FINANCIAL STABILITY REPORT

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ABBREVIATIONS [*]

€	Euro
AIAF	Asociación de Intermediarios de Activos Financieros (Association of Securities Dealers)
ABCP	Asset-backed commercial paper
ATA	Average total assets
BCBS	Basel Committee on Banking Supervision
BIS	Bank for International Settlements
BLS	Bank Lending Survey
bn	Billions
bp	Basis points
BRRD	Bank Recovery and Resolution Directive
CBE	Banco de España Circular
CBSO	Banco de España Central Balance Sheet Data Office
CCB	Countercyclical capital buffer
CCR	Banco de España Central Credit Register
CDO	Collateralised debt obligation
CDS	Credit Default Swap
CEBS	Committee of European Banking Supervisors
CEIOPS	Committee of European Insurance and Occupational Pensions Supervisors
CET1	Common equity Tier 1 capital
CIs	Credit institutions
CNMV	Comisión Nacional del Mercado de Valores (National Securities Market Commission)
CPSS	Basel Committee on Payment and Settlement Systems
DIs	Deposit institutions
EAD	Exposure at default
EBA	European Banking Authority
ECB	European Central Bank
EFSF	European Financial Stability Facility
EMU	Economic and Monetary Union
EONIA	Euro overnight index average
EPA	Official Spanish Labour Force Survey
ESFS	European System of Financial Supervisors
ESM	European Stability Mechanism
ESRB	European Systemic Risk Board
EU	European Union
FASB	Financial Accounting Standards Board
FROB	Fund for the Orderly Restructuring of the Banking Sector
FSA	Financial Services Authority
FSAP	Financial Sector Assessment Program
FSB	Financial Stability Board
FSF	Financial Stability Forum
FSR	Financial Stability Report
FVC	Financial vehicle corporation
GAAP	Generally Accepted Accounting Principles
GDI	Gross disposable income
GDP	Gross domestic product
G-SIIs	Global systemically important institutions
GVA	Gross value added
GVAmp	Gross value added at market prices
IASB	International Accounting Standards Board
ICO	Instituto Oficial de Crédito (Official Credit Institute)
ID	Data obtained from individual financial statements
IFRSs	International Financial Reporting Standards
IMF	International Monetary Fund
INE	National Statistics Institute
IOSCO	International Organization of Securities Commissions
ISDA	International Swaps and Derivatives Association
JST	Joint Supervisory Team
LGD	Loss given default
LTROs	Longer-term refinancing operations
LTV	Loan-to-value ratio (amount lent divided by the appraised value of the real estate used as collateral)
m	Millions

(*) The latest version of the explanatory notes and of the glossary can be found in the November 2006 edition of the *Financial Stability Report*.

MiFID	Markets in Financial Instruments Directive
MMFs	Money market funds
NPISHs	Non-profit institutions serving households
NPLs	Non-performing loans
OMT	Outright Monetary Transactions
OTC	Over the counter
PD	Probability of default
PER	Price earnings ratio
pp	Percentage points
RDL	Royal Decree-Law
ROA	Return on assets
ROE	Return on equity
RWA	Risk-weighted assets
SCIs	Specialised credit institutions
SMEs	Small and medium-sized enterprises
SIV	Structured investment vehicle
SPV	Special purpose vehicle
SSM	Single Supervisory Mechanism
TA	Total assets
TARP	Troubled Asset Relief Program
TLTROs	Targeted Longer-term Refinancing Operations
VaR	Value at risk
WTO	World Trade Organisation

CONTENTS

1 Key developments

The start of 2016 saw a bout of instability on global financial markets against a background of growing uncertainty over the world economic growth outlook, doubts about the transition of the Chinese economy and fresh declines in oil prices. The correction of risk asset valuations was particularly marked in the case of banking sector assets. As well as by general factors, these instruments were affected by concerns over the sector's profitability and, in some jurisdictions, by the high level of non-performing loans and by the uncertainty over certain regulatory aspects. Admittedly, since mid-February, international financial markets have been more stable; but uncertainty over the future course of asset pricing remains high, especially in a setting in which doubts persist over the global economic outlook.

On the macroeconomic front, the latest developments show weaker global economic growth than anticipated some months back, which has led to the downward revision of medium-term growth forecasts, especially in the emerging economies. Over the recent period the Spanish economy has held on the expansionary path seen in the previous months, albeit at a somewhat more moderate rate than that observed in the second half of 2015. GDP is projected to continue increasing, this year and next, at relatively high rates of 2.7% and 2.3%, respectively. However, the downside risks to this scenario have increased appreciably in recent months.

In this setting, Spanish deposit institutions saw their consolidated assets grow in December 2015 at a year-on-year rate of 2.5%, owing essentially to their international activity. In fact, their domestic business shrank once more, albeit at an increasingly moderate rate. These developments have been accompanied by a 3.5% decline in consolidated earnings compared with 2014, fundamentally associated with the downturn in income from business in Spain. The pressure of the very low interest rate environment in which Spanish banks and their euro area counterparts pursue their intermediation activity has contributed to a situation in which net interest income (the difference between financial revenue and financial costs) has fallen by close to 2% from its 2014 level. In any event, the reduction in provisioning owing to the lesser volume of NPLs (which are 22% down) has partly offset the decline in the different margins.

Doubts about the practical implications of certain regulatory developments such as the entry into force of the new bail-in rules in Europe and the possible effect of the limits on the remuneration of regulatory capital instruments such as additional tier 1 (AT1) also contributed to market uncertainty.

Spanish institutions' solvency continues to increase and, in December 2015, the CET1 capital ratio stood at 12.6%, almost 1 pp up on a year earlier.

2 Risk factors

Set out on the next page are the main factors of risk to the stability of the Spanish financial system which are identified in the analysis performed in this report.

The first factor is related to the low profitability of banking business. As indicated in the previous Financial Stability Report (FSR), the continuity over time of a low interest rate environment, combined with a level of activity still at the recovery phase, may affect banks' solvency, through the lesser contribution of results to the generation of reserves. The second factor of risk refers to the possible worsening of the economic growth outlook, linked to the

RISK FACTORS (a) TABLE 1

1	Environment of very low interest rates and low profitability of domestic banking business, with a volume of banking activity that is not growing, along with a high albeit diminishing level of NPLs.
2	Worsening growth outlook for the Spanish and international economies, including those economies to which Spanish institutions have foreign exposure.
3	Downward adjustments in financial asset prices, with a particular impact on equity securities, which may put upward pressure on the risk premium of sovereign and private issues.

SOURCE: Banco de España.

a Colour ranking in the table is as follows: green denotes no risk, yellow is low risk, orange is medium risk and red is high risk. The time horizon for which these risks are defined is determined by the FSR frequency, i.e. it is biannual.

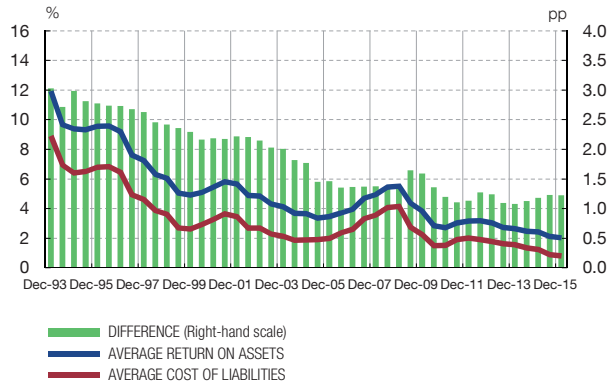
materialisation of risk scenarios of both an external and domestic nature. The final factor of risk, the correction of financial asset prices, affects both banks' financial position and their capacity to raise market financing. As was also discussed in the previous FSR, the factors of risk highlighted are shared, to differing degrees, by our peers, particularly by the banking systems of the member countries of the Single Supervisory Mechanism (SSM). The first two factors are currently considered to be of medium intensity, and the final factor of low intensity. In any event, it should be borne in mind that these three factors of risk are not mutually exclusive and that the materialisation of one of them might trigger that of the other two. Hence, for example, an unexpected downturn in global economic growth might lead to a correction of financial asset values and exert additional pressure on banks' income statements.

2.1 VERY LOW INTEREST RATE ENVIRONMENT AND LOW PROFITABILITY OF BANKING BUSINESS IN SPAIN

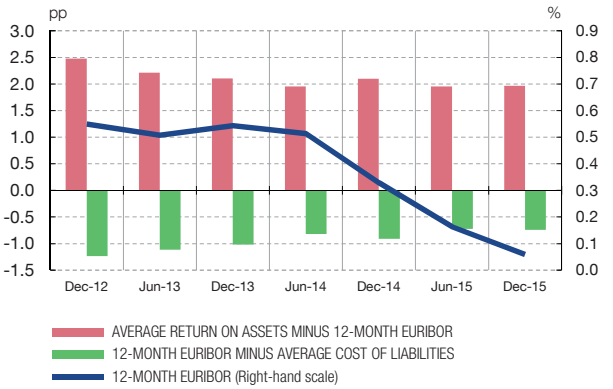
The maintenance over time of very low – or even negative – interest rates, along with sluggish credit demand, restrict banks' profit-generating capacity. As can be seen in Chart A, the spread between lending and deposit rates in domestic business is at a level close to historical lows. To date, this situation was being countered, in part, by the pass-through of the reduction in interest rates to the more stable sources of financing, such as bank deposits. However, the scope here is beginning to be exhausted as deposit rates are very close to their natural lower limit. Likewise, the still-high volume of NPLs and foreclosed assets on bank balance sheets adds an additional element of pressure on the income statement. Nonetheless, the positive trend of NPLs over the past two years as a result of the improvement in economic activity, the low interest rates implemented by the European Central Bank (ECB) and the consequent lower provisioning helps compensate downward pressure on margins.

However, these positive effects on loan loss provisioning will tend to peter out in an environment of what are already very low or negative interest rates. This situation generates

A DIFFERENCE BETWEEN AVERAGE RETURN ON ASSETS AND AVERAGE COST OF LIABILITIES
Business in Spain, ID



B DIFFERENCE BETWEEN 12-MONTH EURIBOR, AVERAGE RETURN ON ASSETS AND AVERAGE COST OF LIABILITIES
Business in Spain, ID



SOURCE: Banco de España.

for banks additional challenges such as the maintenance of prudent management in the extension of credit at rates that compensate sufficiently the risk incurred.

Additionally, if we use the 12-month EURIBOR to separate the two components of net interest income (see Chart B), on the asset side, the difficulty can be seen for institutions to increase income in recent years. On the liabilities side, it should be underlined that the spread between the 12-month EURIBOR and the average interest rate paid on deposits has been negative in recent years.

Under these conditions and with returns on equity (ROE) below the cost of capital, Spanish banks, like many of their European counterparts, should gain even greater efficiency through cost savings and seek to adapt their business model to the new conditions which includes strengthening income through the provision of services to their customers and attempting to bring their strategy, including any possible mergers and acquisitions, into line with the new financial and regulatory setting.

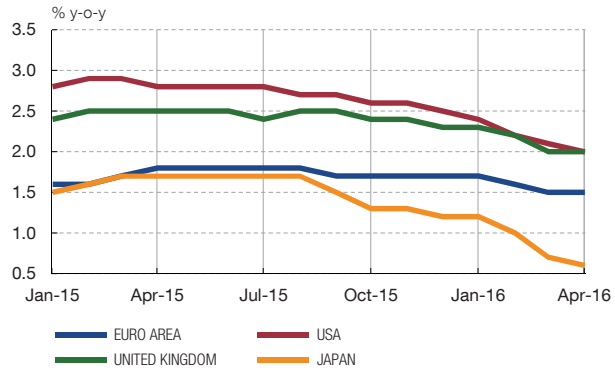
2.2 WORSENING OF THE GROWTH OUTLOOK FOR THE INTERNATIONAL AND SPANISH ECONOMIES

In recent months, the risks of more unfavourable macroeconomic developments than projected in the baseline scenario have increased, both in the case of the global and Spanish economies (see Charts C and D). In the first case, there are two main sources of uncertainty. The first has to do with a potentially more marked downturn than anticipated in the emerging economies. The second relates to an increase in geopolitical tensions in certain areas. The materialisation of any of these risks might affect Spain's financial sector through twin channels. First, it would damage the activity of banks with greater exposure to the economies most affected. Further, it would raise the credit risk of their portfolio of assets in Spain, insofar as the Spanish economy were adversely affected. Besides these external risks, another source of risks to economic growth in Spain stems from the current political uncertainty insofar as this situation adds doubts about the course of economic policies.

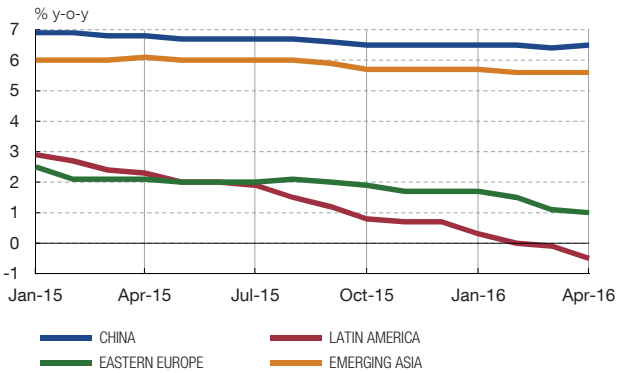
2.3 FINANCIAL ASSET PRICE ADJUSTMENTS

Despite the fact that there are currently no signs of excessive pricing on domestic financial markets, the bout of instability in early 2016 highlights the substantial sensitivity of prices to changes in investor sentiment (see Charts E and F). In this respect, the uncertainty surrounding the international macroeconomic outlook is a major factor of risk to the course of prices on international and domestic financial markets. Any future price correction might affect the stability of the Spanish financial system through various channels. First, a tightening of financing conditions for the different sectors, including financial institutions, might come about and impair asset quality through the adverse impact on economic growth. Furthermore, banks might also be harmed by the reduction in the value of the assets held in their trading books.

C 2016 GROWTH FORECASTS FOR ADVANCED ECONOMIES



D 2016 GROWTH FORECASTS FOR EMERGING ECONOMIES



SOURCE: Consensus Forecasts.

E BANKING SECTOR INDICES

F BANK CREDIT RISK PREMIA. 5-YEAR CDS

SOURCE: Datastream.

The foregoing factors of risk are discussed and analysed in greater detail throughout this FSR. This analysis is complemented by an assessment of recent solvency developments, which arrives at the conclusion that banks are, overall, in a favourable position to face these risks.

3 Other matters

Chapter 3 offers, for the first time, a description of macroprudential policy, in terms both of its objectives and of the instruments available to attain such objectives. In turn, the first decisions adopted by the Banco de España in this connection – on the countercyclical capital buffer and the designation of systemic institutions, along with the capital requirements associated therewith – are presented.

1.1 External environment of the euro area

The international environment in which financial institutions are operating is somewhat uncertain

The global financial markets showed a high level of volatility in the opening months of 2016, linked to several different factors (Chart 1.1). First, doubts remained over the transition of the Chinese economy. Further, there were some downward revisions in growth forecasts for the advanced economies, despite significant growth drivers. Indeed, one of these, the marked decline in oil prices, caused concern owing to the adverse effect it might exert both on energy companies and on oil-producing countries. And finally, the liquidity problems in certain markets might have contributed to exacerbating their reaction to shocks. In recent weeks market tensions appear to have reversed, with the exception of the foreign exchange markets. The realisation that the slowdown in global activity is a milder process than anticipated under the harshest scenarios, the support by the monetary authorities and the interruption in the downtrend of oil prices are all factors which, so far, are offering some solace to investors.

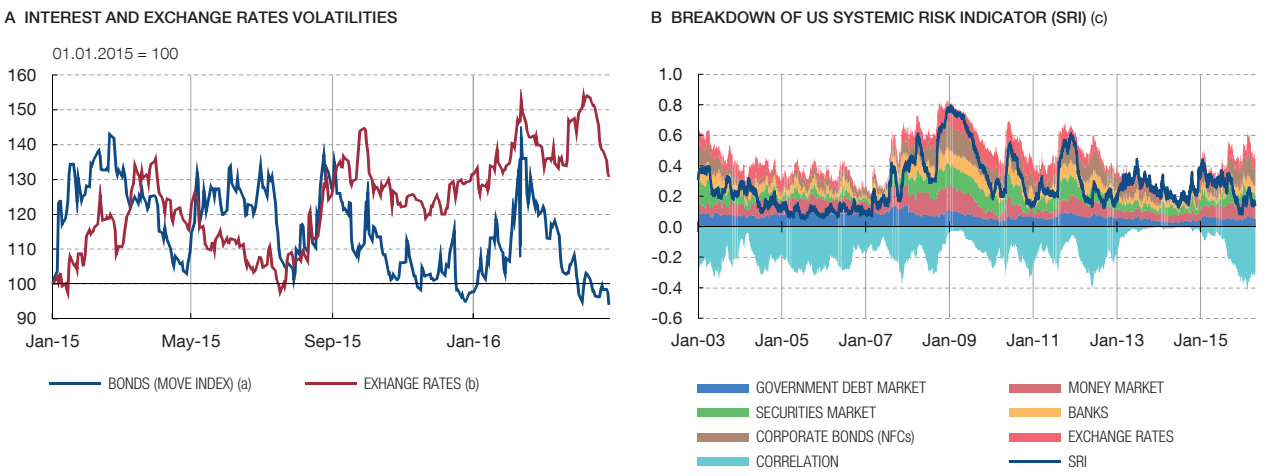
The outlook for the world economy has worsened…

Growth in the world economy fell by 0.3 pp in 2015 to 3.1%, once again below expectations at the start of the year. This slowdown was due to the weakness of the emerging economies, although the advanced economies were only capable of stabilising their growth at slightly below 2%. These developments were reflected in further downward revisions of expected growth for 2016, in the advanced and emerging economies alike (Chart 1.2). In the case of the advanced economies, the revisions reflect a degree of sluggishness in growth in the past two quarters. Inflation in these economies has continued to run at very low rates, weighed down by the fall in commodities prices, while the indicators of medium- and long-term inflation expectations have continued to post further declines (Chart 1.3).

...in a setting marked by the fall in oil prices

One of the key factors behind developments on financial markets was the oil price, which continued falling in the opening months of the year but subsequently rose to over $40 per barrel. The decline in recent quarters is on account of the change in strategy by Saudi Arabia, the forceful pace of production of US shale oil and, following the lifting of international sanctions, the expectations of an increase in Iranian production. And a further contributing factor is the successive downward revisions in the demand for oil. The downward impact this

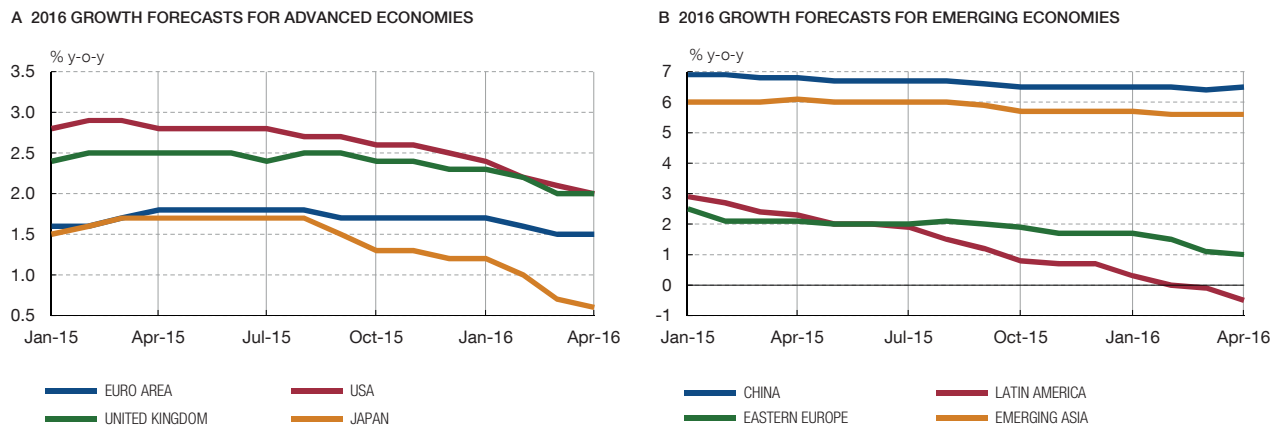
INTEREST AND EXCHANGE RATES VOLATILITIES AND US SYSTEMIC RISK INDICATOR CHART 1.1



SOURCES: Datastream, Bloomberg and Banco de España.

a Implied volatility US Treasury debt.
b Implied volatility in respect of US dollar against the euro, pound sterling, Mexican peso, Brazilian real and Chinese yuan.
c A similar indicator is calculated for Spain in Chapter 2, for a detailed explanation of this indicaror, see Box 1.1 in the May 2013 FSR.

2016 CONSENSUS GROWTH FORECASTS FOR ADVANCED AND EMERGING ECONOMIES CHART 1.2



SOURCE: Consensus Forecasts.

prompted on financial markets may have been due to the adverse effects caused for oil-exporting countries and the energy companies, likewise affecting medium-term inflation expectations in the advanced countries. However, in recent weeks this trend has been curtailed, owing to rumours of a possible agreement within OPEC and the possibility that US output might be beginning to feel the effects of such low prices.

Doubts persist over the potential growth of the advanced economies and the monetary policy headroom available

The persistence over time of very modest growth rates in the advanced economies is a warning sign of a possible reduction in the potential growth of these economies, as estimates by the main international organisations suggest. Against this backdrop, the monetary policy stance has continued to be most accommodating, even bearing in mind the rise in official rates by the Federal Reserve in December. In several economies, central banks have continued to ease their monetary policy stance or, in some cases, such as the United Kingdom and the United States itself, the cycle of interest rate rises has been postponed. In this respect, more and more central banks have opted to apply negative interest rates to banks' excess reserves, the latest being the Bank of Japan. In any event, in an environment of low growth, low inflation and low equilibrium interest rates, there are increasingly greater doubts over the headroom available for monetary policies alone.

Doubts remain in the emerging economies over the transition of the Chinese economy…

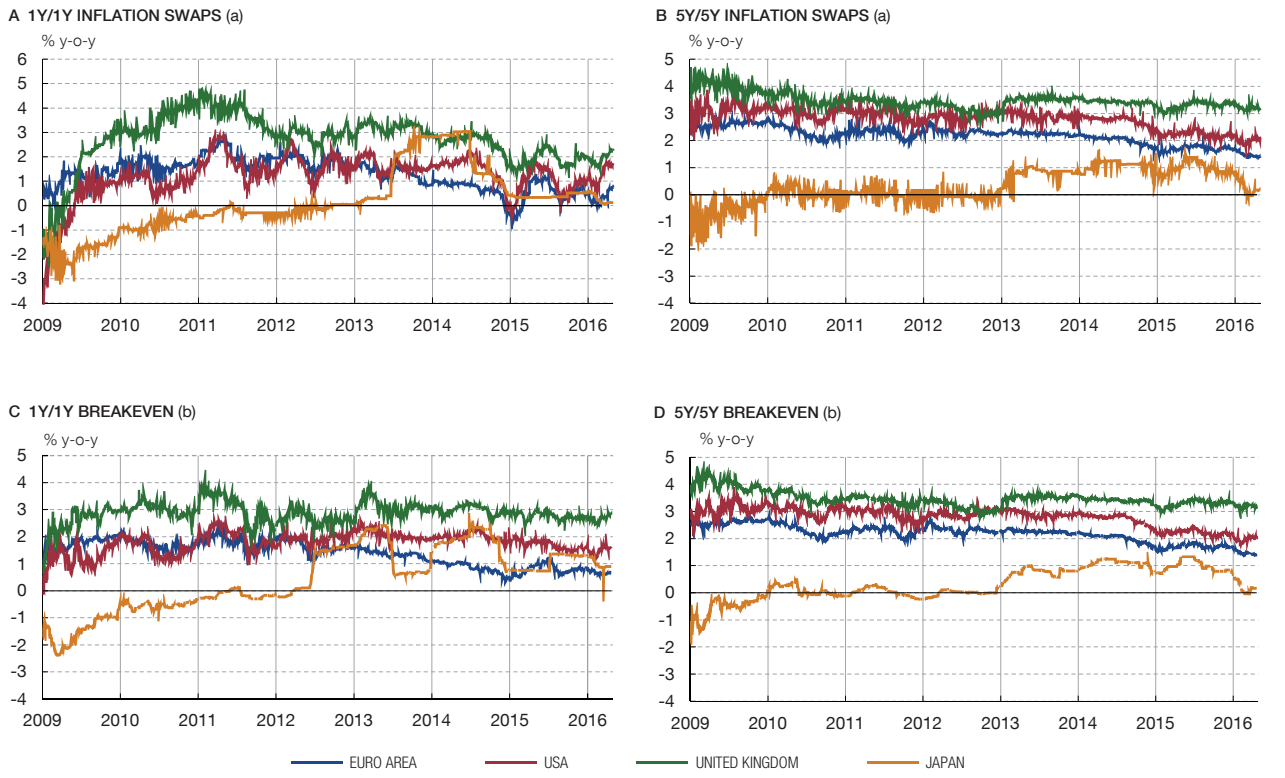
In the case of the emerging economies, the focus has remained fixed on China's economic situation. The most likely scenario is still one of a gradual slowdown during the transition to a growth model led more by domestic demand and services sector activity. However, the risk of a more severe slowdown has been highlighted by the tensions in its financial markets, which reflect the difficulties of managing the external liberalisation process set against changes in the direction of international financial flows and high foreign exchange volatility.

…with significant consequences in other areas such as Latin America, additionally affected by the commodities cycle

The situation of the Chinese economy poses additional risks to many emerging economies, both in Asia and in Latin America, with increased pressures on the exchange rates of the countries most affected. In Brazil, the recession is proving more acute and longer-lasting than expected; moreover, the political situation is making the expected fiscal adjustment more difficult, which led in February this year to the loss of the country's investment-grade rating. Mexico, meanwhile, maintained growth of around 2.5%, although it saw a most marked downturn in its market indicators, which may be associated with the fall in oil prices. The depreciation of exchange rates in the region is already beginning to be felt incipiently in the external rebalancing of these economies; yet so far the greatest impact is being felt in a rise in inflation, which is making for a generalised tightening of monetary policies.

INFLATION EXPECTATIONS

CHART 1.3



SOURCES: Bloomberg and Markit.

a Expectations derived from information on inflation swaps, an agreement where the inflation recorded in the future is exchanged for a pre-set fixed amount. The charts depict the expected one-year inflation rate within one year, or the expected five-year rate within five years.
b Expectations derived from the difference between traded nominal government bond yields and inflation-linked government bond yields. The charts depict the expected one-year inflation rate within one year, or the expected five-year rate within five years.

Against this background, there have been major changes in capital flows that may have influenced financial markets…

Pressures on exchange rates combined with fiscal difficulties in the oil-exporting countries saw a reduction in their international reserves and sales of assets from their sovereign funds. The sizeable flows of funds might be affecting financial markets and could account, to some extent, for the corrections observed in certain market segments and the volatility in foreign exchange markets (Chart 1.1.A).

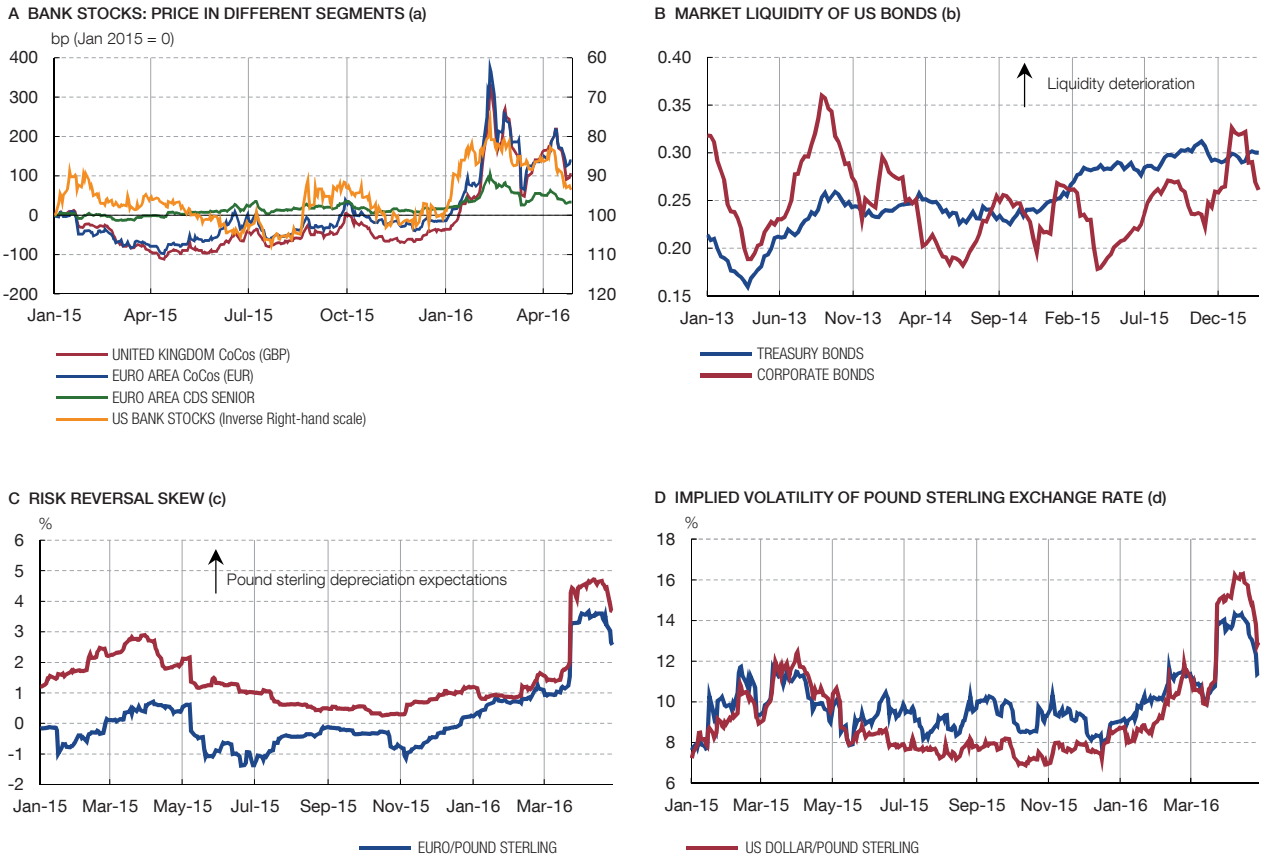
…prompting movements that may have been amplified by a lesser degree of liquidity in certain markets

The corrections on financial markets affected the riskiest segments with greater intensity, although they might also have been influenced by the progressive worsening witnessed in the liquidity of fixed-income markets (see top panels of Chart 1.4). That would explain movements of greater intensity and also greater cross-market contagion.

Various factors that may be conditioning the future situation of financial markets remain in place, such as the UK referendum

With a view to the coming months, several of the factors mentioned, such as doubts about growth in the developed economies, their inflation expectations or the re-balancing of the Chinese economy, may continue influencing developments on financial markets and creating a greater degree of uncertainty that may ultimately affect financing conditions. Monetary policies have been further loosened, although investors appear to be paying some heed to certain possible undesired consequences of specific measures. Furthermore, the effect of geopolitical risks, such as the referendum in the United Kingdom on this country remaining in the EU or election results in several advanced economies, may be an additional source of uncertainty which, given the nature of these risks, makes it particularly difficult for investors to make an assessment and might cause a sharp downturn in markets. In this connection, it should be highlighted that foreign exchange markets are usually more sensitive to these types of events, as can be seen in the recent behaviour of sterling (see bottom panels of Chart 1.4).

MARKET INDICATORS AND EXCHANGE RATE MARKETS CHART 1.4



SOURCES: Bloomberg, Datastream, Barclays Live, Federal Reserve Bank of Chicago, Markit and Banco de España.

a CoCos: yield to maturity based on IBOXX indexes. Senior CDS: senior CDS 5Y premiun average in USD for several banks (Barclays, Banco Santander, BBVA, Crédit Agricole, Credit Suisse, Deutsche Bank, Intesa SanPaolo, Société Générale, UBS and Unicredit). US bank stocks: S&P 500 banking sector.
b Market liquidity proxied by composite indices for US government and corporate bonds that draw together the information on 17 individual indicators (see the article by Broto and Lamas (2016) published in The Spanish Review of Financial Economics 14, pp. 15-22).
c Risk Reversal Skew defined as the difference in implied volatility of call and put out-of-the-money options. In this case, a positive Risk Reversal Skew means that the market expects the euro or US dollar to appreciate against pound sterling.
d Expected volatility for the next three months based on exchange rate options. Annualised volatility data.

1.2 Financial markets in the euro area and in Spain

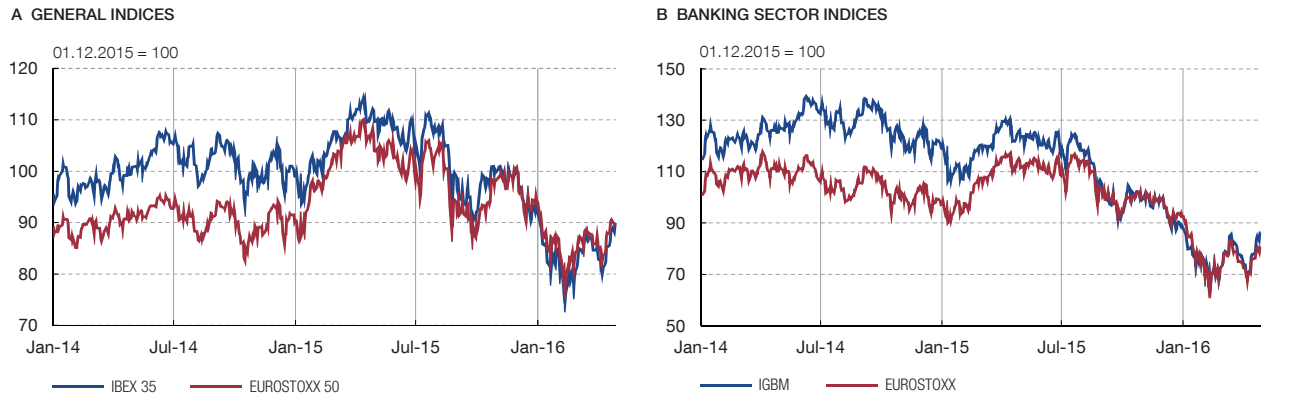
The episode of international financial instability affected euro area markets to a greater extent than other advanced economies and the correction of prices was sharper in the case of bank securities

The episode of financial instability observed on international markets from December 2015 to February 2016 affected the euro area to a greater extent than other advanced economies, reflecting, among other factors, the greater vulnerability of the euro area economies, which have still to overcome some of the after-effects of the crisis. The correction in prices was particularly marked in the case of both equity and bond securities issued by banks, in response to various factors. First, the sensitivity of the prices of these assets to the business cycle is greater than that of most sectors given that, as a comparatively highly leveraged industry is involved, the impact of changes in the macroeconomic setting on credit institutions' financial position is relatively higher. Further, this disturbance has come about in a context in which the European banking sector evidences low levels of profitability and faces the challenge of increasing such levels in a rather unpropitious situation given the weak growth outlook for intermediation activity, the high levels of NPLs in certain jurisdictions and the pressure on net interest income associated with the low levels of interest rates. Finally, various factors relating to European financial regulations have generated doubts and uncertainty among investors, affecting – especially in the opening weeks of this year – the prices of assets issued by this sector and, in particular, those of relatively new instruments such as CoCos (contingent convertible bonds).[1]

1 The following chapter of this Report analyses bank stock market values in greater detail and their main determinants.

EQUITY MARKETS

CHART 1.5



SOURCE: Datastream.

Since mid-February, a more positive climate has been discernible on markets

Since mid-February a better climate has been discernible in EU markets. Contributing to this have been the stabilising of investors' perceptions of global economic growth prospects, the new monetary stimulus measures implemented by the Eurosystem and the clarification of doubts that had arisen in relation to certain regulatory aspects. Hence, in early April, the prices of risk-bearing assets had recouped a portion of the losses observed at the start of the year, and the implied volatilities of stock market indices stood close to their historical average values (Chart 1.7). The Spanish 10-year government bond yield spread over the German benchmark, which rose to 160 bp as at mid-February, stood at end-April below 130 bp, while its yield was around 1.6%, some 10 bp down on the level observed at the cut-off date for the previous FSR (Chart 1.6).

There are currently no signs of overpricing on financial markets

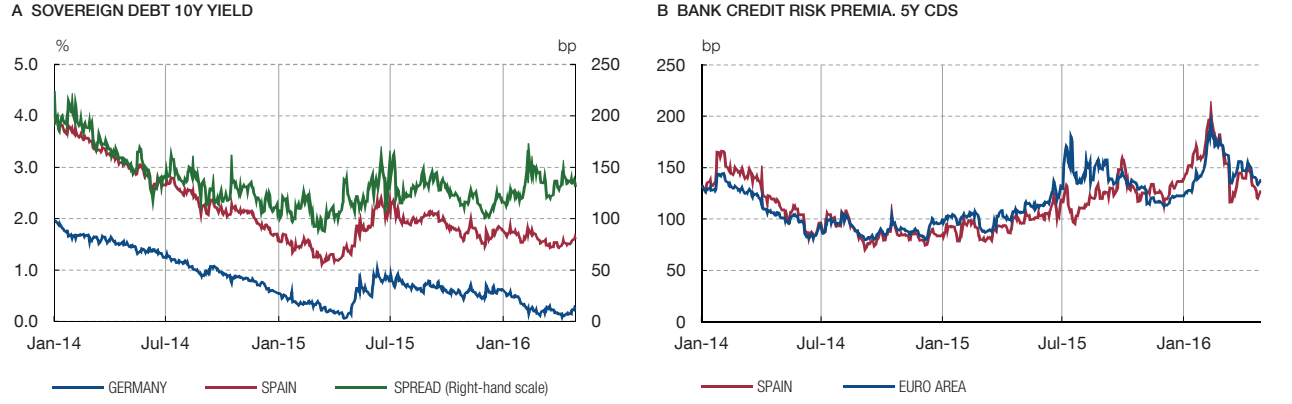
The habitual indicators used to assess to what extent share prices are aligned with their past relationship to other magnitudes do not evidence signs of overpricing for the market average, either in Spain or in the euro area as a whole (Chart 1.7). The share prices of Spanish companies are thus equivalent, on average, to 1.3 times their book value, below their historical average (1.7 times since January 2002), and the cyclically adjusted price-to-earnings ratio stands at below 12, compared with an average of 14 over the past 10 years. The risk premia on public and private bonds currently stand at above their historical averages.

Notwithstanding, the high sensitivity of share prices...

Despite the fact there are no signs of excessive market pricing, the experience of the recent bout of instability illustrates the high sensitivity of share prices to changes in investor

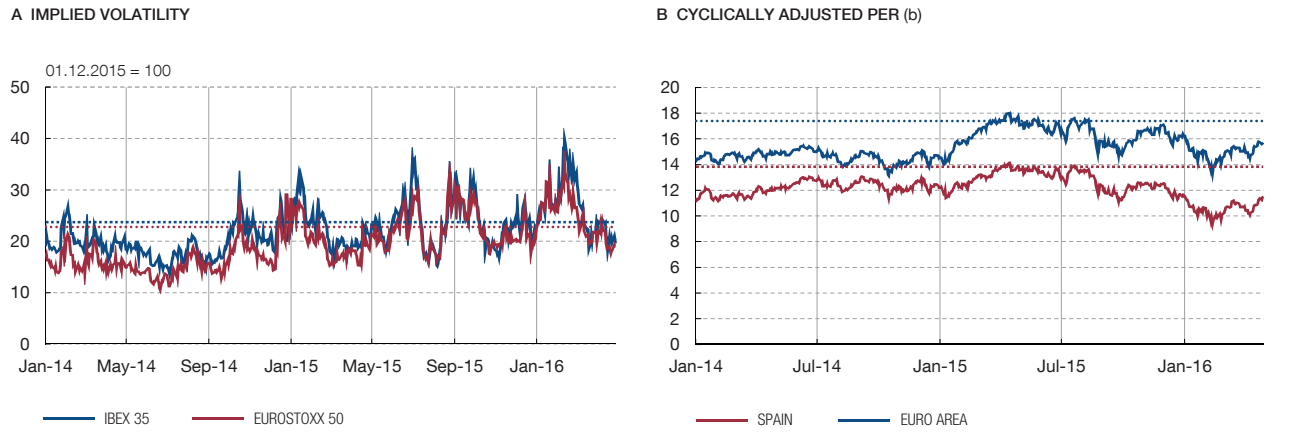
BOND MARKETS

CHART 1.6



SOURCE: Datastream.

EQUITY MARKETS (a) CHART 1.7



SOURCES: Bloomberg and Banco de España.

a The dotted lines represent the historical averages of the series. From 2.1.2000 for implied volatilities and from 2.1.2005 for the cyclically adjusted PER.
b The cyclically adjusted PER is calculated as the ratio of share price to 10-years moving average of earnings.

...to changes in investor sentiment in the recent period is a factor of risk for the future course of financial asset prices

sentiment. In this connection, the uncertainty surrounding the international macroeconomic outlook is a major factor of risk for the course of prices on international and domestic financial markets. Any future worsening in this respect might affect financial stability in Spain both through the tightening of financing conditions for the different sectors, which would have an adverse impact on economic growth and on the quality of bank assets, and through financial intermediaries' portfolio losses.

1.3 The macroeconomic environment in the euro area and in Spain

Euro area GDP showed moderate growth and inflation held at around zero

Euro area GDP showed moderate quarter-on-quarter increases of 0.3% both in Q3 and in Q4 last year (Chart 1.8). Inflation continued to stand at virtually zero [with year-on-year rates of the Harmonised Index of Consumer Prices (HICP) of 0% in March this year], having held at this level since late 2014, and largely influenced by developments in energy goods prices. Similarly, core inflation, which excludes unprocessed food and energy, stood at a moderate rate (1% in March this year), virtually unchanged on six months earlier.

The ECB revised its growth and inflation outlook downwards once again in March

The latest forecasts published by the ECB (in March 2016) point to modest growth in euro area economic activity over the next two years, with annual average increases in real GDP of 1.4% in 2016, and of 1.7% in 2017 (Chart 1.8). With respect to the projections six months earlier, this entails a downward revision of 0.3 pp and 0.1 pp, respectively, prompted by the somewhat more negative global growth scenario, the recent appreciation of the effective exchange rate of the euro and the greater uncertainty reflected in financial market tensions. On the prices front, the fresh decline in oil prices has led to the projected increase in the euro area HICP being set at only 0.1% in 2016, and 1.3% in 2017, setting back further the horizon of a return of inflation rates to the ECB target of levels below but close to 2%.

Risks are tilted to the downside

The risks surrounding this baseline scenario remain tilted to the downside. As regards activity, the biggest risk remains possibly more negative economic developments at the global level, linked to a greater-than-expected downturn in the emerging economies. Another source of risk for the international environment is that stemming from the aforementioned increase in geopolitical tensions. With regard to prices, the extension of the scenario of expected low inflation rates raises the risks of potential negative, second-round effects on the growth of nominal income, with the subsequent adverse impact on the process of deleveraging still to be seen through in some economies.

Against this backdrop, the Eurosystem increased its monetary stimuli

Against this backdrop, the ECB Governing Council meetings in December 2015 and March 2016 agreed to additional monetary stimuli implemented through a broad range of measures which include the following: a fresh cut in interest rates, placing the deposit facility rate at –0.40% (20 bp below the levels prior to the December Governing Council meeting); an expansion in the volume of asset purchases to €80 billion per month (€20 billion more than previously), and their extension to high-quality bonds issued by non-financial corporations; the prolongation of purchases at least until March 2017; and the introduction of new targeted long-term refinancing operations (TLTRO II) with a maturity of four years.

In these new operations, which will be conducted quarterly between June 2016 and March 2017 and will have a maturity of four years, institutions will be entitled to borrow up to 30% of the stock of their eligible loans as at 31 January 2016, less any amount outstanding that was borrowed in the first two TLTROs. The interest rate under TLTRO II will be fixed at the rate applied in the main refinancing operations prevailing at the time of take-up, and a rate reduction is envisaged over the life of the operation. This will depend on the net change in eligible lending between 1 February 2016 and 31 January 2018 with respect to the institutions' benchmark which may even position the interest rate on the operation at the rate of the deposit facility applicable at the time of take-up, thereby contributing to a further reduction in the cost of financing for corporations.

Slight slowdown in Spanish GDP in the second half of 2015, which does not substantially alter the baseline scenario of sustained but lower growth in the coming years

In the Spanish economy, as was expected, GDP recorded a slight slowdown in the second half of 2015 – posting quarter-on-quarter growth rates of 0.8% in Q3 and in Q4, compared with 0.9% and 1% in Q1 and Q2, respectively (Chart 1.8) – which is estimated to have continued in 2016 Q1. Accordingly, for 2015 as a whole, GDP growth was 3.2%. On the latest Banco de España forecasts (corresponding to March this year), the expansion in the Spanish economy is expected to hold this year and next, albeit tending towards more moderate rates than recorded last year, at 2.7% in 2016 and 2.3% in 2017.

Persistently negative inflation rates as a consequence of oil prices

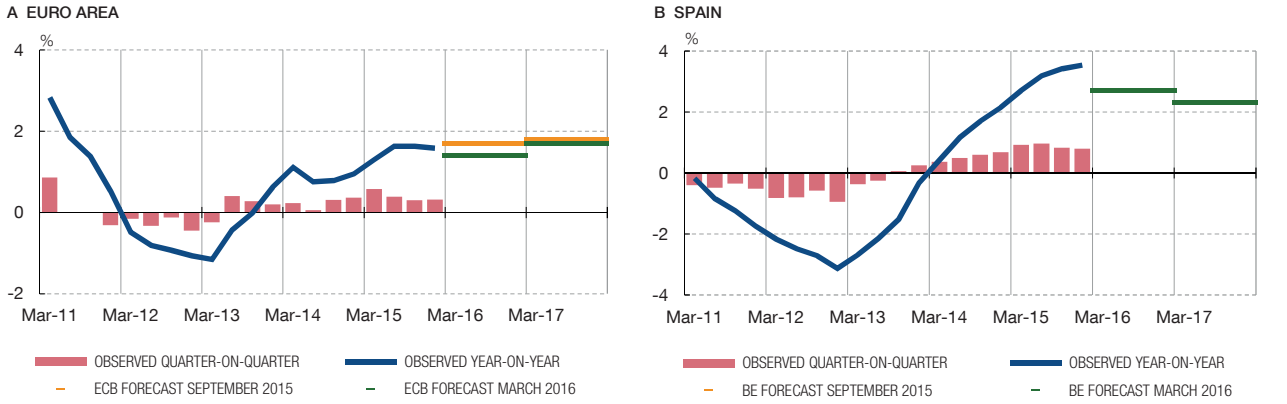
Consumer prices are expected to have continued to be greatly influenced by fluctuations on the energy goods markets. The year-on-year rate of the CPI ended 2015 at 0%, but fell subsequently to –0.8% in February and March this year. The forecasts available in early April anticipated a recovery, which would lead prices to fall by 0.1% on average in 2016, rising subsequently to 1.6% in 2017.

Slight pick-up in the housing market

In the housing market there were slight increases both in activity and in prices in 2015. Taking end-year data, INE reported year-on-year growth in prices of 4.2%, up from 1.8% in 2014.

GDP GROWTH AND FORECASTS

CHART 1.8



SOURCES: INE, Eurostat and Banco de España.

Major correction in the debt of households and non-financial corporations

Households and non-financial corporations made notable progress in correcting their debt, with declines both in the debt/GDP and debt burden ratios. The decline in the former was boosted, on this occasion, not only by negative financing flows, which are progressively more moderate, but also by growth in nominal income. In the case of the latter, a contributing factor was the reduction in interest rates on outstanding credit. As a result, the debt ratios of both sectors are expected to have continued on their declining path, drawing gradually closer to average euro area values (as at December 2015, the latest figure available, they were both 7-8 pp above this average – see Chart 1.9).

The upward deviation from the budget deficit target in 2015 adds a degree of uncertainty as regards the possibility of additional budgetary consolidation measures

Public sector debt is estimated to have stabilised at a level marginally below 100% of GDP at end-2015, albeit with still-high deficit levels. In this respect, the deviation from the 2015 target of almost 1 pp of GDP adds a degree of uncertainty as regards the possibility of additional budgetary consolidation measures.

The net international investment position showed a slight improvement (lower net liabilities) of 6 pp in 2015, posting a debit balance equivalent to 90% of GDP in December last year. This improvement is somewhat more marked (8 pp) if inter-central bank positions in the Eurosystem are excluded. In any event, the still-high debtor positions of the public and private sectors and, consequently, of the nation as a whole, are a factor of vulnerability ahead of any possible tightening of financial conditions in Spain, meaning the drive to correct such positions must persist.

Risks to economic activity have increased, as a result both of uncertainty over global economic growth…

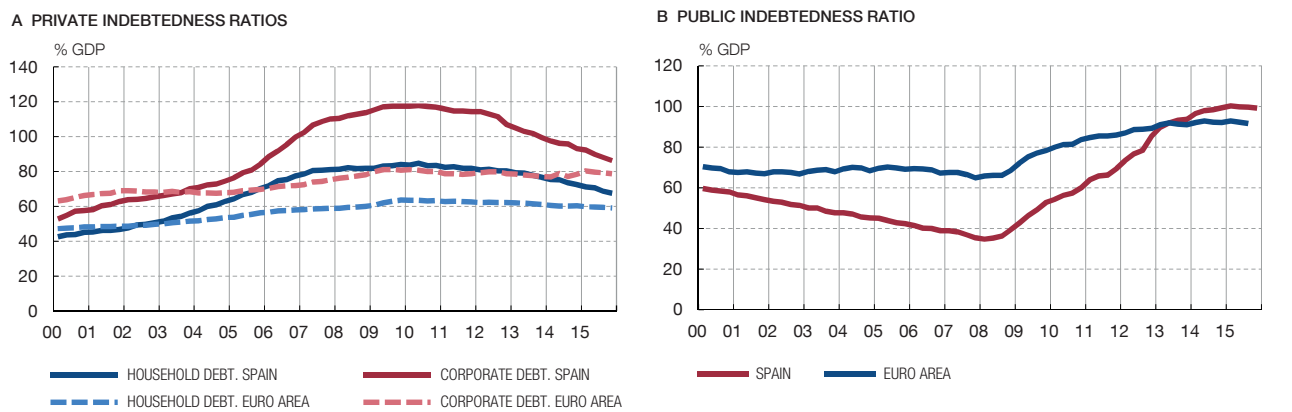
Overall, the balance of risks surrounding the baseline scenario for the Spanish economy is estimated to have worsened since the publication of the previous FSR. Risks stemming from the external sector largely match those indicated for the euro area and relate to the uncertainty over global economic growth, linked especially to developments in certain emerging economies, and also to the recent heightening of geopolitical risks in some regions.

…and that associated with the course of domestic economic policies

In the domestic arena, the possible prolongation over time of the current situation of political uncertainty adds certain doubts about the future course of economic policies and might ultimately affect agents' consumption and investment decisions adversely. On the fiscal front, the deviation of the deficit in 2015 in respect of budget plans highlights the need to give priority to seeing though fiscal consolidation. The adoption of additional budgetary measures might alter the growth profile of output, entailing costs in the short run and generating benefits, in terms of the related gains in confidence, which would only be fully visible once some time had elapsed.

MACROFINANCIAL IMBALANCES IN THE SPANISH ECONOMY

CHART 1.9



SOURCE: Banco de España.

2.1 Banking risks

2.1.1 CREDIT RISK

International exposure

This section of the FSR analyses the evolution of the total assets of Spanish deposit institutions and specifically, their international exposure which, given the vulnerabilities identified in the previous chapter, may involve a risk for the investments made by Spanish institutions abroad, cushioned by the geographical diversification of such exposures. Subsequent sections analyse the risk arising from domestic exposures, the risk that the low interest rate environment poses to the profit generation capacity and, finally, the ability to withstand the risks analysed, by studying the solvency of Spanish deposit institutions.

The consolidated balance sheet as at December 2015 grew, on account of business abroad,...

The consolidated total assets of Spanish deposit institutions amounted to €3,666 billion in December 2015, including both their business in Spain and that of their subsidiaries and branches abroad. They thus grew by 2.5% year-on-year (see Annex 1),[1] continuing the upward trend initiated in previous periods (see Chart 2.1).

...the weight of financial assets arising from international activity having almost doubled since 2008

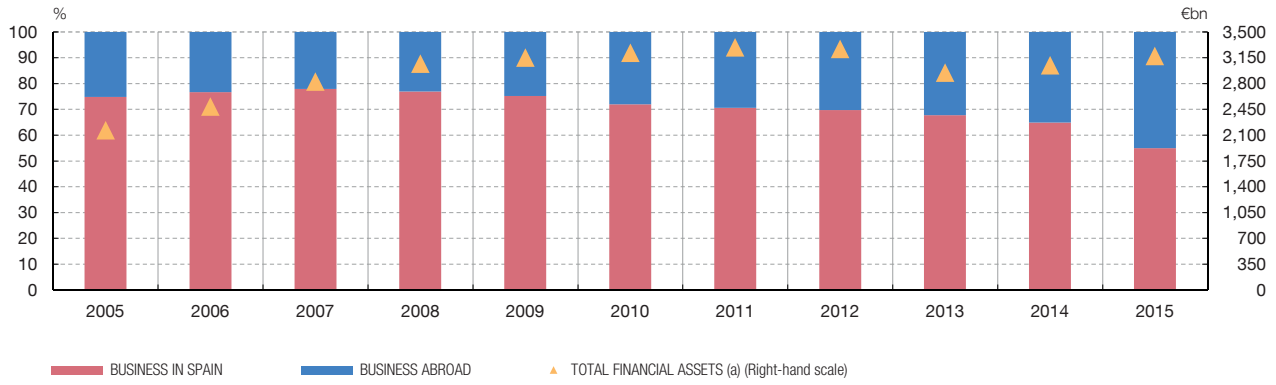
Since 2008 the percentage of financial assets abroad has grown continuously relative to those in Spain, practically doubling to 45% of total financial assets in December 2015 (as against 25% in 2008).

Analysing the developments in 2015 of the main components of activity abroad, the growth in loans (which have increased by around 20% since 2014) was notable, as was, to a lesser extent, the increase in debt securities (which have grown by 10%).

International activity is concentrated, by type of financial asset, in the loan...

With respect to the type of business, Chart 2.2.A shows that three quarters of the financial assets on the balance sheet of Spanish institutions arising from abroad are loans, while 15% correspond to debt securities, 8% to derivatives and the rest to equity instruments.

INTERNATIONAL EXPOSURE. FINANCIAL ASSETS (a) CHART 2.1
Deposit institutions



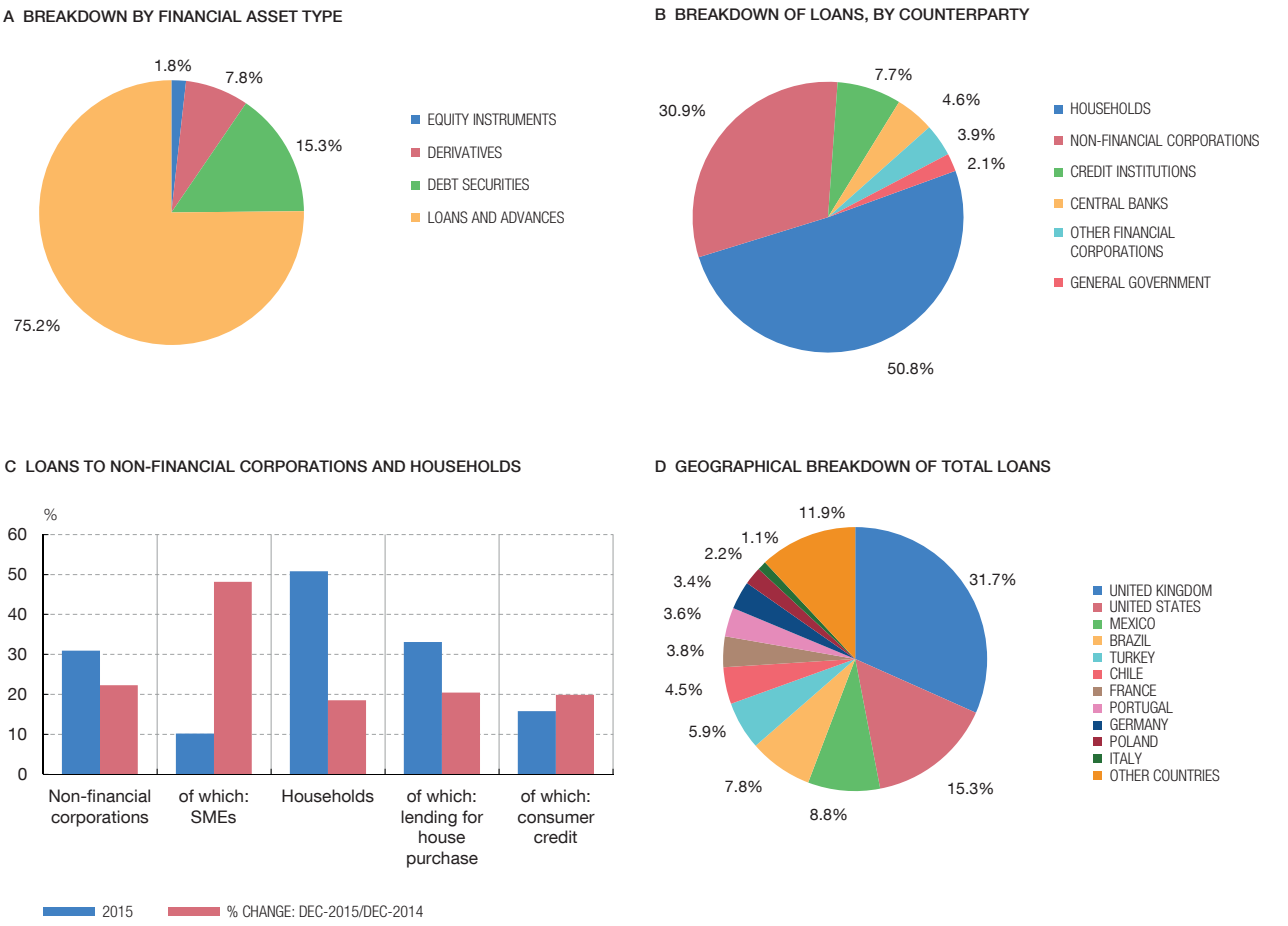
SOURCE: Banco de España.

a Total financial assets include derivatives, equity instruments, debt securities, and loans and advances, and the distribution between business in Spain and business abroad is based on this magnitude.

1 Data from FINREP statements are used in the FSR for the first time. Among other changes, international activity can only be broken down in the case of financial assets (derivatives, equity instruments, debt securities and loans), which represent 87% of the total balance sheet in 2015.

INTERNATIONAL EXPOSURE OF SPANISH INSTITUTIONS
Deposit institutions. December 2015

CHART 2.2



SOURCE: Banco de España.

...portfolio. In 2015 there was notable growth in loans to SMEs ...

Regarding the loan portfolio, half of the loans correspond to loans to households (two thirds of which are mortgages) and 31% to loans to non-financial corporations (a third of which are to SMEs), while notable among the rest are the 8% corresponding to credit institutions. Chart 2.2.B summarises the composition of the loan portfolio described above and Chart 2.2.C shows the change in the most important components of this portfolio relative to 2014, the growth in loans to SMEs at the international level (50%) being notable. Spanish banks have adopted a retail business model for their growth outside Spain, exploiting their competitive advantage while steering clear of wholesale activity with its higher volatility and fierce competition from large European and US banks.

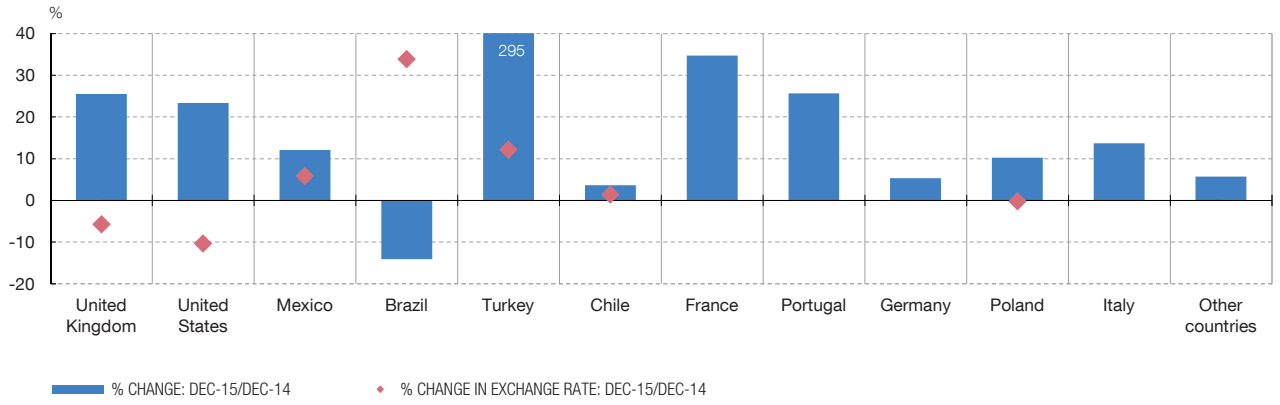
..., and, by country, half is concentrated in the United Kingdom and the United States

The geographical distribution of the international exposure is another element to consider when gauging the risk of the international activity of Spanish banks (see Chart 2.2.D). Practically half of the international exposure is concentrated in the United Kingdom and the United States, almost 9% is located in Mexico, 8% in Brazil and 6% in Turkey. Along with this, Chart 2.3 shows the rate of growth of the international loan portfolio between 2014 and 2015, and the evolution of the exchange rate of the currency of each country other than the euro. In particular, the euro fell by 5.8% against the pound sterling and by 10.3% against the US dollar, while the lending exposure in these currencies increased in 2015 by more than 20%.[2]

2 A considerable part of the increase in the exposure to the United Kingdom stems from the acquisition of a British bank by a Spanish deposit institution. If this corporate transaction is not taken into account, the increase in the exposure to the United Kingdom would have been 10%.

INTERNATIONAL EXPOSURE
Deposit institutions. Breakdown by residence of counterparty (a)

CHART 2.3



SOURCE: Banco de España.

a The growth rate of the Turkish loan portfolio between 2014 and 2015 was 295%.

By contrast, the euro appreciated in 2015 against the Latin American currencies in whose countries the presence of Spanish banks is most important (the Mexican peso and Brazilian real), having mixed results in terms of credit exposure. Thus, while against the peso, the euro rose by 6%, the volume of credit of Spanish institutions in that country grew by 12%, i.e. the growth in credit more than offset the exchange rate effect. The opposite is the case in Brazil, where the appreciation of the euro against the real (33%) was accompanied by a fall in the exposure in 2015 (–14%).[3]

In any case, it should not be forgotten that the activity of Spanish institutions abroad is carried out under financial autonomy criteria and, in the main, consists of local activity in local currency, which largely mitigates the risks arising from such activity.

With regard to the financing received by general government, its weight in the balance sheet has fallen by 1 pp (from 15.2% in 2014 to 14.2% in 2015, see Annex 1). This decline corresponded to the increase in private sector financing (which includes credit and debt securities), the weight of which in the balance sheet increases by 1.5 pp (from 58.3% in 2014 to 59.8% in 2015).

The volume of non-performing loans at consolidated level declined during 2015,…

From the perspective of credit risk, total non-performing loans (NPLs) decreased in December 2015 by 14.2%, their weight in total assets falling from 5.3% in December 2014 to 4.5% a year later. In December 2015, the NPL ratios associated with total lending in those countries in which Spanish banks have a large exposure fell, to stand in the case of the United Kingdom and the United States at around 1.5%. In Brazil, Turkey and France, the NPL ratio increased, albeit by less than 1 pp (see Chart 2.4.A).

…the NPL ratio reaching 6.3% in the loan portfolio

The NPL ratio for loans at consolidated level of Spanish deposit institutions declined in 2015 to 6.3% (from 8% in December 2014). In the case of loans to the private sector, the NPL ratio fell from 8.8% in 2014 to 7.1% in 2015.

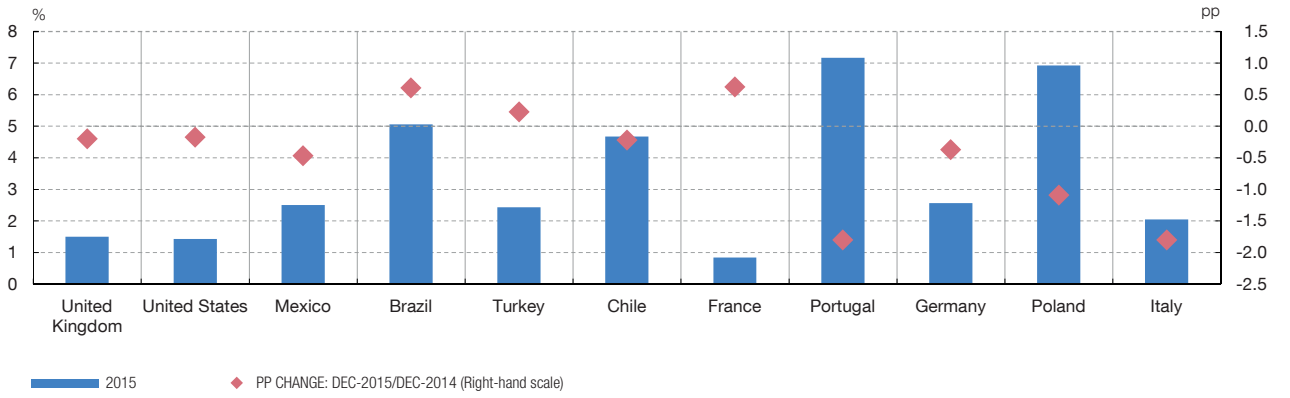
At the European level, data published by the European Banking Authority (EBA) relating to June 2015, obtained from the transparency exercise, show significant cross-country

3 The growth in the exposure to Turkey stems from the increase in the holding in the capital of a Turkish bank by a Spanish deposit institution.

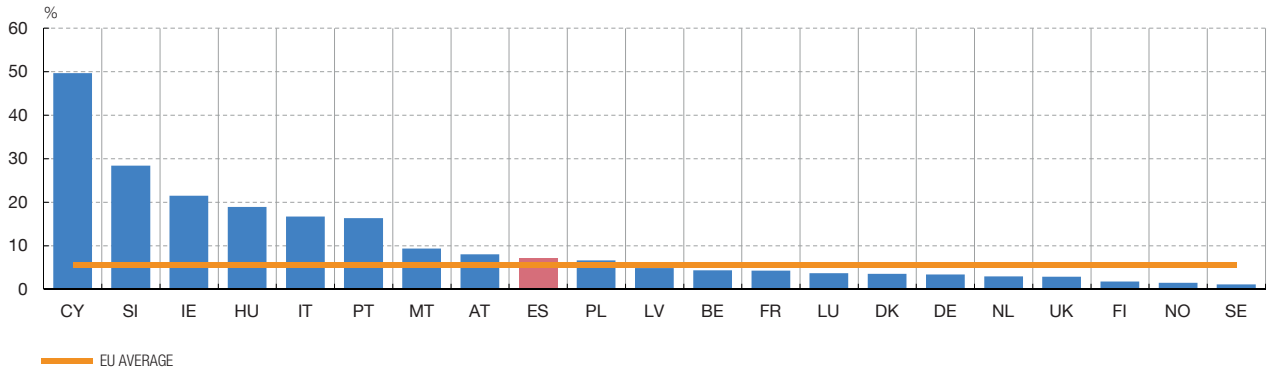
NPL RATIO

CHART 2.4

A INTERNATIONAL EXPOSURE



B EBA EU-WIDE TRANSPARENCY EXERCISE. TOTAL LOAN PORTFOLIO
June 2015



SOURCES: Banco de España and EBA.

dispersion in the NPL ratio of the loan portfolio (which ranges from 1% in Sweden to 50% in Cyprus, see Chart 2.4.B). In Spain, the NPL ratio for the aggregate loan portfolio of the main Spanish deposit institutions stood at 7.1% (as against 5.6% at the European level).

Domestic exposure

Lending to the resident private sector, in the case of business in Spain, continued to fall, albeit at more moderate rates…

Following the line of analysis discussed at the beginning of Chapter 2, using data from the individual financial statements it is possible to analyse developments in lending in Spain and, therefore, the risks arising from domestic exposures. In December 2015, the latest period for which data are available, lending to the resident private sector in Spain fell by 4.1% year-on-year, as against a decline of 6.4% in December 2014. Although the year-on-year rate of change remains negative, the slowdown in this fall in lending, which began in mid-2013, continued (see Chart 2.5.A). The improvement was seen at all institutions, although the variability between institutions has increased (see Chart 2.5.B). The latest monthly data, for January 2016, point to a continuation of this trend slowdown in the decline of lending (–3.8% year-on-year).

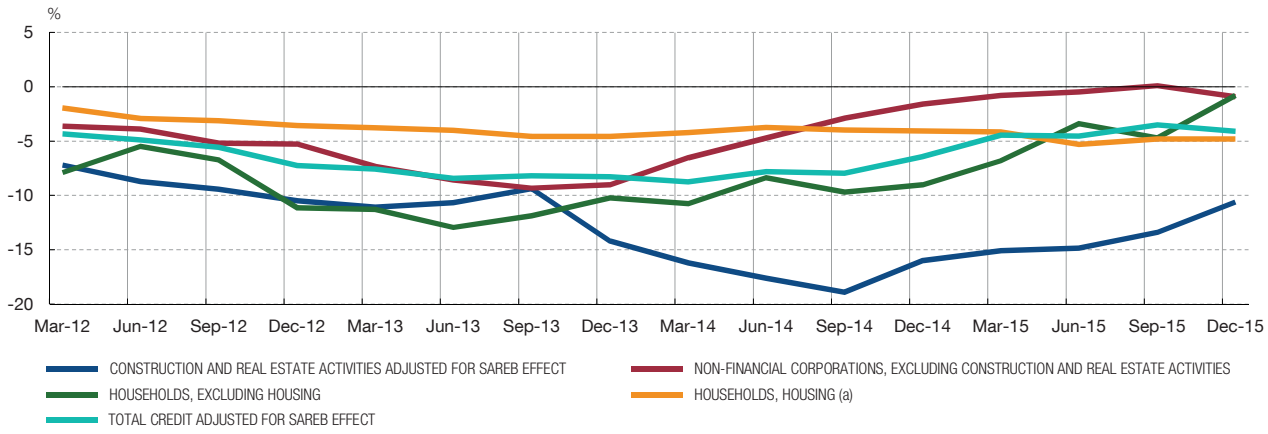
…both for households and non-financial corporations

The quarterly data for December 2015 enable lending to be analysed by institutional sector and by industry. Lending to households declined by 4.2% in December 2015 year-on-year, its rate of decline having slowed slightly over the year (–4.8% in December 2014). Lending to non-financial corporations also declined by 4.2% in December 2015, recovering from a much sharper decline a year earlier (–7% in December 2014).

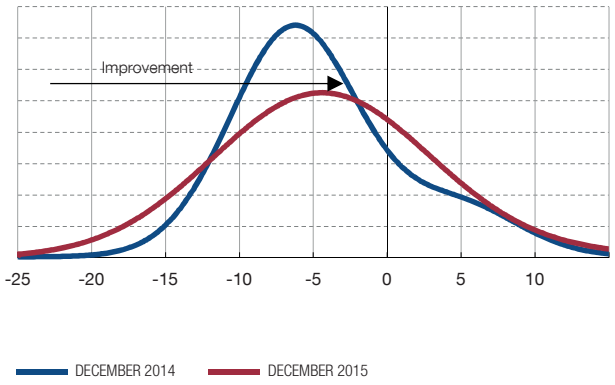
CREDIT TO THE RESIDENT PRIVATE SECTOR
Business in Spain, ID. Deposit institutions

CHART 2.5

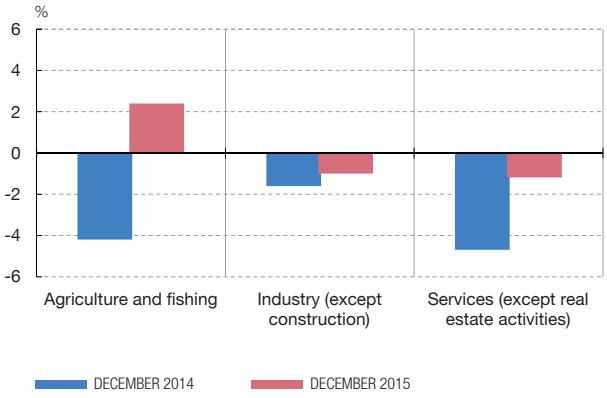
A YEAR-ON-YEAR RATE OF CHANGE IN CREDIT TO THE RESIDENT PRIVATE SECTOR BY SECTOR OF ACTIVITY



B DISTRIBUTION OF BANK CREDIT BY YEAR-ON-YEAR RATE OF CHANGE (%) (b)



C YEAR-ON-YEAR RATE OF CHANGE IN CREDIT BY SECTOR OF ACTIVITY. NON-FINANCIAL CORPORATIONS EXCEPT CONSTRUCTION AND REAL ESTATE ACTIVITIES



SOURCE: Banco de España.

a Includes securitisations.
b The graph shows the density function (or frequency distribution) of the year-on-year rate of change of credit for deposit institutions. This density function is approximated through a kernel estimator which allows a non-parametric estimate of the density function, yielding a continuous and smoothed graphical representation of that function.

Both loans for house purchase and, to a lesser extent, consumer credit continue to decline

As regards lending to households, lending for house purchase and lending for other purposes behaved differently. In the first case, the decline in the year-on-year rate of change intensified from 4.1% in December 2014 to 4.8% in December 2015. Meanwhile, lending to households for other purposes declined by 0.8% year-on-year in December 2015, as against a much sharper fall, of 9%, a year earlier (see Chart 2.5.A).

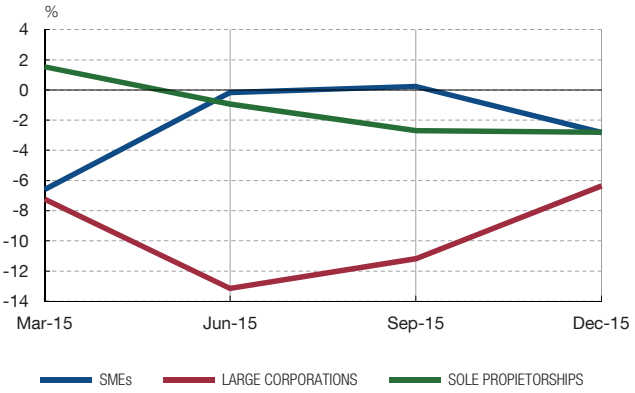
For firms, the moderation in the decline in lending was broad based across sectors …

By industry, the decline in lending for construction and real estate activities was still 10.4% in December 2015, as against a fall of 15.6% a year earlier. Meanwhile, lending to non-financial corporations for other purposes declined much more moderately, by 0.9% in December 2015, which amounted to continuation along the path of moderating contraction observed in previous quarters, as compared with the decline in December 2014 of 1.6%. The greater stability of lending for purposes other than construction and real estate activities was broad based across industries. There was a notable moderation of the decline in lending to services other than real estate activities, which fell by 1.2% in December 2015, as compared with a decline of 4.7% in December 2014 (see Chart 2.5.C).

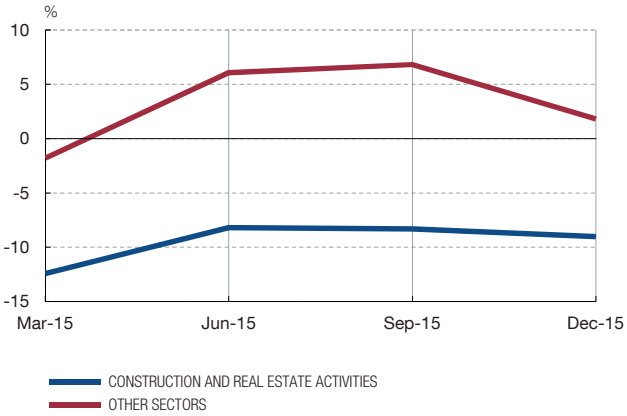
CREDIT TO THE RESIDENT PRIVATE SECTOR
Business in Spain, ID. Deposit institutions

CHART 2.6

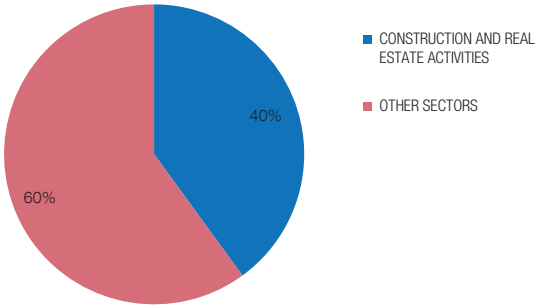
A YEAR-ON-YEAR RATE OF CHANGE IN CREDIT TO NON-FINANCIAL CORPORATIONS, BY SIZE OF CORPORATION



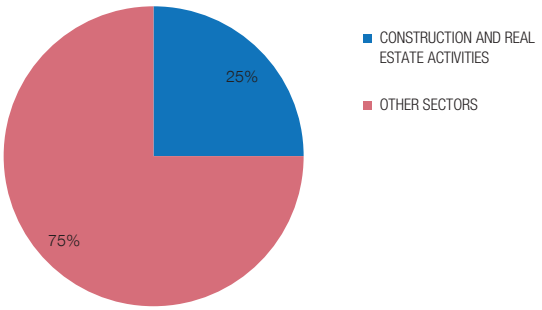
B YEAR-ON-YEAR RATE OF CHANGE IN CREDIT TO SMEs, BY SECTOR OF ACTIVITY



C COMPOSITION OF CREDIT TO SMEs, BY SECTOR OF ACTIVITY
December 2015



D COMPOSITION OF CREDIT TO FIRMS, OTHER THAN SMEs, BY SECTOR OF ACTIVITY
December 2015



SOURCE: Banco de España.

…and across size categories, although the rate of decline in lending to SMEs is significantly lower than the rate of decline in lending to large firms

Lending to SMEs represents, in December 2015, 22% of total lending to the resident private sector, this percentage remaining unchanged from a year earlier. Of the total lending to non-financial corporations, SMEs account for 52%, up 1 pp from December 2014. Lending to SMEs declined by 2.8% year-on-year in December 2015 (see Chart 2.6.A), a significantly lower rate of decline than that observed for lending to large firms (–6.4%). Within lending to SMEs, the behaviour of industries other than construction and real estate activities was more buoyant, with growth in lending of 1.8%, as against a decline of 9% in lending to construction and real estate activities (see Chart 2.6.B). It should be noted that in the case of SMEs, lending to these activities accounts for 40% of all lending to SMEs in December 2015, as against 25% in the case of other firms (see Charts 2.6.C and D). Box 2.1 provides a complementary perspective, based on the situation of the credit cycle in Spain, using a methodology that assesses the credit cycle position.

The flow of new mortgage lending displayed an incipient recovery in 2014 and, especially, in 2015,…

Chart 2.7.A shows the behaviour, over a long time period, of new mortgage loans for house purchase. This chart plots the volume of new credit (annual flow) and the volume of total mortgage credit (stock at December each year), both with base 100 in the first year for which information is available (2002), and the flow of mortgage credit as a percentage of the stock. In 2014 and, especially, 2015 this flow displayed an incipient recovery. The percentage of new mortgage loans for house purchase reached 3.8% of the total volume of mortgage credit in 2015, up from 3.2% in 2014.

As explained in Chapter 3, one of the aims of macroprudential policy is to smooth financial cycles, strengthening the solvency of the banking system in the upswing in the cycle to subsequently allow the release of the accumulated buffers in the downturn. To properly pursue this aim, it is vital to have a precise measurement of the financial cycle. Financial series are generally noisy. Mixed up in them are business cycles, which in many cases last several years, with shorter-dated oscillations due to transitory situations. Accordingly, it is necessary to strip out the short-term effects so that the estimation of the cycle is not tainted by a short-lived shock.

The academic literature has proposed various techniques for extracting the business cycle from these series. One of the most established techniques was proposed in a BIS paper.[1] Using a band-pass filter,[2] it is possible using econometric procedures to decompose economic series into different frequencies, and to retain those of interest. Specifically, the BIS methodology assumes that relevant cycles last 8-30 years. In terms of construction, the cycles are oscillations around a horizontal axis, since the trend component of the series is eliminated.

Chart A shows the result of applying this methodology to year-on-year rates of change in Spanish credit and in GDP, expressed in real terms. It can be seen in the panel that the credit variable shows oscillations on a greater scale than the GDP variable. Further, a complete cycle has an approximate duration of over 15 years in both cases, although the GDP cycle usually leads the credit cycle. Chart B shows the position in the cycle of these two variables at two specific dates using a stylised cycle. In it, four differentiated phases can be observed: (1) level below the historical average and moving away from it; (2) level below the average, but drawing closer to it; (3) level above the average and quickening; and (4) level above the average and diminishing. In mid-2012, at one of the worst junctures in the recent crisis, both series could be seen to be at their trough (moving from phase 1 to 2). At present, the position in the cycle of credit is still in the second phase, though now much closer to the historical average. However, GDP is in the mid-zone of phase 3, in step with the economic growth since late 2014.

1 Characterising the financial cycle: don't lose sight of the medium term! M. Drehmann, C. Borio and K. Tsatsaronis. BIS Working Paper No. 380. June 2012.

2 The band pass filter. L. J. Christiano and T. J. Fitzgerald. International Economic Review, Volume 44, No. 2, pp. 435-465. May 2003.

Chart A
CYCLES OF CREDIT AND GDP SERIES

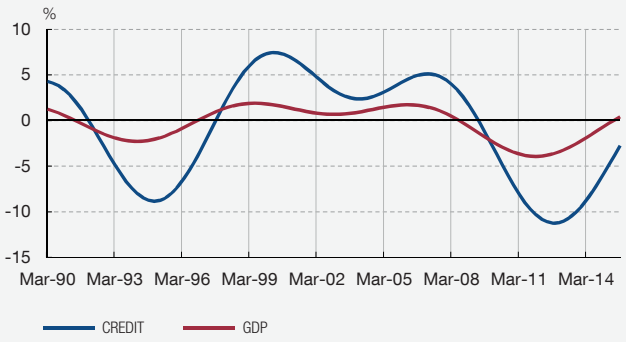
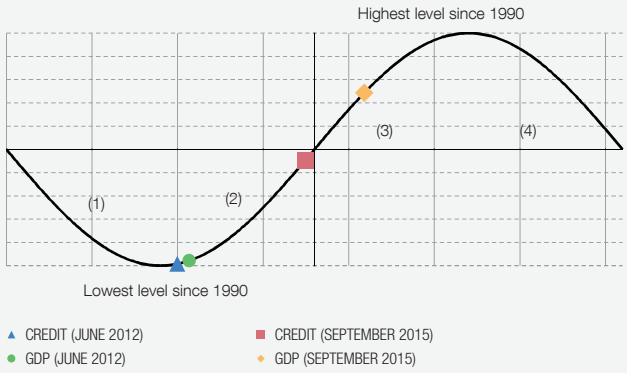


Chart B
STYLISED FINANCIAL CYCLE AND POSITION IN THE CREDIT AND GDP CYCLE (a)



SOURCES: INE and Banco de España.

a Stylised cycle, where the peak and trough correspond to the actual highest and lowest values of the cycle in each series. The cycle is shown stylised over four phases: (1) growth below and moving away from trend, (2) growth below but moving towards trend, (3) growth above and moving away from trend, and (4) growth above but moving towards trend.

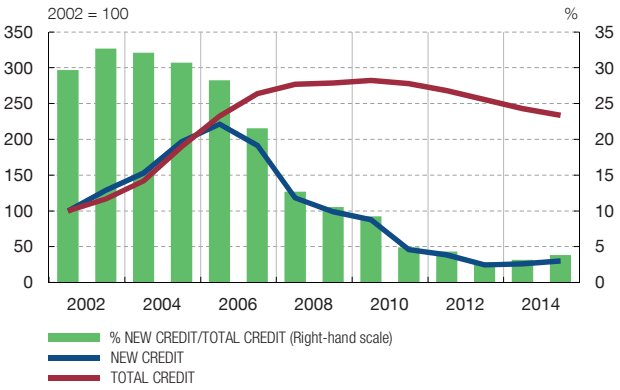
…while the approval rates for lending to non-financial corporations declined slightly last year

The approval rate of the loans which non-financial corporations request from banks with which they are not working or with which they have not had a credit relationship in the preceding few months fell slightly last year, from 37% in the last few months of 2014 to 34% in the latter months of 2015. These rates are well below those seen during the period of strong lending growth leading up to 2007, and those of the period of prolonged and significant contraction in economic and lending activity observed since then. However, the year-on-year rate of change in applications has continued to slow, to below 5% in December 2015.

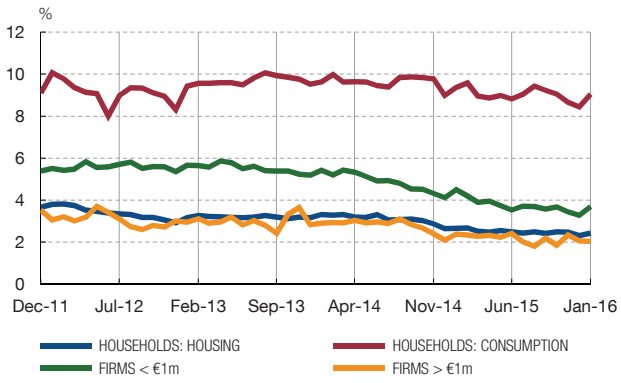
FUNDING CONDITIONS AND MORTAGE CREDIT
Business in Spain, ID. Deposit institutions

CHART 2.7

A NEW MORTAGE CREDIT FOR HOUSE PURCHASE (a)



B NEW LOAN INTEREST RATES (APR) (b)



SOURCE: Banco de España.

a The volume of new transactions in 2014 relates to the twelve-month period from April 2014 to March 2015, since the 2014 data are not available from January. Total credit in 2014 is taken the March 2015 figure to be consistent with the new transactions figure.
b The new loans of a period are defined as all the first-time loans arranged with customers and all the contracts existing in earlier periods whose amount, interest rate, maturity or other significant financial conditions in relation to interest rates have been renegotiated with customers in the month in question.

In the second half of 2015 interest rates on new loans by Spanish deposit institutions continued on the moderate downward path initiated in 2014, reflecting a relative improvement in credit conditions available to households and non-financial corporations (see Chart 2.7.B). The difference between the interest rates charged to non-financial corporations on new loans, depending on the size of the loan, continued to decline, owing to the larger reduction in rates on smaller loans.

Non-performing loans to the resident private sector in business in Spain continued to fall in 2015, with an increase in the rate of decline…

As regards the explicit manifestation of credit risk, the non-performing loans to the resident private sector in business in Spain continued to decline in 2015. They fell that year by more than €37 billion, so that not only did the decline continue but so too did its acceleration, since the decline in 2014 was €24 billion. The month-on-month change in such non-performing loans has extended the downward trend that began in early 2014. As a result, in December 2015 the total non-performing loans of all deposit institutions were 22.3% lower than in the same month of the previous year (see Chart 2.8.A), due to the economic growth and low interest rates.

… both for households and corporations

The downward trend in non-performing loans was observed both in lending to households and in that to non-financial corporations. In the first case, non-performing loans declined by 21.4% in 2015, as against a decline of 7% year-on-year in December 2014. In the case of non-financial corporations, the fall in 2015 was 22.7%, as against a decrease of 14.3% the previous year.

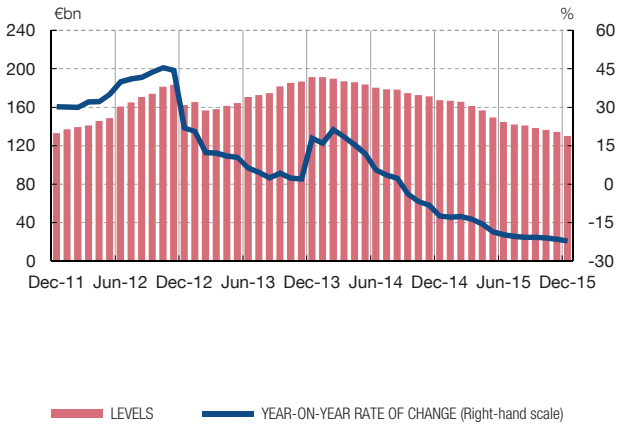
For households and non-financial corporations, the improvement in non-performing loans extended to all loan types…

Within lending to households, non-performing loans fell both for lending for house purchase (22% year-on-year in December 2015) and for other purposes (19.7%). In both cases, moreover, the rate of fall increased during 2015 (up from 5.2% and 11.9%, respectively, in December 2014). Likewise, for non-financial corporations, the fall in non-performing loans extended to all sectors, the rate of decline having accelerated both for credit to construction and real estate activities (28.7% year-on-year) and for other lending (14.7%, see Chart 2.8.B). The significant and on-going decline in non-performing loans in 2015 was broad-based across institutions (see Chart 2.8.C).

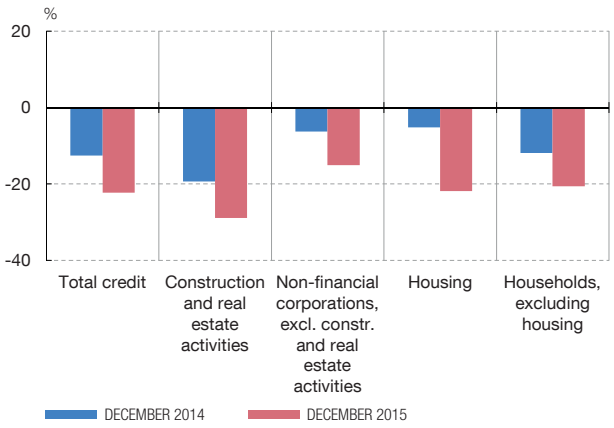
NPLs. RESIDENT PRIVATE SECTOR
Business in Spain, ID. Deposit institutions

CHART 2.8

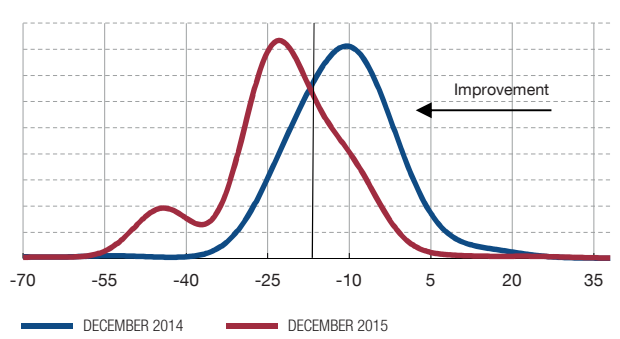
A NON-PERFORMING LOANS (a)



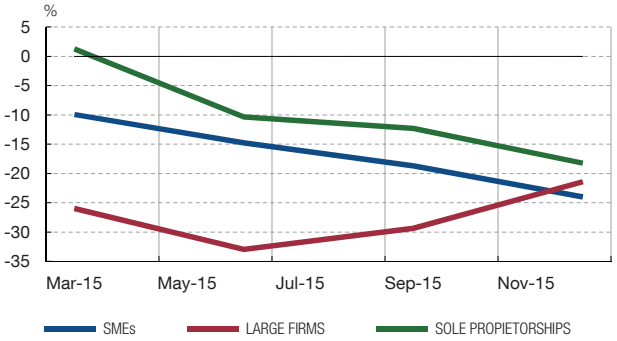
B YEAR-ON-YEAR RATE OF CHANGE IN NPLs, BY SECTOR OF ACTIVITY



C DISTRIBUTION OF BANK NPLs, BY YEAR-ON-YEAR RATE OF CHANGE (%) (b)



D YEAR-ON-YEAR RATE OF CHANGE IN NPLs, BY SIZE OF FIRM



SOURCE: Banco de España.

a The transfers to Sareb by Group 1 and Group 2 banks in December 2012 and February 2013 affect the rates of change in those periods.
b The graph shows the density function (or frequency distribution) of the year-on-year rate of change of credit for Spanish deposit institutions. This density function is approximated through a kernel estimator which allows a non-parametric estimate of the density function, yielding a continuous and smoothed graphical representation of that function.

…and, in the case of corporations, also to all size categories

The reduction in non-performing loans was seen in all size categories of borrower firm. The most important declines occurred among SMEs, with a year-on-year rate of change of –24% in December 2015. Large firms recorded a fall of 21.4% and sole proprietors 18.2% (see Chart 2.8.D). In the case of SMEs, the sector that recorded the most significant decline in non-performing loans was construction and real estate activities (year-on-year fall of 28.7% in December 2015). Other sectors recorded an aggregate decline of 16%. In both cases the rate of decline of non-performing loans continues to accelerate.

In the second half of 2015 there was a smaller flow of new non-performing loans, and also a lower volume of recoveries with respect to a year earlier

As regards the flow of new non-performing loans, in the resident private sector (non-financial corporations and households) it was 37.7% lower in December 2015 than a year earlier. This decline occurred both for non-financial corporations (–35%) and for households (–43.8%, see Chart 2.9.A). These decreases in flows of new non-performing loans have been observed both for large corporations and SMEs, although these series display significant volatility (see Chart 2.9.B). Between June and December 2015 the flow of new non-performing loans amounted to €17.8 billion, while written-off non-performing loans totalled €12.4 billion and recoveries exceeded €19.8 billion. In comparison with the second half of 2014 the flow of new non-performing loans was smaller (12.3% of the initial volume of non-performing loans,

RESIDENT PRIVATE SECTOR NPLs
Business in Spain, ID. Deposit institutions

CHART 2.9

SOURCE: Banco de España.

a Shown beside each bar is the percentage each item represents of the total NPLs at the beginning of the period. NPLs recovered include both non-performing loans that become performing again and foreclosed assets.

as against 15.5%). The level of write-offs hardly changed between these two periods, although the percentage was slightly higher in 2015 (see Chart 2.9.C and D).

The private sector NPL ratio continued to decline…

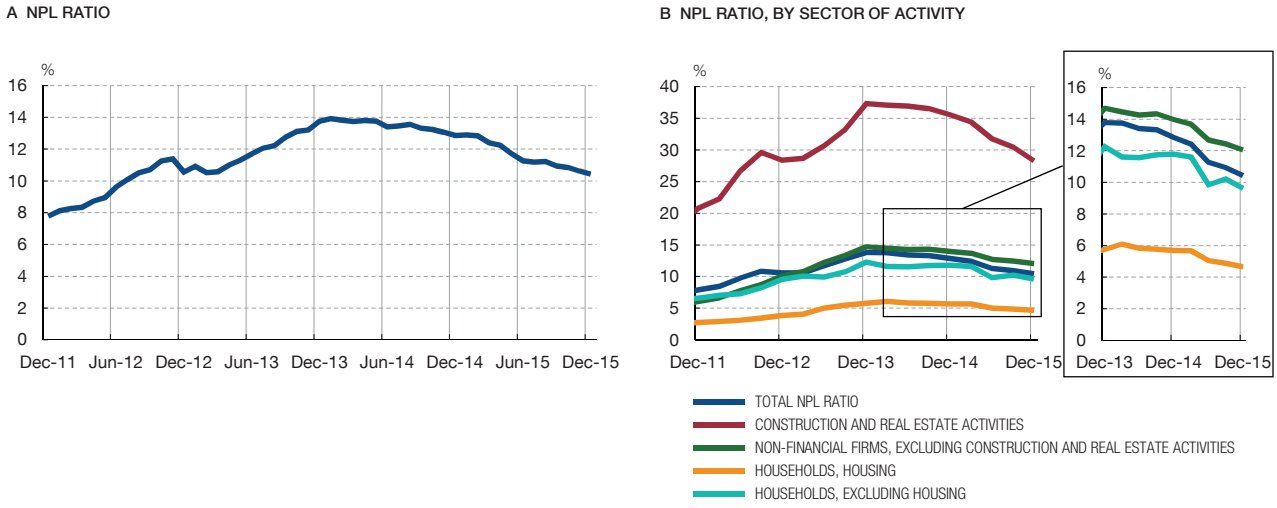
The NPL ratio of the resident private sector in Spain continued to decline, as a result of the clear downward trend in non-performing loans and the (more moderate) fall in outstanding credit. The ratio fell to 10.4% in December 2015, from 12.8% in the same month of the previous year (see Chart 2.10.A).

…and did so across all institutional sectors, loan types and firm size categories

By institutional sector, the NPL ratios of both households and non-financial corporations decreased. In the case of households, the ratio fell to 5.4% in December 2015 (down 1.2 pp from December 2014), and in the case of non-financial corporations to 17.3% (from 21.4% in December 2014). By type of loan, in the case of households, the NPL ratio for loans for house purchase fell to 4.7%, while the ratio for other loans fell to 9.6%. There was a broad-based improvement in the NPL ratios of the various business sectors. In particular, the ratio for construction and real estate activities fell to 28.3%, down 7 pp from a year earlier. The NPL ratio for other credit to financial corporations also behaved favourably, falling from 14% in December 2014 to 12.1% a year later (see Chart 2.10.B). By firm size, the NPL ratio fell for SMEs to 21.3 % (from 27.3 % in December 2014) and for large firms to 13.7 % (from 16.3% a year earlier).

NPLs RATIO. RESIDENT PRIVATE SECTOR
Business in Spain, ID. Deposit institutions

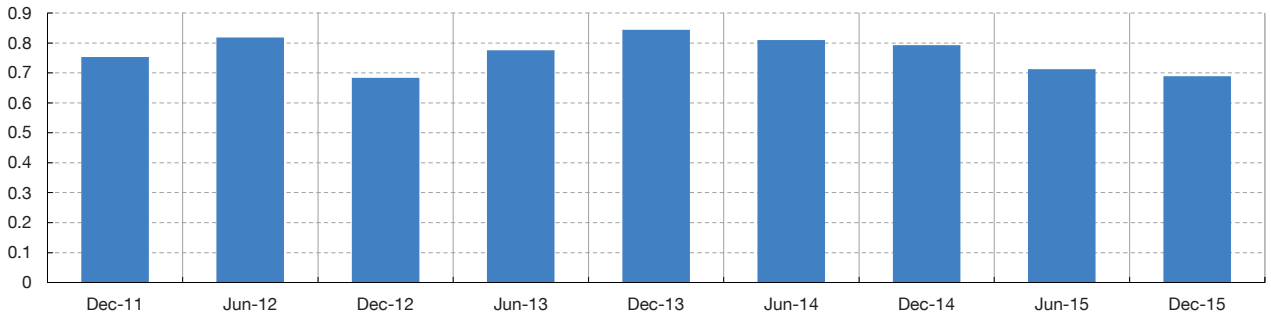
CHART 2.10



SOURCE: Banco de España.

TEXAS RATIO
Business in Spain, ID (a)

CHART 2.11



SOURCE: Banco de España.

a The numerator includes the NPLs of residents and non-residents, debt securities, and foreclosed assets. The denominator includes the provisions for all the assets included in the numerator, along with accounting capital, which is defined as the sum of capital, share premium and reserves.

The Texas ratio behaved in a similar way to the NPL ratio

Another metric related to banks' non-performing loans is the so-called Texas ratio.[4] Chart 2.11 depicts the ratio over the last few years, showing that it was rising until end-2013 (apart from the fall in December 2012, as a result of the transfer of assets to Sareb from the Group 1 institutions), and has declined progressively thereafter. In short, it behaved similarly to the NPL ratio, confirming the gradual improvement in the quality of the assets and their coverage on the balance sheets of Spanish deposit institutions.

Foreclosed assets increased slightly in 2015

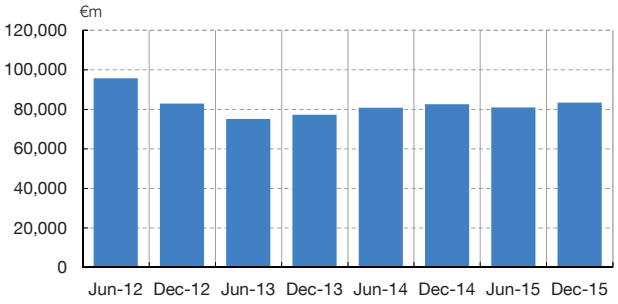
The foreclosed assets, or assets received in payment of debts arising from business in Spain, held by Spanish banks on their balance sheets increased by 0.95% in 2015, to slightly more than €84 billion. The amount of foreclosed assets has remained steady since

4 The purpose of this variable is to identify those banks whose solvency may be affected by their problem assets (non-performing loans and foreclosed assets). It takes its name from the fact that it was first applied to banks in the state of Texas at the beginning of the 1980s. The ratio is calculated by dividing the value of the problem assets (non-performing loans and foreclosed assets) of a bank by the sum of its accounting capital and provisions. Ratios of more than one indicate more problematic situations with a higher risk of insolvency, since unproductive assets are less covered.

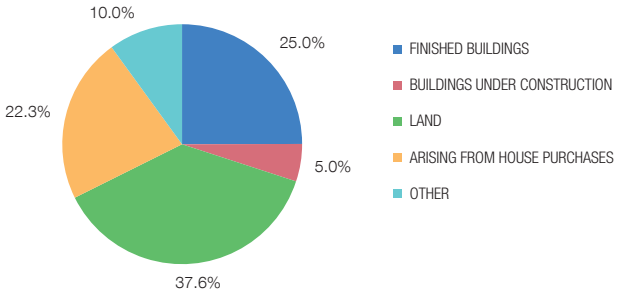
FORECLOSED ASSETS
Deposit institutions

CHART 2.12

A VOLUME OF FORECLOSED ASSETS



B COMPOSITION OF FORECLOSED ASSETS
December 2015



SOURCE: Banco de España.

December 2012, within the range of €75 billion to €84 billion, as seen in Chart 2.12.A. Chart 2.12.B breaks down the total volume of foreclosed assets by type of asset. 37.6% of the total is land, the weight of which fell by almost 0.5 pp in 2015. 25% are completed buildings (down 0.43 pp in 2015) and 22.3% are foreclosed assets arising from house purchases (up 1.8 pp from December 2014). Finally, buildings under construction amounted in December 2015 to 5% of the total, this percentage having remained unchanged in 2015.

In total, unproductive assets declined by 14.5% in 2015, although they still represent a significant proportion of the assets

Adding together non-performing loans and foreclosed assets produces a total of €213 billion of unproductive assets on the balance sheet as at December 2015, which do not generate revenues in the income statement and have to be financed. The total of these two variables declined by 14.5% in 2015, but they still represent a significant proportion of banks' total assets in their business in Spain, putting downward pressure on their income statement, reducing their profit generation and, therefore, hindering any improvement in their solvency.

Forborne credit declined at consolidated level. On data for business in Spain, a reduction was also observed, continuing the trend of 2014

The total forborne credit at consolidated level amounted to €205 billion in December 2015, which implied a year-on-year decline of 6.4% from December 2014. Of this total amount, 51.5% related to non-financial corporations and 46.2% to households, the weight of non-financial corporations having fallen by 3 pp during the year, while that of households rose by the same amount. Based on data from individual financial statements relating to business in Spain, the total forborne credit to the resident private sector amounted to €153.7 billion in December 2015, a decline of 15.3% from December 2014. This change represents a continuation of the decline seen throughout the available time series from March 2014 (see Chart 2.13.A). The decrease in forborne exposures in 2015 was apparent both in the case of households (10.3%) and, especially, non-financial corporations (18%). The weight of forborne exposures in total credit also declined last year, to 12.1% in December 2015, from 13.7% in the same month of the previous year (see Chart 2.13.B).

Of total forborne credit, 48.7% was non-performing in December 2015, 2.4 pp less than in December 2014. Also, the proportion of total forborne credit classified as substandard fell, from 18% in December 2014 to 16% a year later. As a result, the proportion of total forborne credit classified as standard increased in 2015 by 4.4 pp, to 35.3% in December 2015 (see Chart 2.13.B).

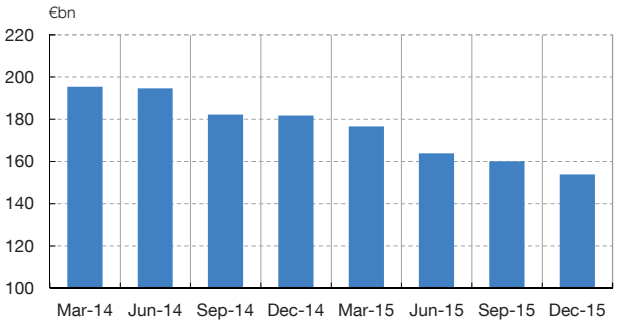
To sum up, NPLs are falling and there is an incipient...

To sum up, in 2015 ex-post credit risk in its various manifestations (non-performing loans, forborne exposures, foreclosed assets, in the form of stocks and flows, and different

FORBORNE LOANS
Deposit institutions, ID

CHART 2.13

A VOLUME OF FORBORNE LOANS



B WEIGHT OF FORBORNE LOANS IN THEIR RESPECTIVE PORTFOLIO AND COMPOSITION ACCORDING TO SITUATION OF LOAN
December 2015

SOURCE: Banco de España.

...revival in lending, although the macroeconomic uncertainty is a risk factor

combinations of ratios of these variables) improved significantly for deposit institutions in their domestic business. Sustained growth in economic activity lies behind these positive developments. At the same time, there was a revival in lending, which was still incipient in the case of SMEs (excluding those in property development and construction), the firms that have most difficulty accessing sources of funding other than bank finance; this is also a positive sign that comes in addition to the behaviour of NPLs mentioned above. The materialisation of some of the risks to economic growth discussed in Chapter 1 could jeopardise these developments.

2.1.2 SYSTEMIC AND FUNDING RISK

The systemic risk indicator rose in the first two months of 2016, although it has fallen back since

As discussed in Chapter 1 and as a consequence of the risks identified, uncertainty has increased on financial markets worldwide. This growing uncertainty has been reflected in the systemic risk indicator (SRI) in Spain, which rose in the first two months of 2015 before falling back since then (see Chart 2.14.A). Volatility in market indices, especially in the banking sector (although also in other not essentially banking indicators such as IBEX35 options), was the SRI component that rose most in the opening months of the year, reflecting a higher level of stress in the stock markets, along with a certain degree of tension in the bank funding and government debt markets.

Lower growth forecasts, the slowdown in the emerging economies, especially in China, and falling oil prices all drive up systemic risk

There are, as explained in Chapter 1, several factors behind this increase in systemic risk; in addition, these factors create a feedback loop. First, global economic growth forecasts, which have been gradually lowered, increasing the fear of another global recession or of a new outbreak of the financial crisis with an impact on the real economy. Second, the likely continuing deceleration of the Chinese economy. Third, emerging market weakness, particularly in the economies most reliant on commodity exports, as the decline in commodity prices and currency depreciation (along with the effect of the US rate rise) is acting as a brake on these economies. Lastly, falling oil prices, which could have a negative impact on the financial situation of the exporting countries and on oil industry firms, with possible side effects on the banking sector through its exposure to the energy sector.

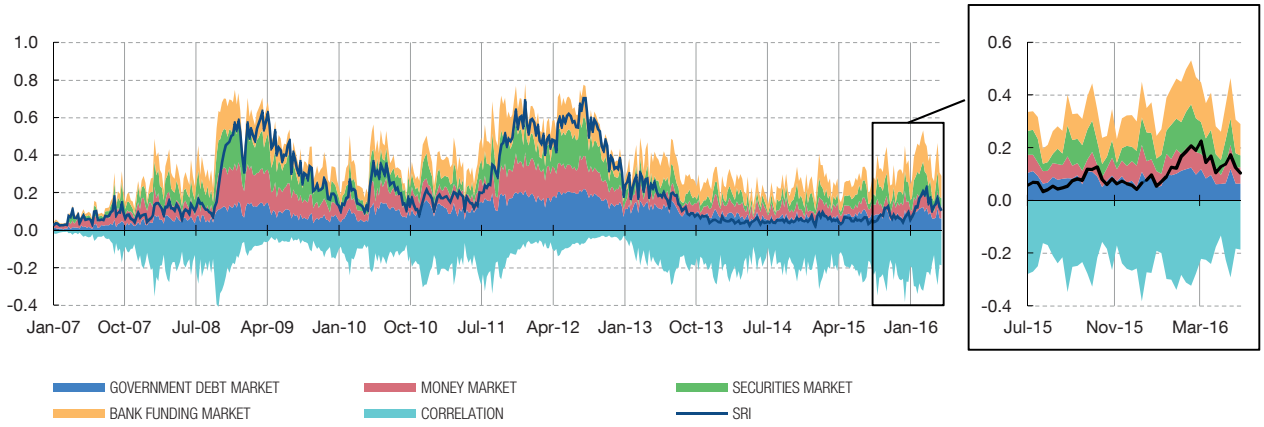
A CoVaR[5] model may be used to quantify the contribution of Spanish banks to the systemic risk of the euro area as a whole. In 2015, the average CoVaR of Spanish banks was similar to the 2014 figure, although it increased slightly and was somewhat more volatile at the

5 For an explanation of the CoVaR model, see the May 2015 FSR.

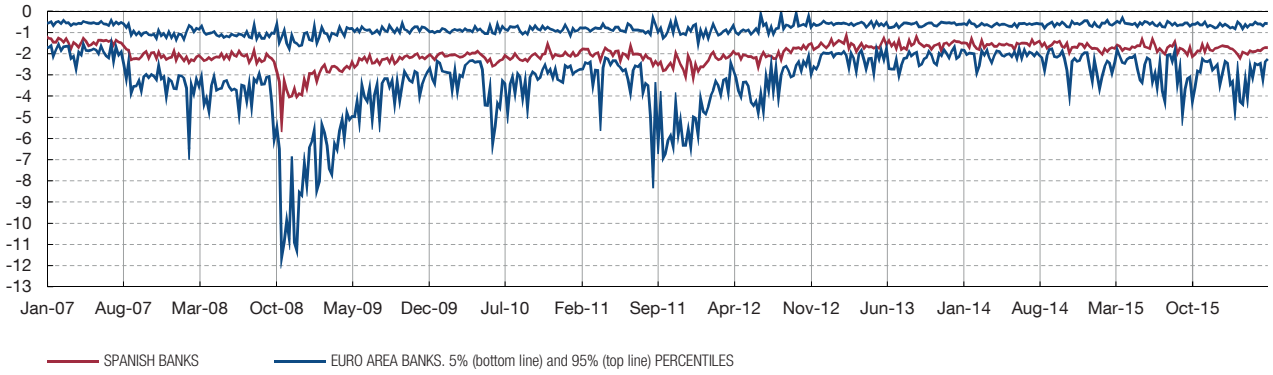
SYSTEMIC RISK

CHART 2.14

A SYSTEMIC RISK INDICATOR (SRI) (a)



B CONTRIBUTION OF SPANISH BANKS TO SYSTEMIC RISK MEASURED THROUGH CoVaR (b)



SOURCES: Datastream, ECB and Banco de España.

a For a detailed explanation of this indicator, see Box 1.1 in the May 2013 FSR.
b The CoVaR model is used to calculate the impact that a situation of bank stress would have on the financial system.

beginning of 2016 (see Chart 2.14.B). This contrasts with a marked upturn in the 5th percentile of CoVaR of European banks in the second half of 2015, which implies that the contribution of some euro area banks to systemic risk rose significantly in recent months, which is consistent with the market turbulence observed. To date, there is no increase of the same magnitude in the average contribution of Spanish banks.

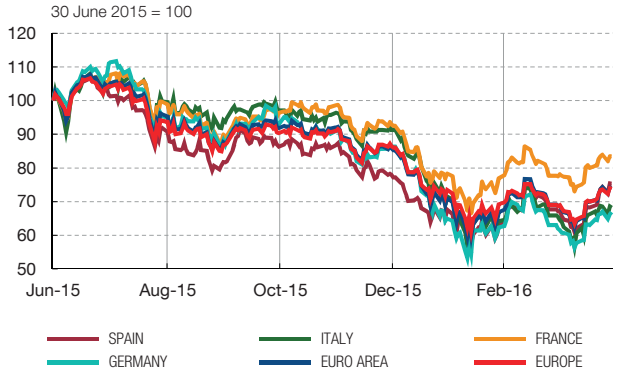
As discussed in Chapter 1, in this scenario the stock market reaction intensified, especially in the first two months of 2016. Investor mistrust translated into progressively higher volatility and growing risk aversion, which ultimately led to sharp falls in stock prices and higher demand for traditional safe haven assets such as gold, German government bonds or the yen.

On the stock market, the Spanish banking sector has performed similarly to the European banking sector, with falls since end-August that intensified in early 2016 and have moderated since mid-February

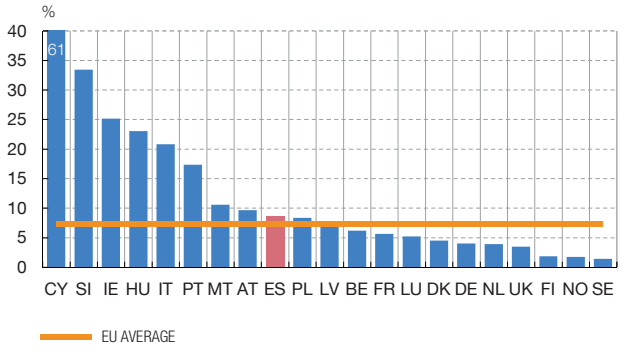
In recent months the stock market performance of the Spanish banking sector has been similar to that of the main European banking systems and the European banking sector overall. The decline that began towards the end of August intensified in the first few weeks of 2016 and has moderated, to a certain extent, since mid-February (see Chart 2.15.A). Various global factors may be considered in an attempt to explain this downward correction in European banking sector share prices (the performance of other international stock indices or oil prices), but there are, however, other factors specific to the euro area and its banking systems that may help to interpret this correction.

STOCK MARKET PERFORMANCE OF THE BANKING SECTOR IN RECENT MONTHS CHART 2.15

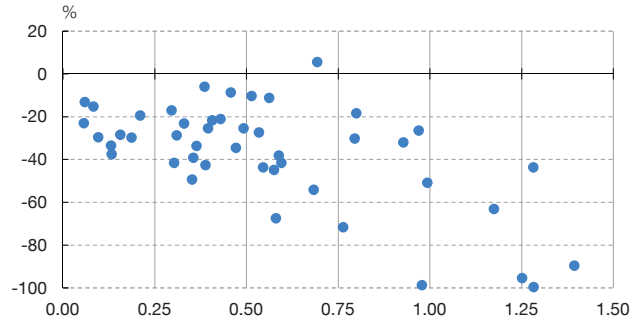
A BANKING SECTOR STOCK EXCHANGE INDICES



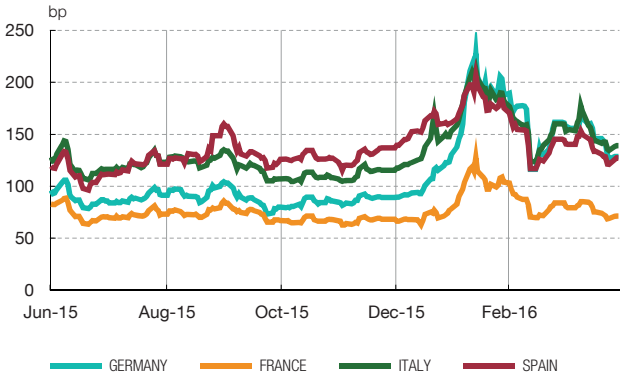
B EU NPL RATIOS. HOUSEHOLDS AND NON-FINANCIAL CORPORATIONS (a) June 2015



C RELATIONSHIP BETWEEN CHANGE IN SHARE PRICES BETWEEN 30 JUNE 2015 AND 7 MARCH 2016 (y-axis) AND THE TEXAS RATIO (x-axis)



D 5-YEAR CDS OF MAIN BANKS (b)



SOURCES: Datastream, SNL Financial and EBA.

a NPL ratio of credit to households and non-financial corporations in Cyprus is 61%.
b CDSs by country are calculated as the weighted average of the CDS of the main banks in each country (five banks in Spain and Italy, four in France and three in Germany).

The low profitability of the banking business in Europe is one factor that may explain this stock market performance,...

One of the main factors specific to the euro area is the low profitability of the banking business in Europe. The extremely low interest rate scenario, in response to a euro area inflation rate that is below the ECB target, which could last for some time while inflation expectations warrant, is placing considerable pressure on margins at euro area banks. Thus, at present, return on equity (ROE) levels are in many cases below the cost of capital (see Box 2.2 for an analysis of the cost of capital in the main European countries), which makes investing in the banking sector less attractive.

...along with the concerns regarding NPL levels in some European jurisdictions,...

Second, there is continuing concern regarding the high NPL levels on some European banks' balance sheets. This concern focuses especially on certain banking systems, some of which have NPL ratios over 20% in their lending to the private sector (see Chart 2.15.B).

To assess the effect that asset quality on banks' balance sheets may have on their stock prices, the relationship between stock prices and a proxy for the Texas ratio, defined as the ratio between NPLs and the sum of loan-loss provisions and capital,[6] has been

6 The information available does not include foreclosed assets, which would be the correct definition of the Texas ratio.

analysed. As Chart 2.15.C shows, the higher the ratio (with balance sheet data as at 31 December 2014), the greater, in general, the stock price falls between 30 June 2015 and 7 March 2016. In this respect, a regression analysis has been made of the effect of the Texas ratio on changes in stock prices.[7] The results show that the Texas ratio is a significant variable to explain the changes in stock prices of European banks and that it has the expected effect.

In turn, the CDSs of the major European banks replicate, in part, the stock price performance. In particular, CDSs rose in the opening months of 2016 while share prices fell, and they have declined in recent weeks as the stock market has recovered (see Chart 2.15.D). CDSs held relatively steady throughout the second half of 2015 as share prices fell but more moderately.

7 A simple OLS regression analysis, taking the change in stock prices of 46 listed European banks between 30 June 2015 and 7 March 2016.

CALCULATION OF THE COST OF CAPITAL OF BANKS

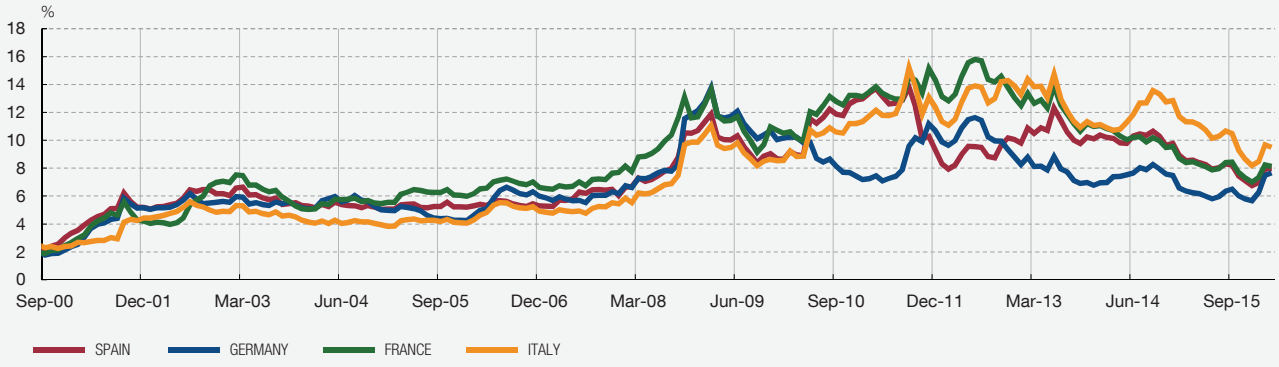
BOX 2.2

The cost of capital faced by banks may be defined as the return required by investors in order to be prepared to become shareholders. Normally, the value of a risky investment is calculated as the sum of the future cash flows, discounted at a rate that compensates for the risk involved. The cost of capital is precisely this rate, and it is the one included in the profitability of the investment.

As the cost of capital cannot be observed, there are various econometric approximations for calculating it.[1] This box applies a methodology similar to the one currently used by the ECB to make this calculation, which has two parts. First, the cost of capital is calculated for the European market as a whole, on the basis of the Euro Stoxx index, using a two-stage dividend discount model. This model assumes that dividend growth will be equal to the profit growth estimated by investors during the initial years of the time horizon, with dividends accounting for a fixed proportion of profit, and that thereafter dividend growth will gradually converge towards expected long-term economic growth, until these two variables coincide.[2] The predictions for corporate profit growth have been taken from the investor forecasts supplied by I/B/E/S (Institutional Broker's Estimate System), while the long-term economic growth forecast comes from Consensus Economics. Using these projections it is possible to extract the implicit discount rate from the cash flows of the Euro Stoxx index. Second, the cost of capital[3] of a particular bank is calculated by multiplying

1 See, for example, Box 5 of the ECB's May 2015 Financial Stability Review and Box 1 of Issue 1/2016 of the ECB's Economic Bulletin.
2 For further details, see "A simplified common stock valuation model", by R. J. Fuller and C.C. Hsia, Financial Analysts Journal, September-October 1984, pages 49 to 56.
3 In fact the premium is calculated, not the cost. That is to say, the spread over the risk-free rate, which is currently zero.

Chart A
AVERAGE COST OF CAPITAL IN SOME EUROPEAN BANKING SYSTEMS



SOURCES: Datastream, Consensus Economics and Banco de España.

the discount rate of the market index by the CAPM beta for the bank in question.[4] In order to take into account possible changes in the value of beta over time, this coefficient has been calculated using one-year moving windows, based on daily data.

Chart A shows the evolution of the cost of capital in four European banking systems: the Spanish, German, French and Italian ones. The average cost of capital has been calculated for each country, using Datastream banking sector indices to calculate the betas. In these four countries the level of the cost of capital is seen to be relatively stable between 2000 and 2007, with limited cross-country differences. After the start of the crisis, differences begin to be observed, which become more pronounced from the outbreak of the euro area sovereign debt crisis. The last few months of 2015 saw falls in the cost of capital, and a mid-position in the European comparison for the cost of capital of Spanish banks, which had declined to 6.8% by year-end. However, at the beginning of 2016, the increase in volatility on the markets generated a rise in the cost of capital to levels of close to 8%. This is an approximate value that should be treated with caution, given all the assumptions that had to be made to reach it.[5] In any case, it is similar to the average annual return (in real terms) that Spanish banks have actually provided over the last 30 years, if the recent crisis is excluded from the calculation, so that only complete cycles are considered. This cost of capital is currently higher than the profitability of the Spanish banking system, which recorded an ROE in December 2015 of 5.6%, in consolidated terms, and of 4.4% for the purely Spanish banking business.

4 The CAPM is an asset valuation model. Its basic implication is that the risk premium of an asset is the coefficient resulting from a regression of the stock market return for this asset on the market return. It is this coefficient that is known as the beta.

5 In particular, it depends on long-term growth expectations, which may cause its value to vary by up to one percentage point.

…the increase in regulatory requirements due to the new bail-in rules…

Another factor common to European banks that may explain the drop in stock prices is the increase in regulatory requirements, which may ultimately translate into higher capital requirements or a rise in the cost of bank funding. Specifically, Directive 2014/59/EU, the Bank Recovery and Resolution Directive (BRRD), which came into force on 1 January 2016 (although with a transitional period of four years), introduced a minimum requirement for own funds and eligible liabilities (MREL) for loss absorption and bail-in. This new regulatory framework for managing bank crises minimises the need to provide public funds, as it places the main burden of resolution costs on shareholders and creditors.

…and the effect of restrictions on distributions of funds

Another factor to be highlighted is the restrictions on distributions of funds by credit institutions. European solvency regulations include, among the capital conservation measures, an automatic mechanism[8] placing restrictions on distributions linked to Common Equity Tier 1 capital (essentially, distribution of dividends), on variable remuneration and on payments on Additional Tier 1 instruments (such as coupon payments on contingent convertible bonds).

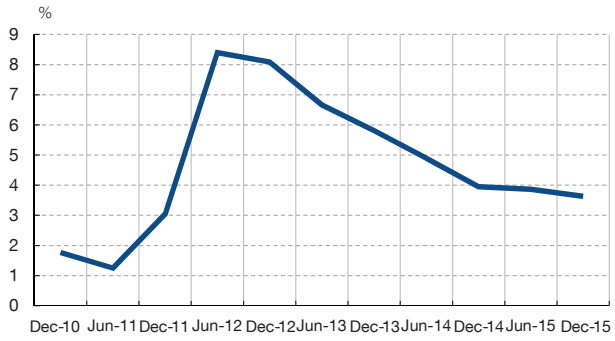
The method used to determine the Maximum Distributable Amount (MDA), setting the thresholds that trigger the restrictions, has been subject to interpretations that do not always coincide by Community regulatory and supervisory authorities and some EU Member States and, in general, by other market agents. That may have contributed to prompting some market distortions and, in particular, in the market of additional tier 1 (AT1) capital instruments.

The Single Supervisory Mechanism is studying, liaising closely with the European Commission and the European Banking Authority, formulas which, while observing the regulations in force, will help minimise the distortions indicated.

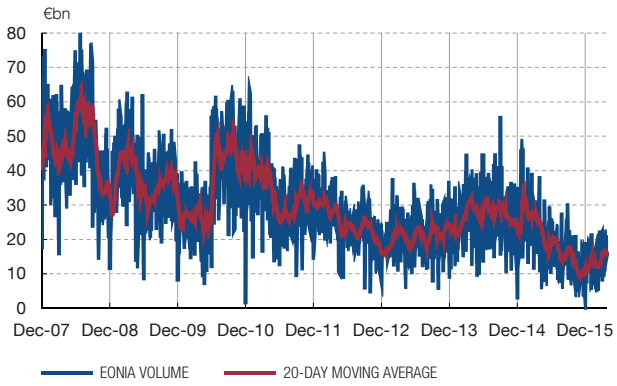
8 Article 141 of Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms.

WHOLESALE FUNDING (a) CHART 2.16

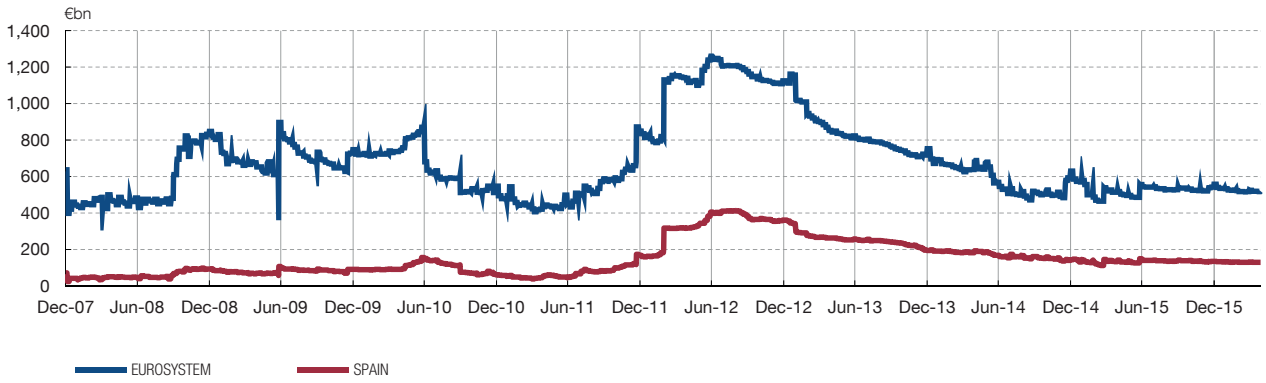
A EUROSYSTEM NET LENDING AS A PERCENTAGE OF TOTAL ASSETS



B EONIA TRADING VOLUME



C OUTSTANDING AMOUNT PROVIDED THROUGH EUROSYSTEM TENDERS



SOURCES: Bloomberg, Dealogic and Banco de España.

a Latest data: 27 April 2016.

There are also elements specific to certain banking systems and institutions in particular

Lastly, there are elements specific to certain banking systems and financial institutions that may also have had an impact on the stock market corrections. The episodes of instability in Greece relating to compliance with the measures agreed in its bail-out programmes and the negotiations on a possible review of those measures, against a backdrop of low growth and severe fiscal adjustment, are a recurrent source of mistrust. In turn, in 2015 Germany's largest bank reported losses of more than €6.7 billion, after announcing in October that it would close its operations in ten countries, reduce its headcount by 35,000 employees and suspend its dividend for two years (2015 and 2016). There were also uncertainties regarding its contingent convertible bonds (CoCos), relating both to payment of the yields stipulated in the bonds and their possible conversion into instruments that would absorb the reported losses. The bank's decision, announced in mid-February, to buy back some of the debt issued partly mitigated investors' possible doubts regarding its ability to meet all its liabilities.

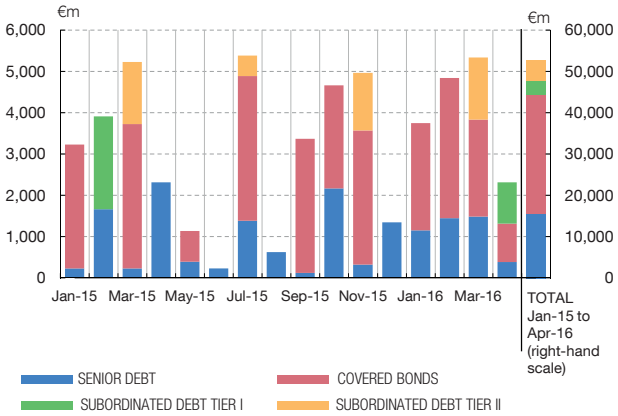
It is important to fully understand the ultimate causes of the fall in European banks' share prices because, at such low levels, capital increases to strengthen banks' solvency prove very costly.

The Eurosystem has stepped up its expansionary policy considerably in recent months

As discussed in Chapter 1, since the last FSR the Eurosystem has stepped up its expansionary policy considerably. Among the most noteworthy measures, those announced on 10 March, when the interest rate on the main refinancing operations was

A GROSS LENDING TO SPAIN AS % OF TOTAL EUROSYSTEM

B MAIN ISSUES OF SPANISH INSTITUTIONS IN MEDIUM- AND LONG-TERM WHOLESALE MARKETS (a)



SOURCES: Dealogic and Banco de España.

a Senior debt, covered bond and subordinated debt tier I and tier II issues. Retained issues are not included. Latest data: 27 April.

reduced to zero, the rate on the deposit facility was lowered to –0.40%, monthly purchases under the asset purchase programme were increased to €80 billion from April 2016, corporate bonds were included in that programme and a new series of four targeted longer-term refinancing operations (TLTRO II) was announced, with certain new features compared to the first TLTROs.

Regarding other sources of funding, analysis of the liability-side of deposit institutions' consolidated balance sheets (see Annex 1) shows that, as a percentage of total assets, central bank deposits grew while credit institution deposits declined. At the same time, the increase in private sector and general government deposits was accompanied by an, albeit more moderate, rise in marketable debt securities (up 2%), which held steady as a percentage of total assets at 12.3%.

Interbank market activity in the euro area remained weak, mainly owing to the excess liquidity generated by ECB policy

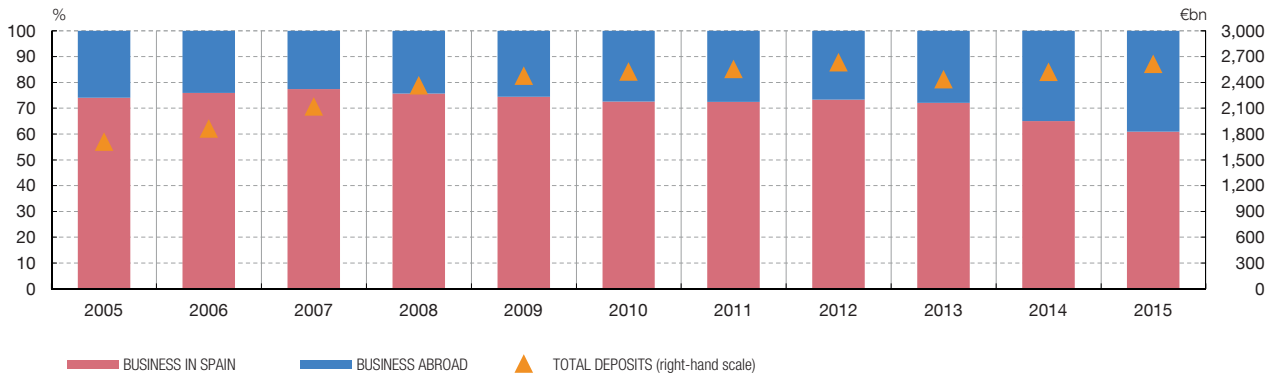
There have been no major changes in the euro area interbank markets since the last FSR. Activity has remained weak, chiefly as a consequence of the excess liquidity generated by the Eurosystem's liquidity provision policy, through refinancing operations and various asset purchase programmes. Chart 2.16.B depicts EONIA trading volume, which continued in the downward path embarked upon in January 2015, posting the lowest levels at year-end. The Spanish interbank market traced a very similar pattern, with progressively lower trading volume both in the secured and unsecured segments, the latter playing a very small part.

Gross recourse to the Eurosystem by Spanish banks decreased in 2015

Funding obtained by Spanish banks through tenders was practically unchanged in 2015. Chart 2.16.C depicts the outstanding balance of ECB tenders, both for the Eurosystem as a whole and for banks resident in Spain, and shows that, from end-April 2015 to end-April 2016, gross recourse to the Eurosystem by banks resident in Spain decreased by €2.9 billion (–2.2%), while the outstanding balance in the Eurosystem as a whole rose by €5.7 billion (1.1%). In consequence, the share of total Eurosystem loans corresponding to Spanish banks decreased in this period (see Chart 2.16.A). Accordingly, as shown in Chart 2.17.A, the volume allotted in tenders to banks resident in Spain as a percentage of the total provided by the Eurosystem averaged 25% in March 2016 compared with 26% in October 2015.

DEPOSITS
Deposit institutions

CHART 2.18



SOURCE: Banco de España.

Spanish banks were more active in issuance in 2015 than in 2014, especially in covered bonds

In 2015, Spanish deposit institutions were more active in issuance than in 2014. This growth was most marked in covered bonds. In addition, while it was mainly the largest banks that issued senior debt, the medium-sized banks also made covered bond issues in 2015. On the latest data available, this issuance activity continued in the opening months of 2016, especially in the case of covered bonds. Overall, in 2015 and in 2016 to date, issues of senior debt amount to more than €15 billion and issues of covered bonds to more than €29 billion (see Chart 2.17.B).

At consolidated level, private sector deposits were 6% higher at December 2015 than a year earlier. This increase was a consequence of the growth in business abroad, where private sector deposits rose by 19%; in business in Spain they declined by 2.5% (see Chart 2.18). As indicated earlier, in 2015 exchange rates affected all balance sheet items in business abroad.

Retail deposits (deposits of households and non-financial corporations) at Spanish deposit institutions, analysed using data from individual statements, corresponding to business in Spain, were unchanged as at December 2015 year-on-year. Since early 2015 a certain recovery has been observed in the year-on-year rate of change, starting with a slowdown in the rate of decline, followed by marginally positive values in recent months (see Chart 2.19.A). This improvement is also observed if securities issued by deposit institutions to households and non-financial corporations, which to a certain extent act as a replacement for retail deposits, are included. And this against a backdrop of falling interest rates, which have reached historically very low levels, prompting lower returns for customers for savings products of this kind marketed by banks. However, despite the poor returns offered by deposits, the considerable volatility in the markets in the second half of 2015 dissuaded investors, triggering a return, albeit moderate, to bank deposits. In any event, deposits continue to offer low rates of return and in recent years this has prompted households and non-financial corporations to swap their time deposits for sight deposits (see Chart 2.19.B).

As a result of loans to and deposits of households and non-financial corporations, the loan-to-deposit ratio dipped slightly in 2015, continuing in the marked downward pattern observed since 2007 (see Chart 2.19.C).

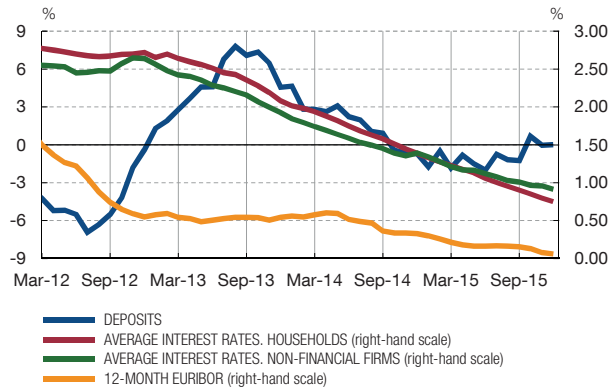
Growth in net asset value of investment funds came to a halt in the second half of 2015

In the first half of 2015 the net asset value of investment funds continued to grow, as both net subscriptions and yields increased, but this growth came to a halt in the second half of the year as yields became much more volatile (in both directions) and net subscriptions

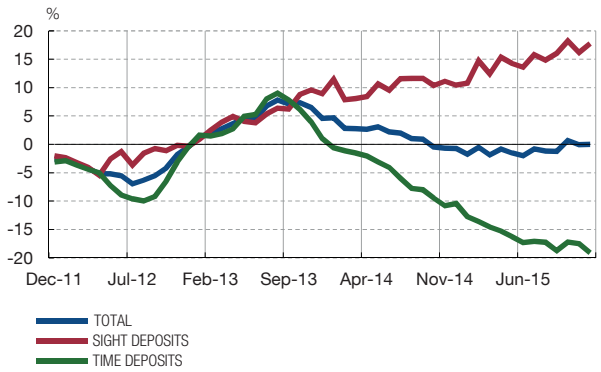
RETAIL FUNDING
Deposit institutions, ID

CHART 2.19

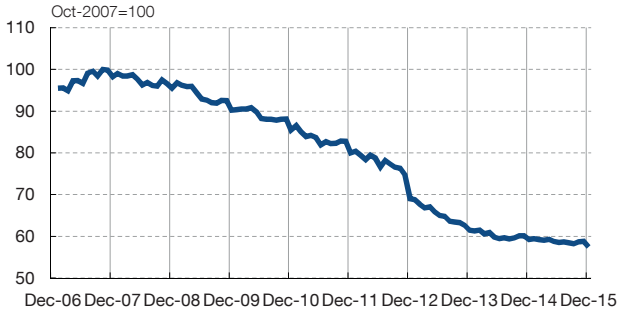
A DEPOSITS FROM HOUSEHOLDS AND NON-FINANCIAL FIRMS, AND AVERAGE INTEREST RATES



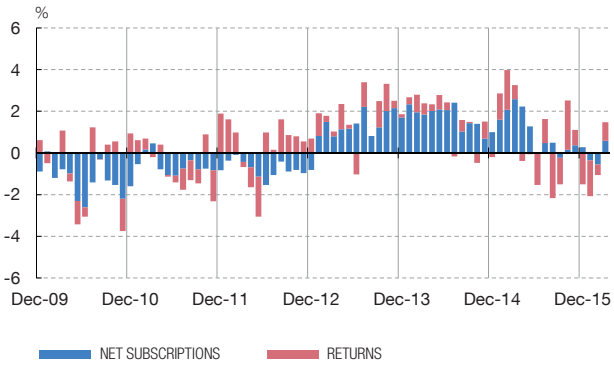
B DEPOSITS FROM HOUSEHOLDS AND NON-FINANCIAL FIRMS



C LOAN-TO-DEPOSIT RATIO IN RELATIVE TERMS (a)



D CONTRIBUTION OF RETURNS AND OF NET SUBSCRIPTIONS TO CHANGE IN NET ASSET VALUE OF INVESTMENT FUNDS



SOURCES: CNMV and Banco de España.

a Loans to households and non-financial corporations net of provisions. Deposits of households and non-financial corporations plus fixed-income securities of deposit institutions held by households and non-financial corporations.

stagnated (see Chart 2.19.D). In the year overall (December 2014 to December 2015), the net asset value of investment funds rose by €25 billion (+13%). In the first two months of 2016 their net asset value declined, chiefly as a consequence of the negative yields but this trend changed in March (on the latest data available).

Higher systemic risk has not resulted in funding difficulties for Spanish banks

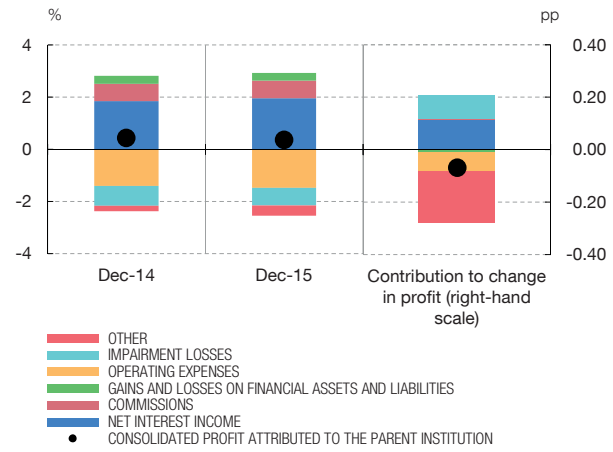
In short, since the second half of 2015 systemic risk and financial market volatility have both risen, but this has not resulted in funding difficulties for Spanish banks. Given their retail business model, both in Spain and abroad, this volatility has not prevented them from maintaining their deposit-based funding, despite the downward pressure on deposit rates.

2.2 Profitability

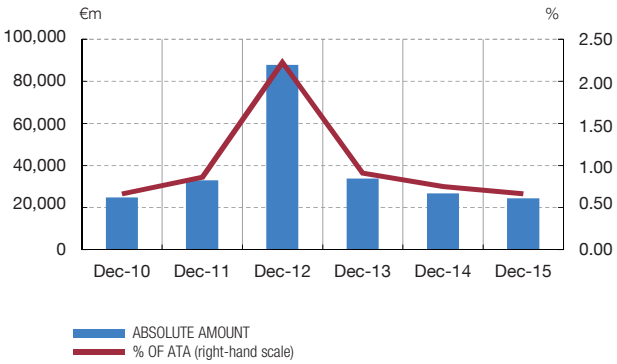
In 2015, Spanish institutions obtained income of €13.8 billion, down 12.8% from 2014

In 2015, Spanish deposit institutions overall recorded consolidated income attributed to the parent institution of €13,781 million, which represented a decline of 12.8% compared with 2014. Meanwhile, consolidated income was 3.5% lower than a year earlier (see Annex 2). The decrease in consolidated income attributed to the parent institution led to a fall of 7 bp in the return on assets (ROA) as compared with the previous year, from 0.45% in 2014 to 0.38% in 2015, compounded by the increase in average total assets recorded in 2015. The return on equity (ROE) also fell, from 6.9% in 2014 to 5.6% in 2015, partly as a result of the increase in own funds with respect to the previous year.

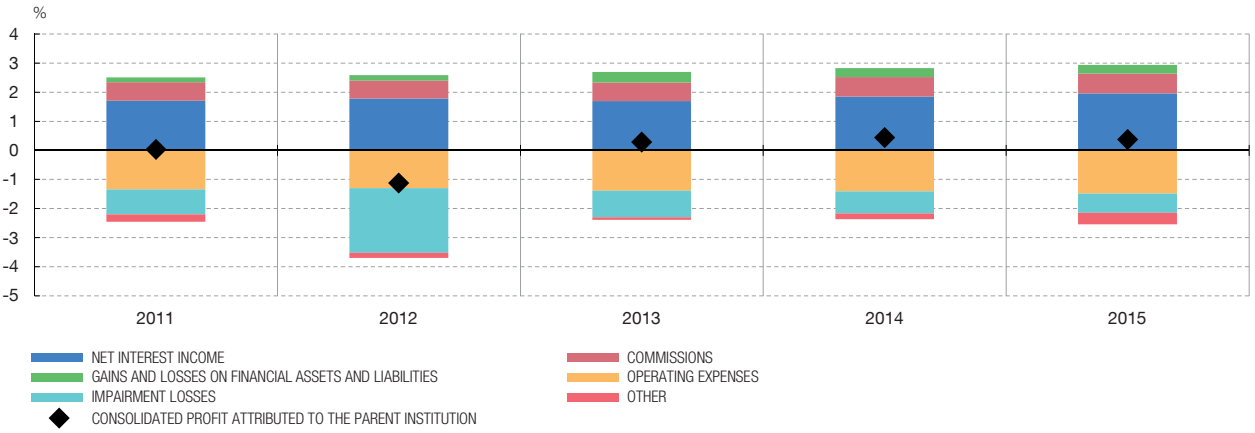
A CONTRIBUTION OF THE COMPONENTS TO THE CHANGE IN CONSOLIDATED PROFIT ATTRIBUTED TO THE PARENT INSTITUTION IN 2015 AS % OF ATA



B FINANCIAL ASSET IMPAIRMENT LOSSES
Absolute amounts and % of ATA



C CONTRIBUTION OF THE COMPONENTS OF CONSOLIDATED PROFIT ATTRIBUTED TO THE PARENT INSTITUTION AS % OF ATA



SOURCE: Banco de España.

Income from business in Spain evolved less favourably at individual level than at consolidated level

The decline in consolidated income of deposit institutions overall is more marked when examining the income of institutions at individual level in their business in Spain, as analysed in greater detail below. As in previous years, activity abroad continued to grow more than domestic activity, as discussed at the beginning of this chapter. Also, last year, the income of the two largest institutions evolved more favourably than that of the rest of the sector. However, the banking activity of Spanish institutions abroad is also subject to several of the risks analysed in this report, in particular the slowdown of the emerging economies and the potential depreciation of their currencies against the euro, which could adversely impact their future income.

Net interest income and provisions improved at consolidated level, but the remaining items of the income statement deteriorated

Analysis of the changes in 2015 consolidated income attributed to the parent institution (see Chart 2.20.A) shows that net interest income improved, net commissions rose slightly and financial asset impairment losses decreased, all of which contributed favourably to net income. In contrast, operating expenses rose, gains and losses on financial transactions declined very slightly,[9] and the contribution of income from sales fell considerably (partly

9 In Annex 2, the item relating to gains and losses on financial transactions includes exchange differences. The growth in that heading with respect to 2014 offset the negative changes in other transactions, resulting in an aggregate financial transactions item that was practically unchanged.

due to the notably high income recorded in 2014). The result of all of these contributions is the abovementioned 7 bp decrease in ROA for Spanish deposit institutions overall in 2015.

Impairment losses were particularly high in 2012, but have gradually declined since then

Chart 2.20.C shows the contribution, in ATA terms, of the main income statement items to the consolidated income attributed to the parent institution from a broader time perspective. Firstly, it shows that, despite the low interest rate environment at European level, the contribution of net interest income to consolidated income has grown in the last three years. The contribution of commissions remained fairly steady throughout the period, while that of gains and losses on financial transactions increased until 2013 and fell slightly in the last two years, although it is still above the level of the early years. The percentage by which operating expenses reduce average total assets has increased since 2012. The contribution of financial asset impairment losses (including specific and general provisions) played a significant role: in 2012 provisioning increased substantially and was the main reason for the fall in income, but from that year on, provisioning was gradually reduced, thus contributing to improving income. Given their effect on income, Chart 2.20.B illustrates these changes in greater detail, showing the sharp growth, both in absolute terms and as a percentage of average total assets, in 2012, and the ensuing gradual decline. Lastly, the contribution of the remaining items (mainly income from sales, impairment losses on assets other than lending and taxes) is more volatile, but less significant in relative terms than the other items.

The low interest rate environment, low level of activity and significant volume of non-productive assets exert downward pressure on the income statement

The profitability of deposit institutions in 2015 in their business in Spain evolved less favourably than their consolidated business globally. In 2015, ROE stood at 4.4%, down by more than half a percentage point from 5% in 2014. As pointed out in the previous FSR, there are three main factors exerting pressure on the income statement in Spain. First, the very low interest rate environment currently prevailing in the euro area; second, the still-low level of banking activity (as described earlier, the total volume of lending continues to decline); and third, the significant volume of non-productive assets (non-performing loans and foreclosed assets) still on banks' balance sheets. However, as already mentioned, non-performing loans are declining, which means lower asset impairment provisions and higher income.

Net interest income from business in Spain fell by around 2% in 2015

As a result of the first pressure factor, that is, the low interest rates prevailing in Europe (not only affecting Spanish banks, but also most European banks), average lending and deposit rates in the Spanish banking sector are at historically low levels (see Chart 2.21.A). These rates, together with the still subdued activity in Spain, have led to a fall of around 2% in net interest income.

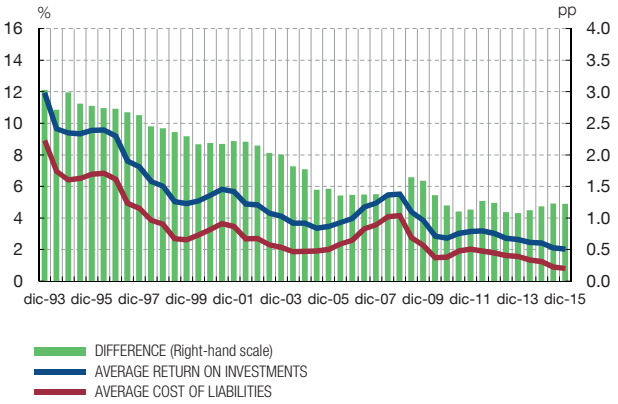
In view of the effect of interest rates on profitability and their historically low levels, Box 2.3 analyses their impact on the income statement. This analysis underlines that a further reduction in rates would put even more pressure on net interest income, against a background where interest rates for sight deposits are, on average, close to zero. While it is true that lower interest rates contribute to reducing non-performing loans by facilitating interest payments on loans, these effects would tend to peter out in an environment of very low interest rates. Overall, any further decrease in interest rates, in this low interest rate environment, would put more pressure on the profitability of the banking business.

Detailed analysis of the various components of the change in net interest income in the last two years (see Chart 2.21.B) shows, firstly, that the contribution of the activity level (the volume effect) was negative in both years, although the impact was less marked in 2015. Secondly, the changes in the balance sheet composition (the structural effect) had a favourable impact in both periods, more so in 2015. This change in the composition was

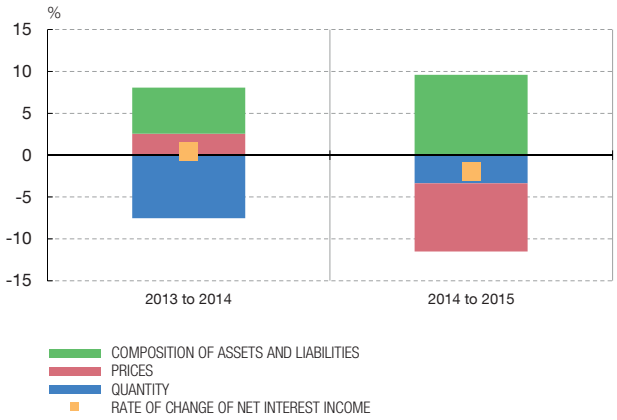
PROFITABILITY
Business in Spain, ID

CHART 2.21

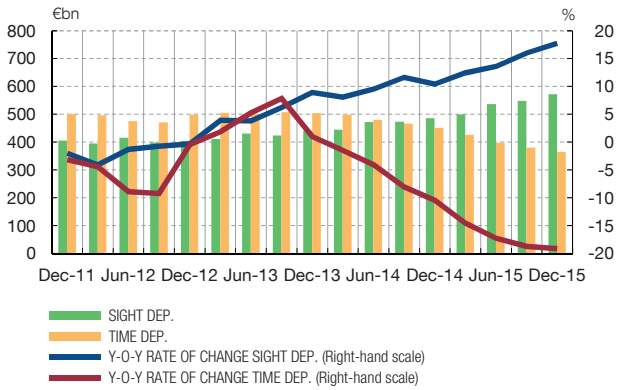
A DIFFERENCE BETWEEN AVERAGE RETURN ON INVESTMENT AND AVERAGE COST OF LIABILITIES



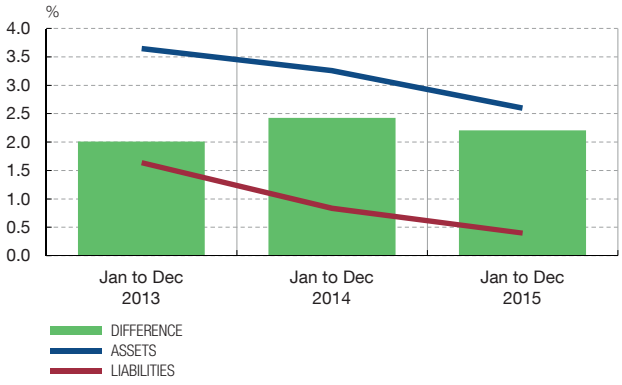
B PERCENTAGE OF THE NET INTEREST INCOME VARIATION EXPLAINED BY EACH FACTOR



C SIGHT AND TIME DEPOSITS
Absolute amounts and y-o-y rate of change



D MARGINAL INTEREST RATES ON ASSETS AND LIABILITIES (a)



SOURCE: Banco de España.

a Marginal interest rates refer to those established in transactions initiated or renewed in the previous reference month. The transactions are weighted according to their volume. The weighted marginal interest rates of assets include, among others, those applied to financing for house purchase, consumption and credit to non-financial firms, while those of liabilities include fixed-term deposits and repos, among others.

particularly pronounced in the case of deposits, where the low remuneration on time deposits meant that they were replaced by sight deposits (see Chart 2.21.C) which are less costly and reduce institutions' financial costs, favourably affecting net interest income.

THE IMPACT OF INTEREST RATES ON THE INCOME STATEMENT

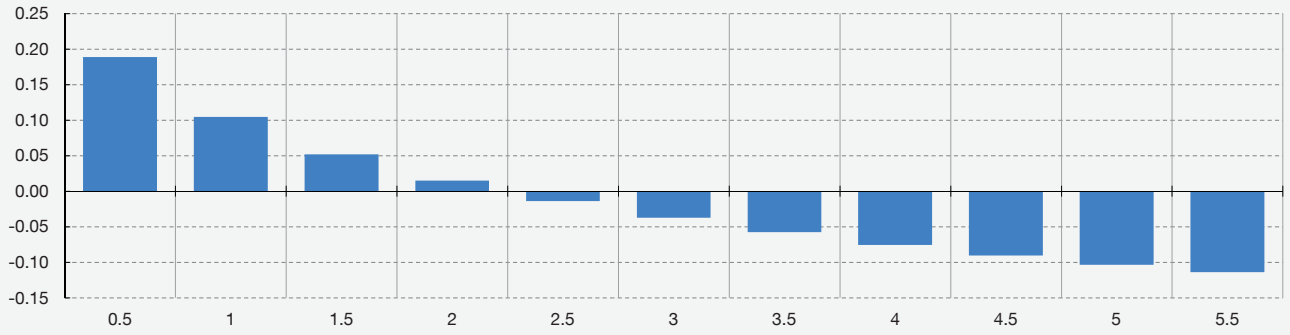
BOX 2.3

The current low interest rates have prompted growing concern over their impact on bank profits, basically through the erosion of net interest income. In a recent article, Borio et al. (2015[1]) analyse a panel of international banks from 14 advanced economies in the period 1995-2012 and find a positive relationship between the level and slope of interest rates and bank profitability.[2] Against this background, it is appropriate to perform a specific analysis of the effect of interest rates on the net interest income of Spanish deposit-taking institutions' business in Spain, capturing the macroeconomic conditions and sectoral dynamics proper to our banking system.

1 The influence of monetary policy on bank profitability (2015) by Claudio Borio, Leonardo Gambacorta and Boris Hoffman, BIS Working Paper No 514.

2 Borio et al. (2015) consider as explanatory variables the linear and quadratic terms for the level and slope of interest rates but they do not include the lags of these variables.

Chart A
SEMI-ELASTICITY OF NET INTEREST INCOME TO 12-MONTH EURIBOR (a)
Business in Spain, ID



SOURCE: Banco de España.

a The y-axis shows the semi-elasticity of net interest income to different levels of the 12-month EURIBOR in the range of 0.5-5.5, which are depicted on the x-axis. Semi-elasticity is defined as the rate of relative change in net interest income to a 100bp change in the 12-month EURIBOR.

Specifically, an analysis was performed of the relationship between the 12-month EURIBOR, the main benchmark in the Spanish banking sector, and interest income and expense of the business in Spain of deposit-taking institutions as a whole in the period 2000-2014. Profit behaviour is broken down into changes in balance sheet items (quantities) and changes in their average prices (rates or yields). On the assets side, a distinction is made between credit, debt instruments and other assets, whereas on the liabilities side, it is made between sight deposits, time deposits and other funding.

For each relevant variable a linear regression model was developed with a set of explanatory variables which include the 12-month EURIBOR (linear and quadratic term) and other macroeconomic variables (GDP, unemployment rate, house prices, etc.) and the lags of all these variables. The specification used for each variable complies with economic requirements (adequate signs of explanatory variables) and statistical requirements (p-value lower than 10% of individual variables, sufficient explanatory power of the model).

The models estimated are used to obtain a measure of the semi-elasticity of net interest income to changes in the 12-month EURIBOR. The measure of semi-elasticity used provides information on the relative change in the reference variable in response to a relative increase of 100 bp in the level of the 12-month EURIBOR in the period studied.[3] Since the quadratic terms and lags of the 12-month EURIBOR are included in the regression models, these semi-elasticities depend on both the level of the 12-month EURIBOR and its pattern of change.

Chart A shows the semi-elasticity of net interest income evaluated at different levels of the 12-month EURIBOR and at average sample values of the macroeconomic variables. It shows how a rise in the 12-month EURIBOR is associated with an improvement in net interest income for low EURIBOR levels and with a deterioration in net interest income for high EURIBOR levels. This is because at low (high) rates, the positive effect of a rise in the 12-month EURIBOR on the rate spread predominates over (is dominated by) the negative effect on the volume of activity (quantity effect). It should be remembered in this exercise that not only the effects on the remuneration of assets and liabilities, but also those on the volume of intermediation (quantity effect), are taken into account. Thus, it is observed that although the asset/liability spread increases with the level of the 12-month EURIBOR, once the contraction in volume of business associated with higher rates is taken into account, net interest income is ultimately affected negatively by high values of the 12-month EURIBOR.

It may be inferred from the analysis that additional decreases in interest rates in the current environment of very low but still-positive rates would cause additional contraction in net interest income, exerting even more downward pressure on the profits of banking business in Spain. However, in that territory, interest rates have a moderating effect on loan loss provisions.

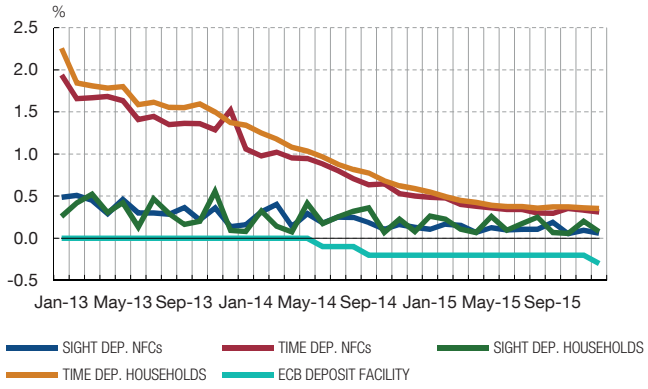
It should be noted that there are risks in extending the analysis to the negative territory of rates since, firstly, historical experience does not include periods of negative benchmark rates, thereby making it impossible to estimate their effects precisely. Secondly, the existence of negative interest rates marks a regime shift which may alter the relationships previously observed between macroeconomic variables and net interest income.

3 Semi-elasticity is calculated in accordance with the formula: semi-elas(t) = [∂y(t)/∂Euribor]·[1/y(t)], where y(t) is the value of the dependent variable and ∂y(t)/∂Euribor is the derivative of the dependent variable with respect to 12-month EURIBOR.

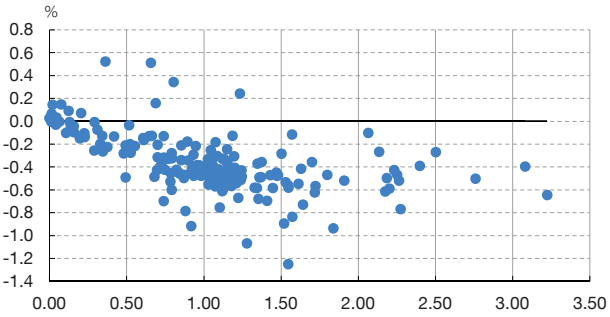
PROFITABILITY
Business in Spain, ID

CHART 2.22

A ECB DEPOSIT FACILITY AND INTEREST RATES ON NEW DEPOSIT OPERATIONS



B RELATIONSHIP BETWEEN THE CHANGE IN THE 2015 AVERAGE COST OF LIABILITIES (y-axis) AND 2014 AVERAGE COST OF LIABILITIES (x-axis)



SOURCE: Banco de España.

The scope for the further downward course of financial costs is limited

Finally, the impact on net interest income of the interest rates on interest-earning assets and interest-bearing liabilities (the price effect) has gone from being slightly positive in 2014 to negative in 2015. As shown in Chart 2.21.D, in 2015 the decline in the marginal rates on new lending transactions was more marked than in the case of new deposit transactions. However, on the liabilities side, there is increasingly less room for manoeuvre, as illustrated by Chart 2.22.A, which shows the fall in interest rates on new sight and time deposits of households and non-financial corporations, along with the fall in the deposit facility rate. Likewise, Chart 2.22.B shows that average costs in 2015 fell the most at the Spanish deposit institutions that had the highest average costs in 2014. Both charts seem to suggest that little room remains for financial costs to reach their lower limit, and if lending rates continue to decline, so will net interest income.

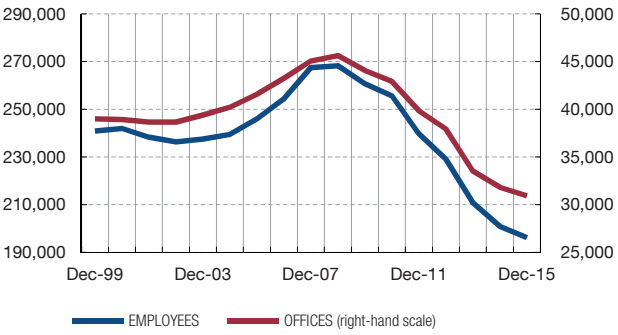
Gross income decreased by nearly 7% in 2015

Continuing with the analysis of the remaining items of the income statement in Spain, both the return on equity instruments and gains (losses) on financial transactions decreased substantially between December 2014 and December 2015, leading to a decline in gross income of nearly 7% year-on-year. Net commissions remained practically unchanged in 2015, continuing in the pattern observed in previous quarters with a rise in commissions on the sale of non-banking financial services and a fall in commissions from collection and payment services (more related to banking).

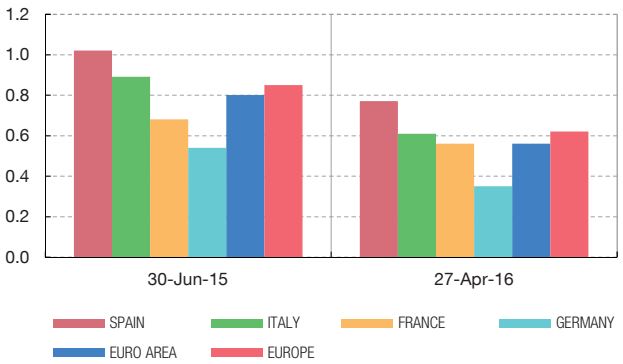
EMPLOYEES AND OFFICES AND MARKET INFORMATION

CHART 2.23

A NUMBER OF EMPLOYEES AND OFFICES
Business in Spain, ID

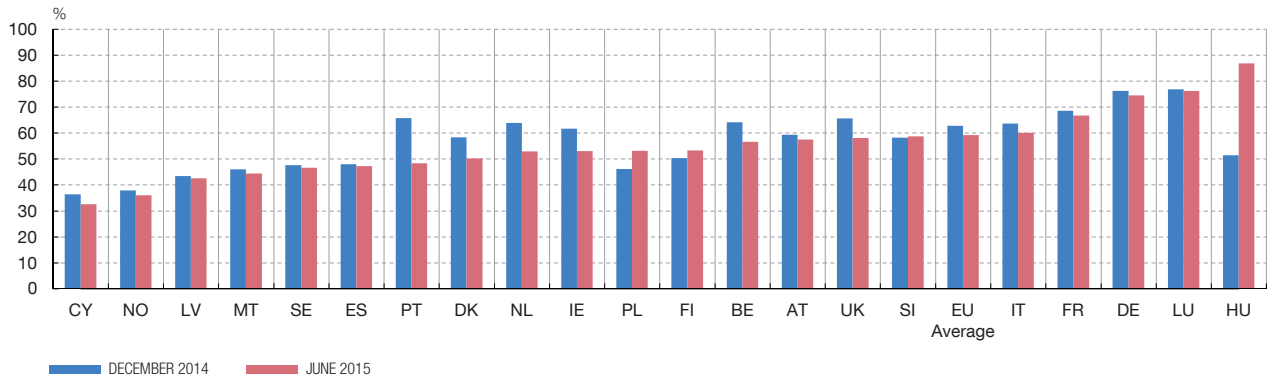


B PRICE-TO-BOOK-VALUE RATIO OF THE BANKING SECTOR



SOURCES: Datastream and Banco de España.

EFFICIENCY RATIO. EUROPEAN COMPARISON (a) CHART 2.24



SOURCE: European Banking Authority.

a Efficiency ratio is defined as operating expenses (sum of administrative expenses and depreciation) divided by gross income.

Operating expenses rose slightly, adversely affecting net operating income. Although the capacity adjustment process continued, through cut-backs in offices and employees (see Chart 2.23.A), the increase in average costs per office and employee prompted this slight rise in the operating costs of the activity in Spain.

A comparison at European level of the efficiency ratio, based on the data published by the EBA in its 2015 transparency exercise, shows that (see Chart 2.24) the ratio of Spanish banks is below that of its peers in the main EU countries. Thus, in terms of efficiency, Spanish banks are in a good position relative to their European counterparts.

The decrease in asset impairment losses contributed favourably to income in 2015

As in the case of consolidated activity, but more markedly so, financial asset impairment losses continued to decline in 2015 in business in Spain. The aforementioned decrease in non-performing loans (see Chart 2.8) enabled the level of provisioning to be reduced, with the consequent improvement in income. As a result of all the above factors, net income of deposit institutions in Spain fell by 5.4% overall in 2015.

In short, profitability is one of the main challenges currently facing Spanish banks and their euro area counterparts

In short, analysis of the results of Spanish deposit institutions in 2015 shows that several factors continue to put pressure on their income statements, particularly on their business in Spain. Since ROE levels are currently lower than the cost of capital in many cases, profitability has become one of the main challenges/risk factors now facing Spanish and euro area banks. As mentioned earlier, the pressure on the profitability of the banking business in Europe is one of the factors explaining the decline in bank share prices in recent months, which has led to a fall in the price-to-book-value of European banks (Chart 2.23.B). This decline has been more pronounced for Spanish banks, which had higher values to begin with. However, price-to-book-value at Spanish banks is still higher than at the main banking systems in the euro area.

2.3 Solvency

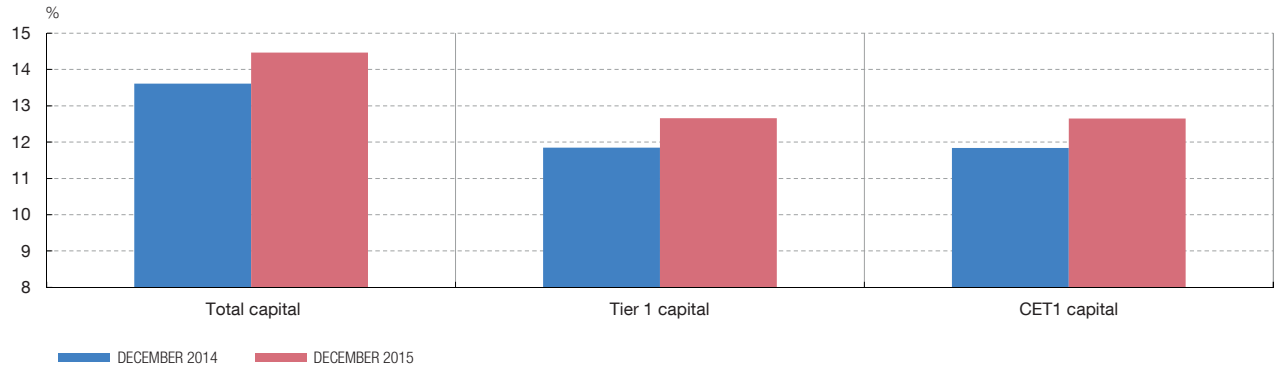
The CET1 ratio stood at 12.6% in December 2015 after having increased by more than 80 bp in the past year

In December 2015 the ratio of highest-quality capital, i.e. common equity tier 1 (CET1) stood at 12.6% at aggregate level for Spanish deposit institutions as a whole. In 2015 this ratio increased by more than 80 bp with respect to the 11.8% recorded in December 2014, amply exceeding its regulatory requirement.[10] In Spanish deposit institutions this improvement was across-the-board.

10 The capital conservation buffer, which in 2016 raises by 0.625% the minimum CET1 requirement of 4.5%, is being phased in from 1 January 2016.

CAPITAL RATIOS
Deposit institutions

CHART 2.25



SOURCE: Banco de España.

The total capital ratio and the tier 1 capital ratio also increased by more than 80 bp in 2015

The total capital ratio and the tier 1 capital ratio behaved similarly during the previous year, since they also increased by more than 80 bp between December 2014 and December 2015 (see Chart 2.25) and stood above their minimum regulatory levels. The total capital ratio stood at 14.5% at end-2015 and the tier 1 capital ratio (CET1 plus additional tier 1 capital) was slightly above the CET1 ratio (12.7%) due to the effect of gradual transitional adjustments, particularly in relation to deductions.[11]

In absolute terms, CET1 increased in 2015 by nearly €17 billion to stand on the verge of €213 billion at the end of the year. Total capital rose by slightly more (€18 billion) in the past year and its stock exceeded €243 billion in December 2015 (see Chart 2.26.A).

CET1 accounts for the bulk of own funds

As regards the numerators of the ratios, the composition of own funds scarcely changed in 2015. CET1 makes up the vast bulk of own funds (87%) and the rest of them are mainly tier 2 capital (see Chart 2.26.B). A detailed breakdown of the main component of own funds, namely CET1, shows that equity instruments are the most significant item of eligible capital (43%), followed by reserves (33%). Thus these two items together exceed 75% of eligible capital, being followed by transitional adjustments (16%) and minority interests and other (8%). For their part, deductions arise mostly from goodwill and other intangible assets, which amount to practically 60%, well ahead of those arising from deferred tax assets (15%) and other deductions (25%). Chart 2.26.C shows this CET1 structure in terms of risk-weighted assets (RWAs).

Risk-weighted assets increased slightly in the past year

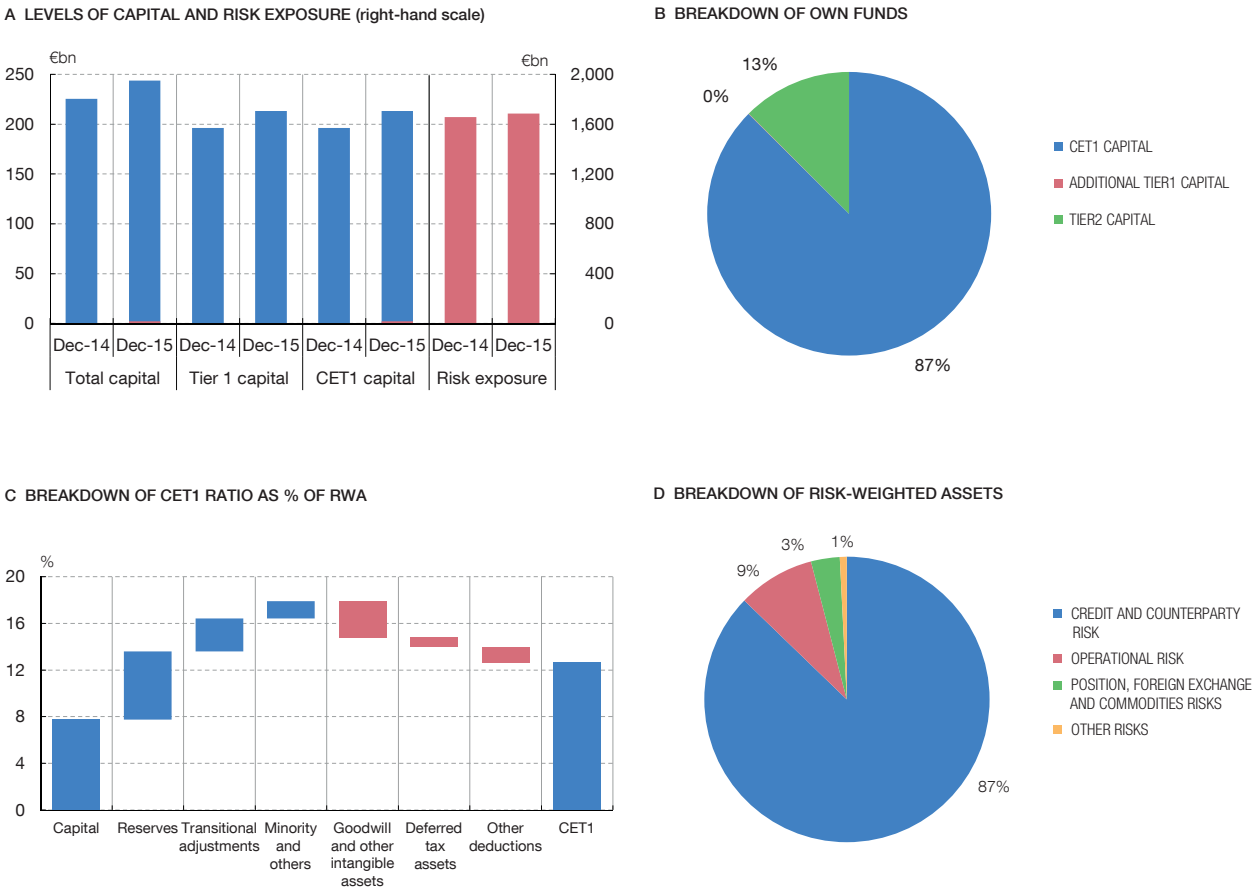
Turning to the denominator of the capital ratios, risk-weighted assets amounted to €1,684 billion at end-2015, up 1.6% with respect to RWAs at December 2014 (see Chart 2.26.A). RWAs as a proportion of the total assets of deposit institutions decreased slightly, since total assets increased by a slightly higher proportion. Thus RWAs as a percentage of total assets approached 46%. The composition of risk-weighted assets barely changed in the past year. Most of them (87%) arose from credit and counterparty risk,[12] followed by operational risk (9%) and position, foreign exchange and commodity risks (4%), while other risks account for less than 1% of RWAs (see Chart 2.26.D).

11 The ratios take into account the transitional adjustments designed to facilitate the progressive implementation of Basel III. The implementation timetable establishes that in 2015 generally only 40% of the amounts of deductions will be deducted from common equity, while the remaining 60% will be deducted from additional tier 1 capital. In quantitative terms, the main transitional adjustments are those relating to deductions of intangible assets and to deductions of deferred tax assets based on future income.

12 This risk comprises that from credit exposures, equity exposures and securitisation positions, and includes both that calculated using RWAs obtained by the standardised method and that obtained by the IRB method.

BREAKDOWN OF OWN FUNDS AND RISK-WEIGHTED ASSETS
Deposit institutions. December 2015

CHART 2.26



SOURCE: Banco de España.

On EBA data, the CET1 ratio of Spanish banks is at a medium-low level with respect to Europe…

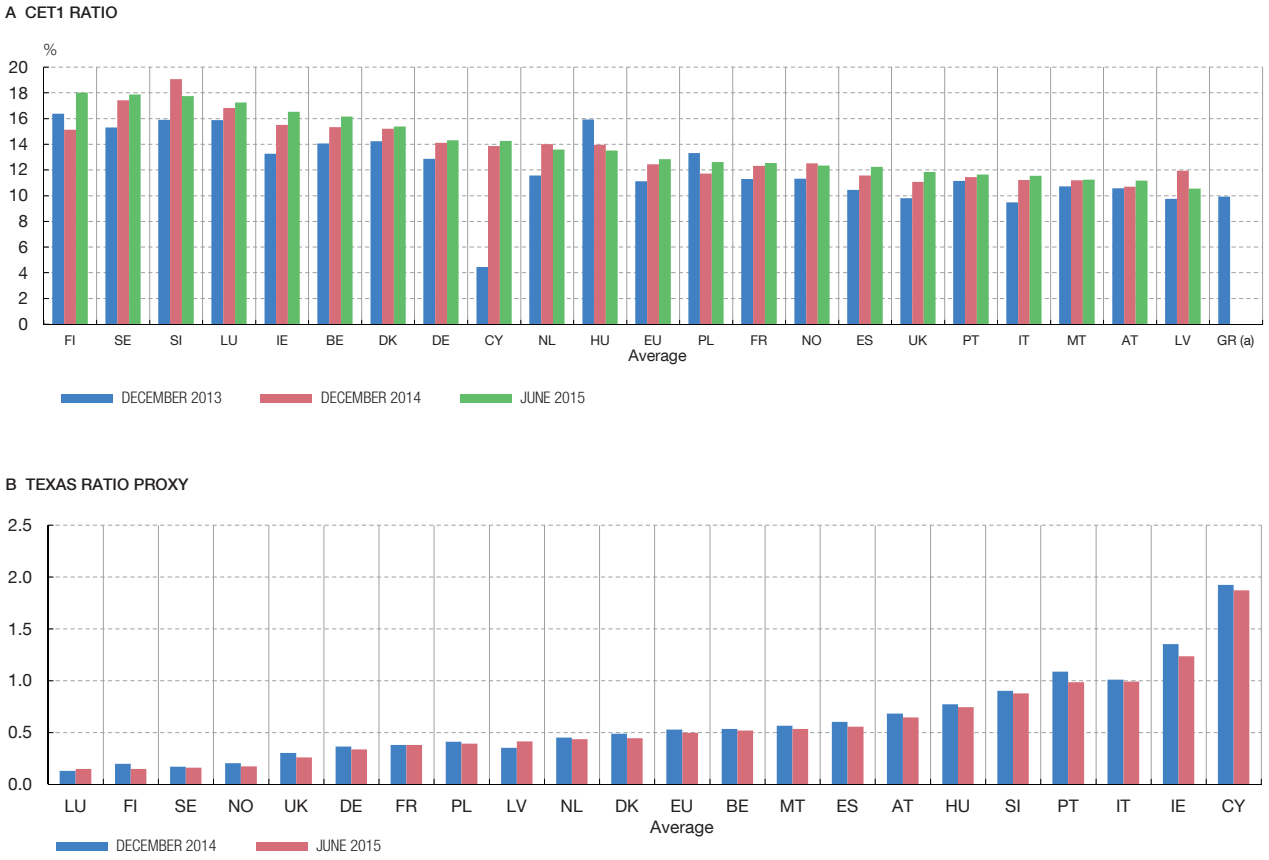
In 2015 the European Banking Authority published the results of its transparency exercise for the European banking sector, which, together with the data of the 2014 stress exercise, are analysed in Box 2.4. These data allow a comparison at European level of the solvency situation of the various banking systems. Firstly, the CET1 ratio is analysed at three different points in time: December 2013, December 2014 and June 2015. Chart 2.27.A shows, first, that the CET1 ratio of nearly all European countries grew gradually over the three points in time. Second, the ratio of the Spanish banks included in the EBA exercises stands at a medium-low level with respect to the main European countries and below the European average. However, the growth in recent periods has helped to bring Spanish banks' ratios nearer to those of the banks of the main European countries included in the EBA exercises.

…while the Texas ratio stands at a medium-high level

Second, the Texas ratio, which, as explained above in this report, is another measure of bank solvency, shows most particularly how banks' troubled assets derived from their lending activity may affect their solvency. Chart 2.27.B depicts an approximation of the Texas ratio for the banks included in the EBA transparency exercise. To calculate the ratio, non-performing loans[13] were divided by the sum of provisions and capital (including equity instruments eligible as CET1 and reserves). This metric, which is based on the two figures available (December 2014 and June 2015), reflects a slight decline in the ratio over these

13 Given the unavailability of data on foreclosed assets, only non-performing loans are included in the numerator. The use of consolidated data of the banks included in the EBA transparency exercise means that the definition of the ratio, the source of the data, the scope of consolidation and the banks included in the analysis are different from those of the ratio of Chart 2.11.

SOLVENCY MEASURES. EUROPEAN COMPARISON CHART 2.27



SOURCE: European Banking Authority.

a Only 2013 data are available for Greece.

six months for nearly all the countries considered. The ratio for Spanish banks stands at a medium-high level with respect to other European countries, being slightly above the average of the banks included in the EBA exercise, although at values well below those of the banking systems which enjoy much higher ratios.

In short, in 2015 Spanish banks continued to strengthen their solvency

In short, the ongoing efforts of Spanish banks in 2015 to strengthen their solvency gave rise to an increase in the absolute amount of their own funds and to an improvement in their capital ratios, which are approaching the levels of the main European countries, although they are still somewhat below them.

CREDIT EXPOSURES AND RISK-WEIGHTED ASSETS: ANALYSIS OF EUROPEAN BANKS BOX 2.4

The publication by the EBA of the results of the 2015 transparency exercise for the European banking sector provides publicly available granular data on the capital positions and risk exposures of 105 European banks.[1] This Box combines the data from that transparency exercise with the public data of the 2014 EBA stress test exercise in order to measure the changes between December 2013 and June 2015 in the volume of credit exposures of European banks and in the density of the risk-weighted assets (RWAs) associated with these exposures.[2]

1 The results of the 2015 EBA transparency exercise are available at: https://www.eba.europa.eu/risk-analysis-and-data/eu-wide-transparency-exercise/2015/results.

2 The results of the 2014 EBA stress test exercise are available at: http://www.eba.europa.eu/risk-analysis-and-data/eu-wide-stress-testing/2014/results.

Chart A
VOLUME OF EXPOSURES AND BREAKDOWN INTO THOSE SUBJECT TO IRB AND SA APPROACHES
December 2013, December 2014 and June 2015

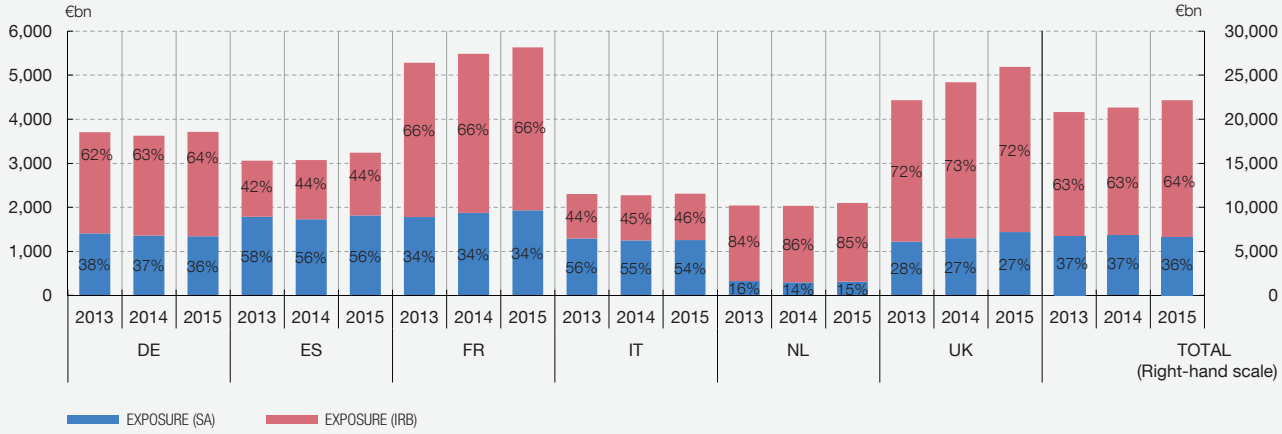


Chart B
GROWTH IN EXPOSURES SUBJECT TO IRB AND SA APPROACHES AND IN THE TOTAL
December 2013 vs June 2015

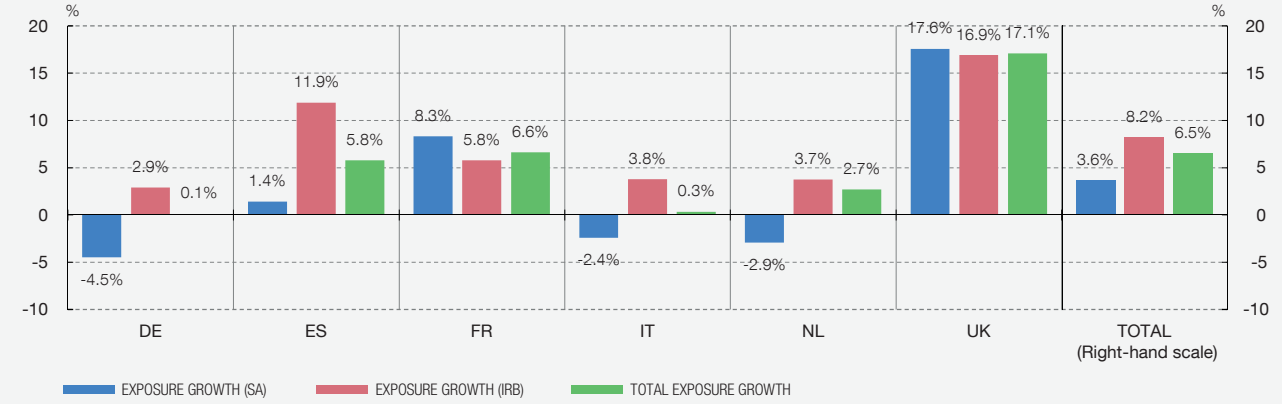


Chart C
IRB APPROACH, SA APPROACH AND TOTAL DENSITIES
December 2013, December 2014 and June 2015

SOURCE: European Banking Authority.

Chart D
CORPORATE PORTFOLIO SUBJECT TO IRB. EXPOSURE
December 2013, December 2014 and June 2015

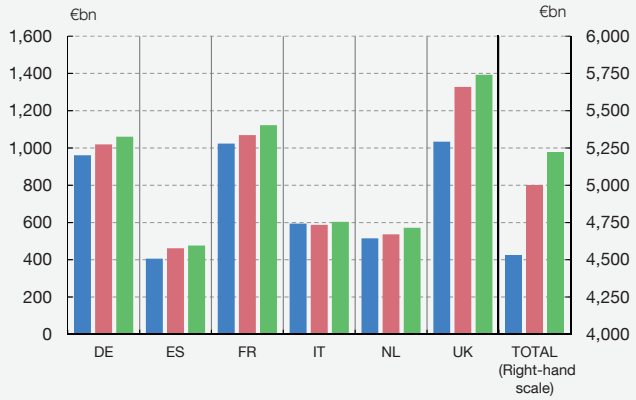


Chart E
CORPORATE PORTFOLIO SUBJECT TO IRB. RWA DENSITY
December 2013, December 2014 and June 2015

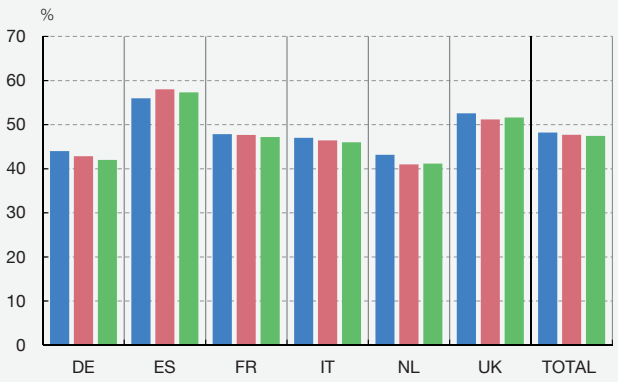


Chart F
RETAIL PORTFOLIO SUBJECT TO IRB. EXPOSURE
December 2013, December 2014 and June 2015

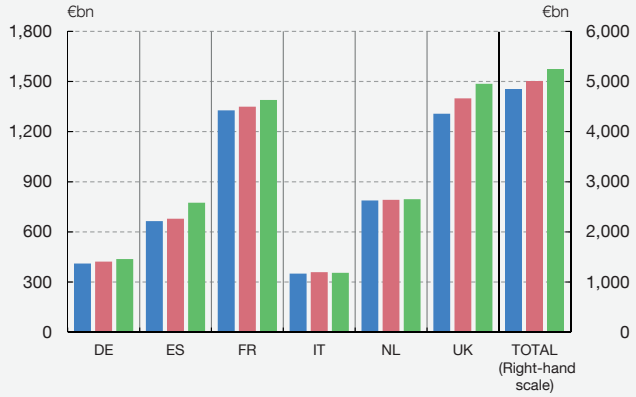
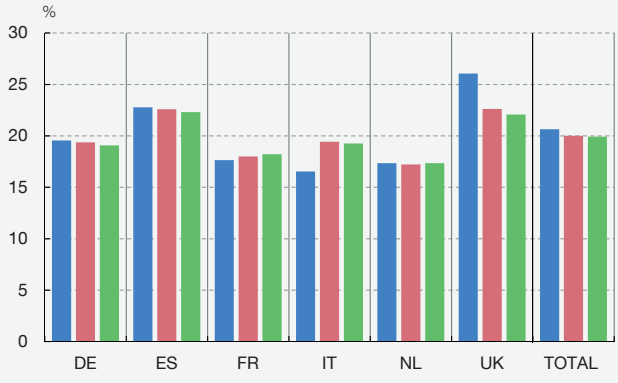


Chart G
RETAIL PORTFOLIO SUBJECT TO IRB. RWA DENSITY
December 2013, December 2014 and June 2015



SOURCE: European Banking Authority.

The data of the Spanish banks participating in the EBA exercise and of the five reference countries (Germany, France, United Kingdom, Italy and the Netherlands) are analysed. The analysis distinguishes between exposures subject to the standardised approach (SA) and those under the so-called internal ratings based (IRB) approach. The total exposure of each country considered is taken to be that resulting from the sum of domestic and international exposures.

This Box continues and updates the analysis published in the May 2015 FSR, which identified notable differences between risk-weighted asset densities (and thus capital requirements) in the portfolios subject to the standardised approach and the IRB approach, as well as marked dispersion across countries, particularly in portfolios subject to the IRB approach.

1. Volume of credit exposures under the IRB and SA approaches

Chart A shows the changes from December 2013 to June 2015 in credit exposures and in their distribution between the SA and IRB approaches. The level of exposure for the total countries in the sample increases very moderately (except for the United Kingdom). Exposure under the SA approach expressed as a proportion of total exposure remained practically constant in all countries. The moderate growth in the period did not lead to a marked redistribution of credit exposures between the SA and IRB portfolios.

Spain, along with Italy, is the country with the highest proportion of exposure subject to the SA approach. This proportion is not altered by the 5.8% growth in the period 2013-2015 of the credit exposures of the Spanish banks in the sample.

Chart B shows the relative growth between December 2013 and June 2015 in the volumes of SA, IRB and total exposures for the different countries studied, as well as that of the total sample. The exposure under the IRB approach showed higher growth (8.2%), more than double that of the SA exposure (3.6%).

The United Kingdom is the country with the highest increase in the total volume of exposures (17.1%), the growth of which is evenly spread between SA and IRB exposures. In the case of Spain, the increase is clearly concentrated in the IRB exposure (11.9%) compared with the more sluggish SA exposure (1.4%).

2. RWA density under the IRB and SA approaches

The SA and IRB methodologies involve risk weights which are steady over time. The average RWA density is partly determined by these weights, so it may be expected to show little change over time. However, the relative volume of exposure in portfolios with differing weights also affects RWA density and indeed, a priori, greater variation over time can be seen in this component. This variation in the relative volumes of exposure may be due to an inflow of new credit, to inflows and outflows of NPLs, to transfers of funds between existing portfolios subject to the same calculation method, or to transfers between SA and IRB portfolios.

Chart C shows changes in RWA density of the total countries analysed for the standardised and IRB approaches and for the total, with data at December 2013, December 2014 and June 2015. The largest change was observed in the exposures under the standardised method, which went from a density of 43% in 2013 to one of 40% in 2015. The density of the exposures under the IRB approach rose by one percentage point from 32% in 2013 to 33% in 2015. The changes in RWA density observed for the various countries of the sample are of moderate size, indicating a certain stability in the distribution of exposure across the various credit portfolios in the period analysed.

3. Changes in exposure and RWA density in corporate and retail portfolios subject to the IRB approach

This section looks at changes in the credit exposure and in the density of the RWAs associated with each portfolio.

3.1 Corporate

Chart D shows changes in the exposure of the corporate portfolio under the IRB approach for each of the countries in the period from December 2013 to June 2015. The volume of exposure for the total sample increased significantly from €4,500 million to €5,225 million. This increase mainly reflects the effect of the rise in this portfolio in the United Kingdom. In Spain, the country with the lowest exposure in this portfolio, the relative increase in exposure was 17% from 2013 to 2015.

Chart E shows changes in RWA density. In all the countries analysed, the densities remained steady, with a slight downward trend. Comparison of the charts shows that the increase in exposure was not accompanied by large changes in RWA density.

3.2 Retail

Chart F shows that the volume of exposure of the retail portfolio increased in all countries except Italy. The United Kingdom showed the highest increase, followed by Spain.

Chart G shows RWA density. For the total sample, this density decreased by only one percentage point from 2013 to 2015. The largest decrease was in the United Kingdom. In Spain this density decreased by one percentage point, a fall in line with that seen for the total sample. The expansion of gross credit exposure was accompanied by only slight falls in RWA density for the sample as a whole.

3 MACROPRUDENTIAL POLICY: MACROPRUDENTIAL INSTRUMENTS AND FIRST DECISIONS ADOPTED

Macroprudential policy aims to protect the financial system as a whole

Recent years have seen a far-reaching reform of the regulatory framework to which banks are subject. Its most innovative features include the implementation of a number of regulatory instruments the use of which falls in the realm of macroprudential policy.[1] The ultimate objective of macroprudential policy is to help protect the stability of the financial system as a whole, while microprudential policy continues to be responsible for ensuring the solvency of each bank separately. In particular, macroprudential policy seeks, firstly, to develop and apply instruments to mitigate and address systemic risks which develop during the course of the credit cycle (time dimension) and, secondly, to use another set of instruments with a cross-sectional dimension to address the impact on systemic risk derived from the size, complexity and interconnectedness of banks (cross-sectional or structural dimension).

Circular 2/2016 sets out in detail the competences of the Banco de España in the macroprudential area

European legislation provides macroprudential instruments through Directive 2013/36/EU (CRD IV) and Regulation EU 575/2013 (CRR), as shown in Table 3.1. The CRR is directly applicable and thus does not require transposition to Spanish law. CRD IV was transposed to Spanish law through Law 10/2014 and Royal Decree 84/2015, which assign competences in macroprudential instruments to the Banco de España. More recently, Banco de España Circular 2/2016 was approved which specifies in more detail these competences, along with reporting transparency requirements and relationships with European authorities.

The countercyclical capital buffer is designed to address the time dimension of macroprudential policy

The aforementioned instruments include most notably the countercyclical capital buffer and the capital buffers for systemically important institutions. The countercyclical capital buffer (CCB) is an instrument introduced in the framework of Basel III to ensure that the banking sector as a whole has an additional capital buffer to help maintain the flow of credit to the economy without the system's solvency being jeopardised in the event of tension in the

1 A general description of the macroprudential policy objectives, instruments and indicators of the Banco de España can be found in Occasional Paper No. 1601 by J. Mencía and J. Saurina.

MACROPRUDENTIAL INSTRUMENTS CURRENTLY AVAILABLE UNDER EUROPEAN AND SPANISH LEGISLATION (a) TABLE 3.1

Instrument	Legal basis	Applicability	Description
Counterciclycal capital buffer (CCB)	CRD:130, 135-140	Obligatory	Additional capital buffer built up in expansions in order to absorb losses in recessions.
Systemically important institutions	CRD: 131	Obligatory for G-SIIs. Optional for O-SIIs.	Additional capital buffer to address externalities caused by global (G-SIIs) and domestic (O-SIIs) systemic institutions alike.
Systemic risk buffer (SRB)	CRD: 133, 134	Optional	Capital buffer to prevent and mitigate non-cyclical systemic risks that are not contemplated in the CRR.
Liquidity requirements under Pillar 2	CRD: 105	Optional	Treatment of systemic liquidity risk through liquidity surcharges.
Other macroprudential uses under Pillar 2	CRD: 103	Optional	Treatment of systemic risks arising from institutions of a similar profile.
Additional measures ("flexibility package")	CRR: 458	Optional	Stricter requirements in capital, conservation buffer, liquidity, large exposures, reporting and risk weightings
Higher risk weightings and stricter credit standards imposed on the real estate sector	CRR: 124	Optional	Capital instruments geared to a specific sector. The reasoning is similar to that of the CCB, but applied to the real estate sector.
Higher minimum LGDs	CRR: 164	Optional	

SOURCE: Banco de España.

a The CRD (Capital Requirements Directive) has been transposed to national legislation, while the CRR (Capital Requirements Regulation) is directly applicable.

financial system brought on by a prior period of excessive credit growth. In this respect, it is an instrument designed to address the time dimension of systemic risks, i.e. those stemming from excessive growth of aggregate credit. This buffer has to be reviewed quarterly.

The buffers for systemically important institutions address the cross-sectional or structural dimension

Capital buffers for systemically important institutions seek to address macroprudential risks in their cross-sectional or structural dimension. Specifically, they are additional capital buffers applicable to systemically more important institutions, both those considered to be of global systemic importance (G-SIIs) and those of systemic importance at the national level (O-SIIs). The aim here is to strengthen these institutions' solvency to make them less likely to fail and thereby reduce any adverse externalities on the overall banking system arising from their failure. Furthermore, this measure should mitigate the moral hazard for managers posed by the size and complexity of these institutions through a capital surcharge with respect to other institutions, while offsetting the potential competitive advantage these institutions may have in the funding market due to their systemic nature. These buffers are to be reviewed annually from 2016 onwards.

The systemic risk buffer allows structural systemic risks to be mitigated by increasing the loss absorption capacity of the system or its components

The other instruments available, the use of which is optional, supplement those described above to cover more fully the potential threats to the system. In particular, CRD IV provides for a systemic risk buffer to prevent and mitigate structural systemic risks by increasing the loss absorption capacity of the system or its components. It is a flexible instrument which can be applied to the banking system as a whole or to a subset of banks. Accordingly, it is also a cross-sectional tool. Additionally, CRD IV also allows a macroprudential use of the Pillar 2 tools available, such as capital surcharges or more transparent reporting.

The CRR introduces additional national discretions for instances in which the previous instruments are not effective

The CRR provides flexibility to impose, at the national level, stricter prudential requirements in a number of instruments, such as the capital conservation buffer, liquidity requirements or large exposures. The CRR also allows risk weights and loss given default (LGD) to be raised for the residential and commercial real estate sectors. These measures should only be applied when the national authority determines that the other instruments available cannot adequately control systemic risk.

3.1 Decisions adopted at end-2015

Systemically important institutions

The Banco de España has identified two globally systemically important institutions for 2016

At end-2015 the Banco de España approved the list of systemically important institutions which will be in force in 2016. In the case of global systemically important institutions (G-SIIs), the Banco de España used the methodology developed by the Basel Committee on Banking Supervision and accepted by the Financial Stability Board (FSB). Specifically, the methodology assesses the systemic importance of each institution by calculating 12 indicators which are aggregated to arrive at a final score. This score is used to identify whether an institution is systemically important and to determine its level, i.e. its position relative to other institutions. This relative position is what finally determines the capital surcharge assigned to each institution. The application of this methodology led Santander and BBVA to be identified as G-SIIs in 2014 with consequences in terms of capital requirements as from 1 January 2016.[2] This list came into force in 2016 because the FSB stipulates that a period of 14 months must elapse between the identification of the G-SIIs and the entry into force of the capital buffers. Both these institutions were identified as G-SIIs in sub-category one, to which a capital buffer of 1% applies.[3] However, this buffer is implemented gradually over a period of four years, so only 25% of the buffer will be required in 2016.

2 BBVA was not identified as a G-SII in the list published by the FSB in November 2015 and, consequently, will not be required to have the capital buffer in 2017.

3 Calculated as CET1 divided by total risk exposure at consolidated level.

CAPITAL BUFFERS FOR SYSTEMICALLY IMPORTANT INSTITUTIONS IN 2016 TABLE 3.2

Institutions	G-SIIs (%)	O-SIIs (%)	Buffer applicable (%)	Buffer required in 2016 (%)
Santander	1.00	1.00	1.00	0.25
BBVA	1.00	0.50	1.00	0.25
Caixabank	—	0.25	0.25	0.0625
Bankia	—	0.25	0.25	0.0625
Popular	—	0	0	0
Sabadell	—	0	0	0

SOURCE: Banco de España.

Six banks were identified as other systemically important institutions

In identifying other systemically important institutions (O-SIIs), the Banco de España applied the guidelines of the European Banking Authority, which propose assessing the systemic importance of institutions by means of the aggregation of a set of 10 indicators. For institutions with scores above the minimum threshold set in the methodology, capital buffers were calculated by a simple mechanism for converting scores into capital which maintains consistency both with the differences between O-SII scores and with the G-SII buffers. It resulted in the identification of six banks as O-SIIs: Santander, BBVA, Caixabank, Bankia, Popular and Sabadell. As with G-SIIs, a period was established for gradual implementation over four years. Thus a requirement of only 25% of the total buffer has been approved for 2016.

The final buffer is the higher of the G-SII and O-SII buffers

Finally, the regulations provide that where a bank is classified as both a G-SII and an O-SII, the higher of the two buffers will apply. Table 3.2 shows the resulting buffers.

Countercyclical capital buffer

The CCB seeks to prevent and mitigate cyclical risks derived from excessive aggregate credit growth

As noted above, the CCB seeks to prevent and mitigate cyclical risks derived from excessive aggregate credit growth. In this respect, the CCB should rise in periods of build-up of systemic risks due to excessive growth of aggregate credit, and should be reduced or deactivated when those risks dissipate or materialise. In line with the provisions of Law 10/2014, Royal Decree 84/2015 and Banco de España Circular 2/2016, the framework for setting the CCB (i.e. its activation, build-up, reduction and deactivation) follows a "guided (or bounded) discretion" approach, where, in addition to qualitative information and expert judgement, specific quantitative indicators are used as a source of guidance of the level of the CCB.

The credit-to-GDP gap is the initial reference indicator proposed by the Basel Committee on Banking Supervision

The initial quantitative reference indicator proposed by Basel III to guide the setting of the CCB, and recognised in the CRD IV and in Spanish legislation, as well as by the ESRB, is the so-called credit-to-GDP gap. In order to guide the setting of the CCB in accordance with this indicator, the Basel Committee on Banking Supervision also proposed a rule or reference threshold. Under this rule, if the credit-to-GDP gap is two percentage points or less, the related countercyclical capital buffer guide or requirement is 0%, and where the credit-to-GDP gap exceeds 2%, the applicable buffer guide increases linearly until it reaches 2.5%, where the credit-to-GDP gap is 10%.[4] The ESRB recommendation on the CCB suggests the possibility of using, in addition to the credit-to-GDP gap, other complementary indicators grouped into different categories, including possible alternative specifications for the credit-to-GDP gap.[5]

4 The Banco de España has discretion to set a countercyclical buffer at a level of above 2.5% whenever justified by the considerations referred to in Rule 9(1)(b) of Banco de España Circular 2/2016.

5 ESRB Recommendation of 18 June 2014 on guidance for setting countercyclical buffer rates (ESRB/2014/1).

Decisions on activating the CCB in Spain are guided by the credit-to-GDP gap, the credit-to-GDP ratio and a set of complementary core indicators

Based on a technical analysis by the Banco de España and on ESRB Recommendation 2014/1 on the CCB, the credit-to-GDP gap was calculated and its suitability for Spain was analysed. In addition to this, it was considered advisable to supplement the information from the credit-to-GDP gap with information on the level of the credit-to-GDP ratio used to construct the reference indicator proposed in Basel III and also envisaged in Banco de España Circular 2/2016, as well as a number of complementary indicators. In particular, four complementary indicators were identified to help guide the activation and functioning of the CCB in Spain: (i) credit intensity; (ii) price gap in the real estate sector; (iii) debt burden of the non-financial private sector (debt service ratio, DSR); and (iv) current account imbalances. In this way, the credit-to-GDP gap, the credit-to-GDP ratio and the four complementary indicators mentioned above constitute the so-called "core indicators" to help guide the activation of the CCB in Spain. Apart from this, as additional support information, various structural versions of the core indicators have been developed in which the long-term trend for the indicators is calculated using an econometric model rather than a statistical filter.

All the indicators have been selected and assessed on the basis of their ability to provide information on the risks which the CCB seeks to prevent and mitigate

The press release published on 21 March 2016 indicates that the position of these indicators is as follows (see Table 3.3).

In line with the primary objective of the CCB, all the indicators were selected and assessed on the basis of their ability to provide information on the creation of systemic risk associated with periods of excessive credit growth.[6] In other words, the historical evidence in Spain shows that sustained increases above certain levels of the selected indicators have generally been associated with periods of excessive build-up of systemic risk due to oversupply of credit at aggregate level, which in turn are liable to produce stress events or banking crises. Given this, the information from these indicators, along with the other significant quantitative and qualitative information, constitutes the reference framework

6 The details of the process of selecting and assessing core indicators for guiding the use of the CCB are described in Castro, C., A. Estrada and J. Martínez, *"The countercyclical capital buffer in Spain: an exploratory analysis of key guiding indicators",* published in Estabilidad Financiera No. 27, Banco de España, 31-59, 2014; and Castro, C., A. Estrada and J. Martínez (2016), *"The countercyclical capital buffer in Spain: an analysis of key guiding indicators",* Banco de España Working Paper No. 1601.

CREDIT-TO-GDP GAP AND COMPLEMENTARY CORE INDICATORS TO GUIDE THE ACTIVATION OF THE CCB IN SPAIN

TABLE 3.3

	Latest value (Sep 2015)	Previous quarter	Average since 1970	Minimum since 1970	Maximum since 1970	Standard deviation since 1970	Average 1999-2008 (a)	Minimum since 1999	Maximum since 1999
1 Credit-to-GDP gap (b)	-57.7	-54.3 (g)	2.1	-57.7	45.4	19.9	30.7	-57.7	45.4
2 Credit-to-GDP ratio	176.6	181.2	116.7	73.4	217.9	48.2	149.0	91.6	217.9
3 Credit intensity (c)	-8.0	-7.9 (g)	10.8	-17.1	35.8	9.9	21.6	-17.1	35.8
4 Prices in the real estate sector (d)	[-27.9 -19.7]	[-30.5 -21.3]	[-5.4 -2.4]	[-43 -31.9]	[22.6 27.8]	[13.3 18.1]	[6.8 13.9]	[-43 -31.9]	[21.7 26.6]
5 Non-financial private sector debt burden (e)	17.2	17.6	18.4	12.0	24.4	2.9	17.7	12.5	24.4
6 External imbalances (f)	1.5	1.2	-2.3	-10.3	3.1	3.0	-6.1	-10.3	2.2

SOURCE: Banco de España.

a The year 1999 marks Spain's joining the euro area; the year 2008 marks the last year before the start of the recent systemic banking crisis in Spain.
b The credit-to-GDP gap is calculated as the deviation of the credit-to-GDP ratio from its long-term trend, using a one-tailed Hodrick-Prescott filter (smoothing parameter equal to 400,000).
c The credit intensity indicator is calculated as the annual difference in credit to the non-financial private sector divided by cumulative GDP of the last four quarters.
d The ranges in each column show minimum and maximum values of a set of indicators of price developments in the real estate sector in respect of their long-term trends, obtained using a one-tailed Hodrick-Prescott filter (smoothing parameter equal to 400,000 in all cases).
e Use is made of the debt service ratio in the non-financial private sector, calculated according to the specification in Drehmann M. and M. Juselius (2012) "Do debt service costs affect macroeconomic and financial stability?", BIS Quarterly Review, September.
f The indicator of external imbalances is calculated as the current account balance divided by GDP.
g These values differ slightly from those published for the quarter in question in the "Briefing note on the setting of buffers for systemic institutions and of the countercyclical buffer for 2016", dated 11.01.2016. This is due to the updating of the GDP data (flash estimates) published by INE.

used by the Banco de España for taking decisions on activation of the CCB in Spain. For illustrative purposes, the content of Table 3.3 is described below using some of the complementary core indicators considered in the analysis.

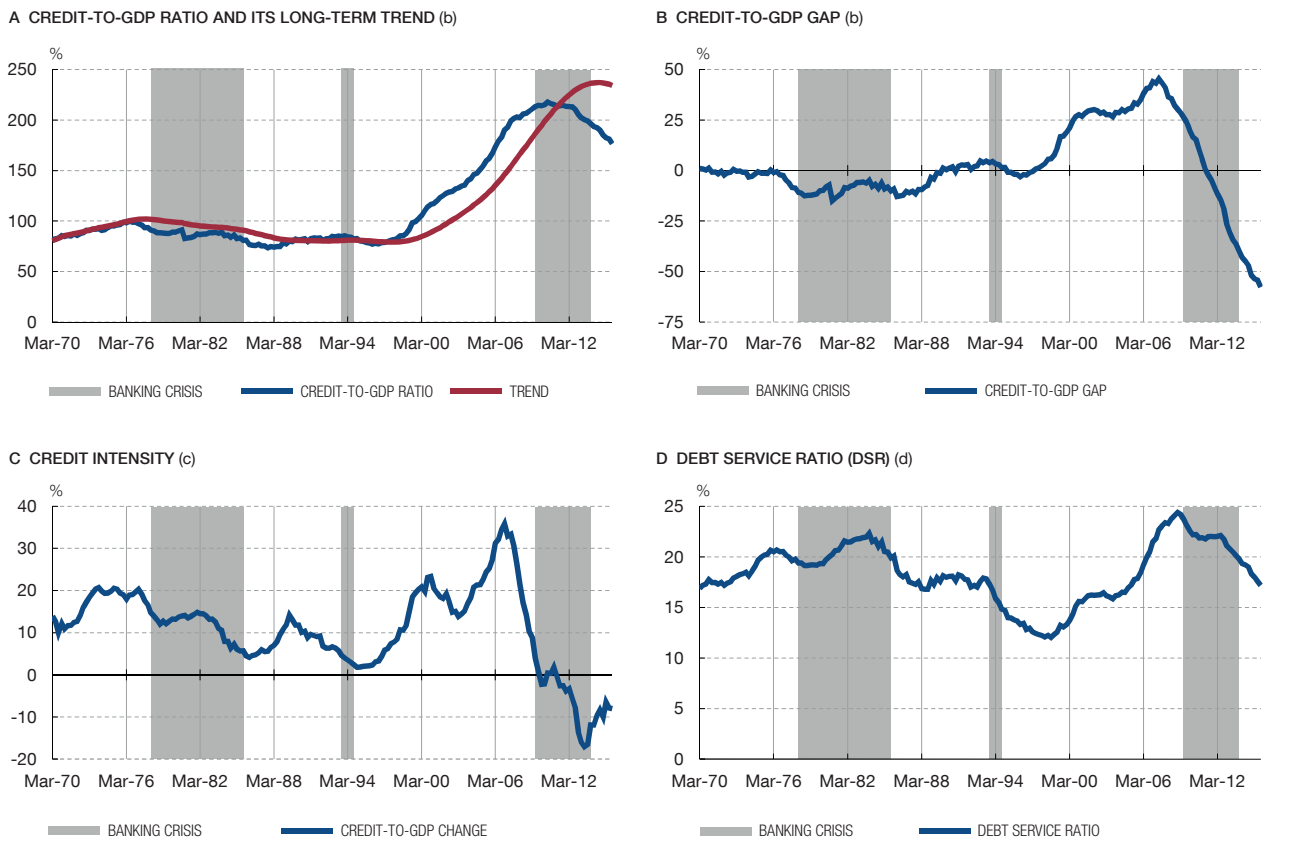
The credit-to-GDP gap seeks to capture information on the excessive credit in terms of output

The credit-to-GDP gap seeks to measure the excess of credit (in terms of output) with respect to its long-term (or equilibrium) level. The credit-to-GDP gap is calculated as the following difference in percentage points: the ratio which results from dividing total credit to the private sector by GDP less the long-term trend of that ratio estimated using a statistical filter (the recursive Hodrick-Prescott filter).

The credit-to-GDP gap lies well below the activation threshold proposed by the Basel Committee on Banking Supervision. Also, the behaviour of the credit-to-GDP ratio is consistent with a gradual correction of accumulated imbalances

The behaviour of the two components of the gap, namely the credit-to-GDP ratio and its long-term trend, is shown in Chart 3.1.A. This chart can be used to assess the behaviour of the credit-to-GDP ratio in the past three financial crises. The blue bars in the chart show three periods of financial crisis identified in Spain since 1960. These consist of two system-wide banking crises (that of the 1970s from 1978 Q1 to 1985 Q3 and the recent crisis from 2009 Q2 to 2013 Q4) and an idiosyncratic event (the Banesto crisis from 1993 Q3 to 1994 Q3). It can be seen that in the periods preceding the crises, the indebtedness of the economy tended to increase. However, the level of indebtedness in the years preceding the last crisis was notably higher than in the previous episodes, with credit rising to levels of 220% of GDP in June 2010. Since then, the credit-to-GDP ratio has decreased on a sustained basis. Currently

COMPLEMENTARY CORE INDICATORS FOR THE ACTIVATION OF THE CCB (a) CHART 3.1



SOURCE: Banco de España.

a Shaded areas show three periods of financial crisis identified in Spain since 1960. These refer to two periods of systemic banking crises (the crisis of the 1970s: 1978 Q1-1985 Q3; and the recent crisis: 2009 Q2-2013 Q4) and an idiosyncratic event (Banesto crisis: 1993 Q3-1994 Q3).
b The trend of the credit-to-GDP ratio is calculated using a one-tailed Hodrick-Prescott filter (smoothing parameter equal to 400,000).
c The credit intensity indicator is calculated as the annual difference in credit to the non-financial private sector divided by cumulative GDP of the last four quarters.
d The debt service ratio is calculated according to the specification in Drehmann M. and M. Juselius (2012) "Do debt service costs affect macroeconomic and financial stability?", BIS Quarterly Review, September.

it still stands at a value near 180% due to the high persistence of this ratio. Consequently, this indicator is consistent with the process of correction of accumulated imbalances and thus does not evidence the need to activate the CCB at this moment. Meanwhile, the initial reference indicator proposed by Basel, the credit-to-GDP gap, stood in clearly negative territory in September 2015, at a value near –58 pp (see Chart 3.1.B), still far from the activation threshold (2 pp) in the guide suggested by Basel, under which capital begins to be required linearly from 2 pp until a level of 2.5% is reached, where the credit-to-GDP gap stands at 10 pp.

The credit intensity indicator seeks to capture information on the acceleration of credit growth

The credit intensity indicator seeks to capture information on the acceleration of credit growth in terms of output during a given period, in this case one year. Hence the indicator is calculated as the annual change in aggregate credit (numerator) divided by the cumulative output for the same period (denominator). This indicator is included under the "measures of credit developments" heading within the group of other indicators (complementing the credit-to-GDP gap) which guide the setting of the CCB indicated in ESRB Recommendation 2014/1.

The credit intensity indicator shows a change in trend but remains in negative territory

Like the credit-to-GDP gap, the credit intensity indicator remained in negative territory in September 2015, albeit with a change in trend from December 2013 (see Chart 3.1.C). Although the behaviour of this indicator seems to be taking it to positive territory as a result of a still-incipient recovery in aggregate credit, the qualitative and quantitative analysis of its behaviour in the periods preceding the three crises in Spain since the early 1970s shows that it is still below the levels signalling excessive acceleration and, therefore, does not suggest a need to activate the CCB at present.

The debt burden indicator seeks to capture information on the private sector's debt servicing ability

The private sector debt burden indicator (debt service ratio, DSR) seeks to capture the degree of debt servicing ability in the private sector along with possible situations of unsustainability in the sector's debt level which point to, among other things, a foreseeable increase in the number of loan write-offs. In addition to this, banks' perceptions of the sustainability of private sector indebtedness incentivise/constrain the availability of credit in good/bad times, thus amplifying the fluctuations in the credit cycle. The DSR is defined as the ratio of interest and principal payments to aggregate disposable income, so it measures the affordability of debt payments with respect to disposable income.[7] This indicator is constructed according to a standard formula for calculating the present value of a fixed-term loan (using the stock of aggregate credit along with an average interest rate and maturity), divided by disposable income. This indicator is included under the "measures of private sector debt burden" heading proposed in ESRB Recommendation 2014/1 on the CCB.

The behaviour of the indicator of non-financial private sector debt service is consistent with a process of gradual and sustained deleveraging in the sector

The level of indebtedness of the private sector has shown a nearly constant decline since the beginning of the recent crisis (see Chart 3.1.D). This is consistent with the process of gradual and sustained correction of the high level of leverage reached in the sector in the run-up to the crisis. In other words, this indicator shows that the sector continues to adjust the imbalances built up and there are no signs that an expansionary phase has been initiated. Consequently, this indicator does not signal that the CCB should be activated.

The signs from all the indicators and information analysed are consistently and uniformly in favour of not activating the CCB at this point in time

Currently all information analysed, including the core indicators, consistently and sufficiently uniformly signals that the CCB need not be activated at this point in time. In this respect, the decision by the Banco de España in the first two quarters of 2016 was to hold at 0% the percentage of CCB applicable to credit exposures in Spain.

7 The indicator used here was proposed for the first time in the context of early warning indicators for financial crises by Drehmann and Juselius (2012) and is currently considered as one of the main reference indicators along with the credit-to-GDP gap.

3.2 Analysis of macroprudential risks

The analysis of indicators can be of great use for detecting risks

The calibration of macroprudential instruments is generally done by means of a series of indicators specific to each instrument, as has been seen for instance with the countercyclical capital buffer. However, a general analysis of indicators may also prove very useful for detecting possible risks to financial stability and to establishing the broad macroprudential policy stance. In this respect, the European Systemic Risk Board recommends linking the intermediate objectives of macroprudential policy to instruments and indicators suited to monitoring possible risks and to guiding macroprudential decisions (ESRB/2013/1 Recommendation C).

The Banco de España has developed a risk monitoring tool that aggregates information on a broad set of indicators

The Banco de España has developed a risk monitoring tool drawing on a set of over 100 macroprudential indicators, the details of which were released in Banco de España Occasional Paper No. 1601. These indicators include information on developments in Spain in respect of credit; the housing market; the structure of liquidity and the maturities of bank assets and liabilities, credit portfolio concentration and NPLs in the banking system; and the situation on financial markets and developments in the real economy. The methodology applied allows this mass of information to be transformed into a heat map, which issues warnings on risks to the financial system and, more specifically, to the banking system. That is to say, it is a tool for viewing possible sources of systemic risks, ideally before they materialise in the form of losses, and for monitoring them over time.

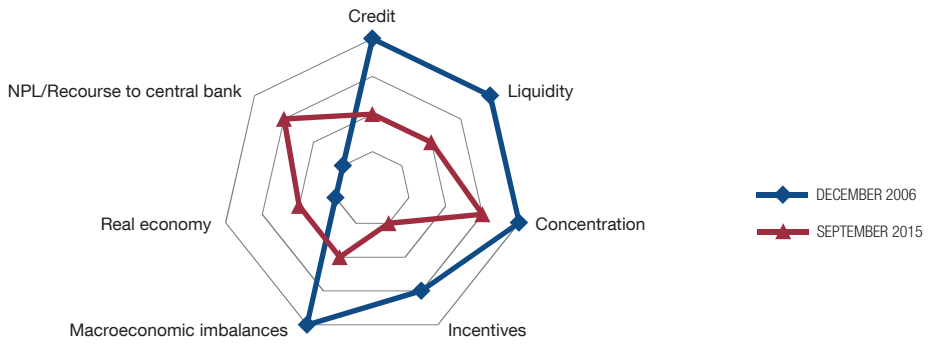
The original indicators bring together a broad dataset. Accordingly, a systematic methodology of analysis is advisable to ensure that the most significant information is extracted. This is done by means of the aggregation of the heat map into a smaller-scale map to make it more useful as a guideline for macroprudential policy, as explained in the aforementioned Occasional Paper No.1601. The aggregation takes into account the capacity of each indicator to warn about banking crises. In particular, the aggregation assigns a greater weight to those indicators that give an early warning about potential risks. Two additional aggregate categories that provide information on the actual conditions of the real economy and of banks at a specific time are also considered. Bearing in mind the position in the cycle at each point in time is important for properly regulating the macroprudential policy stance in terms of the current situation.

Since late 2012, an improvement in the actual conditions of the economy and a gradual correction of the pre-crisis imbalances have been seen

Chart 3.2 depicts the situation as at the latest date available. Medium-level alerts are observed in concentration and in the banking situation. These alerts stem essentially from the pre-crisis imbalances having materialised in the form of higher NPLs. Since late 2012, a gradual improvement in actual conditions has been observed and the current alert level is low. The remaining categories have a low-alert status, in particular, credit and liquidity indicators, which indicates that there is currently no evidence of an acceleration in risks that jeopardise the stability of the Spanish financial system.

HEAT MAP

CHART 3.2



SOURCE: Banco de España.

a The heat map levels are shown graphically. The concentric line closer to the center of the chart refers to a normal situation, while the higher the risk level, the greater the distance to the centre.

4 ANNEX

CONSOLIDATED BALANCE SHEET. Deposit institutions

ANNEX 1

Assets	Dec 2015	Change Dec 2015/ Dec 2014	As % total assets Dec 2014	As % total assets Dec 2015
	(€m)	(%)	(%)	(%)
Cash and balances with central banks	152,305	29.4	3.3	4.2
Loans and advances to credit institutions	202,308	-2.9	5.8	5.5
General government	114,511	-5.8	3.4	3.1
Other private sectors	2,079,502	6.6	54.5	56.7
Debt securities	576,640	-6.8	17.3	15.7
Other equity instruments	48,528	0.2	1.4	1.3
Investments	37,370	3.7	1.0	1.0
Derivatives	175,747	-7.8	5.3	4.8
Tangible assets	52,519	5.9	1.4	1.4
Other assets	226,486	-3.3	6.6	6.2
TOTAL ASSETS	**3,665,916**	**2.5**	**100.0**	**100.0**
Memorandum items				
Financing to private sector	2,192,527	5.2	58.3	59.8
Financing to general government	519,576	-4.5	15.2	14.2
Total NPLs	163,562	-14.2	5.3	4.5
Total NPL ratio	5.40	-126 (b)		

Liabilities and equity	Dec 2015	Change Dec 2015/ Dec 2014	As % total assets Dec 2014	As % total assets Dec 2015
	(m€)	(%)	(%)	(%)
Balances from central banks	204,075	8.8	5.2	5.6
Deposits from credit institutions	351,952	-10.2	11.0	9.6
General government	106,019	4.3	2.8	2.9
Other private sectors	1,951,900	6.0	51.5	53.2
Marketable debt securities	449,727	2.0	12.3	12.3
Derivatives	171,581	-8.0	5.2	4.7
Provisions for pensions, tax and other	35,542	-1.0	1.0	1.0
Other liabilities	127,502	-3.7	3.7	3.5
TOTAL LIABILITIES	**3,398,298**	**2.4**	**92.8**	**92.7**
Memorandum items				
Eurosystem net lending (a)	129,527	-1.2	3.5	3.5
Own funds	247,078	4.6	6.6	6.7
Minority interests	34,566	30.1	0.7	0.9
Valuation adjustments relating to total equity	-14,026	122.4	-0.2	-0.4
TOTAL EQUITY	**267,618**	**4.3**	**7.2**	**7.3**
TOTAL LIABILITIES AND EQUITY	**3,665,916**	**2.5**	**100**	**100**

SOURCE: Banco de España.

a Difference between funds received in liquidity providing operations and funds delivered in absorbing operations. March 2016 data (latest available) and March 2015 data, to maintain the year-on-year comparison.
b Difference calculated in basis points.

CONSOLIDATED INCOME STATEMENT
Deposit institutions (a)

	Dec 2015		Dec 2014	Dec 2015
	€m	% Change Dec 2015/Dec2014	% ATA	% ATA
Financial revenue	118,622	-0.3	3.37	3.25
Financial costs	47,145	-12.3	1.52	1.29
Net interest income	71,477	9.5	1.85	1.96
Return from capital instruments	1,566	-9.4	0.05	0.04
Net financial income	73,043	9.0	1.90	2.00
Share of profit or loss of entities accounted for using the equity method	1,718	-48.0	0.09	0.05
Net commissions	24,531	4.4	0.66	0.67
Gains and losses on financial transactions	10,845	0.0	0.31	0.30
Other operating income (net)	-2,204	.	-0.09	-0.06
Gross income	107,934	6.2	2.88	2.96
Operating expenses	54,211	8.7	1.41	1.49
Net operating income	53,723	3.8	1.47	1.47
Asset impairment losses (specific and general provisions)	24,266	-9.2	0.76	0.66
Provisioning expense (net)	5,778	12.6	0.15	0.16
Other income (net)	-1,251	.	0.08	-0.03
Profit before tax (including discontinued operations)	22,428	-0.8	0.64	0.61
Net income	17,169	-3.5	0.50	0.47
Memorandum item				
Income attributed to the parent institution	13,781	-12.8	0.45	0.38

SOURCE: Banco de España.

a Income statement for all deposit institutions.

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2 Moreover, it is updated daily in the Statistics section.
3 A quarterly update of the tables of this publication is also disseminated on the Internet.
4 Available only on the Banco de España website until it is included in the publication *Circulares del Banco de España. Recopilación.*

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