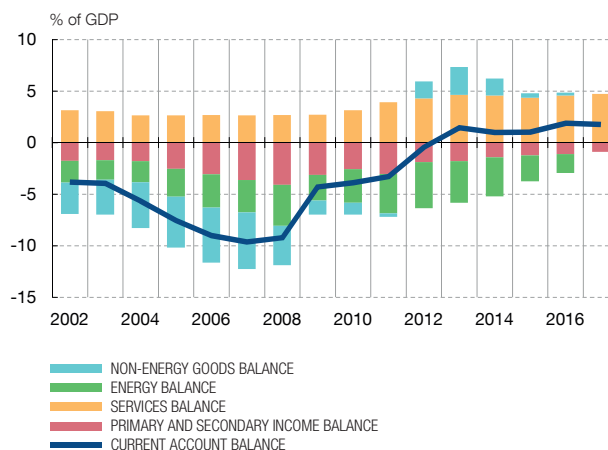
CHART 1.11

The current account surplus was very similar to that of 2016, against a backdrop of worsening real terms of trade but with an improving real non-energy balance. As for the sectoral balances, both the disappearance of household net lending and the decline in the general government deficit are notable, while non-financial corporations again recorded high net lending.

1 NET LENDING (+) / NET BORROWING (-) BY SECTOR



2 CURRENT ACCOUNT BALANCE



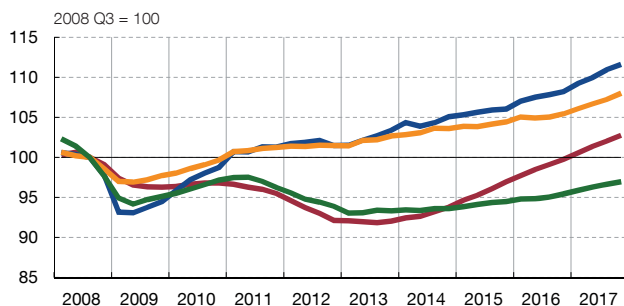
SOURCES: INE and Banco de España.



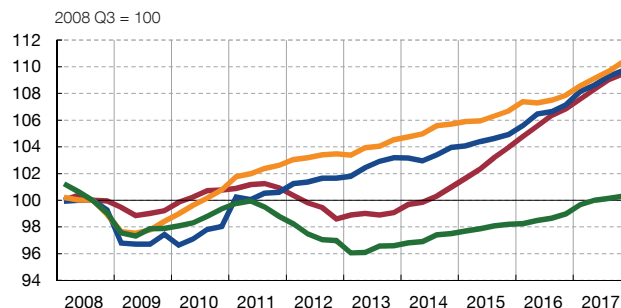
by 0.3 pp to 1.9% of GDP, which chiefly reflected the worsening of the real terms of trade (affecting energy products, in step with dearer oil, and non-energy products alike), while the non-energy balance improved significantly in real terms, for the first time since 2013 (see Chart 1.11.2). This fall in the merchandise balance was partly countered by an improvement in the surplus on services – linked above all to the increase in tourism exports – and by a further slight reduction in the deficit on the income balance, assisted by the environment of low interest rates.

In 2017 industry value added was similar to the pre-crisis level, whereas services value added was 10% higher and construction value added was 40% lower. In terms of international comparison, since the start of the downturn the rate of growth of the services sector has been very similar to that observed in Germany or France. There are larger differences in industry, where Spain has underperformed in comparison with both Germany and France, and especially in construction, reflecting the sharp correction observed in Spain.

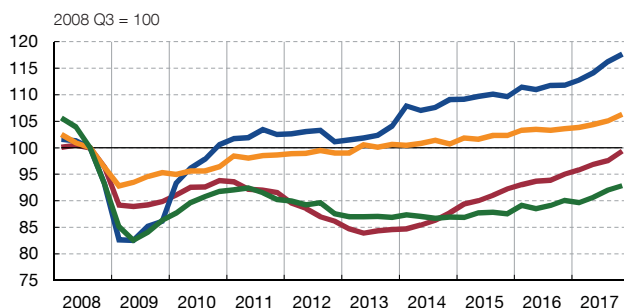
1 VALUE ADDED. TOTAL ECONOMY



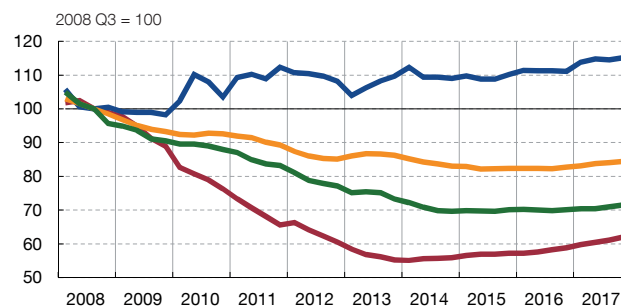
2 VALUE ADDED. SERVICES



3 VALUE ADDED. INDUSTRY



4 VALUE ADDED. CONSTRUCTION



— SPAIN — GERMANY — FRANCE — ITALY

SOURCES: Eurostat, INE and Banco de España.

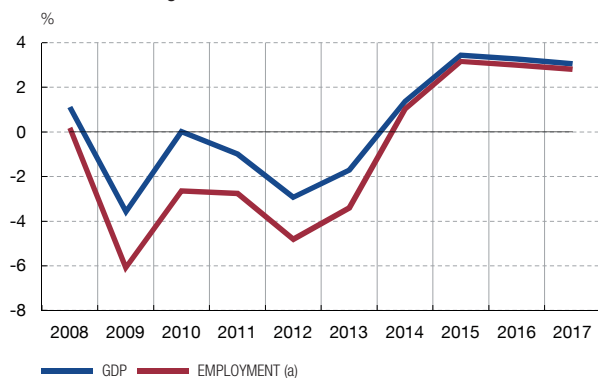


From a sectoral perspective, the strength of activity was across the board. Among the main sectors, value added grew most in construction, by 4.9%, the highest rate since 2001. From a more medium-term standpoint, value added in services as a whole was almost 9% higher than its pre-crisis level at end-2017, while in construction it is 40% lower, posting a very similar performance in industry (see Chart 1.12). Compared internationally, this pattern is in contrast to that in countries such as Germany, where value added in industry and construction is significantly higher than that observed in 2008.

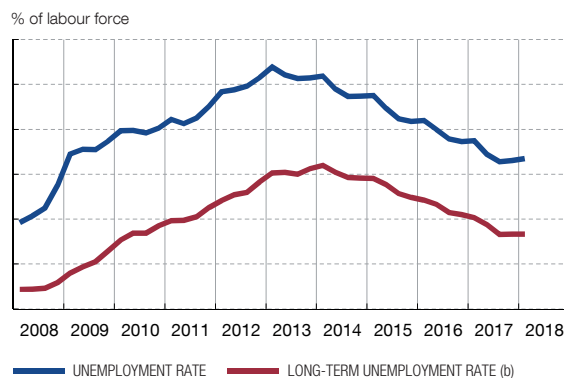
Job creation remained robust. Numbers employed increased by 2.8% in 2017 (see Chart 1.13.1), meaning that, since the end-2013 low, more than 1.9 million jobs have been created. However, the current level is still 10.4% down on that prevailing in early 2008, when the historical high in occupation was recorded. This intense job creation process has contributed to reducing the high unemployment significantly. Specifically, at end-2017, the unemployment rate stood at 16.5%, more than 10 pp below its early-2013 peak (see Chart 1.13.2), but still some distance off the euro area average (8.6%). The reduction in unemployment has also been assisted by the changes in the working population, where the declining trend of recent years continued in 2017. This chiefly reflected an increase in the weight of the oldest population groups, against a background of progressive population ageing, alleviated partly by the rise in the participation rate of the oldest groups. The

As has been the case since the start of the recovery, productivity growth was very low. Thanks to job creation and the decline in the labour force, the unemployment rate continued to fall, although to a lesser extent among workers with longer spells of unemployment. The percentage of employees with temporary contracts continued to increase, and the percentage of those working shorter than usual hours continued to decline.

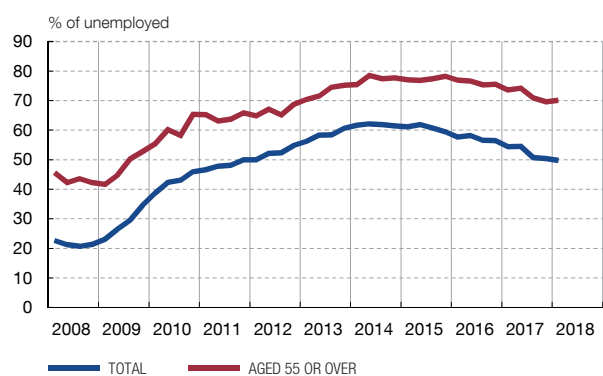
1 GDP AND EMPLOYMENT
Annual rate of change



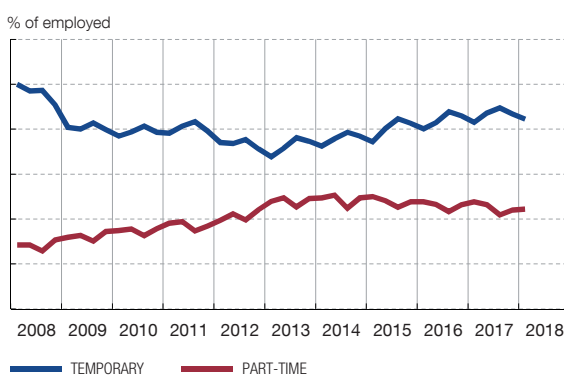
2 UNEMPLOYMENT AND LONG-TERM UNEMPLOYMENT RATES



3 INCIDENCE OF LONG-TERM UNEMPLOYMENT (b)



4 RATIO OF TEMPORARY AND PART-TIME WORK



SOURCE: INE.

a Employment as per Quarterly National Accounts. Full-time equivalent jobs.

b Long-term unemployed: persons who have been unemployed for a year or more. Incidence: proportion of total unemployed who have been unemployed for a year or more.

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incidence of long-term unemployment (i.e. the definition that considers those individuals who have been seeking a job for more than one year) declined to 50.4% at end-2017, a rate which, after the cumulative reduction over the past three years of over 10 pp, is very similar to the euro area average (see Chart 1.13.3). Nonetheless, the incidence of long-term unemployment remains very high among certain groups, in particular among the least skilled (56.3%).

Employment generation was sharper in some of the sectors that had experienced greater destruction at the onset of the crisis. Thus, according to the EPA (Spanish Labour Force Survey), employment grew by over 5% in construction and by around 3% both in industry and in market services, while in non-market services it increased by scarcely more than 1%. Moreover, some slowing was observed in some of the services activities that had been most buoyant in previous years, such as hotels and restaurants, transport and distribution. Overall, however, if the structure of employment by productive sector at end-2017 is compared with that prevailing pre-crisis, the weight of services can be seen to have gained 9 pp, equally distributed between market and non-market services, at the expense of industry (-2 pp) and construction (-7 pp).

Strong job creation has moved in step with a very modest increase in wage remuneration throughout the recovery phase. During the 2014-2017 period, the annual growth of economy-wide compensation per employee averaged 0.4% (see Chart 1.14.1). In 2017 this rate was 0.1 %. The increase in the market sectors, the scale of which was 0.1 pp higher, was the outcome of the opposite behaviour of the two main components. On one hand, wages negotiated under collective bargaining agreements grew by 1.4% (0.4 pp up on 2016).³² On the other, these increases were offset by the portion of wage growth not attributable to collective bargaining, i.e. the component known as wage drift, whose contribution to the growth of compensation per employee was -1.5 pp, of a similar magnitude to that estimated for 2016.

The negative contribution of wage drift mainly reflects composition effects in the flow of employment generation. Negative drift is occurring in an environment of very low rates of increase in apparent labour productivity. From the standpoint of workers' individual characteristics, one factor simultaneously limiting aggregate wage increases and productivity would appear to be the increase in the weight of new entries in the total numbers employed, given that the more limited job tenure of the former is associated with a lower-than-average wage level (and presumably productivity level). Specifically, on information from Social Security records, available to 2016, it is estimated that the greater weight of newcomers has contributed to reducing average compensation by somewhat more than 0.5 pp in each of the three years of the 2014-2016 period (see Chart 1.14.2). This effect is estimated to have been partly countered by other changes in the characteristics of workers that operate in the opposite direction, such as the rise in the average age of the working population or the increase in the average level of educational attainment. In addition, there is some evidence that, given the characteristics of the job and of the person employed, the wage difference between those who have been in the job for respectively more and less than one year has increased since the crisis (see Chart 1.14.3).³³

Set against the significance of individual characteristics, the changes in the sectoral composition of employment creation appear to play a secondary role when explaining the low increases in aggregate wages and productivity. Employment creation is falling more than proportionately in sectors where the level of productivity is lower. However, the magnitude of this effect on wages is small. Specifically, the estimated contribution of the change in the sectoral composition of employment to the growth of compensation per employee in the market economy in cumulative terms from 2014 to 2017 was 0.4 pp.

In early 2017, an 8% rise in the minimum wage was approved, followed by a further increase of 4% in 2018. The increase approved for 2017, which directly affected somewhat more than 3% of wage-earners, is estimated to be exerting a limited aggregate effect both on employment and on wages.³⁴ Nonetheless, on the evidence available for other, past increases in the minimum wage, the impact on the probability of job loss might be significant for certain specific groups of workers, such as youths and the elderly, insofar as

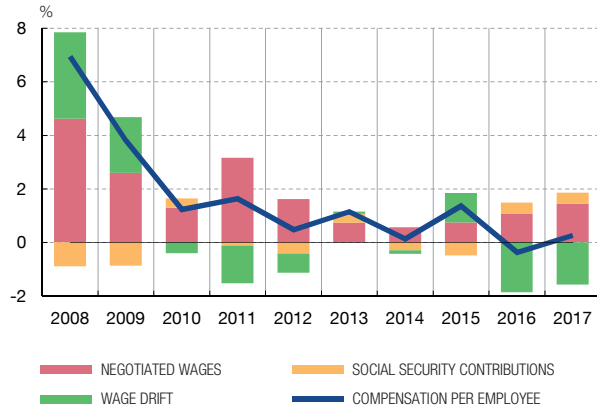
32 Specifically, wage settlements were higher in newly signed agreements (1.8%) than in revised agreements, which usually react more slowly to the changes in wage determinants and which on this occasion, too, reflected to a lesser extent the labour market improvement and the rise in consumer prices.

33 See the *Economic Note «La evolución del empleo y del paro en el primer trimestre de 2017, según la Encuesta de Población Activa»*, *Boletín Económico*, 2/2017, Banco de España. Specifically, the wage gap, once controlled for by the differences in observable characteristics, between workers already present in the labour market and new entries, rose from approximately 9% in 2008 to 15.3% in 2016. This gap has widened, in part owing to the drop in the number of hours worked per employee.

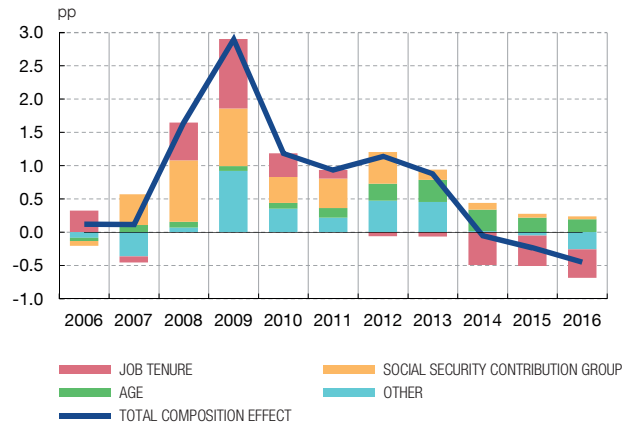
34 See Box 5 “The effects of the recent rise in the minimum wage on employment and wages” in the “Quarterly report on the Spanish economy”, *Economic Bulletin*, 1/2017, Banco de España.

Negotiated wages accelerated moderately, but wage drift again made a highly negative contribution to growth in compensation per employee, reflecting, among other factors, the lower pay levels of new labour market entrants. In addition, the difference between wage levels of individuals with respective job tenure of more or less than one year has increased since the crisis.

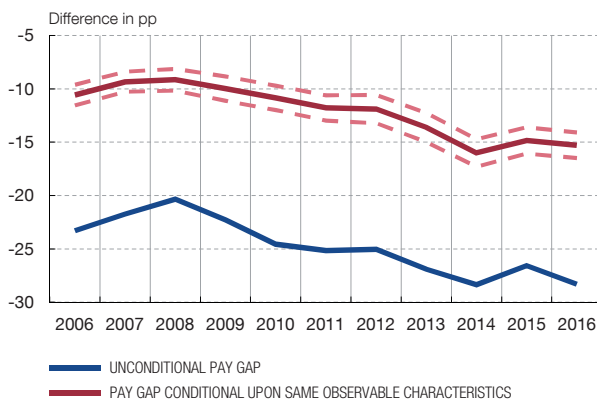
1 MARKET ECONOMY COMPENSATION PER EMPLOYEE
Growth and contributions of negotiated wages, wage drift and social security contributions



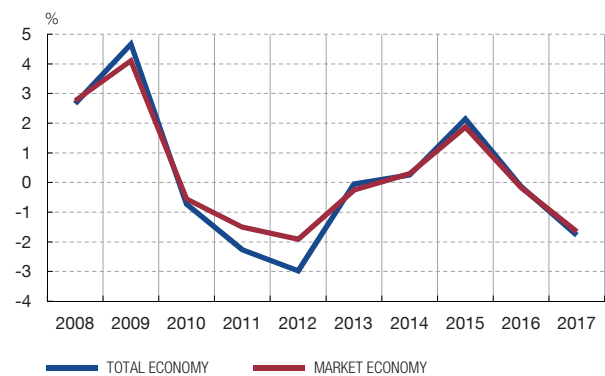
2 CONTRIBUTION OF DIFFERENT FACTORS TO COMPOSITION EFFECTS IN WAGES



3 NEW LABOUR MARKET ENTRANTS' PAY GAP (a)



4 REAL WAGES (b)
Annual rates of change



SOURCES: INE and Banco de España.

- a The unconditional pay gap is defined as the percentage wage difference between a worker with length of service of less than one year and all other workers. The conditional pay gap is estimated using a wage equation that controls for differences between both groups of workers by sex, age, level of education, nationality, sector of activity and firm size.
- b Nominal wage is the compensation per employee according to Quarterly National Accounts. The nominal wage deflator is the CPI.

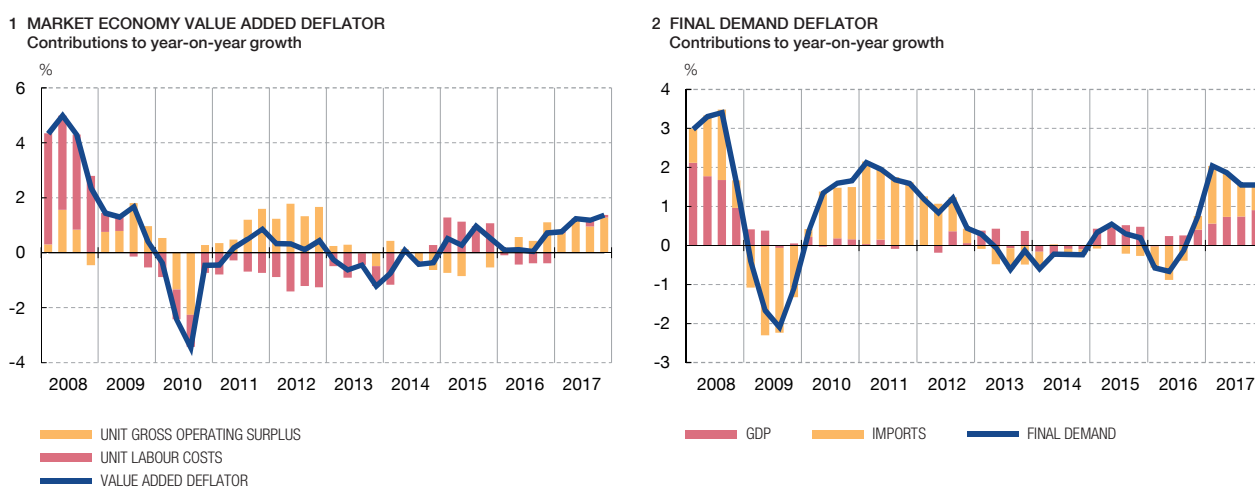


they may have, on average, a lower level of productivity. These effects may be exacerbated in future given that, in addition to the minimum-wage increases that have already been introduced, a path of additional rises has been agreed to raise the minimum wage by 2020 to an amount comprising 14 payments per annum of €850.³⁵

The low rate of increase in wages and productivity translated into a virtual stability of unit labour costs (ULCs), albeit on a rising profile over the course of the year. ULCs increased by 0.2% in annual average terms in the market economy. However, this variable

35 In each of the two years covering the period 2019-2020, these increases are conditional upon real GDP growth being higher than 2.5%, and increases in average Social Security registrations exceeding 450,000 people. Should these increases materialise, there would be a 20% rise in the minimum wage from €707 in 2017 to €850 in 2020 (in both cases in 14 payments per annum).

The value added deflator of the market economy again recorded a low rate of growth, although with an increasing profile throughout the year, thanks to the contribution both of ULCs and the unit surplus. The final demand deflator accelerated in annual average terms, but with a decreasing profile, owing to the deceleration in the import deflator.



SOURCES: Eurostat, INE and Banco de España.



has been rising since mid-2016, reflecting a modest acceleration in wages, which in turn might be related to the reduction in the degree of cyclical slack and, in particular, to the ongoing decline in unemployment. Looking ahead, it seems likely that composition effects will continue to give rise to negative drift and to low increases in productivity. However, the gradual improvement in the labour market might continue to exert upward pressure on wage settlements, which would translate into some acceleration in compensation per employee and, therefore, in ULCs.

Domestic prices increased at moderate rates, albeit higher than the previous year, which is consistent with the gradual reduction in cyclical slack. Specifically, the value-added deflator in the market economy, which is a measure of domestic inflationary pressures, continued to quicken moderately during 2017, extending the trend observed in the final stretch of 2016 (see Chart 1.15.1). In annual average terms, the rate of change of the value-added deflator in the market economy increased by 0.9 pp to 1.2% in 2017, a movement to which, as indicated, the rising path of ULC growth contributed. But the acceleration in domestic prices was in response, moreover, to the higher growth of the gross operating surplus per unit of value added, which rose by 2.4%. Reflecting these developments was the increase in mark-ups, which grew by 1% when measured by the difference between the respective rates of change of the value-added deflator and of ULCs (for the market economy), which points to the advisability of exploring possible avenues for raising the degree of competition in some goods and services markets, as discussed in Box 1.2 and in Section 5.2 in this Chapter, and in Box 3.4 of Chapter 3.

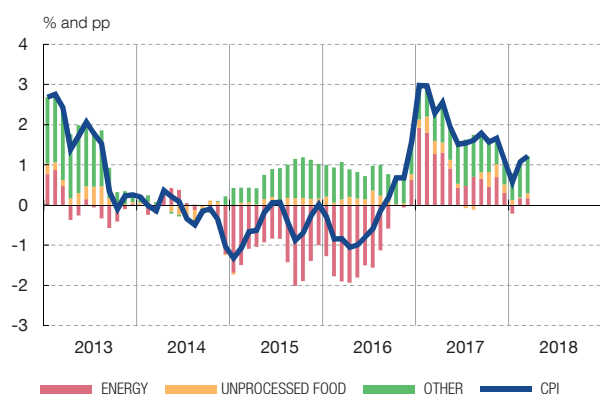
The acceleration in final demand prices over the year as a whole was more pronounced, given the rise in the contribution of the external component. The imports deflator quickened by somewhat less than 6 pp to a growth rate of 4.4% (see Chart 1.15.2). This largely reflected significantly dearer oil and other commodities on international

CONSUMER PRICES ROSE SHARPLY AT THE START OF THE YEAR BUT THE RATE OF GROWTH THEN SLOWED

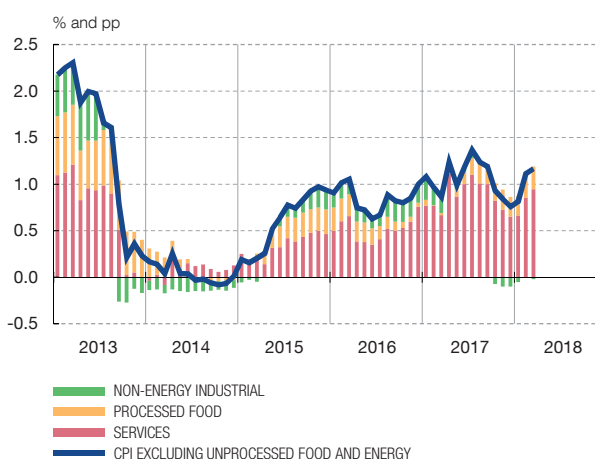
CHART 1.16

After climbing markedly at the beginning of 2017, consumer prices decelerated, owing especially to the energy component and, to a lesser extent, to the core component. The differential vis-à-vis the euro area narrowed but remained positive for most of the year, reflecting the performance of the energy component. In the case of the core indicator, the differential oscillated around zero.

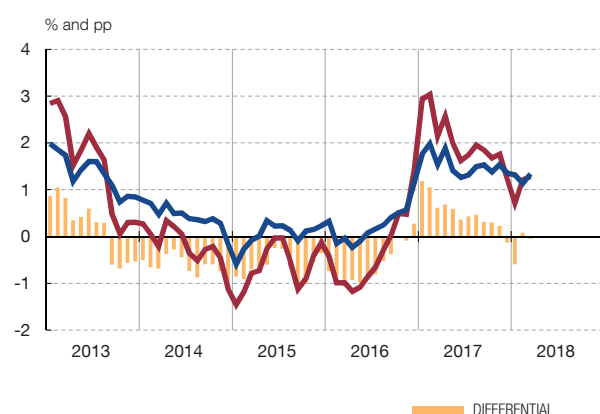
1 CPI. CONTRIBUTIONS TO THE YEAR-ON-YEAR RATE



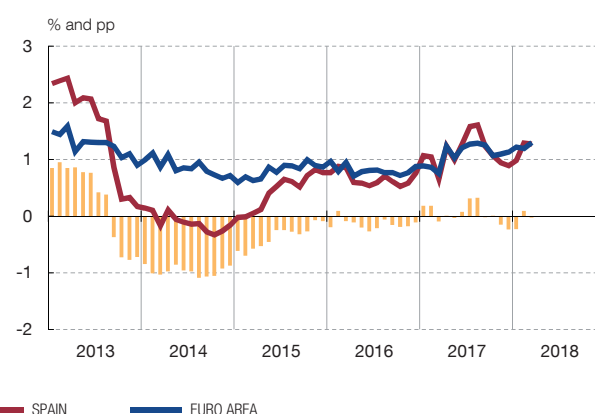
2 CPI EXCLUDING UNPROCESSED FOOD AND ENERGY. CONTRIBUTIONS TO THE YEAR-ON-YEAR RATE



3 HICP. SPAIN AND EURO AREA



4 CORE INFLATION. SPAIN AND EURO AREA



SOURCES: European Commission, INE and Banco de España.



markets, which was countered only marginally by the exchange rate appreciation. That said, the annual average increase in commodities – 24% in the case of crude oil measured in dollars – masks a strongly diminishing profile over the course of the year, which explains why the imports deflator slowed from 6.4% in Q1 to 2.8% in Q4.

Given the course of domestic and external inflationary pressures described, the final demand deflator accelerated from -0.2% in 2016 to 1.8% in 2017, with a similar trajectory to consumer prices. Specifically, the CPI grew at an annual average rate of 2%, compared with the declines of several tenths of a percentage point in each of the three previous years (see Chart 1.16.1). Nonetheless, the year 2017 as a whole masks a clearly declining annual profile, from 3% in January to 0.6% in the same month in 2018, following which something of a rise began. This trajectory was, as in the case of the imports deflator, much determined by the energy component. Indeed, the strong rise in the overall inflation rate at the start of 2017 was due mainly to the comparison effect resulting

from the notable fall in oil prices just one year earlier.³⁶ But, despite the rise in oil prices, the persistence of the high inflation of the energy component was limited, owing to the comparison effect of the opposite sign derived from the rises observed as from February 2016.

Core inflation continued to post very moderate figures. The rate of change of core-component consumer prices (encompassing non-energy industrial goods, services and processed food) remained very low. While over the year as a whole the growth of the CPI excluding unprocessed food and energy was 0.3 pp up on 2016, at 1.1%, it moved on a declining course in the second half of the year, ending 2017 at 0.8% (see Chart 1.16.2). This slowdown, which was more marked in the case of non-energy industrial goods than it was for services, contrasts with the reduction in the degree of slack in the economy, which a priori should have prompted a heightening of domestic inflationary pressures. It is estimated that this factor has been dominated by another two factors of the opposite sign: the appreciation of the exchange rate – which might continue contributing to upholding very moderate inflationary pressures in the short term, given the lagged transmission of exchange rate movements – and some pass-through to domestic producer prices of the lower external inflationary pressures stemming from the slowdown in oil prices.

The consumer price inflation differential with the euro area narrowed during the year as the energy component slowed. The rise in the energy component at the start of 2017 was much sharper in Spain, which was due both to the fact that the oscillations in oil prices have a greater impact in our country on final fuel prices (given the lesser weight of ad valorem taxation) and to the rise in the cost of electricity in early 2017 (see Chart 1.16.3).³⁷ The differential in terms of the indicator that excludes energy prices was slightly positive throughout most of the year (at around 0.1 pp), but changed sign in December (-0.1 pp) (see Chart 1.16.4). In March 2018 the differential was zero.

4 A provisional assessment of the recovery: achievements and limits

4.1 A PROLONGED AND BALANCED RECOVERY PHASE

The Spanish economy has completed a growth phase of more than four years. Since late 2013³⁸, GDP has grown by almost 13% in cumulative terms, exceeding the pre-crisis level since mid-2017. In per capita terms, end-2017 GDP was almost 1% above the 2007 level, recouping a portion of the cumulative loss vis-à-vis the average for the euro area countries during the crisis.

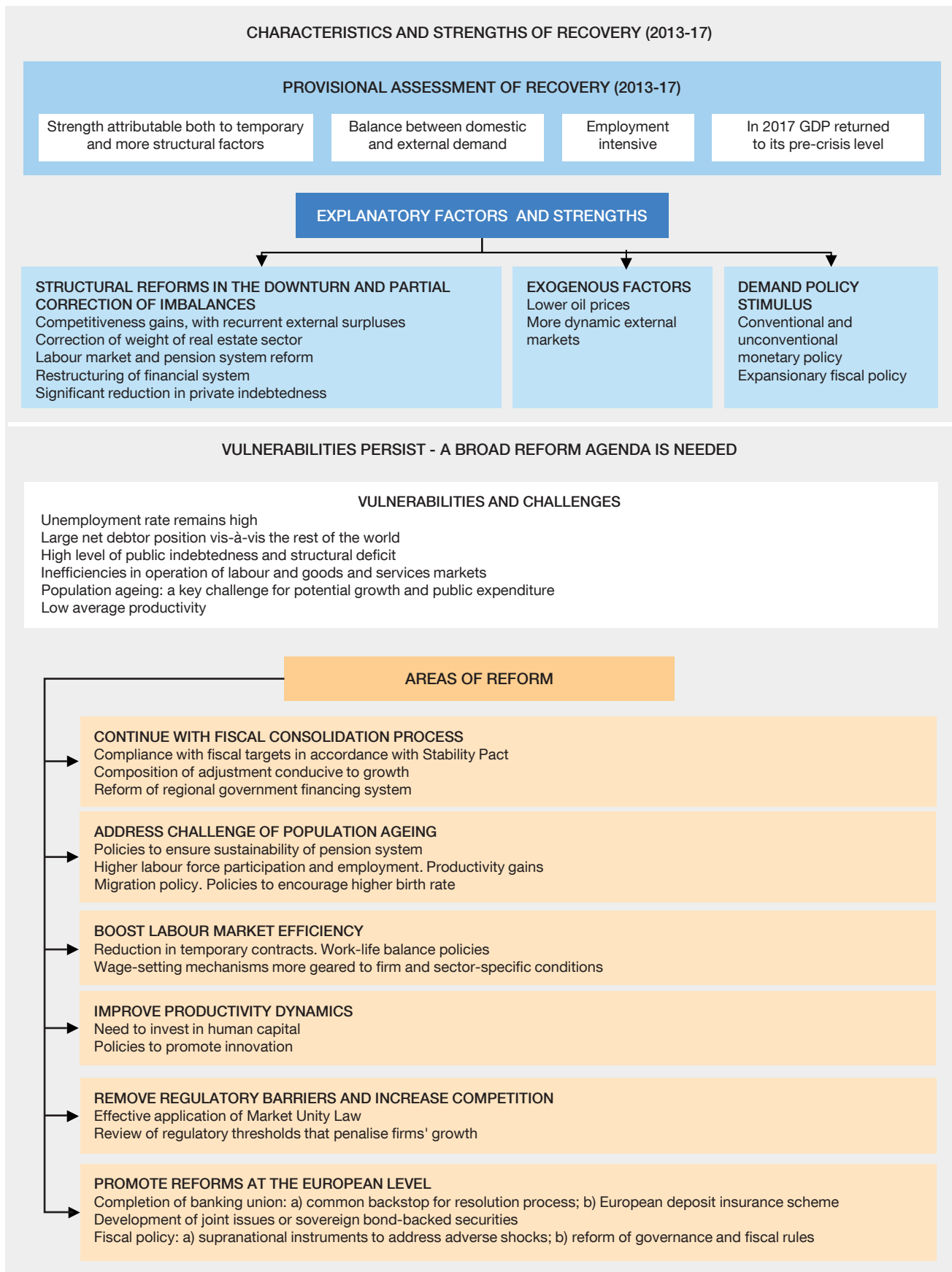
The share of the domestic and external components of demand in output is proving more balanced than in previous expansionary phases. One positive characteristic of the Spanish economy during this period has been the fact that the absorption of the economy's idle resources, which is still under way, is proving compatible with a high external balance. Initially, the improvement in activity was export-led, thanks to the recovery of the competitiveness lost in the previous upturn, with the various domestic demand components subsequently joining the expansionary process (see Figure 1.1).³⁹

36 For an explanation of the comparison effect, see Box 3 of the "Quarterly report on the Spanish economy", *Economic Bulletin*, December 2016, Banco de España.

37 See the Analytical Article "The effect of oil price fluctuations on Spanish inflation", *Economic Bulletin*, 2/2017, Banco de España.

38 The "Spanish Business Cycle Dating Committee of the Spanish Economic Association" (see <http://asesec.org/CFCweb/>) dates the end of the Spanish economy's double-dip recession at 2013 Q2, one quarter later than the end of the recession in the euro area, dated in turn by the Business Cycle Dating Committee of the Centre for Economic Policy Research (CEPR).

39 Chapter 2 of the Annual Report, 2015, Banco de España contains an account of the sequence whereby the various demand components joined the recovery in the economy.



SOURCE: Banco de España.

Output growth is proving more job creation-intensive. The strong employment creation in the current upturn is in step with the usual pattern of other expansionary phases of the Spanish economy, although on this occasion the dynamism of this variable has also been assisted by the wage moderation observed following the crisis and the effects of the labour reforms. Another difference with previous recovery phases is a sectoral composition more tilted towards the services sector.

The structural reforms set in train during the recession contributed to laying the foundations of the recovery. Overall, the various measures adopted allowed national and foreign agents to regain their confidence in the Spanish economy. Notable among the main reforms are those involving the labour market, which added further flexibility to the possibilities of adjusting firms' labour costs in contractionary periods, and the recapitalisation and restructuring of credit institutions. Other significant structural changes were the successive reforms to the pension system, progress in ongoing fiscal consolidation and the new national framework of fiscal rules. In the European arena, the various institutional measures and advances in recent years, which notably include the start-up of the Banking Union, have also contributed to shoring up confidence in the common euro project, which has been propitious to the normalisation of financing conditions within the euro area and the correction of its fragmented financial markets.

Moreover, a series of more transitory – though persistent – factors also contributed to the dynamism of the recovery. These factors include most notably the role played by the ECB's monetary policy and, in 2015 and 2016, the application of an expansionary fiscal policy, joined by the significant reduction in oil prices from mid-2014 to early 2016 and, more recently, the improvement in foreign markets.⁴⁰

Overall, notable progress has been made in recent years in correcting some of the Spanish economy's disequilibria. These imbalances built up in the previous expansionary period, in terms of private-sector debt, dependence on external financing and losses in competitiveness.⁴¹ In addition to the above-mentioned reduction in the unemployment rate, the current cyclical phase has been underpinned by, and in turn has boosted, the ongoing recovery of the losses in competitiveness accumulated in terms of labour costs, the running of current account surpluses and the reduction in high private-sector debt.

Progress, however, has been less in other areas, meaning that the economy still has elements of vulnerability. As set out in Section 5.1, there has been less headway in correcting other imbalances, including in particular high public indebtedness and the still-high net debtor position of the nation, despite the recent current account surpluses. Also, significant structural dysfunctions persist in the labour market and a pattern of growth more forcefully conducive to high-productivity and high-added-value activities has not yet taken root. And this against a background in which population ageing will significantly reduce the economy's potential growth at the same time as it is posing far-reaching challenges regarding public pensions. Tackling these matters requires resolute reforms, as is detailed in Section 5.2.

The pick-up in the Spanish economy has been accompanied by a highly expansionary monetary policy stance. When, in mid-2014, the difficulties in fulfilling the medium-term price stability objective began to become discernible, the ECB Governing Council set about launching a broad range of measures aimed at ensuring the proper anchoring of

4.2 TOWARDS A SCENARIO WITH A MORE LIMITED ROLE FOR MONETARY POLICY

⁴⁰ See Box 1.2 "The effect of temporary factors on recent developments in the Spanish economy: a comparison with the euro area", in Chapter 1 of *Annual Report 2016*, Banco de España.

⁴¹ See "Report on the financial and banking crisis in Spain, 2008-2014", Banco de España.

inflation expectations around values consistent with the central bank's objective and, more generally, at avoiding the adverse consequences of the prolongation over time of excessively low inflation.

The monetary stimuli have been underpinned by the joint action of conventional and unconventional instruments. The measures pursued since 2014 have included the use of tools other than policy interest rates, given the limited effectiveness of this instrument as a result of the proximity to its effective lower bound. Specifically, monetary measures have been pursued along four avenues: the setting of a negative interest rate for the deposit facility; communication policy and forward guidance; the application of specific programmes geared to making the transmission channel running through bank credit more fluid; and, finally, the implementation of the APP.

Monetary policy transmission to financial conditions and to demand has proven effective, reversing downward inflation expectations. Both negative interest rates and the injection of liquidity have provided for the maintenance of easy financial conditions, acting as a stimulus to credit and to household and corporate expenditure. Further, forward guidance has enabled the ECB to emphasise the continuity of its expansionary stance, increasing its effectiveness through the additional stimulus provided by the anchoring of agents' expectations and the reduction in so-called interest rate term premia. This has been the case for policy rates, which will hold at current levels over a period that will stretch substantially beyond the conclusion of net asset purchases, for which there is no defined date. Moreover, the large size of the portfolio acquired under the APP⁴² and the reinvestment commitment over a long period after the conclusion of the net asset purchases are elements that also shape the expansionary stance of monetary policy, under whose influence the downside risks of the inflation projections have begun to be balanced out, as reflected by the rise since summer 2017 by the inflation expectations indicators based on financial market information.⁴³

Monetary policy conduct has been a determining factor in the current economic expansionary phase, both in the euro area as a whole and in Spain. The measures adopted have significantly eased financial conditions. And, as illustrated in the estimates presented in Box 1.3, monetary policy has contributed notably to the growth of real GDP and of the CPI, both in the euro area and in Spain.

Foreseeably, however, in the future monetary policy will begin to progressively play a more limited role. In the euro area, the gradual overcoming of the legacies of the crisis and a position further ahead in the cycle, with an output gap which, on available estimates, is expected to be positive as from 2018, will lead, according to the ECB forecasts, to a progressive recovery in inflation to levels compatible with medium-term price stability (which the monetary authority for the area establishes as an inflation rate lower than but close to 2%).⁴⁴ As this normalisation of euro area price dynamics takes shape, it is to be expected that the exceptionally expansionary stance of monetary policy at present will gradually be tightened.

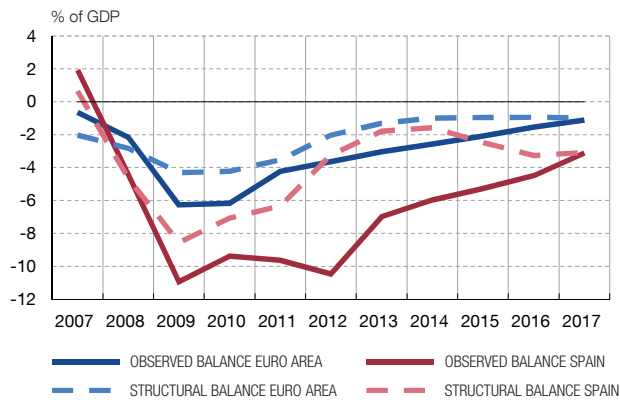
42 Specifically, after three and a half years of uninterrupted purchases, the APP portfolio will amount to almost €2.6 trillion in September 2018, equivalent to 23% of euro area GDP.

43 See the Analytical Article, "Euro area inflation expectations", *Economic Bulletin*, 1/2018, Banco de España.

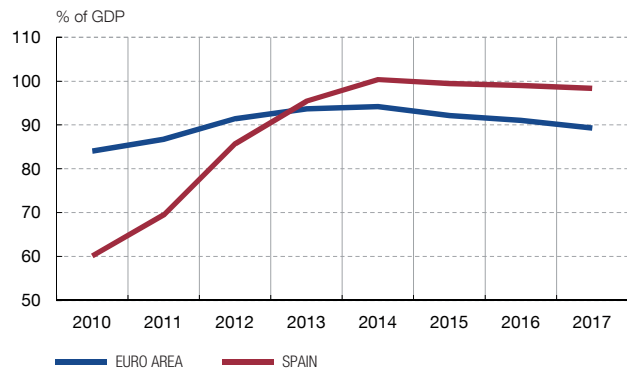
44 Specifically, according to the "March 2018 ECB staff macroeconomic projections for the euro area", the HICP for the area as a whole will grow by 1.7%, on average, in 2020 (and by 1.8% in terms of the indicator that excludes the fresh food and energy component).

In 2015-16 fiscal policy remained clearly expansionary, before becoming almost neutral in 2017, but strong economic growth allowed the fiscal consolidation process that had begun in 2013 to continue, albeit at a much slower pace, and permitted a slight reduction in public debt. In 2017 the deficit target was met, thanks to modest growth in public revenue and, above all, to the moderation in expenditure. However, the structural deficit is still one of the highest in the euro area and debt is very far from the 60% of GDP target.

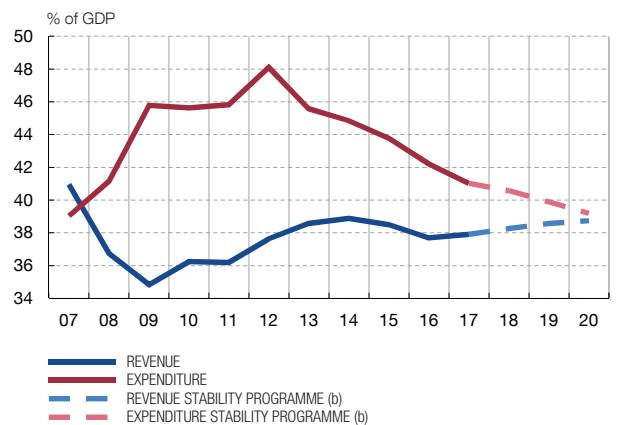
1 OBSERVED AND STRUCTURAL (a) GENERAL GOVERNMENT BALANCE



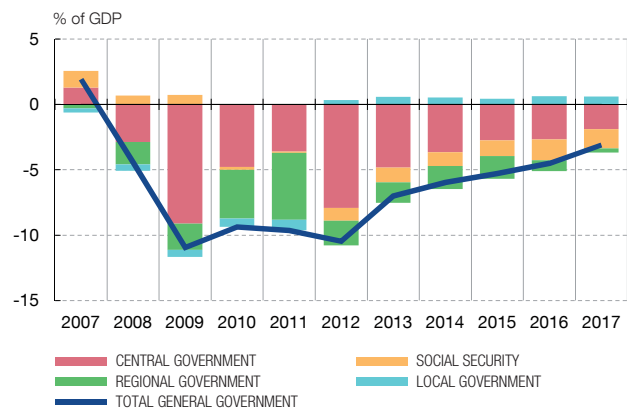
2 PUBLIC DEBT EXCESSIVE DEFICIT PROTOCOL (EDP)



3 GENERAL GOVERNMENT REVENUE AND EXPENDITURE



4 GENERAL GOVERNMENT BALANCE BY SUB-SECTOR



SOURCES: AMECO and Banco de España.

- a The cyclically adjusted balance, net of temporary measures.
- b Stability Programme projections.



4.3 THE FISCAL CONSOLIDATION PROCESS SHOULD CONTINUE IN THE COMING YEARS

Fiscal policy temporarily stimulated growth in the 2015-2016 period, with a clearly expansionary stance. Having regard to the standard values of the fiscal multipliers, almost 1 pp of economic growth in 2015-2016 could be attributed to the impulse of budgetary policy,⁴⁵ given that in those two years the structural primary budget deficit, which measures the budgetary policy stance, worsened – according to the European Commission’s latest estimates – by 2.5 pp. Despite this expansionary stance, the favourable cyclical conditions allowed for the continuation of the declining path of the budget deficit/GDP ratio (see Chart 1.17.1).

The fiscal policy stance in 2017 turned broadly neutral, following the approval and delayed entry into force of the budgetary plans. The reduction in the deficit was due to

⁴⁵ See Chapter 4 of the *Annual Report, 2016*, Banco de España.

the cyclical improvement in the economy and to the fall-off in interest expenditure, while the structural primary balance held broadly stable, according to the latest European Commission estimates. The high rate of increase of nominal output allowed the effects of the still-high public debt/GDP ratio to be more than offset, meaning that the ratio once again posted a slight reduction to 98.3%, 0.7 pp less than in 2016 (see Chart 1.17.2). The budget deficit stood last year at 3.1% of GDP, a rate matching the objective set under the Excessive Deficit Procedure (EDP) of the Stability and Growth Pact (SGP). The reduction in the aggregate deficit was extensive to the different tiers of government, whereby Central Government, the Social Security System and Regional Government posted deficits of 1.9%, 1.5% and 0.3% of GDP, respectively, while Local Government once again recorded a surplus in 2017, at 0.6 pp, similar to that of the previous year.

Over the recovery phase as a whole, fiscal policy has been supported by the significant reduction in financing costs associated, inter alia, with the ECB's monetary policy measures. In particular, it is estimated for Spain's case that the reduction in financing costs will have had a direct impact on sovereign debt interest payments in the 2014-2016 period that could be quantified at around 0.9 pp of GDP. Moreover, the positive macroeconomic effects of unconventional monetary policy on economic growth and inflation are expected to have indirectly affected the cyclical revenue and expenditure items of the public budget, entailing an additional reduction in the budget deficit during this period of around 0.9 pp.⁴⁶

In the coming years fiscal policy should resume the reduction of the structural deficit. The European Commission has recommended a return to the neutral fiscal stance for the euro area as a whole in 2018, differing across Member States in terms of their fiscal room for manoeuvre. In Spain's case, both the public debt/GDP ratio and the structural budget deficit are holding at levels some distance off the limits set in the SGP, which will require continuing with the fiscal consolidation process in the coming years (see Box 1.4).

The positive assessment of the current recovery phase should not lead to the challenges outstanding being forgotten. As noted, the strength of the expansion has been underpinned, in part, by factors that will tend progressively to fade, particularly as regards demand-side (monetary and fiscal) policies. As these latter policies lose momentum, the measures aimed at improving the use and quality of productive factors and the efficient functioning of the markets for goods and factors should gain in prominence as a factor for shoring up medium- and long-term growth. There is consensus in the economic literature about the positive effects of reforms in periods of expansion, as the resistance and adjustment costs that such reforms entail can be better tackled.⁴⁷ Also, in a monetary union with interest rates close to zero, the positive impact of the structural reforms undertaken in the peripheral countries may be amplified by an expansionary monetary policy.⁴⁸

The economy maintains factors of vulnerability. While there has been substantial progress in the correction of some of the imbalances built up in the previous expansionary cycle, the economy remains exposed to specific shocks owing to the confluence of various

4.4 THE LIMITS ON DEMAND-SIDE POLICIES EVIDENCE THE NEED TO MAKE PROGRESS IN REDUCING VULNERABILITIES AND IN STRUCTURAL REFORMS

46 See the Analytical Article "The impact of unconventional monetary policy on euro area public finances", *Economic Bulletin*, 3/2017, Banco de España.

47 See "Structural policies in the euro area", forthcoming as an ECB Occasional Paper, which contains a detailed discussion on the relationship between the cyclical position and reform costs.

48 See O. Arce, S. Hurtado and C. Thomas (2016), "Policy Spillovers and Synergies in a Monetary Union", *International Journal of Central Banking*, September, and "Reducing income inequality while boosting economic growth: can it be done?", *Economic Policy Reforms*, 2012, OECD.

factors. Hence, although the high net external liabilities position has declined by 17 pp of GDP from its 2014 peak, public debt remains at towering levels and household and corporate debt are at high levels from a historical perspective despite the fact the available estimates point to the deleveraging needs for these sectors being already very low⁴⁹ following the significant progress made in recent years. The banking system continues to face significant challenges (as is described in detail in Chapter 2), and unemployment remains very high, while the quality of jobs created is, in many cases, improvable, given the high ratio of temporary to total employment, the maintenance of a high rate of unwanted part-time employment and the limited duration of employment contracts, while there are no appreciable changes in the wage-setting mechanism towards a greater sensitivity to firm-and sectoral-level conditions. Likewise, although inflationary pressures are proving moderate, such that gains in competitiveness continued to be achieved, the widening of business mark-ups suggests a potentially insufficient degree of competition in some sectors (see Box 1.2).

However, there are few initiatives to resolve the economy's structural problems. A divided Parliament means it is currently difficult to set far-reaching legislative initiatives in train. It should be borne in mind that many of the tasks outstanding in the Spanish economy require courses of action in the medium and long term extending beyond the usual political cycle and, therefore, they need launching without delay and with extensive and lasting political backing behind them.

Furthermore, the experience of the crisis has evidenced the need for resolute headway in completing the Economic and Monetary Union, a pivotal aspect of the sustainability and stability of the growth of the Member States. In addition to correcting the still-persisting macroeconomic imbalances, it is necessary to complete the Banking Union, to promote the creation of a true single market for capitals, to introduce budgetary mechanisms geared to aggregate stabilisation and to simplify the governance of fiscal rules.

5 Challenges ahead

5.1 PERSISTENT EXTERNAL AND FISCAL IMBALANCES

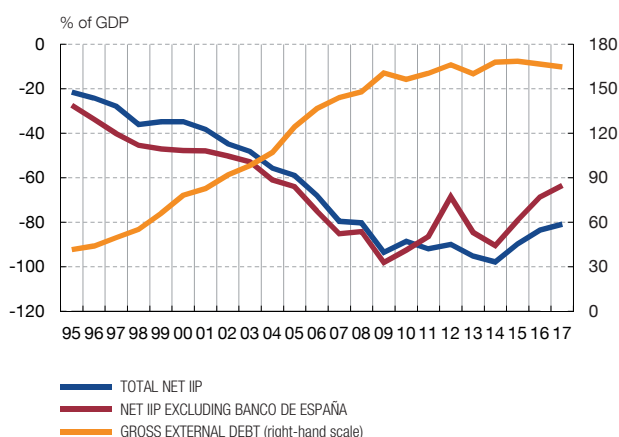
After almost five years of strong growth, the persistently high level of external and public debt is a source of vulnerability. The intensity and nature of the economic expansion have corrected these imbalances to some extent. First, the aggregate expenditure of economic agents has been lower than their income, which has helped to contain net external debt. Second, the cyclical strength has helped to correct the budget deficit and, therefore, to check the growth of public debt. The low interest rates have been conducive to these adjustments. However, despite such favourable conditions, progress in reducing external and, especially, public debt remains modest.

The two imbalances are closely interrelated. At end-2017, the negative net international investment position (IIP) of the Spanish economy stood at 80.8% of GDP, 17 pp below the

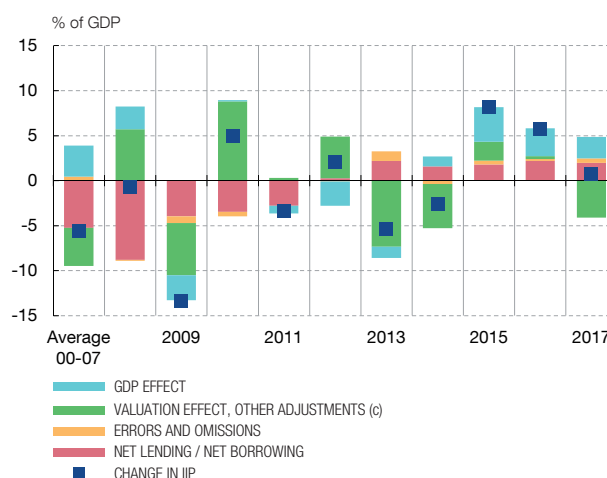
⁴⁹ In its 2016 report for Spain the European Commission, in accordance with various alternative methodologies, estimated that household deleveraging needs stood at between 10-20 pp as at mid-2015, and those of firms, at less than 10 pp. However, it should be borne in mind that, between that date and end-2017, debt ratios fell by 10 pp in the case of households and by 12 pp in that of firms, meaning that deleveraging needs as at the latter date would foreseeably be much lower than the initial estimates. Moreover, applying the experience of past episodes of deleveraging, which shows that during these phases two-thirds of the previous increase in the corporate debt ratio and practically 100% of the household debt ratio were corrected, on average [see F. Bornhorst and M. A. Ruiz-Arranz (2013), "Indebtedness and Deleveraging in the Euro Area", 2013 Article IV Consultation on Euro Area Policies: Selected Issues Paper, Chapter 3, *IMF Country Report* No. 13/206, Washington], and taking as the starting point the deleveraging process in 2002 Q3, which is when the average euro area levels were obtained, the outcome would be that deleveraging needs at the end of last year would be 11 pp for households and zero for firms. In any event, these results should be viewed with caution given that the various methodologies used in these calculations are subject to certain constraints.

The negative net international investment position (IIP) has fallen to 80.8% of GDP, although it is still high by international standards. Since the onset of the crisis, the net debtor position of firms, households and financial institutions has decreased, while the general government contribution has increased.

1 NET INTERNATIONAL INVESTMENT POSITION (IIP) AND GROSS EXTERNAL DEBT (a)



2 BREAKDOWN OF CHANGE IN NET IIP (b) (c)



SOURCE: Banco de España.

- a Gross external debt is the amount pending repayment at a given time of real and non-contingent current liabilities assumed by an economy's residents vis-à-vis non-residents, with the commitment to make in the future payments of principal, interest or both. It therefore includes debt securities, special drawing rights assigned, and deposits, loans, trade credit and other liabilities.
- b A positive (negative) sign denotes an increase (decrease) in the net IIP.
- c Valuation effects are gains/losses owing to the exchange rate and/or price of financial instruments, while other adjustments are other changes in volume, including in particular write-offs owing to recognition of the impossibility of recovering funds, reclassifications of assets and/or liabilities and changes in residence of holders or issuers of financial assets and liabilities.



2014 peak (see Chart 1.18.1). This level, which is very high by international standards, means that Spanish agents' income and financial position are more sensitive to changes in global financial conditions. The breakdown of the IIP by sector shows how, since the onset of the crisis, the general government's net liability position has increased significantly, while that of financial institutions, firms and households has decreased. In recent years, vulnerability has been mitigated in part by the structural adjustment of the current account balance and the increase in the financial position of resident issuers⁵⁰ (see Chart 1.18.2).

The continuation of high public debt levels over a prolonged period may have adverse effects on economic growth. These effects arise insofar as public debt absorbs funds that could be used for more productive purposes and alters the overall financing conditions of the economy, distorting private investment decisions. Moreover, in a setting of high public debt, fiscal policy may be subject to constraints owing to the need to support substantial primary deficits that require higher levels of taxation or lower levels of productive

50 A combination of factors have helped to reduce this vulnerability in recent years (see Chapter 3 of *Banco de España Annual Report, 2016*, and Ó. Arce (2017), "La posición de inversión internacional de la economía española: Tendencias, análisis y evaluación", in "¿Es la economía española financieramente vulnerable?", *Documento de Trabajo n° 13*, Fundación de Estudios Financieros. On the one hand, the structural adjustment of the current account balance in recent years, along with the return to normal in the financial markets and the restructuring of liabilities, have helped to temper the external vulnerability of the economy. On the other, valuation effects, which in recent years have reflected an improvement in the financial position of resident issuers, have limited the correction of the book value of the negative external position. Specifically, the improvement since 2012 in the solvency and prospective earnings of resident issuers has given rise to a revaluation of their liabilities, although, in terms of the IIP, this has negative valuation effects that increase the negative external balance.

expenditure. At the same time, the countercyclical room for manoeuvre in fiscal policy to address adverse macroeconomic shocks may be significantly reduced in a high-debt scenario. In addition, this produces greater vulnerability to changes in investor (market) sentiment.⁵¹

Complying with European and national tax rules will require continued fiscal consolidation. Since 2013, Spain's general government agencies have been subject to an EDP, in the framework of the corrective arm of the SGP. In August 2016 the EU Council updated the conditions for exit from the EDP in 2018. In particular, the general government deficit must be no higher than 2.2% of GDP in 2018 and the structural effort between 2016 and 2018 at least 0.6 pp of GDP. Although it is very likely that Spanish general government agencies' deficits will be below 3% in 2018, there is greater uncertainty regarding strict compliance with the degree of reduction required of the structural government deficit, which according to the European Commission would still be high (3.3% of potential GDP in 2018), the largest of the 19 euro area countries. Exiting the EDP would entail redefining the path of fiscal adjustment, to adapt to the requirements of the preventive arm of the SGP. These requirements include reducing the structural deficit at an annual rate of 0.5 pp in normal circumstances, until the medium-term equilibrium target is reached,⁵² and reducing the general government debt to GDP ratio per annum by one-twentieth of the distance from the medium-term benchmark of 60% (see Box 1.4).

Population ageing is a key challenge for the sustainability of public finances. The most recent estimates of the impact of population ageing on public expenditure on pensions, health care and long-term care show that it would increase expenditure over the next three decades, by a maximum of some 3.5 pp of GDP by around 2050.⁵³ In the case of the pension system, in a favourable macroeconomic scenario, application of the sustainability factor, which links starting pension to the increase in life expectancy, and especially application of the annual pension revaluation index, which links increases in pension to the balance between the revenue and expenditure of the system, would gradually reduce the pension system's current deficit (1.8% of GDP in 2018) and would significantly counter the effect of the expected rise in the dependency ratio in the long term. In the absence of additional increases in revenue, the adjustment would come mainly from a decrease in the replacement rate of public pensions, which could amount to 20 pp between 2013 and 2060.⁵⁴ Looking forward, the key is to limit the replacement rates of the Spanish public pension system, in step with social preferences, to adapt them to revenues so as to ensure sustainability. The conclusion that may be drawn from the analyses available is that maintaining the present replacement rates, which are high by international standards, would require a very significant increase in pension system revenues. In any event, any reform strategy chosen should heighten the system's transparency, strengthen the contributory principle, that is, the relationship between contributions and benefits,

51 See P. Hernández de Cos, D. López-Rodríguez and J. J. Pérez (2018), *"The challenges of public deleveraging"*, Banco de España *Occasional Paper* 1803.

52 In the European tax framework, convergence towards the medium-term target is strengthened by application of the "expenditure rule", which determines that public expenditure growth, after deducting extraordinary revenues, cannot exceed the medium-term potential GDP growth of the economy. For an overview of the European tax framework, see P. García-Perea and E. Gordo (2016), "Los mecanismos de supervisión presupuestaria de la UEM", *Economic Bulletin*, March, Banco de España.

53 See *The 2015 Ageing Report*, European Commission, and *Actualización del Programa de Estabilidad del Reino de España 2018-2021*.

54 See R. Ramos (2014), "The new revaluation and sustainability factor of the Spanish pension system", *Economic Bulletin*, July-August, Banco de España, and P. Hernández de Cos, J. F. Jimeno and R. Ramos (2017), "The Spanish public pension system: current situation, challenges and reform alternatives", Banco de España *Occasional Paper* 1701.

and, in particular, maintain an automatic adjustment mechanism that ensures the sustainability of future pensions.

The fiscal consolidation process should be compatible with an improvement in the quality of public finances. The adjustment pending should be anchored to a medium-term programme setting out the detailed measures that would allow the budgetary objectives to be met, and to a prudent macroeconomic and public revenue projection. In addition, the composition of the adjustment is particularly important, as it should seek to ensure that public finances make a greater contribution to the potential growth of the economy. On the expenditure side, according to the detailed analyses performed in some European economies, including Spain,⁵⁵ there seems to be scope for further progress in increasing the efficiency of public expenditure and redirecting its composition towards those items that have a greater impact on the accumulation of physical, technological and human capital and, in consequence, on total factor productivity and economic growth in the long term.⁵⁶

On the revenue side, there is scope to consider an overhaul and redefinition of the basket of taxes, with a shift towards structures more conducive to potential growth. These structures should be underpinned by taxes that produce less distortion in the behaviour of economic agents and that allow sufficient revenue to be obtained, in a stable and efficient manner, to fund the desired level of public expenditure. It should be noted that taxation of consumption in Spain is lower as a proportion of GDP than the EU average, reflected in the lower revenues obtained from both VAT and excise duties (especially on hydrocarbons, transport and alcohol). Environmental taxation is also lower. Revenue from taxation on employment in Spain is similar to the EU average as a proportion of GDP, although the weight of social security contributions is higher, especially firms' contributions. In turn, the weight of revenue from taxation on capital is higher than the EU average, as the taxation of wealth is higher in Spain, while the weight of taxation on firms and on unearned income is similar. In this context, however, the available evidence⁵⁷ shows that the tax rates of Spain's main taxes (VAT, personal income tax, corporate income tax) are generally equal to or higher than the EU average, although the effect of exemptions, tax credits and special reduced rates tends to generate revenue losses, in addition to possible distortions in the efficiency and fairness of the tax system.

The regional government financing system should be reviewed. In an administrative structure with such a high level of decentralisation as Spain's, where regional and local government are responsible for more than 40% of public expenditure decisions, their cooperation is essential to ensure budgetary stability. In this respect, the general consensus is that there should be an overhaul of the financing system of these administrations, based on an objective estimate of their expenditure needs, to adapt the revenue at their disposal to those needs, ensure transparent distribution between the regional governments and

55 See, among others, C. Vandierendonck (2014), *Public Spending Reviews: design, conduct, implementation*, European Economy, Economic Papers, no. 525. For the case of Spain, see OECD (2015), *Spain: From Administrative Reform to Continuous Improvement*, OECD Public Governance reviews, Paris.

56 In this context, on 2 June 2017 the Spanish government commissioned the AIReF to undertake a public expenditure review, comprising a detailed analysis to assess the quality of public policies. This is an ongoing arrangement, including an initial agreement for three years and the results of a first phase assessing expenditure on subsidies, to be presented before end-2018. In general, expenditure policy reviews can reveal fiscal scope to improve the allocation of public funds.

57 See, among others, the *Informe de la Comisión de Expertos para la Reforma del Sistema Tributario Español (2014)*; and P. Hernández de Cos and D. López Rodríguez (2014), *Tax structure and revenue-raising capacity in Spain: A comparative analysis with the EU*, Banco de España Occasional Papers 1406.

increase the degree of fiscal co-responsibility.⁵⁸ In addition, capital market access by regional governments should be resumed as a fundamental way to finance their fiscal imbalances, making use of the various State funds rolled out during the crisis only in exceptional circumstances. In any event, while these arrangements remain operational, there must be strict application of their explicit conditions relating to the budgetary activities of the administrations concerned to avoid incentivising inappropriate budgetary policies.⁵⁹

The Spanish economy projects relatively modest future potential growth. On the estimates available, the potential growth of the Spanish economy – which measures its ability to grow in a sustainable and balanced manner in the medium term – is less than 1.5%, close to the level for the euro area but below that of other developed economies such as the United States (see Chart 1.19). Among the main structural factors limiting the potential growth of the Spanish economy the following stand out: high structural unemployment, population ageing, the lower rate of growth of the labour force participation rate owing to demographic change and low productivity as a result of excessive labour market duality, regulations that restrict competition and the efficient reallocation of resources, and the human and technological capital deficit.⁶⁰ By contrast, the available estimates for potential GDP are possibly not fully factoring in the positive impact on the long-term growth of the economy of the past structural reforms in Spain.

Cutting the persistently high level of unemployment, especially among certain groups, is a priority. The employment recovery is weakest among the unemployed with a lower level of education. Specifically, in 2017, the unemployment rate among persons with a low educational level was more than 30%, affecting in particular the youngest and the oldest age groups (see Chart 1.20.4).⁶¹ In consequence, public policy should be directed at ensuring the employability of these groups, preventing hysteresis effects that hinder further reductions in the unemployment rate.

During the last economic crisis there was a notable increase in inequality both in terms of per capita income, a pattern which is estimated to have begun to reverse during the upturn. The main determinant of this turnaround has been the decline in the unemployment rate. Looking forward, further reductions in the income inequality indicators will depend on unemployment continuing to decline, which requires improvements to the employability of the least skilled, along with an increase in the hours actually worked by employees with lower wages. In any event, the causes behind the dynamics of inequality and their effects are complex, and learning about them will require an in-depth analysis of the various relevant dimensions (wages, household income, consumption and wealth, inter alia), as a prerequisite for the design of public policies that promote socially sustainable growth.⁶²

58 See the *Informe de la Comisión de Expertos para la Reforma del modelo de financiación autonómica* (2017) and P. Hernández de Cos and J. J. Pérez (2018), “Regional government financing: options and challenges”, Banco de España *Occasional Paper*, forthcoming.

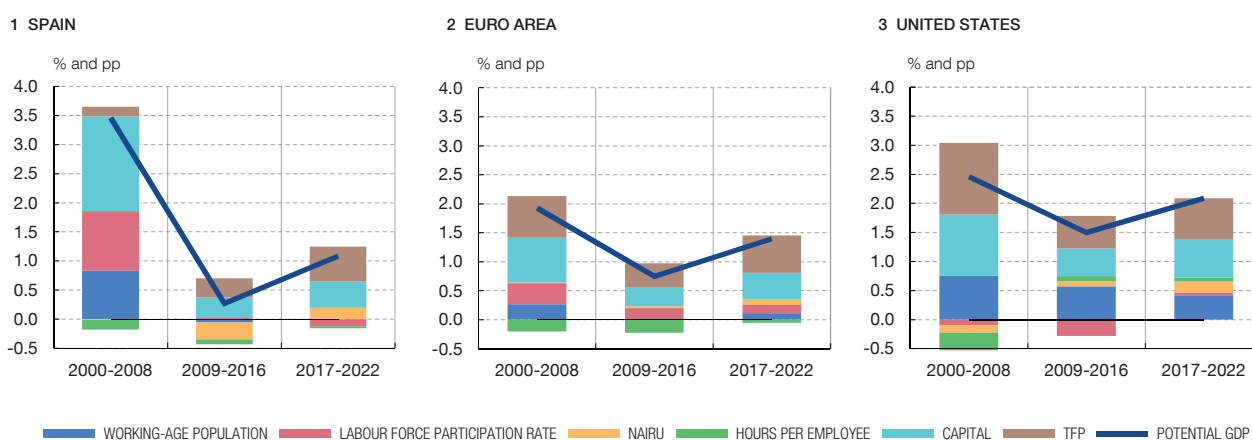
59 See P. Hernández de Cos and J. J. Pérez (2015), “Reglas fiscales, disciplina presupuestaria y corresponsabilidad fiscal”, *Papeles de Economía Española*, 143, pp. 174-184, and M. Delgado, J. J. Pérez and C. I. González (2016), “Regional government access to market funding: international experience and recent developments”, *Economic Bulletin*, February, Banco de España.

60 Moreover, R. Gordon (2016), “The Rise and Fall of American Growth: The US standard of living since the Civil War”, Princeton University Press, documents other factors common to the majority of developed economies that limit productivity, such as tertiarisation, lower competition or the exhaustion of educational gains.

61 See Box 1.2 on the persistence of unemployment in Spain, in *Annual Report, 2015*, Banco de España.

62 In this respect, the forthcoming *Occasional Paper*, “Income, consumption and wealth inequality in Spain”, analyses in detail the level of and changes in inequality in Spain during the economic crisis and, insofar as the available information allows, in the initial phases of the recovery.

The potential growth of the Spanish economy has fallen from almost 3% pre-crisis to 1%-1.5% in 2017-22. This modest potential growth is attributable to the lower working-age population, the lower labour force participation rate, the lower accumulation of capital and low total factor productivity (TFP). This potential growth is similar to that of the euro area but is lower than that estimated for the United States.



SOURCE: European Commission (autumn 2017).



Demographic patterns will have negative effects on the potential growth of the economy. According to INE population projections, the dependency ratio (defined as the ratio between the over-65s and those in the 16-64 age group) will grow from 29% at present to 65% over the next five decades (up to 2065).⁶³ This population ageing has a negative impact on the working age population and pushes down both the labour force participation rate and the employment rate.

The challenge posed by demographic change requires that a strategy be defined to mitigate its long-term economic impact. In particular, policies that boost the labour force participation rate become especially important, given that, if the present participation rates by sex and age and the demographic trends towards a larger proportion of older population cohorts are maintained, the overall labour force participation rate would fall significantly (by approximately 2 pp over the next decade). To counter this effect, policies that encourage workers – especially older ones – to join the labour force are required, such as, for example, making collecting a pension compatible with working. In addition, migration policy restrictions should be reviewed periodically, seeking to adapt them to labour market needs, and measures should be taken to encourage a higher birth rate, to bring it closer to those in other European countries, encouraging a better work-life balance and reducing job instability for women of child-bearing age.

High labour market segmentation hampers productivity gains. In the present recovery phase, as was the case before the crisis, temporary employment has continued to grow at a faster pace than permanent employment (see Chart 1.20.1). Thus, at end-2017, the ratio of temporary to total employment was 26.7%, 0.2 pp above the end-2016 level and 3 pp

⁶³ See «Población y fenómenos demográficos proyectados», INE. On these projections, over the next 50 years the Spanish population will fall from the present 46 million to 41 million, even in a scenario of net inflows of immigrants of between 50,000 and 100,000 per annum. In any event, demographic projections rely heavily on fertility rate and migration balance assumptions. Indeed, using different assumptions for these two variables, Eurostat projects an increase in population up to almost 50 million (Population on 1st January by age, sex and type of projection, Eurostat).

THE PERSISTENTLY HIGH RATE OF UNEMPLOYMENT AMONG INDIVIDUALS WITH LOW LEVELS OF EDUCATION AND THE HIGH LEVEL OF LABOUR MARKET SEGMENTATION HAMPER PRODUCTIVITY GAINS

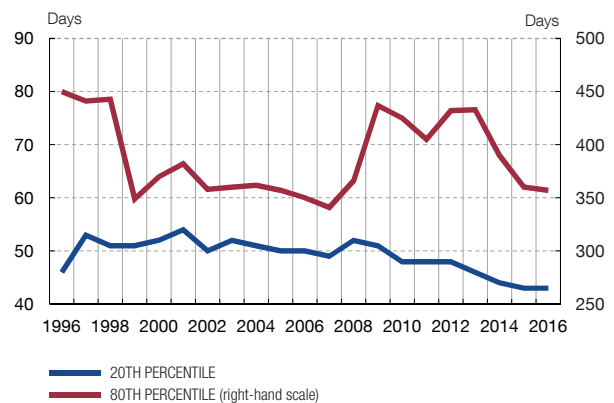
CHART 1.20

The unemployment rate among workers with lower educational levels remains very high. In addition, in the recovery the ratio of temporary to total employment has risen, temporary contracts have become shorter and there is a high proportion of non-voluntary part-time work.

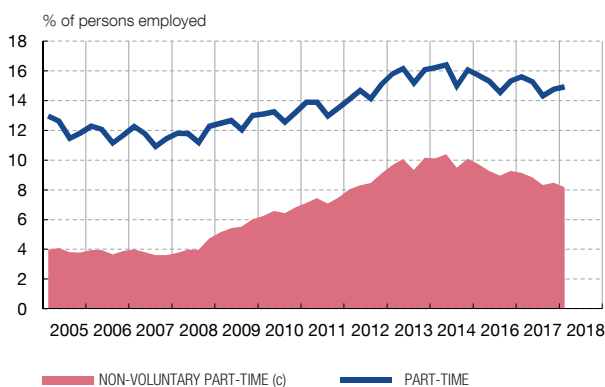
1 CONTRACTS REGISTERED (a)



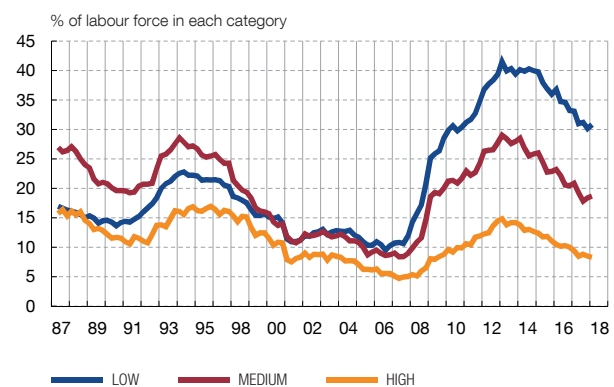
2 AVERAGE JOB TENURE OF TEMPORARY EMPLOYEES (b)



3 RATIO OF PART-TIME AND NON-VOLUNTARY PART-TIME WORK



4 UNEMPLOYMENT RATE BY LEVEL OF STUDIES (d)



SOURCES: SPEE, Ministerio de Empleo y Seguridad Social, INE and Banco de España.

- a Including domestic service contracts only since October 2012.
- b Calculated using MCVL (Social Security administrative labour records) data.
- c Employed persons who say they are working part-time because they were unable to find full-time work.
- d Low: no or only primary education, or having failed to complete, or to successfully complete, lower secondary education. High: tertiary education.



above the cyclical low recorded in 2013. It was, however, still some distance from the pre-crisis levels (33.8% at end-2006).⁶⁴ This ratio is still the highest among the euro area countries, where it stood at 16.2% at end-2017. Moreover there is some evidence that new temporary contracts have recently become shorter, increasing labour turnover and hindering human capital accumulation (see Chart 1.20.2). In addition, although the part-time employment rate is 1 pp below the peak observed in 2014 and is below that of other European countries, its present level (16.0% at end-2017) is substantially higher than its pre-crisis level (12%) and, moreover, there is a high percentage of non-voluntary part-time work (see Chart 1.20.3).⁶⁵ As a result of all the above, the number of hours actually worked has fallen, affecting not only average productivity but also wage income inequality.

⁶⁴ Excluding general government, the ratio of temporary to total employment was 27.3% in 2017, similar to the figure for 2016 and 2.7 pp higher than at end-2013.

⁶⁵ See the influence of these factors on alternative measures of unemployment in “Quarterly report on the Spanish economy”, *Economic Bulletin*, 2/2017, Banco de España.

In general, when facing difficulties, firms continue to prefer to use temporary employment to adjust. The latest annual Labour Force Survey available, for 2016, confirms that among firms that would cut their labour costs in response to a negative demand shock, 54.4% would opt to reduce their temporary workforce, whereas 21.1% would opt to cut the number of hours worked. By contrast, only 1.8% of firms would opt to cut the fixed portion of wages and 8.8% the variable portion. The most noteworthy difference compared with the previous survey available, for 2008, previous to the 2012 labour market reform, is the increase in the percentage of firms that would opt to cut the number of hours worked, from just 5% before the crisis. This change may be attributable to the internal flexibility measures in terms of working hours and the changes to employment contracts according to the hours worked introduced in the 2012 labour market reform and to the regulatory changes made to part-time contracts. That said, the latest figures show that regulatory friction persists, relating to the hiring framework and to the limited level of representativeness at firm level of the present wage bargaining system, hindering a reduction in the high employee turnover rate that characterises the Spanish economy.

Improving potential growth requires improving productivity dynamics. Labour productivity has barely risen during the present recovery phase. This is similar to the case of the last upturn, although then labour productivity was based on growth in the capital-labour ratio which offset the increase in the proportion of firms with lower total factor productivity, whereas since 2014 genuine efficiency gains are being achieved, countered by a less intensive use of capital compared with labour. Even so, total factor productivity growth remains low.

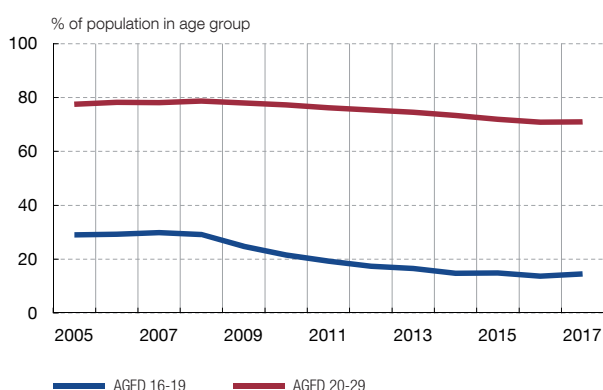
In this setting, investment in human and technological capital becomes especially important. The available evidence shows that during the crisis young people remained in education longer, postponing their entry into the labour market, and this pattern has continued in the recovery. Thus, the labour force participation rate of young people aged 16-19 in Spain has fallen from 30% to 15%, parallel to an increase in the percentage of young people in formal education or undertaking some form of training, narrowing the gap between Spain and other European countries in this respect (see Chart 1.21).⁶⁶ In any event, reform of the Spanish education system is needed in order to close the gap with other developed countries in terms of education quality indicators and address the challenges posed by globalisation, technological progress and automation, which require a re-think of the apprenticeship system and of curriculum content. Furthermore, the technological capital gap between Spain and its European partners widened during the crisis, owing to lower R&D expenditure as a percentage of GDP in the public sector and, especially, in the private sector where the differences are greater. In addition to the structural characteristics that limit firms' ability to innovate (in terms of human capital, business capacity, productive structure and financing), and the design of the public R&D system which is susceptible to improvement, there are other more temporary cyclical aspects, such as the low public budget allocations to innovation and the adverse effects on firms' innovation efforts of the insufficient degree of business competition in certain sectors.⁶⁷

⁶⁶ In any event, in 2017 the early school-leaving rate, at 18.3%, was still higher than the Europe 2020 strategy target of 15% and at some distance from the European rate of 10.7%. The target refers to the population aged 18-24 with at most lower secondary education and not in education or training.

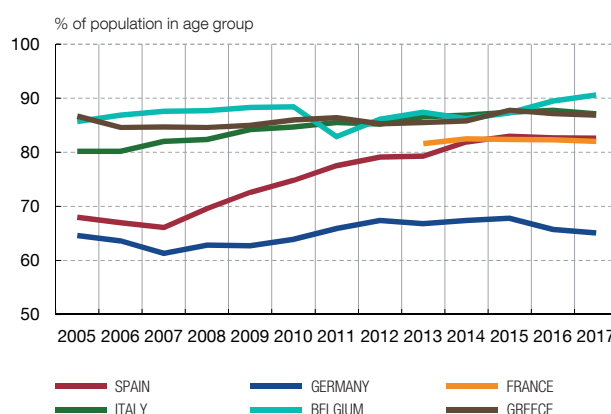
⁶⁷ In this respect, in addition, see Chapter 3 of this report on the lower level of investment in intangible assets by Spanish firms overall.

The labour force participation rate of young people in Spain has been falling since the crisis, in tandem with an increase in the percentage of the population receiving some form of education or training. This pattern has continued throughout the past four years of recovery.

1 LABOUR FORCE PARTICIPATION RATE, YOUNG PEOPLE



2 ECONOMICALLY INACTIVE POPULATION AGED 15-19 IN EDUCATION



SOURCES: Eurostat and INE.



Various regulatory barriers limit the efficient allocation of resources and business competition. According to DIRCE statistics,⁶⁸ 9% of active companies were lost between 2008 and 2014 in Spain. In the period 2014-16, 5 pp of that decline was recovered, although the rate of creation of new companies is still low and the rate of destruction of companies is still high. Notable among the factors that may be limiting the emergence of new business projects are the regulatory barriers to entry in certain markets, such as, for example, delays or moratoria in granting licences to pursue certain activities at the local level and the limits on competition in certain sectors, such as road and rail passenger transport, or those stemming from the delay in the implementation of the Market Unity Law.⁶⁹ Moreover, certain elements of tax and labour regulations penalise companies that exceed certain thresholds.⁷⁰ In addition, there are the problems that arise when non-productive companies are lost as a result of insolvency proceedings that are not sufficiently fast or efficient, along with certain distortions that may favour less productive companies.⁷¹

The limited correction of mark-ups in the recovery may be attributable to a lack of competition in certain productive sectors. During the crisis, the fact that many firms needed to improve their financial position, against a backdrop of rising borrowing costs and tighter financing conditions, may have justified the increase in unit mark-ups. By contrast, in the current phase of the cycle, failure to adjust relative unit operating surpluses vis-à-vis the other euro area countries could indicate a lack of competition in some markets, with negative implications for continued competitiveness gains that are essential for correction

68 DIRCE, the Central Companies Directory, is a single information system for all Spanish firms and their local units located in Spain.

69 In particular, the Constitutional Court judgment against certain articles of the Law required that its effective implementation be reviewed. Specifically, the judgment should encourage regions to pool their practices on a sector-by-sector basis, to achieve regulatory standards in keeping with best practice, continuing to seek to enhance productivity and not erect barriers to entry to potential competitors.

70 See M. Almunia and y D. López-Rodríguez (2018), "Under the Radar: The Effects of Monitoring Firms on Tax Compliance", *American Economic Journal: Economic Policy*, Vol. 10, pp. 1-38, and M. Almunia, J. F. Jimeno and D. Lopez-Rodríguez (2018), "Size-Dependent Regulations in Spain", Working Paper, forthcoming.

71 See Chapter 4 of *Banco de España Annual Report, 2016*.

of the external imbalance.⁷² It is also important for sectors that are not open to trade that there is competition and that relative prices grow in a contained manner, given that sectors that produce tradable goods include a high proportion of non-tradable goods and services.

Indeed, competitiveness gains vis-à-vis the euro area have been concentrated on wage adjustments rather than mark-ups. The productivity gains associated with the high rate of job destruction in the first stages of the crisis, and the wage restraint observed throughout the subsequent period, have restored most of the competitiveness lost vis-à-vis the other euro area countries, measured in terms of relative unit labour costs (ULCs). Specifically, while for the whole of the market economy, between 1999 and 2008 ULCs rose in Spain by 22 pp more than in the euro area, the present relative level is just 5 pp higher. However, in terms of unit operating surpluses, the loss of competitiveness in the expansionary phase was on a similar scale to that of ULCs, but the subsequent correction has been much more modest. This explains why the present level of the value added deflator has risen in cumulative terms by 10 pp more in Spain than in the euro area overall since the start of Monetary Union (see Chart 1.22).

Despite the recent improvements, Spanish credit institutions face important challenges stemming, inter alia, from the legacies of the crisis, the new regulatory framework and technological progress.⁷³ Credit institutions should anticipate these changes, continuing to serve as effective intermediaries of financial flows in the economy, providing the necessary funds on competitive terms to agents in need of financing. Although other European credit institutions must also address this challenge, Spain's credit institutions must do so in a setting in which, despite the considerable efforts made in recent years in terms of adjustments, write-downs and restructuring, some of the consequences of the crisis continue to weigh heavily on them, as analysed in detail in Chapter 2. This is the case of the relative volumes of troubled assets, which despite having been considerably reduced in recent years are still relatively high, the low levels of return on the banking business in Spain and the comparatively low solvency ratios by international standards, although they are clearly above the regulatory minimum levels (see Chart 1.23). In 2017 the Single Resolution Board resolved Banco Popular Español on account of the serious difficulties it was facing. Although the economic recovery will continue to reduce troubled (non-performing and foreclosed) assets, it is essential that credit institutions persevere in their efforts to continue to pare down these assets. It is equally essential that they continue to cut the operating costs of their business in Spain, bearing in mind that bank lending is not expected to return to the levels achieved in the expansionary phase that preceded the crisis either in the short or the medium term.

5.3 NEED TO CONTINUE WITH THE REFORMS IN THE EURO AREA

The crisis revealed the need to reform the institutional architecture of the euro area.

In 2017, the European Commission (EC) headed up several initiatives for progress on four fronts: political, financial, economic and fiscal union.⁷⁴ The process proposed by the EC is governed by two complementary principles: a higher degree of solidarity and risk-sharing between Member States, and greater assumption of responsibility by national authorities, including specific measures to reduce risk in their economies. Recent experience in the crisis advises the need for simultaneous progress in the aspects highlighted by the EC.⁷⁵

⁷² See Box 1.2, which documents the development of mark-ups in Spain and considers the possible causes.

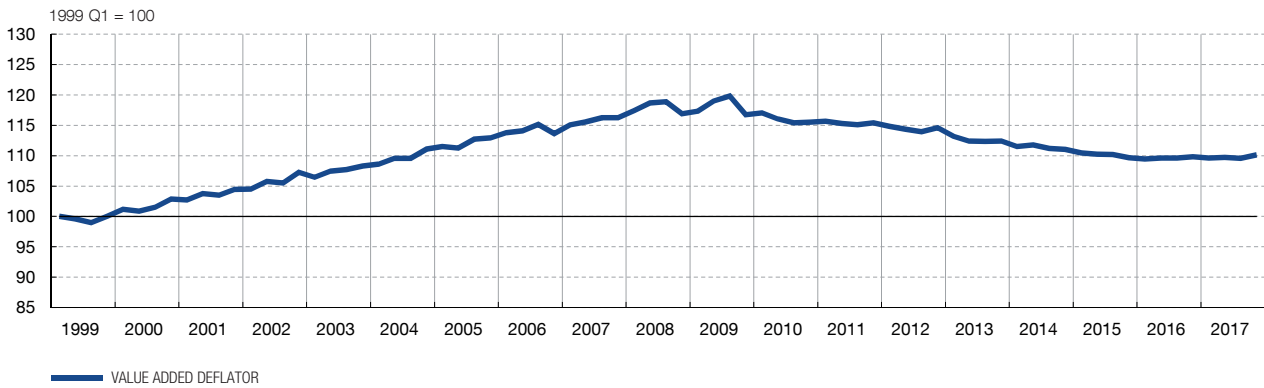
⁷³ See Chapter 2 of this *Annual Report*.

⁷⁴ See the "White Paper on the future of Europe and the way ahead", March 2017, European Commission, and the "Reflection Paper on the deepening of the Economic and Monetary Union", May 2017, European Commission, which build on the "Five Presidents' Report", June 2015, European Commission.

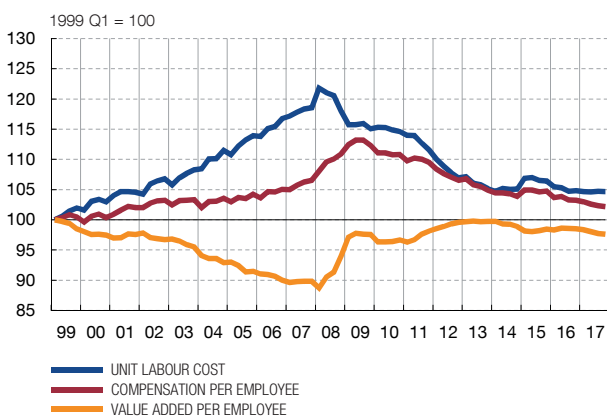
⁷⁵ Some of the initiatives to complete the euro area and a possible calendar are set out in Box 5 "The debate on euro area governance reform", "Quarterly Report on the Spanish economy", *Economic Bulletin*, 1/2018, Banco de España.

In 2017, relative ULCs continued to improve vis-à-vis the euro area, meaning that the competitiveness lost during the previous expansionary phase has been almost recovered. However, in terms of relative gross surplus per unit of output, the present level is very close to the pre-crisis level.

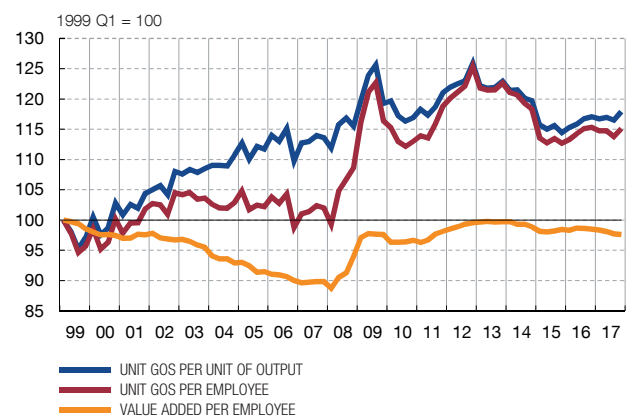
1 MARKET ECONOMY VALUE ADDED DEFLATOR, SPAIN/EURO AREA
Relative levels



2 MARKET ECONOMY UNIT LABOUR COSTS
SPAIN/EURO AREA
Relative levels



3 MARKET ECONOMY UNIT GROSS OPERATING SURPLUS (UNIT GOS)
SPAIN/EURO AREA
Relative levels



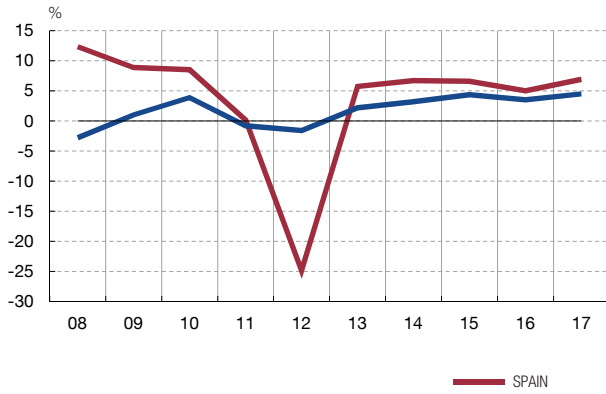
SOURCES: Eurostat, INE and Banco de España.



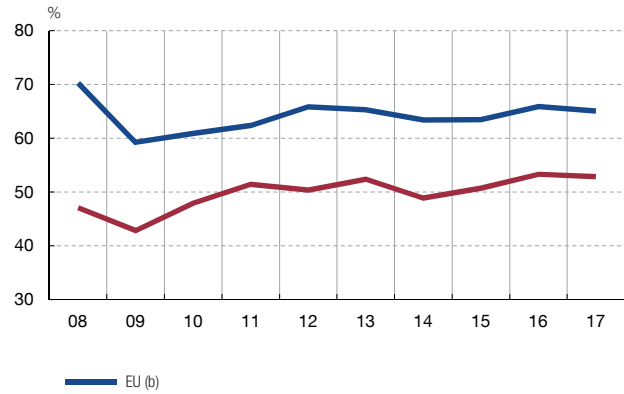
On the financial front, the priority should be to complete banking union. In this area, several fundamental issues remain. The first is the creation of a common financial backstop for the Single Resolution Fund (SRF), where there is broad consensus in favour of the European Stability Mechanism (ESM) assuming this function, possibly through a credit line. The adequacy of the liquidity provision facilities in all the phases of the resolution process also needs to be reviewed, as there are certain constraints on the availability of SRF funds and of ECB liquidity (through either monetary policy operations or emergency liquidity assistance). A second fundamental issue pending is the creation of a European Deposit Insurance Scheme (EDIS) that will provide all depositors with the same level of protection irrespective of where they are located, reduce the likelihood of the emergence of mistrust that can lead to mass withdrawals of deposits, and weaken the links between banks and sovereigns. In this area progress has been more modest, with a certain degree of consensus being reached on the fact that introducing elements into national banking systems that entail future risk-sharing will require the parallel implementation of measures to reduce the existing risk. There have also been proposals for the creation of sovereign

Spanish credit institutions have lower capital levels and higher non-performing loan levels than their European peers overall. However, they compare favourably in terms of efficiency and rate of return, despite their less favourable recent performance. Thus, the efficiency ratio has tended to deteriorate in Spain in recent years and rates of return are at historically low levels.

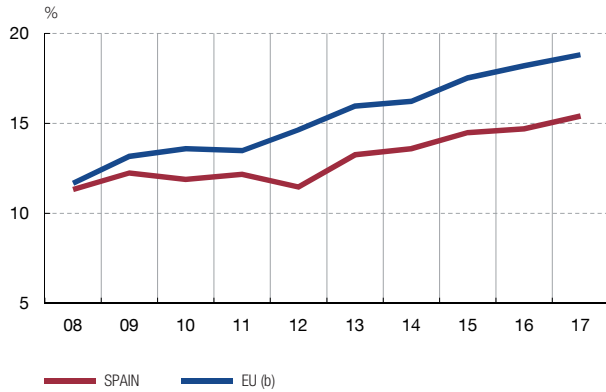
1 RETURN ON EQUITY (ROE)



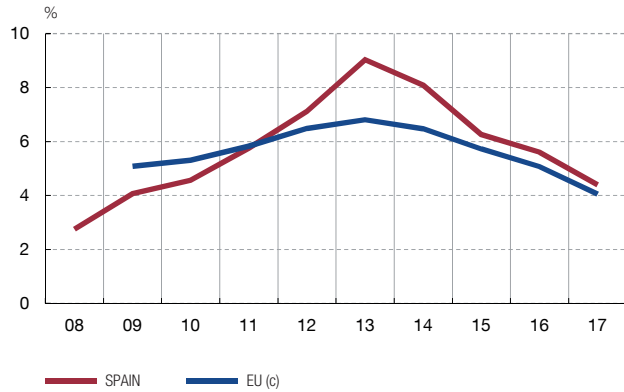
2 EFFICIENCY RATIO (COST TO OPERATING INCOME)



3 SOLVENCY RATIO



4 NON-PERFORMING LOAN RATIO



SOURCES: ECB (Consolidated Banking Data), EBA (Risk Dashboard) and Banco de España.

- a Consolidated data.
- b EU figure for 2017 is at September.
- c Owing to comparability and availability issues, in this case the EBA's Risk Dashboard data have been used.



bond-backed securities (SBBS) which, under certain conditions, could facilitate greater diversification of banks' current sovereign debt portfolios, which have some bias in favour of the sovereign debt of the country of issue.⁷⁶ For the longer term, the possibility of developing arrangements for joint debt issues has also been raised, providing safe European bonds that would allow governments to obtain funding at a reasonable cost at times of crisis. Lastly, the momentum behind the Capital Market Union project should permit greater diversification of private sector funding sources and greater robustness of private risk-sharing arrangements. The actions adopted in 2017 notably included those aimed at promoting funding for innovation and for new and unlisted firms, helping firms gain access to capital market funding, and fomenting long-term, sustainable investment and investment in infrastructure.

⁷⁶ See the ESRB document "High-Level Task Force on Safe Assets".

In the area of fiscal policy, the difficulties associated with the present decentralised decision-making framework underline the need for supranational instruments to be designed to address adverse shocks. In particular, progress is desirable in the creation of some kind of common cyclical insurance mechanism that would help relieve the effects of the lack of a centralised fiscal capacity and the low stabilisation capacity of the existing public and private risk-sharing mechanisms (as evidenced by the limited size of the EU budget). Some of the studies available suggest that a mechanism could be designed, involving committing a relatively low volume of funds (1% of GDP, which is less than the present European budget) and no permanent transfers between States, which would provide a fiscal stabilisation capacity similar to that of the federal transfer system in the United States.⁷⁷

Moreover, the current budgetary governance framework should encourage countries to generate headroom during expansionary phases. The lack of incentives that are sufficiently powerful to create the necessary headroom reduces the stabilisation capacity of fiscal policy throughout the euro area at times of crisis. Recent proposals, which seek to give more weight to government debt as a medium-term anchor and to the spending rule as an operational tool, are appropriate. In any event, it is essential that supervision of compliance with the fiscal rules is strengthened. Simplification of the European budgetary framework would be conducive to this, as the present framework is overly complex and not sufficiently transparent.

Lastly, on the political front the initiatives seek to secure more effective and more transparent governance. There is a growing perception of the need to ensure that the project to deepen EMU be linked to an increase in its acceptance by European citizens. In this respect, the European Parliament's capacity for oversight is expected to be strengthened and existing intergovernmental treaties to be incorporated into the EU legal framework. Consensus has also been achieved on the need to create a European Monetary Fund (EMF), anchored in European legislation, to assume the functions and increase the potential for action of the ESM. Lastly, the European Commission has proposed that the post of European Minister for Economy and Finance be created, to improve economic policy coordination and accountability to the European Parliament.

77 See Chapter 3 of Banco de España *Annual Report, 2016*.

The political situation in Catalonia continues to be one of the main domestic risks for the future performance of the Spanish economy as a whole, and of this region in particular. However, the escalation of tensions, which peaked with the events of October 2017, has tended to subside since November.

Against this background, the economic indicators relating to the final months of 2017 and the first few months of this year suggest that, in contrast to the greater buoyancy recorded in early 2017, the Catalan economy has slowed more sharply than the economies of the other large regions. This poor relative performance is primarily reflected in a set of indicators relating to firms' employment decisions (social security registrations), household consumption (retail trade indices), tourism (non-residents' overnight hotel stays),

residential investment (house purchases) (see Charts 6 to 9) and business investment, according to the evidence available. As for financial market indicators, they are showing a return to normal (see Charts 1 and 2), following the period immediately after the escalation at the beginning of October 2017, when stock market volatility increased and the Spanish market performed less favourably than the EURO STOXX index. In particular, this was a result of the negative behaviour of the share prices of banks, especially those that were then headquartered in Catalonia.

However, it is not easy to determine the extent to which the less favourable performance of the economic indicators of this region is linked to the political situation, since other factors may be affecting the Catalan economy simultaneously. It is also difficult to

Chart 1
GENERAL STOCK MARKET INDICES

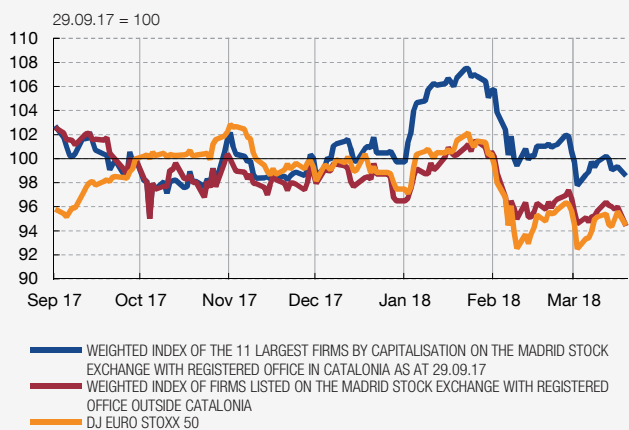


Chart 2
IMPLIED VOLATILITY



Chart 3
FINANCIAL MARKET UNCERTAINTY (a)

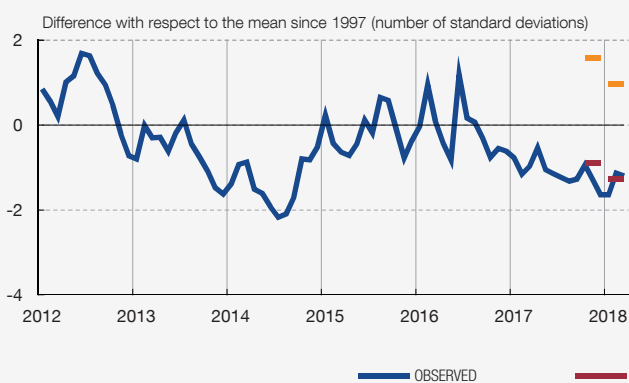
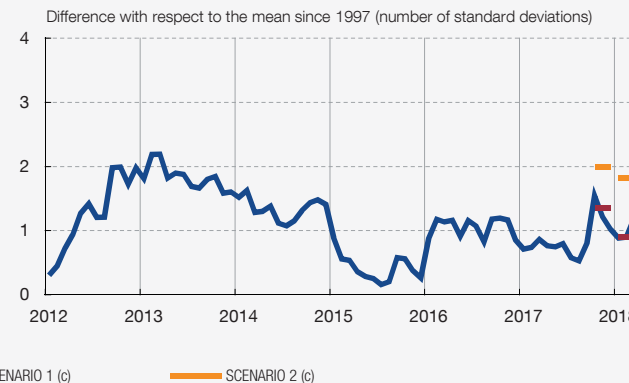


Chart 4
ECONOMIC UNCERTAINTY AND POLICY UNCERTAINTY (b)



SOURCES: INE, IESE Business School, FUNCAS, CIS Barometer, PRS Group and Banco de España.

- a Synthetic indicator based on indicators of the volatility of the IBEX-35, exchange rates, oil prices and ten-year bonds.
- b Synthetic indicator based on CIS political assessment indicators (current and expectations), political risk indicator (PRS Group), national parliament fragmentation index, Economic Policy Uncertainty Index (EPU), and disagreement in the public deficit forecasts.
- c The scenarios correspond to the hypotheses used in Box 1.1, "The Economic Impact of Uncertainty Arising from Political Tensions in Catalonia", *Financial Stability Report*, November 2017, Banco de España. In scenario 1 it is assumed that the level of uncertainty increases temporarily in 2017 Q4, and returns to the 2017 Q3 level in 2018 Q1. This increase is calibrated on the basis of the statistical distribution of the measures of uncertainty considered, which increase by a magnitude that is in the 90th percentile of each series (i.e. only 10% of the historical changes in each individual indicator are higher than those assumed). Scenario 2 assumes an increase in uncertainty in 2017 Q4 equivalent to that recorded in the historical episode with the sharpest rise and that following this initial shock the level of the uncertainty indicators decreases linearly over the simulation horizon.



estimate the extent to which these events may have affected the economic buoyancy of other regions, through the direct trade links existing between the different geographical points of Spain and the general climate of uncertainty they may have given rise to. In fact, the main channel through which the political situation in Catalonia may be affecting its economy, and the Spanish economy

as a whole, would be the latter one, insofar as it has an impact on agents' confidence and, consequently, their spending decisions and financing conditions.

In this respect, the available indicators of economic uncertainty, relating to the country as a whole, show that the significant

Chart 5
QUARTERLY GDP GROWTH BY REGION (a)

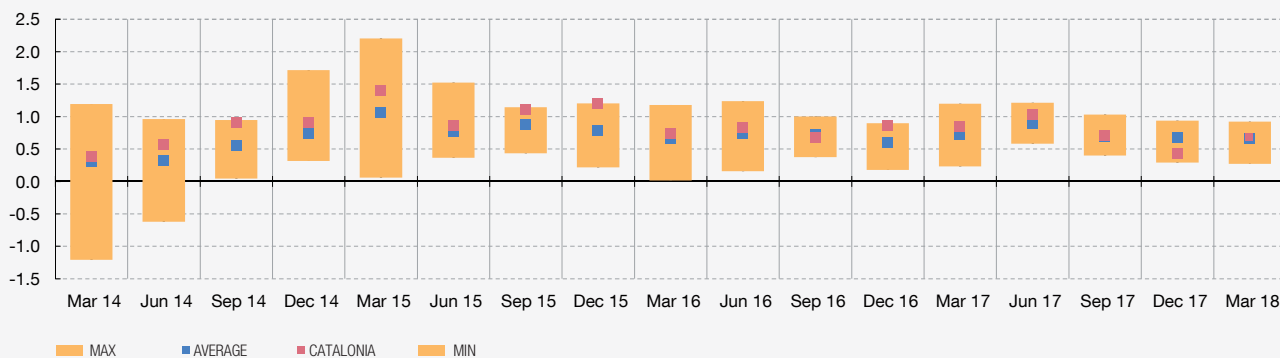


Chart 6
SOCIAL SECURITY REGISTRATIONS
Year-on-year rates based on adjusted series

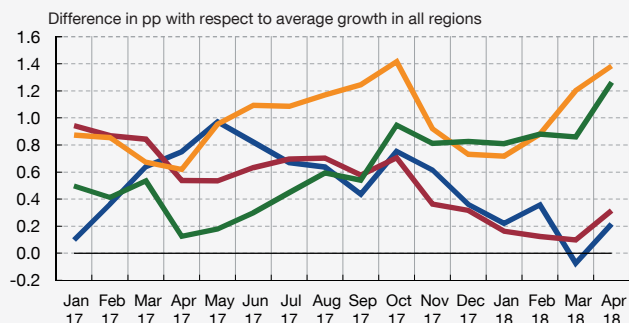


Chart 7
RETAIL TRADE INDEX
Year-on-year rates based on adjusted series

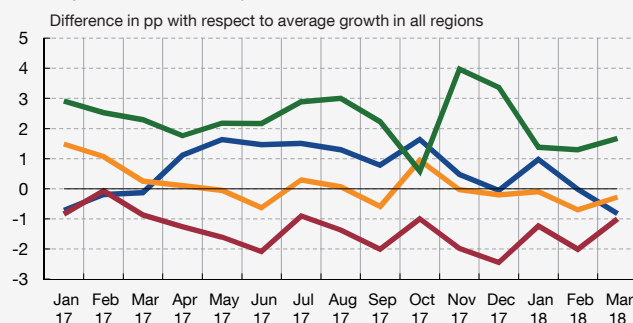


Chart 8
OVERNIGHT STAYS OF NON-RESIDENTS
Year-on-year rates based on adjusted series

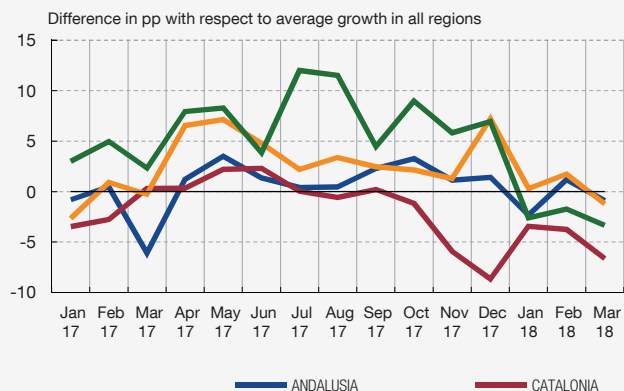
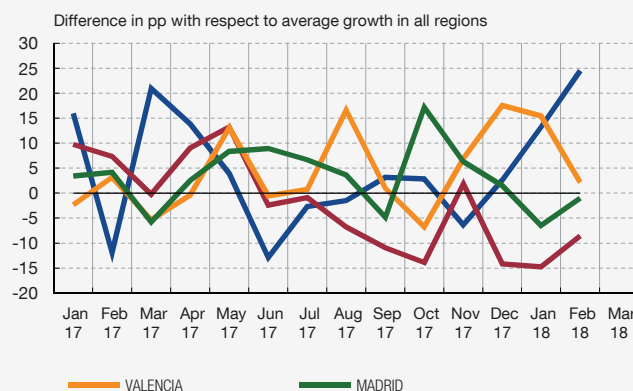


Chart 9
HOUSE PURCHASES
Year-on-year rates based on adjusted series



SOURCES: INE, AIReF and Banco de España.

a AIReF estimations.



increase in October last year was temporary; in subsequent months the values of the indicators returned towards more normal levels, in line with those observed in the months leading up to the peak in political tensions late last year (see Charts 3 and 4). The developments in the indicators are in keeping with the most benign hypothetical scenario of those for which simulations were presented in the Banco de España's *Financial Stability Report* published on 11 November 2017.¹ These hypothetical scenarios were based on historical episodes in which significant increases in

uncertainty were observed and incorporated various hypotheses regarding how long the current episode may last.

In the short and medium term, the ultimate impact on the Spanish economy as a whole of this element of risk will depend on the eventual magnitude and duration of the current episode of political uncertainty. An easing of tensions in Catalonia could lead to a scenario of higher growth. On the other hand, the recent fresh outbreak of tensions could have an adverse effect on the confidence of agents and on activity. The persistent uncertainty regarding the future of the current legislature, following the regional elections of last December, may affect the process of normalisation that was perceptible just a few months ago.

1 See Box 1.1, "The economic impact of uncertainty arising from political tensions in Catalonia", *Financial Stability Report*, Banco de España, November 2017. In particular, it was assumed in an initial scenario that there would be a temporary, limited increase in uncertainty leading to a cumulative loss of GDP by the end of 2019 of some 0.3 percentage points, while another more severe and prolonged scenario had a substantially larger loss of output. For a description of the econometric

models that measure the response of economic activity and the components of demand to fluctuations in uncertainty, see the analytical article "Macroeconomic uncertainty: measurement and impact on the Spanish economy", *Economic Bulletin*, 1/2017, Banco de España.

Since the start of the crisis there has been a major improvement in the competitiveness of the Spanish economy. Relative to the euro area, the competitiveness gains have been more apparent in terms of unit labour costs than in terms of prices. Between 2008 and 2017, the losses in competitiveness that had built-up since the start of EMU, as measured by relative unit labour costs, were almost completely corrected. However, the correction is much more modest when the change in the real effective exchange rate – based on the CPI or relative industrial prices – is considered. That is to say, although price increases have in recent years been more contained in Spain than in the euro area, this has not been sufficient to offset the sharp relative price deterioration that occurred during the pre-2008 upswing.

An analysis of the behaviour of mark-ups, defined as the difference between the selling price and production costs, may shed light on the factors underlying the differing behaviour of prices and compensation per employee. However, one of the difficulties involved in analysing mark-ups is that they cannot be directly observed, although they can be estimated.

Charts 3 and 4 show estimates of mark-ups – defined as the ratio between the gross operating surplus and gross value added of non-financial corporations – for various euro area countries based on national accounts data. During the crisis mark-ups in Spain and Portugal increased, in contrast to the more-or-less-pronounced declines recorded in Italy, France and Germany.

Although there is no widely accepted theoretical approach to explain the cyclical behaviour of mark-ups, there is an abundant economic literature documenting a pattern similar to that seen in Spain during the crisis and relating it to the need for firms to continue to have internal funds available when financing conditions are unfavourable. This argument appears to be particularly appropriate to account for events during the financial crisis, when mark-ups rose very significantly in the peripheral euro area countries and in other economies such as the United States.¹ Gilchrist et al. (2017)² show that, in a context of intense financial pressure (high levels of debt, tightening financing conditions and restricted access to new lending), US firms decided to raise their mark-ups at the beginning of the crisis in 2008, despite the weakness of demand and the possibility of losing market share, as a means of generating internal funds and meeting their financial obligations, improving their financial position, financing investment projects and accommodating potential financial shocks.

However, the validity of the above argument is less clear when we consider the developments in mark-ups during the current recovery. As seen in Charts 3 and 4, despite the significant

improvement in financial conditions in recent years, mark-ups have not been reduced since 2014 in the countries included and, in the case of Spain and Portugal, have remained as firm as in the early years of the crisis.³

Based on information for individual non-financial Spanish firms, Montero and Urtasun (2014)⁴ analyse the relationship between the increase in price-cost mark-ups and financial pressure in various industries over the period 2007-2011, and also consider other variables that may, in principle, help to explain the behaviour of mark-ups, which approximate the degree of competition, business size and the degree of innovation within companies. The results confirm the relevance of the degree of financial pressure as a significant determinant of the mark-ups of non-financial corporations, and also show the relevance of the degree of competition in the industry to explain changes in mark-ups in Spain. In particular, mark-ups increase to a greater extent in those industries subject to greater financial constraints, but also in those in which the level of competition is lower.

This latter finding may mean that the maintenance of high mark-ups during the current upturn reflects a lack of competition in some industries, and that this factor predominates over the effect, with a negative sign, that the improvement in financial conditions may be having on mark-ups. As seen in Chart 5, external financing channels⁵ – essentially bank finance in the case of Spanish SMEs –⁶ have been reviving over the last three years. Against a background of recovering activity, this should be conducive to a gradual reduction in the mark-ups charged on top of the firm's various costs. However, Chart 6 shows that the decline in the degree of competition that occurred during the crisis as a result of the disappearance of a significant number of firms has still not been corrected. In particular, although the concentration indices considered show significant losses of competition between the period of global financial crisis (2008-2009) and the subsequent recession (2010-2013), levels of competition in the Spanish economy remained practically unchanged during the start of the current recovery (2014-2015). For instance, the degree of concentration, as approximated by the market share of the four

1 Although developments in mark-ups were qualitatively similar, the adjustment during the crisis in terms of employment and wages was more pronounced in the case of Spain than in other advanced economies such as the United States.

2 S. Gilchrist, R. Schoenle, J. Sim and E. Zakrajsek (2017), "Inflation Dynamics during the Financial Crisis", *American Economic Review*, vol. 107(3), pp. 785-823.

3 Also, firm-level data from the Banco de España's Central Balance Sheet Data Office show that the accounting mark-ups of Spanish firms – measured as the ratio of gross operating surplus to value added – increased during the initial years of the recovery (2014-2015).

4 J. Montero and A. Urtasun (2014), *Price-cost mark-ups in the Spanish economy: a microeconomic perspective*, Working Paper 1407, Banco de España.

5 Another factor to take into account is the decline from 2013 in bank lending rates, which stood, especially in some segments, well above those observed in the core euro area countries and which have tended since then to converge on those of these countries, as a consequence of the various measures taken both nationally (restructuring of the financial system) and at the European level (the ECB's monetary policy measures).

6 Specifically it can be seen how the proportion of Spanish firms facing borrowing constraints, which in the depths of the crisis was much larger than in the euro area as a whole, has been gradually falling, to around average euro area levels (see Chapter 2, *Annual Report 2016*, Banco de España, for more details).

Chart 1
COST-BASED COMPETITIVENESS INDICES VIS-À-VIS THE EURO AREA

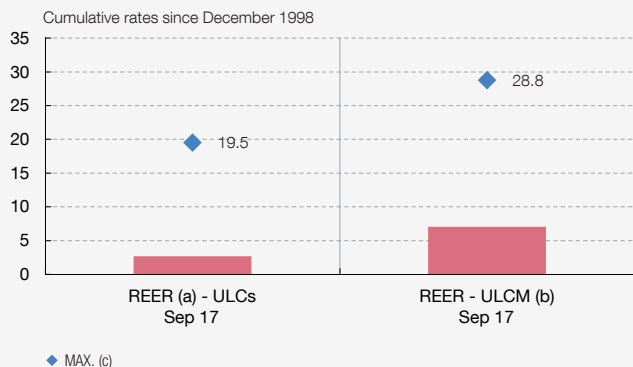


Chart 2
PRICE-BASED COMPETITIVENESS INDICES VIS-À-VIS THE EURO AREA

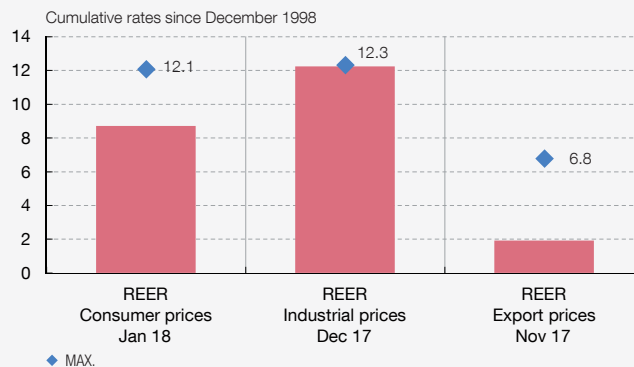


Chart 3
GROSS OPERATING SURPLUS OF NON-FINANCIAL CORPORATIONS

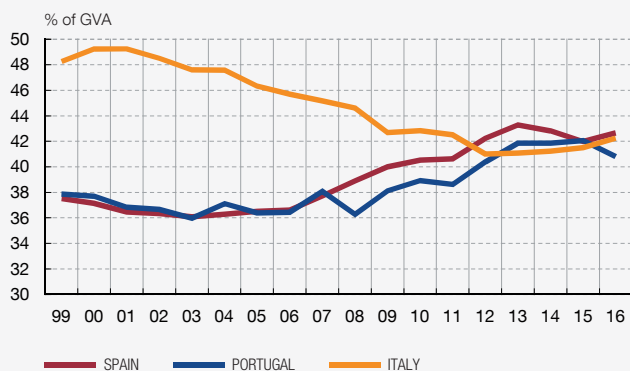


Chart 4
GROSS OPERATING SURPLUS OF NON-FINANCIAL CORPORATIONS

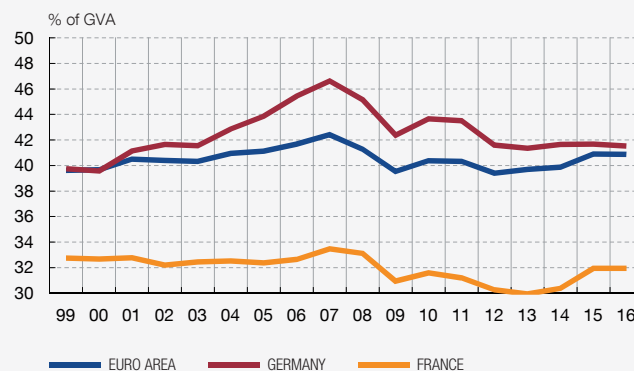


Chart 5
AVAILABILITY OF BANK LOANS TO SMEs (d)

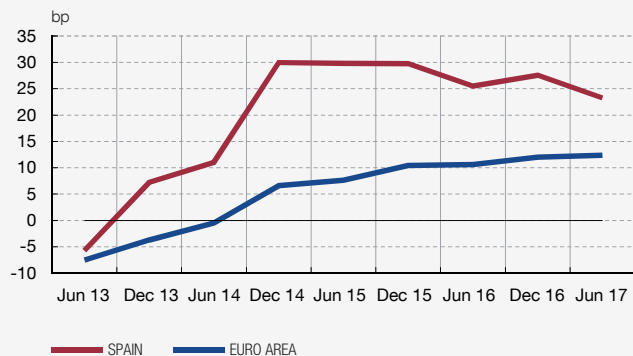
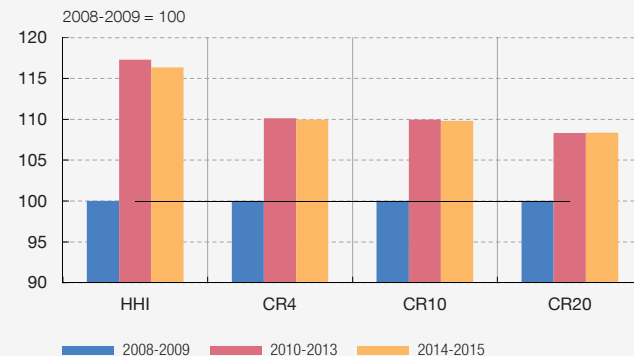


Chart 6
COMPETITION/CONCENTRATION INDICES FOR SPAIN (e)



SOURCES: Banco de España, INE and European Central Bank.

- a REER: real effective exchange rate.
- b ULCM: unit labour costs in manufacturing.
- c Maximum loss of competitiveness since 1998.
- d Percentage of firms reporting an improvement less the percentage reporting a deterioration in the survey on the access to finance of enterprises (SAFE).
- e Four concentration indices are considered, normalised to 100 in 2008-2009, based on the market shares of the 4, 10 and 20 largest firms in each industry and the Herfindahl index (HHI). These indices were calculated for each 4-digit industry of the NACE rev. 2. and the aggregate index for the economy as a whole was obtained as a weighted average, using the weight of each industry in GVA



largest firms in each industry (CR4), increased by 10% during the crisis and only declined by 0.1% during the subsequent recovery.⁷

In the current circumstances, it is necessary to assess in which industries there may be insufficient competition and to review

⁷ The concentration indices considered have a number of drawbacks as indicators of the degree of effective competition as they depend crucially on how the relevant market is defined. In this case the relevant market is

certain barriers, including regulatory ones, to the participation of a greater number of competitors, in order not only to improve consumer welfare, but also to increase the positive effects of the reforms introduced in labour and financial markets.

considered to be the industry in which firms operate at national level, without taking into account, for example, the geographical dimension, which in some industries may be a factor in determining the relevant market.

Over the last few years, the ECB's monetary policy has provided a significant stimulus, through historically low key policy rates and the implementation of non-standard measures, including the expansion of its balance sheet (asset purchase programme (APP) and targeted longer-term refinancing operations (TLTROs)), and of forward guidance. These actions have contributed to loosen financial conditions, acting as one of the fundamental drivers of the economic recovery in the euro area and have helped to counter deflationary pressures. This box presents empirical evidence on the macroeconomic impact of the measures taken by the ECB in recent years, both in the euro area and on the Spanish economy, updating the findings presented in Banco de España (2016).¹

To measure the impact of monetary measures in the euro area, a structural autoregressive vector model² is used that captures the effect of monetary policy through the size of the Eurosystem's balance sheet. As a first step, a baseline scenario with no balance sheet expansion measures and an alternative scenario incorporating APP asset purchases and TLTRO allotments are constructed. A comparison of these two scenarios shows that over the period 2015-2018 the ECB's measures had a cumulative impact of some 2.3 pp on the real GDP growth rate and of 1.7 pp on the euro area inflation rate, as measured by the HICP (see Chart 1).³

The impact of the monetary measures on the Spanish economy is analysed using the Quarterly Model of the Banco de España (MTBE), which includes with a high degree of detail the interrelationships among the aggregate variables.⁴ The model incorporates the effects of monetary policy on the Spanish economy through the trade channel, deriving from an increase in exports due to higher euro area growth, as well as those operating through changes in financial conditions, such as the exchange rate, stock prices and the cost of bank financing. The methodology used to estimate the effects of monetary measures on the exchange rate and stock prices is the "event study approach", which considers as an impact the response of the prices of various financial assets to the announcements of monetary policy measures.⁵ As a result of this exercise, it is estimated that the

ECB's monetary policy prompted a depreciation of the euro of around 11% and a rise in stock prices of around 18% between mid-2014 and the last event considered (see Chart 2).⁶ The transmission of the ECB's measures to the cost of bank financing is slower and its identification is based on models seeking to approximate the behaviour of bank rates, which incorporate interbank rates as determinants, as well as proxy variables for the business cycle and the risk premium. The methodology of Banco de España (2016) is followed, with the preparation of a counterfactual scenario "in the absence of measures", which assumes, inter alia, that interbank rates would have remained unchanged. On the basis of this approximation, the impact of the ECB's measures on bank lending rates is estimated to range between 85 and 110 bp (see Chart 2).⁷

When all these assumptions are incorporated into the MTBE, an estimate is obtained of the effect of the monetary stimulus measures on real GDP and the CPI in Spain. As seen in Charts 3 and 4, the measures have had significant positive effects on both variables. It is estimated that, by the end of this year, the measures will have raised real GDP by 2.3% and the CPI by 1.4%. These effects are of a very similar magnitude to those estimated for the euro area as a whole.⁸ As regards their composition, Table 1 shows the contributions of domestic demand and net exports to the impact on GDP, the improvement in domestic demand explaining somewhat more than two-thirds of this boost, in cumulative terms.

In addition to the macroeconomic estimations presented, the effects of recent monetary policy on other variables of interest are also relevant. On one hand, according to successive Bank Lending Surveys, the Eurosystem's monetary measures since 2014 have had positive effects on liquidity, financing conditions and the capital of euro area banks.⁹ However, the effects on bank profitability seem to be more ambiguous: the (qualitative) surveys mentioned above suggest that the various measures have

1 See Chapter 3, *Annual Report 2015*, Banco de España.

2 See P. Burriel and A. Galesi (2018), "Uncovering the heterogeneous effects of ECB unconventional monetary policies across euro area countries", *European Economic Review*, 101, January, pp. 210-229.

3 These values are within the ranges of effects estimated by the ECB. See, for example, V. Constâncio (2017), "Effectiveness of Monetary Union and the Capital Markets Union", speech, 6 April, Malta.

4 See A. Arencibia, S. Hurtado, M. de Luis López and E. Ortega, 2017, *New Version of the Quarterly Model of Banco de España (MTBE)*, Occasional Paper 1709, Banco de España.

5 Specifically, the change in prices within a two-day window (between the close of business on the day preceding and on the day following the event considered) is calculated for around 45 events, including meetings of the ECB's Governing Council at which measures are announced, publication of the accounts of meetings and speeches by Council members perceived as indicating the possibility of imminent adoption of measures. The selection of dates is similar to that of Banco de España (2016), adding the meetings of the Governing Council and the publication of accounts up to the decisions of October 2017, the final event considered. For further details of the hypotheses and other considerations

in relation to this methodology, see Chapter 3, *Annual Report 2015*, Banco de España. Alternative measures of the impact of actions on financial conditions are to be found in V. Constâncio (2017), "Effectiveness of Monetary Union and the Capital Markets Union", speech, 6 April, Malta.

6 Also, it is estimated that the measures reduced Spain's sovereign risk premium by some 70 bp, with respect to the German Bund, information that is used later to measure the impact of the actions on bank rates.

7 In the case of corporate loans of less than €1 million, that part of the fall in rates attributed to monetary policy is small. However, it is possible that the effects are being underestimated as the equations do not capture the positive effect of TLTROs on the cost of bank liabilities and the terms and conditions of these loans.

8 The similarity of the macroeconomic effects of monetary measures does not mean, however, that the transmission channels have been the same as those in the euro area as a whole. For an analysis of the transmission channels of non-standard monetary policy in the context of a monetary union with heterogeneity among its members, see Box 3.3, *Annual Report 2015*, Banco de España.

9 The evidence can be found, for example, in Ó. Arce and A. del Río (2018), "Las implicaciones macroeconómicas y sobre el sector bancario de la política monetaria del BCE", *Papeles de Economía Española*, No. 155

The monetary policy measures introduced since 2014 have led to a significant easing of financial conditions in Spain and the rest of the euro area (bank lending rates, sovereign debt spread, exchange rate, etc.). This in turn has had a notably positive effect on GDP and inflation in Spain and in the euro area as a whole in the period 2014-17, which is projected to continue to some degree in 2018.

Chart 1
EURO AREA. CONTRIBUTION OF MONETARY POLICY TO GDP AND HICP GROWTH. 2015-2018 (a)

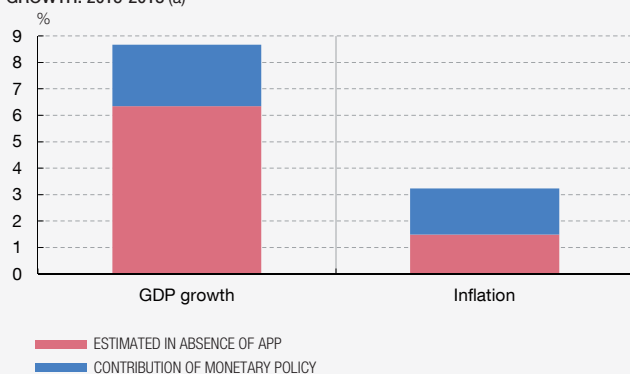


Chart 2
CHANGES IN FINANCIAL CONDITIONS MAY 2014-DECEMBER 2017

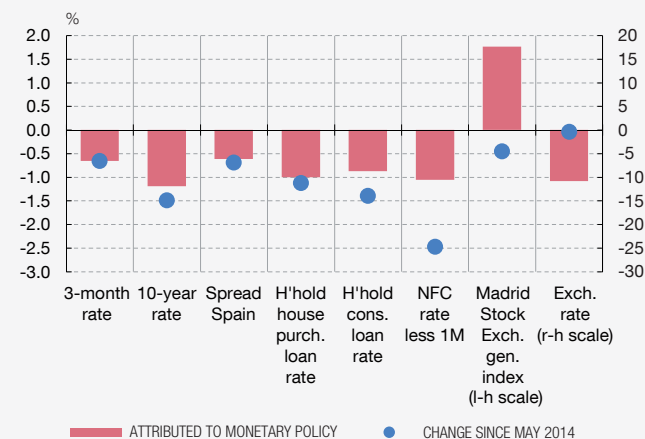


Chart 3
SPAIN. CONTRIBUTION OF MONETARY POLICY TO GDP

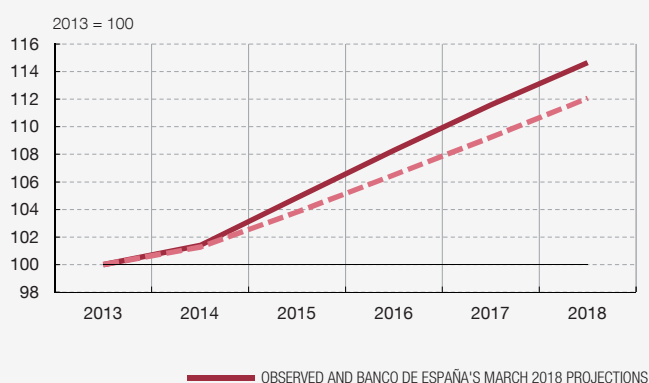
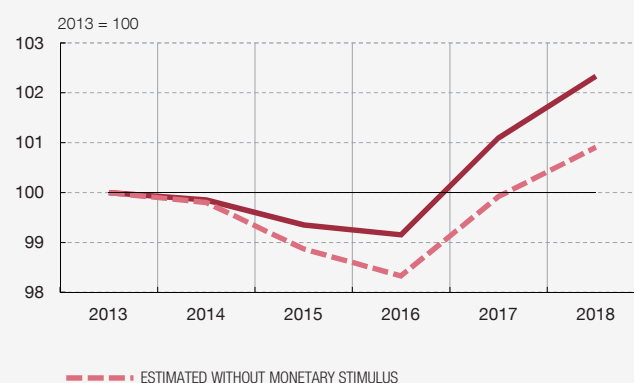


Chart 4
SPAIN. CONTRIBUTION OF MONETARY POLICY TO INFLATION



SOURCES: Eurostat, ECB and Banco de España.

a Estimation based on Burriel and Galesi (2018): "Uncovering the Heterogeneous Effects of ECB Unconventional Monetary Policies across Euro Area Countries", *European Economic Review*, 101, pp. 210-229. The 2018 data are March MPE projections.

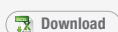


Table 1
THE EFFECT OF QUANTITATIVE EASING MEASURES IN SPAIN (a)

	2014	2015	2016	2017	2018
HICP	0.05	0.49	0.84	1.17	1.40
GDP	0.10	1.01	1.66	2.13	2.29
<i>Contributions to real GDP growth</i>					
Domestic demand	0.04	0.46	0.97	1.39	1.57
Net exports	0.05	0.58	0.71	0.73	0.69

SOURCE: Banco de España.

a Percentage deviations from baseline scenario levels, calculated using the Quarterly Model of the Banco de España (MTBE).

counteracting effects,¹⁰ while the quantitative analyses show neutral net effects.¹¹ The empirical evidence also suggests that the

10 According to the BLS, the TLTRO and APP programmes have had opposite effects on banking profitability, although the number of banks reporting positive effects of the former far exceeds the number of those reporting negative effects of the latter. There appears to be greater consensus among banks regarding the adverse effects on their profitability of the negative interest rate policy.

11 For a quantitative analysis of the various channels through which monetary measures affect banking profitability, see, for example, B. Cœuré (2016), *Assessing the implications of negative interest rates*, speech at the Yale Financial Crisis Forum, 28 July 2016, ECB, and Ó. Arce, M. García-Posada, S. Mayordomo and S. Ongena (2018), *Adapting lending policies when negative interest rates hit banks' profits*, Banco de España, mimeo.

measures have had clearly positive effects, especially the corporate sector purchase programme (CSPP) on market financing to non-financial corporations and, indirectly, on the availability of credit to small businesses.¹² Finally, monetary measures appear to have had a positive impact on the public finances of the main euro area countries, by reducing the burden of public debt interest payments and, indirectly, through the macroeconomic impact on cyclical items of revenue and expenditure.¹³

12 See *Making room for the needy: The credit-reallocation effects of the ECB's Corporate QE*, Working Paper 1743, Banco de España (2017).

13 See the analytical article "The impact of unconventional monetary policy on euro area public finances", *Economic Bulletin*, 3/2017, Banco de España.

Spain's government debt-to-GDP ratio and structural budget deficit are both well above the limits established within the framework of the budgetary rules defined in the European Union's Stability and Growth Pact (SGP), which means that further fiscal consolidation will be required in the coming years. Apart from these constraints, there are economic reasons, relating to the need to reduce the vulnerabilities of the Spanish economy (as mentioned in the main text of this chapter), which make it advisable to continue with this process. This box presents a discussion of various short and medium-term scenarios for public finances.

The Spanish government is currently subject to an excessive deficit procedure (EDP), which was opened in April 2009,¹ under the so-called corrective arm of the SGP. Apart from France, whose EDP is expected to be closed this year, Spain is currently the only country in the Union recording an "excessive deficit", i.e. a budget deficit of more than 3% of GDP. The deadline set by the EU Council for remedying this situation is 2018.² In this respect, the draft state budget for 2018, presented on 27 March, projects a budget deficit of 2.2% of GDP this year.

When the Council determines that a member country has overcome an EDP situation it automatically becomes subject to the "preventive arm" of the SGP. In this new situation, the country remains subject to a set of rules that restrict its fiscal policy actions, which in the case of Spain would involve the following

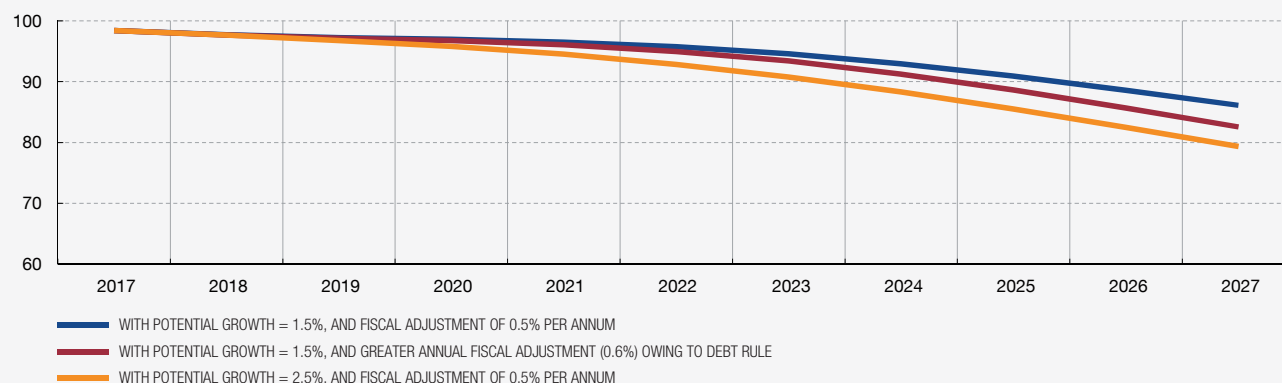
- 1 Determined in the [EU Council Decision of 27 April 2009](#).
- 2 According to [EU Council Decision of 8 August 2016](#), Spain must reduce its general government deficit to 2.2% of GDP in 2018 and achieve a cumulative improvement of 0.6 pp of GDP in the structural balance between 2016 and 2018.

requirements. First, the structural budget deficit, which according to the European Commission stood at 3.1% in 2017, should decline by 0.5 pp of GDP each year under normal conditions,³ until the medium-term budgetary objective (MTO) of structural balance is achieved. Second, the public debt-to-GDP ratio must be reduced each year by one-twentieth of the difference between the level that year and the 60% target. Given that the debt ratio stood at 98.3% of GDP in 2017 this rule would require an average annual reduction of 1.5 pp of GDP over the next decade. Finally annual growth of general government spending should be less than or equal to the medium-term potential growth of the economy.⁴

In order to assess the impact of these requirements, hypothetical scenarios are provided below illustrating the impact of compliance on the medium-term public debt-to-GDP ratio, depending on a number of macroeconomic and financial assumptions. The chart

- 3 More generally, under European regulations, the adjustment required, in terms of the change in the structural balance, is modulated in accordance with a matrix of cases that takes into account the levels of the output gap and public debt and the European Commission's assessment as to whether or not there is a debt sustainability risk. Thus, for example, if the output gap is greater than 1.5 pp, public debt is greater than 60% and the Commission's assessment is that there is no public debt sustainability risk, the structural adjustment required would be either more than 0.75 pp, if GDP growth is below potential, or more than 1 pp, if growth is above potential. For further details, see [European Commission \(2016\)](#), "Specifications on the implementation of the Stability and Growth Pact and Guidelines on the format and content of Stability and Convergence Programmes"
- 4 The Commission and the Council monitor compliance with these requirements, so that, in the event that "significant deviations" are identified, a process is launched to correct them. If this is not observed, sanctions can be imposed.

Chart 1
SIMULATED PUBLIC DEBT PATHS IN A SCENARIO OF CONVERGENCE TO THE MEDIUM-TERM STRUCTURAL BALANCE OBJECTIVE (a)



SOURCE: Banco de España, using the model described in P. Hernández de Cos, D. López Rodríguez and J. J. Pérez (2018), *The challenges of public deleveraging*, Occasional Paper 1803, Banco de España.

- a Maximum annual fiscal effort scenario (change in structural balance) of 0.5 pp per annum, until the Medium-Term Objective is attained (structural balance = 0). In the scenario of potential growth = 1.5% and compliance with the debt rule, the constant annual fiscal adjustment is calculated so that the rule is complied with on average, i.e. so that the annual average change in the public debt-to-GDP ratio is a reduction of 1/20 of the difference between the debt value for each year and the 60% reference.



presents hypothetical scenarios for public debt over the next decade based on a model simulating the dynamics of public debt.⁵ It can be seen that a process of public deleveraging as required by the SGP in the case of the Spanish economy will require a significant and long-lasting fiscal consolidation.

Specifically, given the level of the public debt-to-GDP ratio in 2017 and the European Commission's estimates of the Spanish general government structural deficit for the same year, and assuming average nominal economic growth over the coming decade of 3% and implicit public debt interest rates of 2.5%, meeting this objective would require an average primary surplus of 0.8% of GDP, as compared with the deficit of 0.6% of GDP estimated for 2017, which would place the public debt-to-GDP ratio slightly above 85% in 2027. Average real GDP growth 1 pp higher than in this scenario would, keeping the other assumptions unchanged, lead to a public debt-to-GDP ratio of around 80% in 2027 or, alternatively, a public debt-to-GDP ratio similar to that in the preceding scenario, but with a significantly lower fiscal effort. In the latter case, the average primary surplus necessary to achieve this level of debt would be 0.2% of GDP, 0.6 pp per year below the baseline scenario.

These simulations highlight the importance of pressing ahead with fiscal consolidation while at the same time implementing the structural reforms necessary to increase the economy's growth capacity. The simulations presented also show the difficulty of meeting the conditions laid down in the First transitional provision of the Organic Law on Budgetary Stability and Financial Sustainability (LOEPSF by its Spanish abbreviation) on the transitional period for convergence with the reference values set

by that law, which are in line with those in the SGP, i.e. 60% for general government as a whole. According to this provision, the public debt-to-GDP ratio for each tier of government should be reduced at the annual average rate necessary to achieve this aggregate limit in 2020.⁶ Given the current levels of the public debt-to-GDP ratio of slightly above 98% of GDP, meeting the objective in 2020 would require a reduction of around 40 pp in the ratio over three years, an even larger correction than in the previous public-sector deleveraging process that took place between 1997 and 2007, when this ratio was reduced by some 30 pp over somewhat more than a decade, against a very favourable macroeconomic backdrop. In this respect, in line with the recommendations of the Spanish Independent Authority for Fiscal Responsibility (AIReF by its Spanish abbreviation), it would be advisable to use the appropriate legal mechanisms to extend the transitional period for meeting the limit set in the LOEPSF, adapting the requirements specified in the first transitional provision of this law and defining a credible and demanding reference path for sustained reduction of the debt ratio, that is consistent in any event with the requirements of the SGP.⁷

5 See P. Hernández de Cos, D. López-Rodríguez and J. J. Pérez (2018), *The challenges of public deleveraging*, Occasional Paper 1803, Banco de España.

6 Some further requirements are also established for the transition phase, under normal conditions: i) the change in the non-financial expenditure of each tier of government may not exceed the Spanish economy's real GDP growth rate; ii) when the Spanish economy achieves a real growth rate of at least 2% per annum or generates net employment with growth of at least 2% per annum, the public debt ratio must be reduced annually by at least 2 pp of GDP; iii) the structural deficit of general government as a whole must be reduced on average by at least 0.8% of GDP per annum, although in the event of an EDP, the deficit reduction must be in line with the requirements of the latter. Also, the LOEPSF gives an absolute priority to the payment of public debt interest and capital charges over all other budgetary commitments, which may be especially important to dispel any doubts that may arise regarding the public finances at times of financial instability or deterioration in confidence.

7 See the AIReF's report of 20 July 2016 "[Report on compliance with the Budget Stability and debt targets and with the expenditure rule 2016 by the different public administrations](#)".



2 THE CHALLENGES FACING THE SPANISH BANKING SECTOR



Europa Meeting Room in the Cibeles building during the III Economic History Conference.

Summary

Despite the major advances of recent years, the Spanish banking sector continues to face significant challenges, many of which it shares with other euro area banking systems. Following the crisis and the subsequent banking sector restructuring and clean-up, the economic recovery of recent years has helped to reduce non-performing loans (NPLs) and raise profitability.¹ However, the effects of the crisis on the financial position of banks have far from completely disappeared. Thus profitability remains below the medium- and long-term reference levels and banks face a new and more demanding regulatory and competition framework (see Diagram 2.1). In a highly banked economy such as that of Spain, it is important to address these challenges so as to put the banking sector in a sufficiently strong position to contribute to economic growth and job creation.

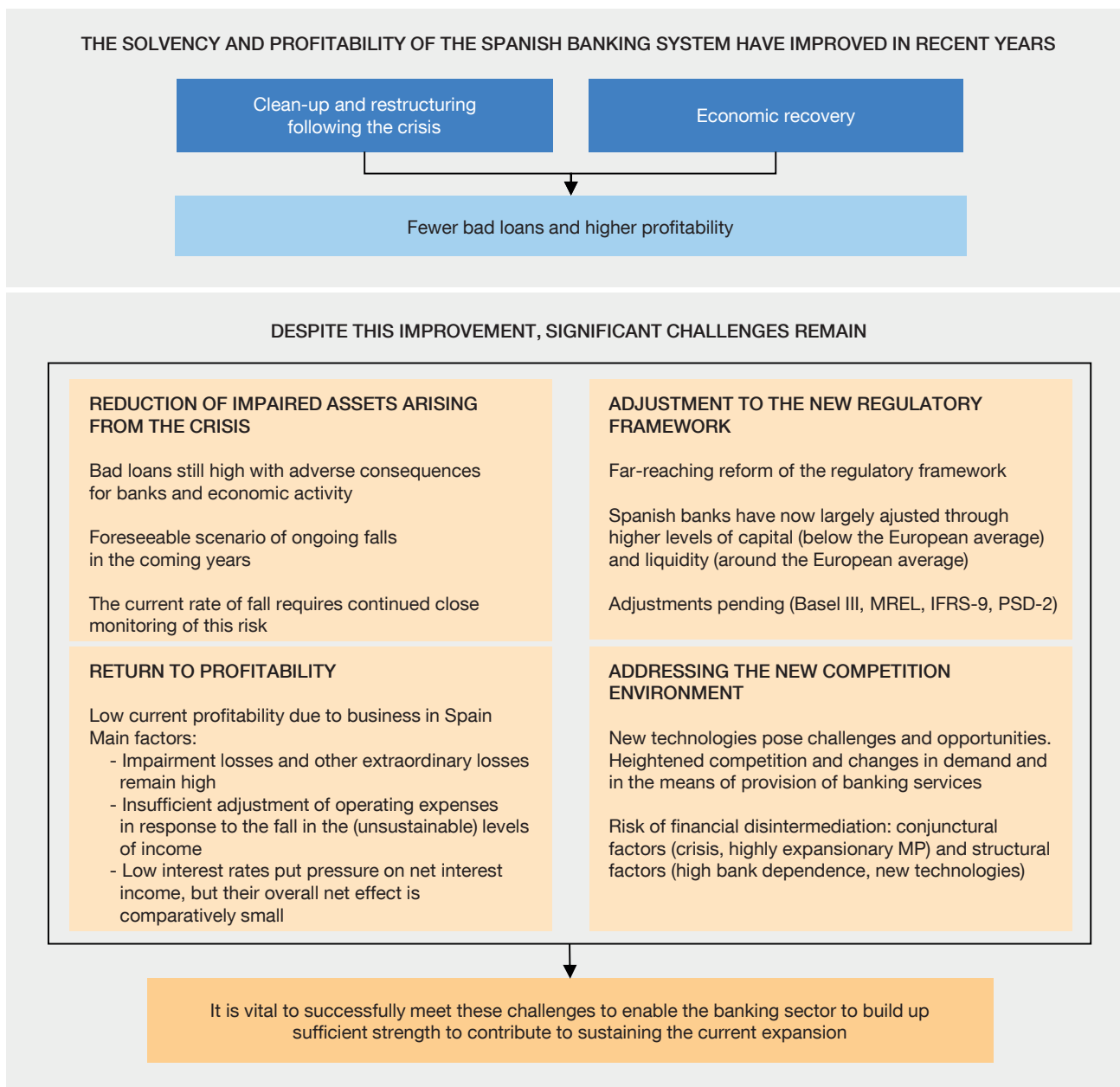
The volume of impaired bank assets has decreased significantly from its peak, but remains high. The coming years will foreseeably see these assets continue to decrease. However, at the pace of the current fall, the NPL ratios will continue to be relatively high at the end of 2020, so it is of particular interest to the supervisory authorities that banks address this challenge promptly.

The recovery of Spanish bank profitability is another major challenge. Its low current level is mainly due to the residual effects of the crisis and the consequences of the deleveraging of the private sector of the Spanish economy. Impairment losses and other extraordinary losses continue to eat up a large portion of income compared with the situation prior to the outbreak of the international financial crisis in 2008. Moreover, the adjustment of operating expenses has been unable to fully offset the fall in income since then. The overall net effect of the low interest rates seems to have been comparatively lower, despite the fact that they have exerted negative pressure on net interest income.

In the regulatory arena, banks have now largely adapted to the new requirements calling for, inter alia, higher levels of own funds and liquid assets. In both cases Spanish banks amply meet the minimum requirements, although, with respect to the European average, their liquidity position compares better than that of capital. Furthermore, some reforms still have to be defined in detail or fully implemented, which will require further adaptation by Spanish banks.

The main medium-term challenge lies in the new competition framework derived from the new technologies and the progressive financial disintermediation. Financial innovation represents both a threat and an opportunity for banks. It will foreseeably bring increased competition in some segments and changes in the demand for banking services and how they are provided, which will oblige banks to embark on a process of anticipation and adaptation. At present, the penetration of these new technologies in Spain is limited and there is much uncertainty as to their final effects, although they may be considerable. Financial disintermediation similarly poses a challenge for banks, the progress of which will depend on both conjunctural and structural factors, such as interest rates, the purchase of corporate bonds by the Eurosystem, new competitors, advances towards a capital markets union and trends in long-term saving.

¹ On the crisis, see the *Report on the financial and banking crisis in Spain, 2008-2014*, Banco de España.



SOURCE: Banco de España.



1 Introduction

The Spanish banking sector has undergone extensive restructuring since the onset of the crisis in 2008. The number of Spanish banking entities (Spanish-owned consolidated groups and banks not belonging to a group) fell from 122 at the beginning of the crisis to 65 in 2017, and the number of branches and employees decreased by 40% and 32%, respectively, in that same period.² As a result, there was a considerable increase in concentration in the banking industry. Thus the five largest groups went from representing 49% of the total assets of business in Spain in 2008 to 70% in 2017, some 20 pp above

² The number of branches decreased most sharply in the more populous municipalities, where the network expansion of 2000-2007 had been concentrated, and this mitigated somewhat the concern over financial inclusion of rural populations. However, these rural populations show a long-term trend, dating from before 2007, of decline in the number of branches, which is related to their demographic decay. For more details, see Banco de España, *Financial Stability Report*, 11/2017, Box 2.5.

the EU average.³ The consequences of the crisis are also plainly visible in the outstanding balance of banks' customer lending in Spain, which increased sixfold in the long expansion from 1995 to 2008 and then contracted by a third, and in the cumulative losses on the income statement due to asset impairment in Spain, which at end-2017 exceeded €310 billion (equal to 11% of the total balance sheet at 31 December 2007).⁴

However, the profitability of the banking sector has not recovered fully and the volume of NPLs on bank balance sheets is still high. The recovery of the Spanish economy since the end of 2013 has helped Spanish banks to reduce their bad loans and improve performance. Nevertheless, their return on equity (ROE) remains low in historical terms and the stock market prices of Spanish (and, more generally, European) banks continue to reflect investors' uncertain expectations as to the future bank performance.

Consequently, Spanish credit institutions continue to face a number of challenges, largely shared with other euro area banking systems, which may have macroeconomic repercussions. Some of these challenges are associated with the conjunctural situation, while others are medium- and long-term issues. In a highly banked economy such as Spain, it is vital to address these challenges and strengthen the banking sector so it can contribute to economic growth and job creation, effectively performing its task of financial intermediation. The experience of the past crisis illustrates how the weakness of banking systems in some countries contributed to intensifying the crisis. The following sections of this chapter analyse these challenges. They begin with the reduction of impaired assets resulting from the crisis and continue with the reestablishment of profit margins more in line with the rates of return required by investors and the adaptation to the new regulatory and competition framework.

2 The reduction of impaired assets arising from the crisis

The onset of the crisis was followed by a sharp rise in the bad loans of Spanish deposit institutions. In 2013, when the impairment of bank balance sheets peaked, non-performing loans in customer business in Spain reached nearly €200 billion, nearly eight times more than in the previous crisis in 1994.⁵ Additionally, banks' balance sheets in 2013 included foreclosed real estate assets with a gross book value of nearly €80 billion.⁶ Four years later, the former had decreased by half, albeit still remaining at high levels, while the latter had fallen to €58 billion.⁷

High levels of bad loans have negative consequences not only for banks themselves, but also for the economy as a whole. An increase in bad loans impacts initially on the income statement and capital of banks, but, once this stage has passed, the persistence of high ratios of troubled assets (non-performing loans and foreclosures) for a prolonged period has additional effects. First, it means that human and physical resources have to be deployed for their management, preventing these resources from being used in other activities, including the extension of new loans. Second, their maintenance introduces an additional element of uncertainty as to the quality and valuation of bank assets, which may contribute to raising the cost of bank funding. One way or another, this may lead to a tightening of the supply of credit.

³ Counting its business abroad, the concentration of the Spanish banking sector is even higher (81.5% in 2017).

⁴ In this chapter use is made sometimes of consolidated data and at other times of the individual data for business in Spain of deposit institutions. The former are useful for international comparisons and the latter serve to focus on developments in Spain.

⁵ With an outstanding volume of lending five times larger.

⁶ Book value before deduction of impairment provisions recorded subsequent to foreclosure.

⁷ The fall was concentrated in 2017, the last year for which data are available, largely for accounting reasons. It was due, firstly, to the adjustment of the gross book value of the foreclosed assets of Banco Popular Español to their value net of provisions at the date of its resolution and, secondly, to additional reporting adjustments in the rest of the system.

Since the crisis, the banks with higher NPL ratios have seen lower credit growth and a higher cost of funds.

1 CORRELATION BETWEEN THE YEAR-ON-YEAR CHANGE IN CREDIT EACH YEAR AND THE NPL RATIO A YEAR EARLIER (a)



2 CORRELATION BETWEEN THE COST OF FUNDS EACH YEAR AND THE NPL RATIO A YEAR EARLIER (a)



SOURCE: Banco de España.

a Cross-sectional correlations of 61 Spanish deposit-taking institutions (the significant institutions and the main less-significant institutions, including all the credit cooperative sector).

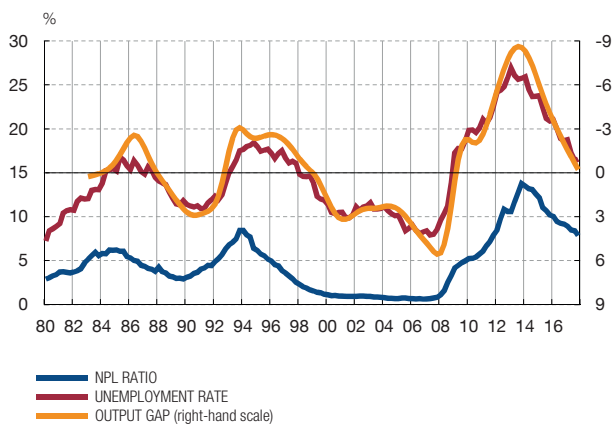
The available evidence suggests that there is a negative relationship between bad loans and new credit extension. Chart 2.1 shows the correlation coefficient between the NPL ratio lagged by one period and, firstly, the change in credit (see Chart 2.1.1) and, secondly, the cost of funds (see Chart 2.1.2), for a sample of 61 Spanish deposit-taking institutions between 2000 and 2017. The correlation with the rate of change of credit is negative in practically the whole period, and more so from 2009, coinciding with the economic crisis. This observation is in line with the thesis that banks with higher NPL ratios are those which most reduce (or least increase) their credit, particularly during the crisis. Chart 2.1.2 shows that the correlation between NPL ratio and cost of funds was negative before 2009,⁸ but became positive thereafter and its absolute value was higher than in the previous period, reflecting the fact that banks with higher NPL levels had a higher cost of funds. In recent years the relationship between NPLs and cost of funds has loosened, coinciding with the abundant market liquidity linked to the Eurosystem's expansionary monetary policy and the firming of the economic recovery, but the negative relationship with credit growth remains.

Additionally, the persistence of high NPL levels may have other negative consequences. In particular, the persistence of a high proportion of households and/or non-financial corporations in a fragile financial position, with high levels of debt, may reduce the momentum of spending and curtail the recovery of the economy, with feedback effects on bank balance sheet quality. Moreover, in the case of the euro area countries, the prompt correction of the NPL levels derived from the crisis is now also necessary to foster greater progress in the construction of the banking union. As noted in Chapter 1, there is a certain consensus that the greater sharing of risk entailed by the pieces yet to be put in place to complete the banking union (financial backing to the SRM, the European Deposit Guarantee Scheme) will only be possible if simultaneous progress is made in reducing the currently existing risks.

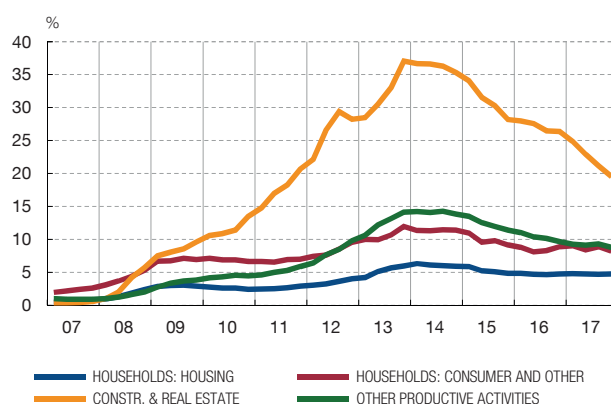
⁸ Particularly in the final years of expansion, in which those banks which most increased their lending (and consequently most reduced their non-performing to total loans ratio by raising the denominator) had a higher cost of funds.

The NPL ratio in Spain is being corrected within the framework of cyclical recovery of the Spanish economy and is now around the euro area average. Foreclosed assets are also being reduced, albeit at a slower pace, which will foreseeably quicken in 2018 with the execution of major sale transactions announced in 2017.

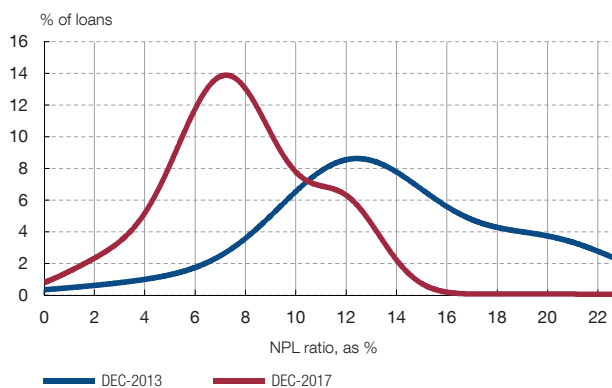
1 HIGH CORRELATION BETWEEN NPLs AND THE ECONOMIC CYCLE



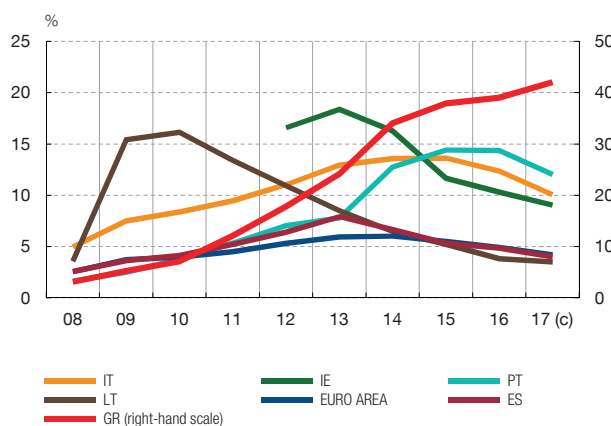
2 THE NPL RATIOS ARE BEING CORRECTED, ALBEIT UNEVENLY ACROSS SECTORS



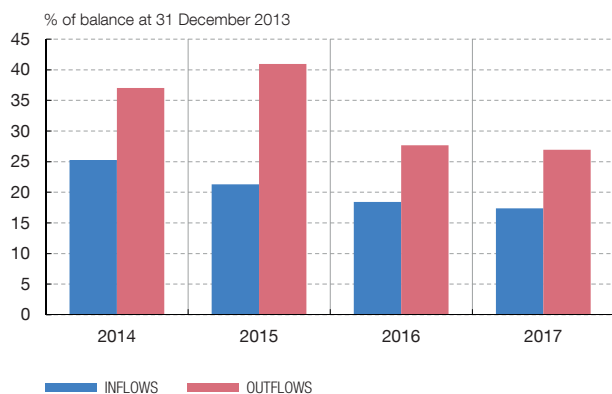
3 DECREASE IN THE PERCENTAGE OF BANKS WITH VERY HIGH NPL RATIOS (a)



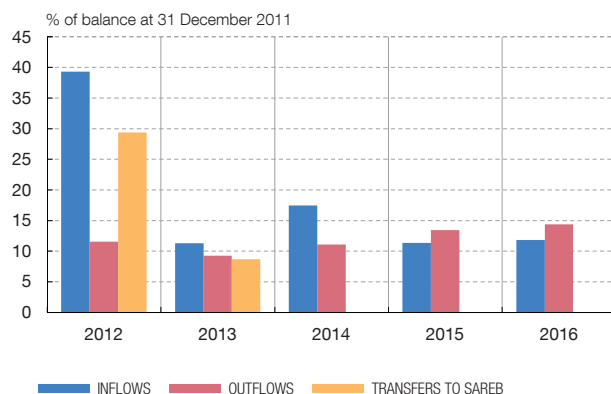
4 THE ADJUSTMENT OF THE NPL RATIO IS MORE ADVANCED IN SPAIN THAN IN OTHER EURO AREA COUNTRIES (b)



5 DECREASE IN GROSS INFLOWS OF NEW NPLs (d)



6 INCREASE IN OUTFLOWS OF FORECLOSED ASSETS



SOURCES: ECB, INE and Banco de España.

- a Distribution by bank of the NPL ratio for credit to the resident private sector.
- b NPL ratios for debt instruments (loans and debt securities) at consolidated level.
- c Data as at September 2017.
- d Inflows and outflows of the stock of NPLs to the resident private sector.



The outlook for bank balance sheets is favourable, given the impact that the economic recovery is having on the reduction of the NPL ratio of the resident private sector. Chart 2.2.1 shows how the NPL ratio is highly correlated with the economic cycle and exhibits a downward trend whenever GDP picks up and the unemployment rate falls, as is expected to occur in the coming years. The correction is particularly apparent in loans to construction and real estate development firms (see Chart 2.2.2), a segment in which the NPL ratio reached higher levels from the onset of the crisis and where, despite having decreased, it was nearly 20% in December 2017. In lending to households, this ratio has decreased more moderately and recently non-performing assets and the NPL ratio have even risen somewhat in the “consumer credit and lending for purposes other than house purchase” sector.⁹ In any event, more disaggregated analysis shows not only that the average level of the ratio has decreased but also that the percentage of banks with high levels of the ratio has fallen particularly sharply (see Chart 2.2.3).

With respect to the banks of other euro area countries which also accumulated high NPL levels during the crisis, Spanish banks are at a relatively advanced stage in the reduction of non-performing assets. Indeed, the ratio of non-performing exposures to total loans and debt securities of Spanish banks at consolidated level now stands close to the euro area average (see Chart 2.2.4). Furthermore, the inflows and outflows of NPLs (see Chart 2.2.5) have a negative net balance (explaining the fall in the ratio), with a decrease of 31% in inflows of new NPLs between 2014 and 2017. Meanwhile, foreclosed assets (see Chart 2.2.6) peaked in June 2012 (€96 billion) and the decreases since then have been more limited, despite the transfer of assets to the Spanish Asset Management Company (*Sociedad de Gestión de Activos procedentes de la Reestructuración Bancaria* – Sareb). However, in recent years the net balance of inflows and outflows has become negative due to the increase in the latter. This trend may become more marked in 2018 if, as announced, the major real estate asset sale transactions initiated by some of the biggest Spanish banks materialise.

In any event, the adjustment currently under way in the NPL ratio in Spain is proceeding at a relatively moderate pace. Charts 2.3.1-2.3.4 compare the behaviour in the quarters following each of the last three peaks in the ratio in recent decades in Spain (March 1985, March 1994 and December 2013). As can be seen, the rate of decline in the most recent period is lower than on the previous two occasions (see Chart 2.3.1). However, this is explained mainly by the atypical behaviour of lending (the denominator of the ratio, shown in Chart 2.3.2), which not only has failed to expand but rather has fallen off during the current recovery phase as a whole. Regarding NPLs, the decrease was particularly slow in the second half of the 1980s, while it seems to have been similar in the two subsequent episodes (see Chart 2.3.3), in line with the also similar behaviour of real GDP in these two cases (see Chart 2.3.4).¹⁰ Even so, the decrease in NPLs is somewhat slower in the last few quarters and, at the rate of fall of the last three years, NPLs would still exceed €50 billion at the end of 2020, a figure which is still significant (4.4% of credit to the resident private sector at end-2017). This assessment is in line with that resulting from analysis of the historical relationship between the volume of NPLs and their basic determinants (see Chart 2.3.5).¹¹

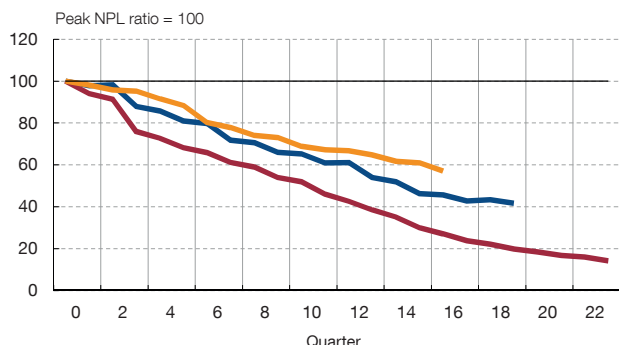
⁹ See Banco de España, *Financial Stability Report*, 05/2018.

¹⁰ Adjusted for inflation, the cumulative decrease since 2013 is 13 pp less than the previous correction and 6 pp more than in the late 1980s.

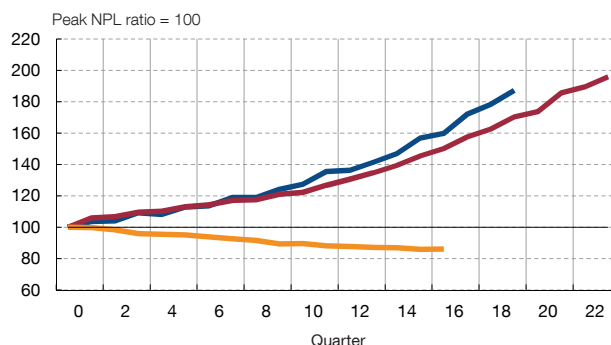
¹¹ There is no systematic information on foreclosed assets prior to 2010, which prevents comparative analysis of their behaviour in previous recessions as has been done for NPLs.

The slow fall in the NPL ratio is due mainly to the decrease in the denominator (loans). However, NPLs are also falling somewhat more slowly than in the previous recovery and more sluggishly than would be predicted by a model of their relationship with their basic determinants. Although a slow correction is usual in this type of crisis, at its current rate of fall the NPL ratio would still be relatively high at the end of 2020.

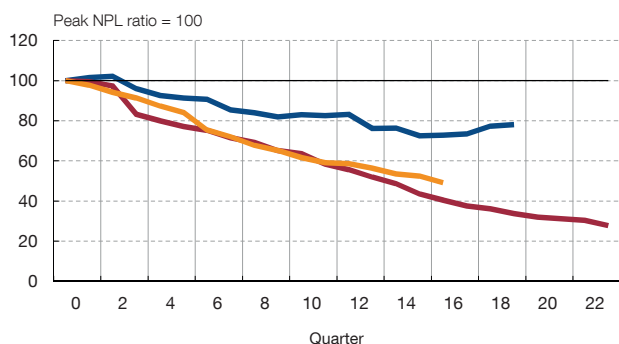
1 THE NPL RATIO (a) IS DECREASING MORE SLOWLY THAN ON PREVIOUS OCCASIONS



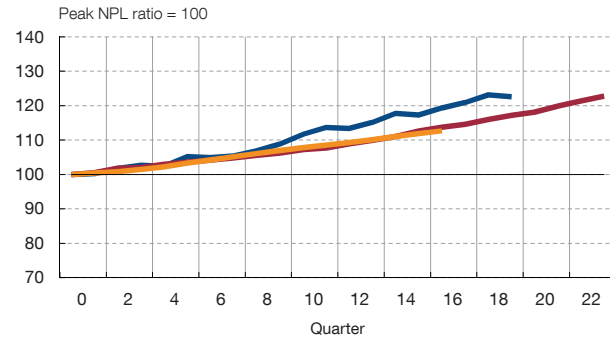
2 LENDING



3 UNTIL RECENTLY, THE VOLUME OF NPLs WAS DECREASING AS IN THE PREVIOUS RECOVERY

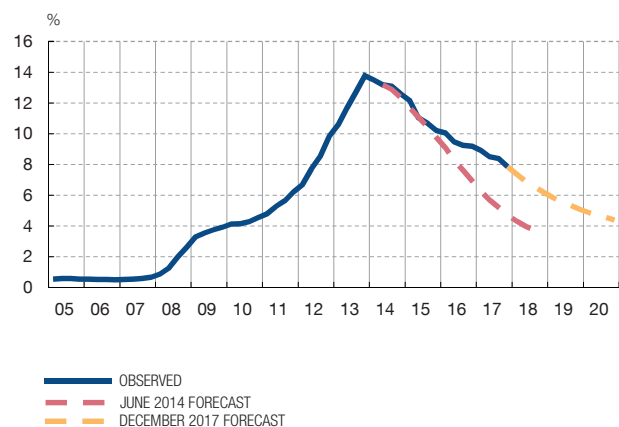


4 REAL GDP IS BEHAVING AS IN THE PREVIOUS RECOVERY

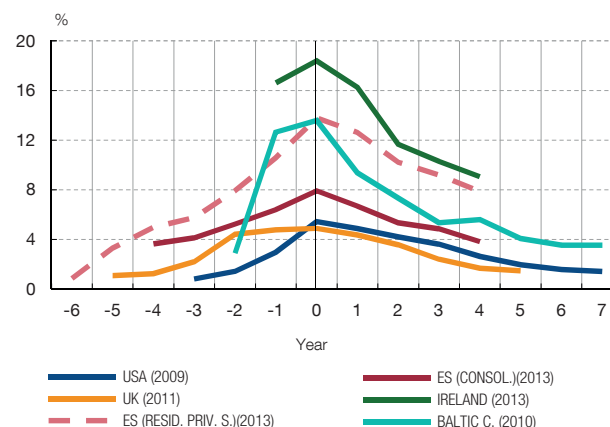


1985 Q1 - 1989 Q4 1994 Q1 - 1999 Q4 2013 Q4 - 2017 Q4

5 PROJECTED NPL-TO-LOANS RATIO (b)



6 INTERNATIONAL COMPARISON OF NPL RATIOS (c)



SOURCES: ECB, CGFS, FDIC and Banco de España.

- a NPLs as a proportion of total credit to the resident private sector.
- b Based on a dynamic single-equation model relating the volume of NPLs to GDP, the unemployment rate, the credit-to-GDP ratio, changes in real GDP and in the nominal lending interest rate and lags in the dependent variable.
- c The consolidated data for Spain, Ireland and the Baltic countries are obtained from the ECB and consist of NPLs as a proportion of total debt instruments. The data for the United States are from the FDIC (call reports). The data for the United Kingdom are from the BIS report entitled "Structural changes in banking after the crisis".



Analysis of similar episodes in other countries confirms that when the NPL ratio rises significantly, it takes a long time to recoup its previous level (see Chart 2.3.6). In the United States, for example, following the 2009 crisis, the NPL ratio did not return to its previous levels for 5–6 years after reaching its cyclical high. In other cases, in which the increase in NPLs was extremely sharp and fast, such as the Baltic countries and Ireland, the correction was somewhat faster, but even so required a similar number of years. The resolution of the situations of financial fragility of agents which lie behind these high impaired asset ratios requires some time, and the optimum strategy for maximising recoverable value is not always that of immediate settlement of the transaction. Therefore, historically, the remediation of such situations of high NPLs tends to be progressive and to extend over long periods.

However, these situations also have negative implications for the economy as a whole which go beyond the direct impact on banks, and this is the reason for the diverse measures taken within the framework of the July 2017 Action Plan of the European Council. The measures include most notably the package made public by the European Commission in March this year proposing to review the capital requirements legislation in order to introduce a provisioning schedule for future NPLs, a draft directive for creating a secondary NPL market, an out-of-court mechanism for accelerating the recovery of collateral value and the publication of guidance to facilitate the creation of asset management companies.¹² At the same time, in its capacity as prudential supervisor of significant institutions in the euro area, the Single Supervisory Mechanism (SSM) assumed leadership in this area with major initiatives. These included the issuance in March 2017 of guidance on NPL management and, more recently in March 2018, the publication of an addendum to the previous guidance to make public its supervisory expectations on the provisioning of new NPLs within the framework of the annual supervisory review and evaluation process (SREP).¹³ This supervisory authority also continues its close oversight of compliance with strategic plans to reduce the impaired assets of the banks under its control which have high NPL ratios.

3 Return to profitability

3.1 DELIMITING THE PROBLEM

The crisis highlighted the problems built up during the expansion, such as the over-indebtedness of the private sector, and had a notable impact on the profitability of Spanish banks. The high volume of losses generated in the crisis materialised principally in 2012 when the Bankia crisis took place and substantial write-offs were made, largely linked to the results of the stress tests conducted within the framework of the programme of financial aid to the sector by European institutions. Consequently, the aggregate ROE of deposit-taking institutions in Spain at consolidated level fell to -25% (see Chart 2.4.1).

Subsequently, profitability partially recovered and has remained at positive, albeit low, levels. Bank profitability presently stands clearly below its pre-crisis levels and also below available estimates of the return demanded by investors (or cost of capital; see Box 2.1). Consequently, the valuations of bank shares are generally below book value. In comparative terms, Spanish bank profitability in 2016 was slightly better than that of the euro area as a whole or of UK, German and Swiss banks, but clearly below the returns obtained in other advanced economies such as Australia, Canada, the USA or Sweden (see Chart 2.4.2).

The main differences between Spanish banks and those of other countries with higher bank profitability are due to expenses and impairment losses. This can be seen

¹² See http://europa.eu/rapid/press-release_IP-18-1802_en.htm.

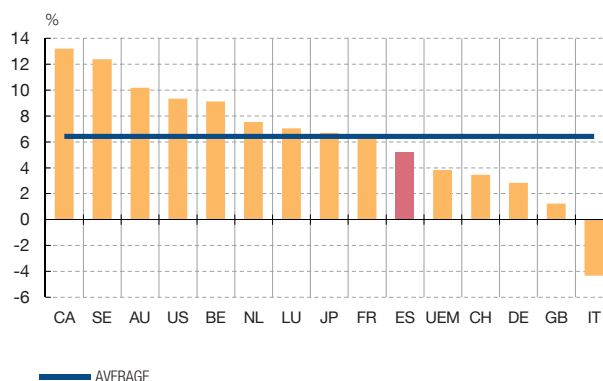
¹³ See ECB (2017), *Guidance to banks on non-performing loans* and ECB (2018), *Addendum to the ECB Guidance to banks on non-performing loans: supervisory expectations for prudential provisioning of non-performing exposures*.

Following the losses of 2012, profitability has again become positive, but has not returned to pre-crisis levels and stands below the levels of countries such as Australia, Canada, the USA or Sweden, although above the euro area average.

1 RETURN ON EQUITY OF SPANISH CREDIT INSTITUTIONS (a)



2 INTERNATIONAL COMPARISON. ROE (2016) (b)



SOURCES: BIS and Banco de España.

- a The 2017 data do not reflect the losses of Banco Popular Español in the first half of the year. If these were included, the aggregate ROE for 2017 would be 2.2%.
- b Data taken from the report of the BIS Committee on the Global Financial System, entitled "Structural changes in banking after the crisis".



in Chart 2.5, which shows the behaviour of various income statement items of Spanish credit institutions and the average behaviour in five advanced economies in which the average ROE was above 9% in 2015-2016. The chart also shows the average behaviour for euro area countries. The banks with current high profitability underwent their crisis before Spanish banks did (in 2008, compared with 2012) and it was generally less marked. The return on assets (ROA) of these banks subsequently recovered to levels similar to those before the crisis, while this did not occur in the case of ROE, this differing behaviour being due to their lower leverage in recent periods partly associated with the greater capital requirements under the new regulations. Even so, ROE stood above 10% in this group of countries in 2016, compared with 5% in Spain. Measured as a percentage of assets, from 2007 to 2016 net interest income and total operating income performed similarly in Spain and on average in the five countries with higher profitability; by contrast, operating expenses and impairment losses behaved worse in Spain.¹⁴ The former behaviour is related to the process of capacity adjustment and the latter to the consequences of the crisis. Both are considered in greater detail below.

The impact of the crisis was sharper at banks focused on business in Spain (see Chart 2.6). The activity of Spanish banks abroad continued to expand in those years, while that in Spain contracted. This activity abroad, however, is concentrated in a very small number of banks. Specifically, in December 2017, just four groups accounted for 99% of total international exposure and the bulk continued in the hands of the two largest banks. For these banks, their international business constituted a valuable source of risk diversification during the crisis, although that is not to say that this business segment was bereft of challenges.¹⁵

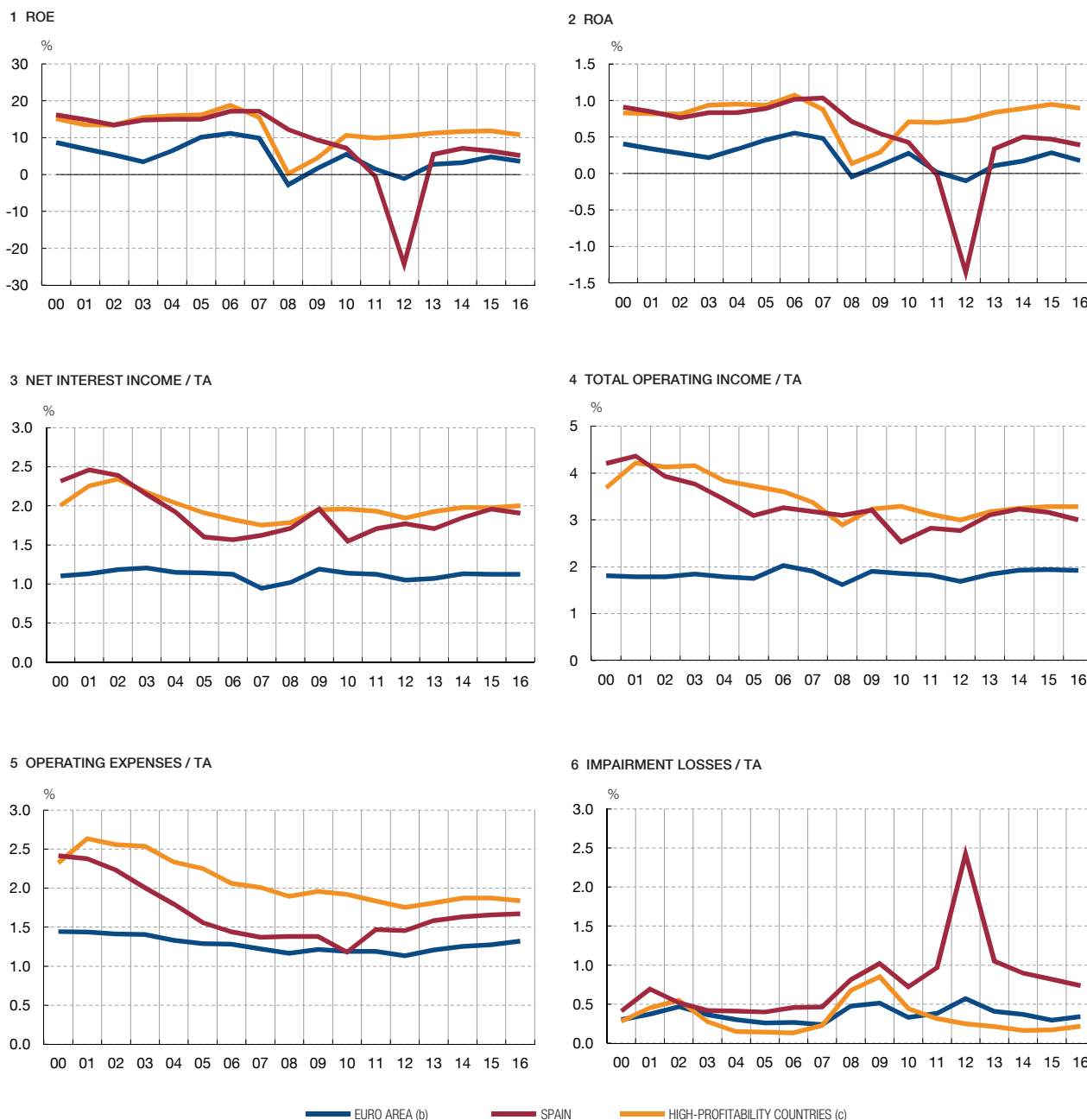
14 In the comparison, it must be kept in mind that some differences, particularly in the levels of certain time series, may be due to regulatory differences. Also, the country averages naturally mask any more volatile behaviour of specific countries.

15 See I. Argimón (2017), *Decentralized multinational banks and risk taking: the Spanish experience in the crisis*, Working Paper 1749, Banco de España.

POORER RELATIVE PERFORMANCE OF OPERATING EXPENSES AND IMPAIRMENT LOSSES IN SPAIN SINCE 2007 (a)

CHART 2.5

Comparison of Spain with five developed countries whose banking systems had profitabilities above 9% in 2015-2016 shows that since 2007, expressed as a percentage of assets, the income of Spanish banks does not seem to perform worse than the average of those five countries. By contrast, operating expenses and impairment losses perform clearly worse in Spain.



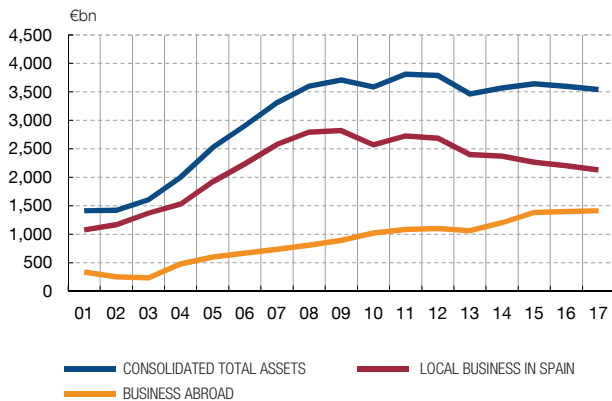
SOURCES: BIS and Banco de España.

- a Data taken from the report of the BIS Committee on the Global Financial System, entitled "Structural changes in banking after the crisis".
- b Weighted average of available countries.
- c Average of countries with ROE above 9% in 2015-2016 (Australia, Belgium, Canada, the USA and Sweden).

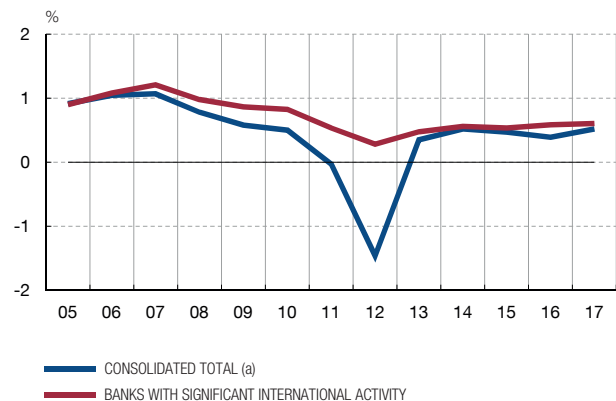


The activity of Spanish banks abroad continued to expand during the crisis, while it contracted in Spain. For those few banks engaging in such business abroad, it represented a valuable source of income during the crisis.

1 CONTRACTION OF LOCAL BUSINESS AND EXPANSION OF BUSINESS ABROAD



2 DIFFERING BEHAVIOUR OF PROFITABILITY (ROA) IN SPAIN AND ABROAD



SOURCES: Asociación Española de Banca and Banco de España.

a The 2017 data do not reflect the losses of Banco Popular Español in the first half of that year. If these were included, the ROA for 2017 would be 0.09%.



The type of international business of Spanish banks enabled them to withstand the effects of the crisis better than other European banking systems. The crisis particularly affected international business conducted and funded from the countries of origin, which had grown strongly in the previous years, especially in Europe. The financial crisis and the tighter regulation led many banks to reassess their international activity, reducing it and concentrating it in their main markets.¹⁶ The international business of Spanish banks, by contrast, was based mainly on activities carried out through subsidiaries, largely in emerging markets, and funded mainly in local currency. Due to its nature, this type of business is less exposed to tensions on the global funding markets such as those seen during the crisis.¹⁷ Following the acquisitions made during the crisis, the external activity of Spanish banks is now spread mainly between the United Kingdom, Latin America and the United States.

Given that international business is concentrated in very few banks and has performed better recently, the rest of this section focuses on banking activity in Spain. This means that the conclusions drawn from the analysis are not affected by the significant activity abroad of the two main Spanish banking groups which, at consolidated level, continued to gain weight in 2017, their share of the total activity of the sector rising to 36%.

3.2 THE MAIN DETERMINANTS OF LOW PROFITABILITY

Several factors contribute to explaining the low profitability of the banking sector in Spain. Some are cyclical and others are of a more structural nature. A number of them are shared with other banking systems while others are more specific to Spain. The factors potentially more significant in Spain include notably the impact of bad loans, the contraction

16 See R. N. McCauley, A. Bénétrix, P. McGuire and P. von Goetz (2017), *Financial deglobalization in banking?*, Working Paper 650, Bank for International Payments.
 17 Recent evidence points to a certain shift to this type of model in general. See, for example, IMF (2015), *“International banking after the crisis: increasingly local and safer?”*, *Global Financial Stability Report*, April, and L. Gambacorta, S. Schiaffi and A. Van Rixtel (2017), *Changing business models in international bank funding*, Working Paper 1736, Bank for International Settlements.

of local activity and the low interest rates. Each of these is analysed in greater detail below. The tighter banking regulation (described in Section 4 below) also affects the profitability of certain activities and obliges banks to readjust their business structure. Some activities have to be transformed and the means used for provisioning them must be appropriately readjusted, a process which is not always free from friction.¹⁸ In any event, as we have seen, there are banking systems whose profitability, although below pre-crisis levels, is relatively high despite the current environment of stricter regulation, which indicates that such transformation is possible and that this factor cannot be considered to be a basic determinant of the current low profitability in Spain.

Furthermore, profitability depends on the specific characteristics of the business of each bank. This explains why banks which perform very differently coexist in the same country. Box 2.2 analyses the determinants of profitability from a microeconomic standpoint, and finds that variables such as size, solvency, efficiency or asset quality also contribute to explaining differences between banks.

3.2.1 Impact of bad loans

The deterioration of the credit quality of assets affects the income statement of credit institutions in two ways. First, an increase in NPLs reduces the interest income received. Second, a higher probability of default reduces the value of the related assets. The latter is undoubtedly the main effect and largely explains banks' conjunctural profit performance. Calculated using data on business in Spain expressed as a percentage of assets, the correlation between impairment losses and net profit is -0.97, indicating the extent to which credit institutions' profitability is dependent on these results.¹⁹

Impairment losses peaked in 2012 and have subsequently moderated, although without returning to their pre-crisis values. Chart 2.7.1 shows how these losses consumed half of operating income before provisions and impairment charges in 2016, and the bulk of it in 2017, which contrasts with the levels of around 25% in the years prior to the crisis. Expressed in terms of assets, these losses were twice as high in 2015-2017 as in 2003-2005. Had they remained at their 2003-2005 level, the ROE of the local business of Spanish banks in the last few years would have been 5.2% instead of the 1.7% observed. Finally, Chart 2.7.2 shows how, in terms of GDP, the fall in the net profit of business in Spain between the aforementioned two 3-year periods is basically due to impairment losses.²⁰ By contrast, operating income expressed as a percentage of GDP scarcely changed, and the other items contributing to the fall in profit are other net gains/losses and intangible asset amortisation, while the lower taxes partially offset those negative results.

The behaviour over time of impairment losses is directly related to the level of NPLs and foreclosed assets, but also to the volume of provisions. A high but decreasing level of NPLs, such as currently exists in Spain, does not necessarily imply additional future losses if those loans are sufficiently provisioned. In this respect, the clean-up in 2017 of the balance sheet of Banco Popular Español and other similar measures taken that

18 The document entitled *Structural changes in banking after the crisis*, by the Committee on the Global Financial System (CGFS) shows how banks now operate with higher levels of capital (and thus lower leverage ratios), a lower volume of activity on certain higher-risk markets with complex products and less recourse to wholesale funding, particularly at short-term.

19 Even excluding the years 2011 and 2012, the correlation continues to be high at -0.78. At consolidated level the correlation is -0.92 in the period 2001-2017.

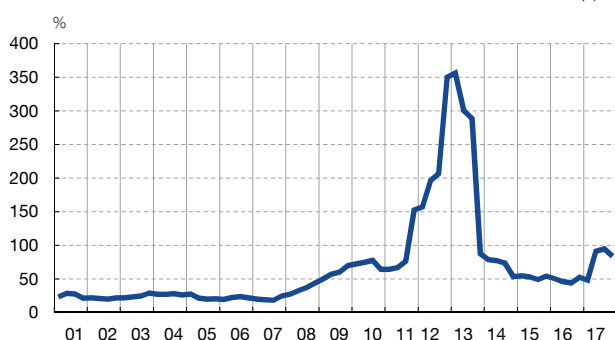
20 Normalisation by GDP controls for the impact of the crisis on the level of assets and equity, which are the two variables typically used to measure bank profitability.

IMPAIRMENT LOSSES AND OTHER EXTRAORDINARY EXPENSES CONTINUE TO BE ABOVE PRE-CRISIS LEVELS (a)

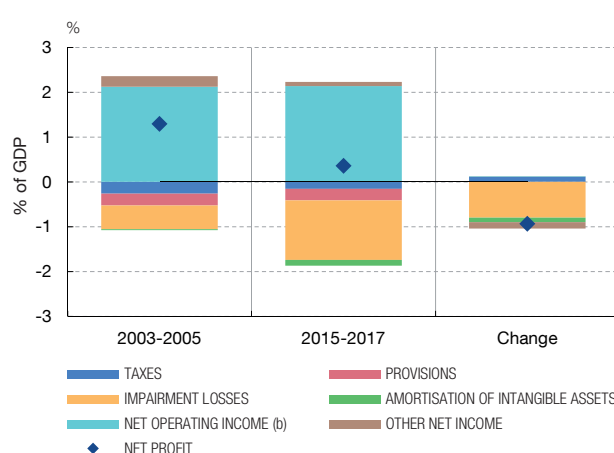
CHART 2.7

In the income statement for credit institutions' business in Spain, the main differences relative to the pre-crisis situation lie in the items below net operating income, which include the impact of the crisis on impairment losses and other extraordinary expenses.

1 IMPAIRMENT LOSSES AS A PERCENTAGE OF NET OPERATING INCOME (b)



2 INCOME STATEMENT BREAKDOWN



SOURCE: Banco de España.

a Individual statement of income. Business in Spain.

b Gross income less operating expenses, excluding items with extraordinary gains/losses during the crisis, such as contributions to the Deposit Guarantee Scheme, severance payments and amortisation of intangible assets.

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year have raised the credit quality of the sector's assets. In September 2017, the coverage ratio of NPLs to the resident private sector in Spain was 41%, slightly below the European average. That ratio rises considerably, to 87%, if the value of the collateral on those loans is also taken into account.

3.2.2 Contraction of the volume of activity and operating costs

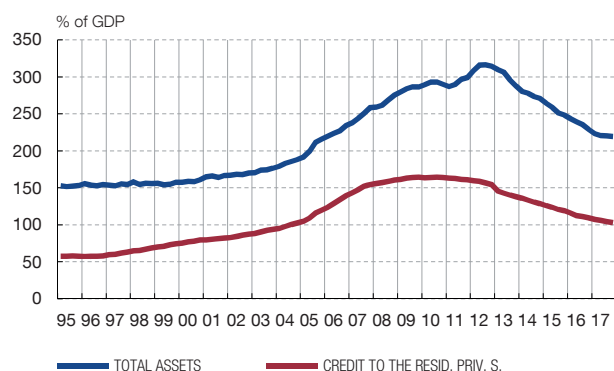
The crisis highlighted the unsustainability of the previous strong credit growth in Spain and prompted a sharp correction. Between 2000 and 2008, the total assets and bank credit to customers in Spain, expressed as a percentage of GDP, increased by 107 pp and 81 pp, respectively, to 266% and 158%. Since then, those increases have been largely corrected in both cases (see Chart 2.8.1).

During the expansion phase, bank income grew more strongly than expenses. The high demand for bank credit spurred net interest income, which practically doubled between 2000 and 2008, and at the same time other operating income (fees and commissions, gains on financial transactions, etc.) also rose at the same or an even faster pace. As a result of this, total operating income exceeded 6% of GDP, more than 1 pp above the levels at the beginning of the century (see Chart 2.8.2). Against this background, banks also expanded their capacity, increasing the number of branches and employees by 17% and 14%, respectively. Total operating expenses increased by more than 50%, but this was less than that of income, so the operating efficiency of banks improved notably.

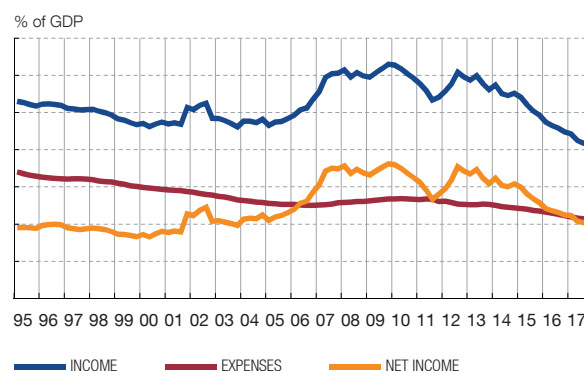
The correction of the level of credit following the outbreak of the crisis unleashed a process of sharp reduction in income. Net interest income was particularly affected by the fall in credit and total assets and by the lower interest rates. Other sources of income also evolved negatively. Net fees and commissions, for example, decreased by 20% between 2007 and 2013, influenced by the decrease in those for receipt and payment

The crisis evidenced the unsustainability of the previous strong credit growth and prompted a still-ongoing correction which fed through also to the income of the banking sector in Spain. Despite the simultaneous sharp adjustment of employment and branch numbers, operating expenses decreased to a much smaller extent, partly because of the rise in some items mainly linked to new technological developments.

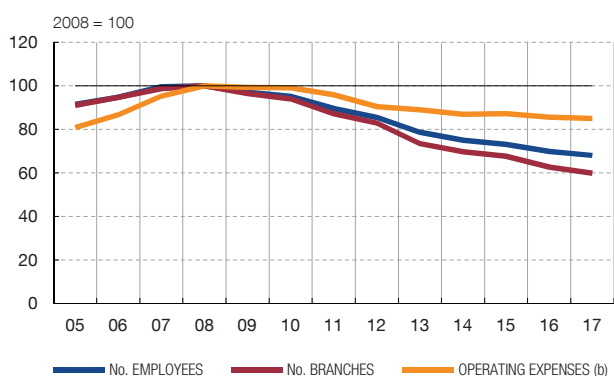
1 STRONG EXPANSION AND SUBSEQUENT CORRECTION OF VOLUME OF ACTIVITY



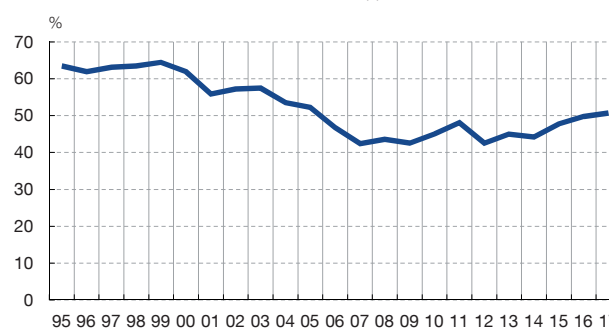
2 OPERATING INCOME (b)



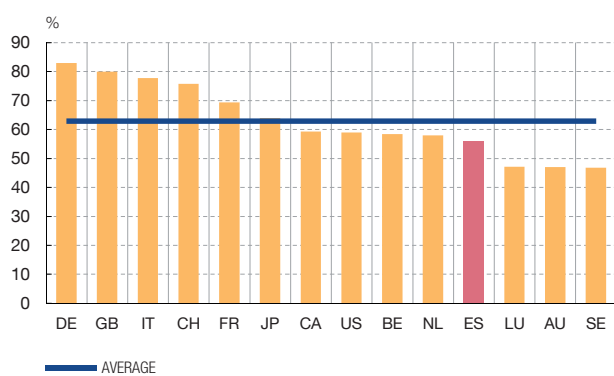
3 ADJUSTMENT OF CAPACITY OF DEPOSIT-TAKING INSTITUTIONS IN SPAIN



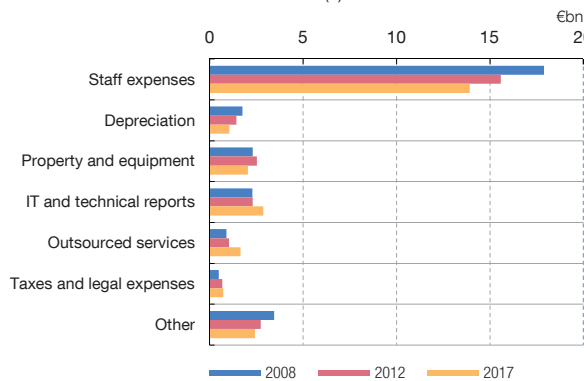
4 EFFICIENCY RATIO OF BUSINESS IN SPAIN (c)



5 INTERNATIONAL COMPARISON OF EFFICIENCY RATIO IN 2016 (d)



6 BREAKDOWN OF OPERATING EXPENSES (b)



SOURCES: BIS, INE and Banco de España.

- a Individual balance sheets and income statements. Business in Spain.
- b Operating income and expenses, excluding items with extraordinary gains/losses during the crisis, such as contributions to the Deposit Guarantee Scheme, severance payments and amortisation of intangible assets.
- c Operating expenses as a proportion of gross income, excluding items with extraordinary gains/losses during the crisis.
- d Consolidated data from the report by the BIS's CGFS entitled "Structural changes in banking after the crisis".



services.²¹ In response to the fall in income, Spanish banks undertook a major adjustment of their productive capacity, helped by a simultaneous process of concentration. In all, they downsized their branch network by 40% and cut staff by 32% with respect to the peaks reached in 2008 (see Chart 2.8.3). However, their operating expenses in business in Spain decreased by only 15%,²² compared with a fall of 30% in income.

The downward stickiness of operating expenses is due partly to some fixed costs and partly to the growth of some items. The existence of fixed costs is reflected in the procyclical behaviour of the efficiency (cost/income) ratio, clearly visible in Chart 2.8.4. In any event, at consolidated level, Spanish banks continued to compare favourably with the majority of their peers in other developed countries (see Chart 2.8.5). Furthermore, disaggregated analysis of the components of operating expenses shows how, while staff expenses and tangible fixed asset depreciation decreased by 22% and 40%, respectively, other administrative expenses (quantitatively less than staff expenses) even increased slightly between 2008 and 2017, and only in the last two years have they initiated a downward course. This reflects the uneven behaviour of the various component items (see Chart 2.8.6). In particular, there were increases in IT and technical report expenses, taxes and legal expenses,²³ and especially in outsourced services, which nearly doubled.

In the short- and medium-term, the high bank credit balances seen in the previous expansion are not expected to return, so banks will have to persevere in their search for alternative sources of income and in the control of their costs. Box 2.3 analyses the determinants of household and non-financial corporation debt. The conclusions are that some of the factors behind the increase in debt in the opening years of this century (demographic behaviour, strong growth in house prices and the real estate investment boom) will probably act much more weakly or even in the opposite direction in the coming years. Against this background, the levels of income seen during the period before the last crisis are not expected to return in the short and medium term, so banks will have to adapt their expenses and business structure to this new environment. In some cases, this may require further advances in banking consolidation, at domestic and/or euro area level, to accelerate the adjustment of banks' cost structures, without any reduction in the level of competition in the sector.

3.2.3 Low interest rates

The effects of low or even negative interest rates on bank profitability operate in opposing directions. It should be kept in mind that the low interest rates are largely a consequence of the monetary policy formulated in response to an environment of low growth and inflation. Against this background, these measures should have a favourable impact on economic activity and consequently on the demand for credit and other bank services, as well as on the value of assets and the volume of loan losses of banks. The latter have decreased not only because of the smaller debt burden due to the lower interest rates, (particularly in countries where variable-rate loans predominate, such as Spain), but also because of the expansionary effects on GDP and employment, agents' income and the value of collateral assets. Unquestionably, a less accommodative monetary policy would have hindered achievement of the current economic recovery, which is what is allowing credit institutions to return to lower NPL levels and positive profitability. By

21 The strongly cyclical behaviour of these fees and commissions is due to those relating to credit and debit cards, which currently account for 40% of them and which rose by 63% between 2000 and 2007 and subsequently fell by 47% between 2007 and 2015.

22 The operating expenses shown do not include severance payments or intangible asset amortisation, two items which grew exceptionally strongly during the crisis, so their behaviour is not considered to be representative of banks' normal operating costs.

23 This does not include expenses deriving from implementation of court decisions on floor clauses and the like, which are included in net interest income.

contrast, against a background of banks' strong reluctance to introduce negative remuneration of deposits, falls in interest rates tend to reduce net interest income per unit of assets. Although this effect may temporarily be offset partially by the capital gains derived from the increase in value of some assets in a setting of low interest rates, below a certain threshold (reversal rate) the net impact would be negative.²⁴ In countries where fixed-rate loans prevail, the Eurosystem's unconventional monetary policies have additional negative effects at medium and long term through the flattening of the yield curve. However, this is less significant in Spain due to the predominance of variable-rate loans.

The results of the available estimates of the net effect of interest rates on bank profitability are not conclusive. Some studies report a negative impact.²⁵ By contrast, others find that this result disappears when the effect of variables which capture expectations as to economic growth, inflation and the risk of borrower default is taken into account.²⁶ The ECB's estimates similarly suggest that the various opposing effects tend to cancel out not only in the euro area as a whole, but also in Spain and in the other large euro area economies.²⁷ A recent study on this subject using data obtained from euro area banks reveals that the banks which recognise a larger negative impact on their net interest income from the negative rates applied by the ECB to its marginal deposit facility are those which, in general, have a lower level of capitalisation and thus a lower capacity to assume new risks to offset the contractionary effect of negative interest rates on their per-unit net interest income.²⁸

International comparison of the current profitability of the various banking systems suggests that quantity-related effects may outweigh price-related effects. Chart 2.9.1 shows that only the banking systems of countries in which total financing to the private sector (bank loans and debt securities) grew by at least 3% posted ROEs above 9% in 2015-2016, despite interest rates that were negative (as in Belgium, Sweden or Finland) or very low (as in Hong Kong, the USA, Canada or Norway). In this respect, Chart 2.9.2 of the same chart shows how, in Spain, two-thirds of the fall in deposit-taking institutions' net interest income between 2008 and 2017 was due not to the decrease in unit margins but to the contraction of assets and the post-crisis shift in the asset mix towards a lower weight of credit.²⁹

In any event, the responses of Spanish and European banks to the specific question in this respect contained in the Eurosystem Bank Lending Survey confirm that low interest rates negatively affect their net interest income through the narrowing of unit margins.³⁰ The quantitative information is consistent with this result, although the

24 See M. K. Brunnermeier and Y. Koby (2018), *The reversal interest rate*, mimeo. This model, however, does not take into account the aforementioned effects on NPLs and credit volume.

25 See, for example, C. Borio, L. Gambacorta and B. Hofmann (2017), "The influence of monetary policy on bank profitability", *International Finance*, 20, spring, pp. 48-63, and S. Claessens, N. Coleman and M. Donnelly (2017), "Low-for-long" interest rates and banks' interest margins and profitability: cross-country evidence, International Finance Discussion Papers 1197, Board of Governors of the Federal Reserve System.

26 C. Altavilla, M. Boucinha and J. L. Peydró (2017), *Monetary policy and bank profitability in a low interest rate environment*, Working Paper No 2105, European Central Bank. Also described in this study are net results which are zero in a BVAR model and positive in the response of bank stock market values to monetary policy expansionary surprises in the euro area.

27 See European Central Bank, *Annual Report, 2017*.

28 See O. Arce, M. García-Posada, S. Mayordomo, and S. Ongena (2018), *Adapting lending policies when negative interest rates hit banks' profits*, forthcoming.

29 See also J. Martínez (2017), *Spanish deposit-taking institutions' net interest income and low interest rates*, *Economic Bulletin* 3/2017, Banco de España.

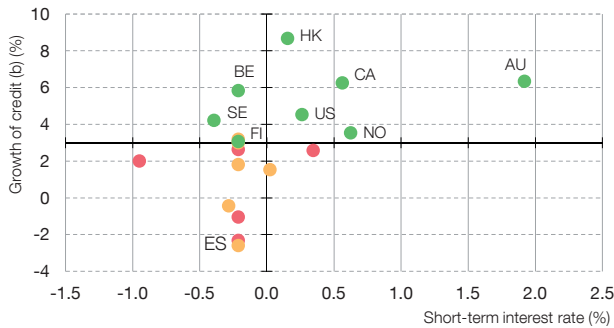
30 See, for example, I. Roibás (2017), *The October 2017 Bank Lending Survey in Spain*, *Economic Bulletin*, Banco de España. By contrast, banks report that other monetary policy measures such as targeted longer-term refinancing operations (TLTROs) and the Eurosystem's asset purchase programme have had a positive impact on their profitability.

THE REDUCTION IN NET INTEREST INCOME IN SPAIN IS DUE MORE TO THE FALL IN ACTIVITY THAN TO A DECREASE IN INTEREST RATES

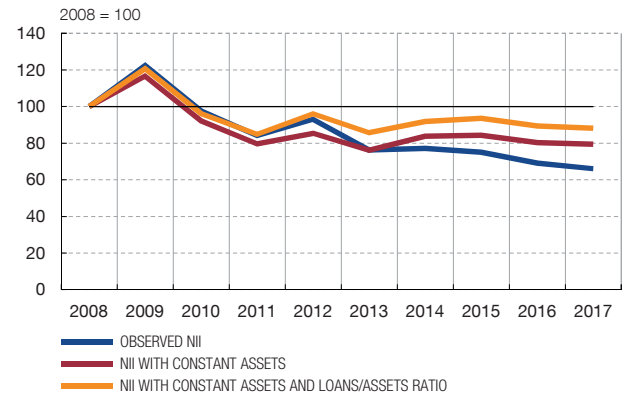
CHART 2.9

In Spain, the fall in credit institutions' net interest income since 2008 is due more to the lower volume of activity than to the contraction of unit margins, in a setting where the interest rates on new loans and on outstanding loan balances underwent smaller decreases than did market interest rates.

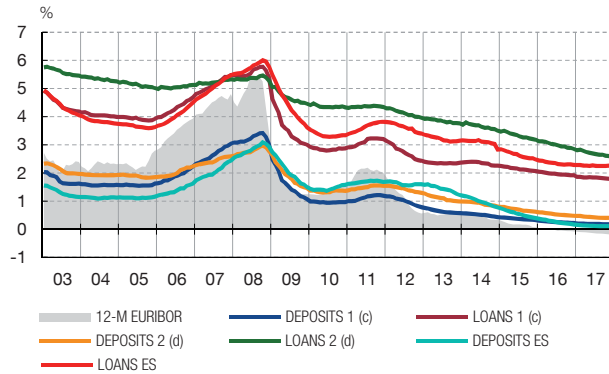
1 COUNTRIES WITH LOW INTEREST RATES BUT HIGHER CREDIT GROWTH SHOW HIGH BANK PROFITABILITY (a)



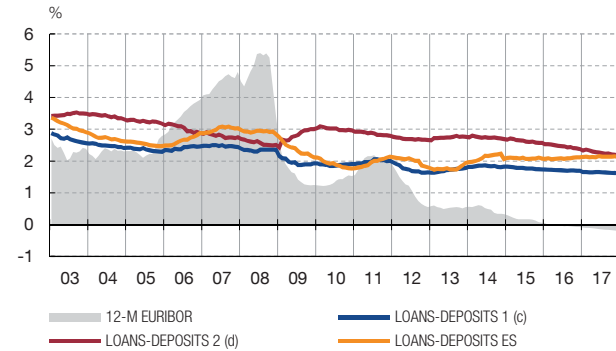
2 TWO-THIRDS OF THE FALL IN NET INTEREST INCOME IN SPAIN IS DUE TO THE CONTRACTION OF ASSETS AND LENDING



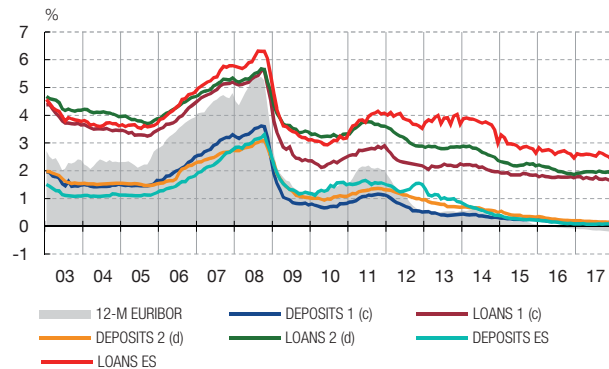
3 THE STRUCTURE OF INTEREST RATES (FIXED OR FLOATING) DETERMINES THE DYNAMICS OF THE RESPONSE OF INTEREST RATES ON OUTSTANDING BALANCES



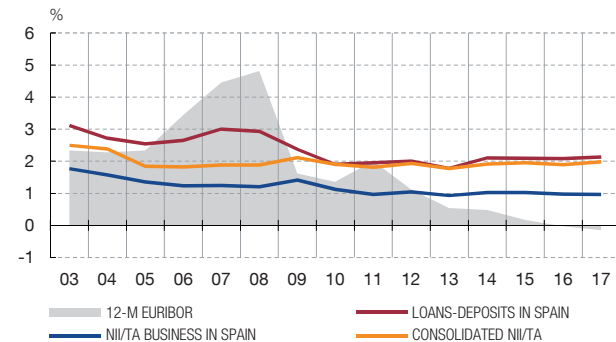
4 WHICH ALSO AFFECTS THE LOAN-DEPOSIT UNIT MARGIN



5 LIMITED DECLINE IN INTEREST RATES ON NEW LOANS IN SPAIN



6 RELATIVE STABILITY IN NET INTEREST INCOME MARGINS IN SPAIN IN RECENT YEARS



SOURCE: BIS, ECB and Banco de España.

- a International comparison of averages in 2015-2016 for 19 developed countries (Germany, Australia, Austria, Belgium, Canada, Denmark, United States, Spain, Finland, France, Netherlands, Hong Kong, Italy, Japan, United Kingdom, Sweden and Switzerland), obtained from the report by the Committee on the Global Financial System of the Bank for International Settlements entitled "Structural changes in banking after the crisis". Red denotes ROE below 4%, yellow, between 4% and 9% and green, above 9%.
- b Total (bank and non-bank) credit to the private non-financial sector
- c Countries where floating-rate credit predominates (Austria, Finland and Luxembourg).
- d Countries where fixed-rate credit predominates (Germany, France, Netherlands and Belgium).



price effect seems to have been moderate as a result of the partial pass-through of market interest rate falls to bank credit (see Charts 2.9.3-2.9.6). Thus, although the zero rate effectively acted as a floor for the average remuneration of deposits, this negative effect on the margin tended to be offset by an also generally lower pass-through of market movements to the lending interest rate. In the case of Spain in particular, the latter decreased by 1.7 pp in new lending and by 2 pp in outstanding balances from the pre-crisis period (average of 2003-2007) to 2017, compared with a decrease of 3.1 pp in the reference interest rates.³¹ This has resulted in fairly steady net interest income margins in Spain in recent years at both local and consolidated level (see Chart 2.9.6). Insofar as the reluctance of banks to cut their margins explains a portion of the contraction in lending in Spain, in this way, the low interest rates may have also contributed indirectly to the decline in net interest income. However, the fact that firms with alternative sources of financing have made only limited use of them does not seem to indicate the existence of a significant demand ousted by relatively high bank lending interest rates.

In short, the overall net effect of the low interest rates on bank profits seems to have been comparatively smaller than that of the other factors analysed, although the low interest rates have exerted negative pressure on net interest income. That said, if interest rates remain very low for a long period, against a background in which this monetary stimulus does not induce a sufficient recovery in the economy and of the demand for credit, the negative effects on bank income may ultimately predominate over the positive impact.

4 The new regulatory framework

The global financial crisis initiated in 2008 prompted a broad regulatory response which included the strengthening of solvency standards and the introduction of liquidity and resolution requirements. The set of rules known as Basel III represents an international consensus on the reform of banking regulation following the crisis. The first phase of the Basel III reforms, designed between 2010 and 2011, focused on raising the amount and improving the quality of bank capital, the inclusion of macroprudential instruments and developing liquidity standards and counterparty exposure limits.³² Basel III also introduced new short-term (30 days) and medium-term (1 year) liquidity requirements based on the liquidity coverage ratio (LCR) and the net stable funding ratio (NSFR). These measures set a required minimum volume of liquid assets (such as, for example, sovereign debt securities) with respect to the funding requirements calculated under stressed scenarios for the relevant period. In the resolution arena, the relevant European directive (BRRD, Directive 2014/59/EU) and the Single Resolution Mechanism Regulation (SRMR, Regulation EU 806/2014) establish a common framework in the EU which aims to accurately delimit the circumstances in which financially distressed banks are subject to winding-up or resolution processes, defining the responsible authority (the Single Resolution Board) and the characteristics of those processes. In addition, the principal of separation between the supervisory and resolution authorities is established and the financial liability of bank stakeholders is expressly defined, removing the previous uncertainty created by a system of implicit government guarantees.³³

31 Although Spanish banks saw a significant (2.7 pp) fall in the average return on their mortgage loans to households as a result of the predominance of interest rates tied to 12-month EURIBOR, the declines were clearly smaller in loans to non-financial corporations and in consumer credit and other lending to households (1.9 pp and 0.4 pp, respectively).

32 This first round of reforms was incorporated in Spanish legislation through Law 10/2014, Royal Decree-Law 84/2015 and Banco de España circular 2/2016.

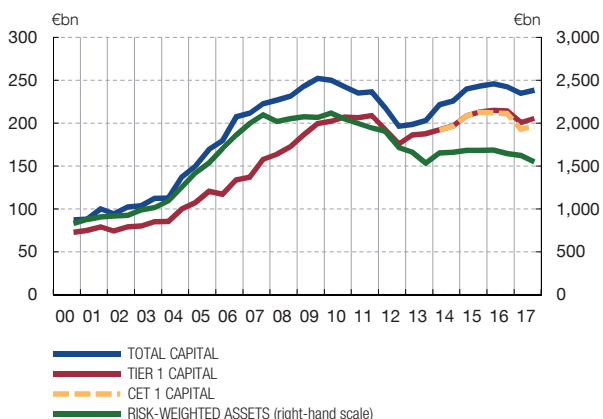
33 This European legislation was transposed into Spanish law in 2015 by means of Law 11/2015 and Royal Decree 1012/2015, although the Spanish regulatory response to the crisis already contained significant changes in this area prior to approval of the BRRD and the SRMR, including the creation of the *Fondo de Reestructuración Ordenada Bancaria* (Spanish Resolution Authority) and the reform of the deposit guarantee fund, among other measures.

SIGNIFICANT STRENGTHENING OF SOLVENCY AND LIQUIDITY MEASURES AT SPANISH CREDIT INSTITUTIONS

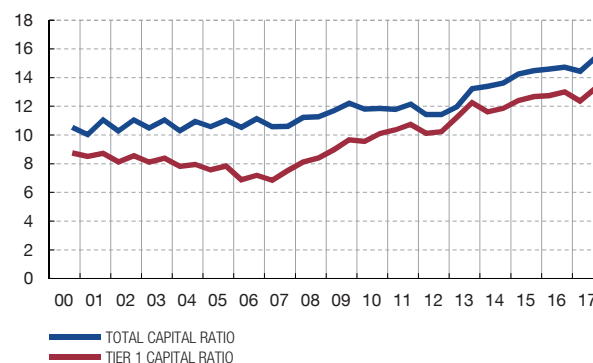
CHART 2.10

Spanish credit institutions have substantially strengthened their solvency since the onset of the crisis. At end-2017 the highest-quality capital and short-term liquid assets ratios were materially above the minimum regulatory requirements in both cases, but below the European average in the first case.

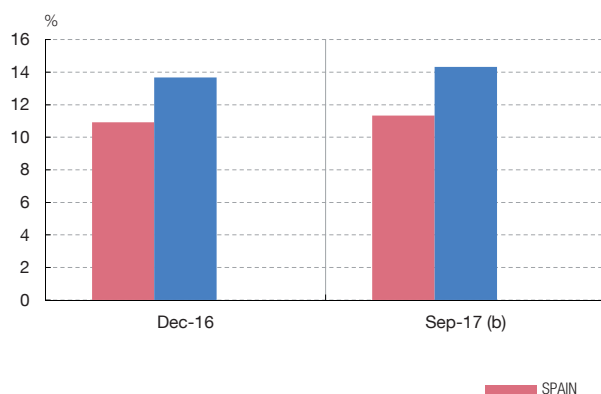
1 FALL IN RISK-WEIGHTED ASSETS AND INCREASE IN CAPITAL SINCE THE ONSET OF THE CRISIS



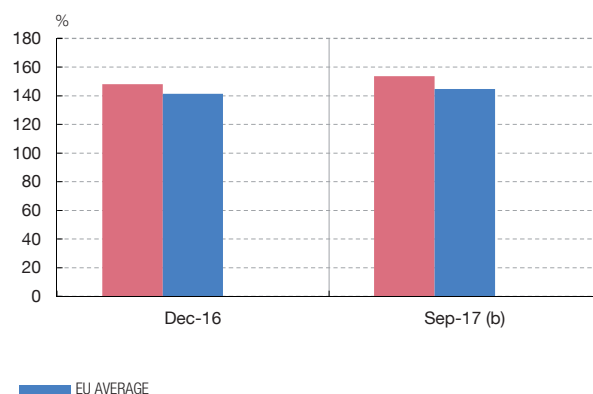
2 INCREASE IN REGULATORY CAPITAL RATIOS



3 FULLY-LOADED CET 1 CAPITAL RATIO (a)



4 SHORT-TERM LIQUIDITY RATIO (LCR)



SOURCES: EBA and Banco de España.

- a Applying the final Basel III rules, in force from 2019.
- b Latest available data for EU average.



Practically all the requirements of the first phase of Basel III will become effective at the end of 2019. In 2018 the capital buffers additional to the basic Pillar 1 requirement stand at 75% of their final value, while the deductions from own funds subject to a phase-in schedule will be applied in full. The LCR requirement was 80% in 2017 and is 90% in 2018, and the NSFR requirement has entered into force this year with a minimum level of 100%.³⁴

In Spain, these measures are bringing about a significant increase in the solvency indicators of Spanish credit institutions. Chart 2.10 shows that in the expansionary period prior to the crisis (2000-2007) capital and risk-weighted assets (RWAs) increased

³⁴ A study by the European Banking Authority (EBA), for a sample of 144 EU banks, shows that, at December 2016, the average NSFR was 112%. 88% of the banks considered met the minimum of 100% and, for those that did not do so, the shortfall was €116 million, equal to 4.6% of their assets (see *CRD IV – CRR/Basel III monitoring exercise results based on data as of 31 December 2016*), 12 September 2017.

sustainedly and that the total capital and Tier 1 capital ratios held steady. After 2007, in line with the higher regulatory requirements, capital increased more rapidly than RWAs, which were steady or decreasing, giving rise to an increase in regulatory solvency ratios.³⁵ The available evidence indicates that the benefits of raising capital ratios with respect to the pre-crisis requirements, in terms of lower risk and volatility of the financial sector, clearly exceed the costs derived from lower availability of credit.³⁶ Regarding other European countries (see Chart 2.10.3), the Tier 1 capital ratio³⁷ of Spanish significant institutions at September 2017 stood at 11.3%, clearly above the regulatory minimum but below the average of 14.3% of significant institutions monitored by the European Banking Authority.³⁸ There is of course heterogeneity in the level of solvency of the sample of Spanish banks, but individually they all have capital in excess of the regulatory minimum. It should also be noted that in terms of the simple leverage ratio, which is not affected by possible limitations on RWA measurement, the average shown by Spanish banks in September 2017 (5.6%) was above the European average of 5.2%. In terms of liquidity, Spanish banks had an LCR ratio of approximately 150%, also clearly above the regulatory requirement and in line with the European average (see Chart 2.10.4). The fact that the average capital of Spanish banks is lower than the average of their European peers may imply less favourable funding conditions, which provide an incentive to continue strengthening their capital ratios.

In December 2017 the finalisation of a second phase of post-crisis reforms within the framework of Basel III was agreed.³⁹ This second phase focuses on developing the regulatory framework for the calculation of RWAs, since the excessive variability between banks for similar risks led some market agents to question the reliability of their calculation in some cases. The reforms envisaged include: improvement of credit and operational risk calculation methods under the standardised approach, constraints on the use of internal models and the introduction of a leverage ratio based on unweighted total assets to supplement the risk-weighted capital ratio, the current levels of which have been described in the preceding paragraph. These reforms will be implemented stepwise in two phases which will commence in 2019 and 2022 and will end in 2027.

In the resolution arena, the approval of the Bank Recovery and Resolution Directive (BRRD) likewise did not mark the end of the process of reform, since various areas of discussion remain open on how to implement major aspects of this framework. The European Commission published a package of proposed legislative changes to the BRRD and the Single Resolution Mechanism Regulation (SRMR). Some of these reforms have already been approved through Directive 2017/2399 amending the BRRD and creating a new category of non-preferred senior (ordinary) debt instruments. This new category ranks behind ordinary debt in the order of seniority of claims in insolvency proceedings, so it facilitates compliance with the minimum requirement for own funds and eligible liabilities (MREL) for loss absorbency purposes. However, many other proposals remain under discussion, particularly the inclusion in European legislation of international resolution agreements on total loss-absorbing capability (TLAC). The requirements of the TLAC agreements for global systemically important institutions are interrelated with the requirements set out in European MREL rules, creating a regulatory challenge in the

35 In 2012, Royal Decree-Laws 2/2012 and 8/2012 tightened the provisioning rules for real estate exposures; they had a significant negative impact on the profits and capital of the Spanish banking system.

36 See P. Aguilar, S. Fahr, E. Gerba, and S. Hurtado (2018), *Quest for robust optimal macroprudential policy*, forthcoming.

37 Fully loaded CET1 ratio, i.e. applying the Basel III rules in force from 2019.

38 EBA data, which consider a representative European level sample, although the level of coverage differs across countries.

39 The text of the post-crisis reforms approved can be found at *Basel III: Finalising post-crisis reforms*.

immediate future. The negotiations on these texts are expected to be completed by the end of 2018, thereby reducing from that date the uncertainty currently faced by banks over future legislative developments and the consequent funding needs.⁴⁰

European and, in particular, Spanish banks also face, from 2018, new accounting requirements derived from the international agreement on International Financial Reporting Standards (IFRS-9). Banco de España Circular 4/2017, which came into force in January 2018, adapted IFRS-9 to Spanish legislation and introduced as the main new feature a change of criterion (from incurred loss to expected loss) in the calculation of provisions, which entails earlier recognition of financial impairment losses. The circular deals with other accounting requirements, such as the classification of financial assets under IFRS-9 and the requirements for the use of internal models in the calculation of provisions. Last year the EBA completed its second impact assessment of IFRS-9 through a survey of 54 large European banks in which these estimated the effect of the new rules on capital and provisions.⁴¹ The survey results reported by the EBA were an estimated increase of 13% in credit loss provisions as a result of application of the new methodology and a decrease of 45 bp in the CET1 ratio. Despite being a useful reference, this survey does not dispel the uncertainty associated with the new Standard, since the sample of banks, albeit representative, is not complete, and it is based on estimates by the survey respondents.

All in all, the regulatory changes introduced and those yet to be defined constitute a significant alteration of the framework in which credit institutions operate, to which they still have to complete their adaptation. From an aggregate standpoint, the possible negative impact on bank profitability of some of the new rules recently approved or in the process of adoption (due to the disappearance or reduction of previous implicit government guarantees or to the obligation to make increased use of more expensive funding instruments, such as capital and hybrids) should be offset by the greater stability of banking systems. For individual banks, the new environment requires an adaptation in which the possible loss of profitability is offset by gains in efficiency and/or business structure redefinition. Although a good part of the regulatory changes have already taken place, the interaction between the implementation schedules of the reforms still pending and the market funding conditions will determine the remaining costs of transition.

5 The new competition framework

In addition to the challenges described earlier, credit institutions face other challenges deriving from the current business environment. These include most notably new technological developments and the possible acceleration of the financial disintermediation process.

5.1 TECHNOLOGICAL DEVELOPMENTS

New technological resources bring important challenges and opportunities for banking institutions. Over the course of time the financial sector has been subject to multiple technological changes that have modified the way it operates. However, what distinguishes these transformations – which relate to the internet, to the increase in computational capacity for big data processing and to the greater automation of processes – is how rapidly they are implemented and disseminated. Such a combination has led to a reduction in barriers to entry in certain traditional banking activities, creating the possibility

⁴⁰ Preliminary estimates of the EBA for a significant sample of EU banks showed an increase in the ratio of MREL eligible liabilities to RWAs from 35.9% in 2015 to 37.8% 2016 (see [EBA updates its quantitative analysis on MREL](#)).

⁴¹ [EBA report on results from the second EBA impact assessment of IFRS 9](#), 13 July 2017.

for new competitors to arise which, at any given time, are able to access bank customers in a highly dynamic manner for a relatively modest additional investment outlay.

This means that banks need to increase their investment in innovation, which entails a rise in costs in the short term, in order to anticipate possible changes in their business environment. The arrival of new technologies in financial services may lead to an essential change in the way that banks operate and deal with customers, which should be designed and implemented rapidly to avoid losing market share. This challenge is even more complex considering the present environment of low profitability and uncertainty about the viability of the different projects.

The growing demand for immediate access from different places and channels to a broad range of financial services calls for changes to the structure and business model of traditional banking, which in turn require improvements in efficiency. These improvements affect the branch network and the development of applications for mobile devices and for the internet, which allow general administrative expenses to be reduced. In this connection, some of the developments made in the latest wave of digital technological innovation, commonly known in the financial sphere as fintech, can easily be converted into operational tools for banking.⁴²

Additionally, the technological revolution opens the door to new competitors in various business areas, often operating in very specific market segments, by allowing the disaggregation of the value chain. One of the areas with the highest degree of penetration by new competitors is payments, particularly retail payments, involving large technological firms and a high data processing capacity. In this connection, several joint ventures or other kinds of alliances with traditional banks have been undertaken to harness synergies but, in any event, increased competition in this segment of traditional banking business is causing a decline in income from transactional services. The entry into force in 2018 of the new European directive on EU-wide payment services (known as PSD-2), coinciding with the implementation of the new directive on data protection (the General Data Protection Regulation), is an important challenge in this connection, as it introduces new providers that are able to access bank customers without actually being banks or being subject to bank regulations.

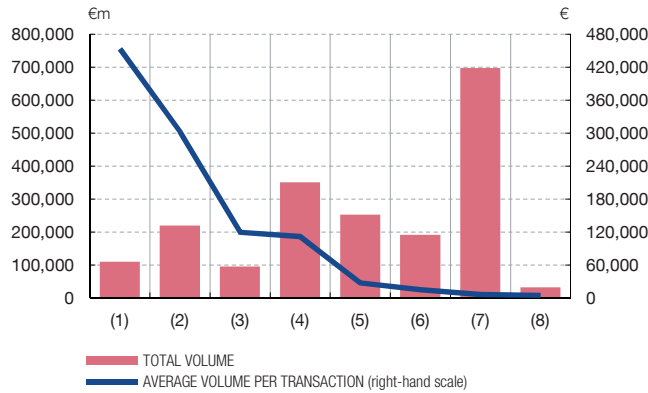
The future outlook for other areas characterised by a greater financial rather than technological component is more uncertain, and its permanent effects on, for instance, the traditional provision of credit through banks are still unknown. The application of artificial intelligence and the systematic use of large databases with real-time information and a high degree of disaggregation (commonly known as big data) in these areas or in that of regulatory compliance will necessarily entail efficiency gains, which can be developed at the banks themselves. However, the room for the emergence and growth of new competitors may also be high.

The development of this new financial ecosystem has positive and negative implications, in the form of higher risk, not only for the banking system. Notable among the advantages is that some innovations can generate greater financial inclusion by reducing intermediation costs, providing additional SME access to funding (particularly in the case of new businesses), and delivering efficiency gains in the financial sector as a

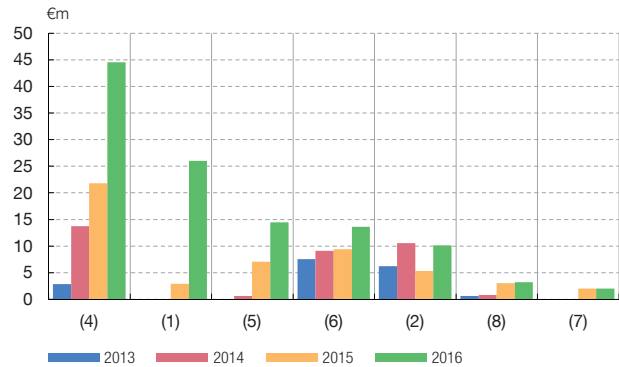
⁴² These include, for example, the application of high-speed analyses of big data to better define customer risk profiles, cloud storage, mobile payment services and the new remote identity proofing methods.

There is a predominance of P2P consumer lending, which also features the highest proportion of cross-border activity, although the highest average value per transaction is found in real estate crowdfunding. Although immaterial in terms of amount, alternative finance in Spain enjoys sustained growth, especially in lending to enterprises, where more than one-third of inquiries received by the CNMV are concentrated.

1 TRANSACTIONS BY ALTERNATIVE FINANCE MODEL IN THE EUROPEAN UNION IN 2016 (a)



2 ALTERNATIVE FINANCE BY MODEL IN SPAIN 2013-2016 (a)



SOURCE: Cambridge Centre for Alternative Finance (2018) and CNMV.

a The categories in the chart relate to: (1) real estate crowdfunding, (2) equity-based crowdfunding, (3) P2P property lending, (4) P2P business lending, (5) invoice trading, (6) reward-based crowdfunding, (7) P2P consumer lending and (8) donation-based crowdfunding.



whole. As regards costs, more competition in the banking sector could erode profitability from banks' traditional sources of income, incentivising greater risk-taking. Also, adapting to these technologies might involve greater reputational and operational risks, with aspects such as cybersecurity gaining in importance and becoming one of the principal challenges for institutions. The higher risk of non-compliance in the areas of data protection or prevention of money laundering and terrorist financing, regulatory arbitrage, the increased interdependence between multiple actors within the financial sector and the potential disintermediation of some of them are other potential cost-generating areas.

At end-2017 this sector in Spain employed more than 5,000 persons in more than 300 firms (238 fintech and 63 insurtech companies).⁴³ In the case of alternative finance platforms, according to private consultant surveys, the highest volume of funds is channelled in Spain through loans between individuals for business projects, while on average in the EU it is the loans between individuals to finance consumption which have the highest volume of activity (see Chart 2.11). The weight of cross-border transactions can represent almost 50% of the total volume of activity in some models. In order to promote initiatives in this field, the CNMV created in mid-2017 a fintech portal to address consultations,⁴⁴ which channelled 130 requests for assistance up to December. The creation in early 2018 of the Associate Directorate General Financial Innovation and Market Infrastructures reflects the importance assigned by the Banco de España to these developments.

The relatively scant penetration of digital banking in Spain may be one of the determining factors behind the efficiency gains which can be associated with these technological changes. A recent report considers that the relatively high mobile

43 Data from the Spanish Fintech and Insurtech Association. These terms refer to high-tech companies operating in the financial and insurance businesses, respectively.

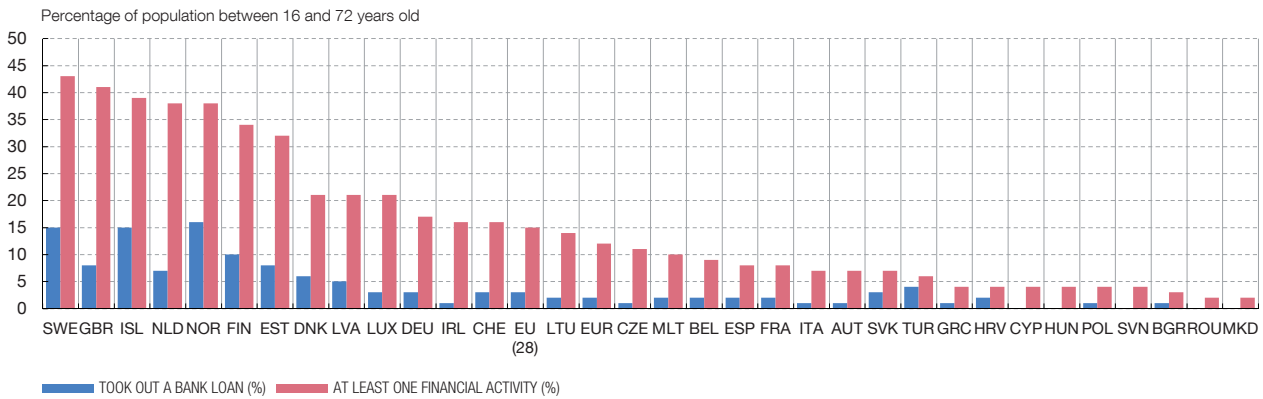
44 <http://www.cnmv.es/portal/Fintech/Innovacion.aspx?lang=en>.

SUSTAINED GROWTH IN THE USE OF THE INTERNET FOR FINANCIAL TRANSACTIONS IN THE EU AND IN SPAIN

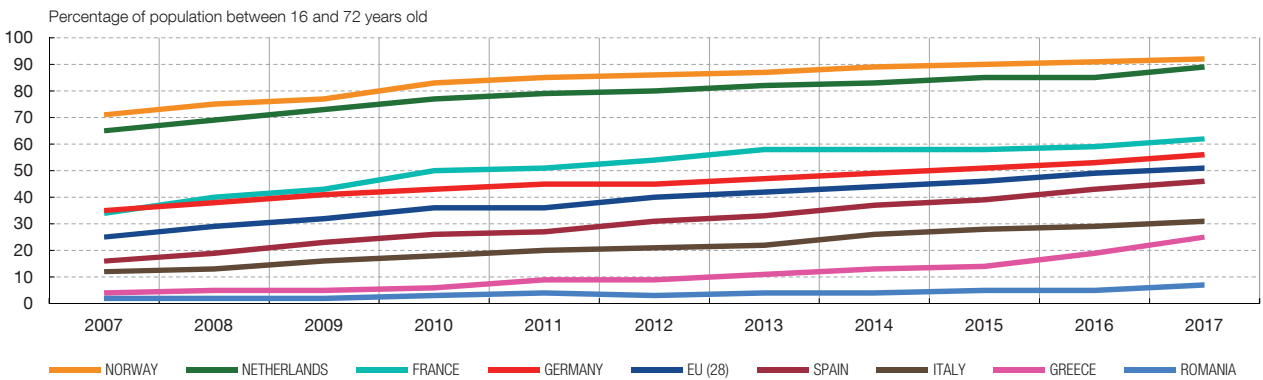
CHART 2.12

In ten years the percentage of people using the internet to communicate with banks has doubled to 50%, although in Spain this percentage is lower than 15% in the case of persons who have made one financial transaction and stands at 2% in the case of persons taking out a loan.

1 POPULATION USING THE INTERNET TO CARRY OUT FINANCIAL TRANSACTIONS IN 2017



2 POPULATION USING THE INTERNET TO INTERACT WITH BANKS



SOURCE: Eurostat.



phone penetration in Spain and, especially, the small number of customers per branch, below that for all the countries analysed, means that there is much potential for improving efficiency through these channels in Spanish banking.⁴⁵ The importance of physical vs digital distribution channels is, in the ECB's opinion,⁴⁶ one of the differentiating factors between countries in terms of efficiency gains deriving from the technological revolution. According to Eurostat data (see Chart 2.12.2), Spain ranks fourth in Europe by number of financial transactions in cash, with a penetration of digital banking in 2017 of 46%,⁴⁷ below the percentage for the EU-28 (51%) and very far from that for the more digitalised countries, such as Iceland (93%), Norway (92%) and Denmark (90%). On 2017 data, the percentage of individuals who requested a bank loan, purchased shares or bonds, or took out or rolled over insurance policies via the internet in Spain was very low (see Chart 2.12.1). However, only 14% of the population had never used the internet in 2017,

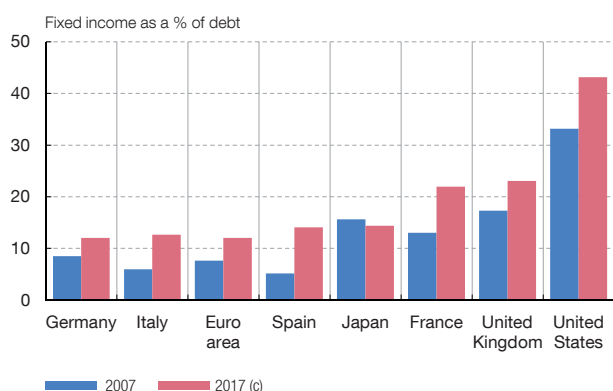
⁴⁵ See Morgan Stanley Research, *Global banks and diversified financials. Banking at the speed of light*, 7 January 2018.

⁴⁶ See European Central Bank, *Financial Stability Review*, May 2017.

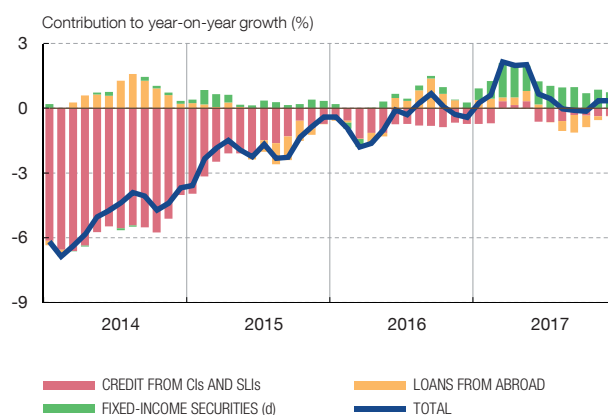
⁴⁷ Approximated by the percentage of individuals between age 16 and 74 who in the last three months before the survey used the internet to interact with a bank, including making payments or consulting bank account movements or balances.

Spain has traditionally been a heavily banked economy, but the increase in non-bank lending to non-financial corporations in recent years poses a challenge for banks.

1 THE PREDOMINANCE OF BANK CREDIT IN THE FINANCING OF NON-FINANCIAL CORPORATIONS IN SPAIN IS DECLINING (a) (b)



2 IN 2017 FINANCING TO NON-FINANCIAL CORPORATIONS INCREASED, BUT BANK CREDIT DECREASED



SOURCES: ECB, BIS and Banco de España.

- a Spanish fixed-income securities include issues by resident and non-resident subsidiaries at market price, which are deducted from the loans obtained by the sector. Issues by German non-resident subsidiaries are also high, but the figure cannot be adjusted owing to the lack of information.
- b Debt includes fixed-income securities and total loans.
- c Data as at June 2017 for Japan and the United States and as at September 2017 for the rest.
- d Includes issues made by resident subsidiaries.



compared with 43% ten years earlier. Although a lower predisposition to the use of digital channels has been observed to date in Spain as compared with other European countries, their implementation has grown rapidly and, accordingly, the use of online banking is expected to increase.

5.2 BANKING
DISINTERMEDIATION

The funding structure of Spanish firms, including most large corporations, has been traditionally marked by the predominance of bank credit. Thus, Chart 2.13.1 shows that in 2007 loans accounted for 95% of Spanish non-financial corporations' total debt (including fixed-income securities). From the institutions' viewpoint, such loans represented 51% of credit to the private sector in Spain and 32% of non-consolidated total assets.

A banking disintermediation process was initiated during the crisis, which certain recent developments might contribute to accentuate, thus reducing the weight of banks in the funding of economic agents. In this connection, the possible entry of new competitors with innovative technologies would be particularly significant, as explained in Section 5.1 above. Stricter bank regulations and the development of new infrastructures, such as the alternative fixed-income market (MARF, by its Spanish abbreviation), the definition of simple and transparent securitisations and other measures which may arise from the European project to create a capital markets union, will foreseeably exert influence in the same direction. It is perceived that a more diversified funding structure at aggregate level is more stable in the face of possible shocks and, therefore, the regulatory trend will continue in the direction of eliminating any potential constraints on financing sources alternative to the banking sector. Also, a potential increase in long-term savings, in response to, among other factors, the ageing of our society, will also probably contribute

in this sense, although to date savings of this kind in Spain have also been largely intermediated by the banks themselves.⁴⁸

In more conjunctural terms, recently there has been a relative increase in the cost of bank funding as compared with that obtained from the markets. The limited pass-through of the decrease in market interest rates to bank credit interest rates mentioned previously and certain effects of the Eurosystem's asset purchase programme have contributed to this. Specifically, the evidence available shows that the announcement of the corporate sector purchase programme in March 2016 led to an increase in the propensity to issue eligible bonds in Spain and a decrease in issuing firms' demand for bank credit.⁴⁹ The positive aspect is that a high proportion of funds released was converted into loans to other firms, generally smaller and non-bond issuing, and, therefore, the net impact on banks was clearly lower. Additionally, other unconventional measures of the Eurosystem, such as injecting liquidity at long-term and at potentially negative interest rates could have favoured a larger volume of bank credit.

The path followed in previous years towards a certain loss of weight of bank funding continued in 2017. The past year was the first since 2010 in which the outstanding balance of funding of non-financial corporations in Spain increased, albeit very slightly (see Chart 2.13.2). However, this increase arose mainly from sources other than banking sources, since credit from Spanish institutions contracted once again for the ninth year running (by 0.6%), while the outstanding balance of fixed-income securities increased (by 7.6%).

The continuation of this trend poses an additional challenge for credit institutions as it entails a further decline in their volume of business and income. This is particularly relevant in the current setting of a modest increase in the overall demand for financing in Spain – which, as has been seen, explains in some measure the current low profitability of the Spanish banking sector – and could contribute to eroding the unit margins which to date permitted sustaining in part the profitability of institutions.

48 In connection with the structure of households' asset portfolios in Spain, see I. Fuentes and M. Mulino (2017), "Evolución de los flujos y los balances financieros de los hogares y de las empresas no financieras en 2016", *Boletín Económico*, 2/2017, Banco de España; I. Fuentes (2016), "Evolución reciente de los planes y fondos de pensiones en España", *Boletín Económico*, December, Banco de España; and V. García-Vaquero and F. Alonso (2015), "Desarrollos recientes de la industria de la inversión colectiva en España", *Boletín Económico*, December, Banco de España.

49 See O. Arce, R. Gimeno and S. Mayordomo (2017), *Making room for the needy: the credit-reallocation effects of the ECB's corporate QE*, Working Paper No. 1743, Banco de España.

This box analyses the change in recent years in the cost of equity (COE) for the banking systems of Spain, Germany, France and Italy compared with the COE for the United States. The COE is the return required by investors for acquiring shares in a firm, in this case in particular in a bank. Long term, return on equity (ROE) should be consistent with the cost of equity,¹ making the COE an important benchmark for measuring bank profitability. The cost of equity is not a directly observable variable, so it must be estimated. There are various possible methods that may be used, but the usual method is the Capital Asset Pricing Model (CAPM) which calculates the COE as the sum of a bank-specific risk premium

and the risk-free rate of return. The risk premium, in turn, is obtained by multiplying the correlation between the bank's share value and a market index (in other words, the bank's beta) by the overall market risk premium; the higher the beta, the higher the return required of the bank.

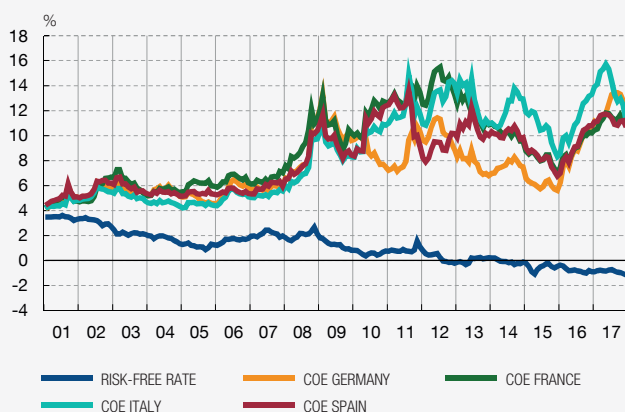
The methodology used in this box to calculate the cost of equity divides into two stages.² First, the aggregate risk premium of euro area listed financial and non-financial corporations is calculated as the difference between the real discount rate implicit in the share

1 This does not necessarily mean that if ROE is lower than the COE banks cannot raise new own funds on the market, but they should do so at a lower price, equating expected future profitability to the cost of equity.

2 This methodology is similar to that used by the ECB. See, for example, Box 5 of the ECB's *May 2015 Financial Stability Review* and Box 1 of the ECB's *Economic Bulletin 1/2016*. It was also used by the Banco de España in Box 2.2 of its *May 2016 Financial Stability Report*.

Chart 1
COST OF EQUITY (COE) OF EUROPEAN AND US BANKS (a)

1 ESTIMATED COE OF BANKS IN MAIN EURO AREA COUNTRIES



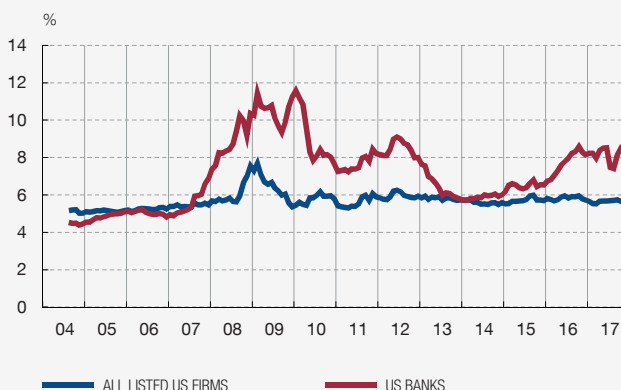
2 ESTIMATED COE OF BANKS IN THE UNITED STATES



3 COE OF SPANISH BANKS COMPARED WITH EURO AREA FIRMS OVERALL



4 COE OF US BANKS COMPARED WITH US FIRMS OVERALL



SOURCES: Datastream, Consensus Economics, Federal Reserve Economic Data and Banco de España.

a Estimates based on profit forecasts and stock prices of EURO STOXX and S&P 500 firms. Risk-free interest rates obtained from returns on French government and US Treasury inflation-indexed bonds.

price and the real risk-free interest rate.³ The discount rate is obtained by equating the present value of the expected future profits of EURO STOXX firms to their market price.⁴ The banking sector premium for each country is then obtained by multiplying the market risk premium by the beta corresponding to the EURO STOXX Banks index of each country.⁵ The cost of equity is the result of adding this banking sector premium for each country to the real risk-free rate of return. It is, therefore, a measure expressed in real terms. In the case of the United States, an equivalent methodology is used, taking the S&P 500 index and the S&P 500 Banks index, respectively, to calculate the market premia and the banking sector beta.⁶

Following the methodology described, Chart 1.1 depicts the change in the risk-free interest rate and the cost of equity (both

³ Owing to its high liquidity, in the euro area the yield on a French government bond index was used (inflation-indexed bonds with an average duration of nine years).

⁴ Future profits are estimated, by tranches, drawing on analysts' expectations (I/B/E/S) and on expectations of potential economic growth. This proxy is commonly known as the three-stage Gordon model.

⁵ Beta is estimated as the coefficient of the daily market return in a regression in which the endogenous variable is the daily return on the subindex. To take into account possible changes in the value of beta over time, this estimate is made using one-year rolling windows.

⁶ In this case, the risk-free asset is the ten-year US Treasury inflation-indexed bond.

in real terms) for the banking systems of Spain, Germany, Italy and France. As it shows, at end-2017 the cost of equity was over 10% in all four countries, while the risk-free rate of return, which is common to all four, was negative. Pre-crisis, the cost of equity of banks held relatively stable around 6%, while the risk-free interest rate fluctuated between 2% and 4%. Accordingly, the risk premium required of Spanish and other European banks rose significantly during the crisis and continued to rise, albeit with fluctuations, up to end-2017. This high risk premium could be associated with the greater uncertainty that continues to loom over asset values and over the prospects for returns in the new post-crisis framework. In the United States, both the risk premium and the cost of equity also rose, but to a lesser extent (see Chart 1.2). The cost of equity of banks in the United States at end-2017 was some 2 pp lower than that of their European counterparts (8%), possibly reflecting less uncertainty surrounding expected future profits on one and the other side of the Atlantic.

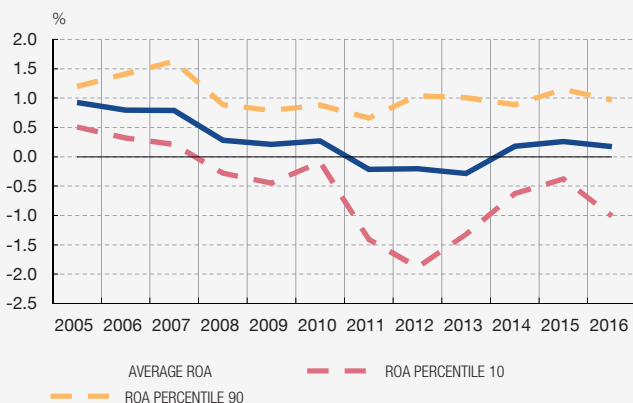
Lastly, Charts 1.3 and 1.4 show how the returns required of credit institutions by investors have responded to changes common to listed financial and non-financial corporations overall and to changes specific to the banking sector. In particular, since early 2016, the cost of equity of banks has risen compared with that of other sectors, both in Europe and in the United States, as it did in the most critical stages of the crisis.

The average profitability of a country's banking sector for a specific period is influenced by the sector's aggregate structure and by macroeconomic and financial conditions. Knowledge of these

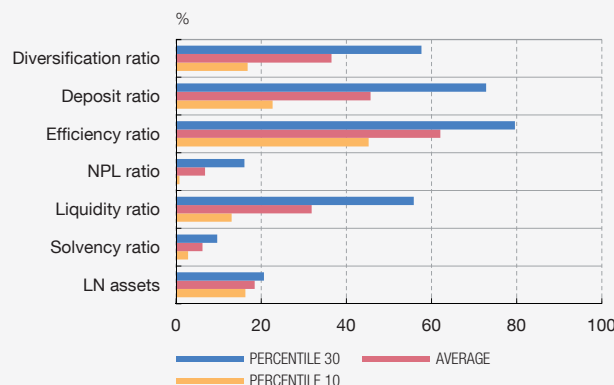
conditions is not sufficient, however, to explain the heterogeneous results obtained by different banking groups in the same country. With the aim of analysing the dispersion of bank profitability, this

Chart 1
DETERMINANTS OF PROFITABILITY IN A SAMPLE OF EUROPEAN BANKS (a)

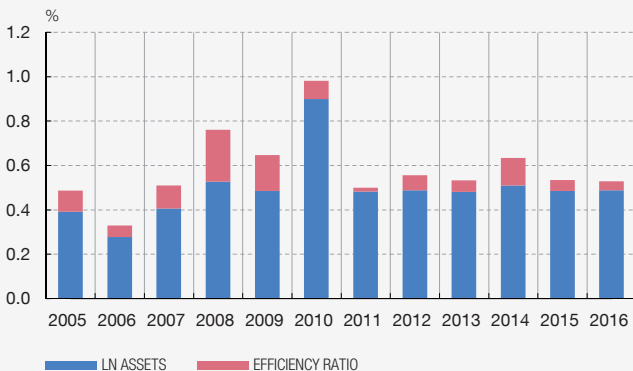
1 HETEROGENEITY IN RETURN ON ASSETS (ROA)



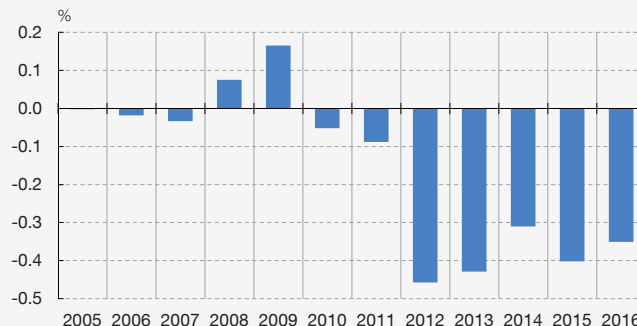
2 HETEROGENEITY IN BALANCE SHEET AND EARNINGS CHARACTERISTICS



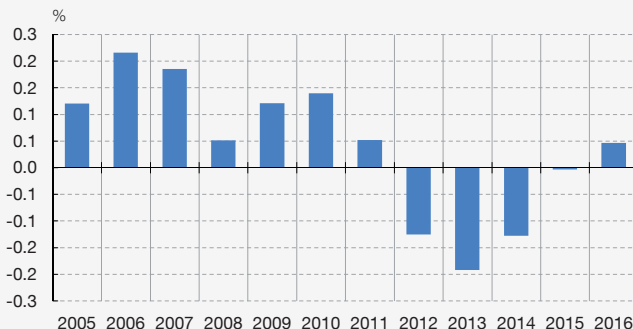
3 CONTRIBUTION OF SIZE AND EFFICIENCY TO THE SPAIN-EURO AREA PROFITABILITY DIFFERENTIAL (b)



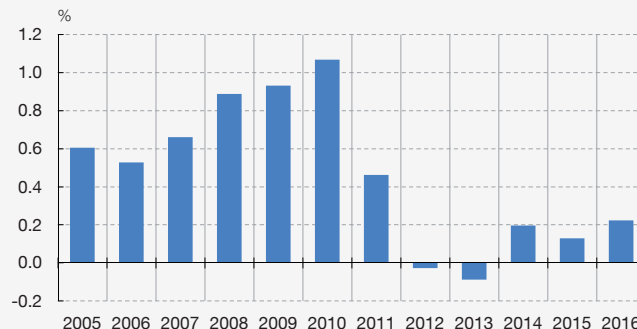
4 CONTRIBUTION OF THE SOLVENCY RATIO TO THE SPAIN-EURO AREA PROFITABILITY DIFFERENTIAL (b)



5 CONTRIBUTION OF THE NPL RATIO TO THE SPAIN-EURO AREA PROFITABILITY DIFFERENTIAL (b)



6 COMBINED EFFECT OF THE SIGNIFICANT CHARACTERISTICS ON THE SPAIN-EURO AREA PROFITABILITY DIFFERENTIAL (b)



SOURCES: SNL Financial, IMF, BIS and Banco de España.

- a Sample of 106 international banks from 23 countries from the euro area, the United Kingdom and Nordic countries for the period 2005-2016. Definition of the variables: diversification ratio (proportion of non-attributable operating profit to net interest income), deposit ratio (proportion of deposits to total assets), efficiency ratio (operating expenses to operating profit), NPL ratio (ratio of non-performing loans to total loans), liquidity ratio (proportion of liquid assets to total assets), solvency ratio (capital per books to total assets ratio) and LN assets (natural logarithm of total assets).
- b Charts 1.3-1.5 show, for the corresponding i variable, the effect of the difference between the average of that variable at Spanish banks ($X_{(i,ESP)}$) and in the euro area as a whole ($X_{(i,Z EUR)}$) on the profitability explained by the regression model, namely, $\beta_i \cdot (X_{(i,ESP)} - X_{(i,Z EUR)})$, where β_i is the coefficient of the model estimated in accordance with specification (2) of Table 1. Chart 1.6 totals for each year the effects of the four variables in Charts 1.3-1.5 in order to obtain the aggregate effect of the significant characteristics.

box looks at the relationship between the return on assets (ROA) and different individual characteristics for a sample of European listed banks focusing on the euro area in the period 2005-2016.¹

Chart 1.1 shows that the ROA ratio declined from the start of the crisis in 2008 for the sample as a whole but that there was a

1 The United Kingdom and the Nordic countries with monetary autonomy are also considered to check the robustness of the results found in the main sample.

substantial degree of heterogeneity across banks which grew as the crisis progressed. While in 2005-2006 the dispersion range (approximated by the difference between percentile 10 and percentile 90) stood at 0.7 pp - 1.1 pp, it grew to 2.9 pp in 2012 and held above 1.5 pp in the last few years of the sample. Chart 1.2 shows that there is also cross-bank heterogeneity in terms of their different individual characteristics (such as size, asset quality and efficiency). The analysis below seeks to determine the relationship between the variation in the two datasets. Specifically, a regression

Table 1
DETERMINANTS OF THE RETURN ON ASSETS (ROA) OF BANKS IN EUROPE (2005-2016) (a)

	(1)	(2)	(3)	(4)	(5)
	Euro area	Euro area	Euro area - restricted sample	Europe	Europe - restricted sample
ROA (first lag)	-0.0313 (0.101)	-0.139 (0.134)	-0.148 (0.137)	-0.128 (0.124)	-0.120 (0.129)
LN assets	2.134*** (0.547)	1.298** (0.630)	1.899*** (0.551)	1.115** (0.567)	1.186** (0.505)
Solvency ratio	0.539*** (0.131)	0.408*** (0.113)	0.488*** (0.114)	0.387*** (0.114)	0.432*** (0.109)
Liquidity ratio	0.00645 (0.0103)	0.0105 (0.0162)	0.0122 (0.0219)	0.00979 (0.0175)	0.0143 (0.0195)
NPL ratio	-0.0388** (0.0194)	-0.0854** (0.0394)	-0.0844** (0.0355)	-0.0812** (0.0343)	-0.0823** (0.0346)
Efficiency ratio	-0.0109*** (0.00277)	-0.0102** (0.00459)	-0.00415 (0.00431)	-0.00967** (0.00476)	-0.00837** (0.00372)
Deposit ratio	0.0366** (0.0152)	0.0247* (0.0143)	0.0308* (0.0178)	0.0233 (0.0163)	0.0268 (0.0172)
Diversification ratio	-0.00601 (0.00371)	-0.00412 (0.00435)	0.00776 (0.00494)	-0.00286 (0.00455)	0.00394 (0.00520)
Estimation	AB - dependent variable instrumented	AB - all endogenous variables	AB - all endogenous variables	AB - all endogenous variables	AB - all endogenous variables
Control of macroeconomic situation	Yes	Yes	Yes	Yes	Yes
Lags used as instruments	2-4	3-4	2-4	3-4	2-4
P-value AB statistic - autocorr. (2)	0.2286	0.0472	0.1104	0.0486	0.103
P-value AB statistic - autocorr. (3)	0.5324	0.6408	0.4479	0.3682	0.8198
P-value AB statistic - autocorr. (4)	0.2186	0.4092	0.2867	0.3564	0.3461
Observations	582	582	468	661	518
Number of banks	83	83	67	92	72
Period	2005-2016	2005-2016	2005-2016	2005-2016	2005-2016

SOURCES: SNL Financial and Banco de España.

a Estimated using the Arellano-Bond method. The asterisks indicate significance at the 10% (*), 5% (**) and 1% (***) level. Columns (1) and (2) present the results for banks in the 17 countries of the euro area; in (3) the sample is restricted to Spain, France, the Netherlands, Italy, Germany, Portugal, Ireland and Greece; in (4) the observations of Sweden, Denmark, Norway and the United Kingdom are added to the sample in (1); in (5) the observations of the United Kingdom are added to the restricted sample in (3). The variables are defined in the notes to Chart 1 of this box. We use the Arellano-Bond method (1991) with between 2 and 4 lags of non-exogenous variables as instruments: (i) AB - dependent variable instrumented (only the first lag of the dependent variable is instrumented); (ii) AB - all the endogenous variables (all the explanatory variables at bank level are instrumented). Control of macroeconomic situation indicates whether the common time effect of macroeconomic variables is controlled. We present the p-values of the Arellano-Bond autocorrelation tests (1991) of the second to fourth-order autocorrelation.

is performed using the panel data methodology² where ROA is explained based on banks' individual characteristics, controlling for unobserved fixed effects of the banks, the effect of lagged ROA and aggregate conditions.³ Table 1 presents the results of the different specifications estimated.

First, a sample of euro area banks is studied using a model which only treats lagged ROA as an endogenous variable. The analysis shows that, during the period analysed, the largest banks, those with a lower NPL ratio, higher solvency, greater efficiency and a more significant weight of deposit-based funding, were the most profitable. In columns (2) to (5) all the explanatory variables at bank level are considered potentially endogenous in order to test the robustness of the result above. The qualitative findings of column (1) are maintained in column (2). Restricting the sample to the larger euro area countries – column (3) – does not alter the findings on the effect of size, solvency and asset quality, but the efficiency ratio does lose explanatory power. The sample is extended in columns (4) and (5) to include the United Kingdom and the other Nordic countries and the findings are robust once again, especially for the solvency ratio.

Charts 1.3-1.6 display the impact on the ROA ratio of the differences of Spanish banks with regard to the European

average in the most significant variables of the estimation. For example, on average Spanish banks have maintained higher assets than other European banks during the period 2005-2016, and since this is a characteristic which is associated positively with profitability, the model implies a positive average contribution to ROA of 0.4 pp. The efficiency ratio is associated with higher profitability throughout the period but more clearly in 2005-2009. Conversely, the poorer relative positions of Spanish banks in terms of solvency and NPLs as from 2010 and 2012 are associated with negative contributions of up to -0.4 pp. The aggregate effect of these significant characteristics is positive until 2011 and turned negative again in 2012-2013 due to the contribution of the effect of the solvency ratio, and recovered slightly positive values after 2014.⁴

The positive significant relationship between profitability and asset quality implied by the NPL and solvency ratio coefficients indicate a possible advantage for the European banking sector of making progress in cleaning up its balance sheets. The positive asset size coefficient could also indicate that a greater concentration of European banks would have positive effects on their profitability.

In any event, the findings of this box need to be taken with caution insofar as they are based on the relationship between the variables analysed for a specific period (2005-2016) and they do not necessarily take into account the most recent changes in the structure of the sector and those which may arise in future.

2 The Arellano-Bond method is used. See M. Arellano and S. Bond (1991), "Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations", *Review of Economic Studies*, no. 58, pp. 277-297.

3 The estimates include the following as control variables: GDP growth (World Economic Outlook, IMF) and credit (BIS statistics), interest rate levels (EURIBOR) and concentration measured by the Herfindahl-Hirschman index (ECB statistics for the euro area).

4 Note the caveat that the business models associated with higher profitability in the European sample analysed would not necessarily maintain their contribution to profitability in other periods and geographical areas.

To analyse the drivers of the change in private sector debt and to simulate its possible future trajectory, several error correction mechanism models¹ have been estimated to characterise the performance of the real debt balance of households, on the one hand, and of corporates, on the other. In particular, in the case of households, the following explanatory variables have been included: real gross disposable income, the ex ante real cost of financing (calculated by subtracting a measure of long-term

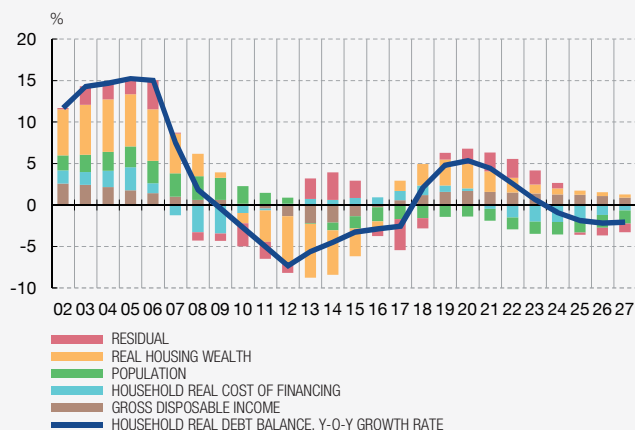
inflation expectations from nominal bank lending rates), housing wealth in real terms and, lastly, the population in the 30 to 54 age group (which is the population group holding the largest proportion of debt).² For corporates, the balance of total financing is modelled as a function of private productive investment, residential investment, house prices (all variables in real terms) and an ex ante real synthetic cost of financing (proxied by subtracting a measure of long-term inflation expectations from the nominal cost).

1 The models were estimated with data up to 2017 Q4, from 1987 Q2 for households and from 1990 for corporates.

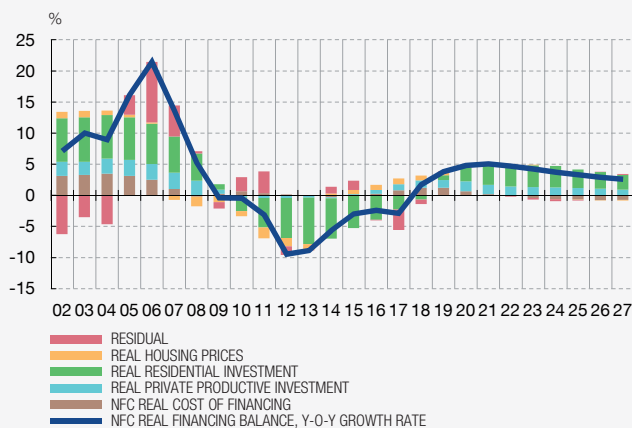
2 According to the latest edition of the EFF (2014), 79.7% of total household debt was held by households whose head was in the 30-54 age group.

Chart 1
NON-FINANCIAL PRIVATE SECTOR INDEBTEDNESS

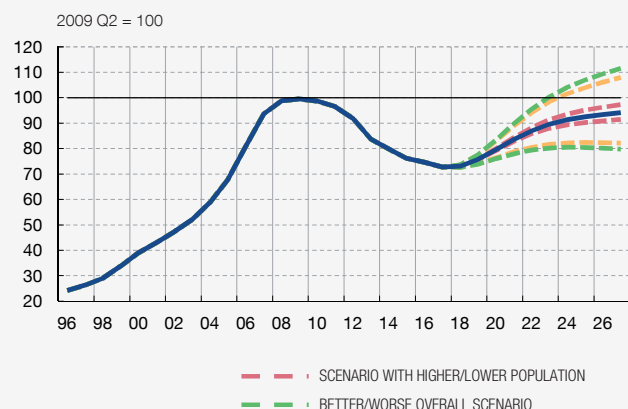
1 CONTRIBUTION TO YEAR-ON-YEAR GROWTH OF REAL HOUSEHOLD DEBT (a)



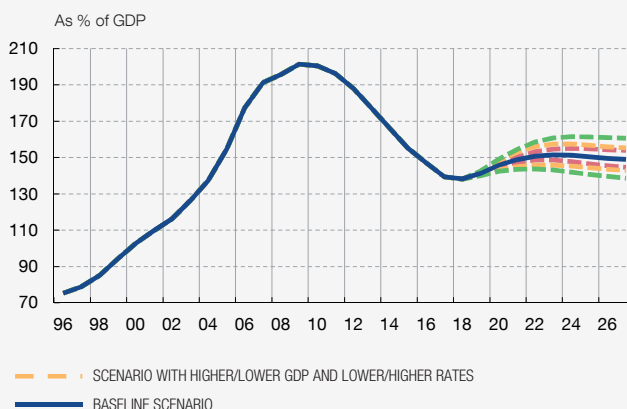
2 CONTRIBUTION TO YEAR-ON-YEAR GROWTH OF REAL NFC DEBT (b)



3 REAL BALANCE OF NON-FINANCIAL PRIVATE SECTOR DEBT (c)



4 DEBT RATIO OF NON-FINANCIAL PRIVATE SECTOR



SOURCE: Banco de España.

- a The nominal balance was deflated using the consumption deflator to calculate real growth.
b The nominal balance was deflated using the GDP deflator to calculate real growth.
c Real balances deflated using the GDP deflator.

Based on these estimates and on various paths of the explanatory variables, a number of simulations of the change in private sector debt up to 2027 have been obtained. Thus, in the baseline scenario, all the developments in explanatory variables, up to 2020, are in line with the forecasts contained in the Banco de España's latest macroeconomic projection exercise. Subsequently, up to 2027, the variables continue to evolve: in the case of the scale variables, in step with the potential growth of the economy; in the case of the cost of financing, in accordance with market expectations for EURIBOR; and in the case of the population variable, in keeping with the latest INE projections. From this baseline scenario another six scenarios have been drawn, presenting a possible reference range within which non-financial private sector debt could evolve in the future. Specifically, the first two scenarios consider that the population in the 30 to 54 age group increases/decreases by 1 pp more than in the baseline scenario; the next two assume that GDP grows at a rate that is 1 pp higher/lower than in the baseline scenario and that rates fall/rise by 100 bp compared with the projection in the baseline scenario; and the last two include both of the extreme scenarios described above.

As Charts 1.1 and 1.2 show, according to the results, all the explanatory variables considered made a positive contribution to the growth of real debt of households and non-financial corporations in the pre-crisis years. Following the onset of the crisis, the rate of growth of private sector debt corrected sharply, as the macroeconomic situation deteriorated, the real estate bubble burst and the real cost of financing rose. Additionally, in the case of households, from the latter part of 2008 the positive contribution of the population variable began to decline. These patterns persisted, in the case of households until late 2012, when debt fell by 7.3% year-on-year, and in the case of corporates until 2013 Q2, when real debt fell by 13.4% year-on-year. Subsequently, the gradual improvement in the macroeconomic scenario, which fuelled income and investment growth, together with the gradual recovery of the property market and, more recently, the favourable financing conditions, boosted by the ECB's expansionary monetary policy, prompted a slowdown in the decline of non-financial private sector debt (down to 2.9% year-on-year for corporates and to 2.6% for households at end-2017).

With all due caution,³ the simulations made for the 2017-27 horizon show that, in the baseline scenario, real household debt would post positive growth rates in coming years, before returning to negative values from 2024, adversely affected in part by population ageing. By contrast, non-financial corporations' debt would start to record positive growth in 2018 and would remain positive throughout the projection horizon, driven mainly by investment growth. Thus, according to these simulations, the level of debt of the non-financial private sector would increase very gradually in coming years, so that by the end of the projection horizon, total debt would amount to slightly more than 90% of the peak level recorded in 2009 Q2 (see Chart 1.3). The alternative scenarios considered point to a band of debt volume ranging from 80% to 112% of that level by end-2027, in the latter case surpassing the 2009 peak, although the assumptions in this scenario are highly optimistic and, therefore, the likelihood of this occurring is limited.

Chart 1.4 shows the developments in the private sector debt ratio in the different scenarios. In the baseline scenario, the ratio climbs slightly in coming years, before falling back again also slightly, to reach 149% of GDP by end-2027, some 10 pp above the end-2017 levels. The bands calculated for the various scenarios show that, in principle, the debt ratio would not head back to the peak levels of 2010, when it exceeded 200% of GDP, not even in the most optimistic scenarios.

Obviously, these results should be taken with due caution, not only in view of the customary uncertainty of estimates based on a specific period in the past, but also because of the need to make long-term projections of economic and population variables that are subject to a high degree of uncertainty.

³ In particular, these projections signal, in the near term, a recovery in credit that seems overoptimistic given the most recent developments. In this respect, the main value of the exercise is to proxy medium and long-term credit trajectories, without attaching importance to the profile of the projections.



3 THE BUOYANCY OF INVESTMENT IN THE RECOVERY: DETERMINANTS AND CHALLENGES



Signboard for the 1st Annual Research Conference in the Cibeles building.

3 THE BUOYANCY OF INVESTMENT IN THE RECOVERY: DETERMINANTS AND CHALLENGES

Summary

During the current upswing in the Spanish economy, investment in equipment and intangible assets has been markedly buoyant. This strength, in absolute terms and relative to the euro area, is explained by a number of macroeconomic and microeconomic factors. Notable among these are the easing of external financial conditions and the availability of own funds to finance investment, the reduction in uncertainty and the greater export orientation of the business sector, in addition to the usual effect of the improvement in domestic demand during economic recoveries.

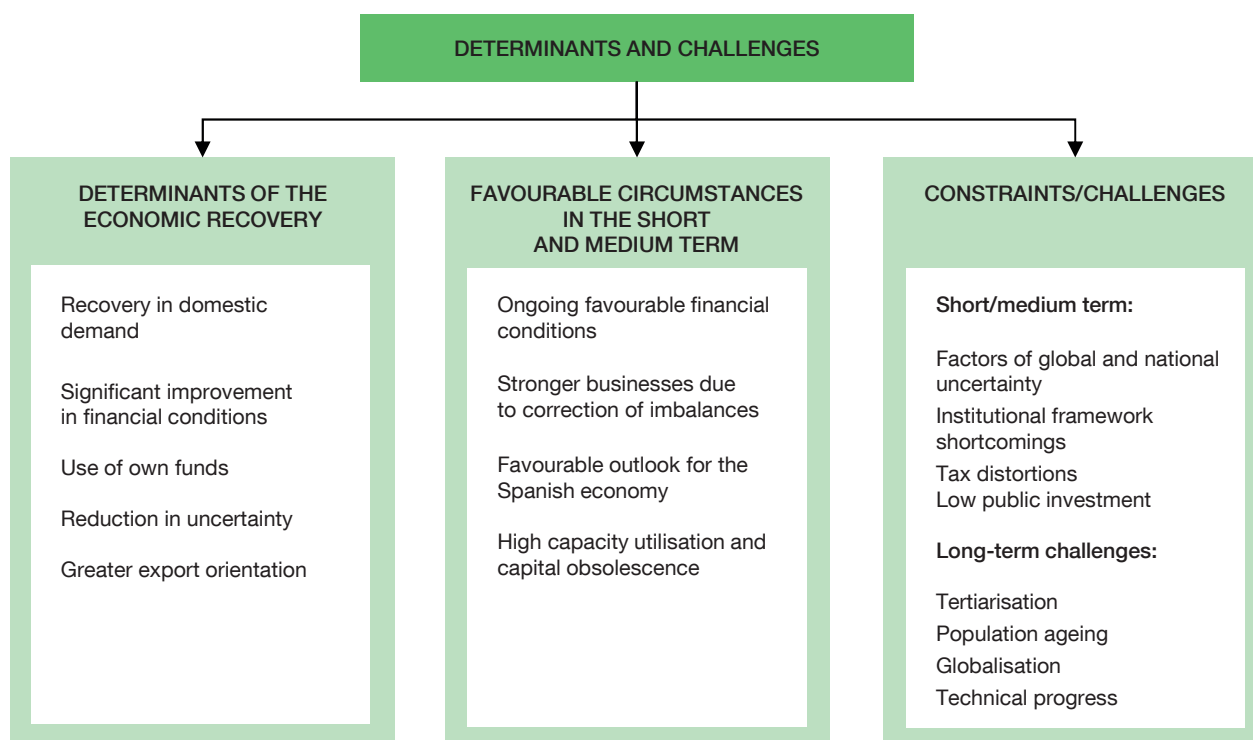
In the short and medium term, business investment will benefit from the existence of certain favourable circumstances. Notable among these are the economic expansion, which is expected to continue over the coming years, and the ongoing favourable financial conditions. In addition, investment should be boosted by improvement in some of the pre-existing imbalances (in particular, the lower indebtedness of the business sector and a distribution of credit among companies more favourable to growth), as well as the competitiveness gains built up in past years, against a background in which external markets are expected to remain buoyant.

But there also remain certain obstacles, which may influence developments in the short, medium and long term. Factors that may limit investment in equipment and intangibles in the short term include, notably, the risks associated with a possible increase in economic uncertainty, both at global level (as consequence of increased protectionism, Brexit and the possibility of further episodes of political uncertainty in Europe) and at national level (a highly fragmented parliament and political uncertainty in Catalonia). In the medium term, certain factors persist that limit the potential growth of business investment and its effectiveness, including some linked to aspects of the institutional framework (in the areas of regulation, competition and effectiveness of the judicial system), tax distortions and the possibility of continued low levels of public productive investment. In the longer term, there are a number of trends, of a global nature, that may put downward pressure on investment, including especially the tertiarisation of economies, globalisation, technological change and population ageing.

1 Introduction

Business investment is a fundamental element of the cyclical behaviour of the economy and long-term economic growth. On the expenditure side, gross fixed capital formation currently accounts for around 20% of GDP in Spain. Of this, one half is investment in equipment, machinery and intangible assets, while the other half is linked to residential and non-residential construction. Investment decisions determine the economy's capital stock and thus affect its long-term growth, by enabling installed capital to be renewed and technological advances incorporated therein, as well as the productive capacity of firms to be expanded. Also, investment in research and development, among other activities, directly boosts technical progress. In the short term, this component of aggregate demand is the most volatile, and consequently its fluctuations drive the cyclical swings in production and employment.

This chapter explores the determinants of the recent buoyancy of investment in equipment and intangibles in the Spanish economy. The next section characterises the behaviour of these components of investment during the current upswing and provides an international comparison. The third section discusses the determinants of this behaviour,



SOURCE: Banco de España.

distinguishing between financing conditions, export orientation and the evolution of uncertainty. Finally, the chapter concludes with a discussion of the drivers and constraints that will govern the future behaviour of investment in the short, medium and long-term.

2 The buoyancy of investment in the recovery

Non-construction investment¹ has been very buoyant during the current upswing in the Spanish economy. Between 2013 and 2017, this aggregate, which includes investment in equipment, machinery and intangible assets, increased in real terms by around 27%, while GDP grew by 12%. As a result, in 2017 it exceeded its pre-crisis level, having fallen during the recession by more than output (-13%, as against -8%) (see Chart 3.1.1). This type of investment has thus risen as a proportion of GDP over the last decade by around 1 percentage point (pp), to somewhat over 10% of GDP in 2017, its highest level for the last three decades, when it has been on average around 9.5% of GDP (see Chart 3.1.3).

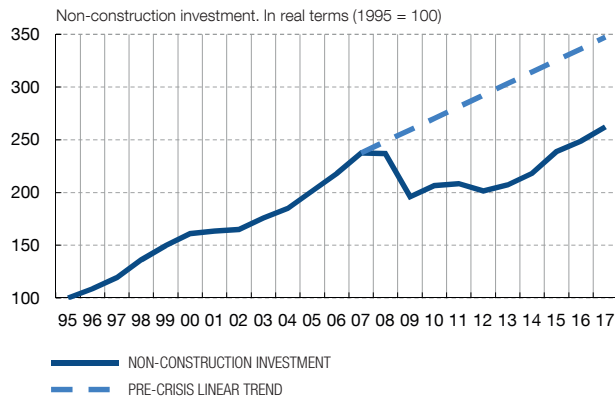
The recent strength of investment has been broadly based across the components of investment in equipment and in intangible assets.² Investment in intangible assets (which includes items such as computer software, databases and R&D&I) accounted for around 30% of non-construction investment in 2017, as compared with 18% at the beginning of the century, and its cyclical volatility is well below that of equipment investment (see Chart 3.1.2). The latter underwent a major adjustment during the crisis, but its buoyancy during the recovery means that the previous losses have been more than offset, so that its level in 2017 was 3% higher than in 2007.

¹ Gross fixed capital formation, in real terms, excluding “Dwellings” and “Other buildings and structures”, according to the National Accounts.

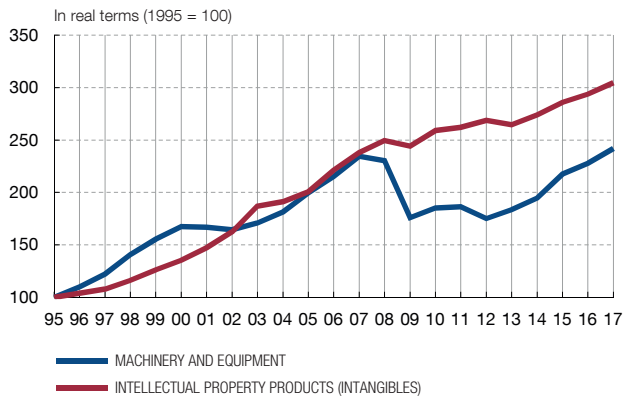
² Investment in equipment refers to the category “Machinery and equipment and weapons systems” of the National Accounts, while investment in intangible assets refers to that of “Intellectual property products”.

The momentum has been broad-based in terms of components, both in the case of equipment and machinery and intangible assets, which continued to be accumulated, even during the crisis, at the trend growth rate of recent decades. The behaviour of construction-related investment, on the other hand, was less favourable, and in 2017 it still stood at somewhat less than 50% of its pre-crisis level.

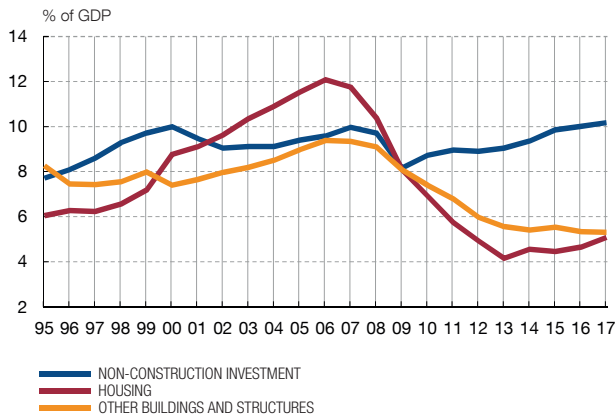
1 NON-CONSTRUCTION INVESTMENT BUOYANT IN THE RECOVERY ...



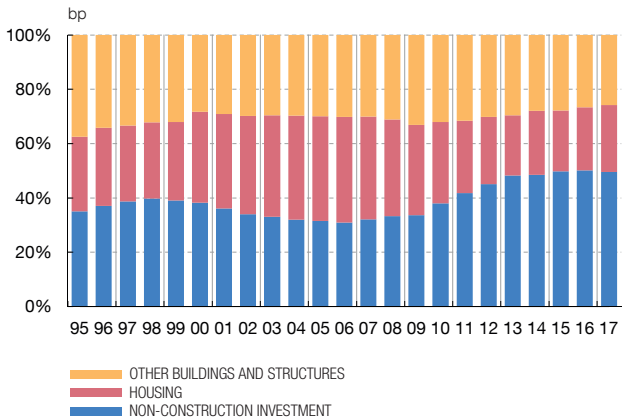
2 ... ACROSS MAIN COMPONENTS



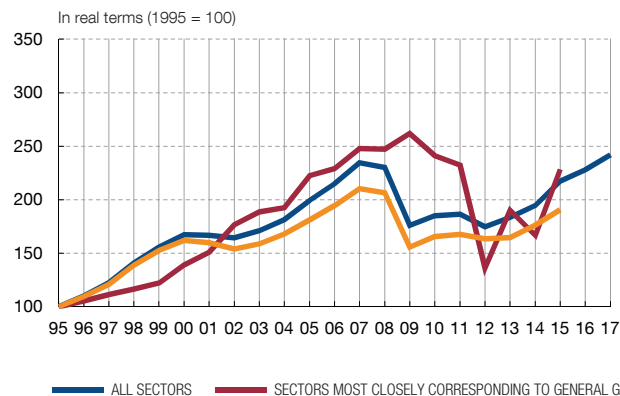
3 WHILE CONSTRUCTION-RELATED INVESTMENT MORE SUBDUED ...



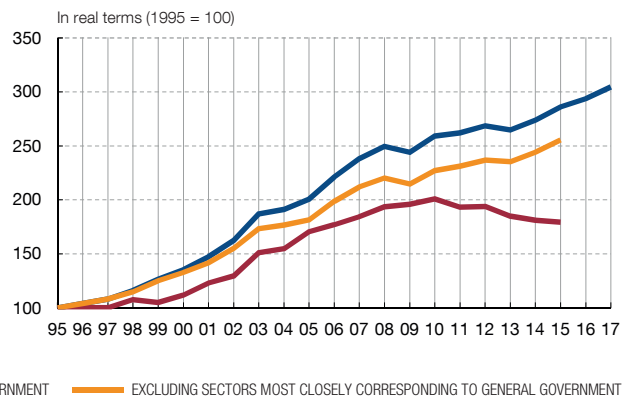
4 ... MEANING INVESTMENT IN EQUIPMENT AND INTANGIBLES UP AS A PROPORTION OF TOTAL INVESTMENT



5 EQUIPMENT INVESTMENT IN THE SECTORS MOST CLOSELY CORRESPONDING TO PUBLIC-SECTOR ACTIVITY ALSO RECOVERED ...



6 ... WHILE INTANGIBLES INVESTMENT SLOWED SOMEWHAT

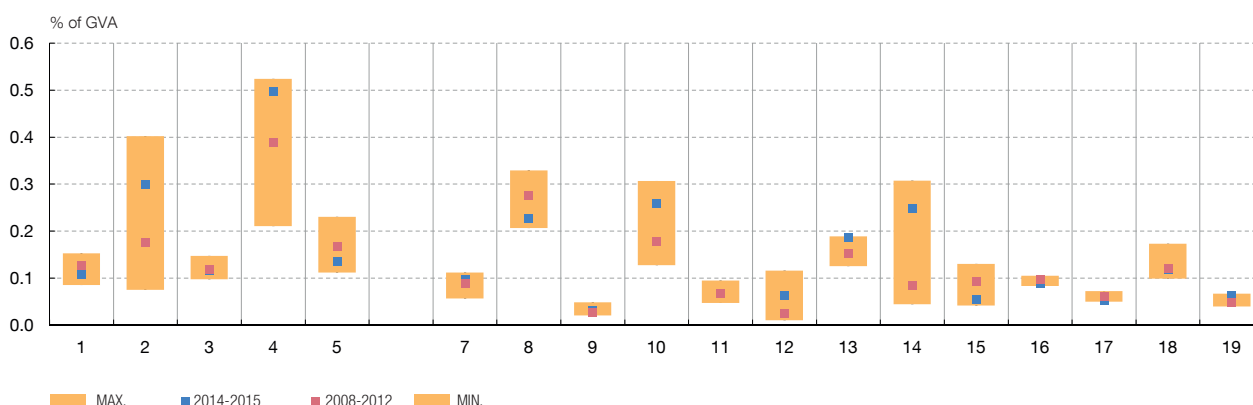


SOURCES: INE and Banco de España.



The improvement in non-construction investment was broadly based across industries. The ratio of investment to value added was in most industries higher in 2014-2015 than before the crisis.

RATIO OF INVESTMENT TO VALUE ADDED, BY INDUSTRY (a)



SOURCE: INE.

a Industries: (1) Agriculture, forestry and fishing; (2) Mining and quarrying; (3) Manufacturing; (4) Electricity, gas, steam and air conditioning supply; (5) Water supply; sewerage, waste management and remediation activities; (6) Construction (excluded); (7) Wholesale and retail trade; repair of motor vehicles and motorcycles; (8) Transportation and storage; (9) Accommodation and food service activities; (10) Information and communication; (11) Financial and insurance activities; (12) Real estate activities; (13) Professional, scientific and technical activities; (14) Administrative and support service activities; (15) Public administration and defence; compulsory social security; (16) Education; (17) Human health and social work activities; (18) Arts, entertainment and recreation; (19) Other service activities.



The improvement in non-construction investment was also broadly based across the productive sectors.³ Thus, the ratio of investment to value added was in most industries higher in the two-year period 2014-2015 (the latest year for which a breakdown is available) than in the pre-crisis period. The industries recording the largest increase in the ratio of investment to value-added were varied, including mining and quarrying, energy, information and communication, and administrative and support service activities (see Chart 3.2).

By contrast, the behaviour of construction-related investment⁴ has been much less favourable during the recovery, and in 2017 stood at less than 50% of its pre-crisis level. This aggregate behaviour reflects, first, the adjustment in housing investment, which, despite its recent improvement, was down to around 5% of GDP in 2017 (in line with levels in other European countries) from 12% before the crisis, following the major expansion of the residential sector that occurred from the late 1990s (see Chart 3.1.3). As for the rest of construction, it has now been declining as a percentage of GDP for a decade. In 2017, this item accounted for somewhat more than 5% of GDP, having fallen by some 4 pp of GDP since 2007. The behaviour of this component largely reflects the impact of fiscal consolidation, which has essentially been based on cuts in public sector construction investment, including investment in transport infrastructure.⁵

After its sharp contraction during the last downturn, investment in equipment and intangible assets of the sectors most closely corresponding to public-sector activity⁶

³ Excluding that part of the real-estate services sector that measures imputed property income.

⁴ This item includes the categories “Dwellings” and “Other buildings and structures” of the National Accounts.

⁵ See J. J. Pérez and I. Solera (2017), “Developments in public investment during the crisis and the recovery”, *Economic Bulletin* 4/2017, Banco de España.

contributed to the strength of the recovery, albeit to a lesser extent than that of the rest of the sectors. Between 2013 and 2015, the equipment investment of these sectors, which accounts for around 10% of the total, grew in line with that of the rest, recovering to somewhat more than 90% of its pre-crisis level (see Chart 3.1.5). Investment in intellectual-property-related products by those sectors with a larger public-sector involvement (which accounts for somewhat more than 15% of the total) continued to display the slight downtrend that began in 2011, in contrast to the buoyancy observed in the rest of the sectors (see Chart 3.1.6).

The recent behaviour of equipment investment is similar to that seen at the same stage of the cycle in the 1990s, despite the major deleveraging by non-financial corporations in recent years.⁷ Unlike in the cycle of the 1990s, the crisis that began in 2008 gave rise to two consecutive recessions, so that a comparison of the upturn that began in late 2013 with that which began in 1993 may be distorted by the fact that the initial position of the economy was not the same. Historical evidence suggests that recessions that are accompanied by severe business deleveraging usually have more persistent negative effects on investment,⁸ so that one would expect investment to behave less favourably in the latest cycle than in the 1990s. However, the growth of investment since 2013 has been higher than predicted by its historical relationship with economic activity, despite the major reduction in corporate debt that has taken place during much of the recovery (see Charts 3.3.1, 3.3.2 and 3.3.3).

Investment is behaving somewhat more favourably in Spain in the recovery than in the euro area as a whole. The dynamics of investment in the euro area as a whole, however, are markedly heterogeneous across countries. Of the four largest euro area countries, Italy has recorded the poorest relative performance by non-construction investment since end-2013 and France the most favourable (see Charts 3.3.4, 3.3.5 and 3.3.6). The weakness of business investment at global level in the early years of the recovery has been analysed in a large number of recent studies.⁹ In the case of the euro area countries, however, the evidence available shows that, in most of them, business investment has moved in line with aggregate activity. The more favourable behaviour of non-construction investment relative to GDP in Spain has enabled the gap with the main euro area countries to be closed. As regards its composition, equipment investment as a proportion of total investment was, in 2017, higher in Spain (70%) than on average in Germany, France and Italy (60%), while the weight of intangibles investment in Spain was lower than in these countries.

From a more global perspective, investment has grown more moderately in the euro area than in the United States, which has a significantly higher investment-to-GDP ratio. Over the last two decades, the US economy has recorded more significant increases in business investment than the euro area, both in the case of equipment investment and

6 Defined, in this case, as the sectors “Public administration and defence; compulsory social security”, “Education” and “Health and social services”, according to the INE. In the latter two sectors, however, although the majority of the activity is public, activity is also performed by privately owned and controlled firms. Likewise, in other sectors there is also a significant presence of firms that are mainly publicly owned firms (e.g. ADIF and AENA). Unfortunately, the official statistics do not allow a better separation of public and private activity.

7 There is no official information of the INE on investment in intellectual property assets for the period before 1995.

8 See, inter alia, Honkapohja and Koskela (1999), “The economic crisis of the 1990’s in Finland”, *Economic Policy*, 14, pp. 401-436.

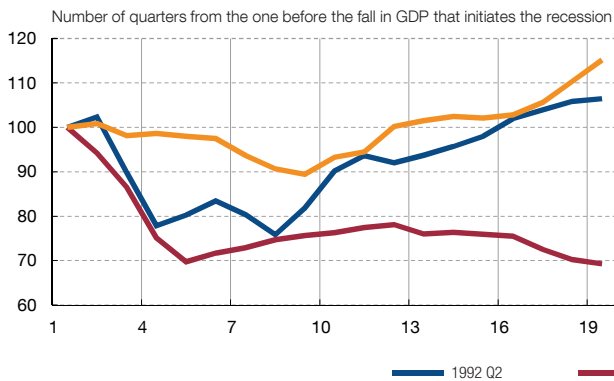
9 See M. Banbura et al. (2018), “Low investment in the EU”, Occasional Paper, ECB, forthcoming, or J. C. Berganza, S. Romero, T. Sastre, P. Burriel and M. Folch (2015), “La debilidad de la inversión empresarial en las economías desarrolladas”, *Boletín Económico*, July-August, Banco de España.

EQUIPMENT INVESTMENT IN SPAIN MORE BUOYANT IN THE CURRENT RECOVERY THAN IN THE 1990s AND IN THE EURO AREA

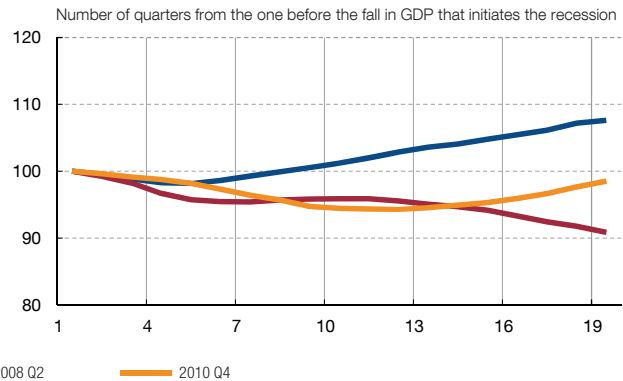
CHART 3.3

The recent behaviour of equipment investment has been similar to that in the cyclical episode in the 1990s, despite the heavy deleveraging by non-financial corporations. Also, investment has performed relatively more favourably in the recovery in Spain than in the euro area as a whole.

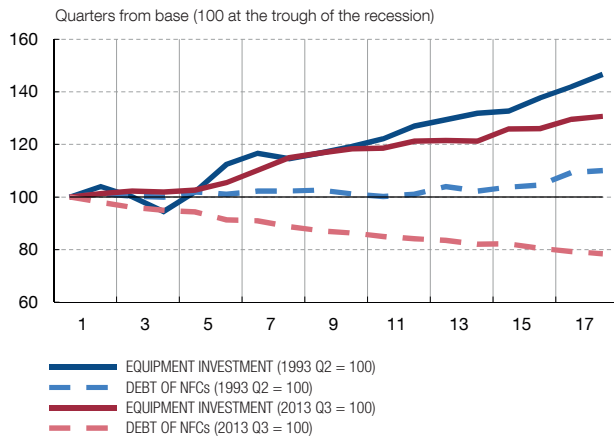
1 EQUIPMENT INVESTMENT OVER VARIOUS CYCLICAL EPISODES



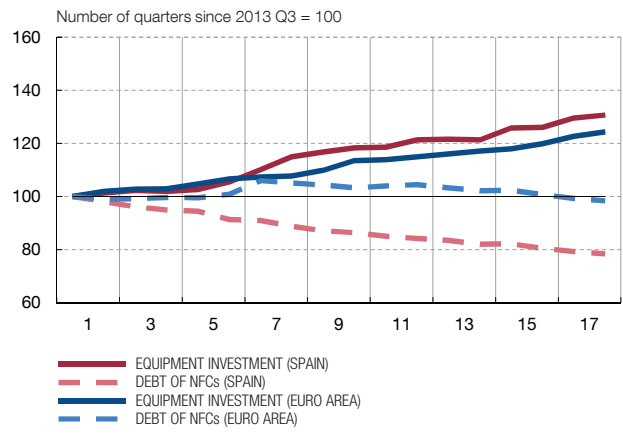
2 GDP OVER VARIOUS CYCLICAL EPISODES



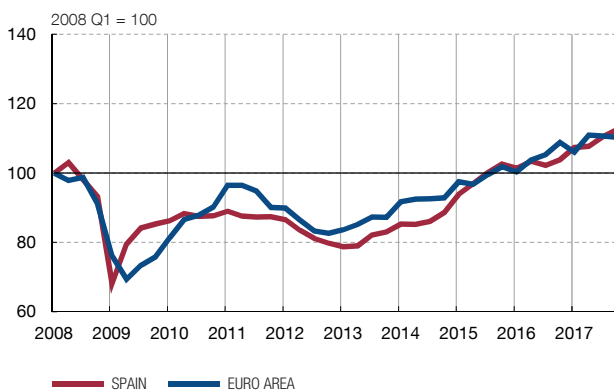
3 INVESTMENT AND DELEVERAGING DURING RECOVERY PERIODS



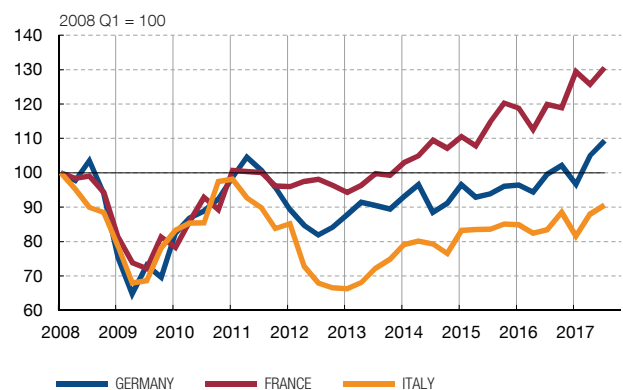
4 INVESTMENT AND DELEVERAGING: SPAIN AND EURO AREA



5 NON-CONSTRUCTION INVESTMENT OVER THE LAST DECADE: SPAIN AND THE EURO AREA



6 NON-CONSTRUCTION INVESTMENT OVER THE LAST DECADE: EURO AREA COUNTRIES



SOURCES: INE and Eurostat.



in that of intangible assets (see Chart 3.4). Notwithstanding this, in recent years the euro area appears to have closed most of the gap in intangibles.¹⁰ Given how important the latter have become in the developed economies, Box 3.1 explores the definition and measurement of intangibles and the implications that a higher proportion of this type of assets entails for the economy's technical progress and aggregate productivity.

3 The recovery of investment: financing, uncertainty and export orientation

The healthy growth of investment by Spanish firms, with respect to euro area firms, is explained by a number of macroeconomic and microeconomic factors. Notable among these have been the improvement in external financial conditions, the use of own funds to finance investment, the reduction in economic and political uncertainty, and the strengthening of the export orientation of Spanish firms in recent years. The easing of financial conditions since 2013 and an improved allocation of financial flows to the benefit of more productive firms appears to have had a more favourable impact on firms in Spain than in the euro area as a whole, given the less favourable initial position of Spanish companies on aggregate, in terms of greater credit constraints, the higher cost of accessing credit, and heavy business deleveraging.¹¹ Also, the reduction in uncertainty, following the episodes of sovereign crisis in the euro area between 2010 and 2012, would have most favoured those economies, like the Spanish one, that showed greater vulnerability during this phase of the crisis. Moreover, the strength of investment in Spain in the most recent period has remained based on two fundamental supports that operated during the last downturn: the relatively high availability of own funds and the shift in the composition of demand since the start of the crisis from the domestic to the external component. The latter entailed a need for greater investment on aggregate, to maintain the momentum of strong growth in the Spanish economy's export capacity. The contribution of these elements is analysed in detail below.

3.1 THE FINANCING OF INVESTMENT

Internal sources of financing played a significant role in the behaviour of investment during the crisis and also in the subsequent recovery. In the early stages of the crisis the tensions in wholesale financial markets had a contractionary impact on the supply of bank credit. In these circumstances, financial institutions passed on the rise in the cost of financing their lending to businesses. In an economy as highly banked as the Spanish one, these developments led many firms to replace bank credit, at least partially, with alternative sources of financing, such as securities issuance, in the case of large firms and, more generally, greater use of own funds, through increases in the gross operating surplus, normally known as the "profit margin".¹² There is some evidence that this countercyclical behaviour by margins was not confined exclusively to Spain, but was also seen in other euro area countries subject to significant financial strains during the crisis (such as Portugal and Ireland),¹³ and in the United States.¹⁴ In the recovery sources of internal funding have continued to have a high weight, although the measures adopted by national and European authorities, including the expansionary monetary policy implemented in recent years by the ECB, have led to considerable improvement in the conditions of access to bank and non-bank financing (see Chart 3.5). Indeed, the use of own funds has been particularly important during the crisis and the recovery for financing investment in intangible assets,

10 A structural explanation for this is to be found in R. Döttling, G. Gutiérrez and T. Philippon (2017), "Is there an investment gap in advanced economies? If so, why?", ECB Forum of Central Banking, June.

11 Regarding the financing of investment in Spain, see Chapter 2, *Annual Report 2016*, Banco de España.

12 See Chapter 2, *Annual Report 2016*, Banco de España, or J. M. Montero and A. Urtasun (2014), "Price-cost mark-ups in the Spanish economy: a microeconomic perspective", Working Paper 1407, Banco de España.

13 See Chapter 4, *Annual Report 2014*, Banco de España.

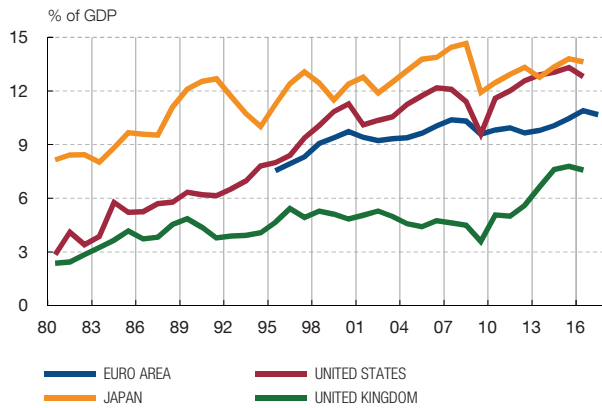
14 See S. Gilchrist, J. W. Sim and E. Zakrajšek (2014), *Uncertainty, Financial Frictions, and Investment Dynamics*, NBER Working Paper, No 20038, National Bureau of Economic Research, United States.

FROM A GLOBAL PERSPECTIVE, INVESTMENT HAS BEEN MORE SUBDUED IN THE EURO AREA THAN IN THE UNITED STATES IN RECENT DECADES, ALTHOUGH THE GAP IN INTANGIBLES HAS NARROWED

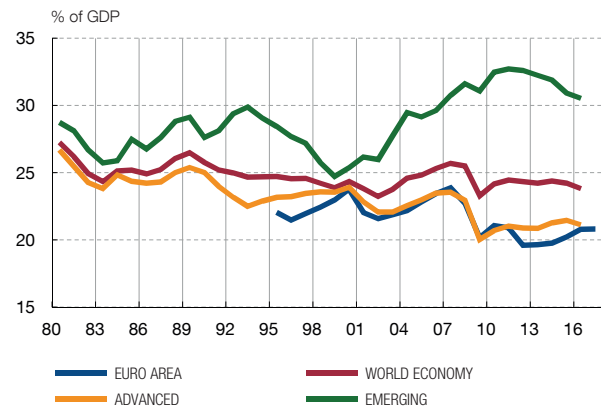
CHART 3.4

From a global perspective, investment in the euro area has been more subdued than in the United States, which has a significantly higher investment/output ratio. Even so, the euro area appears to have closed a large part of the gap existing in the case of intangibles. In the case of Spain, the weight of intangibles investment is lower than on average in the main euro area countries.

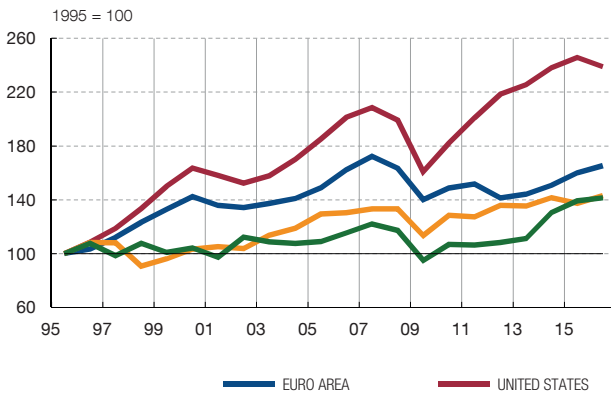
1 NON-CONSTRUCTION INVESTMENT GLOBALLY



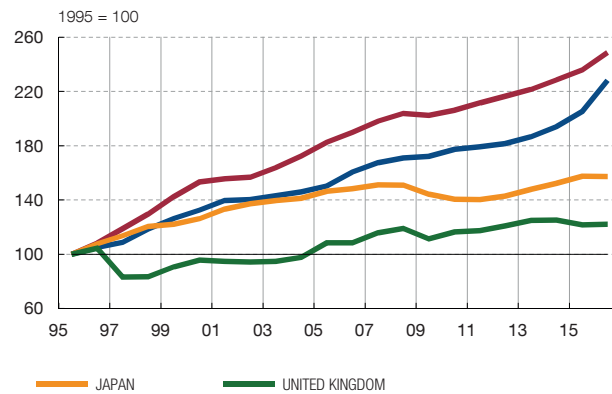
2 TOTAL INVESTMENT GLOBALLY



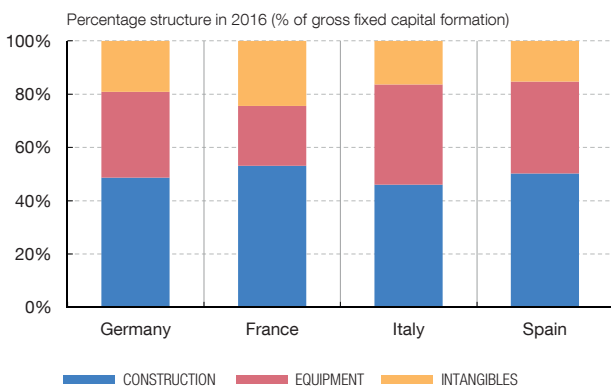
3 EQUIPMENT INVESTMENT GLOBALLY



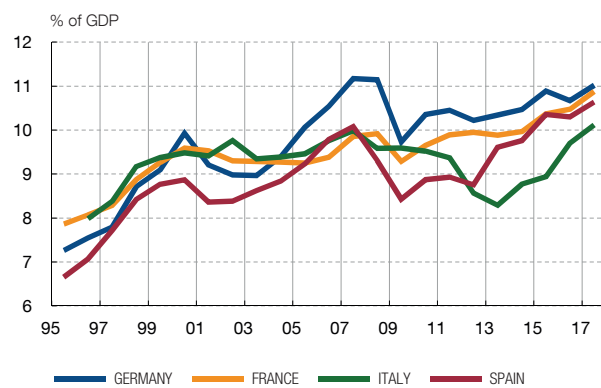
4 INTANGIBLES INVESTMENT GLOBALLY



5 STRUCTURE OF INVESTMENT IN THE MAIN EURO AREA COUNTRIES



6 NON-CONSTRUCTION INVESTMENT IN THE MAIN EURO AREA COUNTRIES

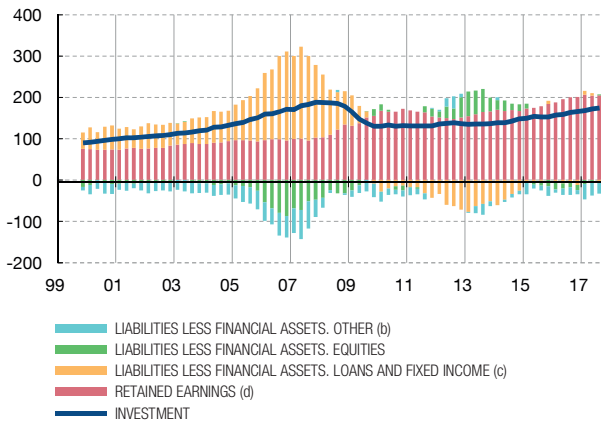


SOURCES: Eurostat and OECD.

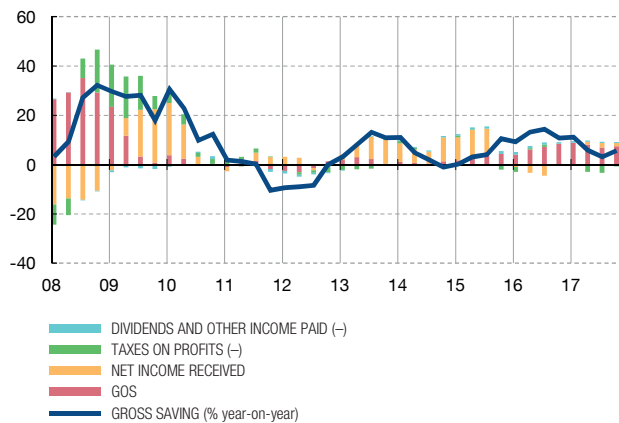


The internal sources of financing of investment not only played a significant role during the crisis, but also during the subsequent recovery. Also, aggregate deleveraging by the non-financial corporations sector in recent years has been compatible with a reallocation of flows of financing towards more productive firms.

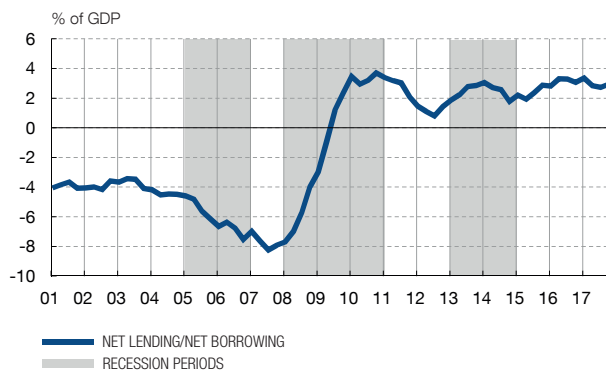
1 INVESTMENT FLOWS AND FINANCING OF NON-FINANCIAL CORPORATIONS (a)



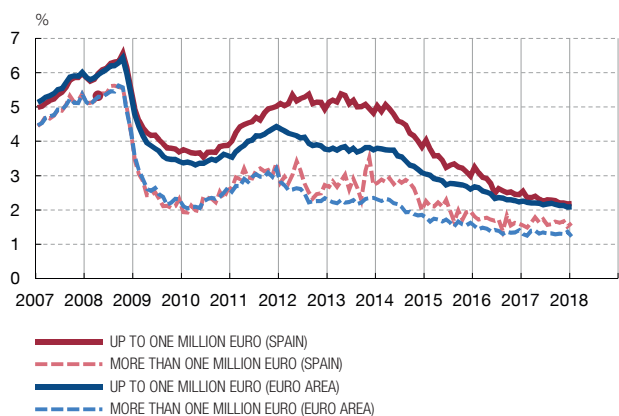
2 NOMINAL GROWTH OF GROSS BUSINESS SAVING AND CONTRIBUTIONS



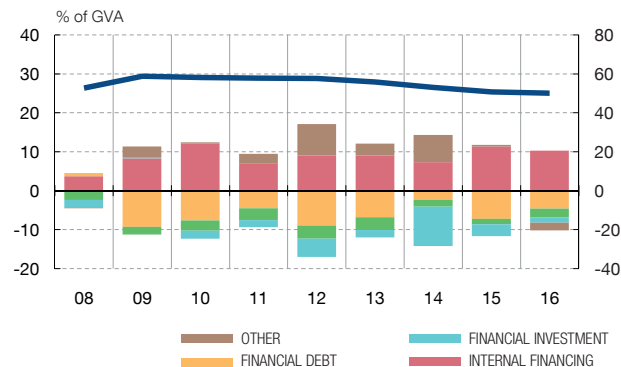
3 NET LENDING/NET BORROWING OF NON-FINANCIAL CORPORATIONS



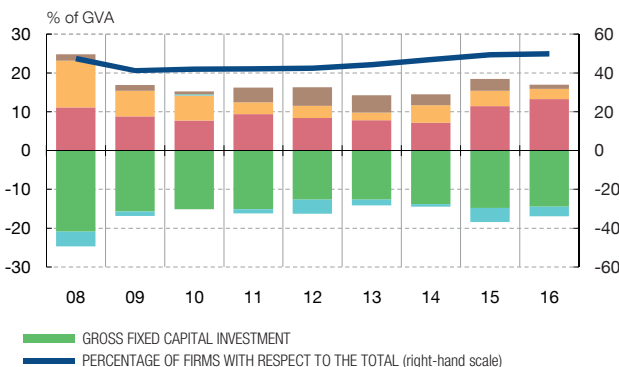
4 INTEREST RATES FOR NON-FINANCIAL CORPORATIONS



5 FLOWS OF ASSETS AND LIABILITIES OF FIRMS WITH NEGATIVE NET INVESTMENT (e)



6 FLOWS OF ASSETS AND LIABILITIES OF FIRMS WITH ZERO OR POSITIVE NET INVESTMENT (e)



SOURCES: INE, Banco de España and ECB (SAFE).

- a Cumulative four-quarter flows.
- b Including statistical adjustments.
- c Including loans from residents and non-residents.
- d Gross saving plus net capital transfers.
- e Net investment is understood to be the flow of (tangible and intangible) gross fixed capital formation net of capital consumption.



which may reflect the greater difficulty of accessing external financing to fund projects involving investment in this type of asset.¹⁵

Moreover, the aggregate deleveraging by the non-financial corporations sector in recent years has been compatible with a reallocation of flows of financing towards more productive firms. Against a background of more significant improvement in financial conditions in the Spanish economy than in the euro area as a whole, credit has generally flowed to those firms in a better economic and financial position, which has boosted investment, given that these firms are in a better situation to undertake new projects. The proportion of companies that have carried out investment in recent years has increased, as also has the average amount invested by each firm (see Charts 3.5.5 and 3.5.6). In addition, the allocation of credit is now more efficient than it was before the crisis, insofar as funds tend to flow to firms that are, on average, more productive and in a healthier financial position.¹⁶ These developments contrast with the evidence existing for the pre-crisis period, which shows that investment was mainly earmarked for projects offering better collateral, which led to a concentration in less productive sectors and, within these, in less productive firms.¹⁷

3.2 THE REDUCTION IN UNCERTAINTY

Uncertainty has been significantly reduced in recent years, from the peak levels recorded in 2012.¹⁸ According to the available indicators, the reduction in uncertainty during the recovery was especially significant up to the end of 2015, after which it rose again, as a result of the political uncertainty linked to the high degree of parliamentary fragmentation that followed the elections held in December 2015 and June 2016 and, more recently, since mid-2017, owing to the tensions relating to the political situation in Catalonia (see Chart 3.6).

The evidence available for Spain shows that the moderation in uncertainty has had positive effects on firms' investment decisions. One of the normal characteristics of investment processes is the timing mismatch between the costs of expanding productive capital, which firms incur in the short-term, and the income flows obtained from the investment, which only materialise over a much longer time horizon and cannot be precisely estimated *ex ante*. Consequently, a reduction in the level of uncertainty leads firms to embark on investment projects that they would otherwise have postponed until more information was available. In fact, according to the studies available for Spain, the effect of a reduction in uncertainty has significant positive effects on investment¹⁹ (see Chart 3.6.3). It is also important to distinguish between types of firm,

15 See D. Dejuán, A. Menéndez and M. Mulino (2018), "Evolución de la inversión en el sector empresarial no financiero español", *Boletín Económico*, Banco de España, forthcoming.

16 See Chapter 2, *Annual Report 2016*, Banco de España.

17 See Ó. Arce, J. M. Campa and A. Gavilán (2013), "Macroeconomic adjustment under loose financing conditions in the construction sector", *European Economic Review*, 59, pp. 19-34; S. Basco, D. López Rodríguez and E. Moral-Benito (2017), *Housing Bubbles and misallocation: evidence from Spain*, Working Paper, Banco de España, forthcoming; Martín, Moral-Benito y Schmitz (2018), *The Financial Transmission of Sectoral Shocks: Evidence from the Spanish Housing Bubble*, Working Paper, Banco de España, forthcoming, and G. Jiménez, E. Moral-Benito and R. Vegas (2018), *Bank Lending Standards over the Cycle: The Role of Firms' Productivity and Credit Risk*, Working Paper, Banco de España, forthcoming.

18 Measuring the degree of uncertainty is complicated, although diverse indicators may be constructed to enable it to be proxied. See M. Gil, J. J. Pérez and A. Urtasun (2017), "Macroeconomic uncertainty: measurement and impact on the Spanish economy", *Boletín Económico*, 1/2017, Banco de España for a discussion of the literature and a proposal for indicators for the Spanish economy.

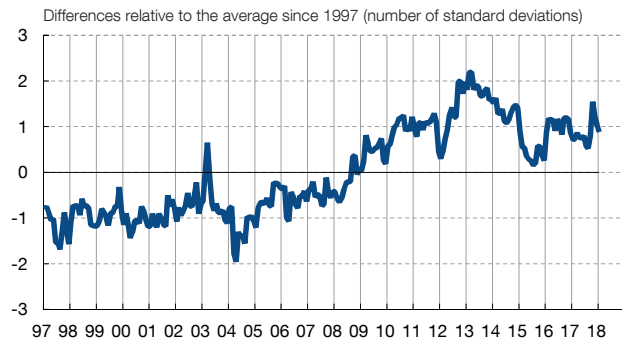
19 Based on VAR-type (vector autoregressive) models, which incorporate indicators of uncertainty and equipment investment. The Spanish sovereign debt spread over Germany and a price index are also included as additional control variables, to take into account the possible effects of the financial and nominal variables on the different indicators of uncertainty. The analysis also takes into account the effect of uncertainty arising from the external environment, in particular the EU, so that the effects of national idiosyncratic shocks can be isolated.

UNCERTAINTY HAS DIMINISHED IN RECENT YEARS, FROM ITS HIGHS IN 2012, WHICH HAS PROBABLY HAD A POSITIVE IMPACT ON INVESTMENT

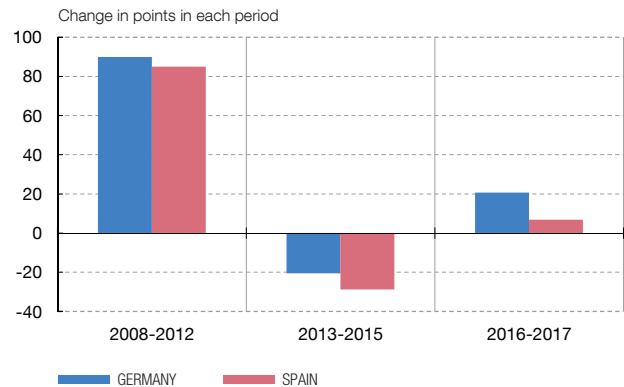
CHART 3.6

Economic uncertainty has diminished significantly during the recent recovery in Spain, from the highs recorded in 2012. The evidence available, based on both aggregate and individual data, shows that a less uncertain environment is conducive to business investment.

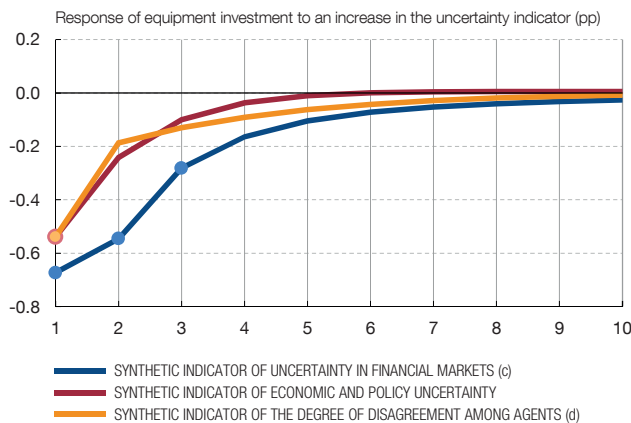
1 ECONOMIC UNCERTAINTY IN SPAIN (a)



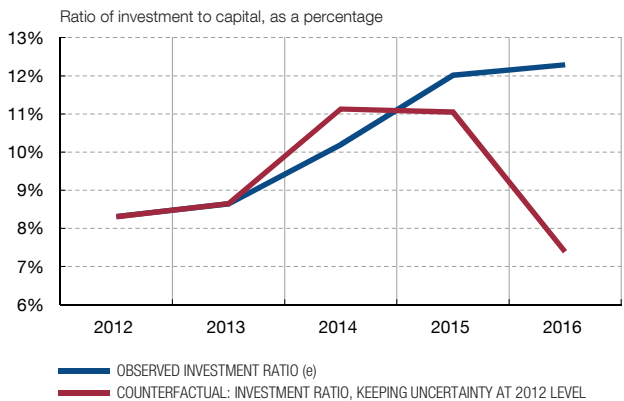
2 UNCERTAINTY AS MEASURED BY THE EPU: SPAIN AND GERMANY



3 EFFECT OF UNCERTAINTY: MODEL WITH AGGREGATE DATA (b)



4 EFFECT OF UNCERTAINTY: MODEL WITH INDIVIDUAL DATA



SOURCES: INE, FUNCAS forecast panels, European Commission, CIS barometer, PRS Group, www.policyuncertainty.com and Banco de España.

- a Synthetic indicator compiled by applying the principal components technique, using information from the indicators of assessment of the current political situation and of political expectations of the CIS, the Economic Policy Uncertainty Index (EPU), the political risk indicator (PRS Group) and the degree of disagreement in budget deficit forecasts.
- b The VAR model includes: as endogenous variables, uncertainty as measured by the synthetic indicators of financial markets, disagreement and economic policy uncertainty, investment, the Spanish sovereign debt spread over the German Bund and a price index; and as exogenous variables, EURO STOXX 50 volatility, the EPU for the EU as a whole and a synthetic indicator of European uncertainty (calculated in a similar manner to that used for Spain's synthetic indicators).
 - Indicates statistical significance at the 5% level.
- c Synthetic indicator compiled by applying the principal components technique, using information from indicators of the volatility of the IBEX 35, the exchange rate, the oil price and the ten-year bond price.
- d Synthetic indicator compiled by applying the principal components technique, using information from indicators of the disagreement in forecasts of GDP, private consumption and equipment investment, uncertainty about the outlook for unemployment over the next twelve months, uncertainty about industrial order books and uncertainty about industrial production expectations.
- e. Ratio of business investment to capital, according to Banco de España Central Balance Sheet Data Office.

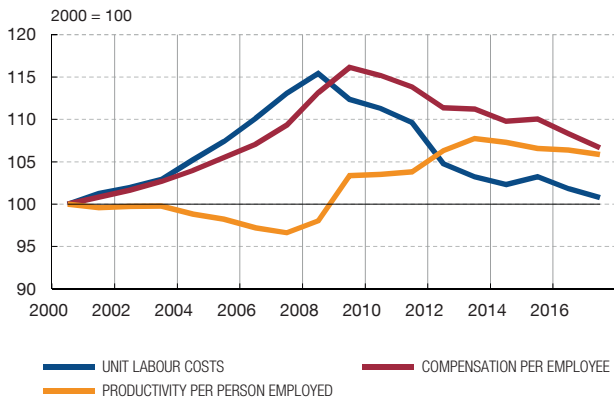


since the effect of uncertainty may vary according to their characteristics (see Chart 3.6.4). Specifically, the latest studies²⁰ show that small and medium-sized firms are more vulnerable to shocks arising from economic uncertainty and react to such shocks more

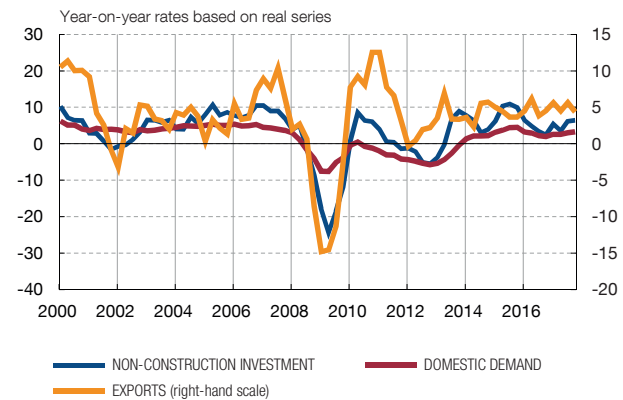
20 See D. Dejuán and C. Ghirelli (2018), *Determinants of firms' investment in Spain: the role of policy uncertainty*, Working Paper, Banco de España, forthcoming. This paper provides a detailed analysis of various determinants of investment using microdata of Spanish firms for the period 1997-2014 from the Banco de España's Central Balance Sheet Data Office. The paper refers to the literature on these factors, emphasising the importance of determinants that are both internal and external to the firm.

The export orientation of the Spanish economy has increased during the crisis and the recovery, boosting business investment. The favourable behaviour of exports has been partly based on the recovery of the price competitiveness that the Spanish economy lost during the upswing prior to the crisis. Also, given the weakness of domestic demand, Spanish firms have become more external-market oriented.

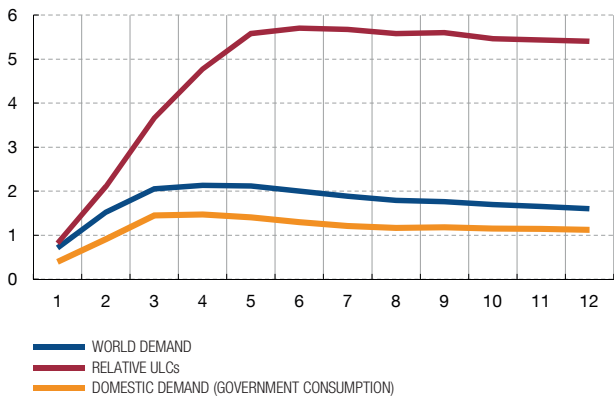
1 COMPETITIVENESS



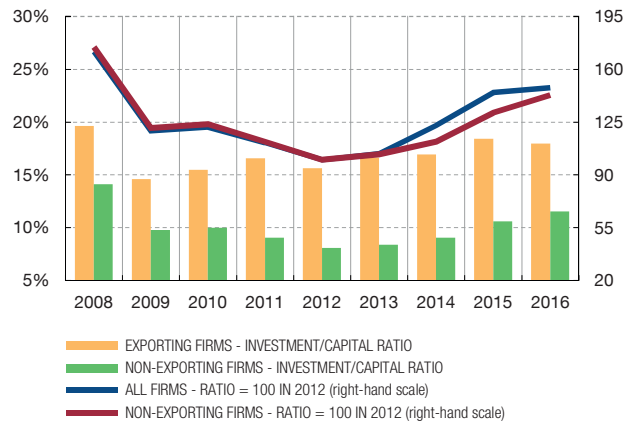
2 INVESTMENT AND EXTERNAL DEMAND



3 CUMULATIVE RESPONSE BY INVESTMENT TO A SHOCK EQUIVALENT TO A 1% INCREASE IN GDP OVER THREE YEARS (a)



4 INVESTMENT OF EXPORTING AND NON-EXPORTING FIRMS: INDIVIDUAL DATA



SOURCES: INE and Eurostat.

a Results of the Quarterly Model of the Banco de España (MTBE).



strongly. Also, responses are found to vary according to financial position, so that those with a high debt ratio are more severely affected by uncertainty.²¹

3.3 GREATER EXPORT ORIENTATION

During the crisis and subsequent recovery, the export orientation of Spanish firms has increased, boosting investment. The significant increase in sales to the rest of the world in recent years has been based, on one hand, on the recovery of the competitiveness that the Spanish economy lost during the pre-crisis expansion; price and cost adjustment has generated a depreciation of the real exchange rate, which would appear to have contributed to the dynamism of exports during this period (see Chart 3.7.1). Also, Spanish firms increased their orientation towards external markets given the weakness of domestic

21 With debt ratio values above the median value of the distribution of this variable. This effect is directly related to the importance of financial frictions and the effect of uncertainty on the demand for and supply of credit. Having low levels of profitability, however, does not seem to explain the differing effects of the impact of uncertainty.

demand, which would appear to have translated into an increase in the volume of exports and in the number of firms that are regular exporters. Specifically, among manufacturing firms, those with the largest presence in external markets were able to partly offset the fall in their domestic sales with increases in their exports, a process that was assisted by labour cost moderation. According to the estimates available, between 2009 and 2013, these firms on average replaced around one-third of their lost domestic sales with sales in foreign markets.²²

The relevance of the increase in export orientation for investment is confirmed by an analysis of the individual decisions of firms based on recent data. The tendency for exporting firms to show high investment-to-capital ratios has increased during the recovery (see Chart 3.7.4).²³ This has occurred through two channels. First, exporting firms are characterised by having higher investment-to-capital ratios, so that growth in the number of exporting firms (extensive margin) has boosted investment. Second, the recovery in the investment of exporting firms seems to have been somewhat stronger than the recovery in that of non-exporting firms, so that the increase in sales abroad by the former (intensive margin) has also been a factor favouring the dynamism of investment. The investment-to-capital ratio of exporting firms began to increase in 2010, while that of non-exporting firms did not do so until 2013. This may partly be explained by the lower sensitivity among the former to increases in domestic uncertainty, as well as by the above-mentioned replacement of domestic demand by foreign demand.

The increase in investment was higher than was to be expected from the behaviour of aggregate demand, which may indicate greater capacity utilisation among exporting firms. Insofar as firms that satisfy domestic demand and demand from the rest of the world are not the same, this reorientation of production towards export activity may have caused the aggregate behaviour of capacity utilisation to mask disparate behaviour at sectoral level. Thus, it is possible that during the recession exporting industries maintained approximately full capacity utilisation, which would help to explain why investment behaved more favourably during the recovery than was to be expected from the evolution of aggregate demand.²⁴

The role of the determinants highlighted in the previous section is consistent with a structural interpretation of the recent behaviour of corporate investment in Spain.²⁵

Under the general equilibrium model estimated for the Spanish economy, the low growth of private productive investment²⁶ in the period 2011-2012 is explained by the adverse effects of the financial factors and negative (private and public) demand shocks. These contractionary effects began to disappear in 2013 and to be replaced by a clearly positive impact arising from wage moderation, which generated an expansionary effect during

3.4 THE CONTRIBUTION OF THE VARIOUS DETERMINANTS OF INVESTMENT IN A STRUCTURAL MODEL

22 See P. Antràs, M. Almunia, D. López Rodríguez and E. Morales (2018), *Venting Out: Exports during a Domestic Slump*, Working Paper, Banco de España, forthcoming. See also P. Soares and E. Prades (2017), “Does export concentration matter in economic adjustment programs? Evidence from the euro-area”, *Journal of Policy Modelling*.

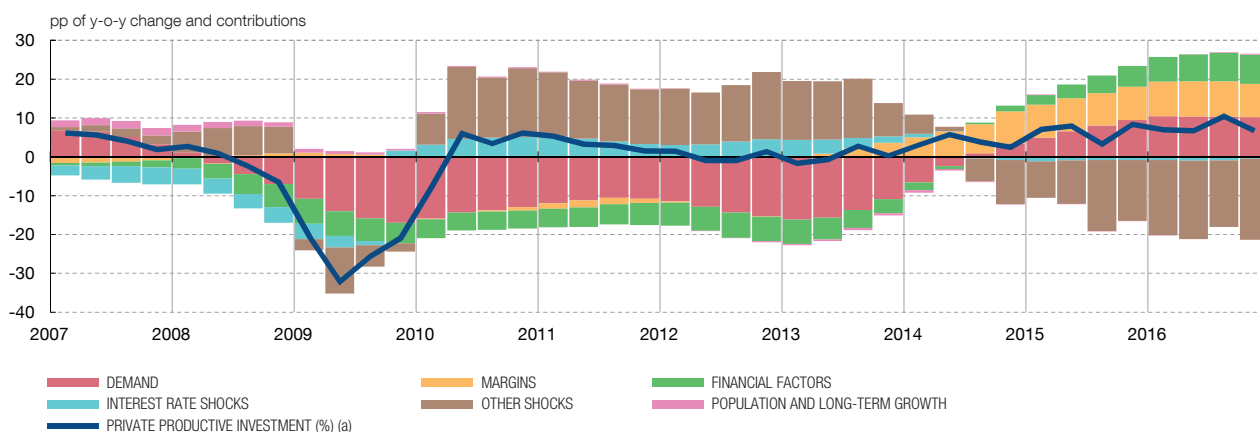
23 See D. Dejuán and C. Ghirelli (2018), op. cit.

24 See D. Posada, J. M. González Mínguez and A. Urtasun (2014), “Un análisis del comportamiento reciente de la inversión en equipo y de sus determinantes”, *Boletín Económico*, June, Banco de España.

25 See G. Almeida, S. Hurtado and O. Rachedi, *JoSE: Joint Spain-Euro-Area Model*, Working Paper, Banco de España, forthcoming.

26 The definition of investment in this model is slightly different to that discussed in the previous section. It is defined as total investment, excluding housing and general government. With respect to the concept of investment in equipment and intangibles used as reference, it therefore includes private construction. Also, although the general government sector is excluded, all the investment activity of the non-general government corporate public sector, responsible for most of the public infrastructure and other investment of this sector, is included (see J. J. Pérez and I. Solera (2017), “Developments in public investment during the crisis and the recovery”, *Economic Bulletin*, 4/2017, Banco de España).

From a macroeconomic standpoint, the key role of financial conditions, internal financing, domestic and foreign demand would be consistent with a structural interpretation of recent developments in business investment in Spain.



SOURCES: INE and Banco de España.

a Difference between GFCF and the aggregate of housing investment and public investment.



subsequent years, especially through the export channel. From 2015, the recovery in private demand also began to have a positive influence. Likewise, the contribution of the financial factors to growth, which had become neutral in 2013, was clearly positive between 2014 and 2016. Thus, according to this model, the strong growth of investment in recent years is explained mainly by the re-emergence of positive domestic demand shocks, the expansionary effects of wage moderation (competitiveness) and the normalisation of financial conditions (see Chart 3.8).

4 Favourable circumstances and constraints for investment in the short and medium term

4.1 FAVOURABLE CIRCUMSTANCES FOR THE MOMENTUM OF INVESTMENT

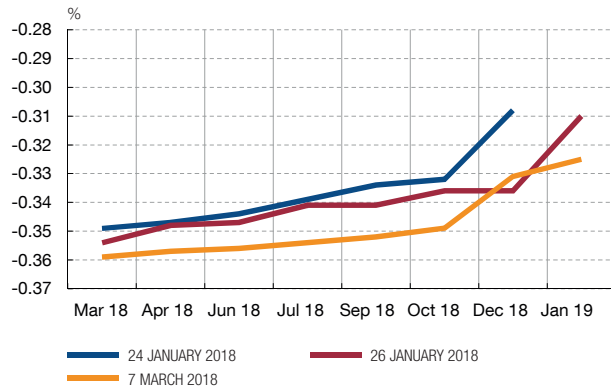
The positive developments in financial conditions and in the availability of financing are expected to continue, which will provide ongoing support to the momentum of investment. As mentioned above, the measures adopted by the ECB have boosted access to funding through bank credit and the issuance of debt instruments, and have permitted a very low interest rate scenario. Looking ahead, monetary and financial conditions are expected to remain favourable to investment for a protracted period of time (see Chart 3.9.1). Similarly, the restructuring and reorganisation process of the credit institutions sector in Spain and progress in the area of the banking union within Europe should be conducive to the proper functioning of lending activity (see Chapter 2 of this report).

Progress in the correction of imbalances in the corporate sector, especially the debt overhang, should allow companies to undertake investment projects on a sounder footing. Higher corporate saving has facilitated internal financing, at the same time as the balance sheet restructuring of firms and the improved outlook for returns have made it easier for companies to tap external funds (see Chart 3.9.2). Accordingly, the available studies for the case of Spain, which are based on individual data, show that there is a non-linear relationship between debt levels and business investment, with the result that the adverse effect of the former on the latter, *ceteris paribus*, would be significant for high debt levels and its impact would be less relevant at present, following the sharp deleveraging that has taken place.²⁷

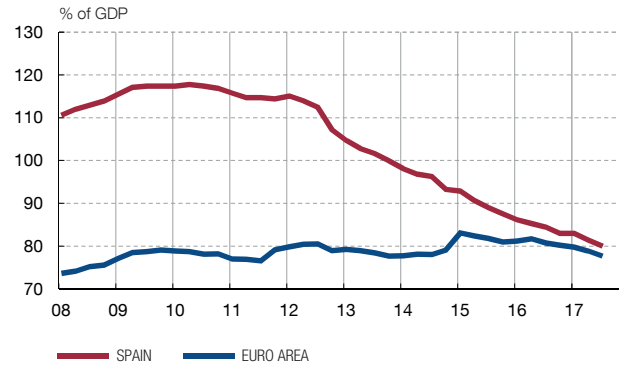
²⁷ See, in particular, F. Herranz González and C. Martínez Carrascal (2017), *The impact of firms' financial position on fixed investment and employment. An analysis for Spain*, Working Paper 1714, Banco de España.

A series of factors will favour protracted buoyant investment in the short and medium term including most notably, ongoing positive financial conditions, the correction of business sector imbalances and an outlook of a continued recovery in the Spanish economy.

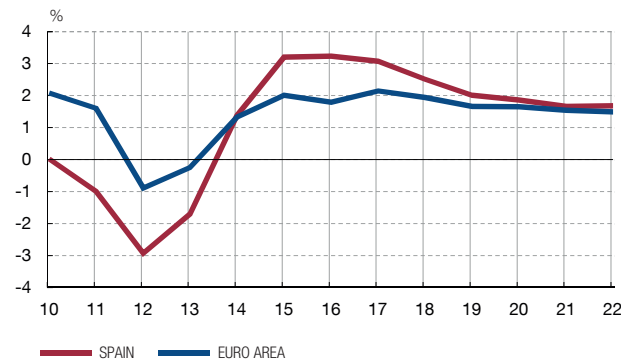
1 EXPECTED EONIA RATE FOR THE NEXT EIGHT MEETINGS OF THE GOVERNING COUNCIL OF THE ECB



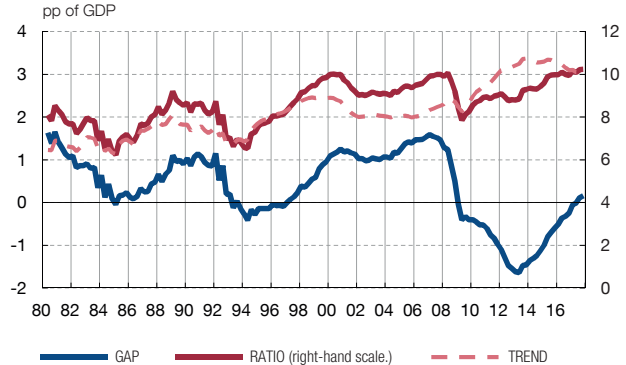
2 CORPORATE DEBT RATIO



3 MEDIUM-TERM GROWTH OUTLOOK (a)



4 GAP BETWEEN EQUIPMENT INVESTMENT AND ITS TREND (b)



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

a IMF (WEO Report, October 2017).

b Difference between the ratio of equipment investment to GDP and the estimated trend of this ratio (unobserved components model). See D. Leiva, J. J. Pérez, G. Pérez Quirós and A. Urtasun (2018), An empirical model of the basic macroeconomic stylised facts of the Spanish economy, Working Papers, Banco de España, forthcoming.

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Likewise, the outlook for economic growth is also favourable for investment activity.

The medium-term outlook for the Spanish economy remains positive: GDP growth of more than 2%²⁸ – above the euro area average – is expected over the next few years (see Chart 3.9.3). Progress made in restoring macro-financial equilibria (especially the correction of the loss of competitiveness and high private indebtedness after the start of the crisis) is making for a strong and possibly more sustainable recovery than in other upturns.²⁹

In a scenario of these characteristics, corporate investment could retain its momentum in step with the higher degree of capacity utilisation. Although the ratio of investment in equipment to GDP is estimated to have stood at levels close to its trend

28 Specifically, according to the “Quarterly report on the Spanish economy”, *Economic Bulletin*, 1/2018, Banco de España, real GDP is estimated to show increases of 2.7% in 2018, 2.3% in 2019 and 2.1% in 2020.

29 See Chapter 1 of this report.

in 2017, there may be additional gains given the current firming of the recovery of the Spanish economy³⁰ (see Chart 3.9.4). Accordingly, on one hand, capacity utilisation is at very high levels in certain sectors and to a greater extent in those related to exports³¹ (see Chart 3.10.1). On the other, during the last decade capital obsolescence has occurred with most investment earmarked for covering capital depreciation (see Chart 3.10.4). Finally, the price of investment goods relative to other goods³² has fallen in Spain since 2005 (when its peak of the last two decades was recorded) by slightly more than 11% (–1.7% in the euro area as a whole) and, thus that lower relative price could have a positive effect on investment decisions (see Chart 3.10.5).

4.2 POSSIBLE INVESTMENT CONSTRAINTS AND OBSTACLES IN THE SHORT AND MEDIUM TERM

The persistence of short-term risks could prompt heightened uncertainty, both globally and in Spain, curtailing investment projects. From a global standpoint, recently, several threats to the momentum of world trade have emerged, owing to protectionist trends in certain countries (especially, in the United States) and to Brexit (see Chart 3.11.1). At national level, the materialisation of a fresh scenario of heightened political uncertainty such as that observed during most of 2016 or in relation to the political situation in Catalonia (see Box 1.1. of Chapter 1 of this report) could negatively impact agents' confidence and business investment.³³

Also, current low levels of public investment could restrict business investment insofar as the former complements and acts as a catalyst for the latter. Public-sector investment has made a highly significant contribution to the recent budget deficit reduction process to the extent that all its components³⁴ recorded their lowest levels of recent decades (for infrastructure, see Chart 3.11.2). In this setting, evidence shows that a positive relationship exists between aggregate productivity of the economy and so-called “productive public spending” with a significant impact on potential growth. Business investment is a particularly significant channel through which this impact materialises, both direct business investment (by state-owned or state-controlled companies) and indirect business investment (via the private sector). Although funds earmarked for public-sector investment could represent the crowding out of private-sector activity in the short term,³⁵ the aggregate impact of higher public-sector investment on private activity is generally positive in the long term, insofar as productive public capital expands, resulting in an improvement in the return on private factors (complementarity or crowding in

30 See D. Leiva, J. J. Pérez, G. Pérez Quirós and A. Urtasun (2018), “An empirical model of the basic macroeconomic stylised facts of the Spanish economy”, Working Paper, Banco de España, forthcoming.

31 Among others, noteworthy is the high capacity utilisation in the industries of manufacture of electrical equipment, manufacture of machinery and equipment, manufacture of motor vehicles, trailers and semi-trailers, and manufacture of other transport equipment.

32 Measured as the ratio between the investment deflator and the GDP deflator.

33 For an analysis of the potential effects of a scenario of a more abrupt and persistent increase in political uncertainty, see, for example, the box in the *Financial Stability Report*, Banco de España, November 2017, on the hypothetical scenarios triggered by the episode of political tension in Catalonia at the end of last year (see Box 1.1, “The economic impact of uncertainty arising from political tensions in Catalonia”, in the *Financial Stability Report, November 2017, Banco de España*). Specifically, this box simulates a hypothetical scenario assuming an increase in uncertainty in a given quarter which is equivalent to the uncertainty recorded in the most intense previous episode, and a subsequent linear decline until the uncertainty disappears after two years. In this case, the estimated negative effect on GDP is slightly more than 2.5 pp in cumulative terms over those two years.

34 See J. J. Pérez and I. Solera (2017), “Developments in public investment during the crisis and the recovery”, *Economic Bulletin, 4/2017, Banco de España*.

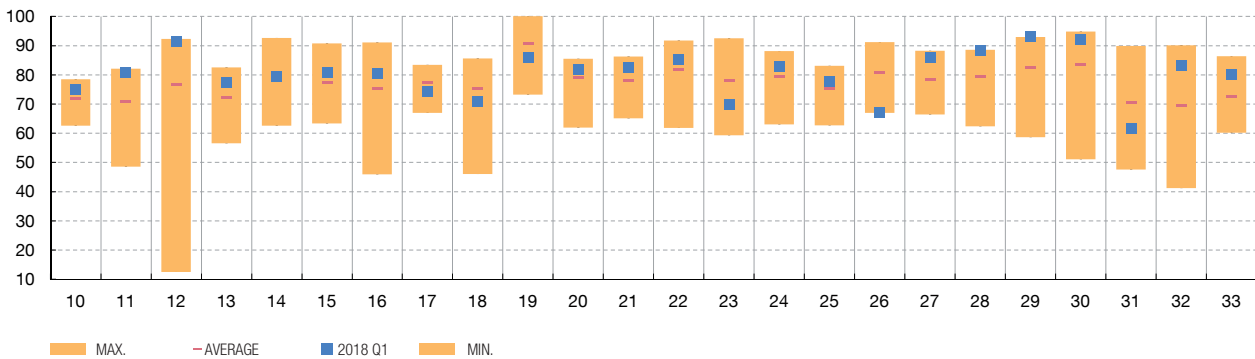
35 The available evidence for Spain tends to find positive effects in the short term. In particular, M. Alloza, P. Burriel and J. J. Pérez (2018), “Fiscal Policies in the Euro Area: Revisiting the Size of Spillovers”, Working Papers, Banco de España, forthcoming, find that each euro spent on public investment would generate a cumulative increase after two years of nearly €2 in terms of GDP and between €0.5 and €1 in terms of private productive investment.

FACTORS ALSO EXPECTED TO BOOST INVESTMENT INCLUDE HIGH CAPACITY UTILISATION AND CAPITAL DEPRECIATION

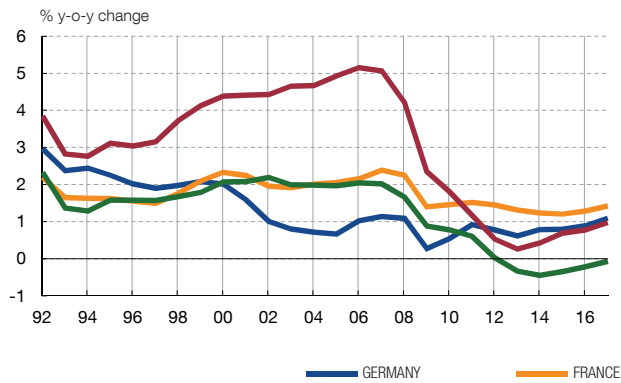
CHART 3.10

In a scenario of continued recovery of the Spanish economy, business investment would remain buoyant in keeping with a higher degree of capacity utilisation.

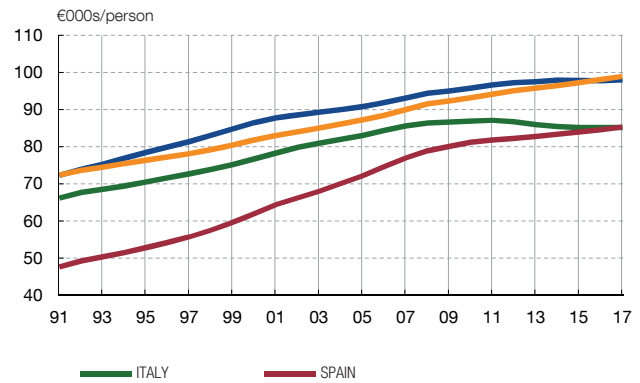
1 CAPACITY UTILISATION IN MANUFACTURING INDUSTRIES (a)



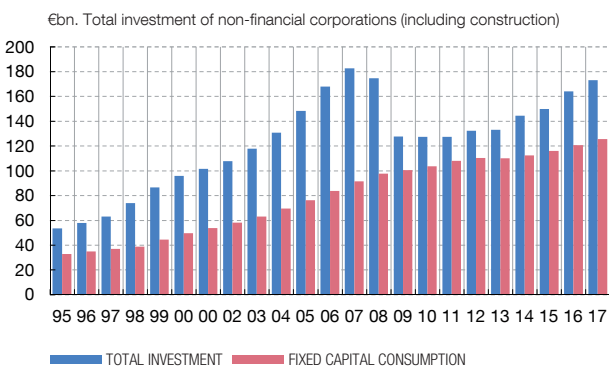
2 CHANGE IN CAPITAL STOCK OF ECONOMY



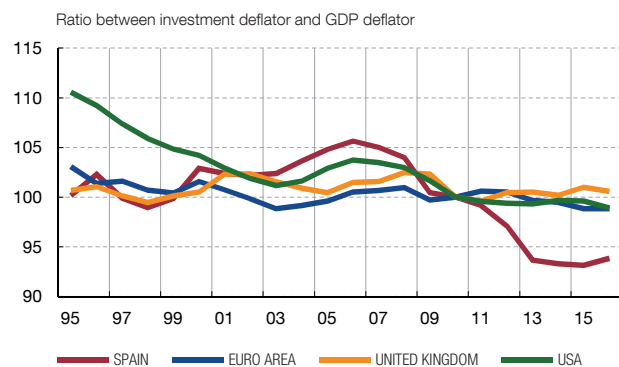
3 CAPITAL STOCK OF ECONOMY PER CAPITA



4 INVESTMENT AND DEPRECIATION OF THE CORPORATE CAPITAL STOCK



5 RELATIVE PRICE OF INVESTMENT GOODS



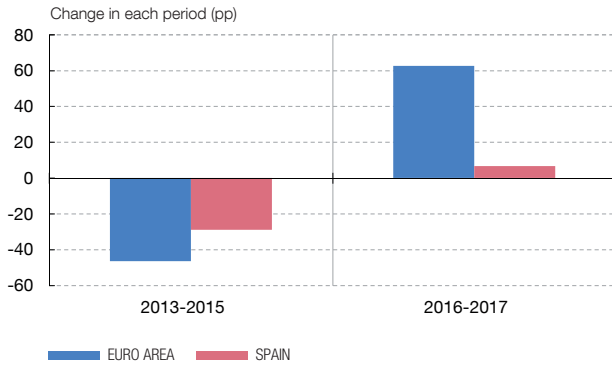
SOURCES: INE, Banco de España, European Commission, AMECO and IMF.

a Manufacturing industries: (10) Manufacture of food products; (11) Manufacture of beverages; (12) Manufacture of tobacco products; (13) Manufacture of textiles; (14) Manufacture of wearing apparel; (15) Manufacture of leather and related products; (16) Manufacture of wood and of products of wood and cork, except furniture; (17) Manufacture of paper and paper products; (18) Printing and reproduction of recorded media; (19) Manufacture of refined petroleum products; (20) Manufacture of chemical products; (21) Manufacture of basic pharmaceutical products and pharmaceutical preparations; (22) Manufacture of plastics; (23) Manufacture of other non-metallic mineral products; (24) Manufacture and first processing of metals; (25) Manufacture of fabricated metal products, except machinery and equipment; (26) Manufacture of computer, electronic and optical products; (27) Manufacture of electrical equipment; (28) Manufacture of machinery and equipment; (29) Manufacture of motor vehicles, trailers and semi-trailers; (30) Manufacture of other transport equipment; (31) Manufacture of furniture; (32) Other manufacturing; (33) Repair and installation of machinery and equipment.

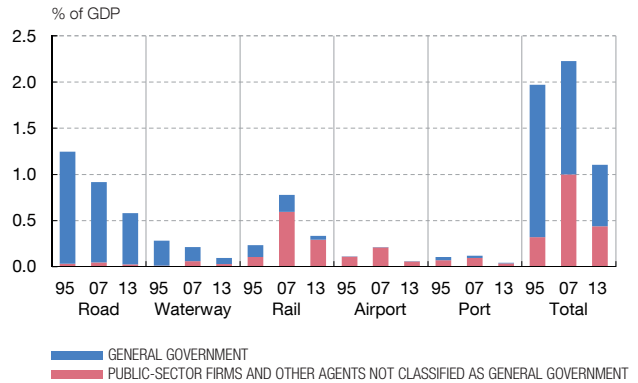


There is a series of factors which could curb the momentum of investment in the short and medium term, if suitable policies are not implemented. These factors include, most notably, global and national risks which could increase uncertainty, low public investment, the shortcomings of the institutional framework and distortions arising from the corporate income tax system.

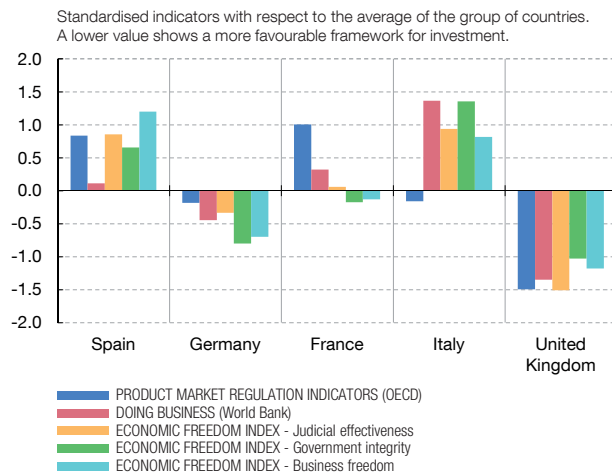
1 RECENT INCREASE IN ECONOMIC UNCERTAINTY (a)



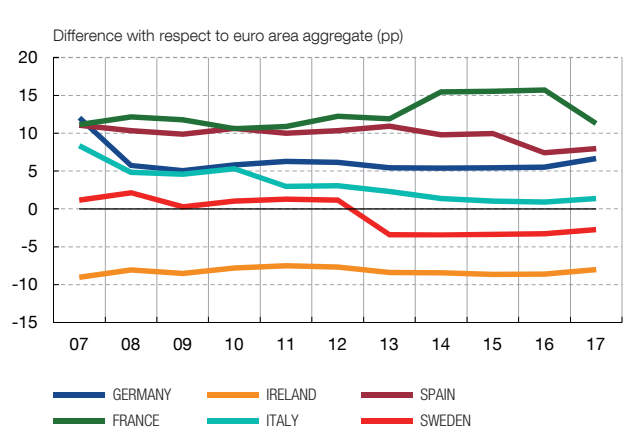
2 PUBLIC SECTOR INVESTMENT IN INFRASTRUCTURE



3 INSTITUTIONAL FRAMEWORK INDICATORS



4 TAX ON BUSINESS INVESTMENT RETURNS



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

a EPU (Economic Policy Uncertainty).



effects).³⁶ From this standpoint, public spending on infrastructure and R&D&I activities is particularly important, these items would affect aggregate economic activity and private investment to a greater extent.³⁷ Accordingly, note that public investment in R&D in Spain

36 The final effect will depend, in any event, on the design of the investment plan (implementation period and duration, degree of distortion of the fiscal instrument used to finance it) or on other macroeconomic aspects such as the interest rate response to public investment stimulus or the degree of nominal rigidities present in the economy. For a review of the theoretical arguments and channels, see M. Baxter and R. King (1993), "Fiscal Policy in General Equilibrium", *American Economic Review*, or E. Leeper, T. Walker and Yang (2010), "Government investment and fiscal stimulus", *Journal of Monetary Economics*.

37 See, for example, Bom and Ligthart (2014), "What have we learned from three decades of research on the productivity of public capital?", *Journal of Economic Surveys*, and Comin, Licht, Pellens and Schubert (2018), "Do Companies Benefit from Public Research Organizations? The Impact of the Fraunhofer Society in Germany", *Centre for Innovation, Research and Competence in the Learning Economy*.

amounted to 0.50% of GDP in 2015 compared with the EU aggregate of 0.62% (Germany: 0.81%; France: 0.79%; and Italy: 0.51%).³⁸

The weight of public investment in R&D is smaller, furthermore, in a setting of significantly lower private investment in this area than in benchmark countries.

According to the OECD, investment in R&D in Spain's total economy (public and private) stood at 1.2% of GDP in 2015, which is lower than the EU aggregate of 2% and much smaller than the figures for Germany and France (2.9% and 2.3%, respectively).³⁹ More generally, the weight of investment in intangible assets in Spain remains low, in relative terms, despite the rising trend of recent decades. Compared to other European countries, in 2016 the Spanish economy's investment drive in intangible assets (measured as its weight in GDP) was 1.2 pp of GDP lower than the euro area aggregate (see Chart 2 of Box 3.1). From this standpoint, it is important for the recent vigour in investment in intangible assets to continue so that this gap closes, given their increasing significance in production processes and their impact on productivity gains.

As for other structural conditioning factors, certain shortcomings in institutional arrangements, including several regulatory factors, are not conducive to business dynamism.

The available empirical evidence points to tighter regulations tending to be associated with lower business investment.⁴⁰ Notwithstanding the improvements made during the crisis, Spain's regulatory framework continues to entail certain constraints, since it is generally more restrictive than that of benchmark European economies such as Germany and the United Kingdom, according to the habitually used indicators such as those of the OECD's *Product Market Regulation*, the World Bank's *Doing Business report* or the *Heritage Foundation's* economic freedom indicators (see Chart 3.11.3).⁴¹

Reforms aimed at improving the use and quality of productive factors and the efficient operation of product markets and factors are essential for boosting productive investment and economic growth in the medium and long term.

The effects of these reforms could be particularly positive during the present boom since the adjustment costs they entail can be met to a greater degree.⁴² Similarly, in a monetary union, the application of structural reforms aimed at reducing barriers to competition may stimulate business investment significantly, even in the short term and in situations in which the additional accommodative capacity of monetary policy is constrained (see Box 3.4).⁴³

A stable framework of relationships between firms needs arrangements which ensure that rules and agreements are enforced.

An inefficient agreement enforcement system generates greater legal uncertainty, adversely affecting investment and productivity. This adverse impact is, furthermore, greater in the case of intangible assets

38 See OECD (2017), "Main Science and Technology Indicators", Vol. 2017, 2.

39 See again, OECD (2017), *op. cit.*

40 See European Central Bank (2016), "Business investment developments in the euro area since the crisis", October and G. Palumbo, G. Giupponi, L. Nunziata and J. S. Mora-Sanguinetti (2013), "The Economics of Civil Justice: New Cross-Country Data and Empirics", OECD Economics Department Working Papers, 1060.

41 For example, the OECD points out that administrative burdens on start-ups are generally greater in Spain. Registering a sole proprietorship takes more time in Spain than in Germany and in the United Kingdom. It is also necessary to contact a larger number of public bodies to register a public limited company.

42 The "Report on Structural Policies in the euro area", a forthcoming Occasional Paper of the ECB, contains a detailed discussion on the relationship between cyclical position and the costs of reforms.

43 See Ó. Arce, S. Hurtado and C. Thomas (2016), "Policy Spillovers and Synergies in a Monetary Union", *International Journal of Central Banking*, and OECD (2012), "Reducing income inequality while boosting economic growth: can it be done?", *Economic Policy Reforms*.

(such as copyright and patents), which are more complex to protect. In the case of Spain, there is evidence of the link between the effectiveness of the legal system and investment, as well as between the former and the entry of new firms into markets and their subsequent growth.⁴⁴

Taxation also influences firms' investment decisions. Economic research has underlined the potential for taxation on the purchase of productive assets and on the related returns to affect an economy's accumulation of capital through its impact on investment decisions and, in particular, on an economy's capacity to attract foreign direct investment.⁴⁵ In this regard, Spain stands out for having a tax structure that has persistently taxed business investment returns at a level above the euro area average, even though it has decreased in recent years (see Chart 3.11.4).⁴⁶

The main obstacles to investment, according to Spanish firms, are uncertainty, frictions caused by business and fiscal regulations and possible limited demand for products and services. According to the 2017 Survey of the European Investment Bank, in addition to these factors, Spanish firms mention other relevant factors such as energy costs, labour market regulations, the availability of staff with the right skills, the availability of internal and external financing and adequate transport infrastructure and access to digital infrastructure. In the EU as a whole, the various factors are ranked in a similar order, except for the availability of staff with the right skills which is attributed more importance (see Box 3.2).

The growing importance of services in advanced economies has meant that investment has been restructured slightly towards sectors with lower investment ratios in relative terms. The services industries generally have lower gross fixed capital formation to GDP ratios than the industrial sectors which are the traditional drivers of investment (see Chart 3.12.2). Accordingly, when the residential construction and general government sectors are excluded, investment as a percentage of value added shows a declining profile in the advanced economy which could be related to the process of tertiarisation.

In tandem, the investment ratio in most sectors has decreased. This has been the case in particular in the services sectors. Indeed, when the change in the non-residential

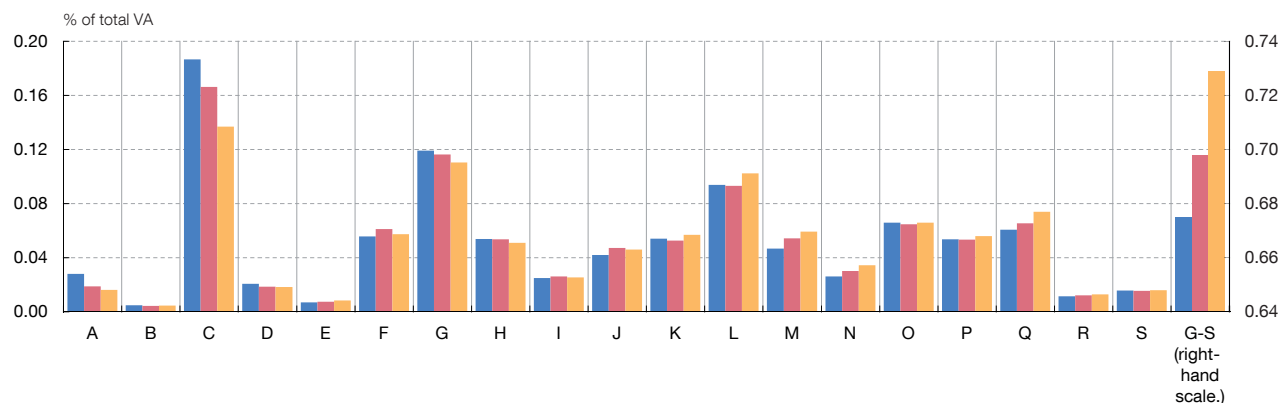
4.3 GLOBAL TRENDS IMPACTING INVESTMENT LEVELS

44 See D. Dejuán, C. Ghirelli and J. S. Mora-Sanguinetti (2018), "Quality of enforcement and investment decisions. Firm-level evidence from Spain", Working Paper, Banco de España, forthcoming; M. García-Posada and J. S. Mora-Sanguinetti (2014), "Entrepreneurship and Enforcement Institutions: Disaggregated Evidence for Spain", *European Journal of Law and Economics*, 40, pp. 49-74; and M. García-Posada and J. S. Mora-Sanguinetti (2015), "Does (average) size matter? Court enforcement, business demography and firm growth", *Small Business Economics*, 44, pp. 639-669.

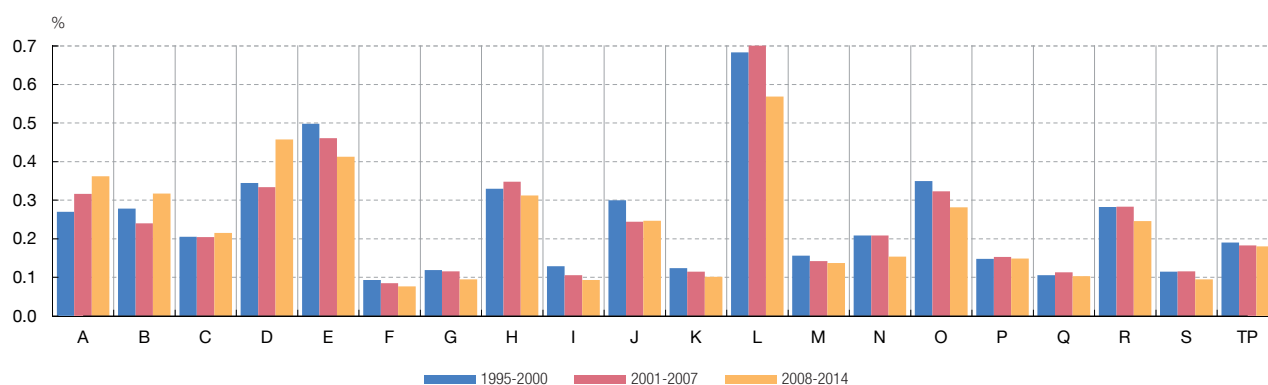
45 The empirical evidence for the case of Spain indicates that higher taxation on companies triggers lower investment in the short term, based on both aggregate data (see P. Gil, F. Martí, R. Morris, J. J. Pérez and R. Ramos, (2018) "The Output Effects of Tax Changes: Narrative Evidence for Spain", *SERIES-Journal of the Spanish Economic Association*) and individual data (see D. Dejuán and C. Ghirelli (2018), op. cit.).

46 The actual taxation of business investment is obtained from the data published by Eurostat which are calculated using the influential methodology proposed in M. P. Devereux and R. Griffith (1998), "Taxes and the Location of Production: Evidence from a Panel of U.S. Multinationals", *Journal of Public Economics*, 68, pp. 335-367 and M. P. Devereux and R. Griffith (2003), "Evaluating tax policy for location decisions", *International Tax and Public Finance*, 10, pp. 107-126. According to this methodology, estimated taxation as a percentage of business investment should consider the cost for firms of the taxes, as a whole, on the purchase of productive assets and on the related earnings. A particularly relevant component of this calculation is the cost for a company of applying a tax depreciation rate to assets for corporate income tax purposes which is lower than the economic depreciation rate of these assets (estimated by the OECD). For a more detailed discussion, see D. López Rodríguez (2018), "La recaudación del impuesto sobre sociedades en España: evolución y limitaciones en el contexto internacional", *Boletín Económico*, Banco de España, forthcoming, European Commission (2017), "Taxation Trends in the European Union", *Eurostat Statistical Books*; and ZEW (2016), "Effective Tax Levels Using the Devereux-Griffith Methodology: 2016 Report", Project for European Commission TAXUD 2013/CC/120.

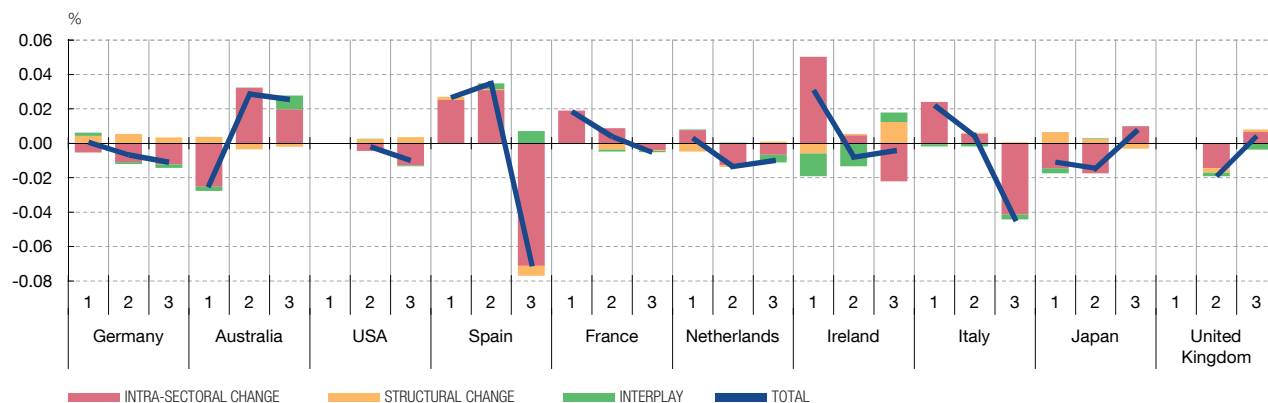
1 STRUCTURE OF VALUE ADDED (MEDIAN) (a)



2 INVESTMENT-TO-GDP RATIO (MEDIAN) (a) (b)



3 CHANGE IN INVESTMENT-TO-GDP RATIO. INTRA-SECTORAL EFFECT AND CHANGE OF SECTORAL STRUCTURE (c)



FUENTES: Organización para la Cooperación y el Desarrollo Económicos, BEA, ABS y Banco de España.

a Industrial classification (ISIC 4): A (agriculture), B (mining and quarrying), C (manufacturing), D (electricity, gas, steam and air conditioning supply), E (water supply, sewerage, waste management and remediation activities), F (construction), G (wholesale and retail trade, repair of motor vehicles and motorcycles), H (transportation and storage), I (accommodation and food service activities), J (information and communication), K (financial and insurance activities), L (real estate activities), M (professional, scientific and technical activities), N (administrative and support service activities), O (public administration and defence; compulsory social security), P (education), Q (human health and social work activities); R (arts, entertainment and recreation), S (other service activities).

b Investment rate defined as ratio of gross fixed capital formation to gross value added, both at current prices.

c 1: 1995-2001, 2: 2001-2007, 3: 2007-2014. Real estate activities (L) is not included.



investment to GDP ratio in various countries is broken down into the effect of the change of sectoral structure, on one hand, and the effect of changes within each sector, on the other, the latter appears as the most relevant explanation of the changes in this variable in the last two decades (see Chart 3.11.3).⁴⁷

Part of these developments could be explained by the interplay between sectoral variations and the change in relative price of investment goods with respect to other goods. Technological progress and notably less expensive intangible assets have boosted the acquisition of this type of goods in the services sectors which are increasingly important in terms of domestic output, such as business and financial services. These intangible assets generally require lower upfront outlays than tangible assets,⁴⁸ which could explain the reduction in investment to GDP ratios in developed economies, without forgetting the problems associated with measuring investment in intangible assets. Based on the available evidence, the accumulation of intangible assets could have positive effects on productivity,⁴⁹ as well as other implications, in terms of firms' financial structures, since the characteristics of intangible assets make them less suitable for use as collateral or as a guarantee to obtain borrowed funds,⁵⁰ compared with tangible assets. Similarly, stronger intangibles investment has implications for the labour market and demand for labour since these investments usually require more highly skilled workers.

Noteworthy among the factors which could reduce the strength of investment in the developed economies are that a large number of emerging economies are now integrated into the world economy and that firms are increasingly international. Globalisation has contributed to boosting the development of global production chains, with a notable increase in the cross-border services trade and, in general, the internationalisation process of all real and financial economic activity. The outcome of this process has been that a growing proportion of production and world investment is located in emerging economies which have booming markets and lower production costs. Capital flows in the form of direct investment at global level reflect this shift. The available studies, however, show that foreign direct investment by developed economies in the last two decades does not appear to have been detrimental, in general, to domestic investment. Only in those sectors where investment is stronger in assets relating to intellectual property (information and communication, financial services, professional and technical activities and manufacturing), could foreign investment have significantly replaced domestic investment in recent years (see Box 3.3).

From a long-term perspective, population ageing will affect the advanced economies' investment potential. Specifically, investment could suffer insofar as adverse demographic trends impact potential growth expectations and productivity, although the relatively

47 The same conclusion is drawn in European Commission (2017), "Investment in the EU Member States", Institutional Paper 062, October.

48 See R. Döttling, T. Ladika and E. Perotti (2016), "The (Self-)Funding of Intangibles", Tinbergen Institute Discussion Papers 16-093/IV, Tinbergen Institute.

49 For example, C. Corrado, J. Haskel and C. Jona-Lasinio (2013), "Knowledge Spillovers, ICT and Productivity Growth", Discussion Paper, IZA 8274.

50 However, in certain countries, such as the United States, a growing trend can be seen towards using intangible assets as collateral to obtain borrowed funds, especially in those sectors where the proportion of this type of assets is very high. See S. C. Lim, A. J. Macias and T. Moeller (2016), "Intangible Assets and Capital Structure", Paris December Finance Meeting EUROFIDAI-AFFI; and M. Loumiotis (2012), *The use of intangible assets as loan collateral*, SSRN Paper 1748675.

higher supply of savings will tend to bring about lower interest rates.⁵¹ The available research has also underlined the fact that innovation in an ageing population could be lower, which would reduce the marginal productivity of capital and, consequently, investment.⁵² By contrast, however, some authors have noted that ageing and technological progress could lead to an increase in capital intensity per employee, that will require higher investment levels, also as a result of the relative change in the price of productive factors, in a setting of tighter labour market conditions, with the result that the price of capital could fall in relative terms.⁵³

51 See L. H. Summers (2014), “US economic prospects: Secular stagnation, hysteresis, and the zero lower bound”, *Business Economics*, 49, pp. 65-73.

52 Y. Aksoy, H. Basso, R. P. Smith and T. Grasl (2018), “Demographic structure and macroeconomic trends”, *American Economic Journal: Macroeconomics*, forthcoming.

53 See P. Butzen, S. Cheliout, E. De Prest, S. Ide and W. Melyn (2016), “Why is investment in the euro area continuing to show only weak recovery?”, *Economic Review*, National Bank of Belgium, pp. 81-98; and C. Goodhart and M. Pradhan (2017), *Demographics Will Reverse Three Multi-Decade Global Trends*, BIS Working Paper 656.

The knowledge-based economy, linked to the development of intangible assets, has become increasingly important in determining the competitive advantages of firms. Specifically, the progress of knowledge-based activities can be divided into two stages: the first, focused on the development of information and communications technologies (ICT) (software, hardware and communications), has been followed by a new stage characterised by the investment drive in intangible assets. The trend towards the “tertiarisation” (a shift to services) of developed economies, combined with the process of technological change, may have significant implications for the type of capital goods in which firms invest, driving investment in intangible assets, linked to creativity and knowledge.

The definition of intangible assets encompasses ICT, research and development (R&D), innovation, design, creativity, image and brand, organisation and specific human capital formation. Measurement of these concepts is not straightforward, and their conceptual definition has gradually broadened. In the past, the accounting rules treated spending on intangible assets as intermediate consumption expenses. However, the new system of accounts, ESA 2010, considers intangible assets to be investments. Until recently, of the three large categories of this type of asset,¹ the national accounts only considered the acquisition of computer software to be investment, although the ESA 2010 has also incorporated spending on research and development. The current national accounts systems include the following range of specific intangible assets in the “intellectual property assets” category: a) computerised systems (software and databases) and b) R&D, mineral exploration and entertainment, literary or artistic originals. However, measurement of and accounting for this type of asset continues to be subject to debate, and some authors (Corrado, Hulten and Sichel, 2006) have already identified a broader range of assets considered intangible.

There are marked differences across countries regarding the relative significance of intangibles investment. In euro area countries, the rate of investment in this type of asset is less than in other EU economies, such as the Nordic countries or the United Kingdom. In the United States, investment in intangible assets is estimated to have even exceeded traditional investment in tangible assets. During the latest crisis, investment in intangible assets proved very resilient in most of the developed economies and, in a good number of them, the ratio of the assets included in the national accounts to GDP continued to increase.

¹ Investment in intangible assets is usually classified under three categories: a) computer software and databases; b) research and development or other activities that may give rise to intellectual property rights of a scientific or artistic nature, and c) economic competencies, such as improvements in employee skills, in organisational structure or brand reputation development.

In the case of Spain, based on national accounts data, intangible assets have grown significantly, both in terms of volume and as a proportion of total gross fixed capital formation (GFCF). Specifically, these assets have risen from 7% of total GFCF in 2008 to 14% in the last ten years (compared with tangible asset investment (excluding residential investment) which accounts for 60%). Therefore, the cyclical behaviour seen in other assets has not been observed in intangible assets, which have grown steadily since 1995 at an average yearly rate of 5%.

In comparison with other countries, on average, in 1995-2016, the investment drive in intangible assets in Spain was lower than that of most other European Union countries and similar to that of Portugal and Italy, and behind the Nordic countries (such as Finland and Sweden), the United Kingdom and France (see Charts 1 and 2). Moreover, a rising trend in investment was observed, most notably in Belgium, Austria, Netherlands and France, whose investment in intangible assets rose by around one percentage point in terms of GDP. In Spain, investment in this type of assets was 3% of GDP in 2016, compared with 1.5% in 1995.

However, as mentioned earlier, the definition of intangible assets in the ESA 2010 is incomplete, and it is therefore necessary to use databases which include other intangible assets (see Charts 3 and 4) in order to accurately describe their economic relevance. The Valencian Institute of Economic Research (IVIE, by its Spanish abbreviation)² provides an estimate for a broader range of assets. ICTs are wide-reaching technologies that impact on all sectors, but only if they are accompanied by further innovations. In this respect, some intangible assets not included in the ESA 2010, relating to organisation and the people using ICT, enable the latter to make a greater contribution to economic growth. The assets not included in the ESA 2010 account for a larger share of GDP than the intangible assets that are included. This discrepancy has been reduced over time, owing to the broader inclusion of such assets in the national accounts.

Thus, in 2014, the intangible assets included in the ESA 2010 represented 3% of GDP, while those that were not, represented 3.5%. As regards the composition of intangible asset investment (according to the IVIE’s broad definition), the most significant component is that relating to economic competencies (around 40% of total intangible asset investment), closely followed by investment in innovative property. The two most noteworthy subcomponents are R&D investment and investments to improve the organisational structure of firms

² See M. Mas and J. Quesada (dirs.) (2014), *Activos intangibles: Una inversión necesaria para el crecimiento económico en España* (Intangible assets. A necessary investment for economic growth in Spain) Ariel and Fundación Telefónica, Barcelona

Chart 1
INVESTMENT IN TANGIBLE AND INTANGIBLE ASSETS. AVERAGE IN 1995-2016

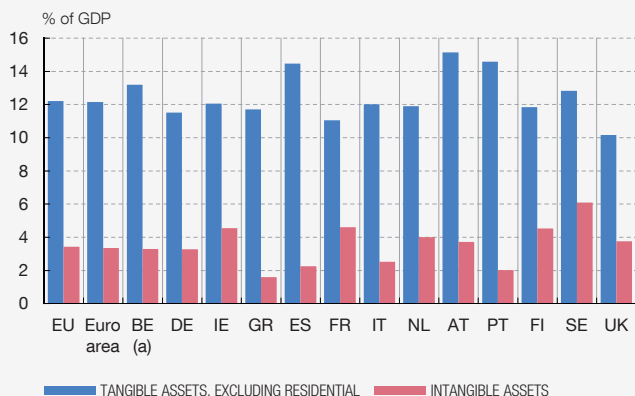


Chart 2
CHANGES IN INTANGIBLE ASSET INVESTMENT

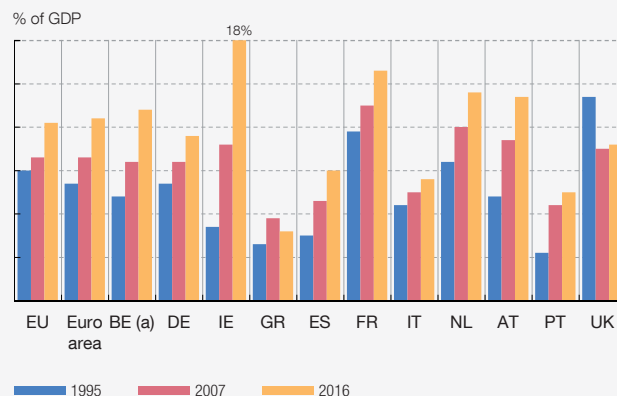


Chart 3
INVESTMENT IN TANGIBLE AND INTANGIBLE ASSETS. AVERAGE IN 1995-2014

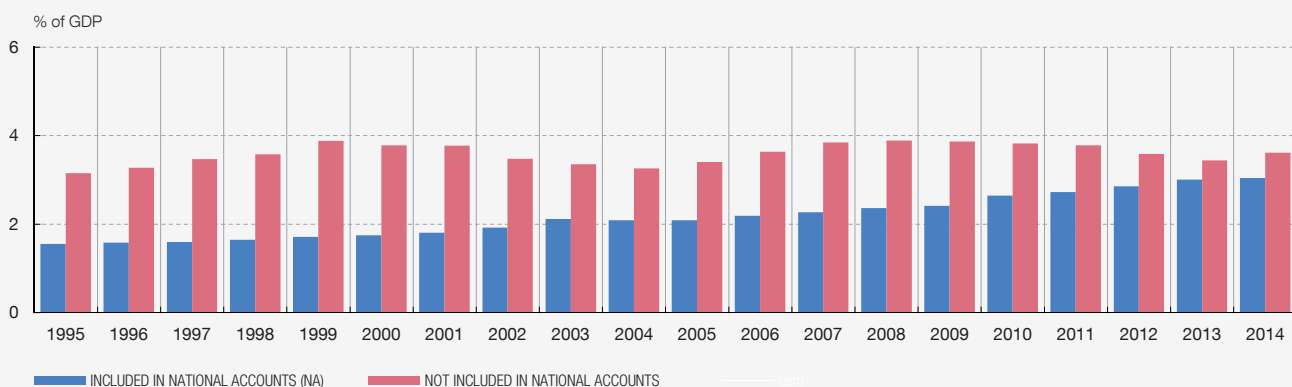
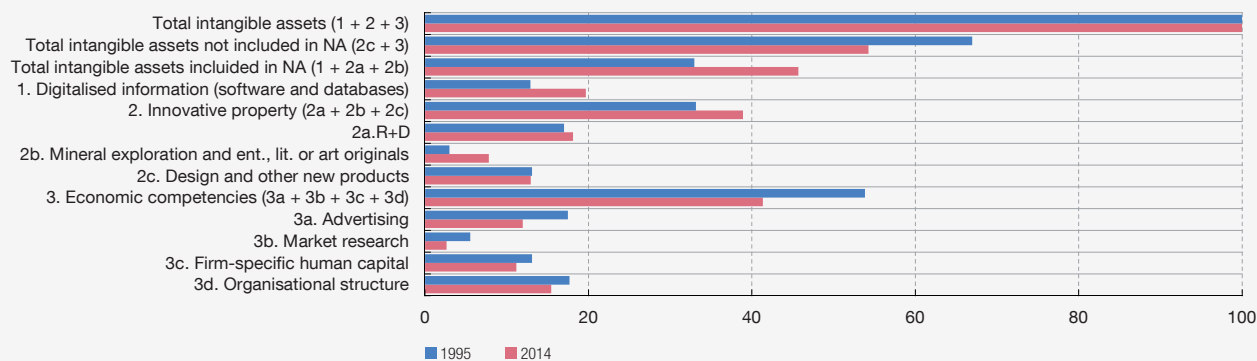


Chart 4
BREAKDOWN BY CATEGORY



SOURCE: Eurostat, IVE.

a Data available up to 2015.

(18% and 15.5% of total investment in intangible assets, respectively). Lastly, some heterogeneity was observed in the changes affecting the subcomponents over time. Particularly noteworthy was the considerable rise in investments in software and databases and innovative property, with cumulative increases of 187% and 147% between 1995 and 2014, respectively, while investments in advertising and market research decreased as a proportion of total investment in intangible assets during the same period.

Finally, the relative significance of the determinants of investment is of particular interest when exploring the ratio of tangible to intangible

investment. Some authors³ have found evidence pointing to the role played by firm size and product and labour market regulation as the main drivers of investment in intangible assets. In addition, this type of investment seems to be less dependent on the economic cycle and the financial position of firms than tangible asset investment, with internal financing playing a relatively more significant role⁴.

3 C. Corrado, J. Haskel, C. Jona-Lasino and M. Iommi (2016), "Intangible investment in the EU and US before and since the Great Recession and its contribution to productivity growth" Working Paper No 2016/08, European Investment Bank.

4 European Investment Bank (2017), "From recovery to sustainable growth". Investment Report No 2017/2018, European Investment Bank.

In 2016, in order to better understand the investment decisions of European companies, the European Investment Bank (EIB) began to prepare annually the EIB Group Survey on Investment and Investment Finance (EIBIS). This survey includes interviews of around 12,500 firms from the 28 EU Member States,¹ approximately 500 of which are Spanish. The firms are of all sizes, are from the main sectors and offer qualitative and quantitative information² on their investment activities, finance needs and the difficulties they face. The results from the first two waves of this survey (2016 and 2017) are currently available. This box analyses Spanish firms' responses to the questions in the questionnaire relating to the obstacles they perceive and to the investment gap (relationship between the investment level and the investment that ensures the success of their business going forward). These results are compared with those of the EU companies surveyed, as a whole.

Uncertainty about the future and, next in order, business regulations (licences, permits, etc.) and taxation, and demand for products and services, are the obstacles indicated by a higher proportion of Spanish firms both in the 2016 and 2017 waves³ (see Chart 1). Next are energy costs, labour market regulations and the availability of staff with the right skills. The perception of the availability of finance, which includes both internal and external financing, is in seventh position. Lastly, the factors mentioned by a smaller number of companies are availability of adequate transport infrastructure and access to digital infrastructure.

In the EU as a whole, the order of the different factors is observed to be very similar, the main exception being the availability of staff with the right skills, an obstacle which is of relatively greater importance in the EU. These differences are consistent with the higher unemployment rate in Spain, which means that, in principle, it has a greater surplus of available labour.

The results for Spain show a higher proportion of firms reporting each obstacle, except for the availability of staff with the right skills, where the level is similar. Given that the perceptions about the obstacles are subjective, it is possible that, since the economic and financial crisis was relatively more severe in Spain, Spanish companies may tend to perceive that each obstacle represents a barrier to investment. Certain cultural aspects could also play a significant role in explaining these differences. Thus, for example

in the case of the availability of finance, the available objective indicators approximating this concept, such as the proportion of firms whose access to bank finance is restricted⁴ show similar results in the two areas (around 6%). That seems to suggest that Spanish companies are more inclined to report obstacles than other European companies.

If the results of the two available waves are compared, the proportion of companies reporting obstacles in the two areas is seen to decrease in the 2017 wave compared with the previous wave. However, this is more pronounced in Spain which could be linked to cyclical factors and, in particular, to the stronger economic recovery in Spain.

Using a linear probability model which controls for characteristics at firm level,⁵ such as size, age of the firm, access barriers to external bank finance, productivity, sector and balance sheet situation (profit ratios, leverage and liquidity), generally, those firms with a worse economic and net worth position which are less productive are observed to have a greater likelihood of reporting obstacles to investment. This effect is more significant for obstacles relating to the availability of finance, access to digital infrastructure and energy costs in the case of Spain and for obstacles relating to the availability of finance, business regulations, energy costs and the availability of staff with the right skills, in the case of Europe. Thus, for example, in the case of the availability of finance, an increase of 10 pp in the indebtedness ratio means an increase of 2.7 pp in the probability of reporting that obstacle for Spain (1.5 pp for the EU). Financially constrained firms have a higher probability of reporting any obstacle, especially in the case of the availability of finance, for which the probability of reporting this obstacle increases to 18 pp for Spanish firms (22 pp for European firms). Generally, SMEs and younger companies (approximated as those which have been in business for less than ten years) do not have a greater probability of encountering a given obstacle than other firms. Some barriers, such as those relating to labour market and business regulations are more likely to be reported by infrastructure firms and those in the construction sector.

Another aspect covered by the EIBIS is the investment gap perceived by firms, that is, the fact that they consider that the investment made in the last three years has been too little to ensure the success of their business going forward. The

1 The methodology of the EIBIS is available at http://www.eib.org/attachments/eibis_methodology_report_2017_en.pdf.

2 The questionnaire used in 2016 is available at http://www.eib.org/attachments/eibis_general_module_questionnaire_2016_en.pdf. Small changes were made to it in the 2017 wave, but the structure remains the same.

3 The proportion of firms reporting each obstacle is constructed as follows: if an obstacle is reported as a major obstacle, it is given a weighting equal to unity, whereas if it is reported as a minor obstacle, its weight is 0.5.

4 Firms in any of the following situations are considered financially constrained: their loan applications have been rejected, they have only been granted a portion of the funds requested, the loan was extended but at a cost they consider to be very high and those companies which did not apply for external finance because they thought they would be turned down.

5 Some of these variables are available in the survey itself and others were obtained by matching the survey with the database of Amadeus.

Table 1
RESULTS OF THE ESTIMATION OF A MODEL OF THE PROBABILITY THAT A FIRM WILL REPORT AN INVESTMENT GAP.
SAMPLE OF EUROPEAN FIRMS (a) (b) (c) (d)

¥Profitability ratio _{t-1}		-0.283***	-0.291***	-0.287***	-0.290***	-0.289***	-0.293***	-0.279***	-0.290***	-0.291***	-0.273***
¥Indebtedness ratio _{t-1}		0.063***	0.063***	0.064***	0.063***	0.063***	0.063***	0.050***	0.063***	0.064***	0.047**
¥Liquidity ratio _{t-1}		-0.032	-0.032	-0.033	-0.032	-0.032	-0.033	-0.010	-0.032	-0.032	-0.016
¥Total factor productivity _t		-0.028***	-0.028***	-0.029***	-0.028***	-0.028***	-0.029***	-0.024***	-0.028***	-0.029***	-0.023***
Financially constrained (c)		0.138***	0.139***	0.140***	0.140***	0.141***	0.140***	0.187***	0.142***	0.141***	0.182***
§SME		0.017	0.018	0.020	0.019	0.018	0.020	0.013	0.021	0.019	0.012
§Young firm (<10 years old)		-0.024	-0.026	-0.025	-0.025	-0.025	-0.026	-0.030*	-0.025	-0.025	-0.029*
§Construction sector		-0.001	0.001	0.003	0.005	0.000	0.003	-0.003	0.003	0.004	-0.010
§Services sector		-0.016	-0.018	-0.015	-0.016	-0.018	-0.015	-0.017	-0.016	-0.016	-0.017
§Infrastructure sector		-0.045**	-0.046**	-0.044**	-0.045**	-0.046**	-0.043**	-0.046**	-0.046**	-0.046**	-0.045**
§Uncertainty	Minor		0.024*								0.019
	Major		0.074***								0.054**
§Business regulations	Minor		0.018**								0.004
	Major		0.042***								0.008
§Demand	Minor			0.001							-0.019
	Major			0.033**							-0.006
§Energy costs	Minor				0.007						-0.017
	Major				0.028						-0.009
§Labour market regulations	Minor					0.015					0.005
	Major					0.050***					0.027**
§Avail. of staff with right skills	Minor						0.024*				0.018
	Major						0.035***				0.016
§Availability of finance	Minor							0.049***			0.049***
	Major							0.130***			0.124***
§Transport infrastructure	Minor								0.008		-0.017*
	Major								0.009		-0.031*
§Digital infrastructure	Minor									0.014*	-0.009
	Major									0.010	-0.032
Fixed effects country /year		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations		8,250	8,256	8,255	8,254	8,254	8,254	8,251	8,254	8,255	8,239
R-squared		0.06	0.061	0.06	0.06	0.062	0.061	0.059	0.073	0.065	0.077

SOURCES: 2016 and 2017 EIBIS.

- a The regression is based on EIBIS and ORBIS information for the period 2016-2017. The coefficients are obtained from a linear probability model with country and year fixed effects. The standard errors are corrected and clustered at country level. *, ** and *** indicate significance for confidence levels of 90%, 95% and 99%, respectively.
- b The variables with the ¥ symbol are defined as follows: *profitability ratio* as profit before interest and taxes to total assets; *indebtedness ratio* as interest-bearing debt to total assets; *liquidity ratio* as cash and cash equivalents to total assets; *total factor productivity* as logarithmic variable based on the firm's value added and the factors of production used.
- c Financially constrained is a binary variable which takes a value of one for those firms in any of the following situations: their loan applications were rejected, they have only been granted a portion of the funds requested, the loan was extended to the companies but at a cost they consider to be very high and those companies which did not apply for external finance because they thought they would be turned down.
- d The variables with the § symbol are dichotomic and take the value of one if the firm belongs to the group with the corresponding characteristic or if the firm reports that obstacle and to what degree. Otherwise, the variable takes the value of zero.

proportion of Spanish firms that stated in the 2017 wave that they suffered from an investment gap stands at around 20%, this percentage being higher among firms in the construction and infrastructure sector and at large corporations (see Panel 2 of Chart 1). In 2016, this percentage was slightly lower for Spanish firms, as a whole. Compared with European firms, the proportion of Spanish companies which reported having an investment gap is around 4 pp higher, that difference is more pronounced in the construction and infrastructure sector, although also among large corporations and mature firms (doing business for more than ten years).

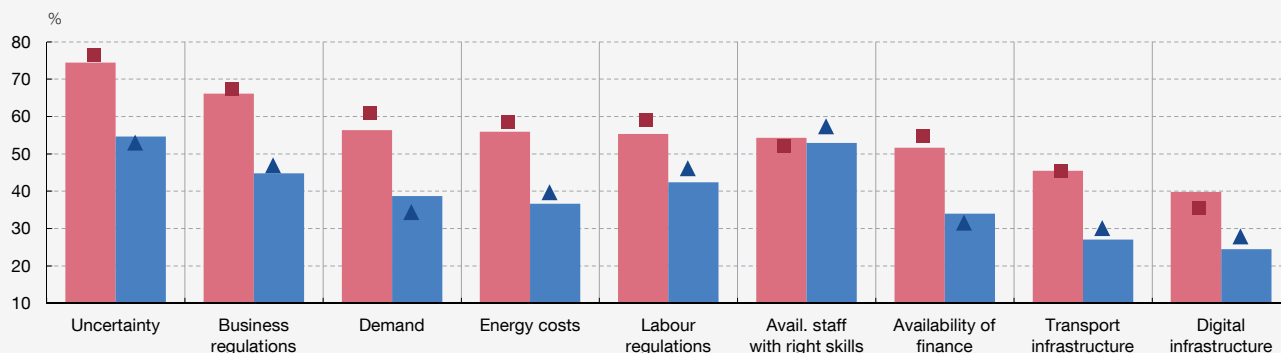
Table 1 shows the results, for the overall sample of EU firms, of a linear probability model's estimation that a European firm will state

that it has an investment gap. The same explanatory variables of the model above are included as well as a dichotomic variable which takes unit value if the company report a particular obstacle. First, the results show that less profitable, more indebted, less productive firms belonging to the infrastructure sector have a higher probability of reporting an investment gap than others, these differences being statistically significant. The probability of financially constrained firms reporting an investment gap is 14 pp higher than for other companies.

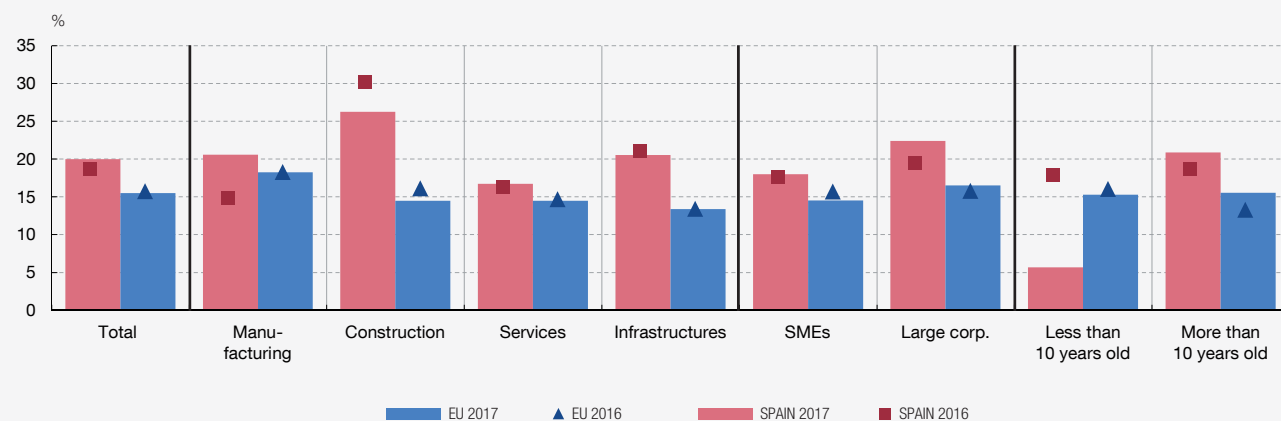
The results indicate that reporting any of the obstacles included in the survey increase the probability of having an investment gap. Furthermore, this effect is amplified when the obstacle is perceived as a major one, irrespective of the obstacle in question. Those with

Chart 1
OBSTACLES TO LONG-TERM INVESTMENT AND THE PERCEIVED INVESTMENT GAP

1 WEIGHTED PROPORTION OF FIRMS REPORTING AN OBSTACLE (a)



2 PROPORTION OF FIRMS REPORTING AN INVESTMENT GAP (b)



SOURCE: 2016 and 2017 EIBIS.

- a The proportion of firms reporting each obstacle is constructed as follows: if an obstacle is reported as a major obstacle it is given a weight of one, whereas if it is reported as a minor obstacle, its weight is 0.5.
- b Percentage of firms stating that they have invested too little in the last three years to ensure the success of their business going forward.

a stronger impact are: the availability of finance⁶ (reporting this obstacle as major increases the probability of having an investment gap by 13 pp), followed by uncertainty (the effect is 7 pp) and, to a lesser degree, labour market and business regulations (4 pp-5 pp). These results are in line with the main determinants of investment indicated by the economic literature.

6 In Table 1, the “obstacle to finance” variable is defined as those firms that are not finance-constrained but which state that the availability of finance is an obstacle to investment; in order to avoid the correlation between these two variables and to measure the effect of the “availability of finance” obstacle for those firms which are not finance-constrained.

The qualitative findings obtained for the sub-sample of Spanish firms is generally in line with the findings for the whole sample. In Spain the obstacle with the most important effects on the investment gap is uncertainty which represents an increase of 11 pp in the probability of reporting an investment gap, compared with 7 pp for the overall sample. The other obstacles do not have statistically significant effects, although it should be noted that in this case the coefficients are estimated more imprecisely given the small sample size. In Spain firms belonging to the construction sector present a higher probability of reporting an investment gap, whereas in the EU no difference in probability is found between firms belonging to this sector and those in the services and manufacturing sector. These differences are consistent with the greater severity of the crisis in the construction sector in Spain.

The last two decades have seen the growing internationalisation of firms, while a large number of emerging countries have become part of the global value chain. Both processes have been driven by technological developments in the area of communication networks and information (since these developments have substantially reduced costs), by the liberalisation of capital movements in various regions and by the signing of a number of trade and economic integration agreements (such as the creation of the euro area and the European Union, and their enlargement to Eastern European countries, or China joining the World Trade Organization). All of these factors have contributed to boosting the development of global production chains, a notable increase in the cross-border services trade and, in general, to the globalisation of all economic activity. As a result of this process a growing

proportion of world production and investment has been located in emerging economies, with expanding markets and lower production costs.

The impact on investment in the developed economies of this shift in capital flows towards the new emerging markets depends on whether that foreign investment is a substitute for domestic investment (negative correlation) or if the relationship between the two is complementary (positive correlation). In principle, since both compete for financial resources that have a rising cost, a substitutionary relationship can be expected between domestic investment and foreign investment. This hypothesis was supported by the first empirical studies on this relationship, based on OECD country data, and by more recent studies on Japanese firms or

Chart 1
INTELLECTUAL PROPERTY INVESTMENT RATIO BY SECTOR (a) (b)

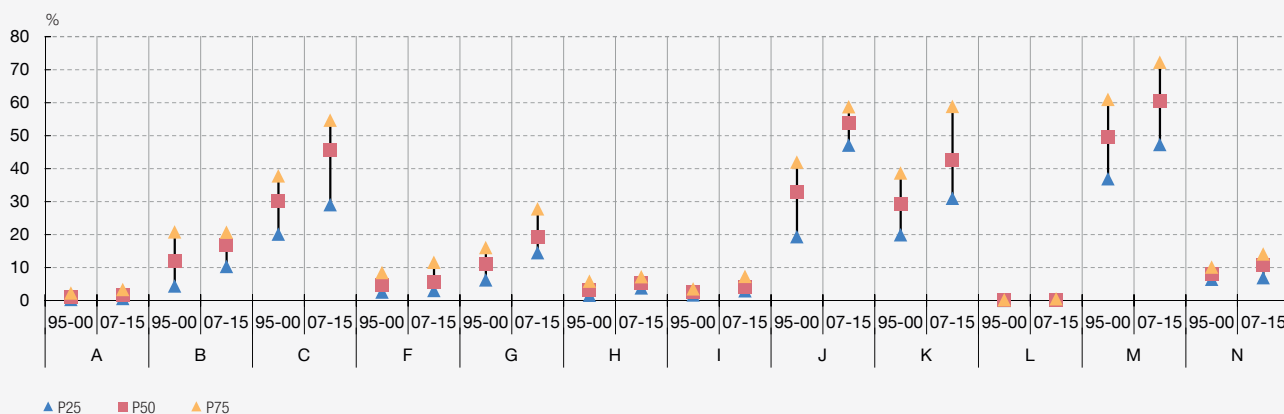
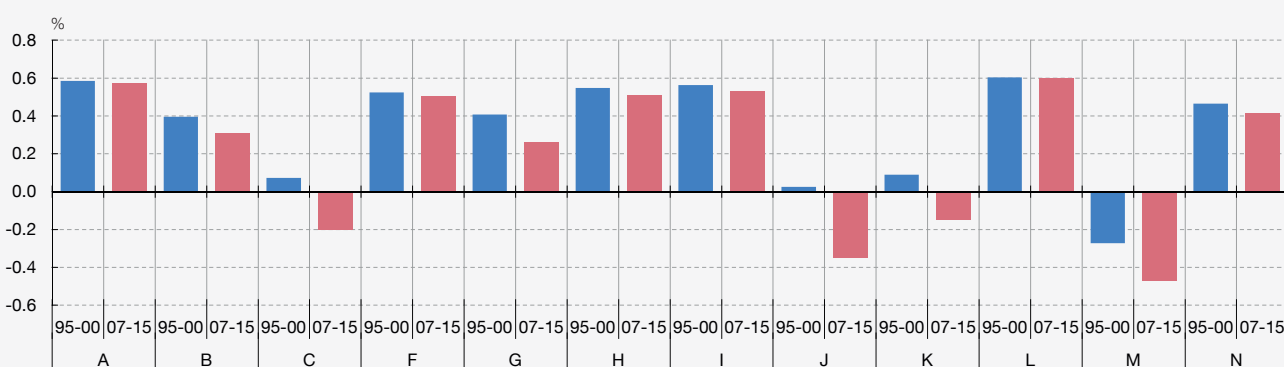


Chart 2
EFFECT OF FOREIGN INVESTMENT ON REAL INVESTMENT GROWTH (b) (c)



SOURCES: OECD, Eurostat and Banco de España.

- a Intellectual property investment as a proportion of total investment.
- b A: agriculture; B: mining; C: manufacturing industry; F: construction; G: retail H: transport; I: hotels, restaurants; J: information, communication; K: financial services; M: professional services; N: administrative activities.
- c Assessed as the median intangible intensity for each sector.

developing economies.¹ However, firms operating in several countries can access financial resources in different local markets and redistribute them among the group companies according to their objectives. In these circumstances, the interaction between domestic investment and foreign investment is chiefly determined by factors relating to the characteristics of the productive process.

The international expansion of firms may adopt various forms which combine two stylised alternatives of the type of integration of the productive process (vertical or horizontal) to a greater or lesser degree. Where production is fragmented into stages distributed across different geographical areas (vertical integration), occasionally structured in the form of value chains, the investment made in the different areas will be complementary, either as a simultaneous response to changes in the determinants of the firm's global investment or because production abroad requires inputs produced by the parents or vice versa. Conversely, if the internationalisation is based on plants in different geographical locations which replicate the same type of productive process (horizontal integration), —possibly as a result of a decision to replace exports to these markets with localised production, in order to save on transport costs, benefit from potential labour cost advantages, remove the impact of tariff and non-tariff barriers—, foreign investment would replace domestic investment. In the last two decades, the internationalisation of production has evolved along both lines, through the strong growth of global value chains (vertical integration) and also through the delocalisation of domestic production, generally that with lower added value. The foreign plants of firms with a more horizontal structure tend to use certain intermediate inputs simultaneously —for example, activities with a technological content linked to creativity and knowledge— which are usually “non-rival” (they may be used simultaneously at several plants), unlike many of the intermediate inputs in the value chains.

Both forms of integration are likely to coexist within a firm or sector of activity, although the technological characteristics of the productive process are a major factor determining the type of integration. To examine what type of relationship is prevalent between domestic investment in the developed economies and their foreign direct investment, an equation for sectoral gross capital formation has been estimated, including industrial and services sectors. The data correspond to 19 productive sectors (ISIC 4, highest level) in 19 advanced economies in 1995-2014. Under the neoclassical theoretical framework, each sector's

investment depends on the demand outlook, reflected by the level of activity or added value, and the user cost of capital,² in addition to the foreign direct investment of that sector to capture the possible effects of complementarity/substitution mentioned above. Moreover, the equation includes a horizontal integration indicator (the proportion of investment made by each sector in intellectual property assets) to capture the characteristics of the productive process of each sector (see Chart 1). The idea behind this indicator is that the intensity of investment in intangible assets, which are intermediate inputs that may be used on a non-rival basis by several plants, is indicative of the degree of horizontal integration in each sector.³ This variable interacts with foreign direct investment to capture its differential effect on domestic investment in the sectors with the highest proportion of intangible assets (higher degree of horizontal integration).

The results of these estimates indicate that a positive relationship (complementary) between sectoral gross capital formation and foreign direct investment (see Chart 2) predominates in the developed economies, and is consistent with the growth of global production chains based mainly on the complementarity of the productive process.⁴ However, in the sectors with a higher proportion of intangible assets, for example, information and communication (J), financial services (K) and professional and technical activities (M), the complementary relationship is less clear and can even become substitutive (based on analysis of the median sector). In the case of Spain, which does not differ substantially from the characteristics identified in the median of the sectors, the impact of foreign investment on domestic investment would be similar to that shown in Chart 2, clarifying that the extractive, manufacturing and retail sectors are less intensive in their use of intangible assets, and their impact on domestic investment would therefore be more positive than that reflected by the median of these sectors. Consequently, foreign direct investment by developed economies in the last two decades does not in principle appear to have been detrimental for domestic investment. Only in sectors with a high intensity of investment in intellectual property assets —whose weight in total investment varies across countries—, can foreign investment contribute to explaining the weak growth of investment in recent years.

1 See M.S. Feldstein (1995), “The Effects of Outbound Foreign Direct Investment on the Domestic Capital Stock” in M. Feldstein and G. Hubbard eds. *The effect of taxation on multinational corporations*, University of Chicago Press, 43-66; R. Belderbos, K. Fukao, K. Ito and W. Letterie. (2013), “Global Fixed Capital Investment by Multinational Firms”, *Economica*, 80, 274-299, London School of Economics and A. Al-Sadig (2013), “Outward Foreign Direct Investment and Domestic Investment: the Case of Developing Countries”, IMF Working Paper 13/52.

2 User cost of capital is the result of the price of investment goods relative to the production price in each sector and the long-term real interest rate less the depreciation rate of capital.

3 P. Braunerhjelm, L. Oxelheim and P. Thulin (2005), “The relationship between domestic and outward foreign direct investment: The role of industry-specific effects”, *International Business Review* 14, 677-694, use this indicator to conduct a similar exercise for Swedish industrial sectors.

4 M. A. Desai, C. Fritz Foley and J. R. Hines Jr. (2005), “Foreign Direct Investment and the Domestic Capital Stock”, *American Economic Activity Papers and Proceedings, May*, 33-38, also finds a complementary relationship in the case of US multinationals.

Structural reform in product markets, aimed at increasing competition and reducing business mark-ups, raise the level of activity in the economy in the medium and long term. By reducing the inefficiencies deriving from the excessive market power of firms, these reforms enhance the economy's efficiency in the long term, and, therefore, the expectation of increased activity in the future may stimulate consumption and, above all, investment, when structural reforms are announced,¹ even in a context of deleveraging by households and businesses, such as that faced by the Spanish economy in recent years.²

This box analyses whether these arguments are applicable to Spain, using a macroeconomic model for this purpose.³

- 1 See M. Draghi (2017), *Introductory remarks at the European Central Bank Conference "Structural reforms in the euro area"*, Frankfurt am Main, 18 October 2017. However, part of the literature of recent years has underscored that, in certain situations, there may be adverse effects in the short run. In particular, in a seminal article by Eggertsson et al. (2014) [See G. Eggertsson, A. Ferrero and A. Raffo (2014), "Can structural reforms help Europe?", *Journal of Monetary Economics*, 61, pp. 2-22] the authors argue that these structural reforms may have a negative impact in the short and medium term if monetary policy is constrained by the lower bound of interest rates and does not have the capacity to accommodate the deflationary effects of lower margins in product markets, resulting in higher real interest rates, the contractionary effect of which could outweigh the positive effects of the reforms themselves, at least in the short run.
- 2 Moreover, it could be argued that, in an economy facing severe financial constraints and undergoing a process of deleveraging of the private sector, the difficulties in gaining access to financing to undertake new consumption and investment plans could reduce agents' capacity to materialise in the present some of the future positive effects of the reform, so that the effects in the short run would be limited despite the expectation of activity growth in the future.
- 3 Véase Ó. Arce, S. Hurtado and C. Thomas (2016), "Policy Spillovers and Synergies in a Monetary Union", *International Journal of Central Banking*, 12, pp. 219-277.

Specifically, a model of a monetary union comprising two regions of different sizes is used, calibrated in this case to represent Spain and the rest of the euro area.⁴ In this model, the households and firms of each country have long-term debt, and their borrowing capacity is constrained by the value of their assets, which serve as guarantees or collateral. On this basis, a structural reform consisting of a permanent reduction of firms' unit margins is simulated. In addition to the "normal times" scenario, two further setups are considered: one in which there is a parallel process of private-sector deleveraging and another in which, in addition to the foregoing, monetary policy is constrained by the lower bound of interest rates.

Charts 1 and 2 show the marginal effect of this reform on GDP and investment under each of the three scenarios. The model simulations confirm, first of all, that these reforms are clearly expansionary in normal times (blue lines in the charts), both for GDP and investment, for the reasons discussed above.

Secondly, the results in a context of private-sector deleveraging (red lines in the charts) show that, although a situation of severe financial constraints may indeed diminish the effectiveness of these structural reforms in the short run, their immediate effect

- 4 This structure based on several countries is essential for the simulation exercises in this box: the results of the Arce et al. model would be similar to those of Eggertsson et al (2014) if the simulated structural reforms were applied to the euro area as a whole and not only to part of it. The forthcoming publication by J. Andrés, Ó. Arce and S. Hurtado (2018), "Internal Devaluations in a Monetary Union: Labour vs Product Market Reforms", Working Paper, Banco de España, analyses in greater depth the effect of the size of the area implementing the reform, and concludes that, in a situation of interest rates constrained by their lower bound, the short-term impact of increased competition in product markets is positive as long as the area implementing the reforms accounts for less than 60% of the monetary union.

Chart 1
MARGINAL EFFECT ON GDP OF A PERMANENT REDUCTION OF BUSINESS MARK-UPS

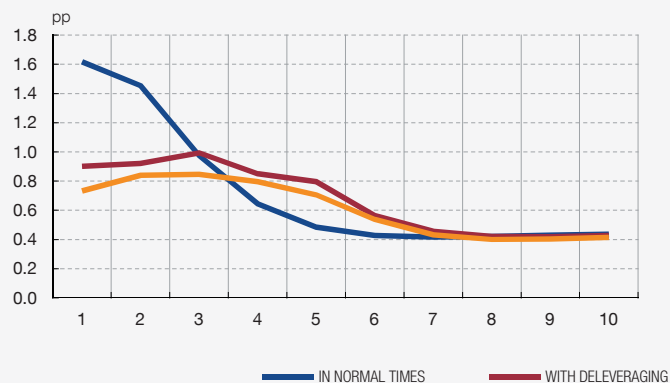
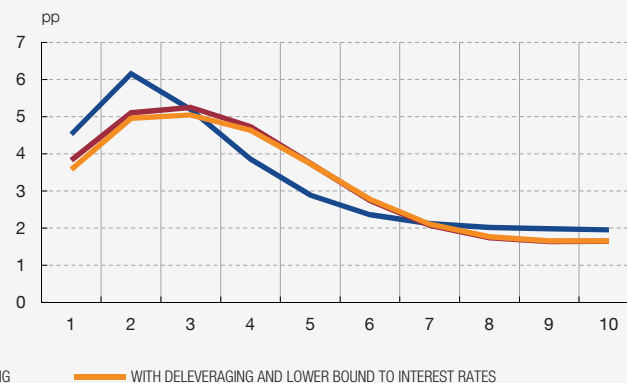


Chart 2
MARGINAL EFFECT ON INVESTMENT OF A PERMANENT REDUCTION OF BUSINESS MARK-UPS



SOURCE: Banco de España.

continues to be clearly positive, both on GDP and on investment. An important channel for achieving this is the incentive to invest generated by the reform, which favours the revaluation of assets and leads to increases in the net worth of indebted households and firms, thus allowing for the intensity, duration and contractionary effects of the deleveraging process to be reduced.⁵

Lastly, if, in addition to a deleveraging process in Spain, the monetary union as a whole is constrained by the lower bound of interest rates (yellow lines in the charts), the results of the model show that the short-term effectiveness of these reforms in stimulating activity is further reduced, although the reform still

maintains a clearly positive effect on investment and economic activity both in the short and long term. The reform is deflationary, and since monetary policy cannot accommodate such a shock by further reducing interest rates, there is an increase in real interest rates, whose contractionary effects, however, do not manage to outweigh the positive effects of the reform itself.

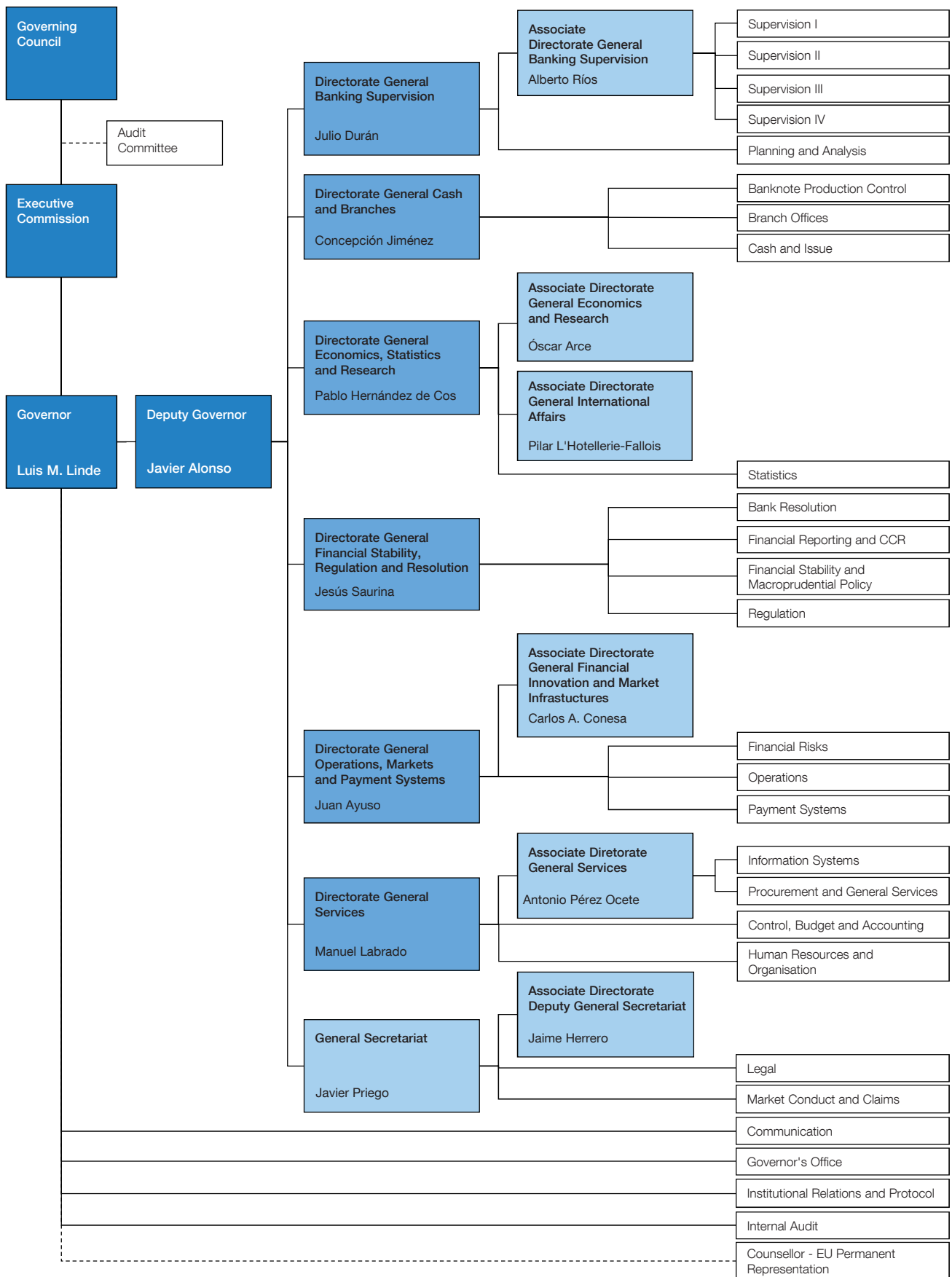
In short, the exercises in this box highlight the positive effects on GDP that the reforms aimed at increasing competition in the product markets may give rise to. The upturn in investment following implementation of such a reform is the channel through which entrepreneurs reflect the short-term expectation of a permanently more efficient and dynamic economy. Furthermore, this type of policy has robust expansionary effects, even in a complex macroeconomic context in which agents are faced with the need to reduce their debt and monetary policy has little room for further interest rate cuts.

⁵ For a detailed analysis of the mechanism whereby the product market reforms shorten the process of private-sector deleveraging, see J. Andrés, Ó. Arce, and C. Thomas (2017), "Structural Reforms in a Debt Overhang", *Journal of Monetary Economics*, vol. 88, pp. 15-34.



COMPOSITION OF THE GOVERNING BODIES OF THE BANCO DE ESPAÑA

ORGANISATION CHART OF THE BANCO DE ESPAÑA



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ABBREVIATIONS

ABS	Asset-backed securities	GDP	Gross domestic product
BCBS	Basel Committee on Banking Supervision	GFCF	Gross fixed capital formation
BE	Banco de España	GNP	Gross national product
BIS	Bank for International Settlements	GOP	Gross operating profit
BLS	Bank Lending Survey	GVA	Gross value added
BOE	Official State Gazette	HICP	Harmonised Index of Consumer Prices
BRICs	Brazil, Russia, India and China	IASB	International Accounting Standards Board
CBA	Central Balance Sheet Data Office Annual Survey	ICO	Official Credit Institute
CBQ	Central Balance Sheet Data Office Quarterly Survey	IFRSs	International Financial Reporting Standards
CBSO	Central Balance Sheet Data Office	IGAE	National Audit Office
CCR	Central Credit Register	IIP	International Investment Position
CDSs	Credit default swaps	IMF	International Monetary Fund
CESR	Committee of European Securities Regulators	INE	National Statistics Institute
CNE	Spanish National Accounts	LTROs	Longer-term refinancing operations
CNMV	National Securities Market Commission	MFI	Monetary financial institutions
CPI	Consumer Price Index	MIP	Macroeconomic imbalance procedure
CSPP	Corporate sector purchase programme	MMFs	Money market funds
DGF	Deposit Guarantee Fund	MROs	Main refinancing operations
EBA	European Banking Authority	MTBDE	Banco de España quarterly macroeconomic model
ECB	European Central Bank	NAIRU	Non-accelerating inflation rate of unemployment
ECOFIN	Council of the European Communities (Economic and Financial Affairs)	NCBs	National central banks
EDP	Excessive Deficit Procedure	NFCs	Non-financial corporations
EFF	Spanish Survey of Household Finances	NPBs	National Productivity Boards
EFSF	European Financial Stability Facility	NPISHs	Non-profit institutions serving households
EMU	Economic and Monetary Union	OECD	Organisation for Economic Co-operation and Development
EONIA	Euro overnight index average	OJ L	Official Journal of the European Union (Legislation)
EPA	Official Spanish Labour Force Survey	ONP	Ordinary net profit
ESA 2010	European System of National and Regional Accounts	OPEC	Organisation of Petroleum Exporting Countries
ESCB	European System of Central Banks	PMI	Purchasing Managers' Index
ESFS	European System of Financial Supervisors	PPP	Purchasing power parity
ESM	European Stability Mechanism	QNA	Quarterly National Accounts
ESRB	European Systemic Risk Board	SDRs	Special Drawing Rights
EU	European Union	SEPA	Single Euro Payments Area
EURIBOR	Euro interbank offered rate	SGP	Stability and Growth Pact
EUROSTAT	Statistical Office of the European Communities	SMEs	Small and medium-sized enterprises
FASE	Financial Accounts of the Spanish Economy	SPEE	National Public Employment Service
FDI	Foreign direct investment	SRM	Single Resolution Mechanism
FROB	Fund for the Orderly Restructuring of the Banking Sector	SSM	Single Supervisory Mechanism
FSB	Financial Stability Board	TFP	Total factor productivity
FSF	Financial Stability Forum	TLTROs	Targeted longer-term refinancing operations
GDI	Gross disposable income	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.