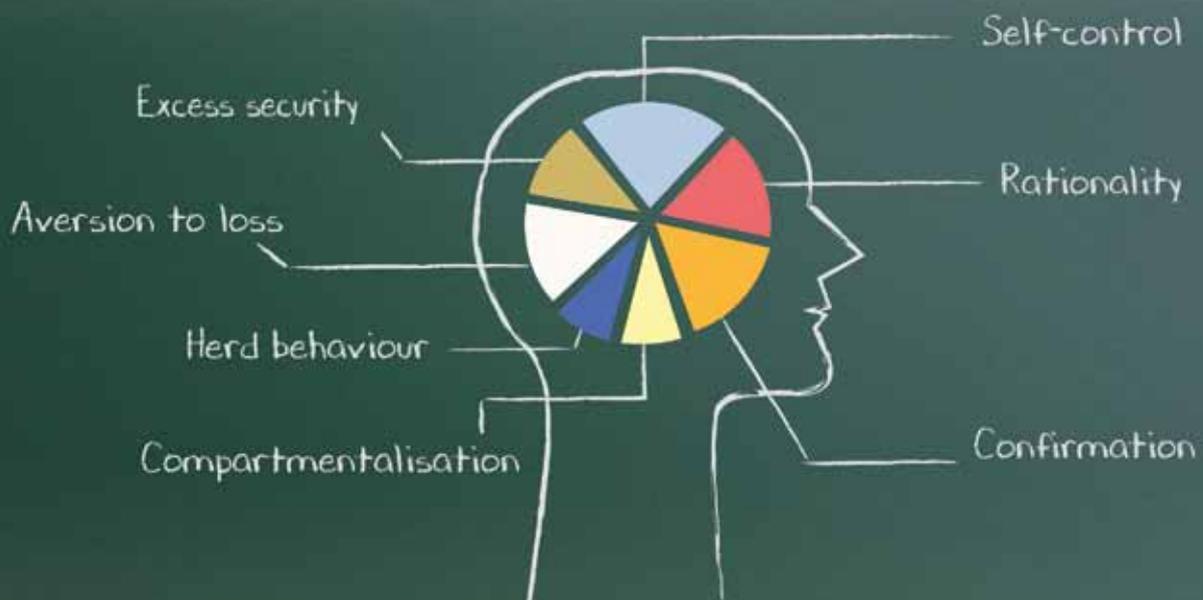


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MONTHLY REPORT • ECONOMIC AND FINANCIAL MARKET OUTLOOK
NUMBER 424 | JUNE 2018



ECONOMIC & FINANCIAL ENVIRONMENT

FINANCIAL MARKETS

The impact of financial conditions and vulnerabilities on growth

INTERNATIONAL ECONOMY

Fragile emerging countries: Argentina and Turkey, neither exceptional cases, nor the first of many others

EUROPEAN UNION

Greece: the never-ending story

SPANISH ECONOMY

Global synchronisation of house prices: causes and consequences

DOSSIER: ECONOMY AND EXPECTATIONS: FACE-TO-FACE

From expectation formation to decision making

Expectations: the key to monetary policy

Expectations, inflation and financial markets: an exciting trinomial full of surprises

MONTHLY REPORT - ECONOMIC AND FINANCIAL MARKET OUTLOOK

June 2018

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Populism in Italy

Almost three months after the elections, populism has reached the government of Italy with the coalition between the 5 Star Movement (M5S) and the Northern League (LN). The M5S, a left-wing populist party, won a huge victory in the south of the country, while the LN, a right-wing populist party, won in the richest regions in the north. These are two parties that have little in common besides being, each in its own way, anti-establishment.

Their victory is probably a response to public frustration at the results produced by the «system». The truth is that they have been rather disastrous: Italy's GDP per capita in 2018 is the same as it was in 1999, while public debt exceeds 130% of GDP despite primary fiscal surpluses (which exclude interest payments) being generated for the past 20 years (with the sole exception of 2009). No other country in Europe has had a comparable history of surpluses.

For a long time, Italy has descended into a spiral of low economic growth and high public debt from which it has not managed to escape. Even when it joined the euro area, Italy already had debt in excess of 110% of GDP. Since then, an average economic growth of just 0.5% per annum in real terms has been insufficient to reduce the bulk of the debt. The fundamental problem with the Italian economy is its inability to grow, and the main reason for this is the absence of reforms. Italy is an economy which is running against the tide of bureaucracy, the slowness of its judicial system, the poor quality of its educational system and the rigidities of its labour market.

Some thought that joining the euro area would help the country to push through the necessary reforms to improve productivity, but this has not been the case. In addition, the euro has made it impossible for Italy to resort to currency devaluations, which had helped to compensate for the loss of competitiveness in the country in the past. The results clearly illustrate that the inability to carry out reforms has a higher price within the single currency.

So, what now? The new government has promised to fight corruption, but apart from this measure, it does not have an agenda of structural reforms to drive economic growth. On the contrary, its priorities include a series of measures, such as the introduction of a guaranteed minimum income and cuts to personal income tax, with a fiscal cost that could cast serious doubts over the sustainability of Italy's public debt. Added to this is the uncertainty surrounding the government's commitment to the European project and the single currency.

To avoid a loss of investor confidence, which would trigger a surge in the risk premium and could close the financing markets for the Italian government, the coalition will have to avoid implementing a programme of extremes and adjust its promises instead. This might happen from the outset, or when faced with a possible rise in the risk premium. In any case, it would be risky for the government to explore the limits to which it can take its policy.

There are several reasons to believe that the government will avoid implementing policies that could trigger a debt crisis. Firstly, it is unlikely to do so for its own survival, given the harm this would cause to the Italian economy and to debt holders, mostly Italians. Secondly, it has a very narrow majority in the Senate, which may be insufficient to approve its proposed policies, depending on what they involve. Thirdly, the President of the Republic can veto a budget that flagrantly violates the constitutional mandate to ensure debt sustainability. Fourthly, and most importantly of all, the majority of Italians want to stay in the euro area.

Enric Fernández
Chief Economist
31 May 2018

CHRONOLOGY

MAY 2018

- 8 The US abandons the Iran nuclear deal reached in 2015 and announces the restoration of sanctions. Argentina requests financial aid from the IMF to deal with the country's significant macroeconomic imbalances.
- 31 The US imposes tariffs on imports of steel and aluminium from Europe, Mexico and Canada.

APRIL 2018

- 13 The credit rating agency Moody's raises Spain's credit rating from Baa2 to Baa1.

MARCH 2018

- 8 President Trump imposes tariffs on imports of steel and aluminium.
- 21 The Fed raises the fed funds rate by 25 bp to a range of 1.50%-1.75%.

FEBRUARY 2018

- 5 Jerome Powell takes over as Chair of the US Federal Reserve, replacing Janet Yellen.

JANUARY 2018

- 19 The Fitch ratings agency raises Spain's credit rating from BBB+ to A-.
- 31 The European Banking Authority (EBA) begins stress tests for Europe's banks for the period 2018-2020.

DECEMBER 2017

- 13 The Fed raises the fed funds rate by 25 bp to a range of 1.25% to 1.50%.
- 15 Fitch ratings agency upgrades Portugal's credit rating to investment grade (BBB). The European Council ratifies the agreement reached with the UK regarding the Brexit terms.
- 20 The US passes tax reforms.

AGENDA

JUNE 2018

- 4 Registration with Social Security and registered unemployment (May).
- 6 Industrial production index (April).
- 12-13 Federal Open Market Committee meeting.
- 14 Governing Council of the European Central Bank meeting.
- 15 Quarterly labour cost survey (Q1).
- 18 Loans, deposits and NPL ratio (Q1 and April).
- 21 International trade (April).
- 25 Balance of payments (Q1).
Net international investment position (Q1).
- 28 Household savings rate (Q1).
Flash CPI (June).
State budget execution (May).
Economic sentiment index of the euro area (June).
European Council meeting.
- 29 Balance of payments (April).

JULY 2018

- 3 Registration with Social Security and registered unemployment (June).
- 5 Industrial production index (May).
- 16 Financial accounts (Q1).
- 18 Loans, deposits and NPL ratio (May).
- 20 International trade (May).
- 26 Governing Council of the European Central Bank meeting.
Labour force survey (Q2).
- 27 US GDP (Q2).
- 30 Flash CPI (July).
Economic sentiment index of the euro area (July).
- 31 GDP (Q2).
State budget execution (June).
Balance of payments (May).
Euro area GDP (Q2).
- 31-1 Federal Open Market Committee meeting.

Weather forecast: good skies with some dark clouds looming-up

The global economy is proceeding at a good pace. The latest data confirm the positive tone of global activity and suggest that the global economy could end the year with growth close to 4%. Nevertheless, in recent weeks it has become clear that the downside risks remain considerable. Geopolitical risks have gained strength following the US withdrawal from the Iran nuclear deal which, in addition to affecting the price of oil, has introduced a new source of instability in the Gulf region. It is also now clear that the period of calm in the financial markets is a thing of the past, largely due to the process of normalisation of US monetary policy. Finally, another factor on which the positive global outlook rests is the trade tensions between the US and China. Although it seems likely that this issue will be resolved, it is unfortunately still too early to let our guard down.

Spike in volatility in the financial markets. The process of normalisation of US monetary policy has highlighted the macrofinancial risks that some emerging countries have accumulated, particularly Argentina and Turkey. Given that we expect the Fed to continue to tighten financial conditions, sporadic episodes of tension are likely to be repeated in some of the more fragile emerging countries, although we do not expect these episodes to be systemic. In Europe, meanwhile, the markets experienced a notable episode of risk aversion, brought about by uncertainty surrounding the orientation of the new government in Italy. This led to a sharp increase in Italy's risk premium, reaching over 270 bps. In this context, the risk premiums of all the other countries of southern Europe also increased, albeit more moderately, while German sovereign debt went back to acting as a safe-haven asset. For a few moments, the worst times of the sovereign debt crisis became all too familiar.

In monetary policy, pay close attention to the June meetings of both the Fed and the ECB. Both institutions should continue to weigh up the delicate balance between continuing with the withdrawal of monetary stimuli (due to the encouraging performance of the respective economies and the risks of accumulating financial imbalances in the medium term) and the importance of doing so at a gradual enough pace so as to limit episodes of volatility in the markets. Finding the right balance will not be easy, especially in the current environment of high political and geopolitical uncertainty. Beyond any specific decisions they may make (it is highly likely that the Fed will raise the reference rate by 25 bps),

all attention will be focused on each institution's assessment of the current economic situation and, above all, on any clues they might provide regarding the future course of their monetary policy for the coming months.

In Europe and in Portugal, growth temporarily slows down. After ending 2017 on a very good footing, the latest GDP data show a slight deceleration in growth in Q1 of this year. In both cases, however, we believe that this is due to temporary factors, and that the accommodative credit conditions, the favourable environment of global growth and a labour market which remains highly dynamic will allow growth to regain strength over the coming quarters.

The Spanish economy continues to perform positively. In a context in which growth has tempered at a European level, Spain's 0.7% quarter-on-quarter Q1 growth figure (3.0% year-on-year) is particularly notable for its strength. Looking forward to the coming quarters, we maintain our forecast that the economy will grow at a steady pace, albeit at slightly more moderate rates as some of the factors that have driven it in recent years slowly lose strength. In this regard, one of the biggest uncertainties is regarding the impact that the recent rise in oil prices might have. Here at CaixaBank Research, we consider this spike to be temporary, hence we expect the final impact to be contained. Another factor which will be worth paying close attention to is how the budget execution develops over the coming months and the process of budget approvals. On the one hand, the budgets are likely to end up being moderately expansive, thereby supporting the growth of the Spanish economy in the short term. On the other hand, however, this will be at the expense of the deficit reduction, which would be somewhat lower than that required by Brussels.

FORECASTS

Year-on-year (%) change, unless otherwise specified

International economy

	2017	2018	2019	2020	Q3 2017	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018
GDP GROWTH										
Global	3.8	3.9	3.9	3.7	3.9	3.9	3.9	3.9	3.8	3.8
Developed countries	2.3	2.3	2.1	1.8	2.5	2.6	2.4	2.4	2.3	2.2
United States	2.3	2.7	2.2	1.9	2.3	2.6	2.8	2.7	2.6	2.5
Euro area	2.5	2.4	2.0	1.7	2.7	2.8	2.5	2.4	2.3	2.2
Germany	2.5	2.3	2.1	1.8	2.7	2.9	2.3	2.4	2.3	2.2
France	2.3	2.1	2.0	1.6	2.7	2.8	2.2	2.1	2.1	2.0
Italy	1.6	1.4	1.2	1.1	1.8	1.6	1.4	1.3	1.3	1.4
Portugal	2.7	2.3	2.3	2.2	2.4	2.4	2.1	2.4	2.4	2.4
Spain	3.1	2.8	2.4	2.3	3.1	3.1	3.0	2.8	2.7	2.6
Japan	1.7	1.0	1.1	0.9	1.9	1.8	1.0	1.1	0.9	1.1
United Kingdom	1.8	1.3	1.7	1.9	1.8	1.4	1.2	1.4	1.2	1.2
Emerging countries	4.8	4.9	5.0	5.0	4.9	4.8	4.9	5.0	4.9	4.9
China	6.9	6.5	6.3	6.0	6.8	6.8	6.8	6.6	6.4	6.3
India	6.2	7.5	7.5	7.5	6.3	7.0	7.7	7.5	7.3	7.3
Indonesia	5.1	5.4	5.6	5.9	5.1	5.2	5.1	5.5	5.5	5.6
Brazil	1.0	2.1	2.6	2.6	1.4	2.1	1.2	2.3	2.5	2.7
Mexico	2.1	2.1	2.4	2.3	1.6	1.5	1.3	1.9	2.5	2.6
Chile	1.5	3.2	3.2	2.9	2.5	3.3	3.3	3.5	2.9	3.0
Russia	1.5	1.8	2.3	2.0	2.2	0.9	1.3	1.8	2.1	2.1
Turkey	7.3	4.0	3.6	3.7	11.3	7.3	5.0	4.5	3.3	3.2
Poland	4.7	4.6	3.2	2.9	5.4	4.4	4.9	4.8	4.4	4.3
South Africa	1.3	1.6	1.6	2.0	1.3	1.9	2.3	1.8	1.4	1.0
INFLATION										
Global	3.0	3.4	3.3	3.2	2.9	3.1	3.3	3.4	3.5	3.3
Developed countries	1.7	1.9	1.7	1.8	1.6	1.7	1.8	2.1	2.1	1.8
United States	2.1	2.5	1.8	1.9	2.0	2.1	2.3	2.7	2.7	2.3
Euro area	1.5	1.5	1.7	1.8	1.5	1.4	1.3	1.6	1.6	1.4
Germany	1.7	1.6	1.8	1.9	1.7	1.6	1.3	1.8	1.7	1.5
France	1.2	1.6	1.7	1.8	0.9	1.2	1.5	2.0	1.6	1.5
Italy	1.3	1.1	1.5	1.6	1.3	1.1	0.9	1.1	1.4	1.2
Portugal	1.6	1.2	1.5	1.8	1.3	1.8	0.9	1.1	1.4	1.5
Spain	2.0	1.6	1.9	2.1	1.7	1.4	1.0	1.7	2.1	1.7
Japan	0.5	1.2	0.9	1.2	0.6	0.6	1.4	1.2	1.4	0.9
United Kingdom	2.7	2.6	2.2	2.1	2.8	3.0	2.7	2.6	2.6	2.3
Emerging countries	4.0	4.4	4.3	4.1	3.9	4.2	4.3	4.4	4.5	4.3
China	1.6	2.1	2.4	2.4	1.6	1.8	2.2	2.4	2.2	1.8
India	3.3	4.6	5.0	4.7	3.0	4.6	4.6	4.4	5.0	4.4
Indonesia	3.8	3.7	4.5	4.6	3.8	3.5	3.3	3.5	4.0	4.2
Brazil	3.5	3.3	4.1	4.1	2.6	2.8	2.8	3.4	3.6	3.6
Mexico	6.0	4.4	3.8	3.4	6.5	6.6	5.3	4.3	4.0	4.0
Chile	2.2	2.5	2.9	3.0	1.7	2.0	2.0	2.3	2.9	2.9
Russia	3.7	2.9	3.9	4.0	3.4	2.6	2.3	2.4	3.2	3.7
Turkey	11.1	10.3	9.3	8.1	10.6	12.3	10.3	10.8	10.8	9.5
Poland	1.6	1.3	2.7	2.5	1.5	1.8	1.0	1.0	1.4	1.9
South Africa	5.3	5.1	5.4	5.1	4.8	4.7	4.2	4.6	5.4	6.1

Forecasts

Spanish economy

	2017	2018	2019	2020	Q3 2017	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018
Macroeconomic aggregates										
Household consumption	2.4	2.6	2.0	1.9	2.4	2.5	2.8	2.7	2.4	2.4
General government consumption	1.6	1.5	0.8	0.7	1.4	2.4	1.9	1.6	1.4	1.2
Gross fixed capital formation	5.0	3.4	3.0	2.7	5.6	5.6	3.5	3.7	3.1	3.1
Capital goods	6.1	1.6	2.6	2.4	6.6	7.7	2.2	2.9	0.7	0.5
Construction	4.6	4.8	3.2	2.9	5.1	4.8	4.7	4.5	5.1	4.9
Domestic demand (contr. Δ GDP)	2.8	2.5	1.9	1.8	3.0	3.2	2.8	2.7	2.4	2.2
Exports of goods and services	5.0	3.7	4.2	4.1	5.6	4.4	3.2	3.3	3.8	4.7
Imports of goods and services	4.7	3.2	3.2	2.9	5.9	5.2	2.8	3.2	3.0	3.8
Gross domestic product	3.1	2.8	2.4	2.3	3.1	3.1	3.0	2.8	2.7	2.6
Other variables										
Employment	2.8	2.4	2.1	2.0	2.9	2.9	3.2	2.2	2.0	2.1
Unemployment rate (% labour force)	17.2	15.4	13.7	12.0	16.4	16.5	16.7	15.6	14.7	14.7
Consumer price index	2.0	1.6	1.9	2.1	1.7	1.4	1.0	1.7	2.1	1.7
Unit labour costs	-0.1	0.9	1.9	2.4	0.0	0.0	0.8	0.6	0.8	1.2
Current account balance (cum., % GDP) ¹	1.9	1.6	1.7	1.6	1.8	1.9	1.9	1.8	1.7	1.6
Net lending or borrowing rest of the world (cum., % GDP) ¹	2.1	1.8	1.9	1.8	2.0	2.1	2.2	2.0	1.9	1.8
Fiscal balance (cum., % GDP) ²	-3.1	-2.6	-1.9	-1.3						

Financial markets

INTEREST RATES										
Dollar										
Fed Funds	1.10	1.96	2.67	3.19	1.25	1.30	1.58	1.83	2.08	2.33
3-month Libor	1.26	2.36	2.94	3.28	1.32	1.47	1.93	2.37	2.50	2.65
12-month Libor	1.79	2.70	3.02	3.35	1.73	1.92	2.39	2.76	2.80	2.84
2-year government bonds	1.39	2.58	3.23	3.49	1.36	1.69	2.15	2.50	2.73	2.93
10-year government bonds	2.33	3.05	3.57	3.75	2.24	2.38	2.76	2.98	3.16	3.30
Euro										
ECB Refi	0.00	0.00	0.08	0.58	0.00	0.00	0.00	0.00	0.00	0.00
3-month Euribor	-0.33	-0.33	-0.07	0.42	-0.33	-0.33	-0.33	-0.33	-0.33	-0.33
12-month Euribor	-0.15	-0.18	0.22	0.77	-0.16	-0.19	-0.19	-0.19	-0.18	-0.14
2-year government bonds (Germany)	-0.75	-0.49	0.06	0.70	-0.72	-0.74	-0.57	-0.55	-0.46	-0.38
10-year government bonds (Germany)	0.36	0.71	1.25	1.91	0.42	0.38	0.62	0.58	0.74	0.90
EXCHANGE RATES										
\$/€	1.13	1.21	1.22	1.24	1.17	1.18	1.23	1.20	1.20	1.21
¥/€	126.65	131.05	130.42	127.81	130.38	132.95	133.06	130.24	129.39	131.49
£/€	0.88	0.88	0.86	0.85	0.90	0.89	0.88	0.88	0.88	0.87
OIL										
Brent (\$/barrel)	54.83	71.27	66.92	66.00	52.18	61.54	67.18	75.13	73.43	69.36
Brent (€/barrel)	48.62	58.39	54.89	53.46	44.84	51.95	55.46	61.07	60.02	57.00

Notes: 1. Four quarter cumulative. 2. Cumulative over four quarters. Does not include aid to financial institutions.

■ Forecasts

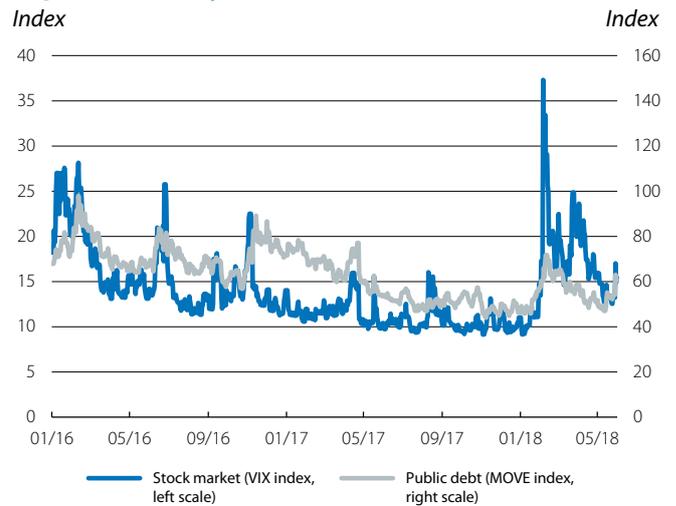
FINANCIAL OUTLOOK · Erratic behaviour in the global financial environment

Markets remain agitated. The tightening of financial conditions in the US is gaining importance in the global macrofinancial scenario. In May, it penalised the markets of emerging economies, which suffered major setbacks in their stock markets and depreciations of their currencies. The advanced economies, on the other hand, began on a more positive note, with moderate gains in the stock markets and relatively stable interest rates, although volatility also prevailed in the second half of the month. In the US, interest rates rose significantly, only for the movement to be reversed in a matter of days, ending up at levels below those of the end of April. Europe, meanwhile, suffered an episode of risk aversion caused by uncertainty over the formation of a government in Italy. German debt acted as a safe-haven asset and its 10-year interest rate fell by over 20 bps, while peripheral risk premiums rose sharply. With this increased financial instability in the background, in June, monetary policy will return to the scene at the hand of the Fed and the ECB. These institutions will have to continue to balance the need to withdraw the monetary stimulus (due to the economy's positive tone and the risk of accumulating financial imbalances in the medium term) with the importance of doing so at a sufficiently gradual pace so as to keep volatility contained.

Emerging financial markets digest the tightening of global financial conditions. For the second consecutive month, prices in the financial markets of the emerging economies were penalised by the consolidation of an environment of higher interest rates in the US. On the one hand, in foreign exchange markets, the dollar strengthened and virtually all emerging currencies depreciated sharply, losing the progress made since January 2018 (in fact, among the major currencies, only those of Colombia, Thailand, China and Malaysia remain up in the current year to date, compared to 18 currencies just two months ago). On the other hand, emerging stock markets also suffered, and most indices ended the month with major losses (the MSCI index for all emerging markets fell more than 3%). Across regions, Latin America suffered the most and its MSCI index lost 14.3%, particularly dragged down by the 7.5% decline in the Mexican stock market. The MSCI index for all the stock markets of the emerging Asian economies, meanwhile, registered losses of around 1.5%.

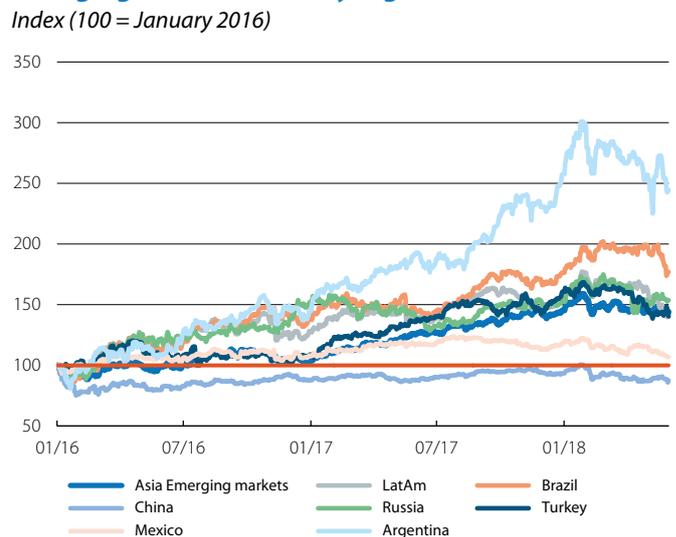
Some emerging economies suffer more than others. In this context of a certain weakness in the stock prices of the emerging economies, Argentina and Turkey were particularly affected. In Argentina, the peso suffered a depreciation of nearly 17%, despite the defence measures attempted by the central bank with two hikes in the reference rate, the first from

Implicit volatility in financial markets



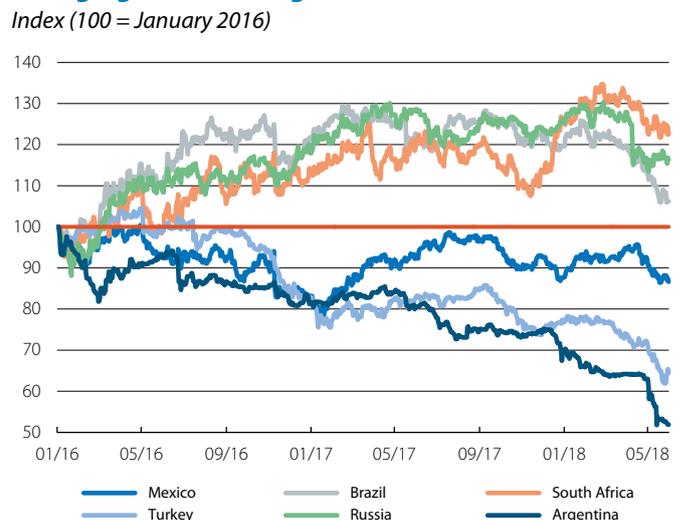
Source: CaixaBank Research, based on data from Bloomberg.

Emerging stock markets by region



Source: CaixaBank Research, based on data from Bloomberg.

Emerging currencies against the US dollar



Source: CaixaBank Research, based on data from Bloomberg.

27.25% to 30.25% at the end of April and the second up to 40% in early May. The Government ended up requesting financial aid from the International Monetary Fund, and the month ended with the fall of the peso stabilising and a certain recovery in the Argentine stock market (the Merval index, which dropped as much as 11% at one point, ended the month with a loss of 4.8%). In Turkey, meanwhile, the lira depreciated more than 10% against the US dollar, while the Istanbul stock market closed down by nearly 3% after having fallen by almost 6% at the beginning of the month. Thus, the Argentine peso and the Turkish lira are the two emerging currencies that have suffered the most so far this year, with depreciations of 25.4% and 17.6%, respectively. This reflects both the major macroeconomic imbalances that the two economies have accumulated and the extent of investors' doubts regarding the ability of their respective governments to correct the situation.

North American markets return to a normal pace. In contrast to emerging markets, in May the US stock market performed well and showed greater strength, despite the higher interest rates. That said, the month was characterised by two distinct phases. In the first half of the month, the main US stock market indices (S&P 500, Dow Jones and Nasdaq) amassed sustained growth, comfortably above 3%. However, in the second half, sovereign interest rates suffered a spike in volatility. In just four days, the 10-year yield saw a 17-bp surge (up to 3.12%, a figure not seen since the end of 2013), which was then reversed with practically the same magnitude and speed with which it had occurred (in fact, the yield ended up below the levels of the end of April). In this second phase, the US stock markets suffered from the volatility of the fixed-income market and were erratic in the remaining sessions, although they managed to end the month up on the whole.

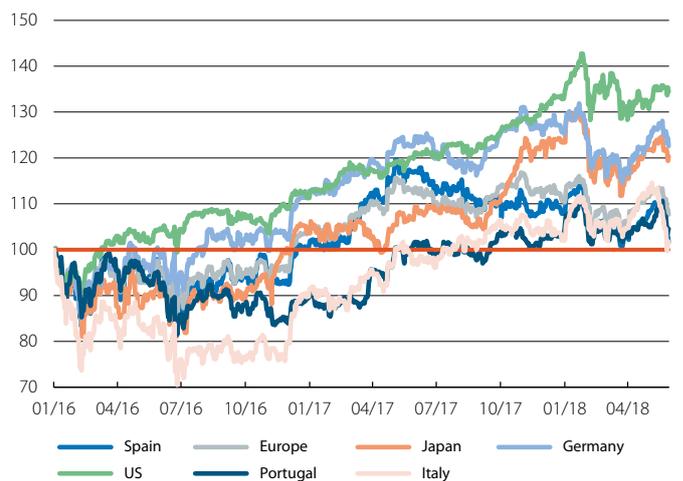
Europe is held back by an episode of risk aversion. On the back of the positive mood in US stock markets, during the first part of the month the main European stock market indices performed positively and registered growth rates above 2% in Spain and France, and close to 5% in Germany. However, this encouraging performance ended abruptly in the second half of the month, when uncertainty about the formation of a government in Italy caused a sharp spike in risk aversion. The Italian risk premium surged by 170 points, reaching 300 bps (a level not seen since the sovereign debt crisis in 2012), before ending the month at 245 bps. This effect spilled over to the risk premiums of the surrounding states (Spain's risk premium rose from 70 bps to 136 bps and ended the month at 116 bps, while the Portuguese risk premium went from 110 bps to 193 bps and ended the month at 164 bps). German sovereign debt, meanwhile, acted as a safe-haven asset and its 10-year yield fell by almost 40 bps, although it regained some ground in the last few days of the month. Throughout this episode, stock markets suffered significant losses, which were more pronounced in peripheral countries (with declines of over 7%) than in core economies. In the month as a whole,

Exchange rate of the US dollar against the major currencies (Index)



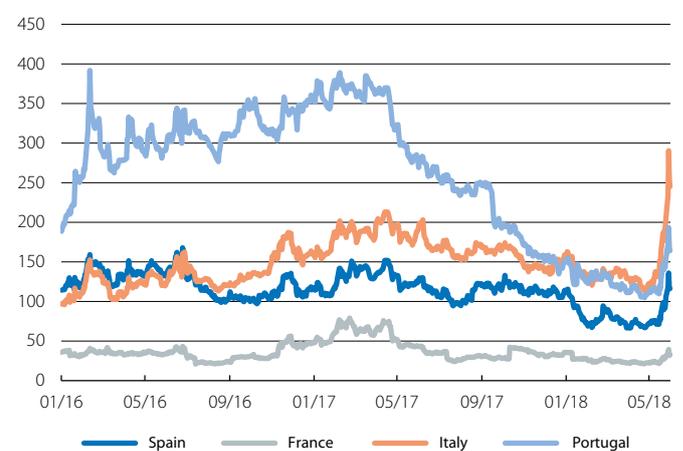
Source: CaixaBank Research, based on data from Bloomberg.

Main advanced economy stock markets Index (100 = January 2016)



Source: CaixaBank Research, based on data from Bloomberg.

Euro area: risk premiums of 10-year public debt (bps)



Source: CaixaBank Research, based on data from Bloomberg.

European stock markets closed up with minimal losses in Germany (DAX -0.1%), and larger losses in France (CAC -2.2%), Spain (Ibex 35 -5.2%) and Italy (MIB -9.2%). Finally, in foreign exchange markets, the euro also suffered from the risk aversion episode: after having begun the month at around 1.20 US dollars per euro, it depreciated to 1.16 dollars at the end of the month.

Central banks send out messages of confidence in the economy in this context of financial volatility. In particular, in the US, the May meeting of the Federal Open Market Committee took place without any changes to the reference rates, but with an optimistic view of economic activity and inflation. This reinforced expectations of a new rate hike in June (which is fully priced in both by analysts and investors). In the euro area, the ECB also sent messages of continuity and was optimistic about the outlook for economic activity. However, members of the ECB also emphasised the importance of understanding the causes behind the moderation of economic activity indicators in the euro area so far this year. As such, they indicated that the ECB will focus its June meeting on undertaking a comprehensive review of the economic situation, before announcing the redesigned monetary policy for the last part of the year.

Crude oil prices seesaw. Just like most financial assets, in May the price of a barrel of Brent oil was characterised by two distinct phases. In the first half of the month, oil prices maintained their upward momentum of recent months and exceeded 80 dollars per barrel. This price increase was supported not only by the structural factors discussed in previous reports (as a reminder, the greater strength in global demand and OPEC's clear commitment to production cuts), but also by the reintroduction of US sanctions on Iran. This factor could not only affect the global supply of oil (albeit to a limited extent, given that Russia and Saudi Arabia can easily compensate for Iran's lower production), but it could also increase the risk of geopolitical instability in the region. However, in the second half of the month, the march of the oil price was slowed by the surge in financial volatility and the price of Brent oil dropped down to 77.6 dollars per barrel.

Exchange rate of the euro against the US dollar

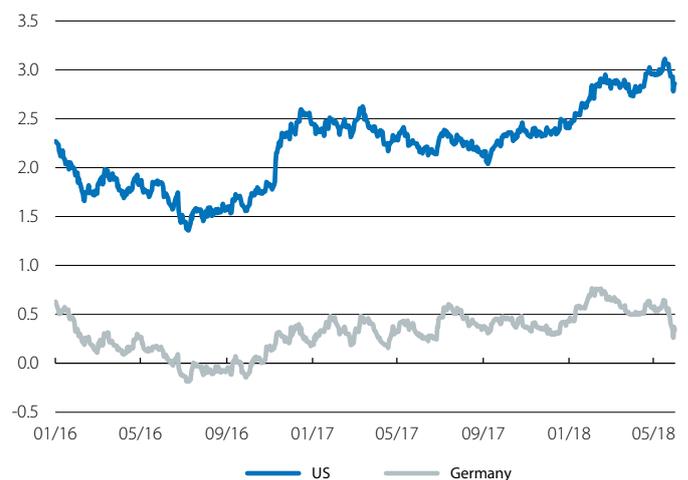
(Dollar-Euro exchange rate)



Source: CaixaBank Research, based on data from Bloomberg.

Yield of 10-year public debt

(%)



Source: CaixaBank Research, based on data from Bloomberg.

Brent oil price

(Dollars per barrel)



Source: CaixaBank Research, based on data from Bloomberg.

FOCUS · The impact of financial conditions and vulnerabilities on growth

How much will the tightening of financial conditions slow down global growth? This is a key question in view of the tightening of monetary policy by the US Federal Reserve (Fed). Below, we present an indicator which will help us to answer this question and we analyse the main financial factors that could put growth at risk.

Growth at risk

In previous Focuses, we have analysed the economic impact of the tightening of monetary policy based on indicators of financial conditions.¹ In this article, we will rely on a new indicator which has become a benchmark for the International Monetary Fund (IMF): growth at risk (GaR).

GaR is based on the fact that financial conditions have the ability to predict future economic growth. In fact, Adrian, Boyarchenko and Giannone (2017)² have shown that restrictive financial conditions are associated with more volatile and lower average growth. We can therefore estimate the probability of different growth scenarios based on the current state of financial conditions. For example, the first chart shows the probability of different growth rates for global GDP predicted to occur in one and three years, based on the state of financial conditions as of Q1 2018. The distributions in the chart indicate that global growth is most likely to stand at slightly below 4% in one year and at around 3.5% in three years.

Another way to view the chart is to focus on the tails. For example, the GaR predicts that in a very adverse scenario (which has a 5% probability of occurring), global growth in one year would be equal to or less than 3%. This is slightly below the value that the indicator had in the past two quarters (when global growth was forecasted to stand at 3.5% in the adverse scenario), which indicates that the deterioration of financial conditions in recent months has led to an increase in negative risks surrounding growth.

In any case, a growth rate of 3% in an adverse scenario is still high, and it is also surprisingly close to the central scenario (which has a 50% probability of occurring). This suggests that the GaR over a one-year period is rather moderate. However, in the medium term the risks are greater: the current financial conditions predict that in an adverse scenario three years from now (i.e. with a 5%

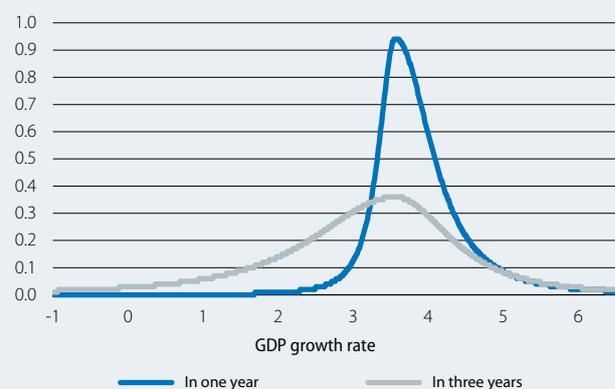
probability of occurring), global growth would be negative (equal to or less than -0.4%).

Finally, it is important to highlight an interesting empirical relationship: accommodative financial conditions in the present boost projected growth in the short term but increase the prospects of poor economic performance in the medium term. In fact, as is illustrated by the difference between the blue, grey and orange lines in the second chart, according to the GaR, in recent years, more relaxed financial conditions (which have increasingly prevailed since late 2016) have been associated with better prospects for growth in the short term but with more negative scenarios in the medium term.

In short, in recent months, the GaR points towards an increase in negative risks in the short term (albeit at a relatively contained level), and it also shows that

Growth scenarios according to the financial conditions as of Q1 2018

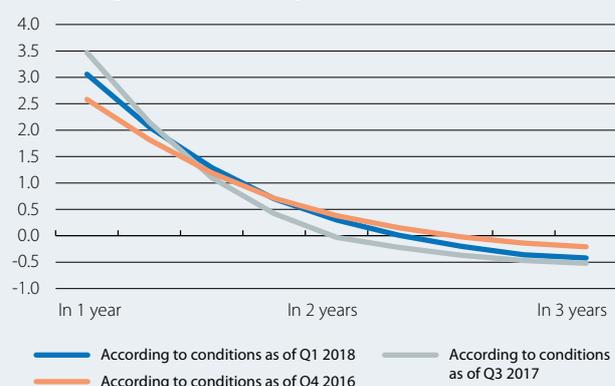
Probability (%)



Source: CaixaBank Research, based on data from the International Monetary Fund.

GDP growth in adverse scenarios

Maximum growth rate with a probability of 5% (%)



Source: CaixaBank Research, based on data from the International Monetary Fund.

1. See the Focus «Growth in the emerging economies and global financial conditions: a close relationship» in the MR05/2018.
 2. T. Adrian, N. Boyarchenko and D. Giannone (2017), «Vulnerable Growth», Federal Reserve Bank of New York Staff Reports.

the medium-term risks remain high and could have a highly negative impact on growth. But which risk factors have increased in recent months, and what are the financial vulnerabilities behind the risks in the medium term?

Risks and financial vulnerabilities

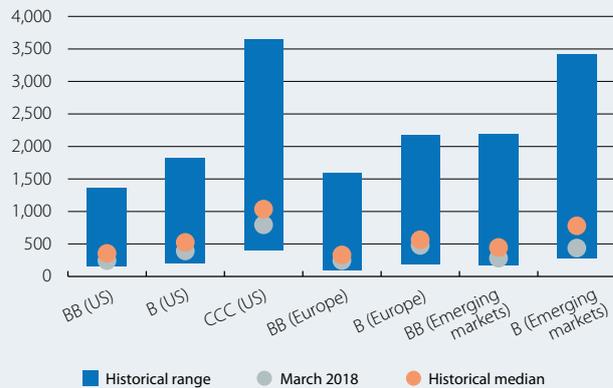
The low interest-rate environment of the past 10 years is a double-edged sword. On the one hand, it is brought about by the need to have accommodative financial conditions that support the economic recovery. Yet, on the other hand it has facilitated the emergence of financial vulnerabilities. In particular, the IMF's last Financial Stability Report highlights four major sources of weakness which, in the event of a sudden tightening of financial conditions, could put growth at risk:³ (i) high valuations of financial assets and very low risk premiums, (ii) high leverage of the non-financial sector and weaknesses in the balance sheets of some financial institutions, (iii) significant and opaque interconnections of China's financial system, and (iv) uncertainty about whether the more solid foundations of the emerging economies really make them less sensitive to changes in financial conditions.

These factors are nothing new,⁴ but some of them have received more attention in the wake of the financial volatility of the last few months. On the one hand, in the equity market, standard metrics such as the CAPE ratio show that, even after the corrections of the first quarter of the year, valuations remain high (especially in the US stock market) and their sustainability depends, in part, on there not being any sudden interest rate hike.⁵ In the same vein, in the fixed-income market, risk premiums remain very low, even in high-risk segments (see the third chart), and have encouraged the issuance of lower quality corporate bonds. On the other hand, although the emerging economies have generally reduced their current account deficits and have accumulated international reserves, they have also been increasingly exposed to investors who are less committed and prone to withdrawing their investments at short notice.⁶

Against this backdrop of vulnerabilities, in recent months there has been an increase in the risk of there being a spike in inflation. The IMF's analysis shows that market

Corporate credit spreads per rating bucket (1999-2018)

Differential with the US sovereign rate (bps)



Source: CaixaBank Research, based on data from the International Monetary Fund.

prices still assign a low probability to this scenario and that, in fact, the reduction of risk premiums is partly due to the perception of a low risk of inflation.⁷ As such, any unexpected spikes in inflation could put more stress than expected on the financial conditions by provoking a sudden rise in risk premiums, as well as putting pressure on central banks to tighten their monetary policy more quickly. Furthermore, in this scenario, the emerging economies could suffer outflows of capital, which would put the solidity of their foundations to the test.

With this risk map, the central banks are faced with the challenge of gradually withdrawing the monetary stimulus without compromising short-term growth, while also addressing the financial vulnerabilities in the medium term. So far, with clear communication and gradual changes to monetary policy, they have managed to get the financial markets to adjust relatively smoothly. However, the latent vulnerabilities are by no means inconsiderable and they could lead to a bumpy road ahead.

3. IMF (2018), «A Bumpy Road Ahead», Global Financial Stability Report for April.

4. For example, see the Focus «China's financial system: a giant with feet of clay?» in the MR11/2016 and the article «Debt: vice or virtue?» in the Dossier of MR04/2016.

5. For further details on the CAPE indicator and the overvaluation of the US stock market, see the article «US equity prices: a cause for concern?» in the Dossier of the MR11/2017.

6. This is suggested by the recent performance of the investor base risk index developed by S. Arslanalp and T. Tsuda (2014), «Tracking Global Demand for Advanced Economy Sovereign Debt», IMF Economic Review.

7. IMF (2018), «An Econometric Lens on What Drives Term Premiums», Global Financial Stability Report for April.

KEY INDICATORS

Interest rates (%)

	31-May	30-Apr	Monthly change (bp)	Year-to-date (bp)	Year-on-year change (bp)
Euro area					
ECB Refi	0.00	0.00	0	0.0	0.0
3-month Euribor	-0.32	-0.33	1	0.8	0.8
1-year Euribor	-0.18	-0.19	1	0.6	-4.9
1-year government bonds (Germany)	-0.65	-0.63	-2	-1.2	10.3
2-year government bonds (Germany)	-0.66	-0.59	-7	-3.3	5.3
10-year government bonds (Germany)	0.34	0.56	-22	-8.7	3.6
10-year government bonds (Spain)	1.50	1.28	22	-6.7	-5.3
10-year spread (bps) ¹	116	72	44	2.0	-8.9
US					
Fed funds	1.75	1.75	0	25.0	75.0
3-month Libor	2.32	2.36	-4	62.6	111.0
12-month Libor	2.72	2.77	-5	61.3	99.6
1-year government bonds	2.22	2.23	-1	48.8	107.0
2-year government bonds	2.43	2.49	-6	54.7	114.8
10-year government bonds	2.86	2.95	-9	45.5	65.7

Spreads corporate bonds (bps)

	31-May	30-Apr	Monthly change (bp)	Year-to-date (bp)	Year-on-year change (bp)
Itraxx Corporate	69	54	15	24.3	6.8
Itraxx Financials Senior	85	57	28	41.6	15.4
Itraxx Subordinated Financials	185	116	69	80.1	26.4

Exchange rates

	31-May	30-Apr	Monthly change (%)	Year-to-date (%)	Year-on-year change (%)
\$/€	1.169	1.208	-3.2	-2.6	4.0
¥/€	127.230	132.050	-3.7	-6.0	2.1
£/€	0.879	0.878	0.2	-1.0	0.8
¥/\$	108.820	109.340	-0.5	-3.4	-1.8

Commodities

	31-May	30-Apr	Monthly change (%)	Year-to-date (%)	Year-on-year change (%)
CRB Commodity Index	446.3	445.1	0.3	3.2	2.8
Brent (\$/barrel)	77.6	75.2	3.2	16.0	54.2
Gold (\$/ounce)	1,298.5	1,315.4	-1.3	-0.3	2.3

Equity

	31-May	30-Apr	Monthly change (%)	Year-to-date (%)	Year-on-year change (%)
S&P 500 (USA)	2,705.3	2,648.1	2.2	1.2	12.2
Eurostoxx 50 (euro area)	3,406.7	3,536.5	-3.7	-2.8	-4.2
Ibex 35 (Spain)	9,465.5	9,980.6	-5.2	-5.8	-13.0
Nikkei 225 (Japan)	22,201.8	22,467.9	-1.2	-2.5	13.0
MSCI Emerging	1,120.7	1,164.4	-3.8	-3.3	11.5
Nasdaq (USA)	7,442.1	7,066.3	5.3	7.8	20.1

Note: 1. Spread between the yields on Spanish and German 10-year bonds.

ECONOMIC OUTLOOK · Economic activity continues to grow at a steady rate despite the increase in downside risks

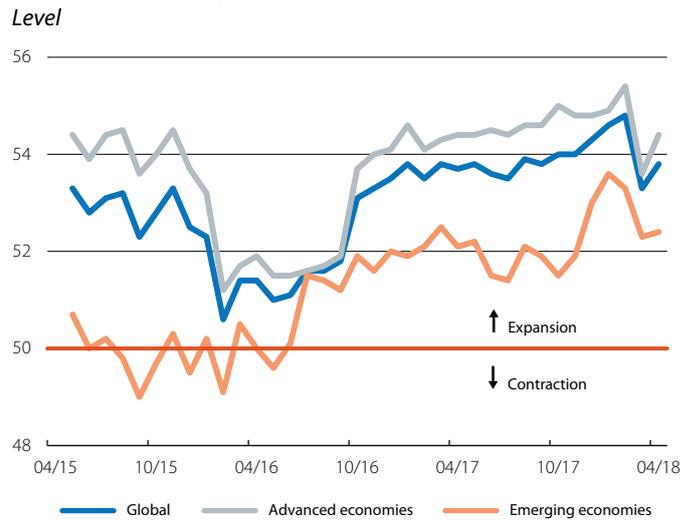
Global activity indicators continue to show a positive tone in Q2. The global business sentiment index (PMI) reflects this trend. Although there was a slight decline in the indicator after reaching its highest point in almost three and a half years in February, in April it rebounded slightly and lies in clearly expansionary territory, both in the advanced and the emerging countries. At the sector level, both the manufacturing and the services index also continue to indicate notable growth. The global economic data therefore support the scenario predicted by CaixaBank Research for 2018, which involves global growth remaining at close to 4%.

However, the downside risks are increasing. Despite the encouraging trend observed so far this year, geopolitical tensions have increased in recent months, dragging forecasts down. Although they have abated in recent weeks, there are still fears of a trade war after the US threatened to adopt a more protectionist attitude. In the political sphere, of particular note is the uncertainty in Italy and the US' decision to abandon the nuclear deal with Iran. This latter action has led to an increase in geopolitical uncertainty in the Middle East, a key region for the supply of oil, which has pushed its price up (at one point it reached 80 dollars per barrel). In addition to the political tensions, also significant are the macrofinancial risks that certain emerging and developing countries are enduring, highlighted this month by the currency crisis experienced by Argentina and the collapse of the Turkish lira. Finally, we should also take into account the potential negative impact that a greater-than-expected tightening of global financial conditions could have on growth, particularly in the emerging markets with greater vulnerabilities (for more details, see the article «Fragile emerging countries: Argentina and Turkey, neither exceptional cases, nor the first of many others» in this same *Monthly Report*).

UNITED STATES

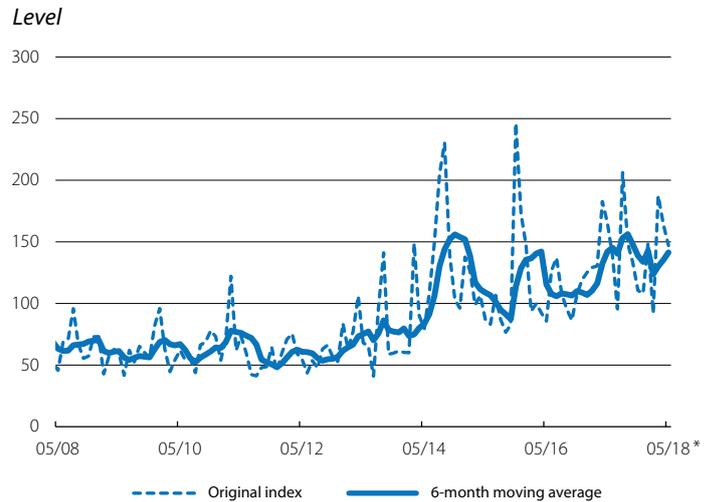
The economic indicators continue to indicate solid growth. Following the encouraging GDP growth figure for Q1 2018, the economic indicators available for Q2 confirm that this positive phase is continuing. The manufacturing and services business sentiment indices (ISM) stood at 55.7 and 55.2 points, respectively. These figures suggest that the good pace of growth in the secondary and tertiary sectors is sustained, despite both indices falling slightly in the last month. The marked increase in industrial production and in retail sales registered in April also point towards strong growth in economic activity and private consumption in Q2.

Economic activity indicators: composite PMI



Source: CaixaBank Research, based on data from Markit.

Geopolitical risks index



Note: * Data for May 2018 based on searches in newspapers up to 10 May 2018. Source: CaixaBank Research, based on data from the Geopolitical Risk Index (Caldara and Iacoviello).

US: economic activity indicators



Source: CaixaBank Research, based on data from the ISM.

Close to full employment. The data on the labour market continue to impress. In April, the activity rate stood at 62.8% and 164,000 jobs were created (exceeding the figure for the previous month). This latter figure is particularly significant, since it is above what is considered to be the equilibrium for job creation for where the US economy currently lies in the economic cycle, namely between 75,000 and 125,000 jobs. In addition, the unemployment rate fell to 3.9%, after six months of stagnation at 4.1%. Finally, wages rose by a significant 2.6% year-on-year, and several indicators, such as those provided by the survey of the National Federation of Independent Business (NFIB), suggest that wage growth will continue to rise over the coming quarters. This is expected to put upward pressure on inflation.

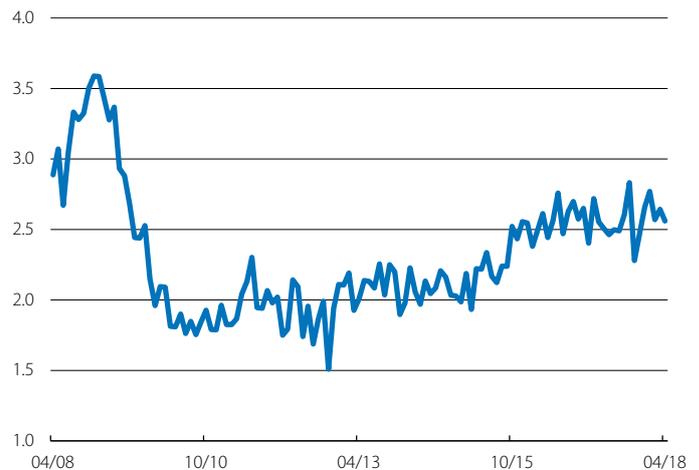
The upward trend of inflation seen in recent months continues. The headline inflation rate stood at 2.5% in April, 1 decimal point higher than in the previous month. Meanwhile, core inflation, which excludes the more volatile prices of energy and food, remained at 2.1%. This upward trend will continue over the coming months, both in headline inflation and core inflation. This continuity in the increase in inflation is largely due to a considerable underlying upward effect caused by the sharp declines in wireless telephone prices experienced in 2017 during these months, which will not reoccur this year. On the other hand, the improvement in the inflation expectations, as reflected in the encouraging figure of the index developed by the University of Michigan, also reinforces this upward trend. In this context, everything is pointing towards another increase in the reference rate at the Fed's next meeting scheduled to take place in June.

REST OF THE WORLD

Japan: GDP for Q1 2018 provides a disappointing surprise. Following eight consecutive quarters of positive growth, the longest period of straight positive growth since 1989, the Japanese economy shrank by 0.2% in quarter-on-quarter terms in Q1 2018 (+1.0% year-on-year). Although the figure has been driven by temporary factors which have had a negative effect on private consumption, such as bad weather, the truth is that the generalised weakness in demand has been an unexpected disappointment: both private consumption and investment have fallen, while employment income and business profits have increased markedly. On the whole, this denotes a certain unease regarding what the future holds for the economy, both among households and businesses. Furthermore, the figures for Q4 2017 have also suffered a strong downward revision.

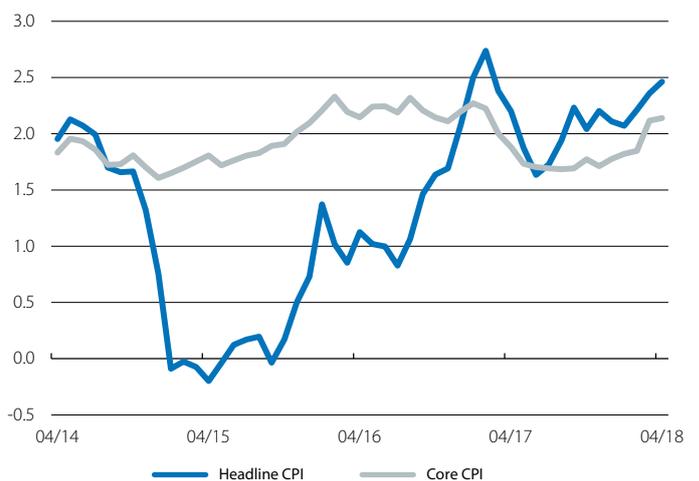
There is growing concern about the economic situation in several emerging economies. After the events of the last month, including Argentina's currency crisis, the concern regarding the potential weakness of the emerging markets has become apparent. An example of this is the sudden stop in portfolio capital inflows (debt and equity) experienced by the emerging economies in April, with an outflow of

US: wages
Year-on-year change (%)



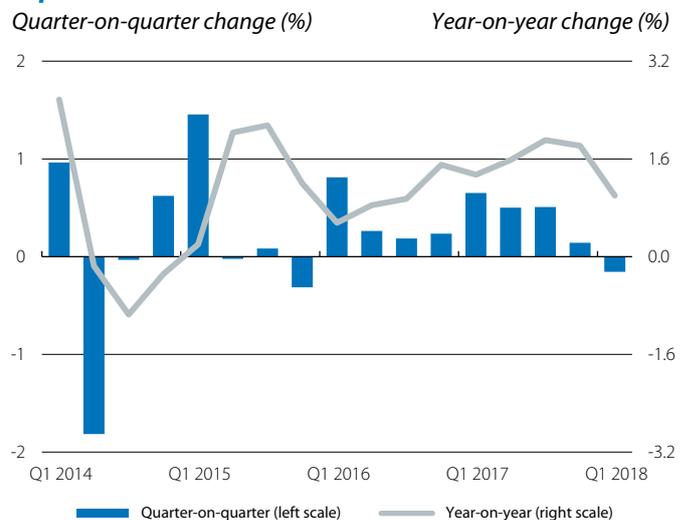
Source: CaixaBank Research, based on data from the Bureau of Labor Statistics.

US: CPI
Year-on-year change (%)



Source: CaixaBank Research, based on data from the Bureau of Labor Statistics.

Japan: GDP



Source: CaixaBank Research, based on data from the Japanese Cabinet Office.

200 million dollars. This contrasts with the 11,300 million dollars received in the previous month. This sudden change of attitudes among investors is supported by the strengthening of the US dollar, as well as by the rate rises being carried out by the Fed, which in recent weeks have led to a notable upswing in the 10-year US bond. Added to this are the imminent elections that are due to be held in numerous countries across Latin America and in Turkey. All this suggests that, although the systemic risk is limited, the macrofinancial conditions will continue to test the resilience of the emerging markets over the coming quarters.

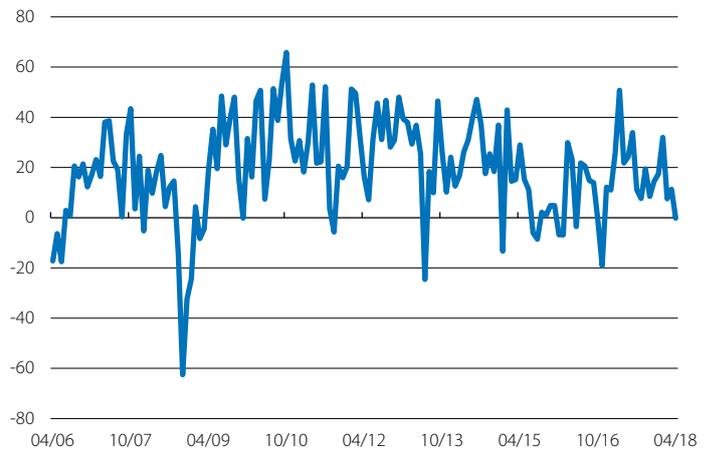
China maintains export rates despite trade tensions.

Chinese exports rose by 12.9% year-on-year in April, following March's discouraging figure. In particular, exports from China to the US do not appear to have been adversely affected by the protectionist threats from the latter, growing by a notable 9.7% in year-on-year terms in April. However, it is possible that this strong upswing is driven by the fears that the trade war between China and the US will end up materialising, triggering exporting firms to bring their shipments forward to avoid future tariff increases. In more general terms, economic activity in China continues to show a positive tone following the encouraging figure for Q1 2018. Of particular note are the strong increases in industrial production and in the PMI for manufacturing and services recorded in April.

Weaker-than-expected growth in some emerging markets.

In Russia, GDP grew by 1.3% year-on-year in Q1 2018, somewhat lower than expected. While it is true that this represents an improvement over the 0.9% recorded in Q4 2017, we must bear in mind that this latter figure is dragged down by an underlying negative effect (Q4 2016 was the last quarter in which Russia was not subject to the oil production limit agreed with OPEC). GDP growth in Mexico was also lower than expected, and it is feared that the uncertainty generated by the NAFTA negotiations and the presidential elections scheduled for 1 July are stifling investment and household consumption. Brazil has also lost momentum in Q1 2018, with year-on-year growth of 1.2%, which contrasts with the 2.1% experienced in Q4 2017. Although this figure is slightly lower than was expected, Brazil has accumulated five consecutive quarters of growth, which consolidates its economic recovery following the deep recession experienced in 2015-2016. The slowdown in GDP growth has been the result of the poor performance of public consumption and exports. All in all, investment has remained stable, which suggests that the political uncertainty is not doing too much to dent business confidence. Finally, India grew by 7.7% year-on-year, 7 decimal points higher than in the previous quarter, making it the fastest-growing large economy in Q1 2018. This data confirms the economy's recovery following the temporary instability brought about by the implementation of the goods and services tax (GST) in 2017 and the demonetisation, which overshadowed the country's short-term growth outlook.

Capital flows towards emerging markets (portfolio)*
Billions of dollars (monthly data)



Note: * Capital flows of non-residents towards emerging markets. + indicates an inflow, - indicates an outflow.
Source: CaixaBank Research, based on data from the IIF.

China: foreign trade of goods *
Year-on-year change in the 12-month cumulative total (%)



Note: * Change obtained based on nominal data in dollars.
Source: CaixaBank Research, based on data from the Chinese customs office.

Russia and Mexico: GDP



Source: CaixaBank Research, based on data from the national statistics institutes.

FOCUS · China: in prosperity and in adversity

The Chinese economy is transforming its productive model and is moving towards a more sustainable growth, driven by consumption and services to the detriment of investment and the manufacturing sector.¹ This transformation is expected to be accompanied by a slowdown in the pace of growth. Specifically, during the period 2018-2020 we forecast an average growth rate of 6.2%, well below the 8.3% average experienced between 2008 and 2017. Although this transformation is positive, the significant macroeconomic imbalances that the country has accumulated, especially high corporate debt, could result in a hard landing for the Chinese economy. All this, of course, could have a negative impact on the rest of the world.

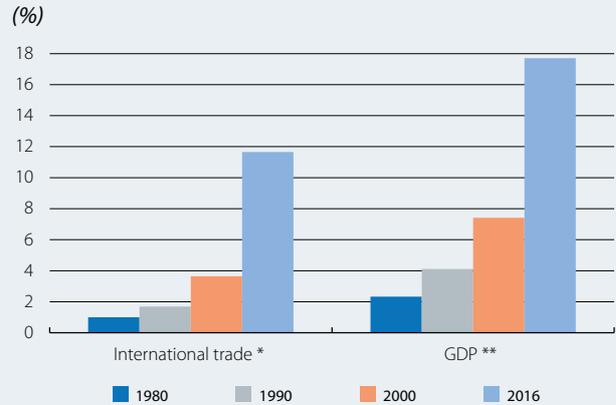
Two figures help to illustrate the importance of the Chinese economy at the global level. On the one hand, the greater weight of China in the global economy can be clearly seen in its significance in terms of GDP: in 1990, China's GDP accounted for only 4% of global GDP, while in 2017 it reached 18.2%.² On the other hand, China's participation in global trade has also experienced a dramatic increase since 1990 (see first chart).³ The importance of the Asian giant for the global economy is indisputable.

There are many ways in which a sudden slowdown of China's growth would affect the global economy. Below, we focus our analysis on two of them: international trade and global financial conditions. With regards to the first of them, it should be noted that China is one of the main exporting economies: in terms of manufacturing, it has been the world's biggest exporter since 2009. In addition, China is an important purchaser at the global level: China's imports represent over 25% of the total exports of the emerging markets. It is also worth mentioning that the commodity prices have proven to be highly sensitive to changes in the outlook for Chinese demand over the past few years.

With regards to the impact of China's hard landing on the global financial conditions, the channel which through it would affect them is less clear. It is well known that, in financial terms, the Chinese economy remains relatively closed. Nevertheless, Chinese investment abroad has been growing significantly in recent years. Furthermore, to the extent that the growth of other economies would be affected by trade channel, it is also expected to have

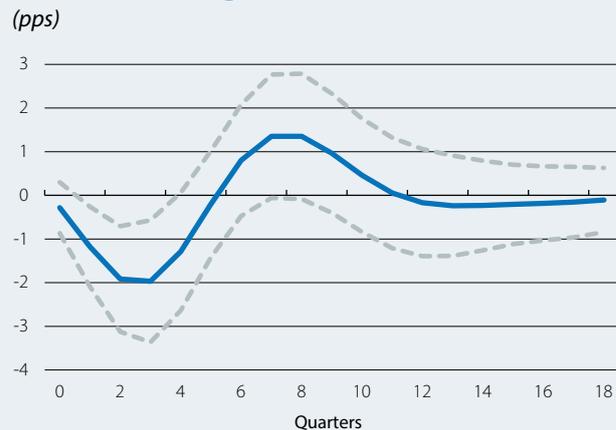
1. See IMF (2016), «China's changing trade and implications for the CLMV Economies».
 2. GDP in purchasing power parity terms.
 3. See IMF (2010), «Gauging China's Influence».

China's presence in the global economy



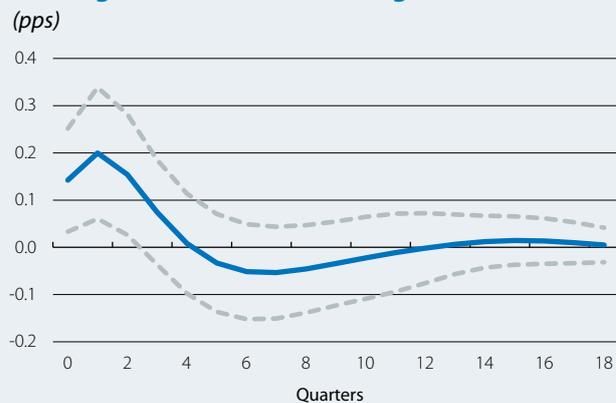
Notes: * Calculated as China's total imports and exports as a percentage of the world's total. ** Corresponds to China's GDP share of the world GDP, measured in purchasing power parity terms. Source: CaixaBank Research, based on data from the IMF.

Response of international trade to a negative shock to China's growth



Note: The dotted lines represent a 95% confidence interval. Source: CaixaBank Research.

Response of global financial conditions to a negative shock to China's growth



Note: The dotted lines represent a 95% confidence interval. Source: CaixaBank Research.

an impact on market confidence and global financial conditions.⁴

In order to determine the extent to which a more sudden slowdown in China could have a negative impact on global growth, firstly we have studied the sensitivity of international trade⁵ and global financial conditions⁶ to a negative China's GDP growth shock. The results of the econometric analysis carried out imply that a 1 pp reduction in China's GDP growth would lead to a 2.0 pps fall in the growth of international trade after approximately one year.⁷ It could also lead to a notable tightening of financial conditions, amounting to 0.2 pps of the financial conditions index analysed. We can consider as a benchmark the fact that, during cycles of interest rate rises by the Fed, the index has increased by 1.5 pps.

Given the impact that a slowdown in China would seemingly have on financial conditions and global trade, it is not surprising that the estimated impact on global growth is also significant. As shown in the rest of the charts, a shock that reduces China's GDP growth by 1 pp would reduce GDP growth in the main emerging and developed economies by 0.5 pps.⁸

The analysis performed may not convince the strongest sceptics, since China's official GDP data suffer from certain measurement problems which have cast doubt over their credibility. To overcome this limitation, we repeated the above analysis using the economic activity index developed by CaixaBank Research (for more information, see the Focus «China's economic growth under the microscope: past, present and future»⁹). The results remain the same producing significant effects and impacts of a very similar size to those obtained using the official GDP data for all the variables analysed.¹⁰

4. See IMF (2016), «World Economic Outlook», chapter 4.

5. The international trade variable is defined as the year-on-year change of total exports in real terms.

6. In this analysis, we used the Goldman Sachs global financial conditions index (FCI). This index summarises financial conditions by incorporating information offered by different financial assets (interest rates, spreads, stock market prices and exchange rates) for a set of advanced and emerging countries.

7. A VAR is estimated using China's GDP growth, global financial conditions, international trade, GDP growth in the advanced economies and in the rest of the emerging economies, and the impulse-response functions analyse a China's GDP growth sock.

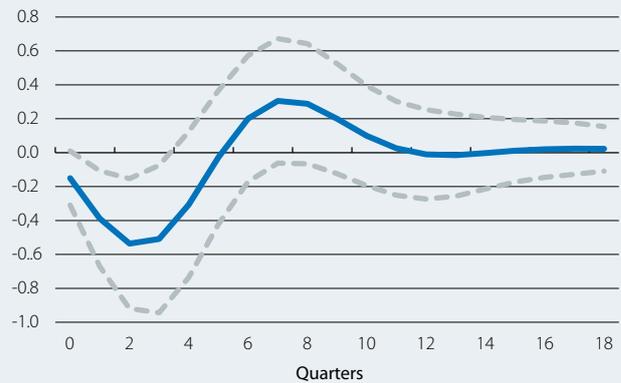
8. To calculate the GDP growth of the rest of the emerging economies, we have used a sample of 20 countries which includes the main emerging economies (in terms of size) and those with the strongest trade links with China: Argentina, Brazil, Chile, China, Colombia, India, Indonesia, Malaysia, Mexico, the Philippines, Poland, Russia, South Africa, Thailand, Turkey, Venezuela, Iran, Israel, Egypt and Peru. The weighting of each country has been adjusted according to its share of the world GDP in purchasing power parity terms. For the advanced countries, the aggregate GDP provided by the IMF was used.

9. See MR02/2018.

10. Specifically, GDP growth is reduced by 0.4 pps and 0.5 pps in the emerging and advanced economies, respectively, two quarters after the shock occurs.

Response of the advanced economies' growth to a negative shock to China's growth

(pps)

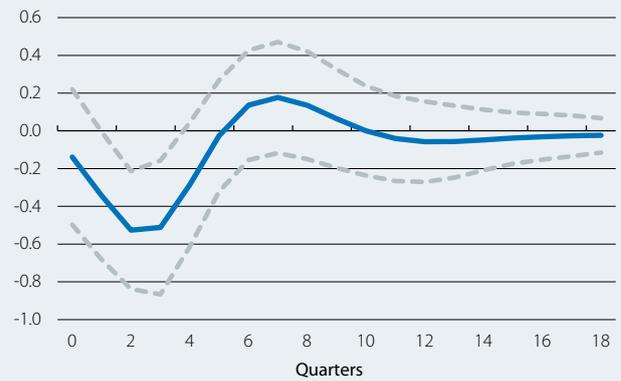


Note: The dotted lines represent a 95% confidence interval.

Source: CaixaBank Research.

Response of the emerging economies' growth to a negative shock to China's growth

(pps)



Note: The dotted lines represent a 95% confidence interval.

Source: CaixaBank Research.

FOCUS · Fragile emerging countries: Argentina and Turkey, neither exceptional cases, nor the first of many others

In the last few weeks, we have seen a phase of strong downward pressure on various emerging currencies. Since the end of April, which is when the dollar strengthened and US interest rates rises began to materialize, the Argentine peso has depreciated nearly 20% against the US dollar, the Turkish lira more than 10%, and a large number of currencies (including the Polish zloty, the Brazilian real, the Mexican peso, the Chilean peso and the Colombian peso) have depreciated by between –6% and –4%. All this has alerted investors and has raised the important question of whether we are on the brink of a widespread crisis in the emerging economies, or have various unrelated problems simply affected specific countries at the same time?

To answer this question, let us look first at what lessons can be learned from the cases of Argentina and Turkey, the two countries most affected by the financial stress. The key question is, why are investors betting against their currencies? Besides short-term speculative aspects, the main factor seems to be the erosion of the credibility of both governments with regards to their economic policy strategy. In the case of Argentina, this strategy is being implemented gradually (as opposed to a more intense implementation confined to a shorter period). Although in 2016 and 2017 this strategy appeared to have the approval of the markets, in recent months two problems have become apparent. Firstly, the strategy is not producing all of the expected results. Despite the measures adopted, significant macroeconomic imbalances remain, particularly high inflation (26.5% year-on-year in April), the persistent current account deficit (4.6% of GDP at the end of 2017) and a government deficit of around 6.5% of GDP for 2017 as a whole.

A second weakness of the strategy is the fact that some inconsistencies have been noted. For instance, whilst announcing ambitious objectives, it is not clear that measures consistent with those objectives are being taken. The most obvious case of this weakness has been in preventing inflation. In fact, the Argentine peso began to weaken last December, when an inflation target of 15% was announced for 2018. This was received with doubts among investors, which were only reinforced in January when the Central Bank opted to reduce the reference rate. After costly interventions in the foreign exchange markets, having a reference rate of 40% and forcing the commercial banks to reduce their foreign currency holdings, the end result of this lack of proactivity has been to request financial aid from the IMF.

A review of Turkey's episode yields similar conclusions. In this case, investors' concerns have grown as it has become clear that the government's economic policy was not acting to counteract the country's sizeable macroeconomic imbalances. With the country growing at over 7% in Q4 2017 (the latest available figure), inflation at 10.8% in April and the current account deficit at 5.6% of GDP in 2017, it was not until the end of May that the government began to take clear measures to tackle the situation. The reference rate was increased by 300 bps to 16.5%, the system for implementing monetary policy was simplified and certain macroprudential aspects were tightened. In the minds of investors, this was surely too little, too late.

Therefore, both countries share the unfortunate combination of macroeconomic imbalances and inadequate economic policies. Are the rest of the emerging economies in a similar situation, particularly those that have suffered the most from the recent depreciations? Addressing these crucial questions requires us to look at the situation of the main emerging economies in terms of external and internal vulnerabilities, and the economic policy's margin for manoeuvre in the event of potential shocks. Of course, the worst combination will be countries with significant imbalances and little margin to absorb such shocks.

With regard to the first area, by assessing the major emerging economies and comparing the current situation to that of 2007, when the emerging countries were at the end of the previous cycle of growth, we can draw two major conclusions. The first conclusion is that the main imbalance is the result of the accumulation of debt. This is reflected both in the increase in external

Emerging currencies

Index (100 = January 2016)



Source: CaixaBank Research, based on data from Bloomberg.

debt (it is currently 8 pps higher than it was in 2007) and in internal credit (measured by the distance between the credit/GDP ratio and its long-term trend). Among the emerging countries with this issue, some show particularly high levels of debt. These include Turkey, Argentina, South Africa, Indonesia, Colombia, Malaysia, Hungary, Poland and Chile (see the table below to identify the countries with the worst situation in each imbalance).

With regard to the margin for manoeuvre in the event of potential shocks that might trigger the vulnerabilities, it is important to know whether each country has sufficient foreign currencies to intervene to protect its currency, whether there is margin for error in its fiscal position, and whether there is scope to increase the influence of monetary policy without reference rates reaching unacceptable levels. As was the case with the vulnerabilities, the ability to mitigate potential shocks is less than the level desirable in Argentina, Turkey, South Africa, Malaysia, Brazil and Hungary. The decision-making process could also be hampered by the fact that elections are due to be held in the first four countries in 2018 or 2019.

In short, the list of fragile emerging economies, based on the review above and similar exercises performed by other institutions, is rather long and would include Argentina, Turkey, South Africa, Colombia, Malaysia, Hungary, Brazil and Indonesia.

In this context, what is their sensitivity to potential shocks, such as a sharp tightening of global financial conditions?

To assess the impact of such shocks, we analysed the impulse response functions of a VAR for the fragile emerging economies, and another for the rest of the major emerging economies, when faced with a tightening of the global financial conditions index of 1.5 points.¹ Based on historical experience (2007-2017), a tightening of financial conditions of this nature, if sudden, would cause growth in the fragile emerging economies to drop by 1.7 pps after two quarters, while in the rest of the emerging economies the drop would be in the order of 0.9 pps. This is by no means a minor impact. Furthermore, it should be taken as a minimum threshold, since investors' complacency when faced with such imbalances, and their willingness to accept inappropriate economic policies, will likely be lower than in the past.

However, all this does not mean that judgement has already been passed. For starters, the market appears to be uneven among the emerging markets. Even when the financial pressure on Argentina or Turkey was at its maximum, the issue was relatively contained. A second

1. A tightening of this intensity appears reasonable if we analyse the historical trends in financial conditions during periods of rising interest rates in the US and the scenario envisaged for the coming years.

point to bear in mind is that many of the aforementioned fragile emerging economies are relatively small in size or have a marginal position in global trade and financial flows, hence their role can hardly be considered systemic. In short, as we state in the title of this Focus, Argentina and Turkey should not be taken as indicators of the fate of many emerging economies, although strictly speaking, they are certainly not exceptional cases either.

Emerging economies: vulnerabilities and margin for manoeuvre

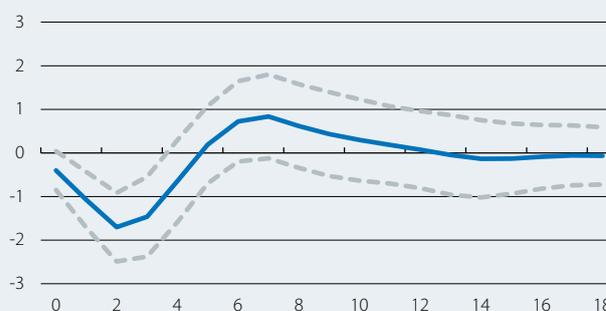
	Latest figure	Change since Q1 2007 (pps)	Five worst countries
Internal and external imbalances			
Current account balance (% GDP)	-0.97	-3.42	Turkey, Argentina, Colombia, South Africa and Indonesia
External debt (% GDP)	40.61	8.24	Hungary, Poland, Chile, Malaysia and Turkey
S/term external debt (% GDP)	29.04	4.69	Malaysia, Turkey, Hungary, South Africa and Poland
Inflation (%)	4.61	-0.61	Argentina, Turkey, Mexico, India and Colombia
Credit-to-GDP gap* (% vs the trend)	0.08	1.63	China, Indonesia, Colombia, Chile and Mexico
Mitigating factors of an adverse shock			
Currency to s/t external debt ratio	3.44	-0.38	Turkey, Argentina, Malaysia, South Africa and Hungary
Fiscal balance (% GDP)	-2.62	-4.36	Brazil, Argentina, Malaysia, South Africa and Indonesia
Public debt (% GDP)	40.82	6.04	Brazil, Hungary, Argentina, South Africa and Colombia
Reference rate (%)	6.73	-0.91	Argentina, Turkey, Russia, Mexico and Brazil

Notes: Values in red indicate a worsening of the vulnerability or margin for manoeuvre; values in green denote a reduction in the vulnerability or margin for manoeuvre. The figures correspond to the simple average of the variables calculated for a sample of emerging countries, consisting of Turkey, Russia, South Africa, Poland, Hungary, Saudi Arabia, China, India, Indonesia, Malaysia, Brazil, Mexico, Peru, Colombia, Argentina and Chile.

* Difference between the credit/GDP ratio and its long-term trend.

Source: CaixaBank Research, based on data from Thomson Reuters Datastream.

Response of the growth of the most vulnerable emerging economies to a global financial shock (pps)



Note: A fourth-moment vector autoregression is expected, which includes quarterly data on the global financial conditions index, on the growth of the most vulnerable emerging markets and on that of the least vulnerable emerging markets. The dotted lines represent a 95% confidence interval.

Source: CaixaBank Research, based on data from Bloomberg.

KEY INDICATORS

Year-on-year change (%), unless otherwise specified

UNITED STATES

	2016	2017	Q2 2017	Q3 2017	Q4 2017	Q1 2018	04/18	05/18
Activity								
Real GDP	1.5	2.3	2.2	2.3	2.6	2.8	–	...
Retail sales (excluding cars and petrol)	3.4	4.2	3.6	4.1	5.3	4.3	4.1	...
Consumer confidence (value)	99.8	120.5	118.1	120.3	126.0	127.1	125.6	128.0
Industrial production	–1.9	1.6	1.9	1.3	3.0	3.3	3.5	...
Manufacturing activity index (ISM) (value)	51.4	57.4	55.8	58.7	58.7	59.7	57.3	...
Housing starts (thousands)	1.177	1.208	1.171	1.172	1.259	1.320	1.287	...
Case-Shiller home price index (value)	189	200	198	200	205	209	...	...
Unemployment rate (% lab. force)	4.9	4.4	4.3	4.3	4.1	4.1	3.9	...
Employment-population ratio (% pop. > 16 years)	59.7	60.1	60.1	60.2	60.1	60.3	60.3	...
Trade balance ¹ (% GDP)	–2.7	–2.9	–2.8	–2.9	–2.9	–3.0	...	...
Prices								
Consumer prices	1.3	2.1	1.9	2.0	2.1	2.2	2.5	...
Core consumer prices	2.2	1.8	1.8	1.7	1.8	1.9	2.1	...

Note: 1. Cumulative figure over last 12 months.

Source: CaixaBank Research, based on data from the Department of Economic Analysis, Department of Labor, Federal Reserve, Standard & Poor's, ISM and Thomson Reuters Datastream.

JAPAN

	2016	2017	Q2 2017	Q3 2017	Q4 2017	Q1 2018	04/18
Activity							
Real GDP	1.0	1.7	1.6	1.9	1.8	1.0	–
Consumer confidence (value)	41.7	43.8	43.4	43.8	44.5	44.4	43.6
Industrial production	–0.2	4.5	5.6	4.4	4.1	2.5	...
Business activity index (Tankan) (value)	7.0	19.0	17.0	22.0	25.0	24.0	–
Unemployment rate (% lab. force)	3.1	2.8	2.9	2.8	2.7	2.5	2.5
Trade balance ¹ (% GDP)	0.7	0.5	0.6	0.6	0.5	0.4	0.7
Prices							
Consumer prices	–0.1	0.5	0.4	0.6	0.6	1.3	0.6
Core consumer prices	0.6	0.1	0.0	0.2	0.3	0.4	0.3

Note: 1. Cumulative figure over last 12 months.

Source: CaixaBank Research, based on data from the Communications Department, Bank of Japan and Thomson Reuters Datastream.

CHINA

	2016	2017	Q2 2017	Q3 2017	Q4 2017	Q1 2018	04/18
Activity							
Real GDP	6.7	6.9	6.9	6.8	6.8	6.8	–
Retail sales	10.4	10.2	10.8	10.3	9.9	9.9	9.4
Industrial production	6.1	6.6	6.9	6.3	6.2	6.6	7.0
PMI manufacturing (value)	50.3	51.6	51.4	51.8	51.7	51.0	51.4
Foreign sector							
Trade balance ¹ (value)	512	435	458	435	435	420	411
Exports	–8.4	8.5	9.0	6.9	10.1	13.6	11.9
Imports	–5.7	16.1	14.3	14.7	13.2	19.2	21.2
Prices							
Consumer prices	2.0	1.6	1.4	1.6	1.8	2.2	1.8
Official interest rate ² (value)	4.35	4.35	4.35	4.35	4.35	4.35	4.35
Renminbi per dollar (value)	6.6	6.8	6.9	6.7	6.6	6.4	6.3

Notes: 1. Cumulative figure over last 12 months. Billion dollars. 2. End of period.

Source: CaixaBank Research, based on data from the National Bureau of Statistics of China and Thomson Reuters Datastream.

ECONOMIC OUTLOOK · Upturn in risks in an environment of healthy growth

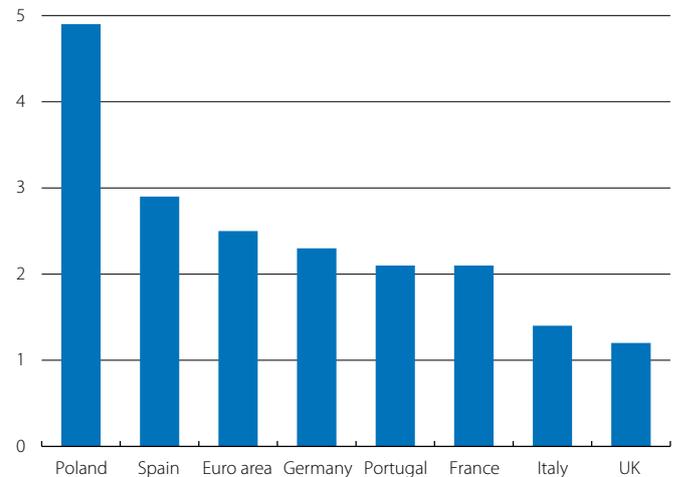
Growth in the euro area has tempered in Q1. After ending the year on a very good footing, the GDP data published this month show that the growth of the euro area has slowed in Q1 2018, just as the economic activity indicators had already indicated. Specifically, the area grew by 0.4% quarter-on-quarter (2.5% year-on-year), 3 decimal points below the figure for the previous quarter. By country, the slowdown in Germany and France was particularly noteworthy, with quarter-on-quarter growth rates between 3 and 4 decimal points below those of Q4 2017. These low figures can be attributed, at least in part, to a series of temporary factors that have weighted on economic activity, such as the unusually bad weather conditions in northern Europe and the strikes in Germany. In Germany, it is also highly likely that the political impasse which gripped the country during Q1 also restricted growth. The breakdown by component of GDP growth for Q1 in Germany shows that, while private consumption and investment continued to perform well, which reaffirms the climate of confidence, there was a sudden drop in public consumption which partly caused the decline in growth. We expect public consumption to rebound over the next few quarters, now that the country has a new government. Therefore, as these temporary factors gradually dissipate, here at CaixaBank Research, we expect the growth rate to pick up again in the coming quarters. This is because the economy continues to benefit from the support offered by a very accommodative monetary policy, a fiscal policy which is neutral or could even become expansionary in some cases, and a favourable context of global growth.

Italy and the price of oil, the two main sources of risk.

Although the outlook for the euro area remains positive, there are certain risk factors that have come to the fore during the last month which could hinder the economy's growth. In Italy, the decision of the President of the Republic to block the formation of the government generated a surge in uncertainty in the markets, due to fears that any repeat elections would focus on Italy's relationship with the EU. However, the latest news suggests that M5S and LN could finally form a government. The government agreement between the two parties includes, among other measures, a strong fiscal stimulus and the intention to confront Brussels regarding the fiscal rules and Italy's contribution to the European budget. All this has called into question the sustainability of Italy's public debt, which has seen a spike in its risk premium, reaching above 270 bps and affecting the risk premiums of other surrounding countries (for example, Portugal's risk premium has reached over 170 bps). Meanwhile, the US withdrawal from the Iran nuclear deal has led to a notable rise in the price of oil. Although we expect this spike to be

European Union: GDP for Q1 2018

Year-on-year change (%)

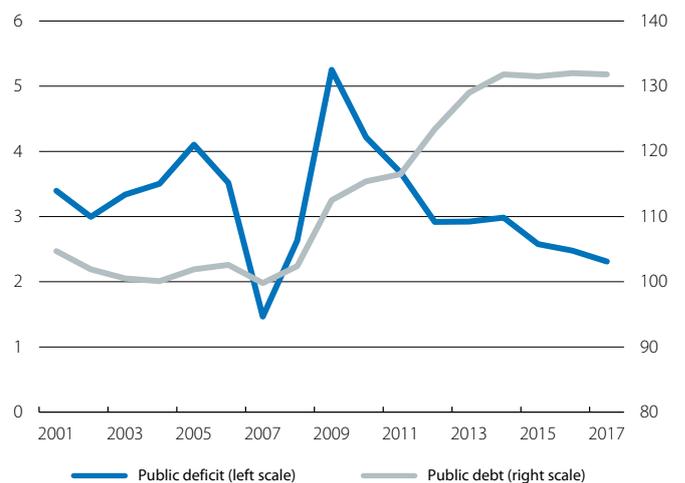


Source: CaixaBank Research, based on data from Eurostat.

Italy: deficit and public debt

(% of GDP)

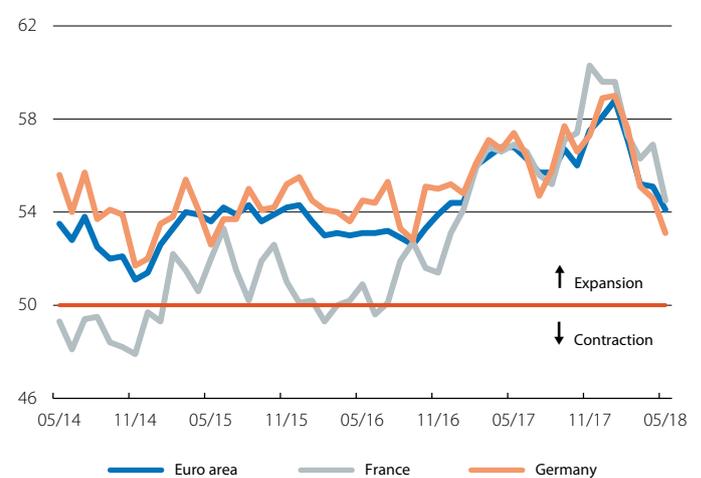
(% of GDP)



Source: CaixaBank Research, based on data from Datastream.

Euro area: composite PMI activity indicator

Level



Source: CaixaBank Research, based on data from Markit.

temporary (Saudi Arabia and Russia can compensate for a possible production cut by Iran), if it were to persist, it could slightly erode growth in the coming quarters.

The economic activity indicators remain at moderate levels.

The various indicators suggest that growth will pick up again in the coming quarters, although it will remain at more moderate levels than those observed in late 2017. Specifically, the business sentiment index for the euro area as a whole fell in May to 54.1 points, 1 point below the previous month. Despite falling below the levels recorded at the end of 2017, the indicator remains well within expansive territory (above 50 points). The industrial production index, meanwhile, rebounded in March after having fallen in the previous three months. It registered a year-on-year growth rate of 3.0%, very similar to the average for 2017 (2.9%).

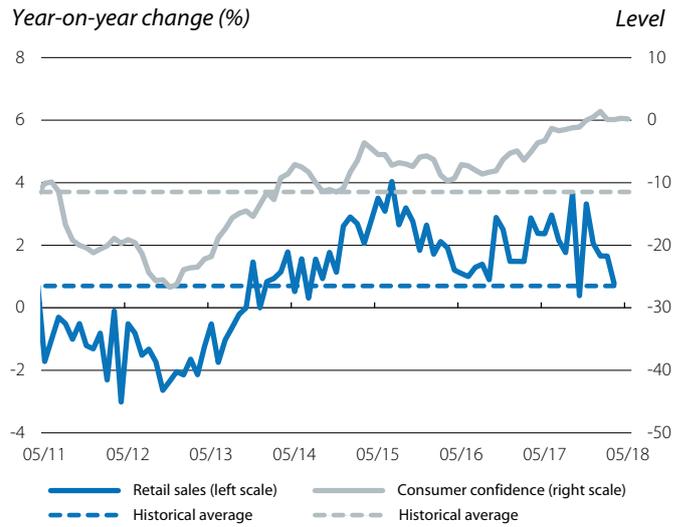
Close attention should be paid to the indicators on the demand side.

More specifically, the latest figures show a slight disconnect between the sentiment indicators and those of retail sales. While the consumer confidence index in May remained very high (at 0.2 points, compared to an average of -2.5 points in 2017), in March retail sales growth fell to 0.8% year-on-year, well below the average for 2017 (2.2%). The gap between the two indicators is consistent with the fact that temporary factors, such as bad weather, may have played a role in household consumption decisions during Q1 of this year. All in all, as suggested by the confidence indicators and given the positive developments in the euro area labour market and the favourable conditions for access to credit, here at CaixaBank Research, we expect that private consumption will rebound in the coming months and will continue to be the main driver of growth.

Inflation temporarily drops back down in April and stands at 1.2% year-on-year, 1 decimal point below the previous month. Core inflation, meanwhile, fell 2 decimal points to 1.1%. This slowdown can be attributed to calendar effects, since this year Easter fell in March instead of in April, hence we expect prices to rebound in the coming months. In fact, we have revised our inflation forecast for this year up by 1 decimal point to 1.5%, given the rise in the price of oil. As the euro area enters into a more mature phase of the cycle and the labour market continues to absorb the current degree of slack, we expect wages to pick up gradually and inflation to approach the ECB’s target at the end of 2019 of close to, but below, 2%.

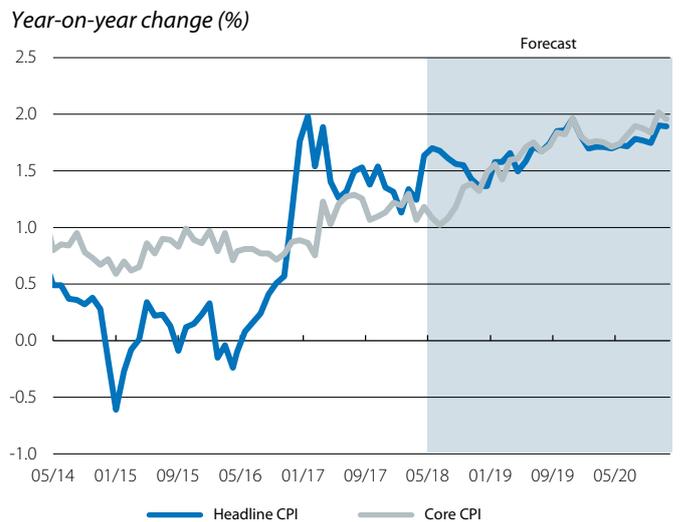
The labour market remains a key element of growth. The strong climate of confidence which has fuelled the economic recovery of the euro area is due, in no small measure, to the healthy recovery of the labour market. The progress shown in the latest data is an encouraging sign, with unemployment in the euro area standing at 8.5% in March, 0.9 pps below the figure for the same month last year. By country, there were significant improvements in Portugal, where the unemployment rate fell in the same period by 2.3 pps to 7.4%; Spain, where the rate fell by 1.9 pps to 16.1%; and France, with

Euro area: consumption indicators



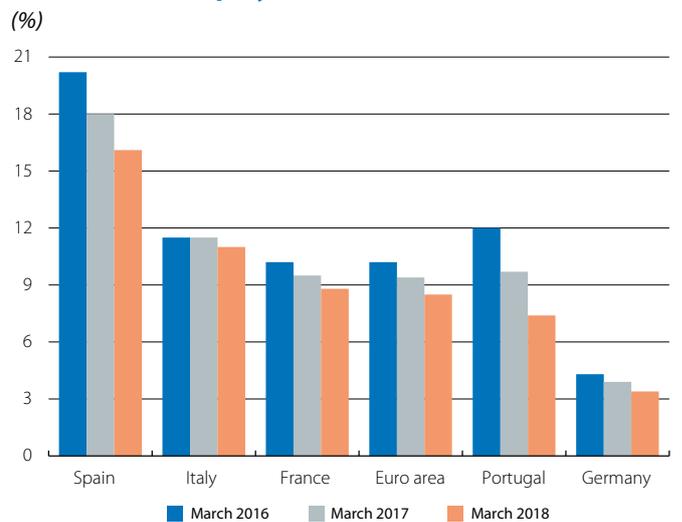
Source: CaixaBank Research, based on data from Eurostat and the European Commission.

Euro area: harmonised ICP



Source: CaixaBank Research, based on data from Eurostat.

Euro area: unemployment rate



Source: CaixaBank Research, based on data from Eurostat.

a drop of 0.7 pps to 8.8%. Nevertheless, there is still a wide gap in the unemployment rates between euro area member countries. On the one hand are countries such as Spain, with an unemployment rate of 16.1%, and on the other, those like Germany, with a rate of 3.4%.

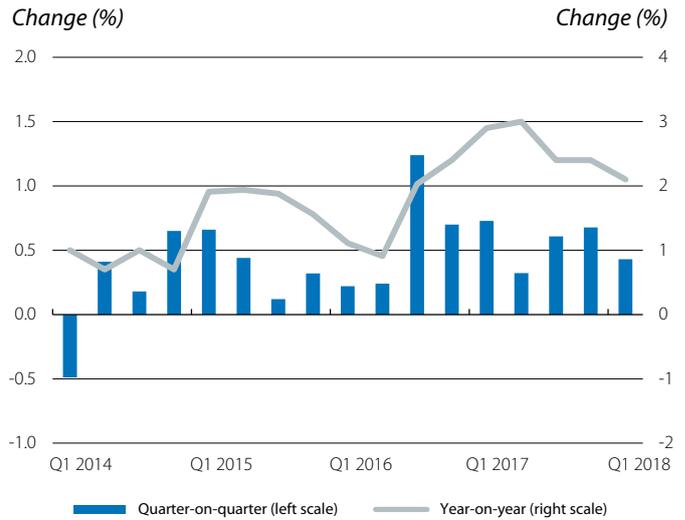
PORTUGAL

Slight temporary slowdown in economic activity in Q1 2018. The Portuguese economy's growth slowed in Q1 2018 after growing by 0.4% quarter-on-quarter (2.1% year-on-year), 3 decimal points lower than the previous quarter. In the absence of the breakdown by component, the Portuguese National Statistics Institute suggests that domestic demand remained high and, therefore, that net external demand was the cause of the slowdown in economic activity. Here at CaixaBank Research, we believe this slowdown to be a temporary bump which reflects the inherent volatility over time. We also expect growth to increase over the coming quarters, albeit below the levels reached in late 2017. This scenario is supported by an international context which we expect will remain favourable and will support the growth of exports. At the domestic level, we expect that the growth of private consumption will continue to benefit from the high rate of job creation (year-on-year growth of 3.2% in Q1). This is demonstrated in the indicator for retail sales, which registered year-on-year growth of 7.6% in March, well above the average for 2017 (4.1%). In addition, the economy will continue to benefit from accommodative monetary conditions. All in all, as a result of the growth figure for Q1, we have revised our growth forecasts for 2018 slightly down by 1 decimal point to 2.3%.

Inflation falls in April. The headline inflation rate stood at 0.3% in April, 5 decimal points below the figure for the previous month. Core inflation also fell by 8 decimal points, reaching 0.1%. This slowdown in the growth of prices is largely due to the calendar effects associated with the fact that this year, Easter fell in March instead of in April. Once this effect has dissipated, we expect inflation will rebound and will continue to grow gradually due to growth in economic activity. In addition, due to the rise in the price of oil, we have revised our headline inflation forecasts for 2018 up by 2 decimal points to 1.2%.

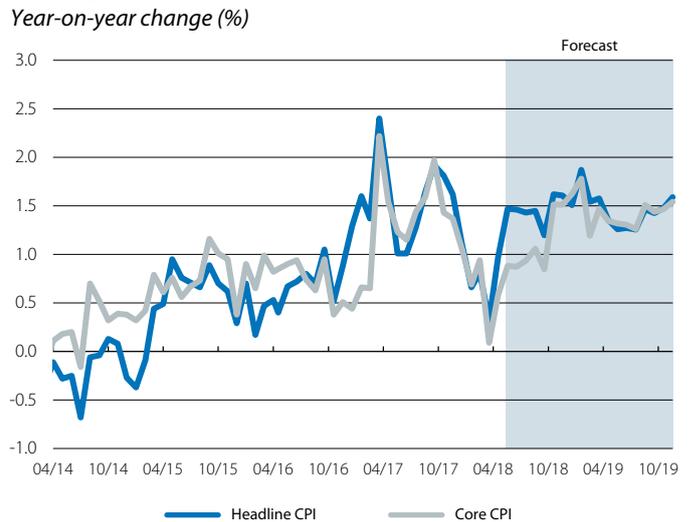
The tourism sector continues to support the Portuguese foreign sector. The latest data confirm the country's popularity as a tourist destination. In the cumulative 12-months to March 2018, foreign tourists racked up more than 42 million overnight stays in hotels, an 8.3% increase compared to the same figure for the previous year. By country of origin, most visitors came from Spain (15.5%), the United Kingdom (12.5%), Germany (10.8%), France (9.6%) and Brazil (9.1%). These figures suggest the tourism sector has consolidated its position as one of the cornerstones of Portugal's economic recovery.

Portugal: GDP



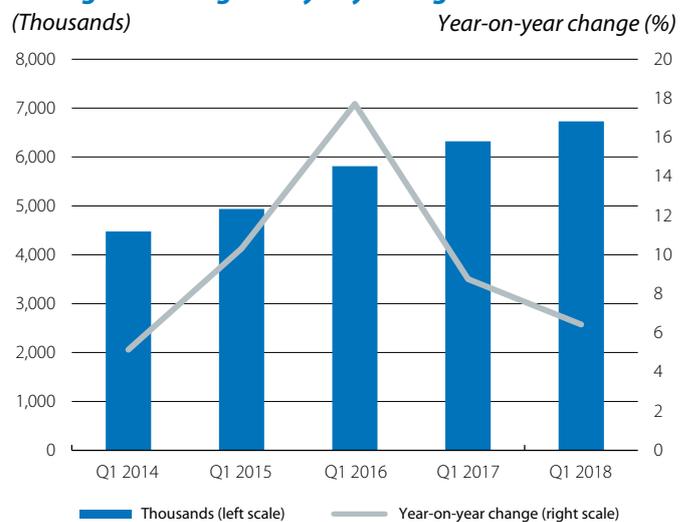
Source: CaixaBank Research, based on data from the Portuguese National Statistics Institute.

Portugal: harmonised ICP



Source: CaixaBank Research, based on data from Eurostat.

Portugal: overnight stays by foreign tourists



Source: CaixaBank Research, based on data from the Portuguese National Statistics Institute.

FOCUS · Apprenticeships, a formula to be harnessed

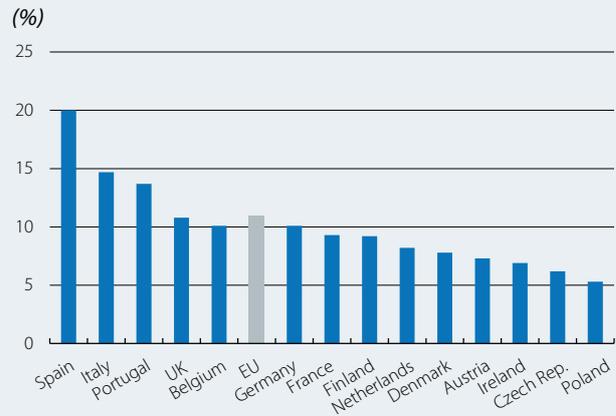
In countries such as Germany and Austria, the unemployment rate has remained relatively low for a long period of time. Furthermore, these countries have a relatively low rate of youth unemployment compared to that of most developed countries. One of the keys to their success are apprenticeships, or dual vocational education and training (VET), whereby young people undertake work experience in companies as part of their studies. To what extent can this formula be applied to other countries in Europe?

Dual vocational education and training differs from «traditional» VET in that the education provided in educational centres is alternated with work carried out in companies during the training period, such that the work experience becomes an integral part of the training. This alternation encourages students to learn specific skills by putting them into practice immediately on the job. This also helps to reduce the school dropout rate and facilitates the transition from school to employment. In Germany, the proportion of young people who do not complete their studies is around 10.1%, well below that of Spain (20.0%) and, to a lesser extent, that of Portugal (13.7%). In addition, in countries such as Germany and Austria, most young people enter the labour market directly without any period of unemployment (Quintini *et al.*, 2007).¹

Despite these benefits, implementing an apprenticeship system is far from simple. Since it is a very specific form of training, educational centres must provide training in many different specialities. It also requires complex coordination between educational centres and companies in order to match their agendas and to keep the content of the classroom training up-to-date with companies' ever-changing needs.

As a result, implementing such a system requires going through a learning phase in order to coordinate all the different elements. Furthermore, it is imperative for the country to have a robust business sector to ensure that the initial investment, which must be made by both the educational centres and the companies, will provide a return over time. This second ingredient is undoubtedly one of the main factors that hinders the implementation of this form of education in many countries. In Germany, a country with a vast industrial sector, qualifications that involve apprenticeships are considered prestigious and lead to a stable career. For example, the employment rate

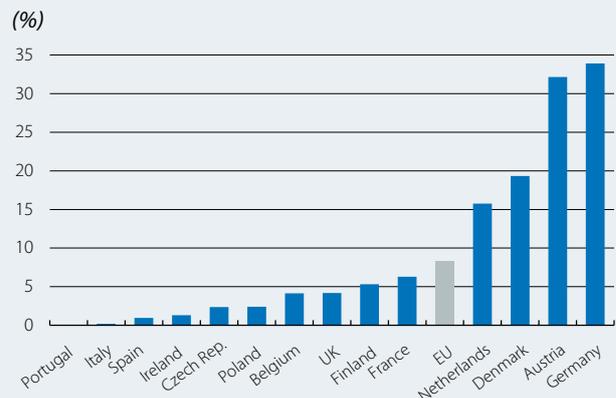
School dropout rate (2015)



Note: Percentage of the population aged 18 to 24 that has reached no further than the first cycle of secondary education and is not studying.

Source: CaixaBank Research, based on data from the OECD (2016).

Students enrolled in dual VET



Note: Students enrolled in dual vocational training as a percentage of the total number of students in the second cycle of secondary education and post-secondary non-tertiary education (ISCED 3 and ISCED 4C).

Source: CaixaBank Research, based on data from the OECD (2016), «Survey of Adult Skills (PIAAC)», 2012 Database.

for recent graduates from the second cycle of secondary education was 87.8% in 2016, much higher than in the EU as a whole (72.6%), Portugal (69.4%), France² (62.8%) and Spain (56.8%).³

In Spain, the current dual VET system was implemented in 2012 and there is an increasing number of companies involved and students enrolled: some 24,000 students participated in the 2016-2017 academic year and completed placements at one of the 10,000 companies that take part. Nevertheless, it is still far from being a widespread system, as it accounted for less than 2% of all students in the second cycle of secondary education.

In Portugal, meanwhile, the VET system has expanded in recent years and part of this effort has included dual VET (so-called *cursos de aprendizagem*). However, students enrolled in dual VET in 2015-2016 (26,000) represented only 7.9% of all students in the second cycle of secondary education.

1. G. Quintini, J.P. Martin and S. Martin (2007), «The Changing Nature of the School-to-Work Transition Process in OECD Countries», IZA DP n.º 2582.

2. In France, Macron has proposed to boost apprenticeships and the search is now on for ways to make them more attractive and flexible.

3. European Commission (2017), «Education and Training Monitor 2017», ISCED 3 and 4.

FOCUS · Greece: the never-ending story

On 20 August, Greece will complete its third financial assistance programme since 2010. Finally, the country's economy appears to be in a much stronger position. In 2017, Greece recorded positive growth rates and is expected to maintain a growth rate of around 2% over the next two years. Furthermore, the primary fiscal balance has remained at around 4.0% of GDP since 2016, one of the highest levels in the EU.

Despite this, the financial sustainability of the Greek public sector remains in question. In particular, Greek public debt remains at very high levels, close to 180% of GDP. Although the IMF and the European Commission expect the country's debt to continue to gradually fall to below 150% of GDP in 2030, this forecast is based on assumptions that may not be feasible.¹ As shown in the first chart, faced with less positive economic scenarios, the debt does not fall and even increases.

This situation would surely be unsustainable if it were not for the fact that most of the debt is long-term, which allowing the financing² requirements to be contained in the next few years. Specifically, almost 70% of the Greek debt – the equivalent to 128% of the country's GDP – is made up of very long-term loans granted by «Official» creditors at interest rates well below market rates.³ In addition, the debt in the hands of private investors, which accounts for around 15% of the total (and 28.7% of Greece's GDP), has a relatively long maturity, of 12 years.⁴

Nevertheless, within 10 years, even in a scenario in which Greece maintains a solid economic growth and a prudent fiscal policy, its financing needs will increase rapidly above the IMF sustainability threshold of 20% of GDP. Furthermore, the cost to refinance the debt will increase significantly, since the market interest rates are expected to be considerably higher than those of the «Official» loans.

Aware of this, the euro area countries have undertaken to implement debt relief measures, such as a new extension of the average maturity of the loans and a deferral of the repayment periods. According to the IMF, however, the adjustment will need to be significant in order to keep Greece's financing needs below the sustainability threshold (see second chart). At this juncture, the Eurogroup is studying the design of a mechanism which would automatically link debt repayments to the

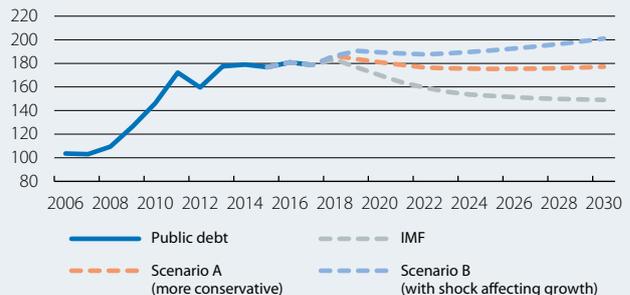
- Such as the scenario which involves maintaining a primary surplus of 3.5% of GDP up to 2022 and of 1.5% between 2023 and 2030, with nominal growth reaching 3.1% per annum on average up to 2030.
- Consisting each year of the sum of the government's new borrowing needs (primary deficit and interest payments) and the portion of the debt which matures in that year.
- IMF, ESM, EFSF and the Greek loan facility. The average term of these loans is 23 years.
- The rest of the debt is in the hands of the ECB (4.6%) or in short-term operations, such as Treasury Bills (4.2%) and repos (6.6%).

performance of the Greek economy. For example, if Greece were to grow slower than expected, the average maturity of its loans could be extended or principal and interest payments delayed.

This mechanism would certainly help to reduce the risk of refinancing, by reducing the amount of debt due to be renewed in years with a less favourable outlook. However, it could also weaken the incentives for Greece to continue to implement reforms and to keep the public finances in check. As is already planned, it would be essential for this procedure to be accompanied by instruments that allow the country's economic and fiscal policy to continue to be monitored. All this ensures that Greece will remain a source of debate over the coming years, even if it is no longer subject to a financial bailout programme.

Greece: public debt in different scenarios

(% of GDP)

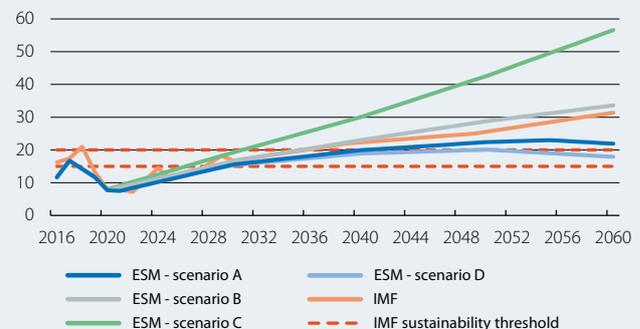


Note: The IMF's scenario assumes a nominal annual growth of 3.1% on average until 2030 and a primary surplus of 3.5% of GDP until 2022, and of 1.5% between 2023 and 2030. Scenario A assumes a nominal annual growth of 2.0% and a primary surplus of 1.0% of GDP until 2030. Scenario B assumes, for 2019, a negative growth of 1.0% and a primary deficit of 0.5% of GDP and, for subsequent years, a nominal annual growth of 1.5% and a primary surplus of 0.5% of GDP.

Source: CaixaBank Research, based on data from the IMF and ESM.

Greece: gross financing requirements in different scenarios

(% GDP)



Note: The IMF's scenario includes the measures agreed upon in the Eurogroup meetings of May 2016 and June 2017. ESM scenarios: (A) base case scenario, with nominal annual growth of 3.25% on average and a fiscal surplus of 3.5% up to 2022 and of 2.2% in the long term; (B) and (C), which are more conservative with less economic growth and primary surplus, and (D) which assumes greater economic growth (3.5% per year on average) and better fiscal performance (primary surplus of 2.3% of GDP between 2023 and 2060).

Source: CaixaBank Research, based on data from the IMF and ESM.

KEY INDICATORS

Activity and employment indicators

Values, unless otherwise specified

	2016	2017	Q2 2017	Q3 2017	Q4 2017	02/18	03/18	04/18	05/18
Retail sales (year-on-year change)	1.6	2.3	2.6	2.5	2.0	1.8	0.8	...	...
Industrial production (year-on-year change)	1.7	3.0	2.5	4.0	4.2	2.6	3.0	...	...
Consumer confidence	-7.8	-2.5	-2.7	-1.5	-0.2	0.1	0.1	0.3	0.2
Economic sentiment	104.1	110.7	109.5	111.8	114.4	114.3	112.8	112.7	112.5
Manufacturing PMI	52.5	57.4	57.0	57.4	59.7	58.6	56.6	56.0	55.5
Services PMI	53.1	55.6	56.0	55.3	55.9	56.2	54.9	55.0	53.9
Labour market									
Employment (people) (year-on-year change)	1.3	1.6	1.6	1.7	1.6	...	-	-	
Unemployment rate: euro area (% labour force)	10.0	9.1	9.1	9.0	8.7	8.6	8.6	8.5	
Germany (% labour force)	4.2	3.8	3.8	3.7	3.6	3.5	3.5	3.4	
France (% labour force)	10.1	9.4	9.5	9.5	9.1	9.2	9.2	9.2	
Italy (% labour force)	11.7	11.3	11.2	11.2	11.0	11.1	11.1	11.2	
Spain (% labour force)	19.6	17.2	17.3	16.8	16.6	16.2	16.1	15.9	

Source: CaixaBank Research, based on data from the Eurostat, European Central Bank, European Commission and Markit.

Foreign sector

Cumulative balance over the last 12 months as % of GDP of the last 4 quarters, unless otherwise specified

	2016	2017	Q2 2017	Q3 2017	Q4 2017	02/18	03/18	04/18
Current balance: euro area	3.8	3.7	3.4	3.7	3.7	3.9	3.9	...
Germany	8.6	8.0	8.0	8.0	8.0	8.2	8.0	...
France	-0.9	-0.8	-1.2	-0.7	-0.8	-0.5	-0.4	...
Italy	2.6	2.8	2.6	2.7	2.8	2.7	...	...
Spain	1.9	1.9	1.9	1.8	1.9	1.9	1.9	...
Nominal effective exchange rate¹ (value)	94.3	96.5	95.2	98.5	98.6	99.6	99.7	99.4

Note: 1. Weighted by flow of foreign trade. Higher figures indicate the currency has appreciated.

Source: CaixaBank Research, based on data from the Eurostat, European Commission and national statistics institutes.

Financing and deposits of non-financial sectors

Year-on-year change (%), unless otherwise specified

	2016	2017	Q2 2017	Q3 2017	Q4 2017	02/18	03/18	04/18	
Private sector financing									
Credit to non-financial firms ¹	1.8	2.5	2.3	2.4	3.0	3.2	3.3	3.3	
Credit to households ^{1,2}	1.7	2.6	2.6	2.7	2.8	2.9	2.9	2.9	
Interest rate on loans to non-financial firms ³ (%)	1.4	1.3	1.3	1.3	1.3	1.2	1.3	...	
Interest rate on loans to households for house purchases ⁴ (%)	1.8	1.7	1.7	1.7	1.7	1.6	1.6	...	
Deposits									
On demand deposits	10.0	10.1	10.3	10.6	10.1	9.4	8.4	7.8	
Other short-term deposits	-1.9	-2.7	-2.9	-3.0	-2.4	-2.3	-2.1	-1.9	
Marketable instruments	2.7	0.9	0.6	-0.6	-2.2	-5.3	-7.0	-0.6	
Interest rate on deposits up to 1 year from households (%)	0.5	0.4	0.4	0.4	0.3	0.4	0.4	...	

Notes: 1. Data adjusted for sales and securitization. 2. Including NPISH. 3. Loans of more than one million euros with a floating rate and an initial rate fixation period of up to one year. 4. Loans with a floating rate and an initial rate fixation period of up to one year.

Source: CaixaBank Research, based on data from the European Central Bank.

ECONOMIC OUTLOOK · Resilience in a less favourable environment

The performance of the Spanish economy remains very robust despite the reduced growth in the euro area and the financial turmoil. The GDP growth rate remained high in Q1 at 0.7% quarter-on-quarter, similar to that recorded in the second half of 2017. As such, the temporary slowdown observed in most European economies did not occur in the case of Spain. With regard to the coming quarters, we expect GDP growth to remain solid, although it will temper slightly as the leading economic activity indicators are already beginning to indicate. For instance, the PMI business sentiment index stood at 55.4 points in April, slightly below the average for Q1 (56.5), but clearly higher than 50, the level above which positive growth rates are usually observed. In part, the slowdown in growth is a result of the increase in the price of oil, which harms the economies that are dependent on oil imports, such as Spain. While we expect oil prices to come down over the coming months, since some of the factors that drove prices up were temporary, the possibility of them remaining higher than expected cannot be ruled out, and this would erode GDP growth. Furthermore, the higher volatility in the financial markets and the increase in Spain's risk premium could also have an adverse effect on the growth of the Spanish economy if they were to persist. However, since it is more likely that these phenomena will soon fade out, we keep our forecast for GDP growth in 2018 unchanged at 2.8%.

Private consumption and residential investment are growing in earnest. The breakdown of GDP for Q1 shows that the growth of household consumption accelerated, thus confirming that the slowdown seen at the end of 2017 was temporary. In the coming quarters, we anticipate that the growth in private consumption will continue thanks to the favourable financial conditions and job creation. Investment, meanwhile, grew as a whole in Q1, albeit with very notable differences between the different components. On the one hand, investment in capital goods fell (-1.6% quarter-on-quarter), which contrasts with the positive economic sentiment data recorded throughout the month. However, this component of GDP is highly volatile and does not change our view that business investment continues to have a long way to grow. This is partly because the outlook for demand which businesses face remains positive. Above all, however, it is because the use of the productive capacity is already high, and thus investment will have to continue to grow at a good rate for production to increase. Investment in construction, meanwhile, grew considerably (2.4% quarter-on-quarter) thanks to the increase in housing construction (3.5% quarter-on-quarter). This corroborates the view that the renewed growth of the real estate sector is gaining strength. In this regard, the house price index published by the Ministry of Public Works (based on appraisal values) increased by 2.7% year-on-year in Q1, while home sales grew by a solid 14.5% year-on-year in the first three months of the year.

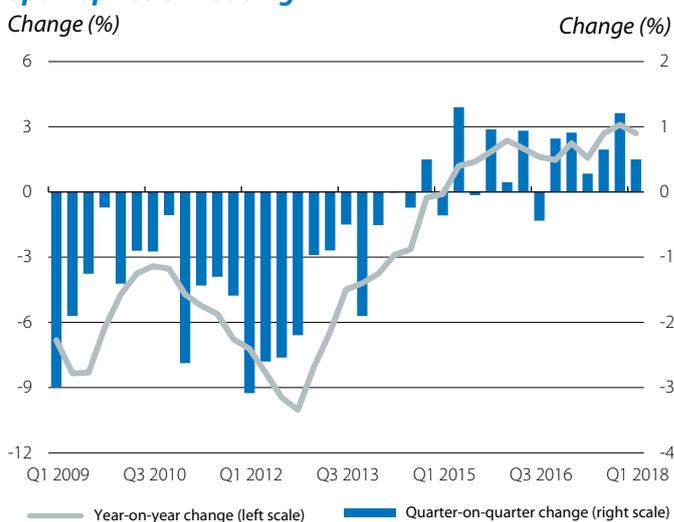
Spain: GDP

Quarter-on-quarter change (%)

	Q2 2017	Q3 2017	Q4 2017	Q1 2018
GDP	0.9	0.7	0.7	0.7
Private consumption	0.8	0.7	0.6	0.7
Public consumption	0.5	0.4	0.4	0.5
Investment	0.6	1.4	0.7	0.8
Investment in equipment	0.1	2.8	0.9	-1.6
Investment in construction	1.0	0.2	1.0	2.4
Exports	1.0	0.6	0.3	1.3
Imports	0.5	1.0	0.0	1.3

Source: CaixaBank Research, based on data from the Spanish National Statistics Institute.

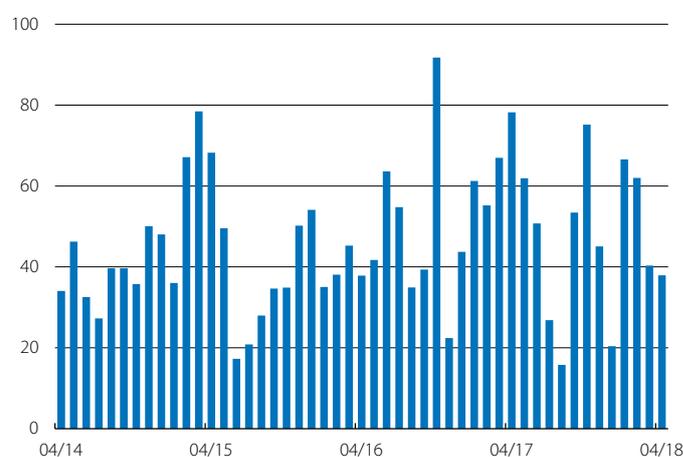
Spain: price of housing



Source: CaixaBank Research, based on data from the Spanish Ministry of Public Works.

Spain: registered workers affiliated to Social Security*

Monthly change (thousands of people)



Note: * Seasonally-adjusted series.

Source: CaixaBank Research, based on data from the Spanish Ministry of Employment and Social Security.

The labour market is making positive progress but has lost some momentum. The number of registered workers affiliated to Social Security rose considerably in April (+176,373 people), but the growth rate slowed by 2 decimal points to 3.1% year-on-year. Employment data from the National Accounts for Q1 also show a slight slowdown in the rate of job creation. In particular, employment in terms of full-time equivalent (FTE) jobs increased by 2.6% year-on-year (2.9% in Q4). That said, in the last 12 months, a considerable 466,000 jobs (FTE) have been created, and the labour market is exhibiting very positive underlying performance.

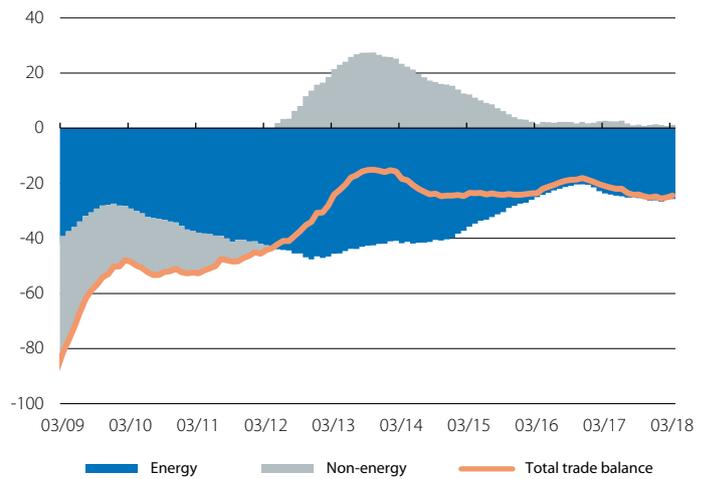
The foreign sector is showing healthy growth thanks to the strength of exports and despite higher oil prices. According to data from the National Accounts, exports in real terms rose by a healthy 3.2% in Q1 thanks to the performance of service exports, including both tourism services (5.2%) and especially non-tourism services (6.9%). Exports of goods, on the other hand, grew at a more moderate rate (1.9%). Imports in real terms also increased, but at a more contained rate of 2.8% year-on-year. The data in nominal terms of the balance of payments show that the current account stood at 1.9% of GDP in March, the same figure as a year ago, despite the fact that the oil price (in euros) has risen 8% year-on-year in Q1.

The public accounts are slowly adjusting. The overall fiscal deficit in Q1 stood at 0.4% of GDP, only 1 decimal point lower than the figure for Q1 2017. This is compared to the 9-decimal point reduction required this year to achieve the deficit target of 2.2%. While revenues continued to grow at a good pace thanks to the strong economic activity, the slower rate of reduction of the public deficit is mainly due to increase in general government spending, which rose by 4.1% compared to Q1 2017. In the rest of the year ahead, public spending will be boosted by the new measures included in the General Government Budget. These include a 1.6% increase in pensions, in line with inflation, a 3% increase to the minimum and non-contributory pensions and a cut in personal income tax for low-income families. In this context, the European Commission issued a report assessing the 2018-2021 Stability Plan in which it warns that the change of tone in fiscal policy, with a more expansive bias, will prevent the deficit target for 2018 from being met. In particular, the Commission considers that, in the absence of additional cuts, the deficit will stand at 2.6% of GDP, a forecast in line with that of CaixaBank Research.

There has been a sharp decline in NPLs and bank credit is performing well. In March, the NPL rate was reduced by 1 pp down to 6.8%, precisely half the 13.6% high point registered at the end of 2013. The acceleration in the reduction of the NPL rate is due, above all, to the sale of portfolios of doubtful loans, and it shows the concerted effort by the banks to clean up their balance sheets. At the same time, the recovery of credit is getting stronger. New credit operations for consumption and for housing purchases grew vigorously in March: by 19.0% and 11.0% year-on-year (cumulative for the year), respectively. As for companies, the latest data on new production show a slight slowdown, both in credit granted to SMEs (9.3%) and in credit granted to large firms (8.2%).

Spain: trade balance

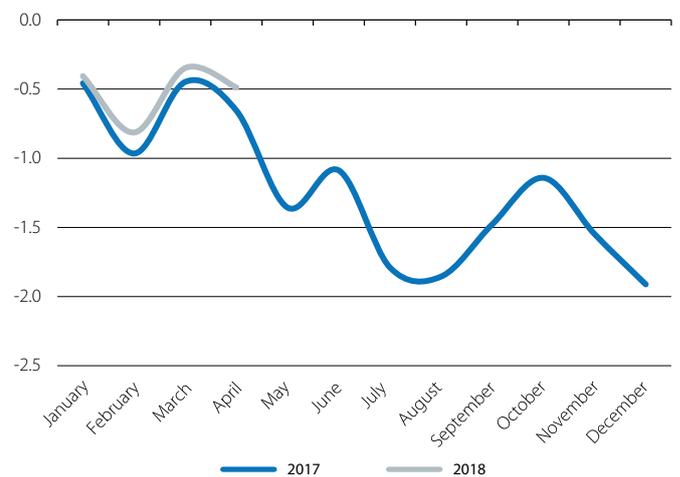
12-Month cumulative balance (EUR billions)



Source: CaixaBank Research, based on data from the Spanish Department of Customs.

Spain: central government balance

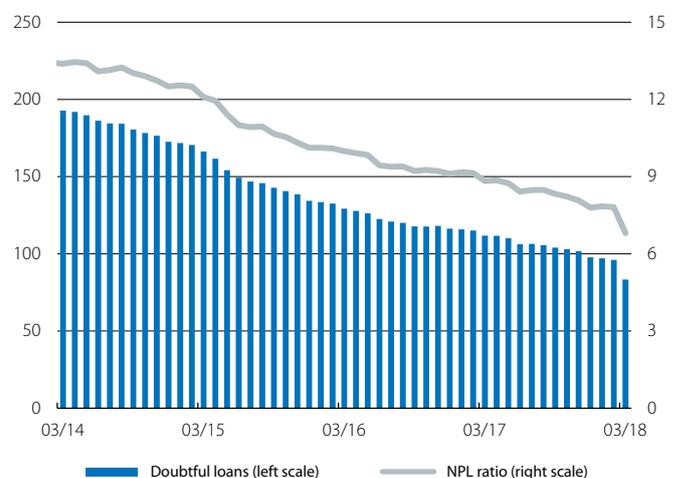
(% of GDP)



Source: CaixaBank Research, based on data from the General Comptroller of the State Administration (IGAE).

Spain: NPL ratio and doubtful loans

(EUR billions)



Source: CaixaBank Research, based on data from the Bank of Spain.

FOCUS · Global synchronisation of house prices: causes and consequences

After reaching a low point in 2014, house prices in Spain have now been on the rise for several years. This growth is especially pronounced in Spain's major cities. In Q1, house prices in Barcelona and Madrid grew by 8.2% and 10.3%, respectively, well above the 2.7% average for Spain as a whole.

This notable increase in house prices in major cities, especially if compared with the price trends in other areas, is a common phenomenon in many countries. In fact, a recent report by the IMF confirms that synchronisation in the price of housing among major cities in the advanced economies has increased in recent years. In particular, global factors currently account for 30% of the growth in house prices, well above the 10% which they accounted for in 1971.¹

What is the cause of the global synchronisation of house prices?

In order to understand what is behind this global synchronisation, it is useful to recall that housing can be used for two very different purposes (which are not necessarily mutually exclusive). One of the functions of housing is, of course, to use it as a place of residence, above all by the local population. However, it can also be used as an asset in which to invest savings.

If we focus on housing as a residential asset, the synchronisation in its price at a global level could be explained by the convergence between countries in the economic foundations that underpin the supply and demand for housing at the local level, such as demographics, the economic cycle and construction costs. On the other hand, in the case of the demand for housing as an investment asset, the synchronisation in prices may emanate from global financial conditions. Specifically, in an environment with low interest rates such as the current one, investment in real estate could account for an increasing portion of international investors' portfolios.

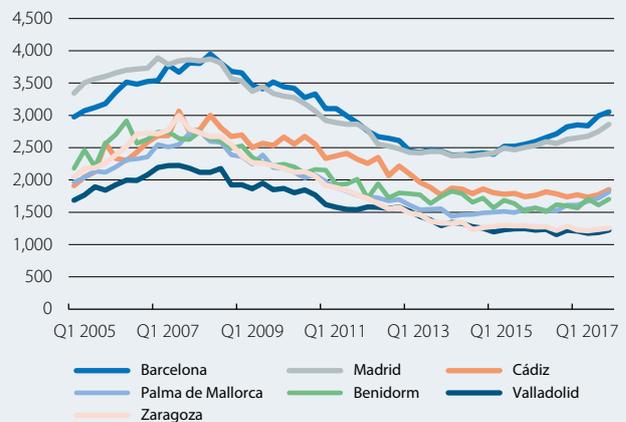
Although both factors influence price synchronisation, various analyses suggest that the financial conditions are playing a significant role in the current expansionary phase of the real estate sector, particularly in the major cities of countries that are more open to foreign investors. Within the real estate sector, cities tend to be the most liquid submarkets, and it is also relatively easier to obtain information on their current status and future prospects compared to other submarkets.

1. Estimate for a set of 19 countries. See IMF (2018), «A Bumpy Road Ahead», Global Financial Stability Report for April.

2. Average price dispersion, measured as the ratio between the average price of housing of the 90th percentile and that of the 10th percentile of the 18 most highly-populated Spanish cities plus Ibiza and Marbella, which are major focal points for international investment.

Spain: price of housing

(Euros/m²)



Source: CaixaBank Research, based on data from the Spanish Ministry of Public Works.

What are the implications of the global synchronisation of house prices?

The increase in the synchronisation of prices in cities worldwide has led to an increase in the dispersion of house prices within each country. In the case of the US, for example, there has been a significant increase in the dispersion of prices between the major cities. Furthermore, there is a close correlation between this phenomenon and the increase in the price of housing in major cities outside the US, which shows the importance of global factors.

In Spain, the dispersion of prices between the major cities has also increased since 2014² (see the chart attached), which may be partly due to the synchronisation of house prices at the international level in cities such as Madrid and Barcelona, which are focal points for foreign investment. In fact, in 2017, real estate activities attracted 1,982 million euros of net foreign investment in Spain, 33% more than the amount recorded in 2016. In addition, residence permits granted to non-EU investors who invest at least 500,000 euros in real estate – the so-called Golden Visa – doubled in 2017, reaching 2,905 residence permits. These were mainly issued to Chinese (997) and Russian (797) nationals.

The synchronisation in the price of housing between cities such as Barcelona and Madrid and major global cities is indicative of their international appeal, not only in terms of the real estate sector but also in terms of quality of life and business development. However, the increase in house prices that accompanies this appeal presents a challenge when it comes to ensuring the accessibility of housing for local residents in these great cities.

FOCUS · Exports and the quality of employment

The recovery of the Spanish economy has shown strong growth in more than just GDP. Exports of goods and services have grown considerably, increasing from 25.6% of GDP to 34.4% between 2010 and 2017, while employment has also shown notable growth (1.9 million more people in work since Q2 2014). In a previous Focus,¹ we analysed the positive effect of exports on the number of jobs created. In this article, we analyse whether the increase in exports is also helping to improve the quality of employment.

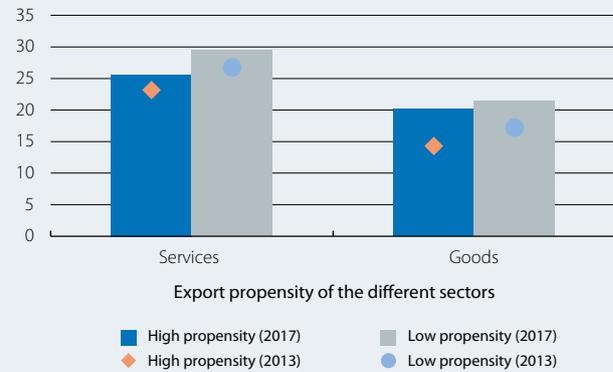
To analyse this question, we classify the 54 business sectors of goods and services which appear in the Industrial Business Survey and in the Annual Survey of Services in 2015 (the latest survey available) according to their export propensity, defined as each sector's foreign sales as a percentage of the total. Then, based on data from the Active Population Survey, we estimate the quality of employment in these sectors. Firstly, we note that there is a positive correlation between the quality of employment in a particular sector and its export propensity. That is, sectors with an above-average export propensity show a lower rate of temporary employment, with a greater proportion of full-time workers and a lower proportion of involuntary part-time workers and workers who would like to work more hours.

This difference in job quality between sectors according to their export propensity is more marked among service providers than among producers of goods. The manufacturing sectors are more homogeneous in terms of export propensity, as well as in terms of their job quality (which is generally higher than in the service sectors). For example, in 2017, the rate of temporary employment in the manufacturing sectors was 20.9%, compared to the 28.4% noted in the service sectors. Within services, however, there is a mix of sectors that are highly open to exports, such as tourism-related sectors (such as air transport, accommodation and travel agencies) and high value-added sectors (for instance, programming, consultancy and IT, technical architectural and engineering services), and others which are less exportable (such as legal services, real estate activities, services for buildings and gardening). If we weight each sector according to the number of employees they have, in 2017 the average temporary employment rate of the 12 service sectors with the highest export propensity was 25.6%, while in the 20 sectors with the lowest export propensity it was 29.5%. Similarly, the proportion of full-time employment was 89.9% compared to 77.2%, the

1. For an analysis of the number of jobs attributable to the growth in exports, see the Focus «Exports' positive effect on job creation» MR02/2018.

Spain: Temporary employment according to the export propensity of the different economic sectors

(% of the total number of employees)



Note: The sectors with a high propensity for exports have an above-average percentage of foreign sales, and those with a low propensity, below average. The averages are obtained by separating goods and services.

Source: CaixaBank Research, based on data from the Spanish National Statistics Institute.

rate of involuntary part-time employment was 46.6% compared to 58.8% (12.2 pp differential), and the proportion of employees who would like to work more was 8.5% compared to 17.1% (8.7 pp differential). These differences suggest that business internationalisation has a positive impact on the quality of employment.

Having noted that sectors with greater export propensity have higher-quality jobs, we analyse whether the internationalisation of Spanish companies which is currently taking place is resulting in higher-quality jobs being generated. In this regard, we note that the increase in temporary employment in the early years of the economic recovery was also more moderate in the sectors with greater export propensity. Nevertheless, it is surprising to note that the greater buoyancy of the exporting sectors, which as we have seen tend to generate higher-quality jobs, is not translating into an improvement in the quality of employment across the board. This can be explained by the fact that in the sectors with greater export propensity, the increase in turnover is driven by improvements in workforce productivity and not so much by a growth in jobs. In particular, the 12 sectors with the greatest export propensity were responsible for 61% of the growth in turnover between 2013 and 2015, yet they only generated 21% of jobs. However, over a longer time scale, as the economic recovery and Spain's competitiveness in exports are consolidated, this greater productivity can be expected to lead to better-quality employment across the board.

KEY INDICATORS

Year-on-year (%) change, unless otherwise specified

Activity indicators

	2016	2017	Q3 2017	Q4 2017	Q1 2018	04/18	05/18
Industry							
Electricity consumption	0.1	1.7	0.5	3.0	2.2	2.2	1.4
Industrial production index	1.9	3.2	2.8	5.2	2.8	...	...
Indicator of confidence in industry (value)	-2.3	1.0	-0.1	4.3	2.8	3.3	0.8
Manufacturing PMI (value)	53.2	54.8	53.6	55.9	55.3	54.4	...
Construction							
Building permits (cumulative over 12 months)	43.7	22.9	23.5	25.1	...	...	...
House sales (cumulative over 12 months)	13.1	13.8	13.3	14.5	15.1	...	...
House prices	1.9	2.4	2.7	3.1	2.7	-	...
Services							
Foreign tourists (cumulative over 12 months)	8.2	9.9	10.3	9.1	8.1	-2.3	...
Services PMI (value)	55.0	56.4	56.8	54.5	56.8	55.6	...
Consumption							
Retail sales	3.8	0.9	1.1	0.3	1.9	0.0	...
Car registrations	11.4	7.9	6.7	10.8	11.8	12.3	...
Consumer confidence index (value)	-3.8	-0.7	0.2	-1.5	-0.6	-0.7	0.5

Source: CaixaBank Research, based on data from the Ministry of Finance, Ministry of Public Works, INE, Markit and European Commission.

Employment indicators

	2016	2017	Q2 2017	Q3 2017	Q4 2017	Q1 2018	04/18
Registered as employed with Social Security¹							
Employment by industry sector							
Manufacturing	2.8	3.1	3.1	3.1	3.2	3.3	3.1
Construction	2.6	6.1	6.1	6.1	7.1	6.8	6.4
Services	3.2	3.6	3.8	3.6	3.6	3.5	3.1
Employment by professional status							
Employees	3.5	4.2	4.4	4.1	4.1	4.0	3.5
Self-employed and others	1.0	0.8	0.9	0.7	0.5	0.8	1.0
TOTAL	3.0	3.6	3.8	3.5	3.5	3.4	3.1
Employment²	2.7	2.6	2.8	2.8	2.6	2.4	-
Hiring contracts registered³							
Permanent	14.2	12.4	10.2	11.0	12.9	13.0	25.2
Temporary	7.2	7.3	9.6	5.0	2.6	1.7	8.9
TOTAL	7.8	7.7	9.6	5.5	3.4	2.9	10.5
Unemployment claimant count³							
Under 25	-12.6	-12.2	-17.3	-9.4	-8.7	-8.8	-4.7
All aged 25 and over	-8.2	-9.1	-10.3	-8.7	-8.0	-7.4	-6.8
TOTAL	-8.6	-9.3	-10.9	-8.8	-8.0	-7.5	-6.6

Notes: 1. Mean monthly figures. 2. LFS estimate. 3. Public Employment Offices.

Source: CaixaBank Research, based on data from the Ministry of Employment and Social Security, INE and Public Employment Offices.

Prices

	2016	2017	Q3 2017	Q4 2017	Q1 2018	04/18	05/18
General	-0.2	2.0	1.7	1.4	1.0	1.1	2.0
Core	0.8	1.1	1.3	0.8	1.0	0.8	...
Unprocessed foods	2.3	2.6	-0.2	4.0	1.2	2.0	...
Energy products	-8.4	8.2	5.4	4.1	0.3	2.3	...

Source: CaixaBank Research, based on data from the INE.

Foreign sector

Cumulative balance over the last 12 months in billions of euros, unless otherwise specified

	2016	2017	Q1 2017	Q2 2017	Q3 2017	Q4 2017	01/18	02/18	03/18
Trade of goods									
Exports (year-on-year change, cumulative over 12 months)	1.7	8.9	5.1	5.6	7.6	8.9	8.1	7.6	5.8
Imports (year-on-year change, cumulative over 12 months)	-0.4	10.5	3.7	5.7	9.0	10.5	9.7	8.7	6.6
Current balance	21.5	22.1	21.8	22.0	21.0	22.1	22.0	22.5	22.7
Goods and services	33.7	33.5	32.2	33.4	32.7	33.5	32.8	33.6	34.3
Primary and secondary income	-12.2	-11.4	-10.4	-11.5	-11.7	-11.4	-10.8	-11.1	-11.6
Net lending (+) / borrowing (-) capacity	24.2	24.8	24.2	24.3	23.5	24.8	25.0	25.5	25.6

Source: CaixaBank Research, based on data from the Department of Customs and Special Taxes and Bank of Spain.

Public sector

Percentage GDP, cumulative in the year, unless otherwise specified

	2016	2017	Q1 2017	Q2 2017	Q3 2017	Q4 2017	01/18	02/18	03/18
Net lending (+) / borrowing (-) capacity¹	-4.5	-3.1	-0.5	-2.2	-1.6	-3.1	-	-	...
Central government	-2.7	-1.9	-0.5	-1.1	-1.5	-1.9	-0.4	-0.9	-0.4
Autonomous regions	-0.8	-0.3	-0.2	-0.7	0.1	-0.3	0.0	-0.1	-0.1
Local government	0.6	0.6	0.1	0.1	0.5	0.6	-	-	...
Social Security	-1.6	-1.5	0.1	-0.5	-0.6	-1.5	0.1	0.1	0.2
Public debt (% GDP)	99.0	98.3	99.7	99.5	98.5	98.3	-	-	...

Note: 1. Includes aid to financial institutions.

Source: CaixaBank Research, based on data from the IGAE, Ministry of Taxation and Bank of Spain.

Credit and deposits in non-financial sectors¹

Year-on-year change (%), unless otherwise specified

	2016	2017	Q1 2017	Q2 2017	Q3 2017	Q4 2017	01/18	02/18	03/18
Deposits²									
Household and company deposits	2.5	2.8	3.2	2.5	2.3	3.2	2.5	2.3	2.5
Sight and savings	16.0	17.6	18.6	18.8	17.2	15.9	13.1	12.0	11.4
Term and notice	-16.0	-24.2	-22.0	-24.9	-25.1	-24.6	-23.5	-23.1	-22.6
General government deposits	-14.2	-8.7	-28.0	-26.7	6.8	13.1	12.9	16.2	20.9
TOTAL	1.2	1.9	1.0	0.5	2.6	3.7	3.0	3.0	3.4
Outstanding balance of credit²									
Private sector	-3.6	-2.2	-2.7	-2.1	-2.3	-1.9	-1.6	-2.1	-2.9
Non-financial firms	-5.3	-3.6	-4.3	-3.0	-3.9	-3.3	-2.8	-4.0	-6.3
Households - housing	-3.7	-2.8	-3.0	-2.8	-2.7	-2.6	-2.5	-2.5	-2.3
Households - other purposes	2.0	3.7	3.6	3.2	3.3	4.5	4.6	4.7	5.4
General government	-2.9	-9.7	-3.2	-12.6	-11.6	-11.4	-15.7	-10.4	-11.3
TOTAL	-3.6	-2.8	-2.7	-2.9	-3.0	-2.5	-2.7	-2.7	-3.4
NPL ratio (%)³	9.1	7.8	8.8	8.4	8.3	7.8	7.8	7.8	6.8

Notes: 1. Aggregate data from Spain's banks. 2. Residents in Spain. 3. Data up to end of period.

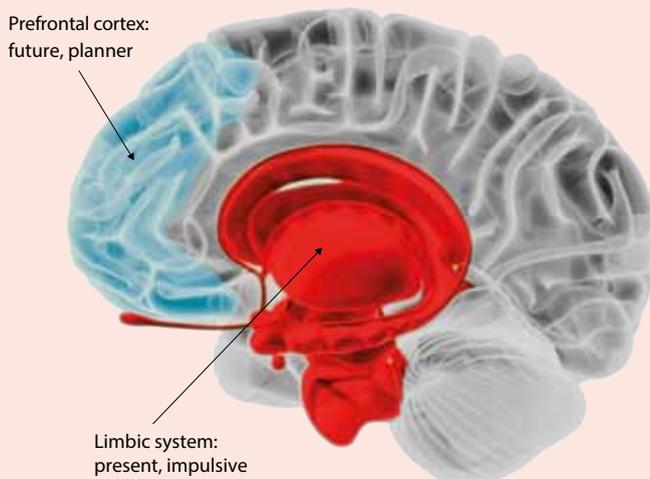
Source: CaixaBank Research, based on data from the Bank of Spain.

ECONOMY AND EXPECTATIONS: FACE-TO-FACE

From expectation formation to decision making

A human brain weighs around one and a half kilograms, while that of our closest primates weighs only half a kilogram. Often, size does not matter, but in this case the difference is the result of the greater development of the brain's prefrontal cortex, which is what gives us a uniquely human characteristic: the ability to carry out complex planning. As humans, not only do we live in the present, but we also plan for the future, and in quite some detail too. It is in our nature, or rather, our brain. However, this particular characteristic coexists with another more emotional and primitive one, linked to the brain's limbic system (see image below).

The human brain: the planner and the impulsive person in us



Source: CaixaBank Research.

At this point, you may be wondering whether, after more than 40 years writing about economics, we have moved on to writing about psychology or neuroscience. The answer is «no», although not a very resounding «no», because over the next few pages we will try to understand some of the principles that determine human behaviour. As economists, we have had to refer to these disciplines to properly understand how we, as humans, make decisions.

Rational expectations and cognitive biases

For decades, most economists took for granted that as individuals, we take decisions in a rational way. Using a somewhat more technical vocabulary, which highlights the sacrilege committed by the profession, it has been assumed that people act efficiently, based on all the available information and selfishly. Although it is hard to believe, the truth is that the use of the rational paradigm has helped to quite accurately describe many of the decisions we make, and this has enabled us as economists

to use the rational paradigm for decades as one of the cornerstones on which to base economic analysis. Nevertheless, over time the limitations of the use of this paradigm have been revealed.

The coexistence of a highly-evolved part of our brain which is focused on planning (the prefrontal cortex) with another more primitive part that seeks more immediate gratification (the limbic system) gives rise to behaviours that cannot be explained with the rational paradigm. These deviations from the paradigm, or cognitive biases, have been studied extensively by psychologists such as Amos Tversky and Daniel Kahneman, as well as by economists such as Richard Thaler, and their studies have given rise to what is known as behavioural economics. Below, we set out some of the most important cognitive biases on which behavioural economics is based.

The first non-rational behaviour to point out is related to the limited capacity for self-control that the vast majority of humans have. This is perfectly reflected in the marshmallow experiment, which the psychologist Walter Mischel carried out in the 1960s in the US. The test involved taking a four-year-old child to a room where there was a marshmallow and giving the child the option either to eat it immediately or to wait for 15 minutes without eating it, in which case they would be rewarded with an extra marshmallow. The result: 70% of participants were not able to resist the temptation. This may seem like a very different situation to those we usually present as economists, but what if we replace the four-year-old child with a 30-year-old adult, the sweet on the table with a new car and the two sweets after 15 minutes with greater spending power in old age? What would you say would be the result?

Beyond the self-control problems, there are other cognitive peculiarities that will no doubt be very familiar to you, since we all suffer them to a greater or lesser extent. One of them is the aversion to loss, a very common trait. Kahneman and Tversky show us this trait with a simple exercise: if someone proposed to toss a coin and, if it were heads, you had to pay 100 euros, how many euros would you need to obtain if it were tails for you to be willing to play? Most of us would ask for more than 200 euros, since we feel the loss stronger than we feel the gain.¹ This disparate assessment of gains and losses gives rise to behaviours that are very different to those we would observe if we behaved rationally, and we can frequently see them in the financial markets, for example.

The simplification of complex decisions in simpler problems also tends to result in different behaviours to those we would observe if we acted rationally. Daniel Read, George Loewenstein and Matthew Rabin coined the term «narrow bracketing» to describe this way of behaving. For example, Richard Thaler argues that we often classify our money into different accounts, or mental categories, in order to simplify our financial decisions (mental accounting, as he calls it). He points out that we sometimes use this compartmentalisation as a self-control mechanism to deal with the «impulsive and live for the present» person in us, who wants to consume more than we can afford, and the «future planner» in us.

Finally, over-investment behaviour fits perfectly with our confirmation bias, which drives us to seek out information that confirms our way of thinking, and with our confidence bias, as a result of our excessive belief in our own abilities when it comes to making future projections.

Although the list of cognitive limitations is longer, those outlined here provide a good sample of the ones that are most common and are generally more detrimental to our financial decisions. How much we consume, save, work or what we invest in is subject to these limitations. As such, the design and implementation of public policies must take these biases into account.

Making consumption, savings and work-related decisions

Looking in more detail at the economic level, and as we mentioned at the beginning, most economic models assume that we make decisions rationally. One of the areas in which this assumption has caused the most controversy is in the study of the big savings and consumption decisions we make throughout our lives. According to the life cycle theory of consumption developed by Franco Modigliani and Richard Brumberg, if we acted rationally, we should maintain a highly stable level of consumption over time. To achieve this, we would generally borrow in our youth, save for the rest of our working lives and, finally, reduce our savings during retirement in order to consume.

However, the savings we accumulate during our active lives are often insufficient in order to maintain a stable level of consumption after retirement. In fact, the impulsive person in us tends to outweigh the planner in us, and we sometimes succumb to the temptation to satisfy our desires immediately, just as the marshmallow test demonstrated, rather than increasing our contributions to our pension plan. As they say, «a bird in the hand is worth two in the bush».

Furthermore, much of the economic literature that analyses the savings and consumption decisions of households has been based on the expected utility hypothesis described by Von Neumann and Morgenstern, which assumes that individuals make decisions by evaluating all possible contingencies in a rational manner.

Despite this, our aversion to loss makes us invest a greater proportion of our savings in safe assets than we would if we behaved rationally. That is, our investment portfolios should include assets with a higher expected return, even if they are riskier (see the article «Expectations, inflation and financial markets: an exciting trinomial full of surprises» in this Dossier, for more details). Another consequence of our aversion to loss is the prudence we show before changing jobs or setting up our own business. With rational expectations, we should observe much more mobility in the workforce and the creation of many more new companies, but our bias towards the *status quo* drives us to stay in our current job or to not follow through on that fantastic business idea we have in our head.

1. See D. Kahneman and A. Tversky (1979), «Prospect Theory: An Analysis of Decision Under Risk», *Econometrica*, vol. 47, 263-291.

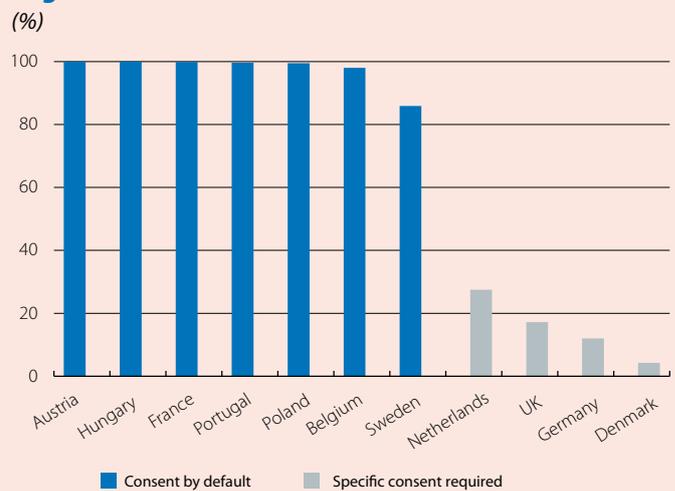
In the same way, our bias towards compartmentalisation encourages us to buy on credit and, at the same time, to save in a bank account. This simplification of financial decisions also often leads us to establish a fixed monthly amount of savings, despite the fact that our income and especially our expenditure fluctuate throughout the year, meaning that the optimum amount to save should be different from month to month.

Another example of compartmentalisation or simplification of financial problems is provided by New York taxi drivers.² As Thaler and his co-authors pointed out in a well-known article that was published in 1997, many taxi drivers set themselves a daily income target and worked to achieve their goal, regardless of demand. However, if they worked a fixed number of hours each day, with the same number of hours their income would increase by 5%. Furthermore, if they decided to work more hours on days with higher demand and less on quiet days, their monthly income could increase by 10% (with an equal number of hours worked in the month in total). This is why the company Uber, for example, tries to incentivise its drivers to make a more rational decision by increasing prices when there is more demand: in this way, it incentivises drivers to work longer hours when there is higher demand.

Public policies and the «nudge»

In light of these tendencies, it may be that we sometimes need a «nudge» to make more rational decisions or to not postpone those that we prefer to avoid. This is particularly relevant when it comes to designing public policies: assuming that individuals have rational expectations when, in fact, they do not can lead to policies not having the desired effects. A clear example of this nudge, also referred to as libertarian paternalism by Richard Thaler, is consent by default in organ donation. In countries where explicit consent is required for organ donation, the percentage of donors is very low, whereas if consent is given by default, practically all citizens donate their organs (see first chart). Thaler explains how designing public policies that are minimally invasive but encourage individuals to make more rational decisions can have a very significant impact. This is an increasingly important area in public policy design, particularly in the US and the United Kingdom.

Organ donation consent rate



Source: CaixaBank Research, based on data from Johnson, E. and Goldstein, D. (2003), «Do Defaults Save Lives?».

Going back to decisions related to saving for old age, a public policy that is often proposed to counteract the low level of savings that can be seen in several developed countries is to increase company pension plans. However, if this type of action were proposed, the way in which it were implemented would be key to its success. If individuals have to check a box to opt in to the plan, the proportion of people who sign up would most likely end up being much lower than if registration were by default (i.e. individuals have to check a box to opt-out). In the US, when the default option was changed to automatic enrolment, the rate of subscription to company pension plans went from 49% to 86% and no decline was noted in savings placed in other types of instruments.³

A somewhat more sophisticated strategy to overcome problems of self-control, but one which is very effective at encouraging people to save for old age, is the «Save More Tomorrow» – or SMaT – programme, designed by Thaler and Shlomo Benartzi. Under this programme, individuals must decide today what portion of the salary increases they might potentially receive in the coming years to allocate to savings. In this way, the decision is easier because it does not involve an immediate reduction in consumption and, when savings are increased, it is more acceptable since it coincides with an increase in salary and occurs

2. See C. Camerer *et al.* (1997), «Labor Supply of New York City Cabdrivers: One Day at a Time», *The Quarterly Journal of Economics*, vol. 112(2), 407-441.

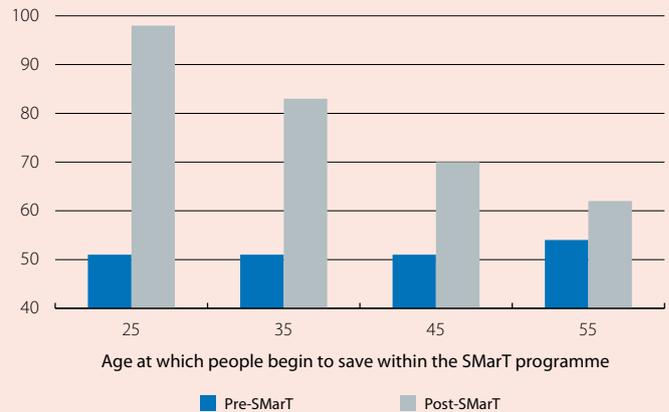
3. See B.C. Madrian and D.F. Shea (2001), «The Power of Suggestion: Inertia in 401 (k) Participation and Savings Behavior», *The Quarterly Journal of Economics*, vol. 116(4), 1.149-1.187.

automatically. The two economists who developed the programme estimated that, with a gradual increase in the savings rate from the current 4% of salary up to a maximum of 14% for a worker with an annual income of 50,000 dollars, the replacement rate (i.e. the ratio between a person's initial pension and their salary prior to retirement) would increase from 51% to 98% if they enrolled at age 25 (see the second chart). It is important to note that the SMarT programme manages to significantly increase the level of savings, despite giving individuals the freedom to leave the savings plan at any time.

In short, although rational, we humans also make decisions impulsively, which sometimes makes it difficult for us to achieve our desired objectives. What's more, if the heart has reasons that defy reason itself, we must learn to speak to it in its own language. Perhaps that way, we will be able to convince it, whether it is signing up for a pension plan or starting a business.

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Post-retirement replacement rate according to participation in the savings programme (%)



Note: Ratio between the initial pension and the salary for a worker with an annual income of 50,000 dollars, according to the age at which they begin to save within the SMarT programme. The blue bars represent those who have not saved through the SMarT programme, while the grey bars show those who have.

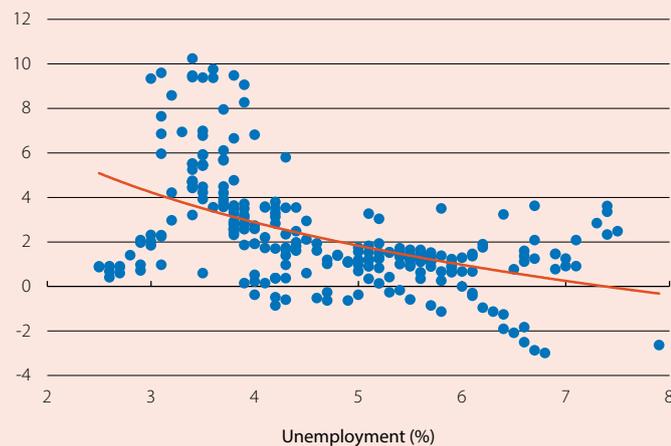
Source: CaixaBank Research, based on data from R. Thaler and S. Benartzi (2004), «Save More Tomorrow: Using Behavioral Economics to Increase Employee Saving».

Expectations: the key to monetary policy

What comes to mind when you hear the terms monetary policy and central bank? Perhaps they evoke images of serious-looking men¹ in impeccable suits who, armed with statistics and equation systems, establish the tools that will ensure the stability of the economy with mathematical precision? Although there is some truth to this image, it gives the false impression that the economy works like a simple mechanical gear and fails to take account of its key human component: expectations.

US: Phillips curve for 1948-1969

Inflation (%)



Source: CaixaBank Research, based on data from FRED (Fed of St. Louis).

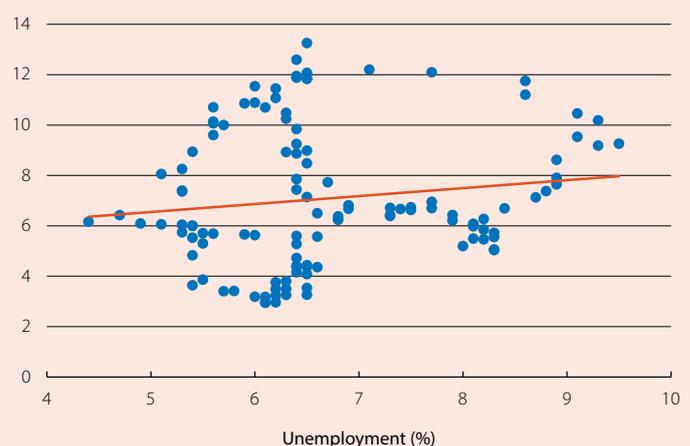
discovery, monetary policy theorised a trade-off between inflation and unemployment: if inflation could be generated, it could produce a fall in unemployment. However, this theory was based on the assumption that consumers and businesses would not anticipate that the increase in the supply of money would translate to an increase in prices in the long term. In other words, it was assumed that by having more bank notes in their pockets, consumers would spend more, companies would hire more workers and the unemployment rate would fall. However, in the 1970s, another group of economists, who assumed that economic agents adjusted their expectations in a less innocent and more rational manner, came to a completely different conclusion: this type of monetary policy would not reduce unemployment, but rather would only generate more inflation. These economists, led by Milton Friedman, pointed out that when the economy uses all its productive resources (and cannot increase its production any more), issuing more bank notes only reduces the quantity of goods that can be purchased with each one: that is, prices increase. Therefore, consumers and businesses that form their expectations rationally will know that when the central bank puts more money in their pockets, they will not be any richer; rather, they will face higher prices, so they will neither consume nor produce more. In fact, as can be seen in the second chart, in the 1970s, the data questioned the results of Phillips and his peers: in that decade, increases in inflation were accompanied by rises in unemployment.²

In fact, the direct impact of the interest rate set by a central bank, its most well-known tool, only affects a small portion of the economy: the short-term liquidity that financial institutions obtain from the central bank. The real power of monetary policy lies in how this tool spreads to the many different interest rates that affect the economy as a whole (mortgages, business credit, bank deposits, the cost of public debt, etc.). This largely happens through expectations about future monetary policy: that is, an interest rate over, say, 10 years reflects the central bank's interest rate that is expected to prevail in the next 10 years.

To begin to understand the role of expectations, let us consider one of the most important correlations in economics: that between inflation and unemployment. This correlation is known as the Phillips curve, in honour of William Phillips who, in 1958, noted that over time a rise in inflation coincides with a reduction in unemployment (see first chart). Following this

US: Phillips curve for 1970-1979

Inflation (%)



Source: CaixaBank Research, based on data from FRED (Fed of St. Louis).

1. Among the main central banks, only the Swedish Riksbank has achieved gender parity in management positions. In the Fed, the percentage of female managers is no more than 40%, while in the ECB it is barely 25% and in the Bank of Japan it stands at 3.4%.

2. The current consensus is that the Phillips curve has a negative slope and, therefore, there is an inverse correlation between inflation and unemployment, which influences the decisions of the central banks. This is consistent with the idea that consumers and companies form their expectations rationally, because economists have shown that there are nominal rigidities that cause prices to adjust slowly. These rigidities imply that an expansionary monetary policy does not generate inflation immediately, even with rational expectations, and therefore it stimulates economic activity.

Another example of the importance of expectations in the design of monetary policy can be found in the correlation between interest rates and inflation. In general, if the central bank wants to reduce inflation, it must increase its interest rate: in doing so, it encourages saving, discourages consumption and reduces inflationary pressures. However, in a new twist, a group of economists known as neo-Fisherians (in reference to Irving Fisher, an economist who was a contemporary of Keynes) put forward a provocative idea: inflation actually increases when interest rates rise. The idea is inspired by the historical relationship between inflation and nominal interest rates, represented in the third chart.³ If you think that this reasoning belies common sense, a study by Falck and her co-authors⁴ found some evidence in favour of neo-Fisherism. Specifically, during periods of low uncertainty, when all agents in the economy (including the central bank) have access to practically the same information to assess the macroeconomic scenario, Falck *et al.* (2017) showed that the neo-Fisherian prediction does not bear out: a rise in rates reduces inflation. However, in periods of high uncertainty, when private agents may have less information than the central bank, there is evidence in favour of neo-Fisherism: interest rates rises appear to be followed by increases in inflation. The key lies in expectations: when faced with a high degree of uncertainty, the actions of the central bank shed light on the information it has. For instance, in the event of a rise in rates, agents deduce that the central bank foresees an increase in inflation and, therefore, they revise their inflation expectations upwards and set higher prices.

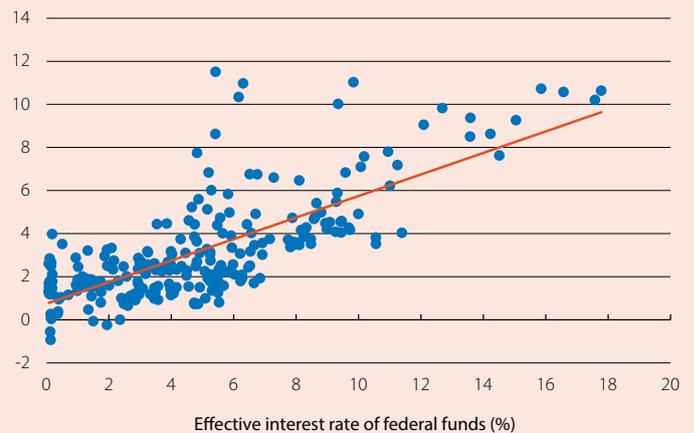
The results found by Falck and her co-authors also indicate that proper transmission of monetary policy becomes complicated in periods of uncertainty. This is why, since the last recession, central banks have supplemented their traditional tool (the reference rate) with intensive communication.⁵ For example, between 2015 and 2018, the ECB has constantly reiterated its intention to maintain interest rates at low levels for a long period of time. In doing so, it influences agents' expectations and manages to reduce interest rates across a wider range of assets. In fact, the asset purchase programmes implemented by the major central banks in recent years can also be interpreted as a way to make their intention to keep interest rates low for a long period of time seem more credible (which is why, in the case of the ECB, for example, these programmes are designed to last a long time).

Central banks not only transmit information to economic agents, they also use the market prices of financial instruments to obtain information about the state of the economy. This circular interaction between the central banks and the financial markets, in terms of both managing and, at the same time, gathering expectations, leads us to what Paul Samuelson called the reflection problem. That is, the central bank's influence on the prices of financial instruments can be so great that, to paraphrase Samuelson, the central bank's reaction to signals from the market might end up being similar to that of a monkey reacting to its reflection in a mirror.⁶

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US: interest and inflation rates, 1954-2018

The PCE price index (year-on-year change, %)



Source: CaixaBank Research, based on data from FRED (Fed of St. Louis).

3. The conventional interpretation assumes that it is higher inflation which causes higher rates, whereas proponents of neo-Fisherism suggest that we might be getting the direction of causality wrong.

4. E. Falck, M. Hoffmann and P. Hurtgen (2017), «Disagreement and monetary policy», Deutsche Bundesbank Discussion Paper n.º 29/2017.

5. Credibility is another key factor. To strengthen it, it has been fundamental for central banks to be seen as independent institutions that are governed by rules or objectives that can be verified (such as inflation close to, but below, 2%, in the case of the ECB).

6. Quote from S. Morris and H.S. Shin (2018), «Central bank forward guidance and the signal value of market prices», BIS Working Paper, n.º 692.

Expectations, inflation and financial markets: an exciting trinomial full of surprises

The importance of expectations in the formation of the prices of financial assets is beyond any doubt. It is also indisputable that investors' expectations are not rational and that human beings often make mistakes which affect the decision-making process, as we have seen in the article «From expectations formation to decision making» in this same Dossier. The intuition of the highly reputable-economist Keynes a century ago has been widely corroborated by the empirical evidence: «the markets can remain irrational for longer than you can remain solvent.» In this article, we will focus on studying the mistakes that are made when developing expectations about a variable that is key at the macro level, namely inflation, and their consequences for the financial markets.

However, before diving in, it is worth going over some of the anomalies that occur in the financial markets. In particular, here are three examples that have been the subject of much debate. Firstly, share prices in the US stock market tend to rise in January. Secondly, share prices tend to increase on Fridays but fall between the close of trading on Friday and the early hours of Monday trading. Thirdly, the yield of the Dow Jones Index is 23 times higher just before holidays than on a normal day. Clearly, there cannot be any satisfactory rational explanation for these anomalies. Nobel laureate Richard Thaler has argued that there are underlying psychological factors behind these anomalies, which are likely to be familiar to readers of our *Monthly Report* (if only vaguely): stock prices go up in January due to people's positive attitude and desire to turn over a new leaf in the new year; on Fridays or just before holidays, investors tend to buy assets due to the euphoria of knowing that rest days lie ahead, but on Mondays they are depressed at the thought of the beginning of a new work week.

In parallel, a plethora of studies attest to the existence of biases in the financial markets, such as overconfidence, following the strategies of the herd without considering whether or not they are logical (herding or aggregate behaviour) and short-sightedness. These biases are far from trivial: for example, Benartzi and Thaler¹ documented that if citizens focused on the longer term, they would invest almost all their savings in the stock market and practically nothing in bonds.

Having established the often irrational behaviour of the financial markets, we can now turn our attention to the focus of the article: inflation expectations. While this is a very important topic for understanding trends in the financial markets in general, it is even more so in the current macroeconomic context. This is because, given the mature cyclical phase in which the US economy currently finds itself, we would expect inflation expectations to incorporate a scenario with higher inflationary pressures, and yet this is far from the case. Expectations are not currently discounting particularly high inflation for the next few years and have remained unusually stable. If inflation expectations are underestimating the likelihood of higher inflation, the impact could be significant. For example, there could be a more abrupt than expected hike in interest rates, which would test the macrofinancial situation of the more fragile emerging countries.

To study how inflation expectations behave over the course of the economic cycle in detail, as a reference we use the forecasts which economists and investors produce on a quarterly basis for the Survey of Professional Forecasters of the Federal Reserve Bank of Philadelphia in the US. To begin with, we compare the median of the inflation expectations for one year ahead with the actual inflation. Using statistical techniques, we conclude that the expectations are not rational. In other words, we detect the presence of systematic forecasting errors. To the extent that forecast errors are systematic in nature, it seems that analysts' forecasts could be improved. This suggests that analysts do not use all the available information to produce their inflation forecasts, as they would do if they acted rationally.

In light of this result, we wonder what factors influence the forecast errors that are made. To investigate this, we begin by examining what factors explain the variation in inflation expectations. The results are at least suggestive: 69% of the difference is explained by past inflation data, 29% by past prediction errors and only a meagre 2% by the cyclical position of the economy, measured with the output gap (actual GDP as a percentage of potential GDP). These results seem to indicate that experts pay too much attention to past inflation data, that they only learn from their past mistakes up to a certain point and that they do not pay much attention to the economy's current cyclical position.

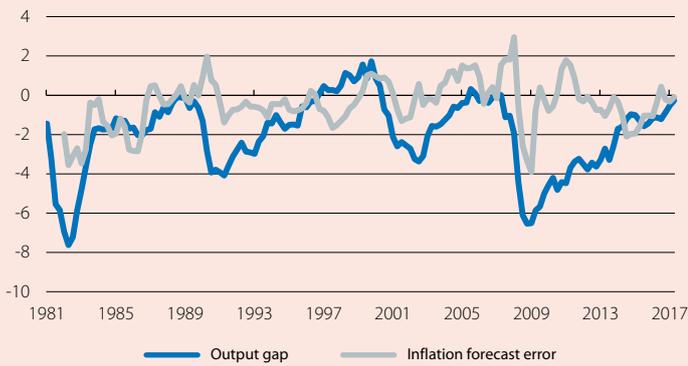
On the basis of this preliminary evidence, we carry out a more rigorous econometric analysis, assessing how past inflation and the cyclical phase of the US economy have affected the forecast errors made in the past.² We find that there is a very close and statistically robust positive correlation between inflation forecast errors and the economy's situation in the cycle, as can be seen in the first chart. In particular, the more mature is the economy's cyclical position (i.e. the greater the output gap), the greater the downward error committed by specialists when predicting inflation (in other words, the more inflation surprises there are due to actual inflation being higher than expected). Therefore, during times of economic boom, we tend to forecast lower inflation rates

1. S. Benartzi and R. Thaler (1996), «Risk Aversion or Myopia: The Fallacy of Small Numbers and Its Implications for Retirement. Savings», UCLA Working Paper.

2. We use inflation forecast error as the dependent variable. As regressors, we use inflation expectations for one year ahead, the output gap, and the current fluctuation in the price of crude oil as a control variable. We include a lag of these regressors and a polynomial function for the output gap to account for non-linear relationships.

Relationship between the point in the cycle and inflation surprises

(pps)



Note: El output gap is expressed as the actual output as a percentage of the potential output. The inflation forecast error is calculated as the actual inflation less the forecast inflation for that period.
Source: CaixaBank Research, based on data from Bloomberg, FRED and DataStream.

but has virtually no impact on the 2-year rate. To rationalise this result, we break the interest rates down into the expectation of short-term rates, on the one hand, and the term premium on the other.³ This premium can be understood as the compensation or additional yield which is demanded by investors for investing over the long term rather than the short term (and reinvesting over the same period as the long-term bond). It turns out that the spike in 10-year rates is mainly explained by an increase in the term premium. The most plausible explanation for this is that, as we increase the time horizon, bigger inflation surprises occurring now generate greater uncertainty about future inflation expectations. This, in turn, increases the risk premium demanded by investors to compensate them for investing over 10 years instead of reinvesting from year to year.

But how big is this spike in 10-year rates? Assuming that the pattern observed historically holds in the current scenario, a surprise like the one we have estimated at the end of 2018 (of about 0.5 pps) would lead to an increase of 25 bps in the 10-year rate. For the reader to get an idea of the scale, 50% of the quarterly increments of the 10-year rate lie within a range of +/-30 bps. It should be noted, however, that although this is not a particularly high figure, it is a very conservative estimate, since the historical pattern is very much influenced by the low inflation levels and low interest rates of recent years. Therefore, as the US economy enters a more mature phase of the cycle, the inflation surprises can be expected to be more significant, hence the spikes in rates are likely to be much greater than 25 bps. This could put more stress on financial conditions than expected and, thus, reinforces the theory that high levels of uncertainty regarding inflation forecasts are pose substantial risks which can influence the monetary policy of the Fed.⁴

In summary, expectations have a significant impact on the future of the financial markets, hence economic science should take the study of expectations very seriously. In this article, we have focused on the macrofinancial impacts of the errors committed by analysts when producing their inflation forecasts, and we have seen that the impact can be considerable. Although Keynes' motto «it is better to be roughly right than precisely wrong» remains valid, our analysis appears to indicate that, while we are not «completely wrong», we cannot say that we are «approximately right» either, when it comes to developing inflation expectations.

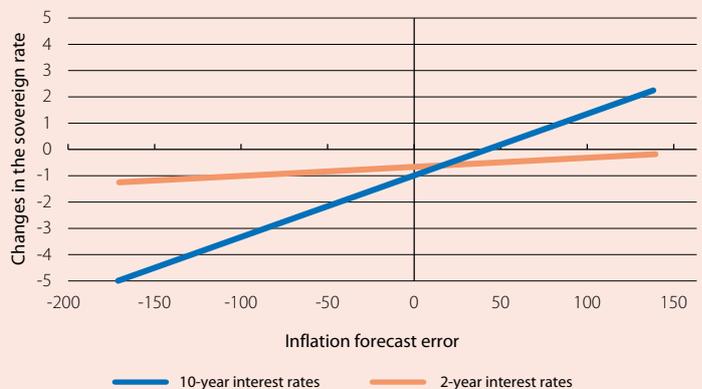
than those we will actually have. The reason is perhaps that economists give too much weight to past inflation data (which were lower, since they related to a less mature point in the cycle), while on the other hand not assessing the cyclical phase of the economy with sufficient accuracy.

Having identified this situation, we might wonder how big of a mistake we make. Using the latest data, we estimate that the median forecast is usually between 4 and 5 decimal points below the actual inflation, which is a far from negligible difference.

Inflation expectations interest us, above all, because of the impact they can have on asset prices in the financial markets. To analyse this issue, we study the impact of deviations between the actual inflation observed in the US and the consensus of Bloomberg on 10 and 2-year interest rates of US sovereign debt. This exercise shows that an increase in upward inflation surprises causes a spike in the 10-year rate

Impact of inflation surprises on the sovereign interest rate in the US

(bps)



Note: * The lines in the chart show the trend in the relationship between changes in the sovereign interest rate and inflation forecast error. The change in the sovereign interest rate is calculated as the difference between the closing rate on the day the inflation figure is published and that of the previous day.

Source: CaixaBank Research, based on data from Bloomberg.

Cristina Farràs and Javier Garcia-Arenas
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3. For more information on the term premium, see the Focus «US Treasury term premia: not yet, but likely» in MR12/2014 and «The bias in market forecasts of interest rate» in MR10/2016.

4. See O. Aspachs-Bracons (2018), «Retos a los que se enfrentan la Fed y el BCE», CaixaBank Research Working Paper.

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As of 31 March 2018

	MILLION €
Customer funds	351,420
Loans and advances to customers, gross	223,249
Profit attributable to Group, YTD	704
Market capitalisation	23,150
Customers (millions)	15.7
Employees	37,107
Branches	5,318
Retail branches in Spain	4,618
Number of ATMs in Spain	9,394

"la Caixa" BANKING FOUNDATION COMMUNITY PROJECTS: BUDGET 2018

	MILLION €
Social	307.5
Excellence in research and training	91.1
Raising awareness of culture and knowledge	121.4
TOTAL BUDGET	520

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