CNMV
Comisión Nacional del Mercado de Valores

Financial Stability Note

No. 12 October 2019

Financial Stability Note
No. 12 October 2019

The Financial Stability Note is framed within the tasks that the CNMV carries out to monitor financial stability conditions in the areas it supervises. In particular, the Note assesses the stress level of domestic securities markets during the last quarter, identifies changes in the level of different financial risks and identifies the major sources of risk.

The CNMV distributes its reports and publications via the Internet at www.cnmv.es.

ISSN (digital edition): 25030-7827

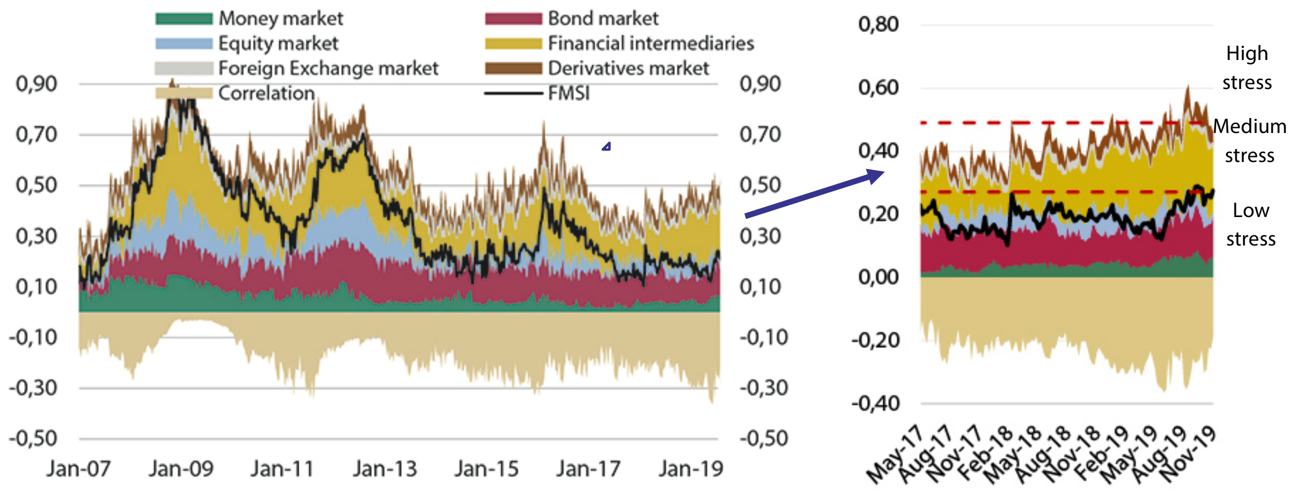
Layout: Comisión Nacional del Mercado de Valores

Summary

✓ Since the last financial stability note, published at the end of July, in which we reported an incipient upward shift in the trend of the Spanish financial markets stress index as a result of existing uncertainties, we have seen a consolidation of this trend.[1] Thus, the indicator reached the threshold separating the low from the medium level of stress in August and has hovered around that point since then (latest figure: 0.28). The trend of this indicator is explained both by the persistently high level of stress in the financial intermediaries (banks) and debt segments and by isolated upticks in the level of stress in other less significant segments, which have increased the degree of correlation in the system. In fact, the indicator that approximates this degree of correlation among the different parts of the financial system is now at its highest level since the summer of last year.

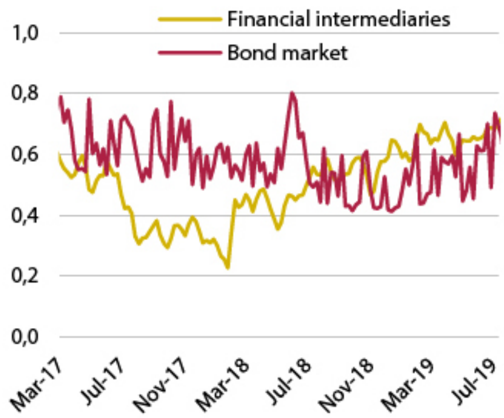
Stress indicator of the Spanish financial markets

FIGURE 1



Total stress indicator

Stress indicators in the financial intermediaries and bond segment



Source: CNMV. For more detail on the recent evolution of this indicator and its components, see the statistical series of the CNMV (Market stress indicators), available at http://www.cnmv.es/Portal/Publicaciones/SeriesWeb/Inicio .aspx? codrama = 1295 . For more information on the methodology of this indicator, see Cambón, M.I. and Estévez, L. (2016). "A Spanish Financial Market Stress Index (FMSI)". *Spanish Review of Financial Economics,* Vol. 14, No. 1, pp. 23-41 or as CNMV Working Document No. 60 (http://www.cnmv.es/DocPortal/Publicaciones/MONOGRAFIAS/Monografia_60_en.pdf).

---

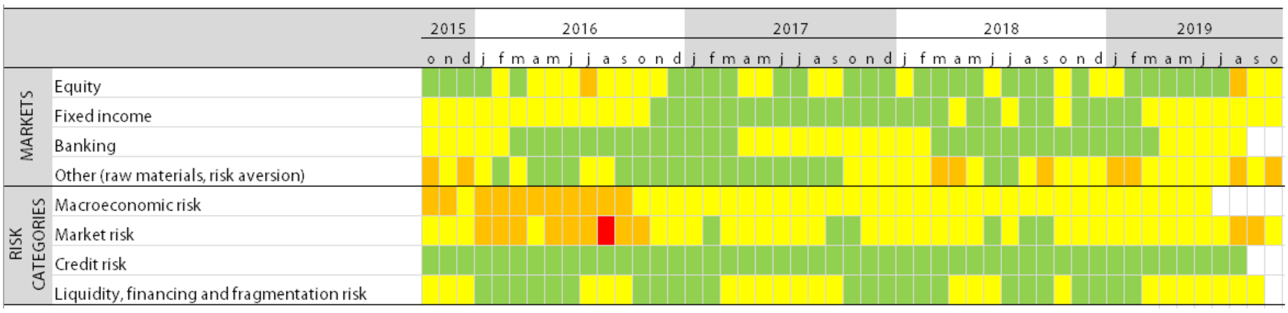
[1] The closing date of this note is 31 October, except for the stress indicator which includes 1 November and certain other specific data.

- ✓ The Spanish macroeconomic context is characterised by a slowdown in activity caused by restrictions on trade and the presence of several sources of uncertainty. In this context, inflation has fallen sharply in the year to rates close to zero and employment has continued to increase, albeit at rates lower than those observed in previous years. The public deficit is slightly up on last year's figures, while the level of public debt is largely unchanged, remaining somewhat below 100% of GDP. On a favourable note, the Spanish economy, despite the slowdown, continues to grow at a faster pace than the euro area as a whole. However, it faces numerous sources of uncertainty, both external and internal in origin, which may eventually have a significant impact on savings and investment decisions made by agents in the medium and long term.

- ✓ The evolution of domestic financial markets in the year has been affected by this environment and, in particular, by the renewed expansionary tone of monetary policy, which has given rise to a new scenario of very low rates for a prolonged period (*lower for longer*). In equity markets, the Ibex 35 shows an increase in the year of 8.4%, well below the progress of other European benchmarks that are around 20% in most cases. The decline in trading volumes in the market also continues, in a context of low volatility and slight deterioration of liquidity. In fixed income markets, yields remain at very low levels, in many cases at historical lows, as do risk premiums. In the sovereign debt segment, rates are in negative territory up to six years and the yield on ten-year bonds was close to 0.2% at the end of October. There was a notable increase in fixed income issues, both those registered with the CNMV (22%) and abroad (11.5%).

- ✓ In addition to the deterioration of macroeconomic risk, other financial risks such as market and liquidity risks, especially as regards fixed income assets, can be discerned. These risks have been accentuated as a result of the prolongation of the environment of very low interest rates, which, in addition, will continue to encourage search-for-yield strategies and agents' indebtedness. In this context, the materialisation of some of the uncertainties present could lead to increases in risk premiums and, consequently, to losses in value of assets and negative effects in financial markets, with the risk of contagion.

Heat map: summary by markets and risk categories[1] FIGURE 2



Source: CNMV. See article Cambón, M.I. (2015). "Identification of vulnerabilities in the Spanish financial system: an application of heat maps". *CNMV Quarterly Bulletin*, Quarter I, pp. 109-121.
1 Data to 31 October.

Sources of risk

Macroeconomic environment

- During the third quarter of 2019, Spain's GDP continued to grow, although at rates slightly lower than in previous quarters, as there was an increase of 0.4% at a quarterly rate and 2.0% at an annual rate[2] (Figure 21). This slowdown, however, is much less intense than that of other economies in our environment: the growth rate of the euro area as a whole in the second quarter of this year was 0.2% at a quarterly rate and 1.2% in annual terms. In line with this behaviour, employment continued to grow, although at a much slower pace than in previous years, which is reflected in the latest data on the number of employed persons, corresponding to the third quarter of the year, which increased by 1.77% in annual terms, to 19.9 million. The unemployment rate, meanwhile, stood at 13.9% of the labour force at the end of September, with the number of unemployed persons falling by 16,000 in the quarter (112,000 in the previous year).[3]

- The advance inflation indicator for October shows a panorama in which prices are largely unchanged, with an increase of 0.1% year-on-year, inflation having gradually eased since April, when it stood at 1.5% (Figure 22). The main cause of this decline (with data to September) has been the decrease in the annual rate of change in energy prices, which has gone from highs of +5.6% in March to annual lows of -6.6% in September. Core inflation on the other hand, which excludes the most volatile elements (energy and fresh food) and which had fluctuated since the beginning of the year between 0.7% and 0.9%, was at 1.0% at the end of the third quarter, 0.1 pp higher than at the end of 2018 (Figure 22). Regarding the inflation differential with the euro area as a whole (in terms of harmonised CPI), the Spanish price indicator has been lower than that of the euro area as a whole since the last few months of 2018, and that the difference has increased in recent months to 0.6 percentage points (pp) (0.3 pp in December).
- The latest data regarding public sector finances indicate that until August the registered deficit was slightly higher than in the same period of 2018: 2.08% of GDP in 2019 compared with 1.98% in 2018.[4] This evolution was not evenly spread among government bodies, since the central government's deficit was reduced from 1.64% of GDP to 1.37%, while the autonomous regional governments went from a 0.09% surplus to a deficit of 0.21%. The social security system, meanwhile, saw its deficit increase by six basis points (bps) to 0.5% of GDP. The public debt stood at 99.0% of GDP at the end of June, representing an increase of 1.4 pp relative to the year-end 2018 figure.

[2] This result is preliminary, since it is an advance of the definitive indicator that will be published in December.

[3] Data from the EPA (Labour Force Survey).

[4] These data correspond to the combined deficit of the central government, the autonomous regional governments and the social security system. Therefore, it does not include the balance of local authorities or the amount of aid to financial institutions, which in the first eight months of the year amounted to €27 million (€63 million between January and August 2018).

Forecasts of reference institutions and bodies indicate that the public deficit will end the year at between 2.2%[5] and 2.4% of GDP,[6] slightly above the government forecasts (2%).

- According to IMF forecasts published in October, global growth will continue to slow in 2019, with a projected increase in world GDP of 3.0%, following a downward correction of 0.2 pp from the previous estimate in July. This slowdown in activity is a consequence of various factors that have resulted in a reduction in international trade (the trade war between the US and China and uncertainty about the final Brexit agreement) and in a notable slowdown in industrial production (the decline in production and sales in the global automotive market and flagging demand in China).[7] In this context, forecasts for the Spanish economy have also been corrected slightly downwards, with an expected growth of 2.1% in 2019, 0.1 pp[8] less than in the forecasts of three months ago.[9] Even so, this forecast implies that Spain's GDP will grow at a much higher rate than that estimated for the euro area as a whole (1.2%). As for next year, all estimates point to a gradual slowdown in Spain's economy, which will grow, according to the various forecasts, by between 1.5% and 1.8% (compared with 1.4% for the euro area as a whole), due to the weakening of domestic demand, which has been the main engine of growth.

- In spite of the good relative performance of the Spanish economy compared with surrounding countries, there remain some major challenges that could undermine growth in activity in both the short and medium term. Most immediately, the question as to whether a stable government can be formed after the elections of 10 November, together with the instability in Catalonia, are the biggest sources of uncertainty, but there are also other new ones, such as the US announcement of tariffs to be imposed on certain Spanish products. In addition, the effects of the deterioration of world trade on our economy remain worrying, as do the persistently high unemployment rate, the challenges posed by the ageing of the population and the financial vulnerability of certain sectors of the economy as a result of their high level of indebtedness.[10]

[5] IMF.

[6] Funcas (Spanish savings banks think tank) and Bank of Spain (Spain's central bank).

[7] This lower growth is a consequence both of the efforts that the country has had to make to control its indebtedness and of trade tensions.

[8] In July Spain's GDP growth had been corrected upwards by 0.2 pp.

[9] These forecasts are slightly higher than those made by other bodies. For example, Funcas and BBVA forecast GDP growth of 1.9%, while Bank of Spain estimates it at 2.0%.

[10] It is worth recalling that public sector indebtedness stood at 99% of GDP in mid-June, that of non-financial corporations reached 94.4% of GDP and that of households stood at 58.5%.

Context of low interest rates

- The confirmation of all expectations as to the measures to be adopted by the European Central Bank (ECB) and their implementation over the course of the third quarter (reduction of the rate on the deposit facility to -0.50%, beginning of the third round of financing for banks and extension of the term of these operations from two to three years, as well as confirmation that purchases of debt in the secondary markets would resume in November), together with the three successive rate cuts by the US Federal Reserve between July and October, have served to confirm that the accommodative monetary policy of both institutions will be maintained over time, which favours a stable context of low interest rates. As a result, certain risks that had already been pointed out in some previous notes are exacerbated: i) agents' increased incentive to borrow, in a context of economic slowdown; ii) the intensification of search-for-yield strategies, which accentuates demand for and overvaluation of assets with higher yield expectations, which tend to have worse credit ratings and to be less liquid; and iii) the inability of the banking sector to improve its margins, which may lead it to assume greater risks in search of higher profitability, although admittedly low interest rates, as noted later, help to avoid increases in the level of delinquency.

- The financial decisions of households, which in recent years had been influenced by the context of low interest rates and had shown a greater preference for riskier assets (with the expectation of higher yields), have become somewhat more conservative in recent months, following the turbulence of the markets at the end of 2018 and the increase in economic uncertainty. In this context, we have seen an increase in the household savings rate (which stood at 7.2% of disposable income in the second quarter, compared with 5.9% in 2018 and 5.5% in 2017) and in the volume of investment in financial assets, especially in those with lower risk. Thus, households' net acquisition of financial assets in the second quarter of this year (with cumulative data for four quarters) stood at 3.6% of GDP, the highest figure since 2007 (see Figure 27). Regarding the investment pattern, some of the trends observed in previous years were maintained, such as the divestment of time deposits and fixed income securities (-1.7% of GDP) and the substantial acquisition of means of payment (5% of GDP), but there were some new ones confirming the more conservative nature of household investment. Thus, for example, data for four cumulative quarters up to and including the second quarter of this year show that investment funds recorded net withdrawals, breaking the growth trend that started in 2013, while technical insurance reserves received the highest amount of resources since 2006 (1.4% of GDP).

- In the particular area of investment funds, net subscriptions made in recent months also highlight the more conservative nature of investments, which began at the end of last year. Thus, for example, between June 2018 and June 2019, absolute return funds saw net withdrawals of close to €5 billion; balanced fixed income funds €4.4 billion; and euro equity funds €2.84 billion. On the other hand, fixed income funds posted net subscriptions of more than €3.8 billion. Within this more conservative trend, we see some significant investments in funds with rather more risk, such as balanced equity, which in the second quarter alone received more than €2.6 billion (see Figure 28).

- As noted in the last edition of this note, the uncertainties that loom over the banking sector have worsened throughout the year as a result of the prolongation of the scenario of low interest rates, which has gone from *low for long* to *lower for longer*, and which is directly affecting the interest margin, and of the context of economic slowdown, which could affect business volumes and delinquency. Regarding this last point, it is worth pointing out that while the low level of interest rates involves some risks, it also becomes a mitigating factor for others, since it lightens the financial burden of the debt of the most indebted agents and reduces their probability of default. Apart from this, Spanish deposit institutions, albeit to differing degrees, continue to face legal risks arising from the possible consequences of the results of ongoing lawsuits. In parallel, it is worth noting the growing competition regarding the provision of certain financial services by BigTech (companies like Amazon, Alibaba and Uber that use platform technology to deliver services), which are in a favourable position because they have a solid customer base, as well as significant amounts of information on such customers, a certain reputation, advanced technology and a low cost of capital.

Sources of political uncertainty

- At the international level, one of the biggest uncertainties relates to the extent of the effects of the trade tensions between the US and China. The tariff war,[11] which began almost a year and a half ago, seems to be slowing down, although at the moment there is only a partial agreement. In October, the presidents of the two countries agreed on a phased deal to avoid new tariffs, although those that are already in force remain. As a result, China is committed to increasing its purchases of US agricultural products to between US$40 billion and US$50 billion annually over two years and the US has already suspended the increase in tariffs from 25% to 30% on US$250 billion worth of imports from China which was scheduled for October. However, the development of this first phase of the deal remains uncertain, although in principle it is scheduled to be signed in December.

- In the European framework, trade tensions between the European Union (EU) and the US have become one of the main sources of political uncertainty. In early October, the World Trade Organisation (WTO) issued its decision regarding the countermeasures that the

[11] Recently, the United Nations Conference on Trade and Development published a report analysing the effects of the trade war between the United States and China. The report concludes that the consequences of the mutual imposition of tariffs damage the economy of both: US consumers see the tariffs passed on in the price of their purchases and in China, in many cases, exporting companies are forced to absorb the tariff by lowering the price of their products. Based on data for the first half of 2019, it is estimated that the reduction in US imports from China of products affected by tariffs was more than 25%, approximately US$35 billion, and the figure will probably be higher with more recent data, due to the escalation of trade tensions in the second half of the year (the reduction is approximately 10% if all imports are taken together, not just those subject to tariffs). The Chinese sectors most affected are office and communication equipment, which have seen US imports from China reduced by approximately US$15 billion.

US can impose on the EU and certain Member States for subsidies granted in the past to Airbus. In this decision it ruled in favour of the US, allowing the imposition of tariffs on up to US$7.5 billion (€6.9 billion) worth of imports of EU goods, this being the largest amount granted so far by the WTO in arbitration. After a failed attempt to reach an agreement between the parties to mitigate the effects of this measure, tariffs entered into force on 18 October, affecting a variety of EU exports. Most of the charges are applied to products from the countries responsible for the subsidies in question, which include Spain, with the most affected national products being those belonging to the agri-food sector: wine, oil and dairy products. As a result of the measures imposed, the European Commissioner for Trade has announced that the EU will respond with new tariffs in due course, as the final WTO ruling on the parallel case concerning the US company Boeing has not yet been published. In this context, the possibility of tariffs being imposed in both directions between the US and the EU is starting to look like as a source of significant risk for the financial situation and growth of both economies.

- Brexit continues to be one of the main sources of political risk for the economic and financial scenario of the EU. The exit of the United Kingdom (UK) from the European Union was scheduled for 31 October, although given the impossibility of approving the exit agreement reached with the EU in the UK Parliament, it has been granted a new extension, the third so far. Thus, the European Council agreed on 28 October to postpone the application of Article 50 until 31 January 2020. With the aim of unlocking the political crisis that the UK is going through, and after four attempts, at the end of October the British Prime Minister managed to get Parliament to agree to call an early general election, which will be held on 12 December. These elections will be plagued with uncertainty and will be of great importance because, if an absolute majority is achieved, the executive could ratify any agreement to leave the EU. In this context, there is still a possibility of a no-deal Brexit,[12] which would complicate the future relationship between the UK and the EU and could generate turbulence in the financial markets and end up affecting the real economy.[13] In fact, the growth of the UK has already been weighed down, with GDP contracting by 0.2% in the second quarter of 2019 (compared with the previous quarter).

- At the national level, the sources of political risk referred to in previous issues of this note still remain. Both the uncertainty relating to the formation of a government and the political instability in Catalonia persist. The results of the elections held on 10 November have increased the degree of parliamentary fragmentation, although there has already been a pre-agreement for the formation of a coalition government, the effects of which on the evolution of the economy it seems premature to assess. Both factors of uncertainty are

[12] Given this possibility and to facilitate the transition to the situation deriving from considering the United Kingdom as a third State without the agreement provided for in Article 50, the European Securities and Markets Authority (ESMA) has decided to recognise British central counterparties (CCPs) and central securities depositories (CSDs) as third-country (non-EU) CCPs and CSDs. It has also issued a public statement stating that in the event of a no-deal *Brexit*, EU companies will be allowed to negotiate securities with ISIN codes that start with GB in any trading venue, British or EU.

[13] In Spain, the CNMV has opened a new section on its website called "After *Brexit*", which includes information that may be useful to market participants and investors.

delaying the adoption of potential structural reforms and may discourage investment decisions, which in the medium and long term could be detrimental to economic activity.

Other sources of uncertainty

- The concern that a cyberattack could end up affecting one or more parts of the financial system has progressively increased in recent years. Incidents related to cybersecurity have increased both in number and in damage caused in various sectors, not necessarily related to finance.[14] This type of risk is significant from the point of view of this note as a potential threat to financial stability. The uncertainty that could be caused by a cyberattack that altered the functioning of the financial markets and their participants, in an increasingly interconnected and digitalised system, could jeopardise financial stability, if it were to compromise confidence in the system. Currently, there are numerous initiatives from different areas − public and private − seeking to assess this risk, increase institutions' strength and where necessary identify the most effective mitigating factors and the most appropriate coordination mechanisms among institutions.

[14] Among the biggest cyberattacks were WannaCry and NotPetya in 2017, which particularly affected the infrastructure and public services of the United Kingdom and Ukraine respectively and resulted in costs of between US$500 million and US$4 billion in the former case and between US$4 billion and US$10 billion in the latter. Although these attacks were not aimed at the structures of the financial system, they do show that their costs are very high. The following link details the various cyberattacks on the financial system per year: https://carnegieendowment.org/specialprojects/protectingfinancialstability/timeline

Risk categories

Market risk: yellow

- The uncertainties that spread over international equity markets as the year progressed (trade dispute between the US and China, doubts about the final resolution of Brexit, fall in economic activity of the euro area and slowdown in global growth) reached a turning point in September, the effects of which lasted into October. This turning point, which resulted in an upswing of equities, occurred simultaneously with the new monetary stimuli adopted by the ECB,[15] which were joined by the US Federal Reserve[16] with two additional rate cuts and new injections of liquidity. Despite doubts about the slowdown in growth in the euro area and globally,[17] the monetary policy measures announced, together with the progress of trade negotiations between the US and China and the slight decrease in uncertainty about the resolution of Brexit (see section on political uncertainties), allowed the indices to present positive advances in the third quarter and at the beginning of the fourth. Most indices compensated for their losses of the previous year[18] and built up significant gains in the case of the US indices and some European ones.
- In the US markets, the advances in the indices ranged from 15.9% for the Dow Jones to 25% for the Nasdaq, with all of them reaching or approaching all-time highs at the end of October. In the case of the Nasdaq technology index, despite its good growth prospects, professional investors continue to warn about the excessive valuation of some companies,[19] in an environment of greater slowdown in economic growth worldwide. With the exception of the Spanish and British indices, the advances of the main European markets were even greater, ranging from 20.1% for the Eurostoxx 50 to 23.8% for Italy's FTSE-MIB,[20] which allowed them to compensate for all 2018 losses. Thus, despite the decline in economic activity in the euro area and the impact of trade restrictions for exporting companies, European securities (especially those of the most technological companies and those of the growing sectors) were favoured by attractive prices and high dividend yield, in a context of long-term rates at historical lows and low values of risk premiums.

[15] The ECB lowered the rates of the deposit facility by 10 bps to -0.50% and announced that in November it would resume net purchases of debt amounting to €20 billion per month, while extending the term of bank financing operations (the third TLTRO) from two to three years.

[16] The US Federal Reserve made two successive interest rate cuts of 25 bps (end of September and October), overall making three cuts in the year and putting them in the range of 1.5% to 1.75%. In addition, it announced that it would buy, from 15 October, US$60 billion a month in Treasury Bills to maintain a high level of reserves and improve the transmission of monetary policy.

[17] The increase in doubts about the economic slowdown worldwide resulted in significant falls on stock exchanges in the 2 October session, when they lost between 2% and 3% of their value (2.8% in the case of the Ibex 35).

[18] In the ten months to 31 October, the main international indices recovered the losses accumulated in 2018, with the exception of the UK FTSE 100 and Spain's Ibex 35.

[19] Shares in the main US technology companies – known as FAANG (Facebook, Apple, Amazon, Netflix and Google) – gained 50%, 62%, 21%, 10% and 24% respectively to 31 October, although their prices have shown some volatility following the publication of various business results and projections on the business figures.

[20] Germany's DAX 30 and France's CAC 40 gained 21.9% and 21.1% respectively YTD. On the other hand, the British FTSE gained just 7.7%.

- In Spain, the Ibex 35, which had already gained significantly less in the first half than most other European market indices,[21] gained just 0.6% between July and October, widening the differential even further and ending October with an 8.4% year-to-date gain. This evolution of the Spanish index can be explained largely by its different composition relative to other European indices, but some influence can also be attributed to political uncertainties associated with the delay in forming the new Government and, consequently, in the adoption of potential economic measures and reforms. As regards the composition of the Spanish index, it is worth noting the greater weight of the banking sector and other sectors of a more cyclical nature − affected by the fall in the interest margin and the economic slowdown respectively − and the lower representation of companies in the technological and growth sectors, which are more significant in other European indices.

- By sectors, the best performance in the year came from companies in the consumer goods sector (where Inditex (Zara) and pharmaceutical and biotech companies stood out), the construction sector and the electricity and energy sector, all of which gained more than 20%. Companies in the electricity and gas sector continue to benefit from the prolongation of the environment of low interest rates, the greater dynamism of domestic demand in the Spanish economy and the stable nature of their revenues, all indications being that the proposal to reduce them,[22] made in July by the National Commission on Markets and Competition (CNMC), will be watered down. To a lesser extent, the increase of equity prices of small-cap companies stood out (9% year-to-date), their activity being more linked to the domestic economy, which maintains greater dynamism than that of the euro area as a whole. Prominent on the negative side was the 8.2% decline in equity prices of banks, whose margins and results are weighed down by a very lax monetary policy (with low interest rates and prospects of extension for a prolonged period), in a context of economic slowdown and other uncertainties.[23] The quoted price of real estate companies' shares (-11.9%) also fell due to investors' fear of a change in the real estate market cycle. We should also point out the mediocre performance of medium-sized companies (1.2%), with their greater presence and export activity in European markets, which are being affected by the decline in economic activity and trade with the region.

- As a result of the expected slowdown in the growth of corporate earnings in the next few months and the small advance in equity prices, the price-earnings ratio (PER) of the

[21] The main European stock indices posted larger gains than the Ibex 35 both in the period between July and October and year to date: Eurostoxx 50 (3.8% and 20.1%, respectively), DAX 30 (3.8% and 21.9%, respectively), CAC 40 (3.4% and 21.1%, respectively) and FTSE-MIB (6.9% and 23.8%, respectively).

[22] On 5 July the CNMC published a consultation on seven draft circulars proposing a regulatory framework for the remuneration of the electricity and gas sectors in matters related to fees and grid access tolls, as well as the regulated activities of both. At the end of October the CNMC was yet to approve these circulars.

[23] The legal risks relating to the ruling of the Court of Justice of the European Union on Spain's mortgage interest rate index, known as the IRPH and potential litigation remain.

Ibex 35 fell from 11.9[24] in mid-July (its highest level so far this year) to 11.3 in October (Figure 4).

- Confirmation that the ECB will maintain its accommodative monetary policy over time, including a new debt purchase programme in the markets amounting to €20 billion per month, as well as the latest decisions of the US Federal Reserve, which has resumed an accommodative approach in its monetary policy, continue to hold the market risk related to debt assets in general at a moderate level, though it is higher for riskier corporate debt and for subordinated debt. Although the low level of interest rates is a mitigating factor for some risks (for example, it favours the reduction of delinquency), it is worth highlighting the fact that the economies with higher imbalances and rates of indebtedness present a higher vulnerability, since a deterioration in the economic environment would be easily transferred to risk premiums, which could lead to significant falls in asset prices. In addition, the risk remains very high for assets with longer durations, the valuation of which is very sensitive to changes in interest rates.

- Public debt assets have reacted to the latest ECB policy relaxation measures with a rise in their prices, which has led to yields on most sovereign debt assets being at record lows, especially in the longer terms. This has led to a significant flattening of interest rate curves in most European economies, which is expected to continue over time thanks to the positive impact of the ECB's new purchases of debt.[25] Thus, since July, yields on European sovereign debt have shown declines ranging from 129 bps in the case of Greece to 7 bps in that of Germany, although during the last part of October we saw a slight rebound in rates in the longer terms (between 5 and 20 bps) from their historical lows reached at the end of September. This change in trend, if maintained, could cause price declines in longer-term debt assets and in the portfolios of agents with greater exposure to this class of assets. Ten-year sovereign debt yields were negative in Germany, France, the Netherlands, Austria, Belgium, Finland and Denmark, while in the case of Spain and Portugal they reached values of around 0.2%, with rates negative up to six years in the case of Spain. The volume of Spanish public debt in the ECB's portfolio amounted to €255.464[26] billion in mid-October.

[24] In the same period, the PER ratio of the European stock index Eurostoxx 50 and the US S&P 500 fell from 13.3x and 17.1x to 13.1x and 16.6x respectively.

[25] The ECB's asset purchase programme (APP) had assets amounting to €2.55 trillion (short scale) of which €2.08 trillion corresponded to public debt.

[26] This amount represents 26.2% of the balance of the long-term debt securities of the State.

Credit risk: green

- Sovereign risk premiums and risk premiums of Spanish private sector issuers have barely changed since July, since they had already incorporated to a large extent in the previous months the effects of all expectations, announcements and monetary policy measures adopted by the ECB. In this context, the sovereign risk premium showed a slight decrease of 5 bps, while those of private issuers barely showed changes. The sovereign risk premium − assessed as the difference between the performance of the 10-year public debt in Spain and in Germany (Figure 11) − was around 64 bps at the closing date of this note, close to its lowest for the year and 53 bps below the figure at the end of 2018 (117 bps).
- Like the sovereign risk premium, credit risk premiums of financial institutions had already decreased significantly in the first half of the year, so they showed few changes later, standing at 54 bps at the end of October. Despite the scenario discussed above, which creates difficulties for the banking business, banks are favoured by the launch of a third round of ECB financing that will allow them access to long-term and low-cost financing. In the case of non-financial corporations, risk premiums also did not undergo major changes, standing at around 55 bps at the end of October, close to their lowest since the all-time low recorded at the end of 2007. These companies also continue to benefit from the ECB's asset purchasing programme,[27] which favours the maintenance of low financial costs.
- The modest growth in lending to non-financial sectors[28] of the economy, both businesses and households, slowed. In the case of households, growth in lending fell to 0.1% year-on-year in September as a result of the decrease in the growth rate of consumer credit (from 4.4% in August to 3.4% in September)[29] and the continued fall in the outstanding credit balance for the purchase of housing[30] (-1 %). The total financing balance of non-financial companies moderated its growth (from 1.5% in August to 1.1% in September) due to the decline in traditional credit (-0.6% in September) and to the slowdown in financing via debt issues[31] (from 18.1% to 16.5%), although it continues to grow at very high rates. Large non-financial companies, and even some medium-sized ones, continue to take advantage of good market conditions, interest rates at record lows and investors' appetite[32] for debt to finance themselves at longer terms or

[27] This programme includes a corporate sector purchase programme (CSPP), which has been extended to all Spanish issuers meeting the conditions of the programme (minimum rating BBB-).

[28] Source: Bank of Spain economic indicators.

[29] This rate was the lowest since May 2016 and may be partly attributed to the tightening of criteria for granting consumer credit as a result of the increase in delinquency in this segment.

[30] Since January the year-on-year variation of this balance has ranged from -0.9% to -1.1%.

[31] Currently, except for Aena, Inditex, Mediaset, Siemens Gamesa and Viscofan, all the companies forming part of the Ibex 35 are partially financed to a greater or lesser extent by debt issues.

[32] The search for yield phenomenon is maintained, with investors extending the range of eligible assets as a result of the reduced profitability of traditional issuers.

refinance themselves on better conditions. In addition, the balance of foreign loans also showed a 1.2% decrease.

Liquidity, financing and fragmentation risk: yellow

- The fixed income issues registered with the CNMV between July and October reached €25.834 billion, 36% more than in the same period of 2018. Prominent among them were three securitisation issues of consumer loans from BBVA, Banco Santander and Banco Sabadell (for an aggregate amount of €3.65 billion) as well as an issue of internationalisation bonds[33] by BBVA for €1.5 billion. These securitisation issues are the first by Spanish banks to comply with the STS criteria[34] in accordance with the securitisation regulation (Regulation (EU) 2017/2402).[35] In the year as a whole, fixed income issues registered with the CNMV stood at €61.009 billion, 22% more than in the same period of last year (bonds and mortgage-backed securities[36] represented 29.4% of the total issued in both cases). At the same time debt issues of Spanish companies abroad grew by 11.5% year-on-year to September (€77.905 billion) with commercial paper accounting for 45% of the total (compared with 54% in the same period of 2018), with a noticeable increase in long-term indebtedness to take advantage of good conditions and low market rates. Long-term debt issues of Spanish financial institutions[37] reached €25.5 billion[38] year-to-date, and it is foreseeable that issues will continue with a certain dynamism in the last part of the year, especially those of subordinated debt, which counts as second level capital.[39] In the equity markets, there have still been no IPOs so far this year.
- Average daily trading on the electronic market between July and October decreased by 13.8% year-on-year, to €1.656 billion − below the cumulative average in 2019 of €1.788 billion − representing a 23.3% year-on-year decline. In addition, the degree of fragmentation in trading of Spanish equities remained very high in the third quarter, with BME's market share in that period at 55.2% of lit plus dark trading compared with

[33] These are securities guaranteed by export credits or loans for the *internationalisation* of companies regulated in Article 34.3 of Law 14/2013: "The principal and interest of internationalisation bonds shall be specially guaranteed by all credits and loans linked to the financing of contracts for the export of goods and services or to the internationalisation of companies that meet the requirements established in sections 6 and 7 and that at any given time are shown as assets in the balance sheet of the issuing entity and have not already been applied to the issuance of internationalisation bonds plus, if they exist, the substitute assets referred to in section 9 and the economic flows generated by the derivative financial instruments linked to each issue, on such conditions as may be determined by regulation. All this without prejudice to the universal patrimonial responsibility of the issuer".

[34] Simple, transparent and standardised (STS).

[35] In particular, they must comply with Articles 19 to 22 or 23 to 26 of the regulation. In accordance with Article 27 of the regulation, the originators and sponsors of securitisations that meet these conditions must notify ESMA, which must maintain on its website an updated list of all the securitisations that have been notified.

[36] The total level of mortgage-backed security issues remains small and its expansion is limited by the downward trend in the mortgage loan portfolio. Also, according to data from the National Institute of Statistics (INE), the sale of homes registered in August fell by 21.1% year-on-year, its biggest decline since February 2014.

[37] Source: Dealogic.

[38] Including senior debt, subordinated debt (Tier 2) and instruments that compute as additional Tier 1 capital (AT1 securities and CoCo bonds).

[39] Banks will undergo a new ECB stress test in 2020 based on data from the closing balances of the current year.

other trading venues other than the home market,[40] although preliminary data for October show a slight recovery, to 57.5%. With regard to trading in Spanish shares carried out through systematic internalisers − and therefore not subject to market rules − it accounts for more than 15% of total trading[41] in 2019, compared with values below 5% reached in early 2018.[42]

- The liquidity indicator of the Ibex 35 (evaluated by means of the bid-ask spread) remained at satisfactory levels, although a slight rebound has been observed since mid-year, but still in an environment of contained volatility. In the case of the sovereign bond, its spread, in relative terms, increased during most of the period[43] and the biggest increases took place in July and August, coinciding with the announcements of monetary policy decisions and the sharp decline in its yield to historical lows. In absolute terms, the range also registered an increase, but this was smaller, although significant given the low level of rates (Figure 15).
- Interest rate differentials between loans to companies in the rest of the euro area and those in Spain, which were positive for the latter in the case of loans of less than €1 million, narrowed again and eventually disappeared; while for loans of a higher amount they increased slightly (up to 29 bps in September, 17 bps in June) and remained above the average of the last 12 months (28 bps).

[40] The market share of the trading venues other than the home market reached 44.9% in the first quarter of the year, its historical maximum, to fall back to 41.6% in the second quarter.

[41] Total trading is understood in this context as the sum of the trading subject to market rules and that carried out through systematic internalisers.

[42] Although one of the initial objectives of MiFID II was to shift part of the trading not subject to market rules to trading venues or organised markets in which it was subject to them, in Europe we see a more or less generalised significant increase in trading through systematic internalisers following the entry into force of the directive.

[43] The increase in the spread was especially notable prominent in relative terms, considering the low yield on the 10-year sovereign bond. In absolute terms, there was also an increase in the average spread, but it was less than 1 bps.

Risk of contagion: yellow

- The correlation between the daily returns of the different types of Spanish assets remained stable during the third quarter of the year and the beginning of the fourth and, what is more, at low levels (see Figure 31). Thus, the median value of the correlations, which had been around 0.20 in the middle of the year, ended October at 0.23, well below the average recorded in the last decade (0.5). However, there was an increase in the range between the maximum and the minimum value of the correlations: the former increased to end October at a value close to that of the beginning of 2019 (0.7) and the latter decreased to reach new minimums from September, to end October with the lowest value of the year (-0.4). In general, the low level of correlation among the different types of Spanish assets is understood in a context in which the prices of debt tend to rise (in line with declines in returns), while movements in prices of equities are much more different, with significant decreases in some cases (see section on market risk). It should be noted that lower levels of correlation reduce the chances of contagion among different types of assets and favour the diversification of portfolios.

- With respect to the trend followed by European public debt assets, the correlation between the yield on the Spanish sovereign bond and that of the rest of the euro area countries during the third quarter showed some differences depending on the group of countries with which the comparison is made. The correlation between the yield on the Spanish sovereign bond and that of the core EU countries remained unchanged during July at very high levels (0.98) and then decreased slightly to 0.85 at the end of October. The correlation between the yield on the Spanish sovereign bond and that of the other peripheral countries also decreased, but in a much more pronounced way, from a maximum of 0.94 at the end of August to 0.35 at the end of October (see Figure 32).

- The slight decrease in the correlation between the yield on the Spanish sovereign bond and that of the core euro area countries could be explained by the fact that the increase in yields on public debt of these countries from September has occurred at a different pace and with certain ups and downs. As for the sharp decline in the correlation between the yield on the Spanish sovereign bond and those of the other peripheral countries, it should be noted that it is largely attributed to the decline in the correlation between the Spanish sovereign bond and those of Greece and Italy, which at certain times even turned negative.

Market risk: yellow

Figure 3. Stock market prices

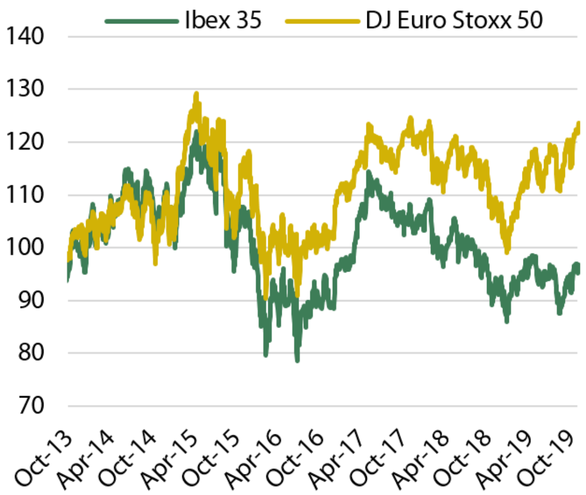


Figure 4. Price-earnings ratio (PER)

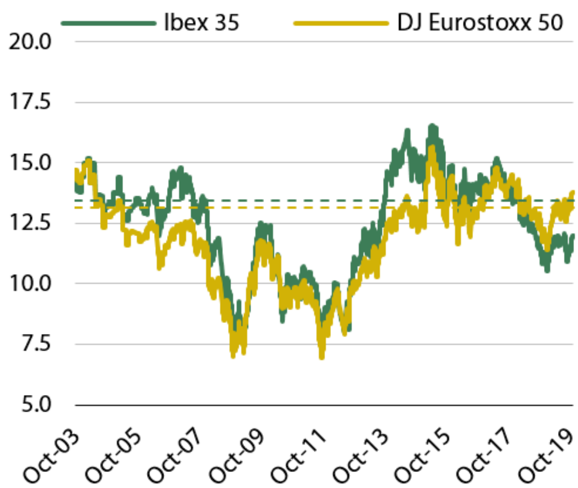


Figure 5. Short-term interest rates (3 months)

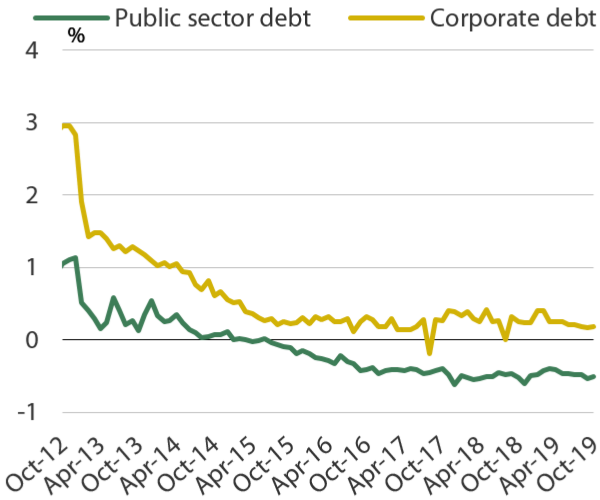


Figure 6. Long-term interest rates (10 years)

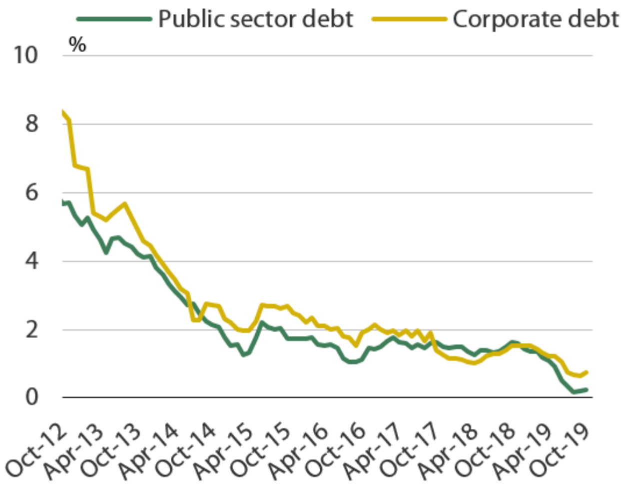
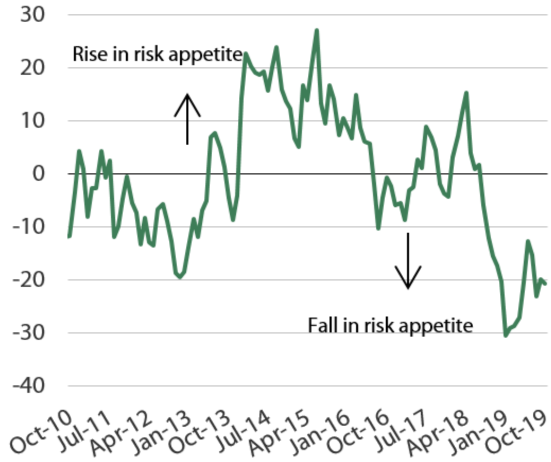


Figure 7. Oil price

Figure 8. Risk appetite (State Street)



Credit risk: green

Figure 9. Financing of the non-financial sector

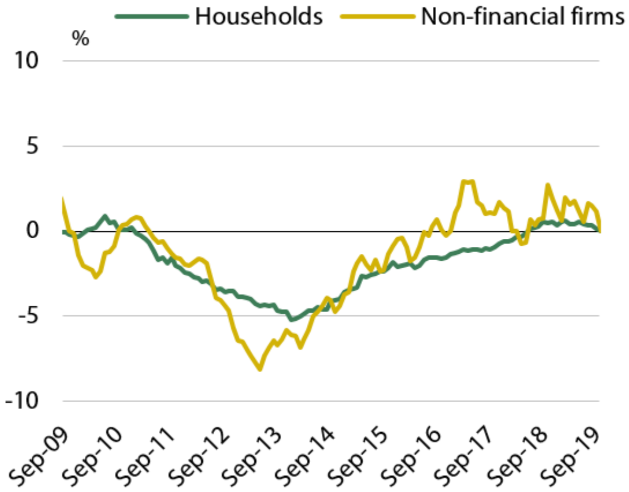


Figure 10. NPL (delinquency) ratio and unemployment rate

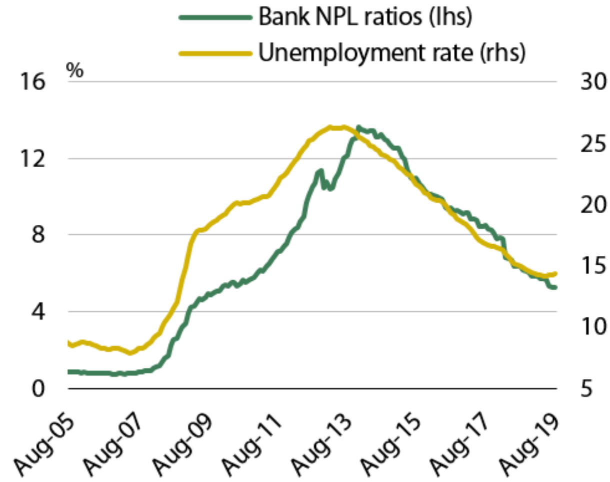


Figure 11. 10-year government debt risk premium (rate differential with Germany)

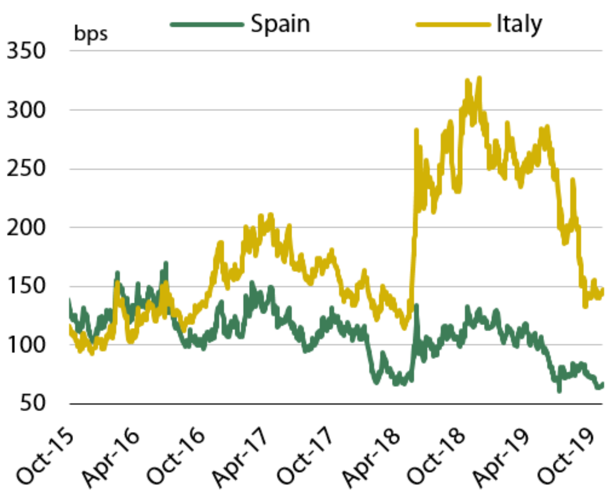


Figure 12. Private debt risk premium (5-year CDS)

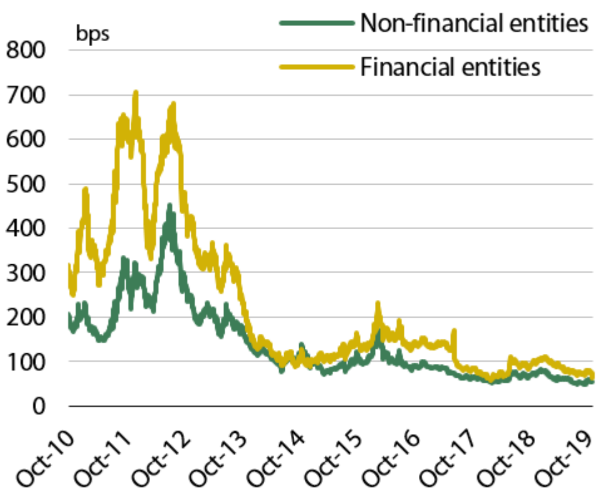


Figure 13. Housing prices (year-on-year change)

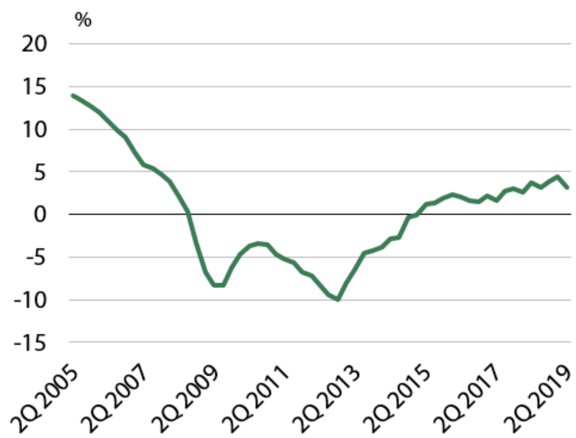
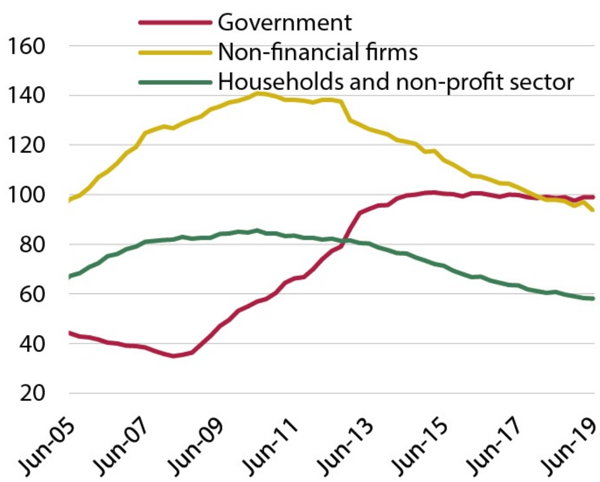
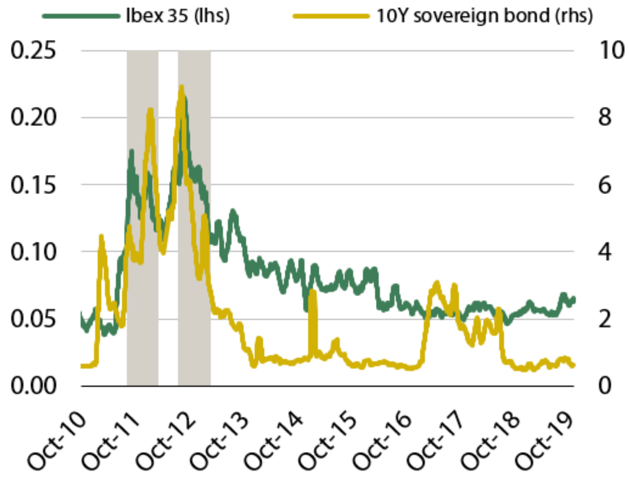


Figure 14. Indebtedness (% GDP)



Liquidity, financing and fragmentation risk: yellow

Figure 15. Liquidity (bid-ask spread)



The shaded area corresponds to periods when short selling was banned. In % for the Ibex 35 and in bps for the sovereign bond.

Figure 16. Volatility (1-month moving average)

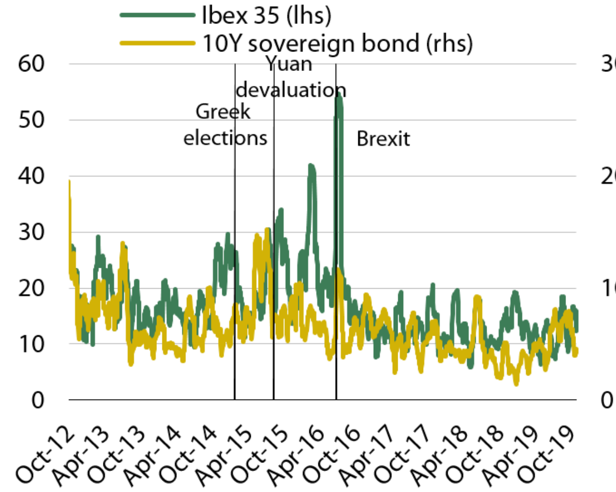


Figure 17. SIBE trading (1-month moving average)

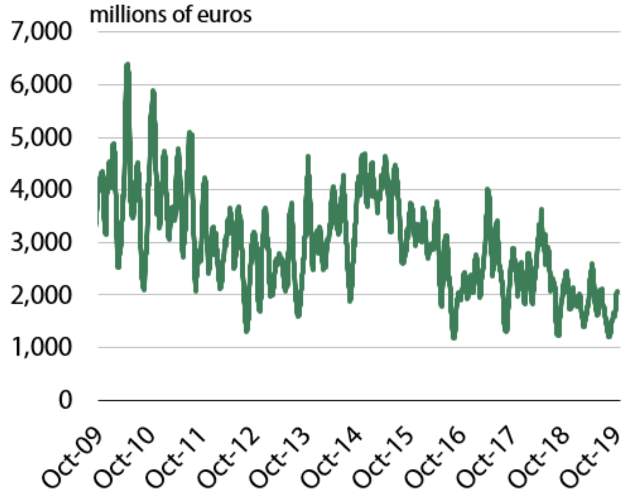


Figure 18. Interbank spread (LIBOR-OIS)

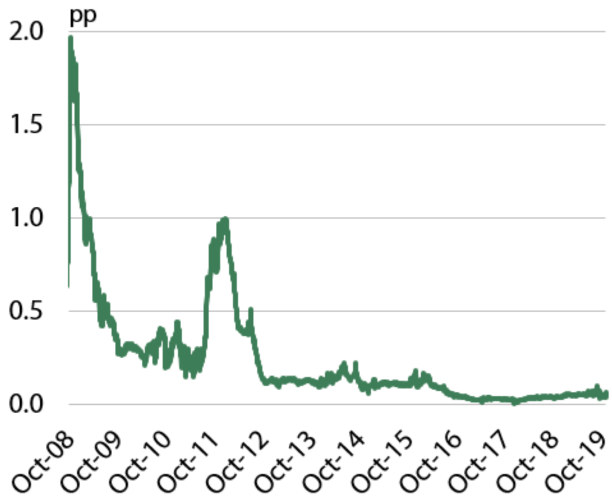


Figure 19. Differential (Spain-EMU) on corporate lending rates

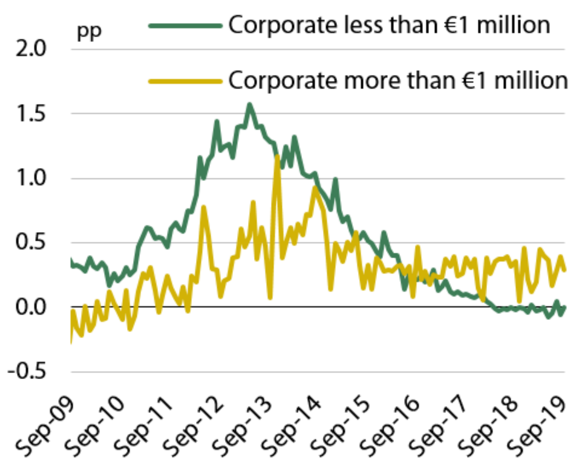
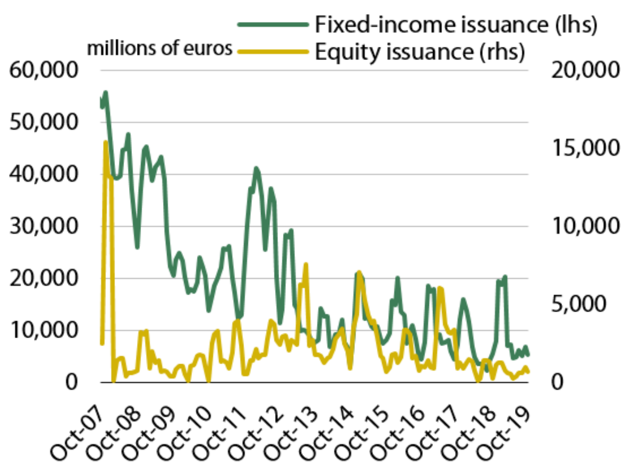


Figure 20. Issues (3-month moving average)



Macroeconomic risk: yellow

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

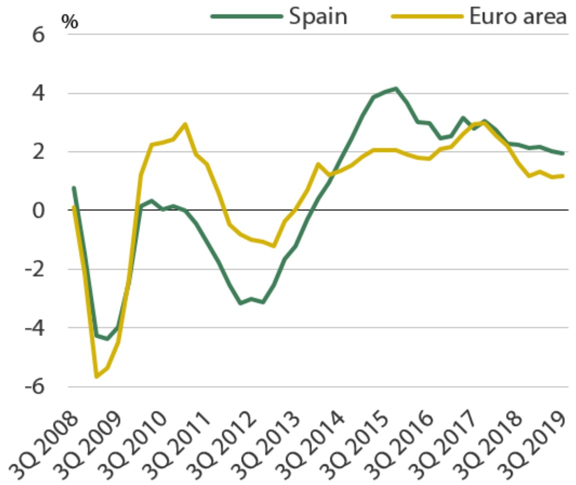


Figure 22. HCPI and core CPI (year-on-year change)

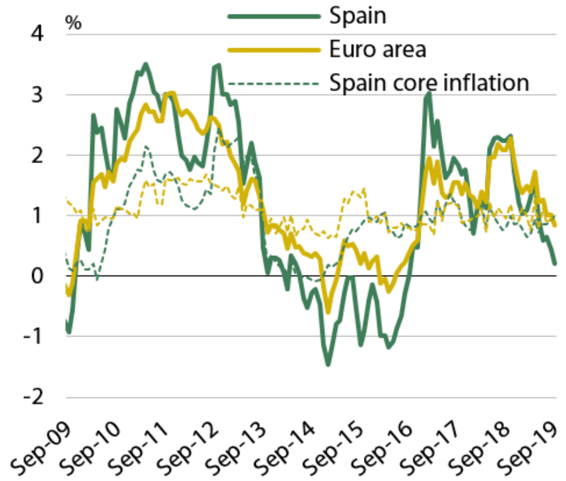


Figure 23. Employment (year-on-year change)

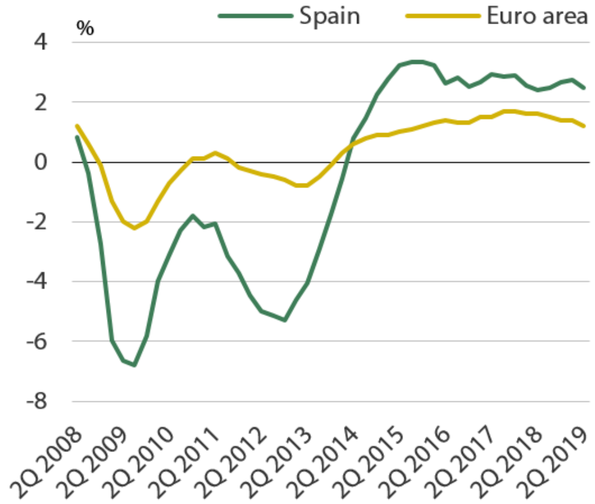
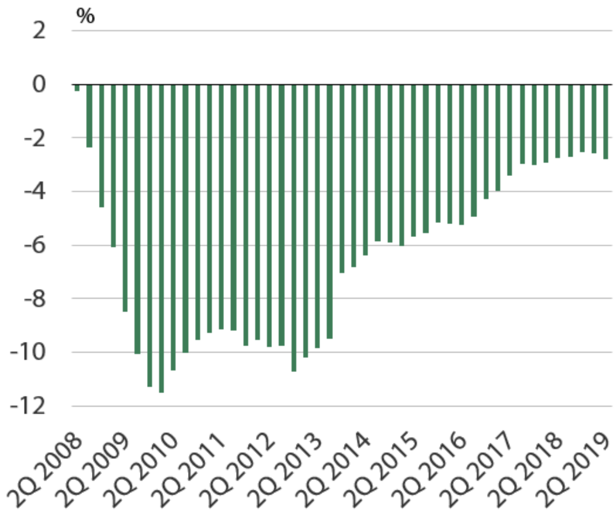


Figure 24. Government balance (% GDP)



Cumulative data for four quarters.

Figure 25. Exchange rates

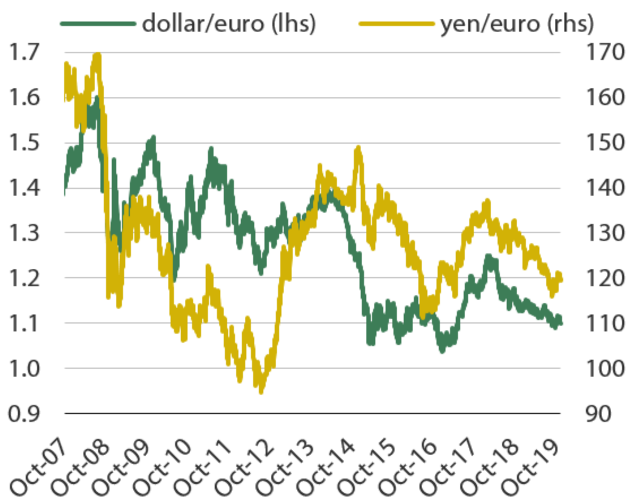
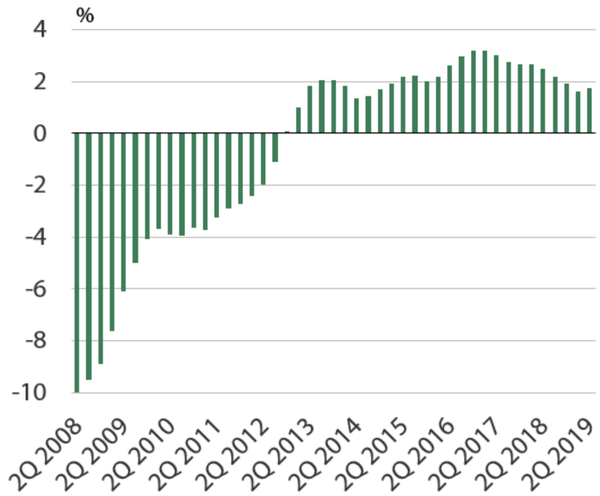
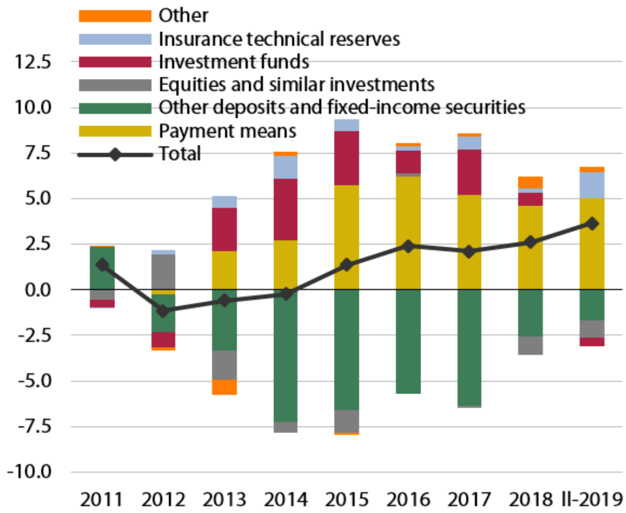


Figure 26. Current account balance (% GDP)



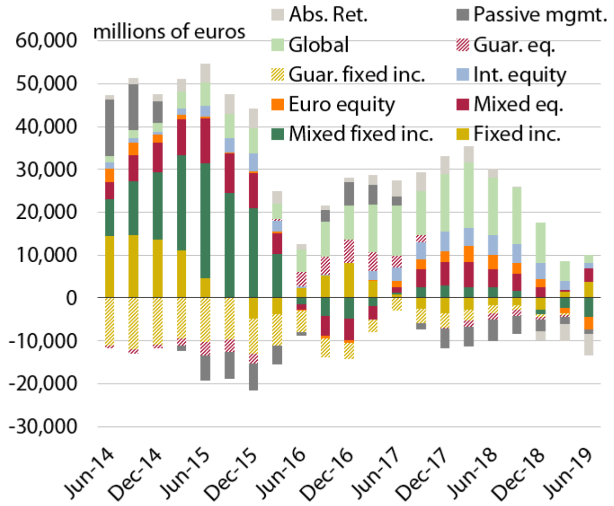
Investors

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



Cumulative data for four quarters.

Figure 28. Net subscriptions to investment funds



Cumulative data for four quarters (millions of euros).

Figure 29. Households: savings (% disposable income)

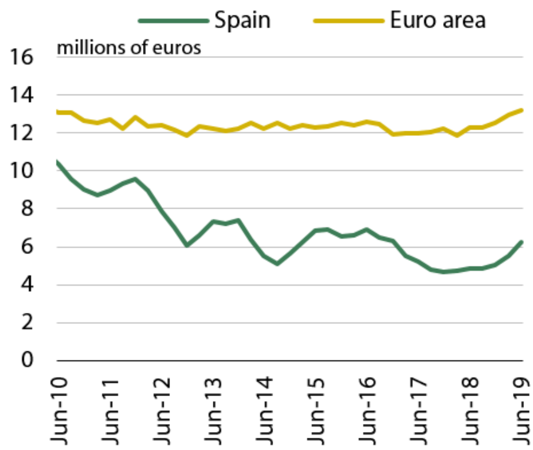
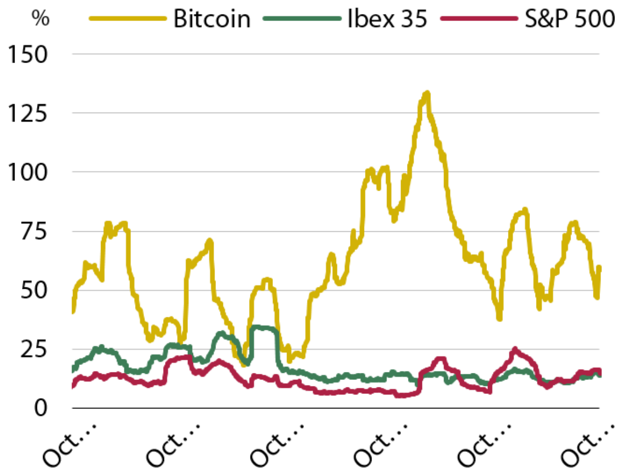


Figure 30. Bitcoin volatility



Risk of contagion: yellow

Figure 31. Correlations among asset classes

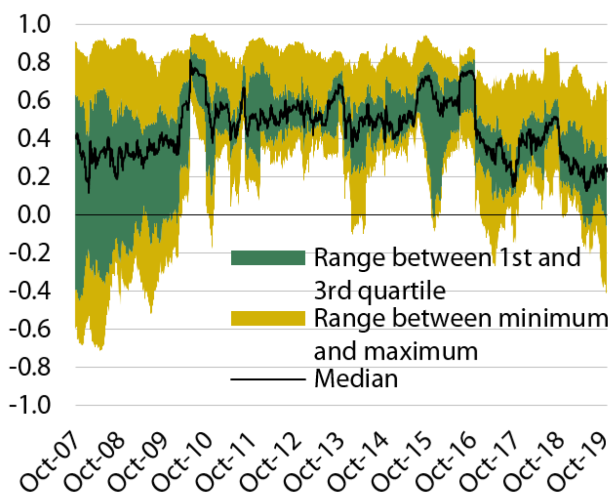
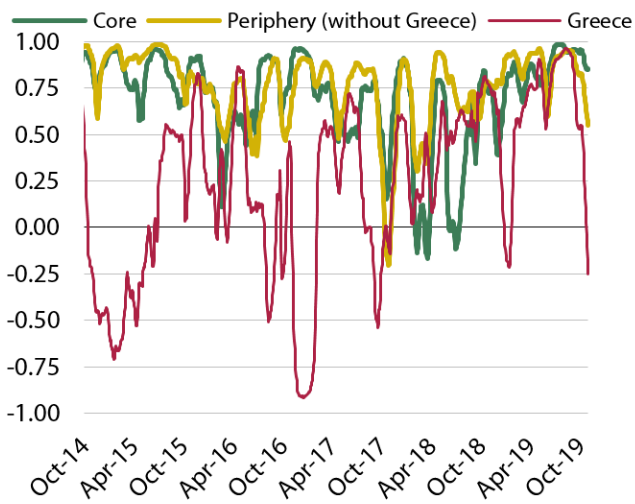
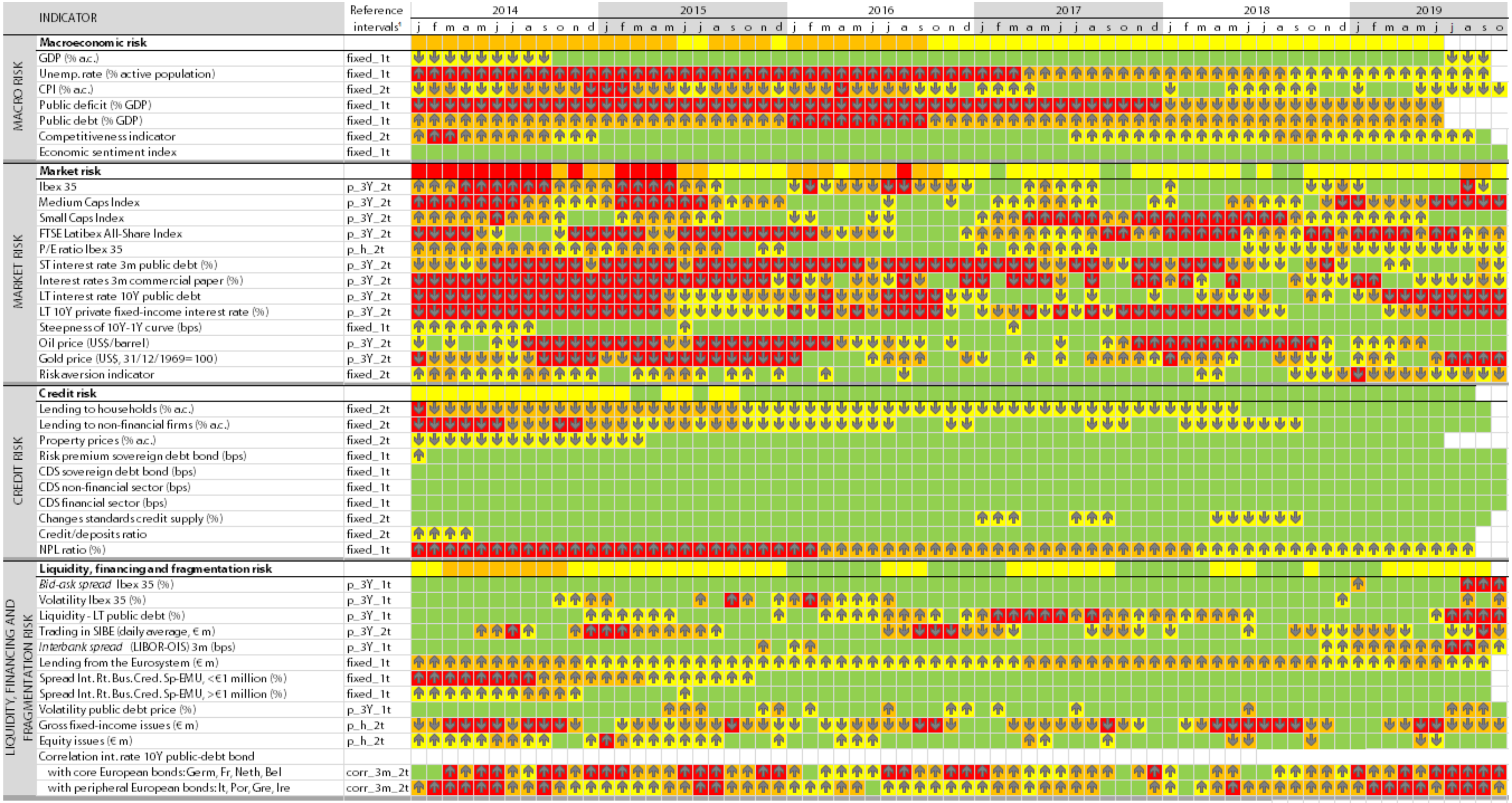


Figure 32. Correlation between the yield on Spanish and other European 10-year bonds



Heat map: risk categories



(1) Reference intervals could be: (i) "fixed": predetermined numerical thresholds, one (1t) or two-tailed (2t); (ii) "corr_3m": 3 month windows on 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. Source: CNMV, Bloomberg and Thomson Datastream.

Explanatory Notes

Spanish financial markets stress index (Figure 1): The stress index provides a measurement in real time of the systemic risk facing the Spanish financial system, ranging from zero to one. To this end, stress is evaluated in six segments of the financial system (equities, fixed income, financial intermediaries, the money market, derivatives, and the exchange markets) which are then aggregated to obtain a single figure. The stress for each segment is evaluated by means of cumulative distribution functions and the subsequent aggregation takes into account the correlation between segments, in such a way that the index places greater emphasis on stress situations in which correlations are very high. In general terms, the stress variables chosen for each segment (three for each one) correspond to volatilities, risk premiums, liquidity indicators, and sudden loss of value. These variables are good indicators of the presence of stress in the markets. Econometric estimates indicate that index values below 0.27 correspond to periods of low stress in the financial system,

while scores between 0.27 and 0.49 correspond to periods of medium stress, and values above 0.49 indicate periods of high stress. The methodology of this index follows the work of Holló, Kremer and Lo Duca in 2012 to propose a similar index for the euro area. For further details on recent movements in this index and its components, see the CNMV's statistical series (market stress indicators), available at http://www.cnmv.es/portal/Menu/Publicaciones-Estadisticas -Investigacion.aspx . For further information on the methodology of this index, see Cambón, M.I. and Estévez, L. (2016). "A Spanish Financial Market Stress Index (FMSI)". *Spanish Review of Financial Economics*, Vol. 14, No. 1 pp. 23-41 or as CNMV Working Document No. 60 available at http://www.cnmv.es/DocPortal/Publicaciones/MONOGRAFIAS/Monografia_60_en.pdf .

Heat map: summary by market and risk category (Figure 2 and final annex). The heat maps provided in this release show the monthly trend of the most important indicators in the Spanish financial system in recent years. They contain information on domestic securities markets, the banking sector, and also some macro-economic variables. The main purpose behind the production of these maps is to provide an idea of the position of the reference indicators in relation to their recent history (in most cases three years) or with some predetermined limits, by associating this position with a certain colour. When an indicator changes from green to a warmer colour (orange or red), it does not necessarily mean the existence of risk; rather it indicates a movement towards an extreme value (very high or very low) in the period or range of values used as a reference. If an indicator remains at extreme values for a prolonged period, it may suggest the need for a more detailed analysis; that is to say, it may be interpreted as an alarm signal. The most comprehensive heat map includes 43 indicators,[44] five of which are prepared by the CNMV. The large number of indicators taken into consideration allows us to make an analysis of vulnerabilities for each segment of the financial markets (equities, fixed income, banking sector, etc.) or for different risk categories

[44] Since June 2017, the heat map has included an additional indicator: the *bid-ask* spread of the 10-year sovereign debt bond.

(macro, market, liquidity, credit, etc.), as illustrated in Figure 2. The colours of these aggregates (markets or risk categories) are assigned by calculating a weighted average of the values of the individual indicators they comprise. In each aggregate, one of the individual indicators determines the generation of the overall colour: for example, in macro-economic risk, the indicator used to calculate the aggregate is GDP. This means that until this is published, the macro-economic risk block is not given any colour in the map. For more detail on the methodology and analysis of these maps, see Cambón, M.I. (2015). “Identification of vulnerabilities in the Spanish financial system: an application of heat maps”. CNMV Quarterly Bulletin, Quarter I, pp. 109-121.

Bitcoin historical volatility (Figure 30): Annualised standard deviation of daily price variations in 90-day windows.

Risk of contagion: The indicators that make up this block are of somewhat higher complexity. We set out the most important of these indicators below:

- Correlation between asset classes (Figure 31). The correlation pairs are calculated using daily data in three-month windows. There are six asset classes: sovereign debt, private fixed income from financial institutions, fixed income from non-financial firms and Ibex 35 securities, financial companies, utilities and other sectors. A high correlation between the different classes of Spanish assets would indicate the possible existence of herding behaviour by investors. This situation could lead to high volatility in periods of stress. Meanwhile, diversification would offer fewer advantages since in this context it would be more difficult to avoid exposure to sources of systemic risk.

- Correlation between the yield on the Spanish and other European 10-year bonds (Figure 32) The correlation is calculated using daily data in three-month windows. The countries of the core group are Germany, France, the Netherlands and Belgium and the peripheral countries are Portugal, Italy, Greece and Ireland.