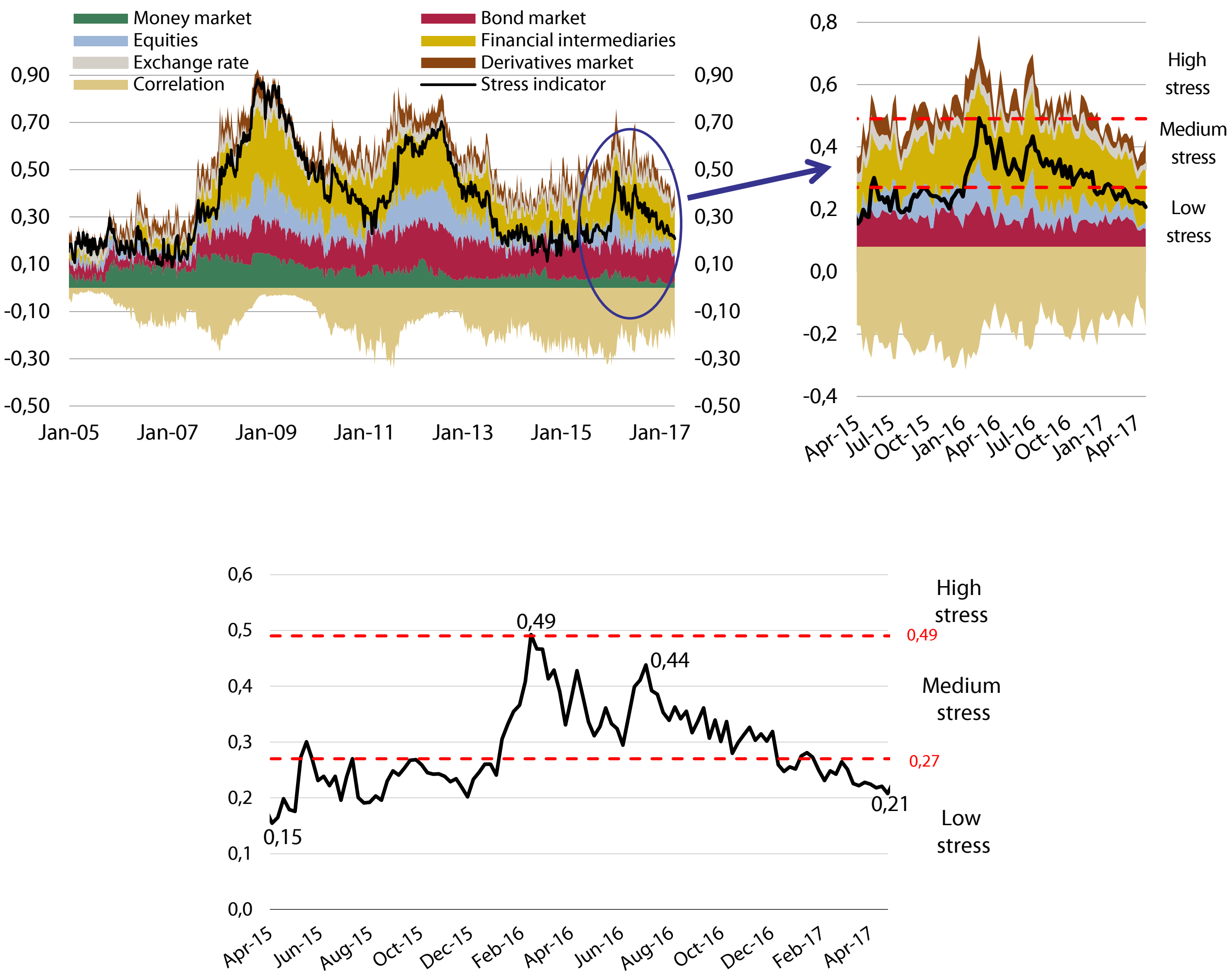
Summary

- ✓ The Spanish financial markets stress indicator stood at 0.21 in mid-April, a level indicative of low stress (figure 1). Stress among financial intermediaries has eased substantially since Q3 2016, but remains the highest of all the segments we watch. Bond market stress, which surged early in the year on the back of high volatility and tightening liquidity after the US elections, has fallen back slightly since March.

Spanish financial markets stress indicator

FIGURE 1



Source: CNMV.

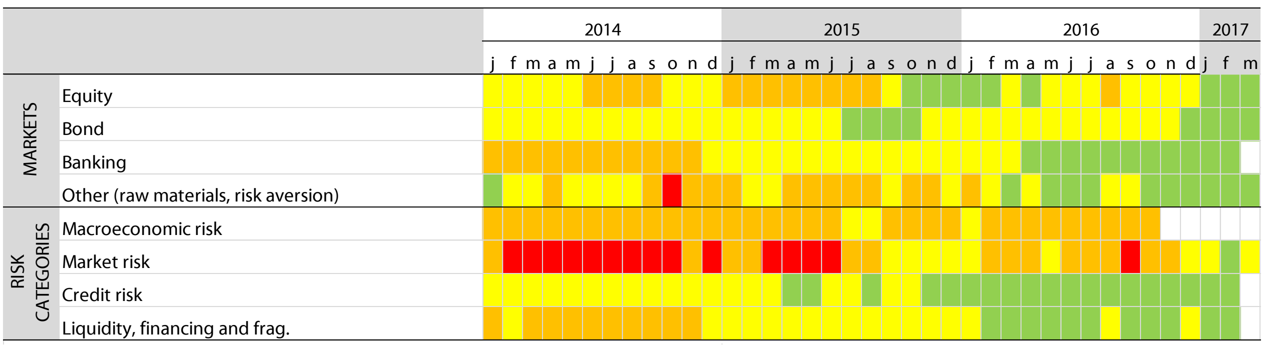
For further details on recent movements in this indicator and its components see CNMV statistical series (market stress indicators), at http://www.cnmv.es/portal/Menu/Publicaciones-Estadisticas-Investigacion.aspx. For the methodology used to compile the indicator see Cambón M.I. and Estévez, L. (2016) A Spanish Financial Market Stress Index (FMSI). Spanish Review of Financial Economics 14 (January (1)), 23-41 or CNMV Working Document no. 60 (http://www.cnmv.es/portal/Publicaciones/monografias.aspx).

- ✓ In the Spanish economy, domestic GDP continues to expand dynamically, amply outstripping the pace of growth in the wider euro zone. Inflation has been pushed up significantly in recent months by the spurt in energy prices and although this effect will fade out over coming months we are unlikely to see a return to 2016 levels. High unemployment and the need to lock in fiscal consolidation remain the key challenges facing the Spanish economy. Also of concern are risks to Spain's banking sector which, like other European economies, is struggling with low interest rates and a growing competitive challenge in some areas of its business.

- ✓ In the financial markets, market risks and, to a lesser extent, liquidity risks are the principal concern, particularly for certain asset classes. Market risk is greatest for fixed-income assets due to the persistence of rock-bottom interest rates. Longer-term yields were rising fairly substantially in the early months of the year, but this movement then tended to reverse following the first round of the French elections. As a result, most debt benchmarks continue to be priced well above their historical averages.

- ✓ The main uncertainties are political in origin. Across the Atlantic, doubts revolve around whether the Fed may revert to normal monetary policy faster than expected and the scale of some of the measures announced by the new US administration. In Europe, meanwhile, doubts continue to focus on Brexit and the negotiation process as well as on elections in various European countries. On this last front, the result of the first round of French presidential elections were welcomed by the financial markets as suggesting the second round will favour continuity for the European project. Finally, we should not lose sight of potential risks to the financial system from international political tensions.

Heat map: summary by market and risk category FIGURE 2



Source: CNMV.
See article in CNMV Quarterly Bulletin Quarter 1 2015. "Identification of vulnerabilities in the Spanish financial system: an application of heat maps".

Sources of risk

Macro-economic environment

- As we said, Spain remains on a positive growth path. End-2016 figures show GDP grew 0.7% quarter-on-quarter in Q4 and 3% year-on-year. Both percentages are well above the euro zone average: 0.5% quarter-on-quarter and 1.8% year-on-year (figure 21). Employment continues to grow fast at close to 3% a year while unemployment ended the year below 19%, significantly down from the 27% peak recorded in the depths of the crisis in March 2013, but still high by historical standards and compared to the wider euro zone. Inflation, which had upticked significantly to 3% in the first two months of the year, fell back to 2.3% in March thanks to a fading year-on-year impact from fuel and electricity prices (figure 22). The underlying rate, which strips out volatile energy and fresh food components, was down by a tenth of a point to 0.9 % (0.7 % in the wider euro zone).

- Restoring the health of public finances remains, alongside reducing unemployment, one of the biggest challenges facing the Spanish economy. Economic growth and lesser political instability are good news for the process of fiscal retrenchment. Budget outcome figures show the government deficit fell to 4.5% of GDP in 2016 (4.3% if financial aid is stripped out), just below the full-year target of 4.6% and more than half a point down on 2015. The breakdown by arms of government shows improvements in budget outturn in all areas except Social Security Funds. The Spanish government is sticking by its deficit forecast of 3.1% of GDP in 2017. The European Commission is forecasting 3.5%. Public sector debt has stabilised at around 100% of GDP[1].

- The IMF report for April, updating its January forecasts, confirms the health of the Spanish economy. The Fund has upgraded its 2017 growth estimate by three-tenths of a point to 2.6% and left the 2018 forecast unchanged at 2.1%. These figures are again better than those for the euro zone (1.7 % in 2017 and 1.6 % in 2018). Nevertheless, the IMF sounds a warning note that it may revise down its forecasts, especially over the medium term, in light of certain risks, including the growth in protectionist sentiment across advanced economies or the possibility of faster than expected US rate hikes.

[1] The 2016 figure is 99.4% of GDP, virtually unchanged on end-2015.

Low interest rate environment

- Despite the slight uptick in long term bond yields, the low interest rate climate and consequent search for yield by investors continues to pose a risk to the financial system. If financial markets hit a period of stress it could set off a chain of asset selling, driving down prices and making it hard to unwind positions, with potential contagion effects for other asset classes.

- Households, according to Public Accounts data for end-2016, have continued to invest more in financial assets increasing total holdings by a net 3.5% of GDP over the year.[2] Their investments were overwhelmingly conservative in character. Continuing the story seen since 2013, there was a substantial outflow away from long-term deposits and debt instruments, still paying meagre returns, and into cash and sight deposits, insurance products and investment funds (figure 27). The biggest inflows were to global and fixed-income funds, while the greatest outflows were from mixed funds (figure 28).

- The European banking industry is still suffering from rock-bottom interest rates and other structural factors, such as heavy volumes of poor quality assets and intensifying competition from the shadow banking sector and fintechs. Nonetheless, the leading Spanish banks have seen the first signs of a trend-change, with a pick-up in demand for loans and a normalisation of provisions taken for floor-clause compensation, allowing them to post Q1 earnings growth of over 10%.

Political uncertainty

- In the US, the emergence of a new economic and financial environment after the change of president is still seen as a major source of risk. Economically, any curbs on trade and migration could be bad news for activity in the medium and long terms as they are likely to depress productivity. International financial markets, meanwhile, are contemplating the risk that the Federal Reserve, which hiked interest rates again to 0.75-1.00% in March, may normalise monetary policy faster than expected if faced with an environment of rising interest rates and inflationary expectations. This risk, coupled with the possibility that the new administration's fiscal stimulus may have to be delayed or scaled back, could trigger short-term spikes in volatility on both fixed-income and equity markets.

[2] Net acquisition of financial assets was 2.2% in 2015 and 0.4% in 2014.

- The euro zone's economic and financial outlook is dominated by two main sources of uncertainty: Brexit and upcoming elections in several European countries. Having formally filed to leave the EU in March, the UK government called a snap election for 8 June, whose outcome could make a hard Brexit more likely. Also important are the French presidential and parliamentary elections in May and June, respectively, as well as the German poll at end-September. As mentioned, in France the first-round outcome in the presidential vote was well-received by markets which read it as good news for EU stability. European stock markets rallied by between 3.8% and 4.8%[3] on the Monday following the first round results and sovereign risk premiums fell back by near 20 bp, in some cases more[4].

- Finally, geopolitical tensions have ratcheted up in the last few months. Deteriorating relations between the great powers or serious adverse events such as an intensification of terrorist attacks around the world or an eruption of military hostilities could have a substantial impact on international financial markets.

Other risks: cyber security

- In the last few years cyber attacks have emerged as a significant threat to the integrity, efficiency and robustness of financial markets. As market data, trading and post-trade processes become ever more digitised this threat can be expected to intensify. Cyber attacks are just one of a number of operational risks but they require specific responses to the specific characteristics of the risk they pose: (i) cyber crime is a complex phenomenon which is changing continuously and fast; (ii) attacks may be very hard to detect; (iii) a cyber attack could bring markets to a standstill with ripple effects for the whole financial system and real economy. One of the key ways to strengthen cyber security is through corporate governance, by fostering corporate cultures with greater commitment to and awareness of cyber security issues.

[3] Banks outperformed the market as a whole, rallying by over 8% in several instances (e.g. in Germany, France and Italy).

[4] On 24 April sovereign credit risk fell by 15 bp in Ireland, 17 bp in Spain and Italy, 20 bp in France and 29 bp in Portugal.

Risk categories

Market risk: yellow

- The Ibex 35 gained 11.9% in Q1 easily beating other European benchmarks and has continued its rally into Q2[5], helped by results from the first round of the French elections. The Ibex 35 is sitting on a YTD gain of 15.1% and has broken 10,700 points, levels unseen since August 2015. Banks, telecommunications firms and motorway operators all outperformed the market's average gain. Advances in the year to April by other European indices ranged from 7.5% for the Italian Mib-30 to 8.7% for the Euro Stoxx 50[6].

- The Ibex 35's P/E increased from 14.3 in mid-December last year to 14.7 in April (historical average: 13.6), as stock prices rose faster than earnings outlooks (figure 4). Meanwhile, short positions fell to 1% of total market capitalisation (figure 3), dropping back from the recent years' high marked in the prior quarter (1.24%). Open short positions were particularly important for Banco Popular and Día.

- Market risk is still greatest for fixed-income assets where long term yields are still being driven up by expectations of a gradual tightening in ECB monetary policy and political risks. The biggest yield rises in Q1 were in the long-term sovereign debt of southern European countries, which were hardest hit by uncertainty about the stability or even viability of the European project. That said, the trend reversed once the first round election results came out in France, triggering falls of 9 bp to 20 bp in long-dated sovereign yields across most economies. Rises in yields on corporate credits were more modest in Q1 as ECB purchase programmes helped keep down prices[7] even though the Bank has now started to wind down part of these programmes[8]. The ECB had acquired EUR 175,947 million of Spanish public sector debt in March[9].

[5] Up 2.9% in the period to 24 April.
[6] In the year to 24 April the German benchmark gained 8.5% and the French 8.4%.
[7] In the year to 21 April the ECB bought EUR 81,044 million of European corporate debt, 14% of it direct from the primary market.
[8] Since April, the ECB has cut monthly debt purchases from EUR 80 billion to EUR 60 billion
[9] Representing 17.8 % of the Spanish state's long-term debt issuance.

Credit risk: green

- Spanish corporate issuers risk premium remained fairly stable in Q1 2017, with only slight increases for financials, still labouring under the same problems as their European peers. At the end of March, financial issuers were paying an average risk premium of 139 bp, compared to 86 bp for non-financial issuers (figure 12). The risk premium on Spain's 10Y sovereign bond (measured as the spread over yields on Germany's 10Y *bund*) widened significantly in the early months of the year as political uncertainties beset the EU, boosting the Spanish risk premium to 150 bp on the eve of the French first-round electoral results. Risk premiums fell to 127 bp (figure 11) as soon as the results were known, a movement mirrored to a lesser extent for corporate issuers.

- Loans outstanding to households and companies have been declining less sharply over recent months. Lending to households was down by 1.3% in February (year-on-year) as a 4.7% expansion of consumer credit (year-on-year) partly offset the 3% fall in mortgage loans. The corporate loan book contracted by 1.1% in February, held back by persistently low demand for credit by SMEs while large corporates continue to switch part of their bank borrowings for bond finance or refinance current loans on better terms[10]. In general, the dynamic economy is good for new lending but many companies are continuing to deleverage and this means the total of loans outstanding continues to shrink.

Liquidity, financing and fragmentation risk: green

- Fixed income issuance filed with the CNMV in Q1 totalled EUR 25,135 million, 38.3% down on 2016 with mortgage covered bonds particularly thin in volume held back by falling mortgage loan books. In contrast, debt issuance abroad by Spanish companies rose considerably compared to the first two months of the year. In Europe's corporate debt markets, issuance declined as the year advanced[11] and much of it went to refinance existing borrowings on better terms. In equity markets, there were three IPOs in Q1 2017, the first since Q2 2016. The three share offerings were by Prosegur Cash, Neinor Homes and Gestamp Automoción. Together, they raised a total EUR 2,329 million of capital.

[10] In the euro zone, overall loans continued to increase: 1.8 % for companies and 2.4 % for households (February figures).

[11] According to Dealogic, European issuance to 13 January was EUR 398,400 million, up 1.2 % on the same period 2016. Of this, EUR 28,300 million was by Spanish issuers.

- Average daily trading volumes in the continuous market revived slightly in Q1 to EUR 2,408 million (figure 17) marking two consecutive quarters of growth, though volumes are still down 23% year-on-year. Trading of Spanish shares off from their home markets continued to account for more than 30% of total trading in Spanish shares (30.7% in Q1).
- Liquidity indicators (measured as bid-ask spreads) improved slightly in Q1 for the Ibex-35 but steepened their decline for the Spain's 10Y sovereign *bond*, mirroring the story in other European economies which were prey to similar uncertainties.
- The spread on yields demanded by investors between corporate loans in Spain and in the rest of the euro zone narrowed further to 14 bp for loans of less than a million euros but rose slightly in the more-than-a-million bracket to 47 bp.

Contagion risk: yellow

- The median correlation between the prices of different classes of Spanish financial asset fell in Q1 2017, continuing the trend seen in the second half of 2016, as equity prices trended upward while debt prices declined. The delinkage persisted in April taking the correlation to its weakest since 2009 (figure 29). At the same time, the gap between maximum and minimum correlation continued to widen as the lower bound fell. Such lower correlations make it easier to diversify portfolios and reduce the risks of contagion between asset classes.
- As figure 30 shows, the correlation between the yield on Spanish sovereign debt and that of other European governments, including both the strongest and peripheral economies (other than Greece), fell considerably in the first few months of 2017 and plunged sharply in April. There was considerable divergence among the core countries and, at the start of Q2, close correlations between yields on the *bono* and French or Belgian debt (around 0.80 in line with correlations to some peripheral bonds such as the Italian), while correlation to the German *bund* was lower (0.45). These trends are attributable in part to political uncertainty in April ahead of the first round of the French presidential elections which exaggerated the *bund*'s safe haven appeal.

Market risk: yellow

Figure 3: Short selling

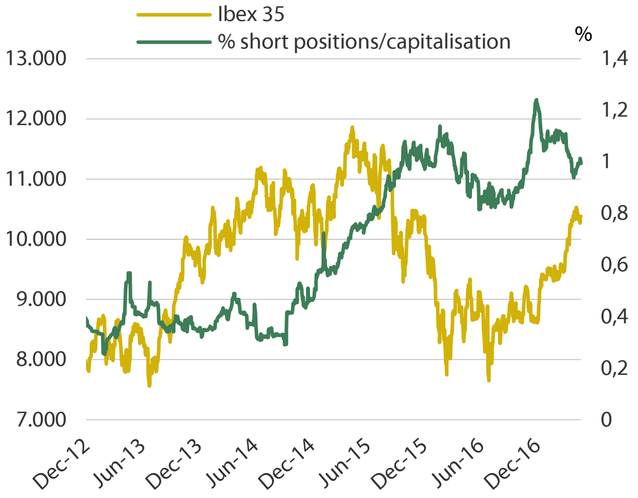


Figure 4: Price earnings ratio (P/E)

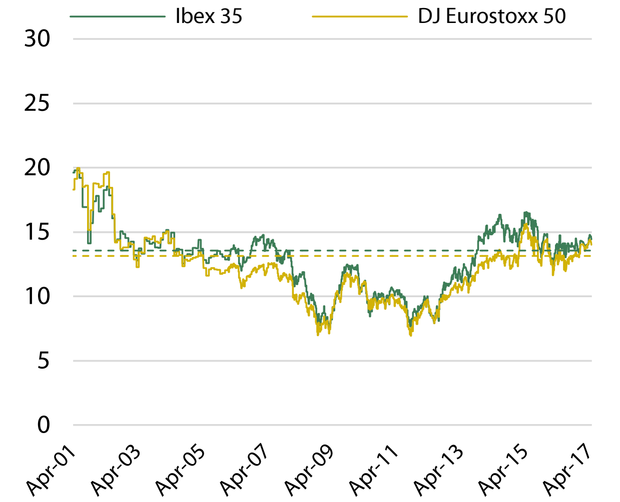


Figure 5: Short-term interest rates (3m)

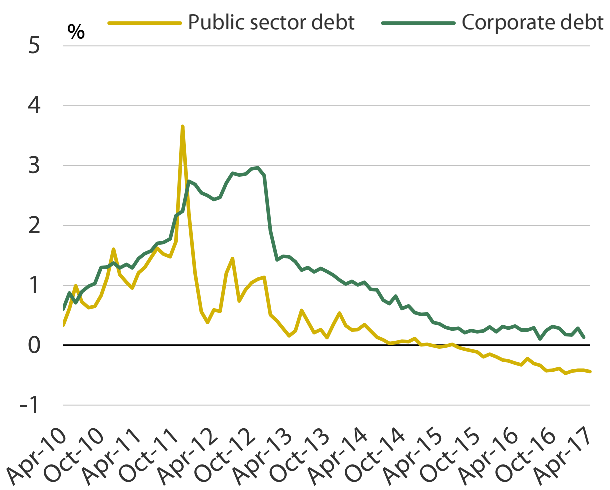


Figure 6: Long-term interest rates (10Y)

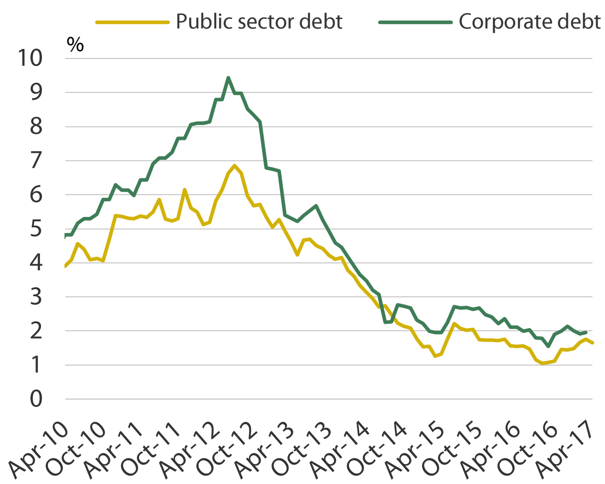
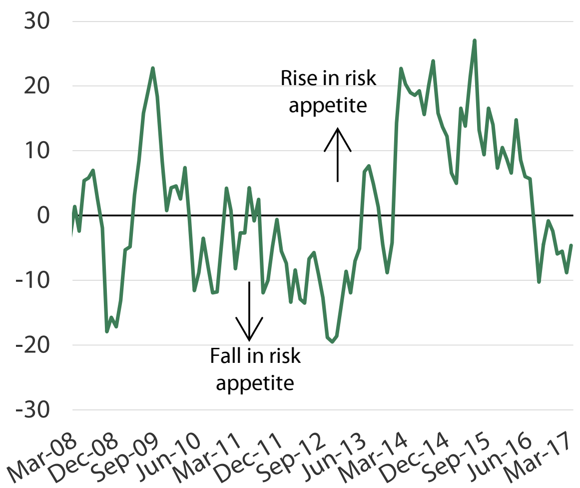


Figure 7: Oil price

Figure 8: Risk appetite (State Street)



Credit risk: green

Figure 9: Financing of non-financial sector

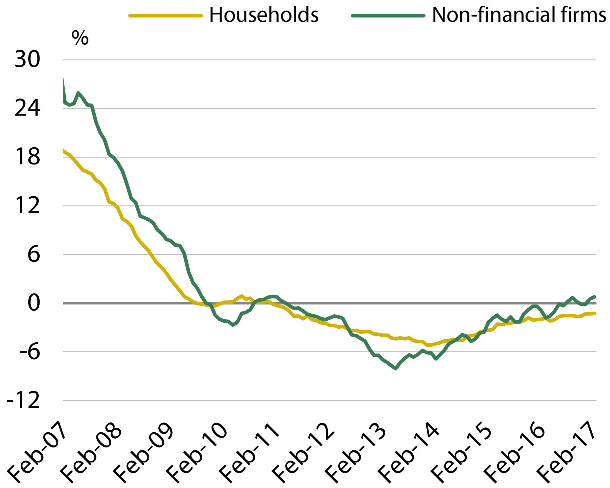


Figure 10: NPLs and unemployment

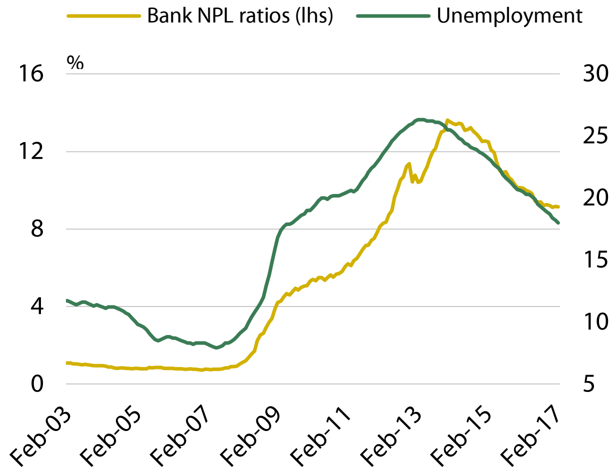


Figure 11: Risk premium on 10Y sovereign debt (spread to German yields)

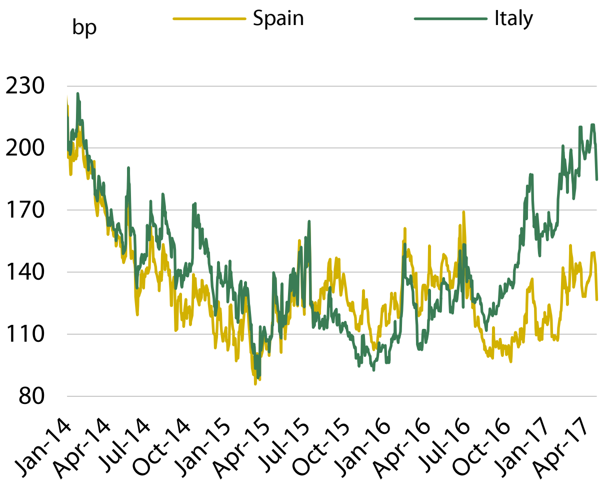


Figure 12: Risk premium on private debt (5Y CDS)

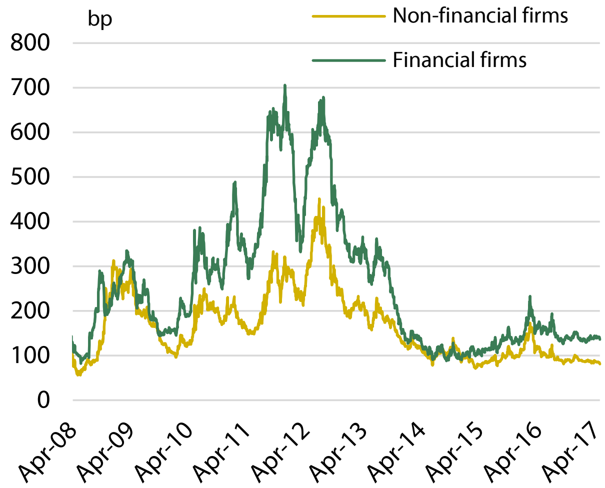


Figure 13: Residential prices (year-on-year change)

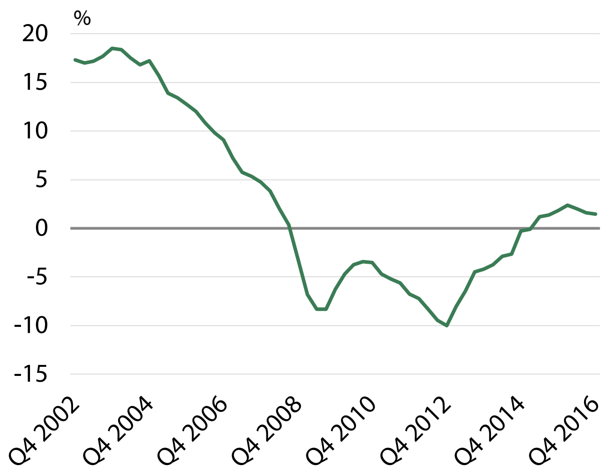
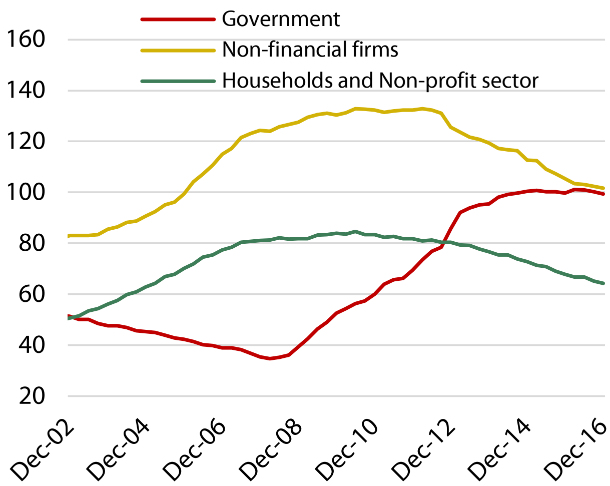
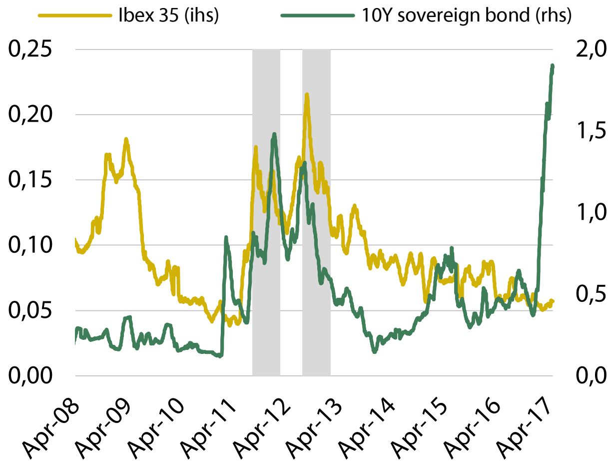


Figure 14: Borrowing (% GDP)



Liquidity, financing and fragmentation risk: green

Figure 15: Liquidity (bid-ask spread, %)



The shaded area shows periods when short-selling was banned.

Figure 16: Volatility (1m moving average)

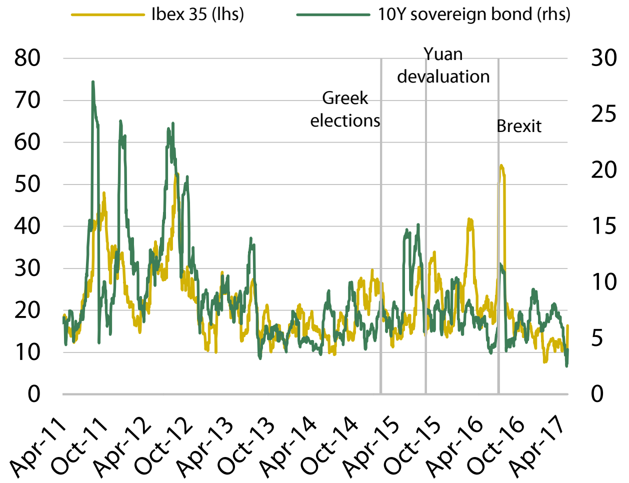


Figure 17: SIBE trading (1m moving average)

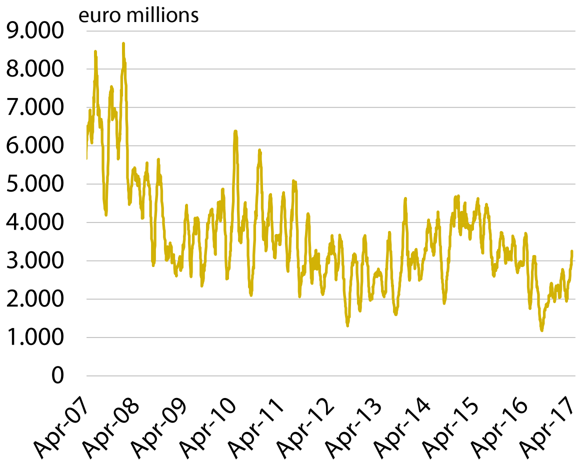


Figure 18: Interbank spread (LIBOR-OIS)

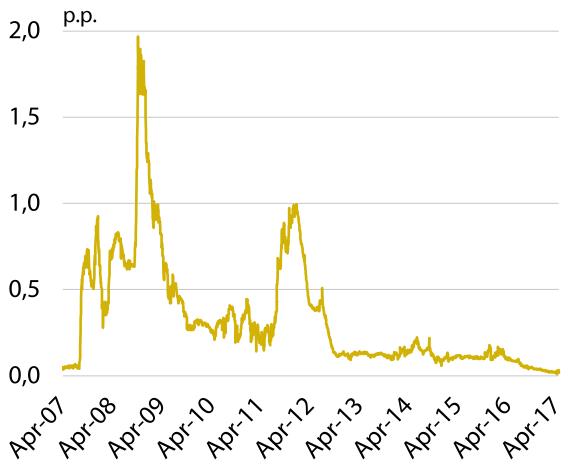


Figure 19: Spain-EU spread on corporate credit rates

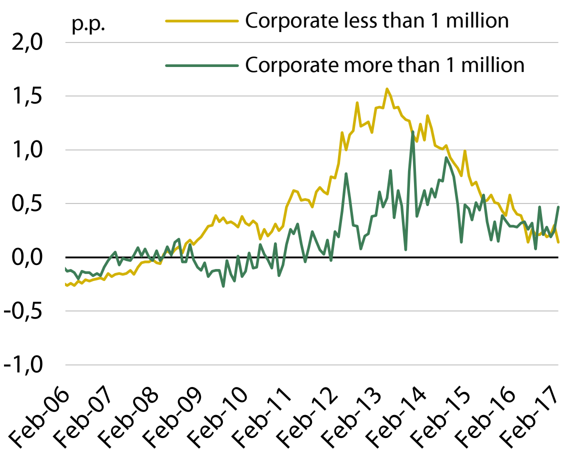
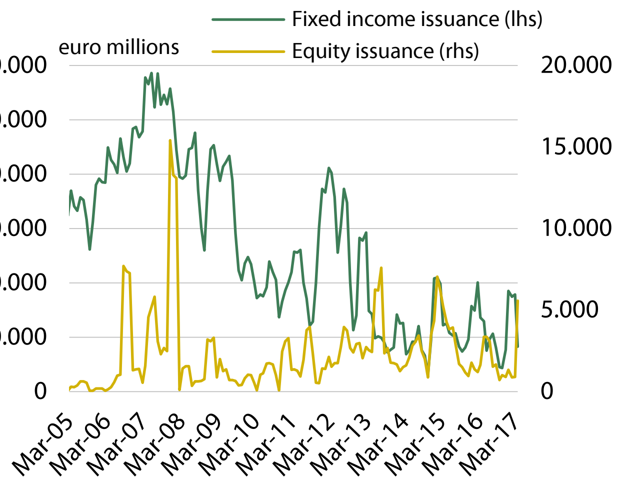


Figure 20: Issuance (3m moving average)



Macro-Economic Risk: yellow

Figure 21: GDP (year-on-year change)

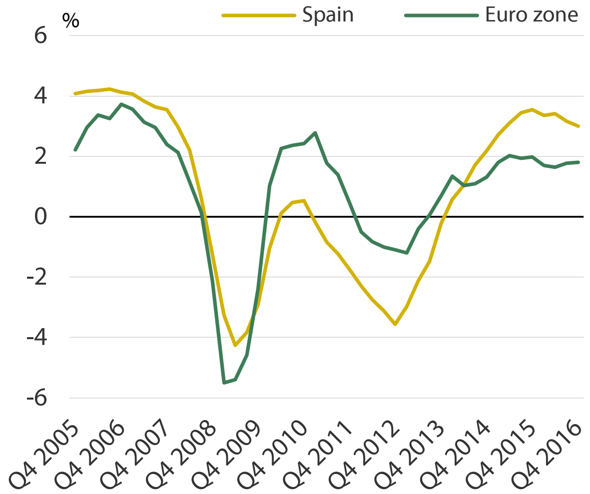


Figure 22: HICP and underlying CPI (year-on-year change)

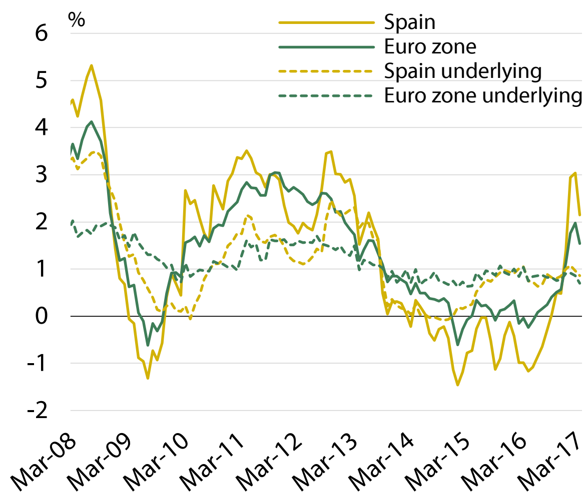


Figure 23: Employment (year-on-year change)

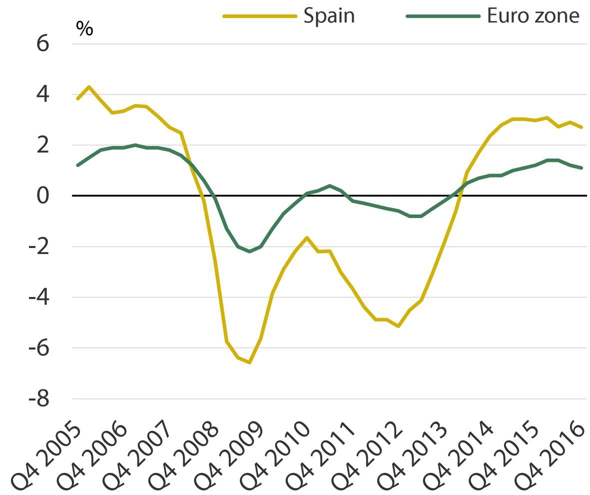
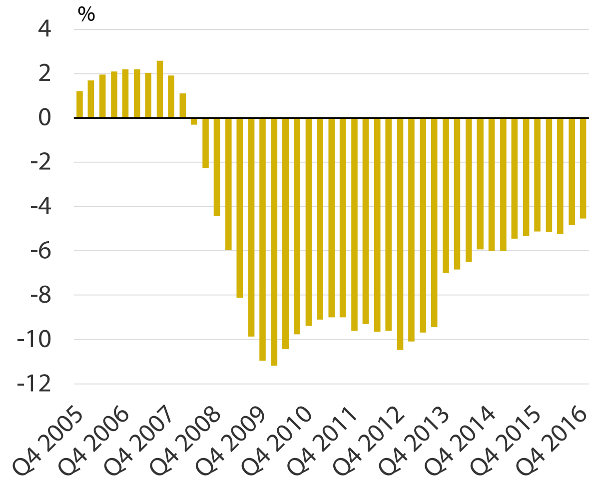


Figure 24: Public sector budget (% GDP)



Cumulative 4-quarter data.

Figure 25: Exchange rates

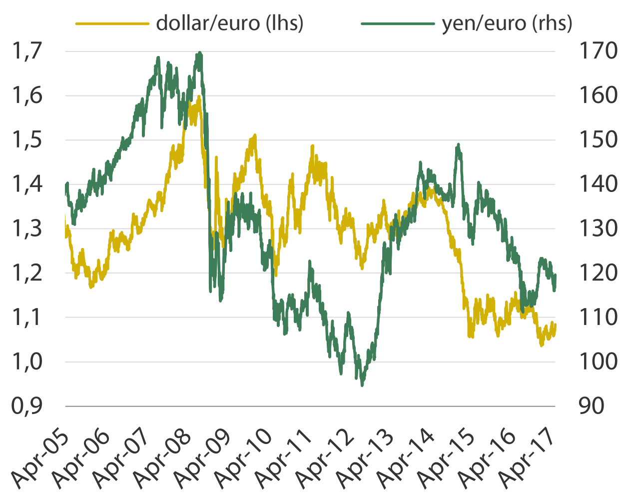
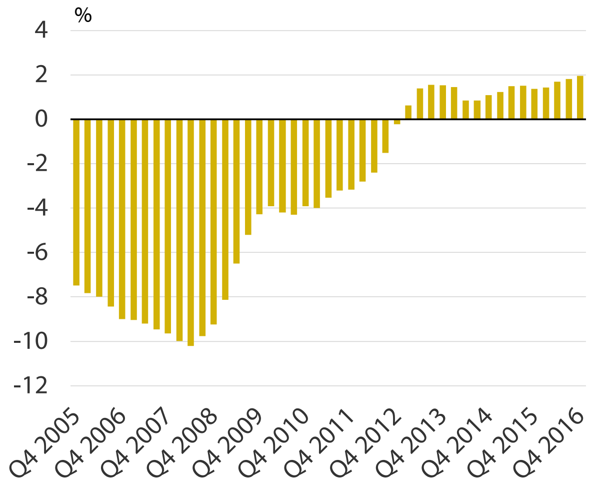
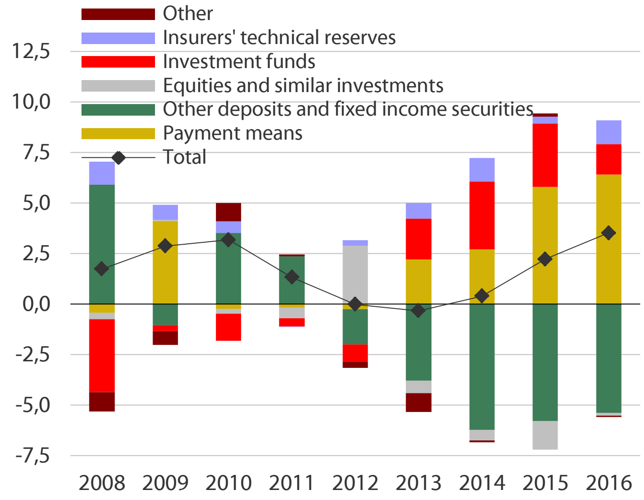


Figure 26: Current account balance (% GDP)



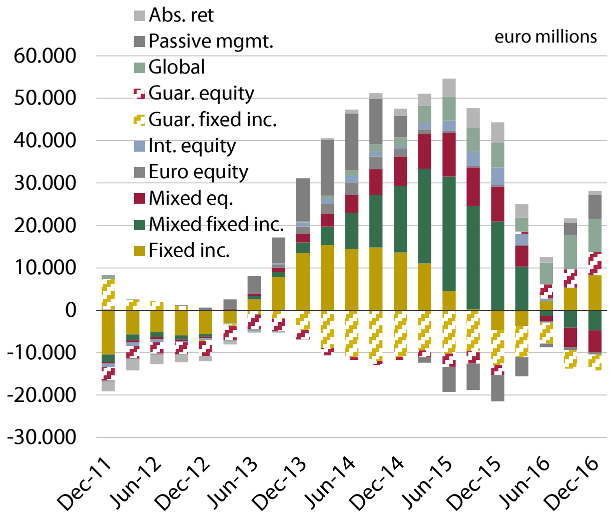
Investors

Figure 27: Households: net acquisition of financial assets (% GDP)



Cumulative 4-quarter data.

Figure 28: Net subscriptions to funds



Cumulative 4-quarter data (EUR millions).

Contagion risk:

Figure 29: Correlations between asset classes

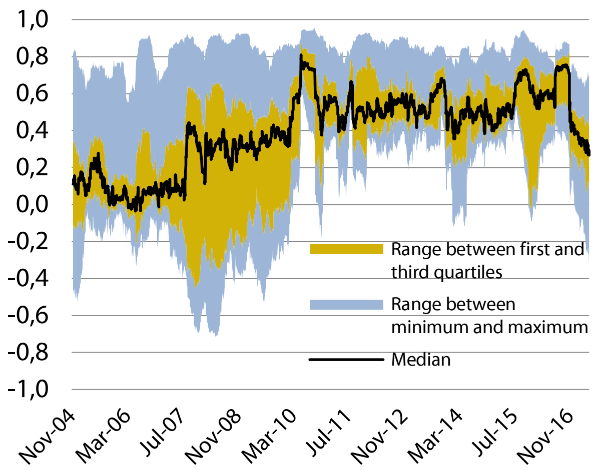
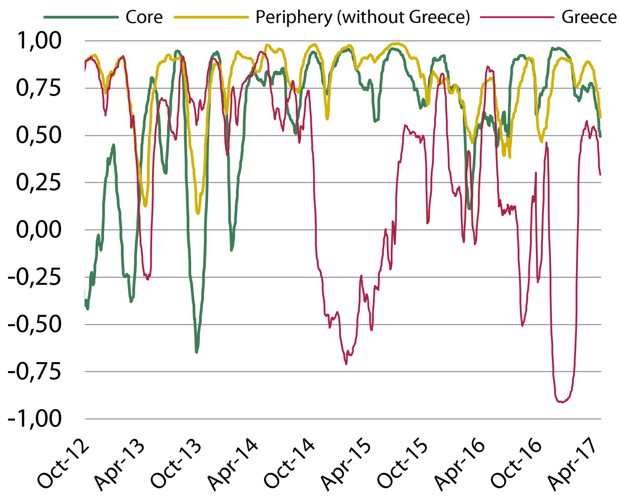
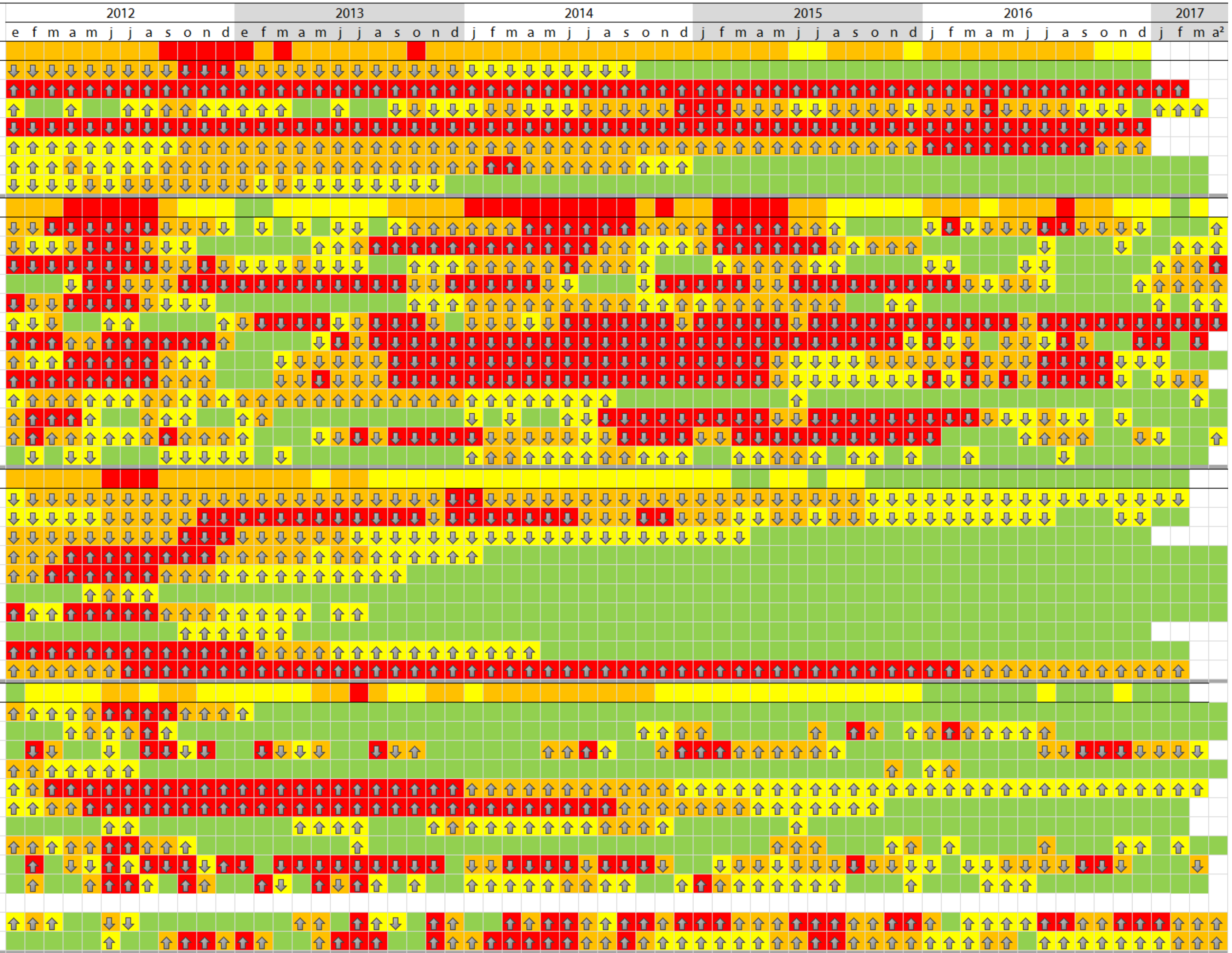


Figure 30: Correlation between yields on the Spanish and other European 10Y bonds



Heat map: risk categories

	INDICATOR	Reference intervals[1]
MACRO RISK	**Macroeconomic risk**	
	GDP (% a.c.)	fixed_1t
	Unemp. rate (% active population)	fixed_1t
	CPI (% a.c.)	fixed_2t
	Public deficit (% GDP)	fixed_1t
	Public debt (% GDP)	fixed_1t
	Competitiveness indicator	fixed_2t
	Economic sentiment index	fixed_1t
MARKET RISK	**Market risk**	
	Ibex 35	p_3Y_2t
	Medium Caps Index	p_3Y_2t
	Small Caps Index	p_3Y_2t
	FTSE Latibex All-Share Index	p_3Y_2t
	P/E ratio Ibex 35	p_h_2t
	ST interest rate 3m public debt (%)	p_3Y_2t
	Interest rates 3m commercial paper (%)	p_3Y_2t
	LT interest rate 10Y public debt	p_3Y_2t
	LT 10Y private fixed-income interest rate (%)	p_3Y_2t
	Steepness of 10Y-1Y curve (bp)	fixed_1t
	Oil price (US$/barrel)	p_3Y_2t
	Gold price (US$, 31/12/1969=100)	p_3Y_2t
	Risk aversion indicator	fixed_2t
CREDIT RISK	**Credit risk**	
	Lending-households (% a.c.)	fixed_2t
	Lending-non-financial companies (% a.c.)	fixed_2t
	Property prices (% a.c.)	fixed_2t
	Risk premium sovereign debt bond (bp)	fixed_1t
	CDS sovereign debt bond (bp)	fixed_1t
	CDS non-financial sector (bp)	fixed_1t
	CDS financial sector (bp)	fixed_1t
	Changes standards credit supply (%)	fixed_2t
	Credit/deposits ratio	fixed_2t
	NPL ratio (%)	fixed_1t
LIQUIDITY AND FRAGMENTATION RISK	**Liquidity, financing and fragmentation risk**	
	Bid-ask spread Ibex 35 (%)	p_3Y_1t
	Volatility Ibex 35 (%)	p_3Y_1t
	Trading SIBE (daily average, € m)	p_3Y_2t
	Interbank spread (LIBOR-OIS) 3m (bp)	p_3Y_1t
	Lending from the Eurosystem (€ m)	fixed_1t
	Spr. Int. Rt. Bus. Cred. Sp-EMU, <1m (%)	fixed_1t
	Spr. Int. Rt. Bus. Cred. Sp-EMU, >1m (%)	fixed_1t
	Volatility public debt price (%)	p_3Y_1t
	Gross fixed-income issues (€ m)	p_h_2t
	Equity issues (€ m)	p_h_2t
	Correlation int. rate 10Y public-debt bond	
	with Euro bonds: Germ,Fr,Holl,Bel	corr_3m_2t
	with Euro bonds: It,Por,Gre,Ire	corr_3m_2t



(1) Reference intervals could be: (i) "fixed": predetermined numerical tresholds, one (1t) or two-tailed (2t); (ii) "corr_3m": 3 months windows correlation coefficients; (iii) "p_3Y": percentiles obtained from 3 past years distribution, one (1t) or two-tailed (2t) or (iv) "p_h": percentiles obtained from historical distribution. (2) Data until April 18th. Source: CNMV and Thomson Datastream.

Explanatory notes

Spanish financial markets stress indicator (figure 1): The stress indicator provides a real-time measure of systemic risk to the Spanish financial system in a range between zero and one. It works by evaluating the level of stress in six segments of the financial system (equities, fixed income, financial intermediaries, money markets, derivatives and the forex market) and aggregates the results into a single figure. Stress in each segment is gauged using cumulative distribution functions and the subsequent aggregation is adjusted to allow for cross-segment correlations, so that the indicator gives greater weight to stress situations where correlations are high. The stress variables used for each segment (three in each) are typically volatilities, risk premiums, liquidity indicators and sharp falls in value. These accurately represent the characteristics of market stress. Economometric estimates suggest that indicator values below 0.27 correspond to periods of low stress in the financial system, while values between 0.27 and 0.49 correspond to intermediate stress periods and anything above 0.49 indicates high stress. The methodology used follows that proposed in Holló, Kremer and Lo Duca's 2012 study of a similar indicator for the euro zone. For further details on recent movements in this indicator and is components see CNMV statistical series (Market stress indicators), at www.cnmv.es/portal/Menu/Publicaciones-Estadisticas-Investigacion. For further information on the methodology used to compile the indicator see Cambón M.I. and Estévez, L. (2016) A Spanish Financial Market Stress Index (FMSI). Spanish Review of Financial Economics 14 (January (1)), 23-41 or CNMV Working Document no. 60 (www.cnmv.es/portal/Publicaciones/monografias).

Heat map: summary by market and risk category (figure 2 and final appendix). The heat maps included in this report show the monthly change in the indicators most relevant to the Spanish financial system over recent years. They contain information on Spain's securities markets, banking sector and some macro-economic indicators. The purpose of such maps is to show where the indicators are compared to their recent history (usually the last three years) or with respect to pre-set limits. This is represented by different colours. The change in an indicator from green to hotter colours (orange or red) does not necessarily indicate a risk, but rather a movement toward an extreme value (very high or very low) for the period measured or relative to the benchmark range of values. If an indicator remains at an extreme value for a prolonged period it may suggest more detailed analysis is needed, i.e. it can be taken as a warning sign. The bigger heat map (see page 13) includes 42 indicators of which five are calculated by the CNMV. The multitude of indicators included makes it possible to analyse vulnerabilities by each segment of the financial markets (equities, fixed income, banking, etc.) or risk category (macro, market, liquidity, credit, etc.) as shown in figure 2. For further details on the methodology and analysis of these maps see the article "Identification of vulnerabilities in the Spanish financial system: an application of heat maps", in the CNMV Quarterly Bulletin for Q1 2015.

Short positions (figure 3): Data for aggregate net short positions is the sum, at the reference date, of individual declared positions of at least 0.5% plus the total of positions of between 0.2% and 0.5%. The series only includes positions that had been declared at the date in question and are not recalculated to take account of any subsequent changes or exceptional inclusions of notifications prior to each calculation date.

Contagion risk: the indicators making up this block are somewhat more complex: We explain the most important indicators below:

- Correlation between asset classes (figure 29). Correlations between the asset pairs are calculated using daily data in three-month windows. There are six asset classes: sovereign debt, financial firms' corporate debt, non-financial firms' corporate debt and Ibex 35 stocks of financial firms, utilities and other sectors. A high correlation between the various Spanish asset classes would suggest gregarious behaviour by investors. This could tend to increase volatility during periods of stress. It would also mean reduced benefits from diversification as, in these circumstances, it would be harder to escape exposure to sources of systemic risk.

- Correlation between yields on the Spanish bond and other European 10Y bonds (figure 30). The correlation is calculated using daily data in three-month windows. Core countries are Germany, France, the Netherlands and Belgium. Peripheral countries are Portugal, Italy, Greece and Ireland.