MR11

MONTHLY REPORT • **ECONOMIC AND FINANCIAL MARKET OUTLOOK**

NUMBER 428 | NOVEMBER 2018

CaixaBank
Research

CaixaBank Research
www.caixabankresearch.com
research@caixabank.com
Enric Fernández
Chief Economist
Oriol Aspachs
Director, Macroeconomics
and Financial Markets
Estel Martín
Director, Banking Strategy

BPI Research (UEEF)
www.bancobpi.pt /
http://www.bancobpi.pt/grupo-bpi/estudos-
e-mercados/mercados-financeiros
deef@bancobpi.pt
Paula Carvalho
Chief Economist

INDEX

Younger and younger

Someone turning any given age today is much younger, in body and in mind, than someone who turned that same age sometime in the past. Despite having lived for the same number of years, the person turning that age today is generally in better physical and mental shape, and they will also live longer. We are getting younger and younger!

Yet, depending on how you look at it, we are also getting increasingly older. Improvements in life expectancy, combined with the decline in the birth rate, mean that the average age of the population is rising. In Europe, it is expected that the portion of the population aged over 65 will increase from the current level of 20% to 30% by 2050. For every 100 people between the ages of 16 and 64, today there are 30 people aged over 65, while in 2050, there will be 50. The proportion of the population over 80 years of age, meanwhile, will be more than double the current level, making it very similar to that of the population under the age of 14.

Clearly, population ageing poses an enormous challenge for the next few decades, undoubtedly of the same scale as the challenges posed by technological change and climate change. In particular, this demographic change will exert significant pressure on the public accounts, both due to expenditure on existing programmes and due to new social demands. At the same time, it could also hinder economic growth and, therefore, general government revenues.

Expenditure on pensions, healthcare and dependency will clearly need to increase in the medium and long term. To make this possible, within a framework of sustainable public accounts, we will have to reassess priorities in expenditure and identify sources of savings (including through efficiency improvements, for instance, obtained from a radical digital transformation in the general government). Reducing public debt must also play an important role in cutting costs (interest charges, in this case). As for the revenue side, there is ample scope for improving efficiency, for example, by reducing the complexity of the tax system and combating fraud.

On the other hand, all the current projections point towards the need to review the public pension programmes in order to ensure their sustainability. Many measures will be needed to achieve this, including the introduction of incentives to prolong people's working lives and mechanisms that incorporate a long-term view when setting the initial level of pensions, as well as the adjustments over time. It will also be essential to adopt a comprehensive approach. This would involve measures such as encouraging greater participation in the labour market at all ages, as well as reducing the rate of structural unemployment (a topic that is particularly relevant in the case of Spain); designing an immigration policy that helps to mitigate the effects of the ageing of the population; and promoting growth in productivity, which, at the end of the day, is what determines wage growth.

The scale of the challenge requires us to act now. Unfortunately, its complexity and its perception as a distant problem lead to the debate and the solutions being postponed. Worse still, there is a risk that the debate will be taken over by populist approaches, which tend to offer diagnoses that lack rigour and supposed solutions that are not only ineffective but can exacerbate the scale of the challenge. The longer we wait to tackle this issue thoroughly, the more costly the necessary adjustments will be and, therefore, the more difficult they will be to assume politically.

Enric Fernández
Chief Economist
31 October 2018

Chronology

OCTOBER 2018

12 The rating agency Moody's improves Portugal's credit rating, from Ba1 to Baa3 (once again investment grade).

19 The rating agency Moody's downgrades Italy's credit rating, from Baa2 to Baa3.

AUGUST 2018

20 Greece completes the third bailout programme after eight years of supervision by the EU, the ECB and the IMF.

23 The second phase of tariff hikes between the US and China enters into force (on 16 billion dollars of imports, out of the total of 50 billion).

27 The US and Mexico announce a preliminary trade agreement to replace the North American Free Trade Agreement (NAFTA).

JUNE 2018

13 The Fed raises the official rate by 25 bps, placing it within the range of 1.75%-2.00%.

14 The ECB announces that the net purchases of assets will decrease to 15 billion euros per month starting in October, before being brought to an end in December 2018.

SEPTEMBER 2018

24 The US implements a new tariff rise on 200 billion dollars of Chinese imports. China applies a new tariff rise on 60 billion dollars of US imports.

26 The Fed raises the official rate by 25 bps, bringing it up to the 2.00%-2.25% range.

30 Canada is incorporated into the preliminary trade agreement between the US and Mexico to replace the North American Free Trade Agreement (NAFTA).

JULY 2018

6 The first phase of tariff hikes between the US and China enters into force (on 34 billion dollars of imports, out of the total of 50 billion).

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.

Agenda

NOVEMBER 2018

5 Spain: registration with Social Security and registered unemployment (October).

7 Portugal: employment (Q3).

7-8 Federal Open Market Committee meeting.

9 Portugal: international trade (September).

13 Portugal: CPI (October).

14 Spain: CPI (October).
Portugal: GDP flash estimate (Q3).
Japan: GDP (Q3)

22 Spain: loans, deposits and NPL ratio (September).
Portugal: loans and deposits (September).

27 Spain: state budget execution (October).
Portugal: state budget execution (October).

29 Spain: CPI flash estimate (November).
Portugal: employment and unemployment (October).
Euro area: economic sentiment index (November).

DECEMBER 2018

5 Spain: registration with Social Security and registered unemployment (November).

6 European Council meeting.

10 Portugal: international trade (October).

12 Portugal: CPI (November).

13 Governing Council of the European Central Bank meeting.

18 Spain: quarterly labour cost survey (Q3).

18-19 Federal Open Market Committee meeting.

20 Portugal: loans and deposits (October).

21 Spain: loans, deposits and NPL ratio (October and Q3).

26 Spain: balance of payments (Q3).
Net international investment position (Q3).

27 Spain: household savings rate (Q3).
State budget execution (November).
Portugal: state budget execution (November).

28 Spain: CPI flash estimate (December).

Volatility returns to the fore

Strong global growth, albeit slightly slower. According to the latest available indicators, the growth of the global economy has slowed slightly, although it remains strong. This is reflected in our global growth forecasts, which have been revised down slightly, to 3.7% for 2018 and 3.6% for 2019. After all, the downside risks that we have been pointing out in recent months continue to take shape. In the sphere of trade, the tensions between the US and China are taking their toll on the global climate of confidence. At the macrofinancial level, the normalisation of US monetary policy continues to put pressure on the bloc of emerging countries and is causing volatility spikes in the markets. On the other hand, the slowdown in the growth rate of the Asian giant, although slight, is not without its uncertainties. The combination of these trends is weighing on the climate of global confidence, and both the advanced and the emerging economies are feeling the effects.

Differing performance among the advanced economies. The latest growth data for the US indicate that the economy is continuing to grow at a vigorous rate and above its potential. In this environment of high growth and a labour market close to full employment, the risk of the US economy overheating remains ever-present. This suggests that the Fed will continue with its policy of rate hikes, as foreseen in the scenario by CaixaBank Research, which forecasts one more rate rise this year and two for next year. In contrast, political tensions and the worsening of external demand continue to weigh on the performance of the euro area economy. In particular, the tensions between the European Commission and the Italian Government, after the latter raised its deficit forecast to 2.4% for 2019, has pushed the country's risk premium above 300 bps. This has also had a limited knock-on effect on the risk premiums of the other countries of the euro area periphery. Furthermore, negotiations continue between the United Kingdom and the EU to try and reach a deal that will ensure an orderly departure from the Union. However, the political constraints that arise from the weakness of the British Government's position at home suggest that an agreement is unlikely to be reached until sometime after November.

The markets feel the effects of the heightened uncertainty. Following a September in which some calm returned to the markets, volatility once again left its mark in October. On this occasion, and despite the positive macroeconomic data, the corrections began in the US stock markets, with the S&P falling by 6.9% in the month of October as a whole, before being transmitted to the other international markets. In Europe, for instance, the climate of greater risk aversion was exacerbated by the aforementioned political tensions, and the Eurostoxx 50 index fell by 5.9%. In the emerging bloc, meanwhile, performance was uneven. The largest declines were concentrated in the Asian markets, while the Latin American indices showed slight growth.

Gentle, but expected, slowdown of growth in Spain. The latest available data confirm that the Spanish economy is shifting gears and that its growth is stabilising at more sustainable levels than those registered in recent years. This easing of growth has come as a surprise, not because it has occurred, but because of its composition. Whereas CaixaBank Research expected a gradual slowdown of growth in domestic and external demand, the latest data show that domestic demand continues to grow at a steady rate, while most of the reduction is coming from external demand. Uncertainty surrounding global trade flows, the slowdown in the tourism sector and the surge in imports caused by strong domestic demand have all weighed down the positive performance of external demand, which will probably end the year with a negative contribution to growth. Finally, the budget submitted by the Government to Brussels is an important development. It includes measures to increase expenditures, which will be more than offset by measures to increase revenues. Therefore, the deficit is expected to continue to fall from the 2.7% forecast for this year down to 1.8% in 2019, if the budget is finally approved.

Encouraging, albeit slightly slower, growth in the Portuguese economy. Following the upturn in economic activity in Q2 (2.4% year-on-year growth), the economic activity and confidence indicators suggest that growth will continue to slow down over the coming quarters. All in all, the performance of the Portuguese economy remains strong, as demonstrated by the trend in the unemployment rate, which now lies below 7%. Also of note is the narrowing of the gap between the country's sovereign risk premium and that of other peripheral economies. This is a result of Moody's upgrading Portugal's credit rating, a move underpinned by the positive trend in the public accounts and the greater diversification of the sources of growth. The budget submitted by the Portuguese Government, which envisage a reduction of the deficit down to 0.2% in 2019, support this revision.

Average for the last month in the period, unless otherwise specified

Financial markets

	Average 2000-2007	Average 2008-2015	2016	2017	2018	2019	2020
INTEREST RATES							
Dollar							
Fed funds	3.43	0.48	0.64	1.39	2.50	3.00	3.25
3-month Libor	3.62	0.69	0.98	1.61	2.70	3.32	3.20
12-month Libor	3.86	1.18	1.67	2.05	3.10	3.44	3.25
2-year government bonds	3.70	0.72	1.18	1.84	2.90	3.20	3.15
10-year government bonds	4.70	2.70	2.49	2.41	3.10	3.50	3.40
Euro							
ECB depo	2.05	0.50	−0.40	−0.40	−0.40	−0.20	0.25
ECB refi	3.05	1.13	0.00	0.00	0.00	0.25	0.75
Eonia	3.12	0.77	−0.35	−0.34	−0.35	−0.10	0.40
1-month Euribor	3.18	0.93	−0.37	−0.37	−0.34	−0.08	0.42
3-month Euribor	3.24	1.13	−0.32	−0.33	−0.32	−0.04	0.44
6-month Euribor	3.29	1.30	−0.22	−0.27	−0.22	0.12	0.62
12-month Euribor	3.40	1.51	−0.08	−0.19	−0.12	0.27	0.79
Germany							
2-year government bonds	3.41	0.85	−0.76	−0.69	−0.45	0.08	0.73
10-year government bonds	4.30	2.21	0.29	0.35	0.65	1.26	1.96
Spain							
3-year government bonds	3.62	2.59	−0.13	−0.04	0.16	0.68	1.35
5-year government bonds	3.91	3.16	0.30	0.31	0.60	1.11	1.77
10-year government bonds	4.42	4.13	1.43	1.46	1.65	2.06	2.66
Risk premium	11	192	114	110	100	80	70
Portugal							
3-year government bonds	3.68	4.85	0.76	−0.05	0.17	0.85	1.68
5-year government bonds	3.96	5.42	2.05	0.46	0.82	1.44	2.20
10-year government bonds	4.49	5.90	3.75	1.84	2.00	2.51	3.11
Risk premium	19	369	346	149	135	125	115
EXCHANGE RATES							
EUR/USD (dollars per euro)	1.13	1.33	1.05	1.18	1.19	1.23	1.24
EUR/JPY (yen per euro)	129.50	127.13	122.41	133.70	132.09	129.15	131.44
USD/JPY (yen per dollar)	115.34	96.09	116.06	113.02	111.00	105.00	106.00
EUR/GBP (pounds per euro)	0.66	0.83	0.85	0.88	0.89	0.87	0.86
USD/GBP (pounds per dollar)	0.59	0.62	0.80	0.75	0.75	0.71	0.69
OIL PRICE							
Brent ($/barrel)	42.32	90.70	54.92	64.09	79.00	69.00	66.00
Brent (euros/barrel)	36.35	67.78	52.10	54.17	66.39	56.10	53.23

Forecasts

Percentage change versus the same period of the previous year, unless otherwise indicated

International economy

	Average 2000-2007	Average 2008-2015	2016	2017	2018	2019	2020
GDP GROWTH							
Global	4.5	3.3	3.3	3.7	3.7	3.6	3.5
Developed countries	*2.7*	*1.1*	*1.7*	*2.3*	*2.3*	*2.1*	*1.8*
United States	2.7	1.4	1.6	2.2	2.8	2.3	1.9
Euro area	2.3	0.2	1.9	2.5	2.1	1.9	1.7
Germany	1.7	0.9	1.9	2.5	2.1	2.0	1.8
France	2.0	0.5	1.1	2.3	1.7	1.9	1.6
Italy	1.5	−1.0	1.3	1.6	1.1	1.0	1.0
Portugal	1.5	−0.6	1.9	2.8	2.1	1.9	1.9
Spain	3.8	−0.4	3.2	3.0	2.5	2.1	2.0
Japan	1.5	0.3	1.0	1.7	1.1	1.2	0.6
United Kingdom	2.8	1.0	1.8	1.7	1.3	1.7	1.9
Emerging countries	*6.6*	*5.2*	*4.4*	*4.7*	*4.7*	*4.6*	*4.6*
China	11.7	8.6	6.7	6.9	6.5	6.2	6.0
India	9.7	6.7	7.9	6.2	7.4	6.9	6.2
Indonesia	5.5	5.8	5.0	5.1	5.1	4.9	4.8
Brazil	3.6	2.3	−3.5	1.0	1.5	2.1	2.0
Mexico	2.4	2.0	2.9	2.0	2.1	2.3	2.3
Chile	5.0	3.4	1.3	1.5	3.7	3.0	2.7
Russia	7.2	1.2	−0.2	1.5	1.8	2.1	2.0
Turkey	5.4	5.0	3.2	7.3	4.0	1.3	2.0
Poland	4.0	3.2	3.0	4.7	4.7	3.0	2.7
South Africa	4.4	2.0	0.7	1.3	1.1	1.3	1.6
INFLATION							
Global	4.1	3.9	2.8	3.2	3.7	3.7	3.3
Developed countries	*2.1*	*1.6*	*0.8*	*1.7*	*2.0*	*1.8*	*1.8*
United States	2.8	1.7	1.3	2.1	2.5	2.0	1.9
Euro area	2.1	1.5	0.2	1.5	1.8	1.8	1.7
Germany	1.7	1.4	0.4	1.7	1.9	2.0	1.8
France	1.8	1.3	0.3	1.2	2.2	1.9	1.7
Italy	1.8	1.4	0.0	1.3	1.3	1.6	1.5
Portugal	3.0	1.3	0.6	1.6	1.4	1.5	1.8
Spain	3.2	1.5	−0.2	2.0	1.7	1.8	1.8
Japan	−0.3	0.4	−0.1	0.5	0.8	0.8	1.2
United Kingdom	1.9	2.6	0.7	2.7	2.6	2.3	2.0
Emerging countries	*6.7*	*6.0*	*4.2*	*4.3*	*4.9*	*4.9*	*4.4*
China	1.7	2.7	2.0	1.6	2.0	2.4	2.4
India	4.5	9.0	4.9	3.3	4.1	3.8	4.6
Indonesia	8.7	6.0	3.5	3.8	3.2	3.1	2.7
Brazil	7.3	6.2	8.8	3.5	3.7	4.1	4.1
Mexico	5.2	4.1	2.8	6.0	4.7	3.9	3.4
Chile	3.1	3.5	3.8	2.2	2.5	2.9	3.0
Russia	14.2	9.5	7.1	3.7	2.9	3.9	4.0
Turkey	27.2	8.1	7.8	11.1	15.5	17.0	10.0
Poland	3.5	2.3	−0.2	1.6	1.4	2.7	2.5
South Africa	5.3	6.1	6.3	5.3	5.0	5.5	5.1

Forecasts

Percentage change versus the same period of the previous year, unless otherwise indicated

Spanish economy

	Average 2000-2007	Average 2008-2015	2016	2017	2018	2019	2020
Macroeconomic aggregates							
Household consumption	3.6	−1.1	2.8	2.5	2.4	2.2	2.2
Government consumption	5.0	0.8	1.0	1.9	1.8	0.9	0.8
Gross fixed capital formation	6.0	−4.1	2.9	4.8	6.0	3.8	2.8
Capital goods	5.4	−0.2	5.2	5.7	7.0	4.4	2.8
Construction	6.2	−7.0	1.1	4.6	6.2	3.5	2.9
Domestic demand (vs. GDP Δ)	4.6	−1.6	2.4	2.9	3.0	2.2	2.0
Exports of goods and services	4.8	2.4	5.2	5.2	2.9	3.7	3.9
Imports of goods and services	7.1	−1.5	2.9	5.6	4.8	4.2	4.1
Gross domestic product	**3.8**	**−0.4**	**3.2**	**3.0**	**2.5**	**2.1**	**2.0**
Other variables							
Employment	3.4	−1.9	3.0	2.8	2.5	2.0	2.0
Unemployment rate (% of labour force)	10.5	21.0	19.6	17.2	15.4	13.7	12.0
Consumer price index	3.2	1.5	−0.2	2.0	1.7	1.8	1.8
Unit labour costs	3.3	0.4	−0.6	−0.1	0.7	1.9	2.4
Current account balance (cum. % GDP)[1]	−6.0	−2.1	2.3	1.8	0.8	0.6	0.6
External funding capacity/needs (cum., % GDP)[1]	−5.3	−1.7	2.5	2.1	1.0	0.8	0.8
Fiscal balance (cum., % GDP)[2]	0.4	−7.3	−4.3	−3.1	−2.7	−2.0	−1.4

Notes: 1. Four-quarter cumulative total. 2. Four-quarter cumulative total. Excludes losses for assistance provided to financial institutions.

Forecasts

Portuguese economy

	Average 2000-2007	Average 2008-2015	2016	2017	2018	2019	2020
Macroeconomic aggregates							
Household consumption	1.7	−0.5	2.4	2.3	2.3	2.0	1.8
Government consumption	2.3	−0.8	0.8	0.2	0.8	0.6	0.2
Gross fixed capital formation	−0.3	−4.2	2.4	9.2	4.2	4.7	4.5
Capital goods	1.3	−1.0	7.6	13.7	6.6	6.5	5.5
Construction	−1.6	−7.0	−1.3	8.3	4.6	6.2	5.5
Domestic demand (vs. GDP Δ)	1.5	−1.4	2.1	3.1	2.4	2.2	2.1
Exports of goods and services	5.2	3.4	4.4	7.8	6.8	5.2	4.3
Imports of goods and services	3.6	1.2	4.7	8.1	7.1	6.0	4.5
Gross domestic product	**1.5**	**−0.6**	**1.9**	**2.8**	**2.1**	**1.9**	**1.9**
Other variables							
Employment	0.4	−1.4	1.2	3.3	2.5	0.8	0.6
Unemployment rate (% of labour force)	6.1	12.3	11.1	8.9	7.0	6.6	6.3
Consumer price index	3.0	1.3	0.6	1.6	1.4	1.5	1.8
Current account balance (cum. % GDP)[1]	−9.4	−4.9	0.6	0.5	0.0	−0.2	−0.2
External funding capacity/needs (cum., % GDP)[1]	−7.9	−3.4	1.6	1.4	0.9	0.6	0.5
Fiscal balance (cum., % GDP)[2]	−4.4	−6.8	−2.0	−3.0	−0.7	−0.6	−0.5

Notes: 1. Four-quarter cumulative total. 2. Four-quarter cumulative total. Excludes losses for assistance provided to financial institutions.

Forecasts

Corrections return to the markets

Autumn begins with a new upturn in volatility. After a September with a relatively positive tone, in October financial markets once again suffered an upturn in volatility, with widespread losses across the stock markets of the advanced and emerging economies dominating the economic outlook for the month. Furthermore, in Europe, the situation was accentuated by the new surge in political uncertainty, especially surrounding Italy's fiscal policy, which caused the risk premiums of the peripheral countries to rise, despite the European Central Bank (ECB) reiterating its commitment to maintaining an accommodative environment over the coming quarters. This upturn in volatility coincides with the warning against complacency recently given by the International Monetary Fund (IMF). Specifically, in its latest report on global financial stability published in October, the IMF recalled that in the accommodative financial environment of recent years, several vulnerabilities (such as the increase in global debt and the high valuations of some assets) have accumulated that could stress the international financial system if faced with a greater-than-expected tightening of monetary conditions.

Stock markets suffer widespread losses. October tempered the constructive tone of September under which the international stock markets had recovered from the instability of the summer. Unlike previous corrections, which had affected emerging and European stock markets the most (while US stock markets continued to hit record highs), in October stock market losses reached the US, generating a sentiment of risk aversion that caused most international stock markets to suffer. In the month as a whole, the US S&P 500 index fell by almost 7%, closely followed by the slightly lower losses of the European stock markets. In the emerging economies, meanwhile, the marked decline of the MSCI index for the bloc as a whole (−8.8%) was the net result of the differing performance between the Asian indices (affected by a cumulative decline of almost 8% in China) and the Latin American indices (with a 10.2% rise in the Brazilian stock market).

The ECB confirms the end of QE. At its October meeting, the ECB kept the parameters of its monetary policy unchanged and reiterated that it expects to continue with the roadmap announced in June. This decision, which was in line with analysts' and investors' expectations, was based on a positive view of the macroeconomic scenario (with a balance between a less favourable external environment and the encouraging performance of domestic demand) and on the confidence that inflation will converge towards its target. Thus, net asset purchases are expected to come to an end in December 2018, and there should be no changes to the official interest rates before the closing stages of 2019. In addition, the ECB will continue to purchase assets for a long period of time, keeping
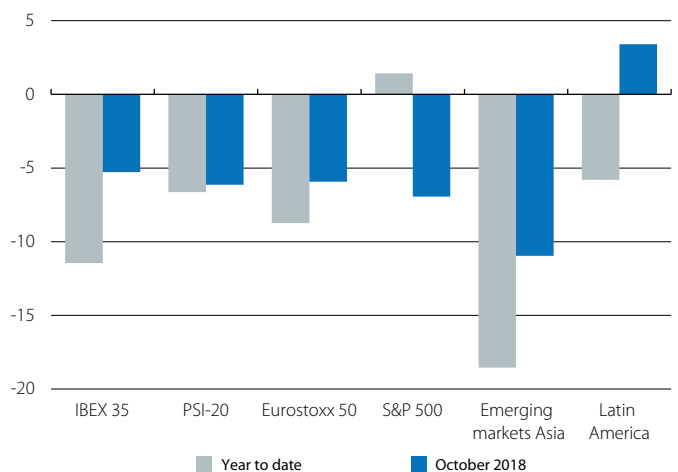
Implicit volatility in the financial markets
Index   *Index*

Stock market (VIX index, left scale) — Public debt (MOVE index, right scale)
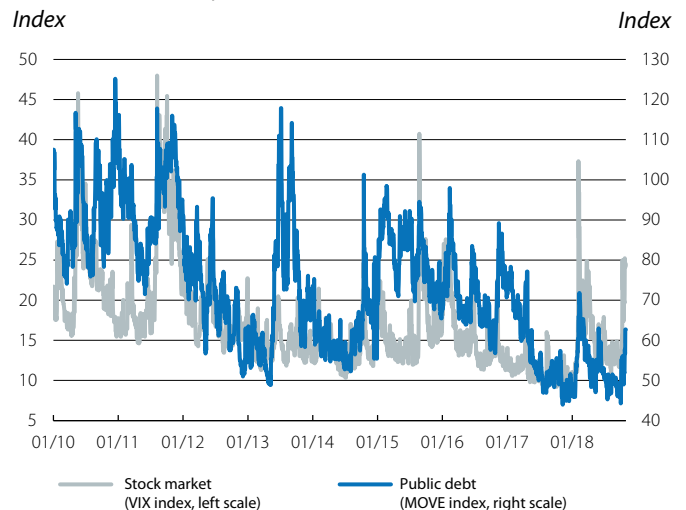
Source: CaixaBank Research, based on data from Bloomberg.

Main international stock markets
Cumulative change (%)

Year to date — October 2018

Source: CaixaBank Research, based on data from Bloomberg.

Yields on 10-year sovereign bonds
(%)

US — Germany

Source: CaixaBank Research, based on data from Bloomberg.

the size of its balance sheet constant (by reinvesting the bonds on its balance sheet as they reach maturity).

Uncertainty penalises the euro area periphery. Despite the fact that the ECB's decisions continue to underpin accommodative monetary conditions, throughout October the risk premiums of the euro area periphery were volatile and showed a tendency to spike. The main factor behind this instability was political uncertainty, especially surrounding fiscal policy in Italy, where the risk premium consolidated its position above 300 bps, briefly surging to levels not seen since 2013. In addition, Moody's downgraded Italy's sovereign rating (from Baa2 to Baa3, still investment grade), while S&P also downgraded its outlook (from stable to negative) despite keeping the rating at BBB. In this context, the risk premiums of Spain and Portugal were pushed upwards, albeit more moderately. In fact, Portugal managed to narrow the gap between its risk premium and that of Spain, following Moody's improvement of its credit rating (from Ba1 to Baa3), giving it an investment grade rating once again. This move by Moody's followed the decisions taken by Fitch and S&P in recent quarters and, for the first time since the end of 2011, the three big rating agencies have now assigned Portugal an investment grade rating.

The US dollar continues to show strength. The messages of the US Federal Reserve Bank (the Fed) continue to reinforce the strategy of gradual increases to the reference rates. Thus, in October, investors reacted with an increase in US yields which, in the case of the 10-year bond, caused it to temporarily exceed 3.20% (+15 bps compared to the end of September). Nevertheless, this movement was undone as the stock market corrections took hold and investors sought out safe-haven assets, such as US government debt. The conviction in the Fed's tightening of its monetary policy can also be seen in the FX market. In October, the dollar strengthened against the major advanced economy currencies (the euro and the pound depreciated by slightly more than 2%, while the yen appreciated by slightly more than 0.5%), as well as against the major emerging economy currencies (with the exception of the Brazilian real, which appreciated significantly in response to the electoral victory of the far right-wing candidate, Jair Bolsonaro).

The price of oil moderates. In October, the price of the barrel of Brent oil fell slightly, from 85 dollars at the beginning of the month down to around 75 dollars. In recent months, the reduction of exports from Iran and the cuts in crude oil production in excess of those agreed (among OPEC, Russia and other partners) have pushed oil prices up. In view of these factors, and with the US sanctions against Iran coming into force in November, the upcoming December meeting between OPEC, Russia and other countries included in the agreement will address the possibility of extending the agreement (otherwise, the current agreement will expire at the end of 2018).
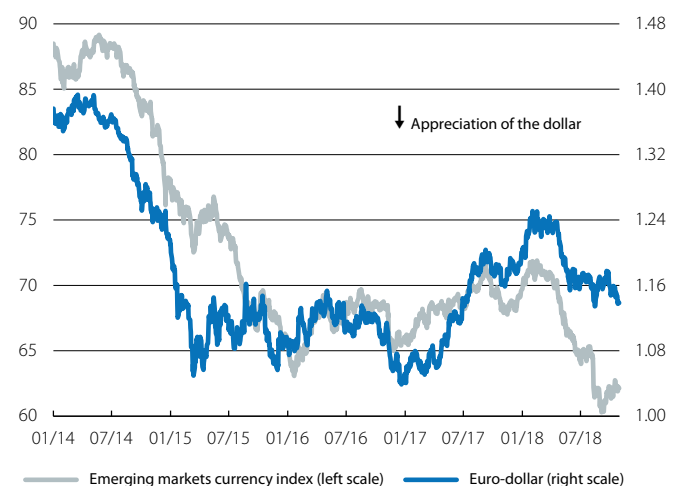
Euro area: risk premiums of 10-year sovereign bonds
(bps)
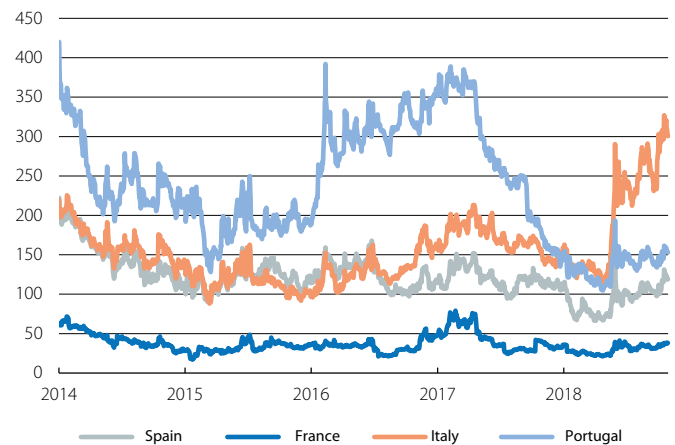
Source: CaixaBank Research, based on data from Bloomberg.

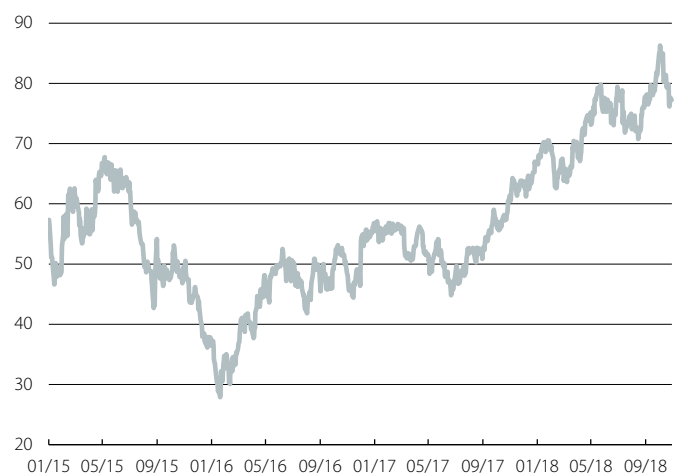**International currencies against the US dollar**
Index *Dollars per euro*

Source: CaixaBank Research, based on data from Bloomberg.

Brent oil price
Dollars per barrel

Source: CaixaBank Research, based on data from Bloomberg.

Is the US stock market overvalued?

Despite the fall in recent weeks, the performance of the US stock market since the depths of the financial crisis has been nothing short of spectacular. Last September, before the recent turmoil, the market capitalisation of the S&P 500 registered several all-time highs. In fact, since July 2009 (the first quarter of the economic recovery following the Great Recession), the S&P 500 index has increased by 174%, representing an annualised growth of 11.9%. In light of these figures, the question is clear: is the US stock market overvalued?

The valuation of a company's shares is determined by many variables, so answering this question is not an easy task. Nevertheless, there are several indicators that shed light on some of the determining factors and can help us to identify whether or not an asset is fairly valued. Among these indicators, one of the most commonly referenced is the CAPE (cyclically adjusted price-to-earnings) ratio, proposed by the Nobel laureate in Economics Robert J. Shiller. The CAPE ratio involves dividing the total capitalisation of a stock market index, or of a company, by the average of all the profits reported by the constituent companies, or the company in question, over the past 10 years.[1] Thus, a company with a higher CAPE ratio than others indicates that the price paid for its shares reflects other factors besides the company's past profits, such as the expectation of a future increase in profits, or an overvaluation of the shares.

The CAPE ratio for the whole of the S&P 500 has stood above 30 points since the beginning of the year, and in September it rose above 33. What do these levels suggest? On the one hand, from a historical perspective, this is clearly above the average level since 1881 (16.9 points). Furthermore, we must bear in mind that the CAPE ratio has only exceeded 30 points in the lead up to the stock market crash of 1929 and during the dotcom bubble of the year 2000. This suggests that the CAPE ratio is currently at notoriously high levels, which in the past has been indicative of overvaluation in the US stock market. On the other hand, the CAPE has a great ability to predict stock market returns over the medium to long term.[2] In this regard, its current levels suggest that the yield of the S&P 500 over the next 10 years will be less than 4% per annum (well below the 11.9% registered between 2009 and 2018).

When it comes to searching for explanations for these high CAPE ratio levels, the finger has been pointed at the technology sector as one possible cause. This is partly because it was the source of the dotcom bubble in 2000, and partly because, since mid-2009, it has registered annualised returns well above those of the S&P 500 as a whole (nearly 20%). However, the data show us that not only is it the technology sector that is registering a relatively high CAPE ratio, but these high levels are a relatively widespread phenomenon among the sectors that make up the index. Moreover, a significant proportion of them currently lie above their historical average (see second chart).[3]
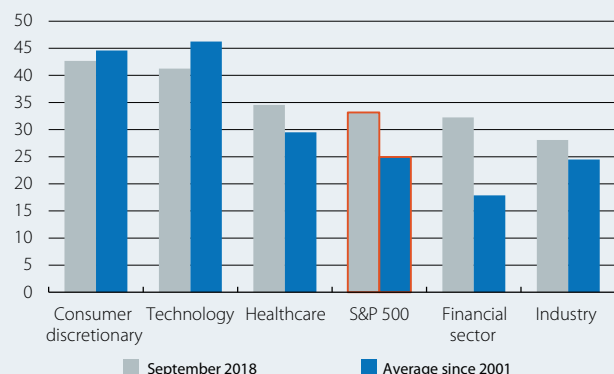
US and European stock markets
Index (100 = July 2009)
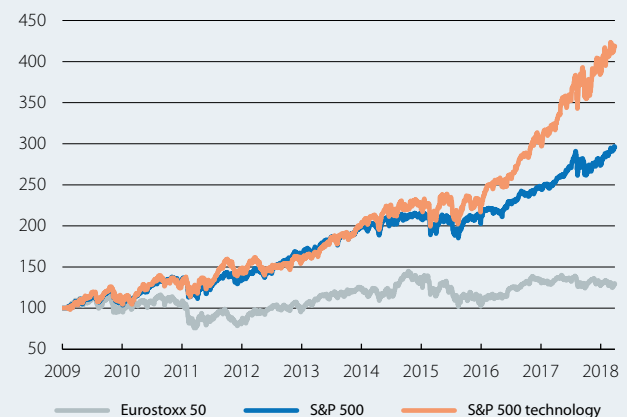
Source: CaixaBank Research, based on data from Bloomberg.

US stock market: CAPE index
(Points)

Note: These five sectors account for 79% of the total of the S&P 500 index.
Source: CaixaBank Research, based on data from Bloomberg.

---

1. An adjustment is also made for changes in consumer prices.
2. Specifically, it explains 80% of the variability in stock market returns 10 years in the future. See the article «US equity prices: a cause for concern?» in the Dossier of the MR11/2017.

3. The fact that the technology sector has a CAPE ratio that is not so different to that of other sectors indicates that the significant increase in the valuation of the sector's stocks has been accompanied by a solid generation of profits.

Another possible explanation for what could be driving the CAPE ratio of the S&P 500 upwards is an aspect related to the ratio's methodology, the effect of which we expect to fade over the coming quarters. By including company profits from the past 10 years, the CAPE ratio is incorporating the low profits registered by companies during the Great Recession. Mechanically, by mid-next year, as these low profits from the past cease to be included in the formula, the average profit from the past 10 years will increase and will push the CAPE ratio downwards. Specifically, we estimate that this base effect could reduce this indicator by up to 3 points – a significant adjustment, although it would still stand at around 30 points.

In order to better understand how high the CAPE ratio currently is, it is also useful to analyse how it has changed over the course of the business cycle. The risk-free interest rate of the economy is an informative variable in this regard. Normally, in periods when interest rates are low, stock prices tend to be higher because the present value of the future earnings per share is higher, pushing prices and the CAPE ratio upwards.[4] However, given that we expect US interest rates to gradually increase over the next few months with the Fed's tightening of monetary policy, stock prices will find themselves in a less favourable environment. In particular, if we analyse the historical relationship between US 10-year government bond yields and the ratio proposed by Robert Shiller, this ratio tends to stand at around 25 points in a scenario in which the US government bond rate settles at close to 3.5%. A reduction in the CAPE ratio, by definition, would have to be caused either by a decline in stock prices or by an increase in company profits. Following on from this, if we take into account the 3-point reduction due to the disappearance of the base effect of the Great Recession, and we assume that company profits will continue to grow in line with the average growth rate of the past two years, a reduction in the CAPE ratio down to 25 points would require a stock market correction of approximately 12%. Besides the importance of interpreting this figure with caution given the high degree of uncertainty that surrounds it, a correction of this magnitude would not be negligible, yet it is still far from the corrections experienced in other periods in which the CAPE ratio stood above 30 points (in the case of both the dotcom bubble of 2000 and the crash of 1929, the stock market fell by more than 30%).

Another indicator that can help us to identify possible situations of overvaluation of equities is the implicit equity risk premium (IERP), which shows us what

US stock market: implied stock market risk premium of the S&P 500

Differential between the internal rate of return (IRR) of the stock market and the risk-free interest rate (pps)

Implied stock market risk premium — — — Historical average
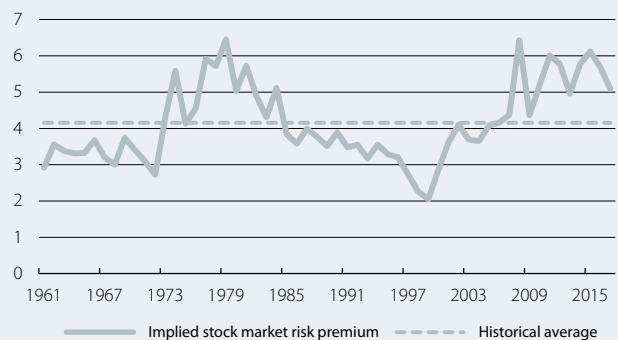
Source: *CaixaBank Research, based on data from Aswath Damodaran (available at http://pages.stern.nyu.edu/~adamodar).*

additional compensation investors demand to invest in stocks instead of in assets with a lower risk (such as US government bonds). Low levels of this measure suggest that investors require little compensation for taking risks, which could indicate that they are being complacent in the stock market, a situation characteristic of bubbles. There are several methodologies for estimating this indicator, from very simple methodologies to highly complex ones. One of the most widespread involves taking the discount rate of the expected future cash flows (mainly dividends) of a share and then subtracting the yield of the risk-free interest rate, to give the IERP.[5] This indicator currently lies above 5%, slightly higher than the historical average of 4.1%. Although this indicates that investors require a yield clearly greater than that offered by government bonds, and it slightly alters the conclusions drawn from the CAPE ratio analysis, the downward trend it has followed over the last few years could be a warning sign.[6]

All in all, as we mentioned above, assessing whether a financial asset is overvalued is a highly complex task and the tools we have shed light on only a few of the many factors that determine stock prices. As such, there are several arguments that mitigate the conclusions to be drawn from the current high CAPE ratio. However, while it is tempting to think that «this time is different», we should not underestimate the predictive power of the indicators presented in this article.

4. The strong relationship between the CAPE ratio and interest rates is well illustrated by the fact that, over the past 55 years, the US 10-year sovereign interest rate explains nearly 50% of the variations recorded in the CAPE ratio of the S&P 500.

5. See «The implied equity risk premium: a clearly imperfect indicator that needs to be taken into account» in the MR11/2015.
6. In addition, we must take into account the fact that the Federal Reserve's mass asset purchase programme has lowered interest rates on US government bonds, which could have biased the IERP upwards.

Interest rates (%)

	31-Oct	28-Set	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	−0.32	0	1.1	1.3
1-year Euribor	−0.15	−0.16	1	3.6	3.5
1-year government bonds (Germany)	−0.66	−0.59	−7	−2.2	8.8
2-year government bonds (Germany)	−0.62	−0.52	−10	0.7	13.0
10-year government bonds (Germany)	0.39	0.47	−8	−3.7	2.7
10-year government bonds (Spain)	1.55	1.50	5	−1.7	8.9
10-year government bonds (Portugal)	1.87	1.88	−1	−7.3	−20.4
US					
Fed funds	2.25	2.25	0	75.0	100.0
3-month Libor	2.56	2.40	16	86.6	117.9
12-month Libor	3.08	2.92	16	97.3	123.2
1-year government bonds	2.65	2.56	9	91.8	122.9
2-year government bonds	2.87	2.82	5	98.7	127.0
10-year government bonds	3.14	3.06	8	73.5	76.1

Spreads corporate bonds (bps)

	31-Oct	28-Set	Monthly change (bp)	Year-to-date (bp)	Year-on-year change (bp)
Itraxx Corporate	74	69	5	29.2	23.7
Itraxx Financials Senior	92	84	8	48.1	41.0
Itraxx Subordinated Financials	187	171	15	82.1	71.4

Exchange rates

	31-Oct	28-Set	Monthly change (%)	Year-to-date (%)	Year-on-year change (%)
EUR/USD (dollars per euro)	1.131	1.160	−2.5	−5.8	−2.9
EUR/JPY (yen per euro)	127.760	131.930	−3.2	−5.6	−3.5
EUR/GBP (pounds per euro)	0.886	0.890	−0.5	−0.2	1.1
USD/JPY (yen per dollar)	112.940	113.700	−0.7	0.2	−0.6

Commodities

	31-Oct	28-Set	Monthly change (%)	Year-to-date (%)	Year-on-year change (%)
CRB Commodity Index	416.1	415.0	0.3	−3.7	−2.7
Brent ($/barrel)	75.5	82.7	−8.8	12.9	23.0
Gold ($/ounce)	1,214.8	1,192.5	1.9	−6.8	−4.4

Equity

	31-Oct	28-Set	Monthly change (%)	Year-to-date (%)	Year-on-year change (%)
S&P 500 (USA)	2,711.7	2,914.0	−6.9	1.4	5.3
Eurostoxx 50 (euro area)	3,197.5	3,399.2	−5.9	−8.7	−13.0
Ibex 35 (Spain)	8,893.5	9,389.2	−5.3	−11.5	−15.5
PSI 20 (Portugal)	5,030.7	5,359.3	−6.1	−6.6	−8.1
Nikkei 225 (Japan)	21,920.5	22,201.8	−1.3	−3.7	−0.4
MSCI Emerging	955.9	1,047.9	−8.8	−17.5	−14.6

Significant global growth, but with persistent downside risks

Slight downward revision of global growth forecasts. This revision is based on the slight moderation of global activity indicators. The global composite purchasing manager index (PMI), for instance, remains well within expansionary territory (above 50 points) but declined for the third consecutive month, down to 52.8 points in September. This setback has occurred both in the aggregate for emerging economies and for advanced economies. The scenario by CaixaBank Research has been adjusted to reflect this moderation, with a slight downward revision (1 decimal point) in the global growth figures for this year and next, although the forecasts remain strong (3.7% in 2018 and 3.6% in 2019). The IMF also reduced its global growth forecasts in the recent update of its World Economic Outlook report (down to 3.7% for 2018 and 2019) and maintained a balance of downside risks. The IMF's review largely reflects a lower expected growth among the emerging economies and is the result of two opposing trends: while the recovery of the price of oil justifies improving the outlook for energy exporters, other emerging economies are going to see their future growth suffer due to the escalating global trade tensions (the IMF explicitly mentions China and India). Besides these general trends, there are certain emerging economies (such as Argentina, Turkey and Iran) that are exhibiting idiosyncratic weaknesses, in addition to suffering from the combination of global trends that are hindering growth (tightening of global financial conditions, geopolitical tensions and effects of the trade war).

The downside risks remain present. In the sphere of trade, despite the agreement reached in recent weeks between the US, Mexico and Canada to reform the trade treaty between the three countries (previously known as NAFTA, and now USMCA), the trade tensions between the US and China remain ever present. Although we do not believe that the escalation of tariffs between the two countries will lead to a fully-fledged trade war on a global scale, the risks have increased considerably in recent months. In this regard, the US midterm elections (on 6 November) could play an important role in how these tensions are to develop. If the Republicans come out stronger, Trump could see it as an endorsement of his trade policy and continue to impose tariffs. If, on the other hand, the Democrats recover the House of Representatives with a resounding election result, the president might choose to recalibrate his trade policy. Not in vain, 56% of Americans believe that free trade agreements have been positive for the country as a whole. Although this percentage is considerably lower among Republican voters (43%), it has tended to increase significantly in recent years (according to a survey by the Pew Research Center).

In Europe, geopolitical factors dominate the risk map. In particular, at the European Council meeting in mid-October, the United Kingdom and the EU were unable to reach an agreement on the United Kingdom's departure, due to take place on 29 March next year. Such an agreement is a
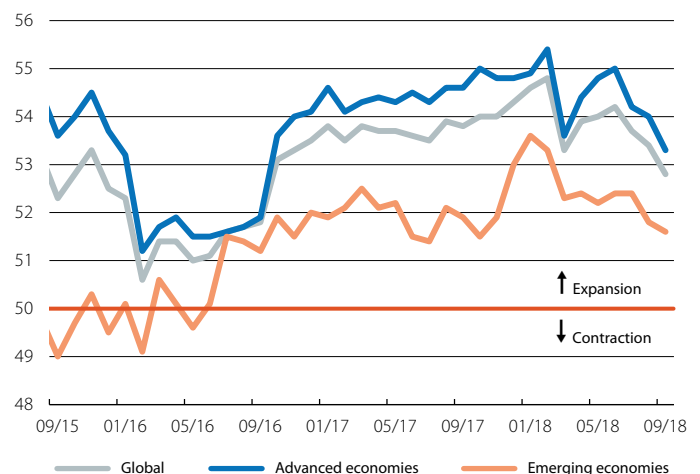
IMF: GDP forecasts for 2018 and 2019
Annual change (%)
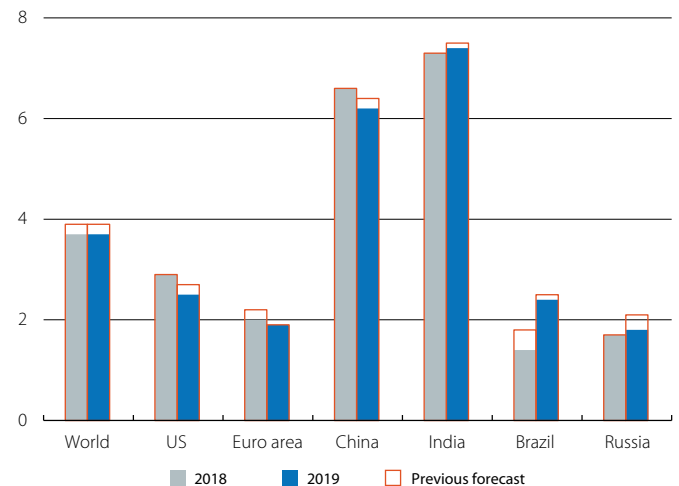
Source: CaixaBank Research, based on data from the IMF (WEO, October 2018).

Activity indicators: composite PMI
Index

Source: CaixaBank Research, based on data from Markit.

Italy: deficit targets
(% of GDP)

	2018	2019	2020	2021
New targets	−1.6	−2.4	−2.1	−1.8
Previous targets	−1.6	−0.8	0.0	0.2
Difference	0.0	−1.6	−2.1	−2.0

Source: CaixaBank Research, based on Italian Government forecasts.

requirement for the transition agreement previously reached, according to which the United Kingdom will remain in the single market and the customs union until the end of 2020, to come into effect. Although we expect an exit agreement to eventually be reached, its formalisation is likely to be delayed more than would be desirable, since the process of ratifying the agreement in the United Kingdom is expected to prove difficult. Italy, meanwhile, has been the focus of attention over the past few weeks, due to the fact that its new public budget for 2019 represents a significant deviation from the target previously agreed with Brussels in May (increasing from a deficit of 0.8% of GDP to 2.4%). This change will make it difficult to correct Italy's high levels of public debt (currently above 130% of GDP) and it is causing tensions with Brussels. In fact, the European Commission has already formally rejected this proposal, considering it a serious breach of the EU's fiscal rules, and it has given Italy three weeks (until mid-November) to revise it.

EURO AREA

In the euro area, GDP growth proved to be a disappointment in Q3 2018, falling well below analysts' expectations. In particular, GDP grew by 0.2% quarter-on-quarter in Q3 (1.7% year-on-year), which represents a slowdown compared to the first half of the year (in which GDP grew by 0.4% quarter-on-quarter). Among the countries for which we have data, there were both strong points and weaknesses. In particular, France stood out with a growth of 0.4% quarter-on-quarter and 1.5% year-on-year in Q3 (0.2% quarter-on-quarter and 1.7% year-on-year in Q2 2018). On the other hand, Italy produced disappointing figures, with zero quarter-on-quarter growth and a year-on-year growth rate of 0.8% (0.2% quarter-on-quarter and 1.2% year-on-year in Q2 2018). As for Germany, although we do not yet know the GDP data, everything seems to indicate that its economy has been temporarily weighed down by the new regulations on vehicles, which came into force on 1 September and introduced stricter regulations on emissions.

The first economic sentiment indicators point towards a more moderate growth rate in the last quarter of the year. In particular, the composite PMI index for the whole of the euro area (which measures business sentiment) fell to 52.7 points in October. Although still in expansive territory, this is its lowest level in the past two years. The decline was supported by the (expected) slowdown in exports, in an environment of persistent trade tensions. The new regulations on vehicles may also have contributed to this lower figure. The consumer confidence index, meanwhile, rebounded slightly in October to −2.7 points, similar to the 2017 average (−2.5 points).

US

The growth data for Q3 confirm the positive performance of the American economy. In particular, GDP grew by a solid 0.9% quarter-on-quarter (3.0% year-on-year). This growth has been a positive surprise, particularly given the already very
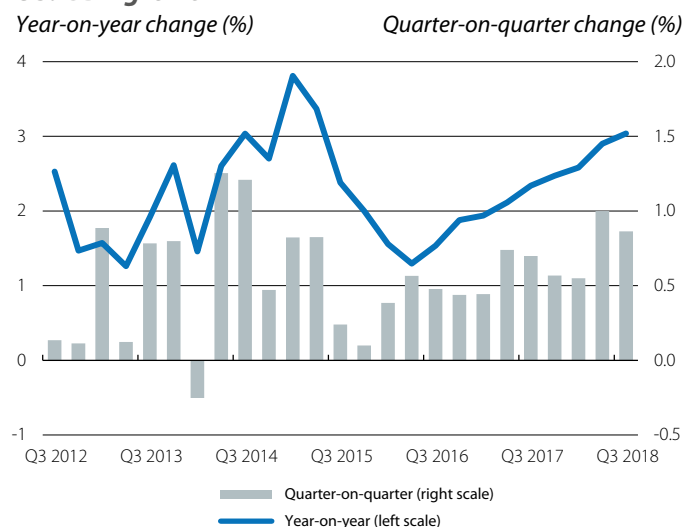
Euro area: GDP growth
Year-on-year change (%)   *Quarter-on-quarter change (%)*
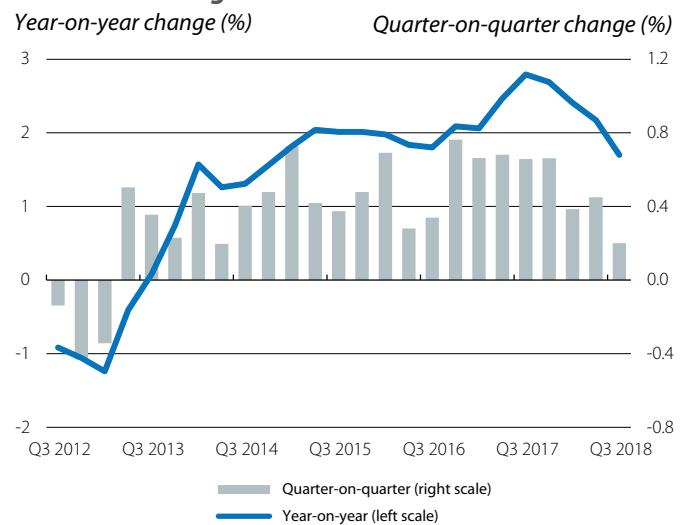
Source: CaixaBank Research, based on data from Eurostat.

Euro area: composite PMI activity indicator
Level
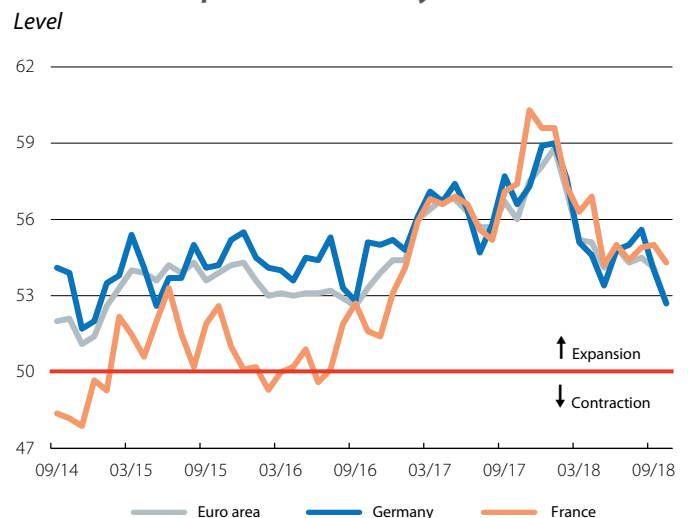
Source: CaixaBank Research, based on data from Markit.

US: GDP growth
Year-on-year change (%)   *Quarter-on-quarter change (%)*

Source: CaixaBank Research, based on data from the Bureau of Economic Analysis.

high growth in Q2 (1.0% quarter-on-quarter). In its expenditure breakdown, the strong growth was largely supported by the rise in personal consumption expenditure and the significant positive contribution of private inventory investment, as well as government spending (with the higher public expenditure approved in February in the US Congress). These elements offset the fall in exports and residential investment. On the other hand, business investment proved weak, particularly in capital goods, despite the new tax rules that should have benefited it (including a tax cut and greater tax incentives for investment). As such, the gradual withdrawal of the fiscal stimulus will contribute to moderating GDP growth in 2019.

The encouraging data for the labour market and inflation should not lead us to complacency. Despite the slight moderation in inflation in September, both headline and core inflation remained at strong levels (2.3% and 2.2%, respectively). In an environment of strong growth and with a labour market close to full employment (the unemployment rate stood at 3.7% in September, the lowest level since 1969), the risks of overheating are by no means negligible. Thus, the scenario by CaixaBank Research foresees the Federal Reserve continuing to normalise its monetary policy in order to contain these risks, with a new rate hike this year and two more during 2019. This would bring the reference rate up to the 2.75%-3.00% range by the end of 2019.

EMERGING MARKETS

In China, the slowdown of the economy is confirmed. In particular, China's GDP grew by 6.5% year-on-year in Q3. Although this is a strong growth rate, it is 2 decimal points below the previous quarter, thus confirming that the country is slowing down. In fact, the CaixaBank Research activity rate for China's economy suggests that the slowdown could be more pronounced than suggested by the official GDP data. Looking ahead to the coming quarters, we anticipate that the country's economy will continue to decelerate, albeit gradually. Therefore, the Chinese Government is likely to continue with some of the stimulus measures already implemented (such as reductions in the capital requirements for banks).

In Latin America, the two major economies are following different paths. In Brazil, uncertainty will continue to weigh down economic growth. Bolsonaro's victory could provide a moderate reformist agenda with the goal of correcting the significant imbalance in Brazil's public accounts. However, it will be difficult for more ambitious changes to be made due to the political fragmentation in the legislative power (see the Focus «The public finances, the Achilles heel of the Brazilian economy» in this *Monthly Report*). In Mexico, meanwhile, GDP in Q3 grew by a considerable 0.9% quarter-on-quarter (2.6% year-on-year), leaving behind the last few quarters which had shown a certain weakness due to uncertainty surrounding politics and trade.

US: GDP by component
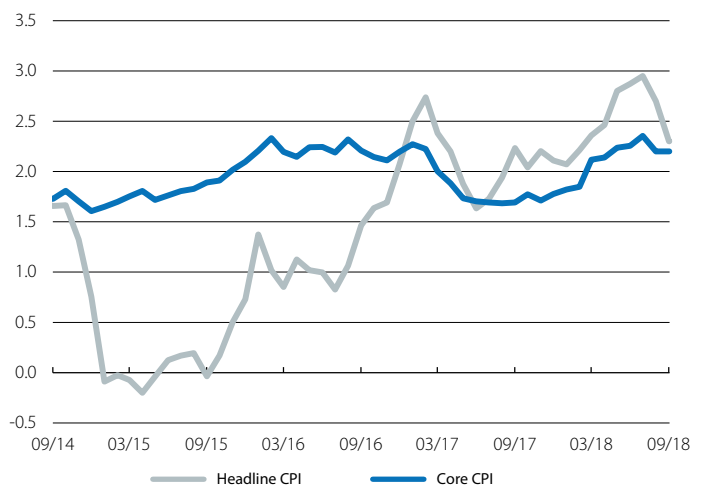*Contribution to year-on-year growth (pps)*
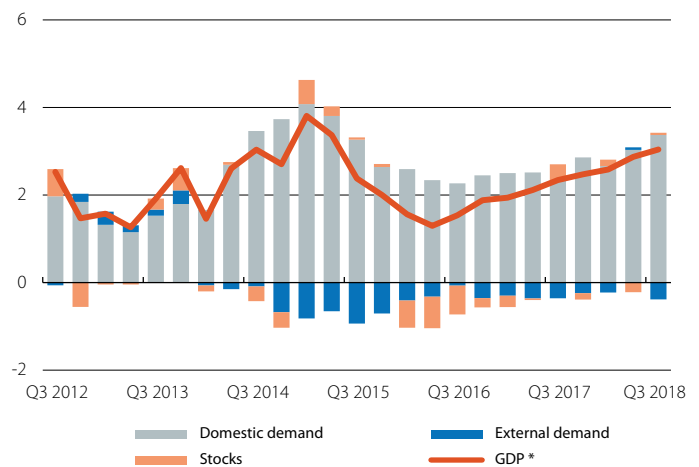
*Note: * Year-on-year change (%).*
Source: CaixaBank Research, based on data from the Bureau of Economic Analysis.
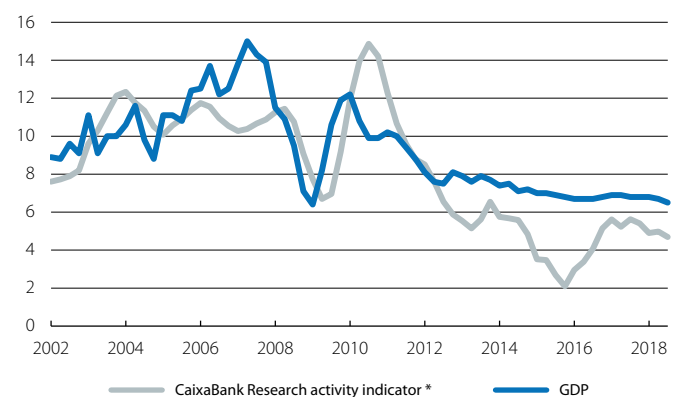
US: CPI
Year-on-year change (%)

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

China: GDP vs. the CaixaBank activity indicator
Year-on-year change (%)

*Note: * Moving average of the last four quarters of the activity index. The growth in Q3 has been calculated using monthly data for July and August.*
Source: CaixaBank Research, based on data from the People's Bank of China and the National Bureau of Statistics of China.

The public finances, the Achilles heel of the Brazilian economy

Brazil's new president will not have much time to celebrate his victory. The challenges facing his country are vast, so he would do well to quickly transition from election promises to taking action. Specifically, the new cabinet's first priority should, without a doubt, be to deal with the difficult situation of the public finances.

From a European perspective, we must not view Brazil's economic situation as a distant problem that should only concern those who have invested in the country. On the one hand, unlike other emerging economies, such as Turkey or Argentina, Brazil's financial and economic interconnections with the rest of the world are substantial. On the other hand, in addition to being the largest economy in Latin America, Brazil is a key supplier of various raw materials at the global level.

Given the country's systemic importance, it is no wonder that Brazil always receives significant attention from investors. In recent months, this attention has largely focused on the new Government's ability to implement the much-needed - but almost always delayed - structural reforms that the country requires. These include improving the transport and energy infrastructure, the regulatory framework - which remains excessively complex and ineffective - and the chronic problems of insecurity. However, the greatest concern is that surrounding Brazil's public finances, which will be increasingly difficult to put right if decisive measures are not taken.

The concern is well-founded too: in 2017, the budget deficit stood at 7.8% of GDP, while public debt stood at 74.0%, significantly higher than the levels common among emerging economies. Furthermore, these levels have been reached relatively quickly, since in 2013 these two figures stood at 3.0% and 51.5% of GDP, respectively. In addition, everything indicates that these figures will continue to deteriorate if decisive measures are not taken.

What factors are causing the imbalance in the public finances to rise? One natural candidate is the performance of the economy itself, which in recent years has had to deal with a severe recession and a meagre recovery: while average annual growth stood at 3.3% in the period 2009-2013, over the past four years this figure was as low as −1.4%. Nevertheless, according to IMF estimates, the budget deficit actually recorded and the cyclically-adjusted budget deficit are relatively similar almost throughout the period between 2002 and 2017. In other words, the government balance is deteriorating due to structural reasons unrelated to the poor economic performance of recent years.

Brazil: public deficit and public debt projections
(% of GDP) *(% of GDP)*
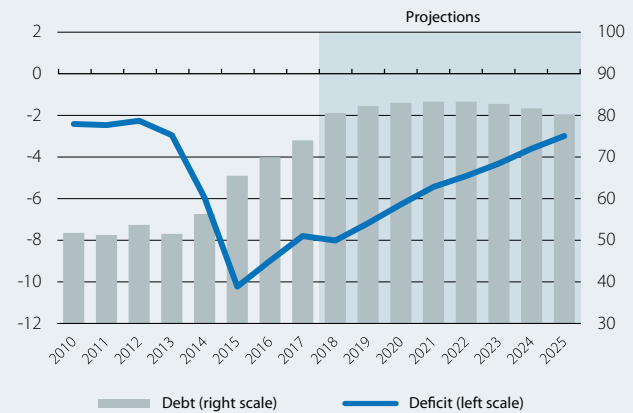
Source: CaixaBank Research, based on data from the Central Bank of Brazil and Oxford Economics.

A second usual suspect in countries with a high level of government debt is interest payments. Between 2014 and 2017, when the budget deficit stood at 8.2% of GDP, interest payments were equivalent to 6.6% of GDP on average (i.e. the bulk of the deficit was due to interest payments, while the primary budget deficit was much smaller, at 1.6% of GDP). However, if we extend the time frame, the conclusion remains unchanged: in the «good years», that is, from 2000 to 2013, Brazil paid an annual average of 6.1% of GDP in interest. This is a heavy burden, and it will be difficult to change in the short term, but the deterioration of Brazil's public deficit does not seem to be exclusively the result of a rise in the cost of debt.

A third common candidate when explaining a deterioration in public finances is a low level of revenues, which is an Achilles heel for many emerging economies. Yet this is not the case either. Brazil's revenues are high: although they have declined somewhat in recent years as a proportion of GDP, public revenues still amount to more than 30% of GDP (the OECD average is of the order of 35%).

In short, none of the above factors by themselves explain the deterioration of the budget deficit, and consequently the escalation of debt, which has occurred to some extent since 2014 and with greater intensity since 2015. To identify the real cause, we must focus our attention on the expenditure side. Over the last few years, there has been an increase of more than 25% in public expenditure. This is clearly a significant increase, unprecedented in recent decades. Furthermore, given the strong inertia of Brazil's public expenditure, a situation of hysteresis arises (i.e. the change persists over time). This explains why attempts to react tend to have little effect. Thus, despite a cap being

established on the main items of social expenditure under the central Government in 2016 (such that they could not grow above inflation), this measure has only served to bring expenditure below 40% of GDP. The rising trend of recent years has certainly slowed, but it has not yet been corrected.

The key underlying problem lies in the fact that the Government is only directly responsible for a relatively small portion of public expenditure. Therefore, even if we deduct the interest payments, approximately 80% of the central Government's primary expenditure consists of non-discretionary expenditure. In particular, over 40% of primary expenditure goes on Social Security (S.S.). This is an area of expenditure that has been growing over the years and which shows no sign of subsiding in the future. According to IMF estimates, expenditure on pensions will rise from around 14% of GDP in 2021 to 18% in 2030 and to 26% in 2050. This significant increase is not a result of an adverse demographic situation, as is the case in many developed economies. Various studies reiterate that Brazil has a very generous system, given the available resources.[1] Specifically, it is relatively common to retire at a young age (after making social security contributions for 35 years in the case of men, and 30 years for women, there is no minimum retirement age), with high replacement rates. In this regard, it is regrettable that the previous Government's attempts to achieve even a moderate reform of the system, focusing on increasing the contribution requirements and setting a mandatory retirement age, failed.

The situation of the public finances is, therefore, a difficult one. The range of alternatives available to the new Government is certainly limited, unless it were to opt for a profound change in the expenditure system, which seems unlikely in light of past experience. In the absence of such a major reform we will most likely witness a difficult period under a programme of cuts that will seek to reduce discretionary expenditure, contain public salaries and reform the S.S. system. In a manner similar to the reform that failed in the previous term. On the revenue side, we can expect to see some increase in tax revenues, as well as a certain reordering of the tangle of discretionary fiscal benefits and a modest privatisation process, but the fiscal impact could end up being limited. The fiscal outlook is, and will continue to be, difficult. As a result, doubts surrounding the sustainability of the public finances continue to be a source of uncertainty, for Brazil… and for the world.

Brazil: central Government revenues and expenditure
Index (100 = January 2014)
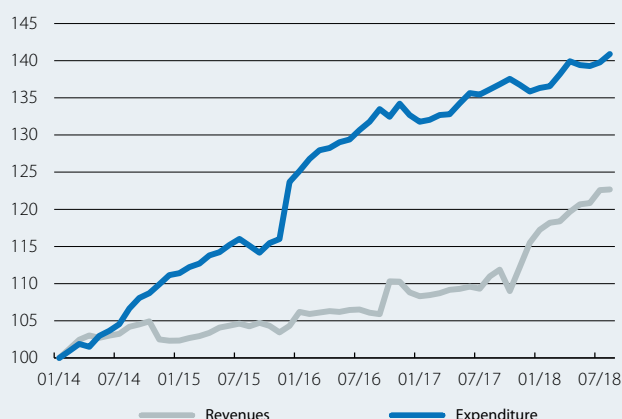
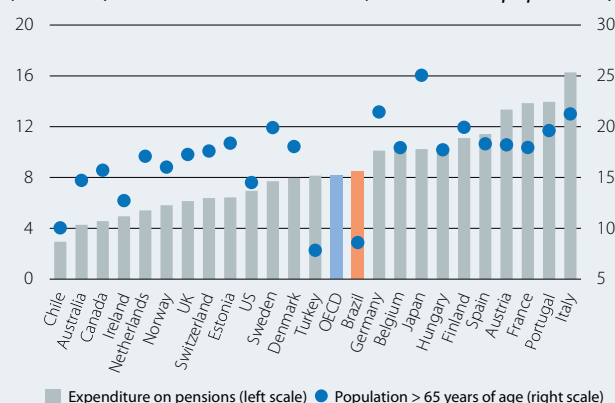*Source: CaixaBank Research, based on data from the Brazilian Ministry of Finance.*

Expenditure on pensions and population over 65
(% of GDP) *(% of the total population)*

Expenditure on pensions (left scale) ● Population > 65 years of age (right scale)

Source: CaixaBank Research, based on data from the OECD and the Central Bank of Brazil.

1. See, for example, OECD (2017), «Pension Reform in Brazil», Policy Memo.

Brexit: final countdown

Less than six months before Brexit,[1] there are still important hurdles to solve and the ratification process of the separation agreement in the United Kingdom could prove tricky. Adding to this, there are doubts over whether, after Brexit, the two blocs will reach an agreement that ensures a close relationship and minimises the economic damage of the separation. In this Focus, we will go over the main challenges that must be addressed in order to ensure an orderly departure of the United Kingdom and the process that begins immediately afterwards, which should lead both parties to agree on the framework of future relations.

The process for the United Kingdom's departure from the EU appeared to be well set out when, back in December 2017, the EU and the United Kingdom laid down the foundations of the exit agreement. Specifically, both parties agreed on the amount that the United Kingdom must pay to the EU to honour its financial commitments incurred while the UK was part of the EU (the so-called financial settlement, or Brexit bill), the rights of British citizens currently residing in the EU (and vice versa) after Brexit, and the implementation of a backstop clause to ensure that the border between Northern Ireland and the Republic of Ireland will remain open, whatever the framework of future relations between the EU and the United Kingdom.[2] Both parties also agreed, in March 2018, to establish a transition period after Brexit – until December 2020 – during which the two parties would negotiate their future relationship. In particular, it was agreed that, during this period, the United Kingdom would remain within the Single Market and the Customs Union in order to minimise any disruption and to help the economic agents to adjust to the new post-Brexit scenario. However, the entry into force of this transition period is conditional on both sides reaching a definitive exit agreement.

The relatively quick achievement of these goals had reduced the fears of a breakdown in the negotiations and a disorderly departure of the United Kingdom. In fact, it was hoped that the details of the exit agreement could be agreed on at the beginning of the autumn, so as to give both parties time to ratify it before the Brexit date.[3]

However, the negotiations are running into difficulties, which has delayed the formalisation of the final agreement until at least the end of the year. In particular, the two parties do not seem to agree on the form of the

backstop clause on Ireland. For the EU, this provision must involve Northern Ireland remaining in the Customs Union and the Single Market for goods indefinitely. However, this would involve dividing the customs territory of the United Kingdom by imposing border controls between Northern Ireland and the rest of the United Kingdom – something to which the British Government is firmly opposed. It would also exclude Northern Ireland from any trade agreement that the United Kingdom signs with a non-EU country. For this reason, the British Government proposes that the whole of the United Kingdom (and not just Northern Ireland) remains in the Customs Union, de facto and temporarily, beyond the transition period. Likewise, it has also suggested the possibility of extending the transition period until the end of 2021, in order to provide more time for the negotiations on a future trade agreement (and thus avoiding having to apply the backstop). Thus, the United Kingdom seems to be trying to close the exit agreement without detailing the solution to the problem of the Irish border, whereas the EU would like to move on to the next stage of the negotiations with clear specifications on the backstop clause.

Furthermore, once the exit agreement is finalised, it must be ratified in the British Parliament, a process that will not be easy and that could put the agreement reached between the British Government and the EU at risk. At present, the British Government cannot assume that it will obtain the necessary support to ratify the agreement in Parliament. On the one hand, the Eurosceptic bloc within the conservative party does not want the British Government to make concessions to Brussels to try to keep the border open in Ireland, nor does it want the United Kingdom to be tied to a Customs Union with the EU for a longer period than is strictly necessary, so it could end up blocking the ratification of the agreement. On the other hand, some members of the Labour Party would also be willing to vote against the agreement being negotiated by the British Government and the EU. However, the British Government is expected to be able to ratify the final agreement – thus bringing the transition agreement into effect –, given that the alternative of reaching the Brexit day without a separation agreement would entail high economic costs.

Beyond the exit agreement, after Brexit there will be important issues to be solved. In particular, the United Kingdom and the EU will have 21 months – if the transition period is not extended – to set out the details of their future trade relationship. Although the framework of future relations is currently uncertain, we do know the main areas on which the negotiations will focus and the initial position of each bloc.

---

1. The United Kingdom is due to leave the EU on 29 March 2019.
2. This clause would only apply until a future framework for relations ensuring that the border remains open comes into effect.
3. The agreement must be ratified by the EU (by a simple majority in the European Parliament and a qualified majority in the European Council) and by the United Kingdom (both chambers).

Framework for future relations between the United Kingdom and the EU

More integration ←							Less integration →
Options	EU member state						
What United Kingdom's red lines would be crossed?	Remain in the EU	Member of the European Economic Area (EEA)					No deal: the trade relationship will be governed by WTO rules
	Accept the jurisdiction of the European Court of Justice	Bilateral agreements in different areas					
	Accept the free movement of people	Accept the free movement of people	Association agreement				
	Contribute substantially to the European budget	Contribute substantially to the European budget	Accept the jurisdiction of the European Court of Justice	Customs Union			
	Have regulatory autonomy	Have regulatory autonomy	Have regulatory autonomy	Capacity to negotiate trade agreements with other countries	Free Trade Agreement		

Note: *Each flag reflects a country with which the EU has this type of relationship.*
Source: *CaixaBank Research, based on documents from the European Commission.*

For the EU, the future agreement must comply with the Union rules. In particular, ever since the start of the negotiations, the 27 countries made clear their commitment to the indivisibility of the four freedoms that govern the Treaty of Rome and the European Common Market, namely: the freedom of movement of goods, services, capital and people. The EU also made it clear that, when defining the post-Brexit relationship, it wants the United Kingdom to respect the balance of benefits and obligations that come with access to the Single Market.[4] In other words, the EU cannot allow the United Kingdom to cherry-pick, choosing only those parts of the Single Market that are most convenient while rejecting those that are not. This is why, according to the EU, the United Kingdom can either accept all the obligations that come with access to the Single Market, as do non-EU member states that are members of the European Economic Area (such as Norway), or it can operate under what is referred to as a third country regime (as, for example, Canada does) and opt for a bilateral trade agreement with the EU.

The position of the United Kingdom, on the other hand, is less clear. What we do know is that the British Government will try to avoid crossing its red lines, i.e. those elements that are considered non-negotiable

(see chart). Proof of this is that, in its so-called Chequers proposal – the United Kingdom's first official proposal on the future relationship with the EU –, the British Government proposes to maintain access to the Single Market for goods, but without accepting the jurisdiction of the European Court of Justice in its entirety or the free movement of people. However, this is incompatible with the EU position of compliance with certain obligations in order to have access to the Single Market.

Therefore, given these constraints, an agreement that allows for unrestricted trade between the United Kingdom and the EU, but with unilateral control over immigration and no role for the European Court of Justice, seems unlikely. In this context, it is likely that the two blocs will try to negotiate an association agreement covering different areas (trade, security, defence and foreign policy) that keeps their ties as close as possible. However, any model for future relations that involves the United Kingdom leaving the Single Market and the Customs Union will entail trade barriers, especially in the trade of services, a sector in which the United Kingdom is highly competitive.

4. In addition to the free movement of people, access to the single market would also mean making contributions to the EU budget and accepting the jurisdiction of the European Court of Justice.

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

UNITED STATES

	2016	2017	Q4 2017	Q1 2018	Q2 2018	Q3 2018	07/18	08/18	09/18
Activity									
Real GDP	1.6	2.2	2.5	2.6	2.9	3.0	–	–	–
Retail sales (excluding cars and petrol)	3.4	4.1	5.3	4.4	5.2	5.6	6.0	5.7	5.0
Consumer confidence *(value)*	99.8	120.5	126.0	127.1	127.2	133.7	127.9	134.7	138.4
Industrial production	−1.9	1.6	3.0	3.4	3.4	4.7	4.1	4.9	5.1
Manufacturing activity index (ISM) *(value)*	51.4	57.4	58.7	59.7	58.7	59.7	58.1	61.3	59.8
Housing starts *(thousands)*	1,177	1,208	1,259	1,317	1,261	1,218	1,184	1,268	1,201
Case-Shiller home price index *(value)*	189	200	205	209	211	...	212	...	...
Unemployment rate *(% lab. force)*	4.9	4.4	4.1	4.1	3.9	3.8	3.9	3.9	3.7
Employment-population ratio *(% pop. > 16 years)*	59.7	60.1	60.1	60.3	60.4	60.4	60.5	60.3	60.4
Trade balance [1] *(% GDP)*	−2.7	−2.8	−2.8	−2.9	−2.8	...	−2.8	−2.9	...
Prices									
Headline inflation	1.3	2.1	2.1	2.2	2.7	2.6	2.9	2.7	2.3
Core inflation	2.2	1.8	1.8	1.9	2.2	2.2	2.4	2.2	2.2

Note: 1. Cumulative figure over last 12 months. Billion dollars.
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	Q4 2017	Q1 2018	Q2 2018	Q3 2018	07/18	08/18	09/18
Activity									
Real GDP	1.0	1.7	2.0	1.1	1.3	...	–	–	–
Consumer confidence *(value)*	41.7	43.8	44.5	44.4	43.7	43.4	43.5	43.3	43.4
Industrial production	−0.2	4.5	4.1	2.5	2.0	...	0.7	−0.4	...
Business activity index (Tankan) *(value)*	7.0	19.0	25.0	24.0	21.0	19.0	–	19.0	–
Unemployment rate *(% lab. force)*	3.1	2.8	2.7	2.5	2.4	...	2.5	2.4	...
Trade balance [1] *(% GDP)*	0.7	0.5	0.5	0.4	0.4	0.2	0.5	0.3	0.2
Prices									
Headline inflation	−0.1	0.5	0.6	1.3	0.6	1.1	0.9	1.3	1.2
Core inflation	0.6	0.1	0.3	0.4	0.3	0.3	0.3	0.4	0.3

Note: 1. Cumulative figure over last 12 months. Billion dollars.
Source: CaixaBank Research, based on data from the Communications Department, Bank of Japan and Thomson Reuters Datastream.

CHINA

	2016	2017	Q4 2017	Q1 2018	Q2 2018	Q3 2018	07/18	08/18	09/18
Activity									
Real GDP	6.7	6.9	6.8	6.8	6.7	6.5	–	–	–
Retail sales	10.4	10.3	9.9	9.9	9.0	9.0	8.8	9.0	9.2
Industrial production	6.1	6.6	6.2	6.6	6.6	6.0	6.0	6.1	5.8
PMI manufacturing *(value)*	50.3	51.6	51.7	51.0	51.6	51.1	51.2	51.3	50.8
Foreign sector									
Trade balance [1] *(value)*	512	435	435	420	395	364	376	361	364
Exports	−8.4	8.5	10.1	13.6	11.3	11.4	11.3	8.5	14.3
Imports	−5.7	16.1	13.2	19.2	20.1	20.7	27.6	20.5	14.8
Prices									
Headline inflation	2.0	1.6	1.8	2.2	1.8	2.3	2.1	2.3	2.5
Official interest rate [2] *(value)*	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
Renminbi per dollar *(value)*	6.6	6.8	6.6	6.4	6.4	6.8	6.7	6.8	6.9

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.

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

EUROPEAN UNION

Activity and employment indicators

Values, unless otherwise specified

	2016	2017	Q4 2017	Q1 2018	Q2 2018	Q3 2018	07/18	08/18	09/18
Retail sales *(year-on-year change)*	1.6	2.3	2.0	1.6	1.7	...	1.0	1.8	...
Industrial production *(year-on-year change)*	1.6	3.0	4.1	3.2	2.4	...	0.3	0.9	...
Consumer confidence	−7.8	−2.5	−0.2	0.5	0.0	−1.8	−0.5	−1.9	−2.9
Economic sentiment	104.2	110.8	114.3	114.0	112.5	111.5	112.1	111.6	110.9
Manufacturing PMI	52.5	57.4	59.7	58.3	55.5	54.3	55.1	54.6	53.2
Services PMI	53.1	55.6	55.9	56.4	54.6	54.4	54.2	54.4	54.7
Labour market									
Employment (people) *(year-on-year change)*	1.4	1.6	1.6	1.5	1.5	...	–	...	–
Unemployment rate: euro area *(% labour force)*	10.0	9.1	8.7	8.5	8.3	8.1	8.1	8.1	8.1
Germany *(% labour force)*	4.2	3.8	3.6	3.5	3.4	3.4	3.4	3.4	3.4
France *(% labour force)*	10.1	9.4	9.1	9.2	9.1	9.3	9.2	9.3	9.3
Italy *(% labour force)*	11.7	11.3	11.0	10.9	10.6	10.0	10.2	9.8	10.1
Spain *(% labour force)*	19.6	17.2	16.5	16.2	15.4	15.0	15.0	15.0	14.9

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

Prices

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

	2016	2017	Q4 2017	Q1 2018	Q2 2018	Q3 2018	07/18	08/18	09/18
General	0.2	1.5	1.4	1.3	1.7	2.1	2.1	2.0	2.1
Core	0.8	1.1	1.1	1.2	1.2	1.2	1.3	1.2	1.1

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	Q4 2017	Q1 2018	Q2 2018	Q3 2018	07/18	08/18	09/18
Current balance: euro area	**3.4**	**3.4**	**3.4**	**3.6**	**3.8**	...	**3.7**	**3.6**	...
Germany	8.5	7.9	7.9	7.9	8.1	...	8.0	7.9	...
France	−0.8	−0.6	−0.6	−0.4	−0.3	...	−0.3	−0.6	...
Italy	2.5	2.8	2.8	2.8	2.8	...	2.8	2.8	...
Spain	2.3	1.8	1.8	1.8	1.4	...	1.3	1.2	...
Nominal effective exchange rate [1] *(value)*	94.3	96.5	98.6	99.6	98.5	99.2	99.2	99.0	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.

Credit and deposits of non-financial sectors

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

	2016	2017	Q4 2017	Q1 2018	Q2 2018	Q3 2018	07/18	08/18	09/18
Private sector financing									
Credit to non-financial firms [1]	1.8	2.5	3.0	3.3	3.7	4.1	4.0	4.1	4.3
Credit to households [2,3]	1.7	2.6	2.8	2.9	2.9	3.1	3.0	3.1	3.1
Interest rate on loans to non-financial firms [4] *(%)*	1.4	1.3	1.3	1.2	1.2	1.2	1.2	1.1	1.2
Interest rate on loans to households for house purchases [5] *(%)*	1.8	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6
Deposits									
On demand deposits	10.0	10.1	10.1	9.2	8.1	7.2	7.5	6.8	7.3
Other short-term deposits	−1.9	−2.7	−2.4	−2.1	−1.5	−1.4	−1.1	−1.5	−1.5
Marketable instruments	2.7	1.1	−1.6	−5.8	−2.8	−5.4	−3.3	−4.0	−8.9
Interest rate on deposits up to 1 year from households *(%)*	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3

Note: 1. Weighted by flow of foreign trade. 2. Data adjusted for sales and securitization. 3. Including NPISH. 4. Loans of more than one million euros with a floating rate and an initial rate fixation period of up to one year. 5. 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.

Strong growth rate towards a more mature phase of the cycle

The economy is moving towards a more mature phase of the cycle. Last month, at CaixaBank Research we revised the scenario slightly, reducing the growth forecasts for 2018 and 2019 by 0.2 pps (down to 2.5% and 2.1%, respectively). This revision was to reflect the revised historical GDP series produced by the Spanish National Statistics Institute (NSI), the increase in downside risks in the international environment and the slowdown in growth as the economy moves into a more mature phase of the business cycle. Similarly, the update to the Government's macroeconomic table, which is included in the draft Budget Plan for 2019, also reflect this shift of the economy towards a more mature phase of the business cycle. In particular, the Government has lowered its GDP forecast by 0.1 pp, down to 2.6% for 2018 and to 2.3% for 2019, relatively in line with the scenario envisaged by CaixaBank Research. Furthermore, the draft budgets sent to Brussels maintain the commitment to reducing the deficit down to 1.8% in 2018 (a reduction of 0.9 pps, which includes a 0.4-pp correction in the structural deficit).

**The economy continues to show steady growth in Q3.** According to the NSI's first estimate, GDP growth remained at 0.6% quarter-on-quarter and at 2.5% year-on-year in the third quarter of the year (the same figures as in Q2). Thus, the Spanish economy registered a higher growth rate than that of the main economies of the euro area, but slightly lower than that registered in recent years. This reinforces the view of a gentle slowdown as the economy moves towards a more mature phase of the cycle. By component, domestic demand remained the main driver of the economy (contribution of 3.0 pps to year-on-year growth), while private consumption rose by 0.6% quarter-on-quarter following a slight glitch in Q2 (0.1%). Growth in investment, meanwhile, remained at a solid 1.0% quarter-on-quarter (an encouraging figure that follows the strong 3.5% of Q2). External demand, on the other hand, had a negative net contribution (–0.5 pps, following –0.8 pps in Q2), although this was in line with expectations due to the global trade tensions and the slowdown of the euro area.

The activity indicators underpin a gradual slowdown. On the supply side, the manufacturing and services PMI indices stood at 52.4 and 52.6 points on average in Q3, respectively, slightly lower than in Q2 (average of 53.7 and 55.8 points, respectively). Industrial production, with a year-on-year growth of 1.2% in August and of 0.7% in July, appears to have advanced in Q3 at a rate similar to the 0.9% registered in Q2. Finally, on the demand side, retail sales in Q3 fell by 0.4% year-on-year after stagnating at the Q2 average.

Savings rates remain low, while wages show strong growth. In particular, the household savings rate stood at 4.7% in Q2 2018 (cumulative figure for four quarters), 0.5 pps below the figure for the previous quarter. This decline reflected a

Spain: GDP

Year-on-year change (%)   *Quarter-on-quarter change (%)*
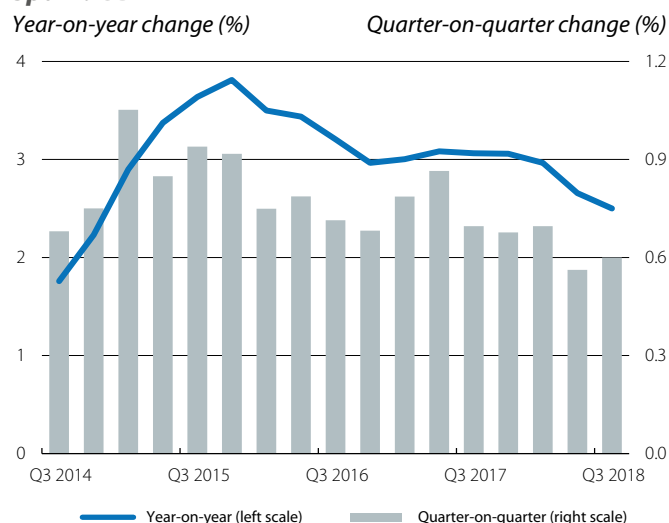
Source: *CaixaBank Research, based on data from the National Statistics Institute.*

Government's macroeconomic table

	New scenario	
	2018	2019
Real GDP (%)	2.6	2.3
Previous	*2.7*	*2.4*
Employment (%)	2.5	2
Unemployment rate	15.5	13.8
Final consumption (% of GDP)	2.2	1.8
Gross fixed capital formation (% of GDP)	5.3	4.4
Exports (% of GDP)	3.2	3.4
Imports (% of GDP)	4	3.8
Budget deficit (% of GDP)	2.7	1.8
Public debt (% of GDP)	97	95.5

Source: *Draft 2019 Budget Plan.*

Spain: activity indicators

Level
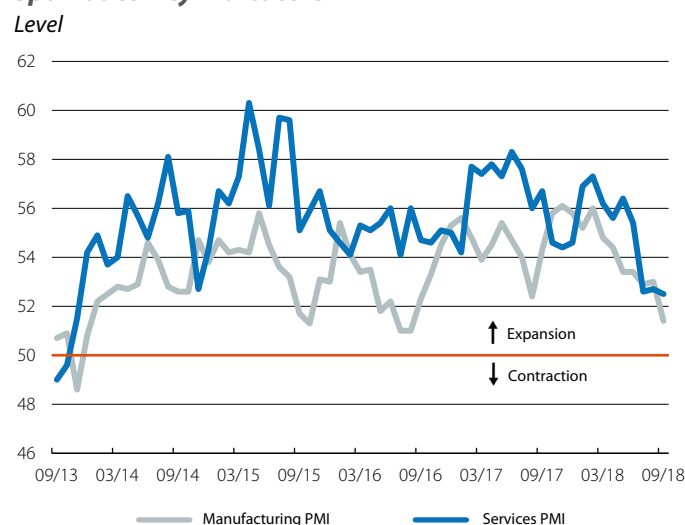
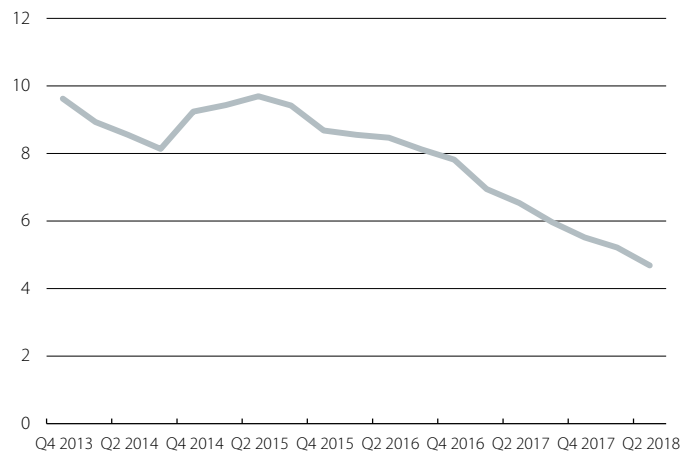**Source:** *CaixaBank Research, based on data from Markit.*

divergence between nominal consumption, which maintained a growth rate of around 4% in the second quarter of the year, and gross disposable income (GDI), with a growth of 1.9%. All in all, looking ahead to the next few quarters, we expect the savings rate to stabilise with the recovery in the labour market. Evidence of this is the fact that the most important component of GDI, wages, grew at a similar rate to nominal consumption (3.8% year-on-year in Q2 2018), suggesting that other more volatile components are temporarily responsible for the lower growth in GDI.

Positive trend in employment in Q3. The latest data from the labour force survey (LFS) reflect strong job creation in Q3 and a marked reduction in the unemployment rate, which fell from 16.4% in Q2 to 14.6% in Q3 (the lowest level since Q4 2008). In particular, employment growth in Q3 stood at 2.5% year-on-year and 0.5% quarter-on-quarter. Although slightly lower than the growth rate in Q2, this still represents an increase of 478,800 people in work over the past 12 months. By sector, the good performance of the service sector, with 346,900 jobs created over the last four quarters, offset the more modest increase in jobs in the industrial sector (+55,000 people in work). Lastly, in contrast to these encouraging growth rates, the LFS data indicate that the rate of temporary employment stood at 27.4%, the same level as last year and well above the rate of the main economies of the euro area. Over the coming quarters, the trend of growth in the labour market is expected to continue, but it will lose some momentum in line with the expected slowdown in the Spanish economy.

The foreign sector slows down. The current account surplus stood at 1.2% of GDP in August (12-month cumulative figure), slightly below the figure registered in July this year (1.3%) and in August 2017 (1.9%). This moderation mainly reflected a deterioration in the trade balance of energy goods (affected by the persistence of higher oil prices) and a slowdown in exports of non-tourist services. Also, in 2018 we are seeing a normalisation of tourist flows, following an extremely positive 2017. In particular, August this year saw 1.9% fewer tourists arriving than in August 2017. This slowdown was to be expected, considering the gradual recovery of some of the main tourist centres along the southern and eastern Mediterranean coastlines. Nevertheless, despite the lower numbers of tourists arriving, their total spending increased by 1.8% year-on-year. This could be a reflection of the trend of tourists from countries with a lower spending profile being gradually replaced by those from countries with a higher spending profile.

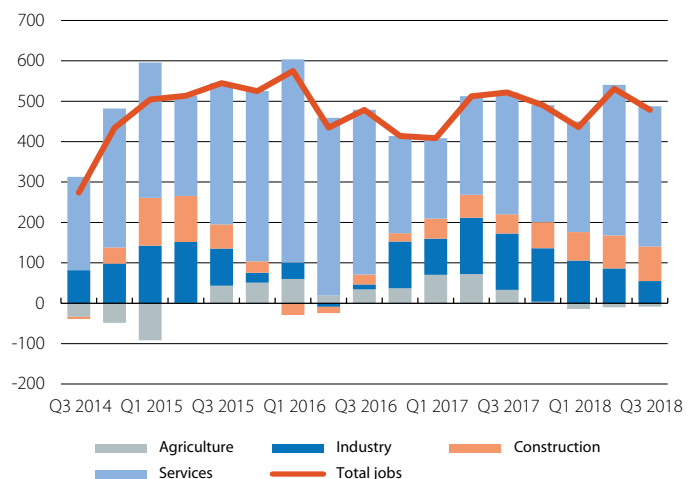### Spain: gross household savings over disposable income
Cumulative figures for four quarters (%)

Source: CaixaBank Research, based on data from the National Statistics Institute.
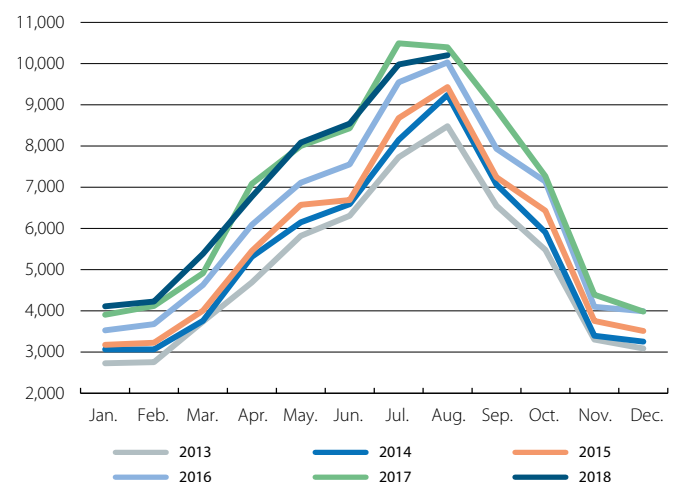
Spain: jobs by sector
Year-on-year change (thousands)

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

Spain: entry of foreign tourists
Number of tourists (thousands)

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

How much are we going to spend next year?

The Spanish economy is entering a more mature phase of the cycle and, therefore, its growth is gradually slowing down to levels that are more sustainable in the long term. In this context, we wonder what trends we can expect in the main driver of the economy: private consumption. As we shall see, growth in consumption is expected to moderate, albeit very gradually, thanks to the solid foundations sustaining it.

As the first chart shows, after experiencing sharp declines between 2008 and 2013, household consumption rose significantly in 2015. This was driven by the economic recovery, rising employment and the resulting increase in households' gross disposable income and wealth, both in financial and in real estate terms (see second chart). However, the recovery in consumption has gone beyond what the improvement in household incomes would suggest, as we show in the third chart. The gap that has opened up between consumption and the resources that support it can be partly explained by the reduction of the precautionary saving motive: after several years of belt-tightening and postponing consumption plans, first to deal with a recession and then to face an uncertain recovery, many households have now gone on to realise these plans due to the greater confidence offered by the new economic environment.[1] However, this only offers temporary support, which will probably lose momentum. What, therefore, is the outlook for the growth of consumption in the medium term?

To answer this question, we analysed the sensitivity of consumption to changes in the factors that determine household income: employment, wages, interest rates and the price of housing (the main asset of many households). The results are displayed in the fourth chart.[2] On the one hand, there is evidence that the reaction of consumption to an increase in employment is much greater than in response to an increase in wages, at least in the short term. If this result seems surprising, one possible explanation is that our consumption patterns change more drastically when we go from being

1. The decoupling of consumption and income has not been accompanied by an increase in household debt. On the contrary, in Q2 2018, household debt stood at 60.8% of GDP, more than 20 pps below the peak reached at the height of the financial crisis.
2. The sensitivities are calculated in two stages. First, an estimate is made of the long-term relationship between consumption and its determining factors: gross disposable income, net household financial wealth and the price of housing (all variables in logarithms and deflated by the CPI). Then, an estimate is made of a regression between the quarter-on-quarter growth in consumption and the quarter-on-quarter change in employment, wages, mortgage interest rates and the remainder of the equation from the first stage. The first three factors capture the short-term impact these variables have on consumption, while the last factor captures the tendency of consumption to return to its long-term trend.
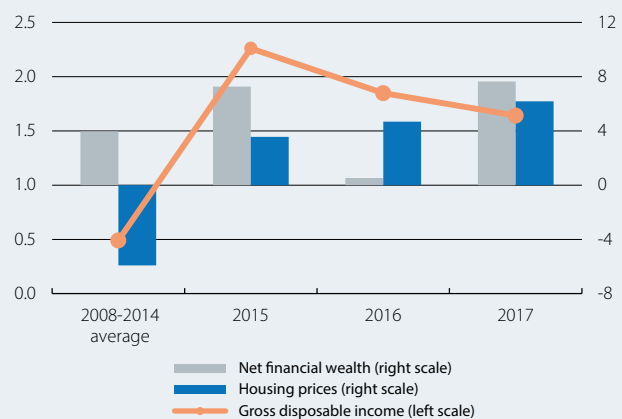
Spain: private consumption
Year-on-year change (%)
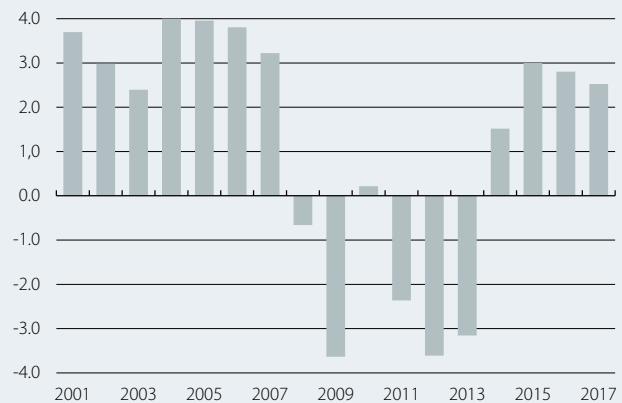
Source: CaixaBank Research, based on data from the National Statistics Institute.

### Spain: trend in household resources
Year-on-year change (%)

- Net financial wealth (right scale)
- Housing prices (right scale)
- Gross disposable income (left scale)

Source: CaixaBank Research, based on data from the National Statistics Institute and the Bank of Spain.

Spain: relationship between consumption, income and wealth
*Standardised index**

↑ Higher consumption than that predicted by income and wealth

↓ Lower consumption than that predicted by income and wealth
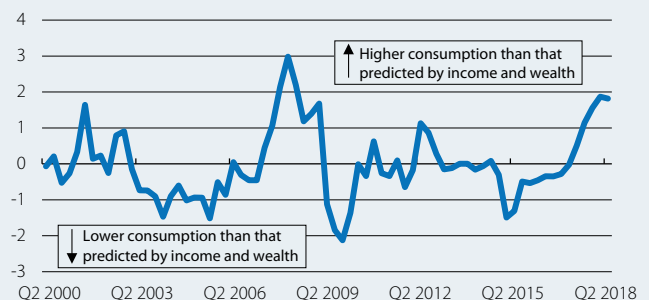
Note: *Remainder of a regression of the logarithm of real consumption with the logarithm of gross disposable income, household net financial wealth and the price of housing. All variables have been deflated by the CPI. Standardised series with an average of 0 and a standard deviation of 1.
Source: CaixaBank Research, based on data from the National Statistics Institute and the Bank of Spain.

unemployed to getting a job than they do in response to changes in our salary. On the other hand, we see how the response of consumption increases over time and the differences between the impact of employment and wages are reduced. In other words, households' marginal propensity to consume increases when the gains in gross disposable income becomes more long-lasting.

Another important observation is that growth in housing prices has a very low impact on aggregate consumption.[3] One possible explanation for this is that growth in housing prices leads to greater wealth for one sector of society (the owners) but a decrease in the purchasing power of the other sector (those looking to buy).[4] Finally, we note that the impact that can be expected from a moderate rise in interest rates (0.5 pps) is relatively low.

To make projections of consumption, we must form an idea of the outlook for employment, wages, interest rates and the price of housing for the next year. On the employment side, growth is expected to moderate in line with economic activity.[5] However, the outlook for domestic demand is expected to remain favourable and there is still a high degree of slack in the labour market. Therefore, this moderation can be expected to be limited and employment is likely to continue to grow at slightly above 2% in 2019 (2.5% in Q3 2018). The latest indicators, meanwhile, suggest that wages could rise slightly in 2019, following several years of restraint. For instance, wage increases negotiated under collective agreements up to September 2018 amounted to 1.7%, while those signed a year earlier stood at 1.3%. On the interest rate side, the outlook is very stable: the ECB has already indicated that it will not raise the reference rate before the last tranche of 2019, and it is unlikely to deviate from this forecast provided there are no major macroeconomic surprises. Furthermore, in relation to the price of housing, after picking up significantly in the last three years, CaixaBank Research expects the growth in prices to consolidate at high levels, albeit it at more moderate levels than last year.

By combining these outlooks with the above results, we present three scenarios for consumption in the last table: a scenario similar to that described above, another showing a somewhat more marked change in the variables being considered, and a third that considers

a more moderate scenario. As we can see, the slowdown would be moderate in all cases. Thus, domestic demand can be expected to continue to support growth over the coming quarters.

Spain: sensitivity of real consumption to different variables
Change in the annual growth of real consumption (pps)
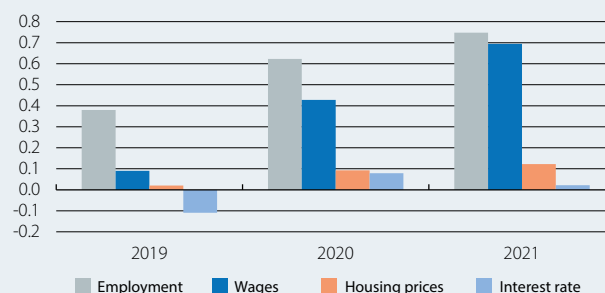
Note: *Reaction of the growth in aggregate household consumption in the event of a rise in the year-on-year growth of employment and wages of 1% starting in Q1 2019. In the case of housing prices, the increase is 2%. In all cases, the increase is sustained throughout the time period in question. It is assumed that the interest rate will rise by 0.5 pps in 2019 and will remain stable at this new level.*
Source: *CaixaBank Research, based on data from the National Statistics Institute and the Bank of Spain.*

Spain: forecast growth in real consumption *
Year-on-year change (%)

		2019		
	2018 **	Scenario 1	Scenario 2	Scenario 3
Employment	2.5	2.5	2.0	1.5
Wages	0.6	3.0	1.8	0.5
Housing prices	6.2	7.0	5.5	4.0
Mortgage rate ***	1.9	2.4	2.1	1.9
Forecast growth in consumption	2.7	2.8	2.5	2.3

Notes: ** The impact on consumption is calculated by taking the difference between the values of each variable in each of the scenarios and the average values for 2018, and then multiplying this differential by the sensitivities calculated above. The forecast consumption up to 2019 is obtained by adding the impact arising in each scenario to the average growth in consumption in the first two quarters of 2018. ** Average of the data available for the first two quarters of the year. *** It is assumed that there is a one-to-one reaction in the mortgage rate to changes in the ECB reference rate.*
Source: *CaixaBank Research.*

---

3. Other studies confirm that the propensity to consume following an increase in wealth in Spain is limited. See, for example, Bank of Spain (2005), «Efectos de la riqueza inmobiliaria sobre el consumo: resultado a partir de la Encuesta Financiera de las Familias».
4. Another possible explanation could be that in Spain, unlike in the US, people do not tend to use their home as collateral to finance consumer credit.
5. For an analysis of the relationship between GDP growth and employment, see the Focus «Strong recovery in employment: explanatory factors» in the MR07/18.

New momentum in the export sector

The export sector is one of the main protagonists of the recovery of the Spanish economy. Two figures illustrate this very well: between 2009 and 2017, exports of goods and services increased from 22.7% of GDP to 34.5% of GDP, and the number of companies that export on a regular basis increased by nearly 50%.

However, in recent quarters, the momentum that the export sector provides the Spanish economy seems to have weakened: exports of goods and services have gone from growing by 4.7% on average between 2013 and 2017 to 2.3% in Q2 2018. Part of this slowdown can be attributed to the decreased momentum of the global economy and particularly to the slowdown of Spain's main trading partners, the countries of the euro area. Despite this difficult situation, the number of Spanish companies that look abroad in search of new markets continues to grow.

As can be seen in the first chart, the sharp increase in the number of exporting companies observed since the beginning of the financial crisis was followed by a notable rise in the number of companies that export on a regular basis.[1] This is far from trivial. The international market is highly competitive and the first few years in the internationalisation process of a company are key: only those companies that manage to survive this period are usually able to remain in the international market.

Analysing recent trends of Spanish companies that make the leap into the international market in a little more detail, two elements stand out, one negative and another that provides hope. The less favourable element is the fact that the proportion of new exporting companies that have managed to carve out a niche for themselves in the international market has fallen slightly in the last few years. In particular, the survival rate of new exporting companies was surprisingly high between 2009 and 2014, as the sharp increase in the number of new export companies was accompanied by an increase in their survival rate, which went from 11% on average in the years prior to the financial crisis to 14% in 2014.[2] However, in recent years this rate has been falling, reaching 9.2% in 2017.

The second element to highlight is the notable rise in the number of new export companies that can be seen

in 2017. Specifically, this figure went from 72,000 new export companies in 2016 to more than 82,000 in 2017. This represents an increase of 14%, similar to that observed between 2010 and 2014, only this time with a significantly higher starting point. Thus, if the survival rate remains at current levels, the number of new regular export companies could exceed 8,500 within the next few years, which would be a new record. Nevertheless, there is an element that suggests caution. In particular, the bulk of the growth among new export companies is concentrated in the countries of Latin America, a region in which the survival rate has generally been somewhat lower.[3] In contrast, the number of new export companies expanding into EU countries, where the survival rate tends to be higher, has declined slightly.

Spain: new export companies
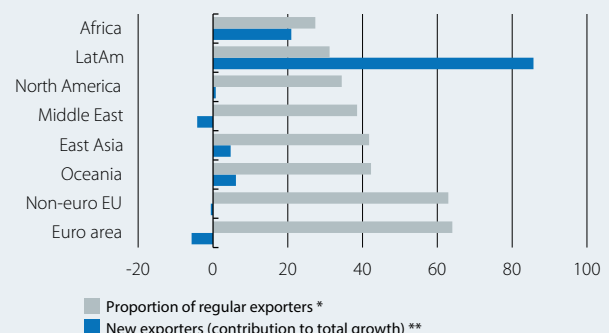
Number of new regularly exporting companies

Number of new exporting companies

Regularly exporting companies (left scale)
Total exporting companies (right scale)

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

Spain: new exporters and regular exporters by geographic destination
Period 2015-2017 (%)

■ Proportion of regular exporters *
■ New exporters (contribution to total growth) **

*Notes: * Fraction of companies that have been exporting for four years over the total number of exporting companies three years ago (data referring to 2017). **Change in the number of export companies that export to each destination compared to the total change in the number of companies between 2015 and 2017.*
Source: CaixaBank Research, based on data from the Department of Customs.

1. Regular exporters are companies that export for four years in a row.
2. The survival rate is defined as the proportion of new regularly-exporting companies in year *t* in relation to the total number of new export companies in year *t-3*.
3. Although we do not have direct data on the survival rate of export companies by export destination, the proportion of regularly exporting companies (i.e. the fraction of companies that have been exporting for four years over the total number of exporting companies three years ago) suggests that this is the case.

Activity and employment indicators

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

	2016	2017	Q1 2018	Q2 2018	Q3 2018	08/18	09/18	10/18
Industry								
Industrial production index	1.9	3.2	2.7	0.9	...	1.2	...	...
Indicator of confidence in industry *(value)*	−2.3	1.0	2.8	1.2	−2.6	−3.5	−3.0	−1.5
Manufacturing PMI *(value)*	53.2	54.8	55.3	53.7	52.4	53.0	51.4	...
Construction								
Building permits *(cumulative over 12 months)*	43.7	22.9	25.1	28.1	...	26.2	...	...
House sales *(cumulative over 12 months)*	13.1	13.8	15.0	15.2	...	13.0	...	...
House prices	1.9	2.4	2.7	3.8	...	–	–	–
Services								
Foreign tourists *(cumulative over 12 months)*	8.2	10.0	8.2	5.3	...	1.7	...	...
Services PMI *(value)*	55.0	56.4	56.8	55.8	52.6	52.7	52.5	...
Consumption								
Retail sales	3.8	0.9	1.8	0.0	−0.4	0.1	−0.9	...
Car registrations	11.4	7.9	11.8	9.2	17.0	48.7	−17.0	...
Consumer confidence index *(value)*	−3.8	−0.7	−0.6	0.5	−3.3	−2.5	−8.0	−7.5
Labour market								
Employment [1]	2.7	2.6	2.4	2.8	2.5	–	–	–
Unemployment rate (% labour force)	19.6	17.2	16.7	15.3	14.6	–	–	–
Registered as employed with Social Security [2]	3.0	3.6	3.4	3.1	2.9	2.9	2.9	...
GDP	**3.2**	**3.0**	**2.8**	**2.5**	**2.5**	**–**	**–**	**–**

Prices

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

	2016	2017	Q1 2018	Q2 2018	Q3 2018	08/18	09/18	10/18
General	−0.2	2.0	1.0	1.8	2.2	2.2	2.3	2.3
Core	0.8	1.1	1.0	1.0	0.8	0.8	0.8	...

Foreign sector

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

	2016	2017	Q1 2018	Q2 2018	Q3 2018	08/18	09/18	10/18
Trade of goods								
Exports *(year-on-year change, cumulative over 12 months)*	1.7	8.9	5.8	5.2	...	5.6	...	...
Imports *(year-on-year change, cumulative over 12 months)*	−0.4	10.5	6.6	6.9	...	6.8	...	...
Current balance	**25.2**	**21.5**	**20.8**	**17.2**	**...**	**14.3**	**...**	**...**
Goods and services	36.0	33.6	33.5	29.5	...	26.6	...	...
Primary and secondary income	−10.7	−12.1	−12.7	−12.3	...	−12.3	...	...
Net lending (+) / borrowing (–) capacity	**27.8**	**24.2**	**23.8**	**20.4**	**...**	**17.4**	**...**	**...**

Credit and deposits in non-financial sectors [3]

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

	2016	2017	Q1 2018	Q2 2018	Q3 2018	08/18	09/18	10/18
Deposits								
Household and company deposits	2.5	2.8	2.5	3.0	3.3	2.9	3.4	...
Sight and savings	16.0	17.6	12.2	11.0	10.2	9.9	10.4	...
Term and notice	−16.0	−24.2	−23.1	−20.8	−18.9	−19.3	−18.3	...
General government deposits	−14.2	−8.7	16.7	17.6	10.4	8.6	10.1	...
TOTAL	**1.2**	**1.9**	**3.2**	**3.8**	**3.7**	**3.2**	**3.8**	**–**
Outstanding balance of credit								
Private sector	−3.6	−2.2	−2.2	−2.8	−2.4	−2.6	−2.1	...
Non-financial firms	−5.3	−3.6	−4.4	−6.4	−5.6	−5.9	−5.2	...
Households - housing	−3.7	−2.8	−2.4	−2.0	−1.7	−1.7	−1.7	...
Households - other purposes	2.0	3.7	4.9	5.0	5.1	4.0	6.0	...
General government	−2.9	−9.7	−12.5	−9.4	−8.9	−9.8	−7.9	...
TOTAL	**−3.6**	**−2.8**	**−2.9**	**−3.2**	**−2.8**	**−3.1**	**−2.5**	**...**
NPL ratio *(%)* [4]	**9.1**	**7.8**	**6.8**	**6.4**	**6.2**	**6.3**	**6.2**	**...**

Notes: *1. Estimate based on the Active Population Survey. 2. Average monthly figures. 3. Aggregate figures for the Spanish banking sector and residents in Spain. 4. Period-end figure.*
Source: *CaixaBank Research, based on data from the Ministry of Economy, the Ministry of Public Works, the Ministry of Employment and Social Security, the National Statistics Institute, the State Employment Service, Markit, the European Commission, the Department of Customs and Special Taxes and the Bank of Spain.*

Solid growth underpinned by domestic demand

The economic activity indicators reflect a solid growth rate, but with signs of slowing down. The Bank of Portugal's coincident indicator is following a gentle downward trend, but it remains at historically high levels and points towards a growth rate of around 2% over the next few quarters (slightly lower than the most recent figures registered). Thus, a slight slowdown in the economy is expected in the second half of the year, in particular due to a smaller contribution from the foreign sector (with the fading of several factors that had been supporting economic activity in the last years, such as the low oil price and strong growth among the country's main trading partners). Nevertheless, domestic demand remains solid and there has been a positive trend in private and public consumption, as well as in investment. Private consumption will continue to benefit from the recovery in employment and disposable income thanks to the acceleration in wages (in the first semester, net wages increased by nearly 4.0%), while the trend in public consumption will be influenced by the proximity of the legislative elections (due to take place in October 2019). Finally, investment will continue to recover gradually, albeit possibly at a slower pace due to the moderation of global growth. On the whole, therefore, the outlook for the next few quarters remains positive for Portugal. That said, being a small open economy, the slowdown in global growth represents a downside risk looming on the horizon.

Unemployment continues to decline. The number of registered unemployed people decreased significantly in September (−17,5%) and remains close to its all-time lows. The unemployment rate in August, meanwhile, remained stable at 6.8% for the third consecutive month (−2.0 pps compared to August 2017). In any case, the number of unemployed people fell at a slightly slower rate than in previous months, which could indicate that the pace of recovery in the labour market is beginning to slow down.

Prices continue to grow at a moderate rate. In October, headline inflation stood at 1.1%, 0.3 pps below the figure for September, while core inflation fell to 0.5% (−0.3 pps compared to September). In the absence of the breakdown by component, all the indicators suggest that energy prices, driven up by the rise in oil prices over the past 12 months, continue to play a major role (in September, for which the breakdown by component is available, energy prices contributed +0.6 pps to a 1.4% increase in headline inflation).

The current account balance deteriorates. For the first time since 2015, the current account balance has been negative in cumulative terms over the past 12 months. In August, this balance was −425 million euros (−0.2% of GDP) and reflected

Portugal: GDP and coincident economic activity indicator
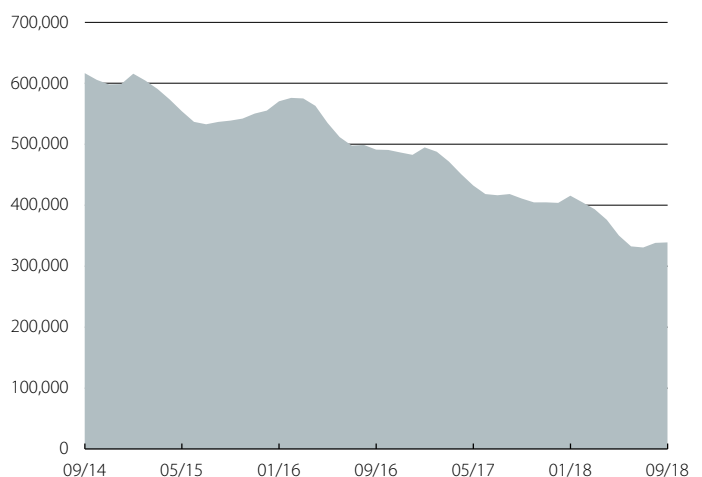*Year-on-year change (%)*

Note: * Level
Source: CaixaBank Research, based on data from Datastream and the Bank of Portugal.
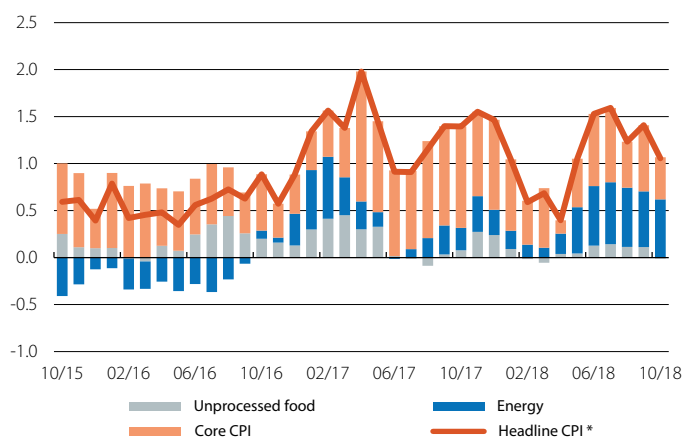
Portugal: registered unemployment
Number of unemployed persons registered in job centres

Source: CaixaBank Research, based on data from Datastream.

Portugal: contribution to inflation by component
(pps)

Note: * Year-on-year change (%).
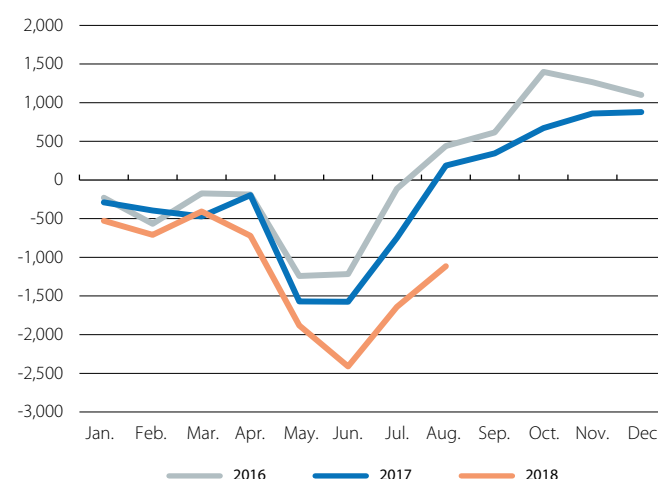**Source:** CaixaBank Research, based on data from Datastream.

the deterioration of the balances of goods and primary revenues. Nevertheless, some of the causes behind this deterioration are not necessarily negative. In particular, part of the deterioration of the balance of non-energy goods is due to the buoyancy of domestic investment, a component of GDP with a high import content and the growth of which, therefore, pushes imports upwards. In the balance of primary income, the deterioration is a result of Portugal receiving greater amounts of direct foreign investment, which causes an increase in income payments abroad. However, part of the deterioration is also the result of less positive dynamics, such as the rise in oil prices, which could continue to affect imports over the coming quarters. The balance of services, meanwhile, is the only component that continues to register a surplus, thanks to tourism, although it is beginning to show signs of slowing down.

Public accounts in positive territory. Based on data up to September, the general government has recorded a budget surplus of 1,338 million euros, equivalent to +0.9% of GDP. This positive trend has been favoured by the strong performance of the economy and the labour market, which have contributed to the growth in tax revenues and social contributions (based on data up to September, these two items account for more than 80% of the total growth in revenues). Expenditure, on the other hand, grew by 2.2% year-on-year. This is less than anticipated by the Government (4.5%), largely due to an effect caused by the composition of staff costs. Specifically, if we exclude from the calculation the extra Christmas payments for civil servants' wages and pensioners' benefits (the payment of which had been split into 12 monthly instalments in 2017), then the total expenditure up to September would show a 4.3% increase. In short, after correcting for these factors, the performance observed to date reinforces our deficit forecast for 2018 of –0.7% of GDP, and it is consistent with the Government's estimate (for more details, see the Focus «Rapid correction of the budget deficit» in this *Monthly Report*).

Non-performing loans have declined significantly compared to the peaks of 2016. In Q2 2018, the NPL ratio stood at 11.7%, representing a reduction of 1.1 pps compared to Q1 2018 and of 6.2 pps compared to the peak recorded in Q2 2016. This substantial reduction in non-performing loans (NPLs) is due to the sale of portfolios of NPLs and reflects the considerable efforts made by the banking sector to clean up its balance sheets. The reduction in NPLs was particularly notable in the corporate sector, where the ratio fell from 23.9% in Q1 2018 to 22.3% in Q2, although it still remains high. Non-financial private sector lending, meanwhile, slowed down in September, mostly due to housing credit, which fell by 1.2% year-on-year in August, and credit to non-financial corporations, which registered a fall of 3.8% year-on-year.
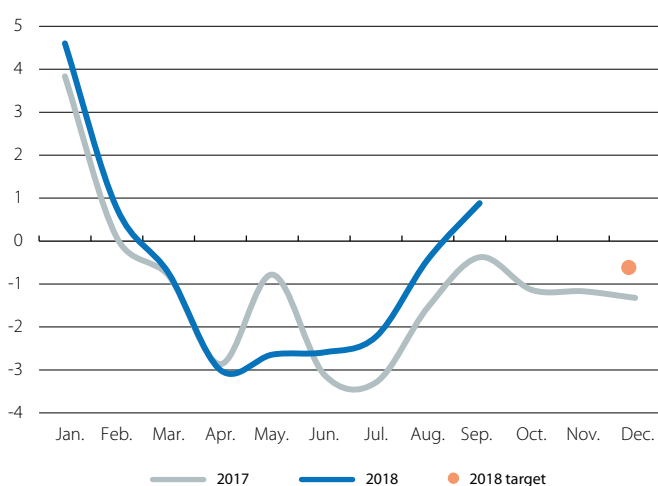
Portugal: current account balance
EUR thousands (cumulative year to date)

Source: CaixaBank Research, based on data from the Bank of Portugal.
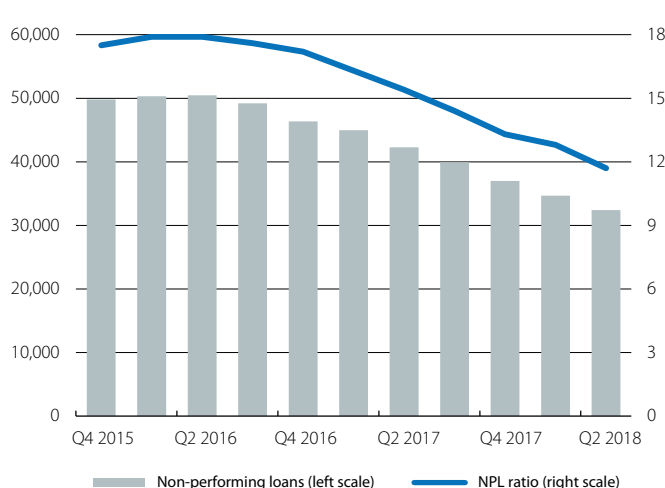
Portugal: government balance
(% GDP)

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

Portugal: non-performing loans
(EUR millions) *(%)*

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

Rapid correction of the budget deficit

It seemed difficult to imagine that Portugal's budget deficit would fall below 1% of GDP shortly after coming out of the excessive deficit procedure (EDP). However, in 2017, the general government budget deficit reached its lowest level since 1974.[1] This recent trend contrasts with what was observed previously: Portugal exceeded the deficit limit of 3% of GDP virtually every year since 2009 and the European Commission included it in the EDP until 2017. What is more, the encouraging figure for 2017 does not seem to be a one-off: the information available so far this year suggests that the deficit will reach a new low in 2018 (possibly even lower than originally planned). What factors have contributed to this fiscal adjustment? What is the outlook for 2019? What does the draft State Budget (SB) recently submitted by the Government tell us?

How are the public accounts evolving in 2018?

With three quarters of the year now passed, the assessment of the health of the public accounts in 2018 is positive: the budget execution up to September reinforces the expectation that the year will end with a public deficit of 0.7% of GDP, well below the 1.1% expected a year ago in the 2018 SB. One of the reasons for this improvement is the economy's positive cyclical performance.

In this regard, tax revenues and social security contributions are likely to exceed the Government's initial forecasts. In fact, the sensitivities of these revenues to GDP[2] and the Government's macroeconomic forecasts suggest that the forecast included in the 2018 SB for these revenue categories was conservative. Specifically, the assumed growth in employment and labour compensation[3] was lower than that finally recorded in the first half of the year: employment has grown by 2.6%[4] year-on-year, while labour compensation has increased by 4.0%. Furthermore, in the first half of the year, private consumption grew by 2.5%, 0.6 pps higher than initially estimated by the Government, and this has benefited indirect tax revenues.

Similarly, on the expenditure side, the economy's positive cyclical performance could also provide upside surprises. Given that the scenario for the labour market

Portugal: budget balance
(% GDP)
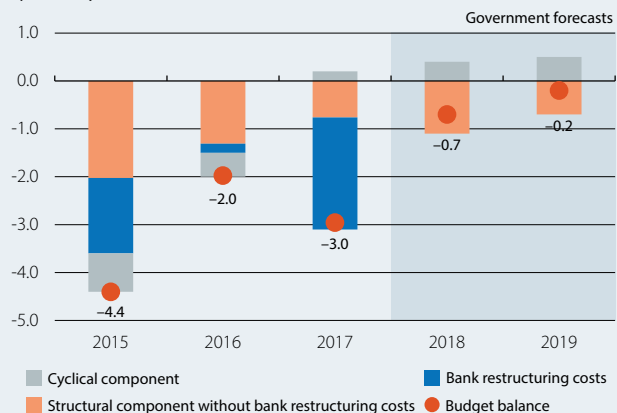
Source: *CaixaBank Research, based on data from the European Commission and Portuguese Government forecasts.*

assumed in the 2018 SB was conservative, it is possible that the expenditure on social benefits will end up being lower than initially forecast. In particular, the SB assumed an unemployment rate of 8.6%, clearly higher than the figure observed to date (7.2% on average so far this year, with data up to August). Thus, despite some measures[5] being implemented during 2018 that have boosted the increase in social benefits, it is possible that the overall expenditure will remain below that initially anticipated.

In addition, public investment could also result in a lower execution of expenditure. In the year to date up to September, the data point towards an execution of around 61% of what was initially budgeted. At the same time, as was the case in previous years, with the recent presentation of the draft 2019 SB, the Government has revised the estimated investment amount down by 0.2% of GDP. Specifically, compared to an initially anticipated growth in investment of 40.4% year-on-year, the Government now expects a growth of just 16.3%. One of the main reasons behind this revised figure could be the delay in the receipt of funds from the EU under the Portugal 2020 investment programme.[6]

On the other hand, staff costs could be higher than expected. The 2018 SB indicated an increase of 0.3%, which seemed insufficient to finance various measures relating to the civil service that were announced in the

1. −0.9% of GDP excluding the recapitalisation of Caixa Geral de Depósitos and −3.0% including it.
2. Analysis performed considering the growth rates set out in the 2018 SB and using the reference values of the OECD («New Tax and Expenditure Elasticity Estimates for EU Budget Surveillance»).
3. The Government has forecast a growth of 0.9% year-on-year in employment (definition of employed population consistent with the national accounts) and an increase in wages of 3.2% year-on-year.
4. Increase of 2.7% (average up to August) according to monthly data from the National Statistics Institute of Portugal.

5. Extraordinary update of Social Security pensions and of the General Retirement Fund, an increase in the number of pensioners and an update to the Social Security reference index for calculating contributions, pensions and other benefits.
6. See Bank of Portugal, Economic Bulletin for October 2018.

budget.[7] Upon submitting the draft 2019 SB, the Government has revised its estimate for these expenditures for 2018 up to 2.6%.

What is the outlook for 2019?

On 15 October, the Government presented the draft budget for 2019. In this draft, it gives continuity to the trend observed in 2018 and to the deficit reduction, supported by a positive economic environment. In particular, with an expected GDP growth of 2.2%, the Government foresees a reduction of the deficit down to −0.2% of GDP in 2019.

On the revenue side, together with the increase in wages, the Government expects job creation (forecast to be 0.9% in 2019) to help keep the growth in social security contributions above 4.0% in 2019, a forecast that could be somewhat optimistic.[8] In addition, private consumption, one of the drivers of the economy, will support the increase in indirect tax revenue. On the other hand, the growth expected in direct tax revenue could be somewhat conservative (given that the elasticities of these taxes in relation to nominal GDP growth predict a greater increase in tax revenues, in accordance with the Government's own GDP forecasts). On the whole, according to the Government's scenario, the tax burden is likely to remain at around 35% of GDP.[9] Furthermore, the increase in dividend revenues (related to Caixa Geral de Depósitos and the Bank of Portugal) could offset the impact of the revenue reduction measures (equivalent to 0.2% of GDP). In general, therefore, the total revenues estimated by the Cabinet seem to be reasonable.

On the expenditure side, of particular note are the increases in staff costs and in social benefits.[10] Even so, the anticipated reduction in the unemployment rate down to 6.3% 2019 should help to mitigate this increase with a 4.3% reduction in unemployment benefits.[11] However, the Government's forecast for the unemployment rate may be optimistic (our scenario considers a smaller decrease, down to 6.6%) and, therefore, the savings on unemployment benefits could end up being lower than expected. On the other hand, expenditure on interest payments should continue to fall as a result of the low market interest rates: the

Portugal: revenues and expenditure of the general government (national accounts)

	% of GDP			Change (%)		
	2017	2018	2019	2017	2018	2019
Revenues	42.7	43.2	43.3	4.0	4.9	4.1
Tax revenues	25.1	25.3	25.1	5.1	4.7	2.9
Taxes on income and wealth	10.1	10.2	9.9	3.5	4.5	0.8
Taxes on production and imports	14.9	15.1	15.2	6.2	4.9	4.3
Social security contributions	11.7	11.8	11.8	4.9	4.7	4.1
Expenditure	45.7	43.9	43.5	6.4	4.4	2.8
Staff costs	10.9	10.8	10.8	1.9	2.6	3.1
Intermediate consumption	5.4	5.3	5.2	2.4	2.2	1.7
Social benefits	18.3	18.3	18.3	1.4	3.8	3.8
Interest payments	3.8	3.5	3.3	−4.7	−6.3	−1.4
Gross fixed capital formation	1.8	2.1	2.3	24.9	16.3	17.1
Other capital expenditures	2.6	1.0	0.7	41.2 *	92.7	−28.9
Total balance	−0.9 *	−0.7	−0.2	–	–	–
Primary balance	2.9	2.7	3.1	–	–	–

Note: * Excludes the recapitalisation of Caixa Geral de Depósitos, for a total of 3,944 million euros (2.0% of GDP).
Source: CaixaBank Research, based on data from the National Statistics Institute of Portugal and the Portuguese Ministry of Finance.

Government foresees savings of 0.1% of GDP, while the implicit cost of debt [12] is expected to fall to nearly 2.8%, an all-time low. Finally, the growth anticipated in public investment will be backed up by a greater execution of the structural funds associated with the Portugal 2020 programme.[13]

Overall, the deficit target anticipated by the Government is ambitious, but seems feasible, especially in light of the good performance of recent years. Nevertheless, the scenario envisaged by the Government faces some risks that could make this target difficult to achieve. At the macroeconomic level, the risks are predominantly external in origin, with fears of a rise in protectionism posing a particular risk. That said, a greater than expected rise in oil prices or the uncertainties surrounding some of the hotbeds of political risk (such as Italy) could also have a notable effect on the growth of the economy. With regards to budgetary variables, the greatest risk is an increase in interest rates, due to the State's high borrowing:[14] the Government considers that an increase in the average rate of 100 bps would increase interest expenditure by 0.2 pps of GDP and the deficit would reach 0.4%.

---

7. Reactivation of careers in the general government and a programme to formalise precarious labour relations in the general government.
8. Our analysis of the elasticities compared to nominal GDP suggests a growth in social security contributions of around 3% in 2019.
9. According to the effective social security contributions presented in the budget analysis conducted by UTAO, somewhat lower than those reflected by the Government and presented in the table attached.
10. With measures related to professional careers, such as the possibility for people over 60 who have accumulated 40 years of social security contributions to retire without their pension being affected, increased social benefits in groups at risk of exclusion, and an extraordinary increase in pensions.
11. Estimates contained in the draft 2019 State Budget.

12. Charges with interest payments as a proportion of the total debt in the previous year.
13. Draft 2019 State Budget.
14. See the article «How will the State be financed in 2019?», available at http://www.caixabankresearch.com/.

Activity and employment indicators
Year-on-year change (%), unless otherwise specified

	2016	2017	Q1 2018	Q2 2018	Q3 2018	06/18	07/18	08/18	09/18	10/18
Coincident economic activity index	1.7	2.8	2.6	2.2	1.9	2.1	2.0	1.9	1.8	...
Industry										
Industrial production index	2.4	4.0	2.3	0.5	−1.5	−0.1	−1.0	−3.3	−0.1	...
Confidence indicator in industry *(value)*	−0.7	2.3	2.1	0.0	0.4	0.5	0.9	1.6	−1.2	−1.1
Construction										
Building permits *(cumulative over 12 months)*	7.9	19.8	8.8	10.3	...	10.3	...	...	...	...
House sales	18.8	20.5	15.7	23.7	...	23.7	...	...	...	...
House prices *(euro/m² - valuation)*	3.8	5.0	5.4	6.1	...	6.1	...	...	6.2	...
Services										
Foreign tourists *(cumulative over 12 months)*	10.9	12.3	11.2	7.6	...	6.3	5.0	3.9	...	...
Confidence indicator in services *(value)*	7.3	13.8	13.2	14.4	16.5	18.9	18.3	14.5	16.7	8.6
Consumption										
Retail sales	2.7	4.1	5.9	2.6	2.3	3.2	2.4	3.4	1.1	...
Coincident indicator for private consumption	1.9	2.6	2.5	2.2	1.6	2.0	1.8	1.6	1.4	...
Consumer confidence index *(value)*	−11.1	0.5	2.0	2.8	−1.4	1.3	−1.4	−1.3	−1.5	−0.4
Labour market										
Employment [1]	1.2	3.3	3.2	2.4	...	2.8	2.2	2.0	2.0	...
Unemployment rate (% labour force)	11.1	8.9	7.9	6.7	...	6.8	6.8	6.9	6.6	...
GDP	1.9	2.8	2.2	2.4	...	...	...	...	...	...

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

	2016	2017	Q1 2018	Q2 2018	Q3 2018	06/18	07/18	08/18	09/18	10/18
General	0.6	1.6	0.9	1.2	1.8	2.0	2.2	1.3	2.3	3.3
Core	0.8	1.3	0.9	0.9	1.3	1.5	1.8	0.7	1.4	...

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

	2016	2017	Q1 2018	Q2 2018	Q3 2018	06/18	07/18	08/18	09/18	10/18
Trade of goods										
Exports *(year-on-year change, cumulative over 12 months)*	0.8	10.0	6.5	7.4	...	7.4	8.2	7.4	...	...
Imports *(year-on-year change, cumulative over 12 months)*	1.5	13.5	11.0	9.8	...	9.8	9.7	9.3	...	...
Current balance	1.1	0.9	0.9	0.0	...	0.0	0.0	−0.4	...	...
Goods and services	3.8	3.5	3.2	3.1	...	3.1	3.2	2.9	...	...
Primary and secondary income	−2.7	−2.6	−2.3	−3.1	...	−3.1	−3.3	−3.3	...	...
Net lending (+) / borrowing (−) capacity	3.0	2.7	2.7	1.9	...	1.9	1.9	1.6	...	...

Credit and deposits in non-financial sectors [2]
Year-on-year change (%), unless otherwise specified

|	2016	2017	Q1 2018	Q2 2018	Q3 2018	06/18	07/18	08/18	09/18	10/18
Deposits										
Household and company deposits	3.7	1.7	2.6	4.3	...	4.9	3.6	4.7	...	...
Sight and savings	19.5	15.7	2.6	4.3	...	16.2	11.4	14.6	...	...
Term and notice	−3.2	−5.8	−4.1	−2.9	...	−2.5	−1.8	−2.1	...	...
General government deposits	−17.9	1.3	1.9	−0.8	...	12.8	−1.2	3.0	...	...
TOTAL	2.3	1.6	2.6	4.0	...	5.4	3.4	4.6	...	...
Outstanding balance of credit										
Private sector	−3.9	−4.0	−1.8	−1.8	...	−1.6	−1.5	−1.4	...	...
Non-financial firms	−5.6	−6.5	−3.1	−3.7	...	−3.6	−3.8	−3.8	...	...
Households - housing	−3.3	−3.1	−1.9	−1.6	...	−1.4	−1.3	−1.2	...	...
Households - other purposes	−0.5	0.9	3.0	4.1	...	4.5	5.6	6.1	...	...
General government	−9.4	9.3	19.0	14.8	...	10.6	−13.9	−12.2	...	...
TOTAL	−4.2	−3.5	−1.0	−1.1	...	−1.2	−2.1	−1.9	...	...
NPL ratio *(%)* [3]	17.2	13.3	12.8	11.7	...	11.7	...	...	...	...

Notes: 1. Estimate by the National Statistics Institute. 2. Aggregate figures for the Portuguese banking sector and residents in Portugal. 3. Period-end figure.
Sources: CaixaBank Research, based on data from the National Statistics Institute, Bank of Portugal, European Commission and European Automobile Manufacturers' Association.

Population ageing and its macroeconomic impact

According to a study recently published in the medical journal *The Lancet*,[1] by 2040, 59 countries will have an average life expectancy of more than 80 years, including Spain and Portugal. The average life expectancy of Spaniards will be the highest in the world and will reach 85.8 years, even higher than that of the Japanese (85.7 years). The authors of the article attribute this first-place position to the Mediterranean diet. In Portugal, life expectancy will be somewhat lower (82.0 years), but it is also expected to increase substantially (by more than 3.5 years) over the coming decades.

Population distribution by age group, 2018 and 2033
(% of the total)
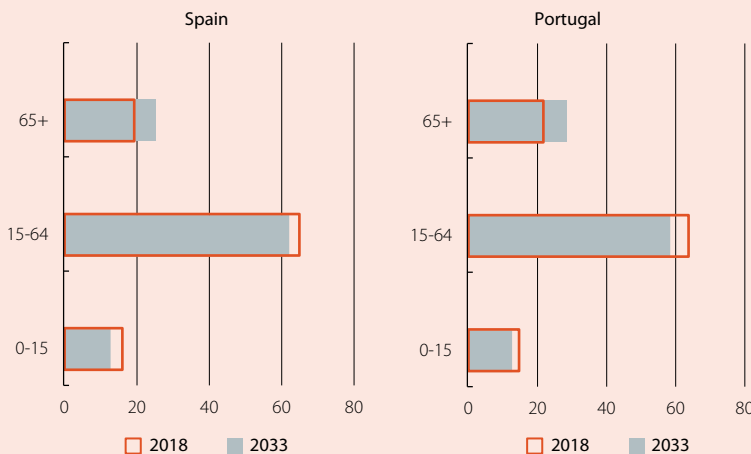
Source: *CaixaBank Research, based on data from the National Statistics Institute of Spain and the National Statistics Institute of Portugal.*

The increase in life expectancy is excellent news, since it is one of the great achievements of our society, but we must be aware that it can lead to far-reaching economic consequences. One of the reasons for this is that, in the vast majority of countries, increases in life expectancy will not be accompanied by an increase in the birth rate that would prevent the population from ageing. Therefore, over the next 15 years, the elderly population will increase significantly as a proportion of the total, while the relative weight of the working-age population will remain constant, or even decline. The ageing of the population is a phenomenon with far-reaching consequences: the change in the population of each age group, both in absolute and relative terms, can have an extensive impact on economic growth, especially if the behaviours of each age group do not adapt to the new demographic dynamics.

The main factor which can weigh down an economy's level of production, in the context of an ageing population, is the reduction of the labour force. If there are no significant changes in the employment rates of the elderly population, a decline in the working-age population will reduce the aggregate labour force and, therefore, the total GDP of the economy. Furthermore, to the extent that the decline in savings of the older population can exceed the savings of those who have not yet retired, the economy's stock of capital could also decrease.[2] On the other hand, population ageing increases the proportion of pensioners compared to workers, which adds tensions in the actuarial calculations in a pay-as-you-go pension system like the one we have in our economies. As such, the theoretical framework suggests that population ageing could lead to a reduction in both individual well-being (GDP per capita) and that of the country in aggregate (total GDP). In addition, it could have significant consequences for the sustainability of public debt and the pension system.

It is important to clarify that the economic implications of population ageing will also depend on whether the behaviour of each age group changes as a result of the change in the demographic structure and greater life expectancy.[3] Firstly, it is possible that people will decide to work more, either by increasing their level of participation and the number of hours they work, or by extending their working life to make the most of an increased life expectancy and better health for more years. Workers could also decide to save more in order to

Dependency ratio *
(%)
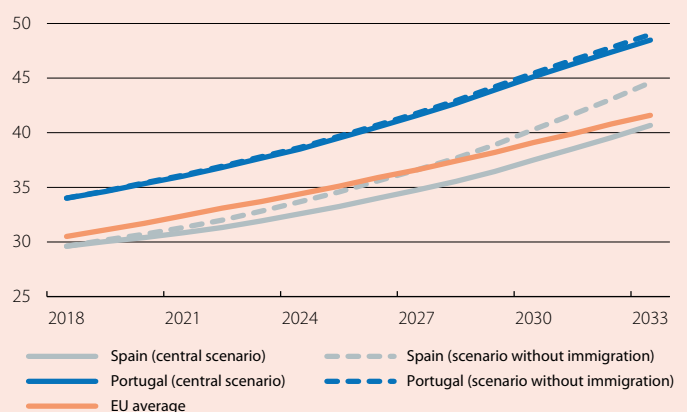
Note: ** The dependency ratio corresponds to the proportion of the population over 65 compared to the working-age population, aged between 16 and 64.*
Source: *CaixaBank Research, based on data from the National Statistics Institute of Spain, the National Statistics Institute of Portugal and Eurostat.*

---

1. See https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(18)31694-5/fulltext.
2. See D.M. Cutler *et al.* (1990), «An Aging Society: Opportunity or Challenge?», Brookings Papers on Economic Activity, n° 1.
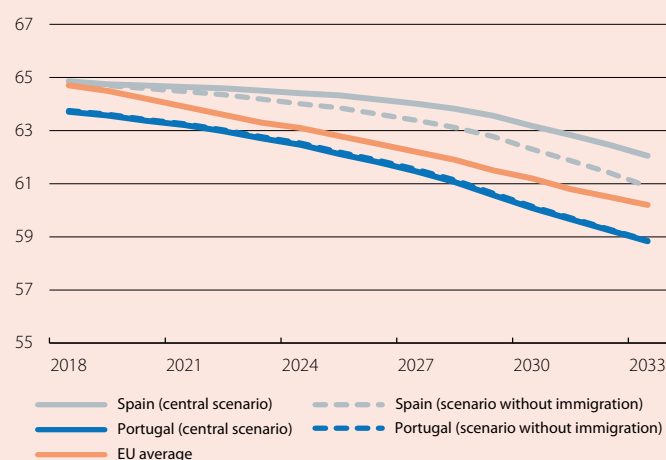3. See D. Bloom, D. Canning and G. Fink (2011), «Implications of Population Aging for Economic Growth», NBER Working Paper n° 16705.

---

finance a longer period of inactivity.[4] Finally, if the appropriate policies are implemented in education and training, there could be an increase in investment in human capital, which would help to increase the population's labour productivity.

Thus, the aggregate economic impact of the ageing of the population is a highly empirical issue. What do the data tell us? The evidence to date does indeed point towards lower economic growth as a result of the ageing of the population.[5] According to Aksoy *et al.* (2018),[6] the decline in the working-age population will significantly reduce growth in OECD countries between 2015 and 2025. On average, they estimate a 0.64-pp reduction in the potential growth rate, which is by no means insignificant. In addition, the growth of GDP per capita will fall: according to OECD estimates,[7] potential growth in GDP per capita will decline by 0.25 pps in the 2030s. It should be noted that the impact would not only be caused by the lower growth of the workforce, but also by the lower labour productivity associated with population ageing. Maestas *et al.* (2016),[8] for instance, estimate that two-thirds of the reduction of growth in the US will be due to lower labour productivity.

Working-age population
(% of the total population)

Spain (central scenario) · · · Spain (scenario without immigration)
Portugal (central scenario) · · · Portugal (scenario without immigration)
EU average

Source: *CaixaBank Research, based on data from the National Statistics Institute of Spain, the National Statistics Institute of Portugal and Eurostat.*

What will be the economic impact of the ageing of the population for Spain and Portugal over the next 15 years?

Firstly, we must analyse what the possible scenarios are for population ageing in both countries. Over the next 10 to 15 years, changes in the working-age population will not be particularly influenced by changes in birth or mortality rates. Therefore, it is possible to predict the working-age population in the coming years with some accuracy, with the exception of migration flows, which are much more volatile by nature as they depend both on economic conditions in the origin and destination country and on other factors such as family circumstances or humanitarian crises.[9]

The demographic projections by the National Statistics Institutes of Spain and of Portugal, which extrapolate the demographic structure and recent trends, show the expected changes in the two countries' population structures. In Spain, the population over 65 will increase from 9 million in 2018 to 12.4 million in 2033, while the working-age population will remain at around 30.3 million. In Portugal, the group over 65 will increase from 2.2 to 2.8 million, while the working-age population will reduce from 6.5 to 5.8 million. Therefore, the dependency ratio – the proportion of the population over 65 compared to the working-age population – will substantially increase between 2018 and 2033, both in Spain (from 29.6% to 40.7%) and in Portugal (from 34% to 48.5%).

These projections assume positive average migration flows between 2018 and 2033, of around 220,000 net entries per annum in the case of Spain[10] and of around 14,000 for Portugal. The dependency ratio would be even greater if migration flows were nil, reaching 44.6% in 2033 in Spain and 49% in Portugal. Therefore, it is important to emphasise that migration flows slow down the population ageing process (especially if the flows are significant, like those forecast for Spain), but they do not fully offset the ageing of the population. To maintain the current dependency ratio in 2033, it would take a net inflow of working-age immigrants in the period 2018-2035 of more than 11.4 million in Spain (750,000 per annum) and of 2.6 million in Portugal (175,000 per annum), unusually high figures.

4. In the next article of this Dossier, «The demographic cycle of savings and interest rates», we analyse in detail the effects of the ageing of the population on the supply of global savings.
5. This does not mean that the economy's productivity cannot increase due to other factors, such as technological changes, which are able to at least partly offset the effects of the population's ageing.
6. See Y. Aksoy *et al.* (2018), «Demographic Structure and Macroeconomic Trends», American Economic Journal: Macroeconomics.
7. OCDE (2018), «The Long View: Scenarios for the World Economy to 2060», OECD Economic Policy Papers n° 22.
8. See N. Maestas, K. Mullen, and D. Powell (2016), «The Effect of Population Aging on Economic Growth, the Labor Force and Productivity», RAND Working Paper 1063.
9. OCDE (2018), «Can we anticipate future migration flows?», Migration Policy Debates n° 16.
10. In its demographic projections for 2018-2068, the National Statistics Institute of Spain has modified the methodology used to forecast migration flows, no longer assuming steady flows in the period for forecasting both the recent trend (2018-2022) and the dynamics towards an immigration target in 2033.

Contribution of changes in the labour force to economic growth, historical and future scenarios
(pps)

	Employment rate	Migration flows	Change in the labour force	Change in the population	Contribution to GDP growth	Contribution to GDP per capita growth
Spain						
2000-2016			1.2	0.8	0.5	0.3
Scenario 1 (2018-2033)	Constant	Nil	−0.6	−0.4	−0.4	−0.2
Scenario 2 (2018-2033)	Constant	Positive	0.0	0.5	0.0	−0.3
Scenario 3 (2018-2033)	Increases	Nil	−0.1	−0.4	0.0	0.2
Scenario 4 (2018-2033)	Increases	Positive	0.7	0.5	0.4	0.1
Portugal						
2000-2016			−0.1	0.0	−0.3	−0.1
Scenario 1 (2018-2033)	Constant	Nil	−0.9	−0.4	−0.5	−0.3
Scenario 2 (2018-2033)	Constant	Positive	−0.7	−0.2	−0.4	−0.3
Scenario 3 (2018-2033)	Increases	Nil	−0.6	−0.4	−0.3	−0.1
Scenario 4 (2018-2033)	Increases	Positive	−0.4	−0.2	−0.2	−0.1

Note: *Contribution of changes in the labour force to economic growth, in the framework of accounting for growth, assuming the same labour share as in 2000-2016. The predicted increase in the employment rate is based on the central scenario of the «2018 Ageing Report». The composition of the labour force by age corresponds to the central scenario with no net migration flows by the National Statistics Institute of Spain and the National Statistics Institute of Portugal.*
Source: *CaixaBank Research, based on data from the National Statistics Institute of Spain and the National Statistics Institute of Portugal, from the «2018 Ageing Report» (European Commission) and The Conference Board.*

To analyse the economic impact of the change in the population structure over the next 15 years, we use a simple model for accounting for long-term growth to produce several scenarios. These scenarios take into account the change in the labour force with and without immigration, as well as the projected changes in behaviour in the labour market.[11] In the period between 2000 and 2016, the increase in the labour force made a positive contribution of 0.5 pps to the average annual growth rate of Spain (which was 1.7% per annum) and a negative contribution of −0.3 pps to that of Portugal (0.5% per annum). In a scenario with no increase in the employment rate and no migration flows, the change in the labour force in Spain would go from having a positive contribution to GDP of +0.5 pps to reducing it by 0.4 pps between 2018 and 2033. In contrast, in a more plausible scenario in which the predicted migration flows and the changes in the behaviour of each generation lead to an increase in the employment rate, the change in the labour force would have a positive contribution of +0.4 pps, which is somewhat limited and very similar to the contribution experienced in recent years. In the case of Portugal, the contribution would continue to be negative, due to both the greater ageing of the native population and to the migration balance, which is expected to be less favourable.

With regards to GDP per capita, in the period 2000-2016 in Spain,[12] the increase in the labour force was greater than that of the total population, which led to it making a 0.3-pp contribution to the average growth in GDP per capita of 1.1% per annum. Between 2018 and 2033, in a scenario with no increase in the employment rate and with no migration flows, the labour force would decline at a greater rate than the population, and GDP per capita would fall by 0.2 pps. On the other hand, in the scenario with the migration flows and the increases in the employment rate that are predicted, the contribution would be positive, albeit small (0.1 pp) and slightly lower than that observed over the past few years.

In short, these scenarios show how the greater relative weight of the older age group could have a negative impact on aggregate economic growth over the next 10-15 years. However, they also show how this effect could be partially mitigated by taking the appropriate measures, hence the importance of behavioural changes in society, such as an openness to taking greater advantage of the significant opportunities offered by longer life expectancies. The role of public and private institutions is therefore fundamental: the former can promote policies that, for example, allow for a flexible retirement age, while the latter must take full advantage of the talent of their more long-lived and experienced employees.

Josep Mestres
CaixaBank Research

11. We use the expected changes per the «2018 Ageing Report», which predict that the employment rate for the working-age population will increase from the current rate of 61.3% to 67.4% in 2033 in Spain, and from 66.5% to 70.0% in Portugal. These increases would be a result of both the expected increases in the participation rate, particularly in the 55-64 age range, and the retirement age being pushed back by more than two years.
12. In Portugal, in the period 2000-2016, the labour force had a negative contribution of −0.1 pps to the average growth in GDP per capita of 0.7% per annum. Between 2018 and 2033, in a scenario with no increase in the employment rate and with no migration flows, GDP per capita would fall by −0.3 pps. In the scenario with the migration flows and the increases in the employment rate that are foreseen, the contribution would be negative, at −0.1 pp, similar to that of the previous period.

# The demographic cycle of savings and interest rates

Since the global financial crisis of 2007-2008, interest rates have stood at historical lows in many advanced economies, in some cases close to 0% or even in negative territory. These all-time lows have occurred in a context characterised by highly accommodative monetary policies, but it is not clear that these policies are the exclusive cause behind the low interest rates. As can be seen in the first chart, if we extend the time horizon, we see that the decline in interest rates is a phenomenon that has been occurring for more than two decades, suggesting that there are other latent forces behind the decline. One of them is demographics and, more specifically, population ageing. This is a process that is having a widespread effect on practically all the economies of the world (albeit with differing extents and speeds) and it is likely to continue to apply downward pressure on interest rates over the coming years.[1]

Population ageing offers a natural explanation since, as we shall see, it is a phenomenon with significant consequences for household savings. According to the life cycle theory developed by the Nobel Laureates in Economics Franco Modigliani and Milton Friedman, among others, savings vary over our lifetimes in an inverted U-shaped pattern: the theory suggests that those who save the least are the young and the elderly, while the middle-aged save the most. The reason behind this pattern is the desire to maintain a relatively stable quality of life over time. To achieve this, people must save more at ages when they have a higher income, and then use these resources to improve their quality of life at ages when income streams are lower (typically, youth and old age).

The predictions of the life cycle theory can be clearly observed when we analyse the data for US households. As we can see in the second and third charts, household income increases between the ages of 25 and 64, and it decreases thereafter. This follows a very similar pattern to the savings rate, which is lower among young people and the retired (in fact, the rate among these age groups is negative, based on the data we have for the years 2013-2017),[2] and higher among the population aged between 25 and 64. Dynan *et al.* (2009)[3] corroborate this inverted U-shape in the profile of the savings rate with a more detailed empirical analysis covering the period 1983-2007 in the US, as does a study by the World Bank, which suggests that there is a similar pattern in other advanced countries such as Germany, Canada and the United Kingdom.[4] However, in other economies, such as Italy and Japan, the data reflect a sustained increase in savings rates throughout the population's lifetimes, even for those over the age of 65, and this also seems to be the case for Spain.[5] This pattern would contradict the life cycle theory, but the Bank of England[6] notes that the observation of an increase in savings rates in those aged over 65 could be due to the statistical difficulties of correctly measuring the income of retirees.

Besides the behaviour of each family, analysing the impact of population ageing on an economy's aggregate savings requires us to distinguish between the different demographic forces that lie behind this ageing process: the increase in life expectancy, the decline in fertility rates and the movement of the baby boom generation up the demographic pyramid.

Short-term interest rates in the main advanced economies

(%)
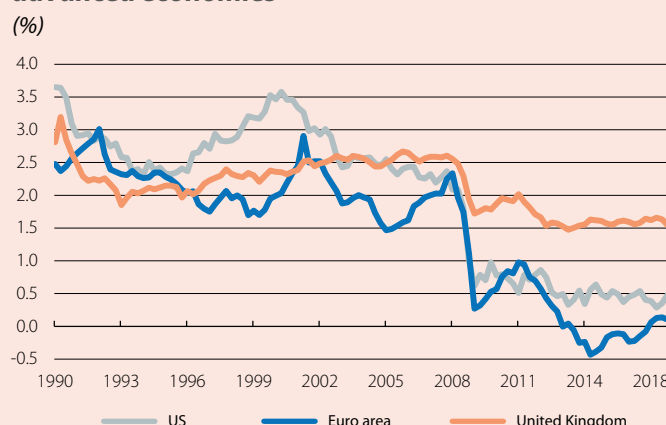
Note: Natural interest rates estimated by K. Holston et al. (2016), «Measuring the Natural Rate of Interest: International Trends and Determinants», FRBSF Working Paper.
Source: CaixaBank Research, based on data from the Federal Reserve Bank of San Francisco.

1. Other forces responsible would include greater risk aversion and a preference for safe-haven assets, lower productivity growth, greater inequality and structural changes in the economy towards less labour-intensive sectors. For more details on these forces and their implications on the design of monetary policy, see the Focus, «What is the new equilibrium interest rate?» in the MR09/2017 and «Monetary policy frameworks for the future» in the MR10/2017.
2. i.e. with a negative savings rate, these groups have a consumption level that exceeds their income.
3. K. Dynan *et al.* (2009), «The Effects of Population Aging on the Relationship among Aggregate Consumption, Saving, and Income», American Economic Review, vol. 99, n° 2.
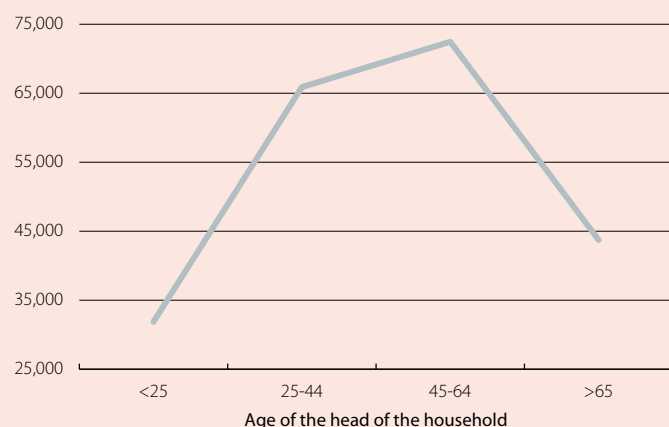4. World Bank (2007), «From Red to Gray».
5. BBVA Research (2010), «Microeconomic determinants of saving: a static analysis », box 1 in «Spain: Consumption Outlook».
6. Bank of England (2002), «Ageing and the UK economy».

Firstly, in the absence of changes in the retirement age, the increase in life expectancy would require families to spread the economic resources they accumulate during their working lives over a longer retirement. Faced with this dilemma, we can find two types of behaviour. Some households will anticipate this problem of resource distribution and will respond with higher savings rates in order to offset the longer life expectancy, allowing them to maintain a relatively stable consumption profile. Other households, however, may be less forward-looking and will not adjust their savings rate, such that they end up having fewer resources when they retire. Both behaviours have different consequences: in the first case, there is an increase in the aggregate savings rate which pushes down interest rates, while the second group reduce savings per capita and push interest rates up.

Secondly, the reduction in birth rates change savings and investment needs in different ways. On the one hand, it leads to lower population growth, which translates into lower GDP growth[7] and, therefore, lower growth in the demand for investment, which tends to lower interest rates.[8] On the other hand, lower fertility also causes an increase in the proportion of the population that is made up of the elderly, who tend to have lower savings rates but larger volumes of capital (as a result of the savings accumulated throughout their working life). As such, we find two opposing forces. On the one hand, we find a lower flow of savings, which puts upward pressure on interest rates. On the other hand, there is an increase in the population with a greater volume of accumulated savings (resulting in a relative abundance of capital, which restrains the upward pressure on rates caused by the lower flow of savings).

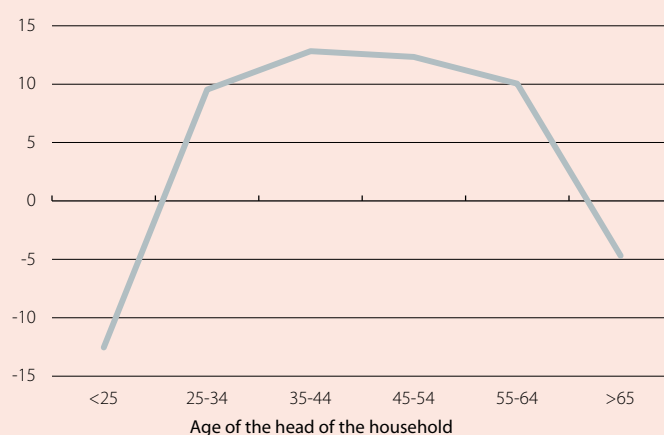### US: household savings rate by age group
Fraction of household disposable income (%)

Note: *Average for the period 2013-2017.*
Source: *CaixaBank Research, based on data from the Bureau of Labor Statistics.*

US: household income by age group
(Dollars)

Note: *2017 average.*
Source: *CaixaBank Research, based on data from the American Community Survey.*

Finally, in most advanced economies, the baby boom generation, born primarily between the mid-1940s and early 1960s (between 1950 and 1970 in the case of Spain), is causing changes in the composition of the population pyramid. Initially, it widened the base of students and young workers, but today this generation is approaching retirement. This is leading to a relatively high percentage of the population who have significant accumulated savings but will soon begin to reduce their savings rates.

What is the net effect of this trend on savings? Taking into consideration the different mechanisms involved, Dynan *et al.* (2009) estimate that, in the US, these demographic dynamics would have led to a 1.9 pp increase in the aggregate savings rate between 1980 and 2000, although they project that it could reduce by 0.9 pps between 2000 and 2020. If we use the savings rates for each age group in 2017 as a benchmark, we can perform a similar exercise with projections up to 2030 for the US, Spain and Portugal.[9] The results of this exercise, presented in the fourth chart, suggest that changes in the composition of the population pyramid (in the absence of other dynamics) would tend to reduce the aggregate saving rates over the period 2018-2030 by about 20% in the US, Spain and Portugal (i.e. reductions of 1.5, 1.1 and 0.8 pps, respectively). The reason for this is that the fraction of people aged over 65 will increase in all three economies, while the proportion represented by groups with higher savings rates will decrease.

---

7. See the article «Population ageing and its macroeconomic impact» in this same Dossier.
8. Since the accumulated capital depreciates slowly, the supply of investment, which also decreases, does so more gradually, so there is downward pressure on rates.
9. For Spain and Portugal, we assume that the relationship between the savings rate and age follows an inverted U pattern, proportional to that of the US.

Besides the changes in the savings rates, quantifying the net impact on interest rates requires us to analyse the consequences for the aggregate volume of savings and investment. The main studies on this matter suggest that the ageing of the population can explain a substantial portion of the decline in interest rates seen in recent decades. For example, Gagnon *et al.* (2016)[10] estimate that the demographic dynamics of the US alone can explain a 125bp reduction in short-term US interest rates between 1980 and the present day (which, as reflected in the first chart, represents most of the total reduction observed), mainly due to a reduction in the fertility rate and the accumulation of capital by the baby boom generation. Similarly, the analysis by Carvalho *et al.* (2017)[11] suggests that the increase in life expectancy and the decrease in population growth could explain a reduction of around 200 bps in short-term US interest rates since 1990 (although their model suggests that life expectancy is the dominant factor). Finally, according to Lisack *et al.* (2017),[12] the

Savings rate: impact of demographics
*Cumulative deviation compared to 2017 (%) **
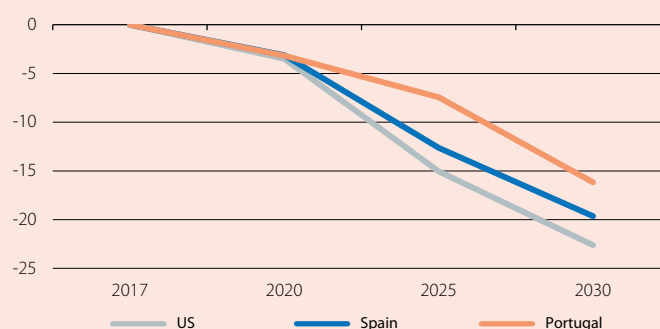
Note: * Savings rates by age group are hold constant at their 2017 levels, and the change in the national savings rate produced by the demographics is projected based on these fixed rates and the forecasted change in the distribution of the population by age group. For Spain and Portugal, it is assumed that each age group has the same savings profiles as those shown by the data for the US (adjusted for the different levels of national savings rates).
Source: CaixaBank Research, based on data from the Bureau of Labor Statistics, the United Nations, the National Statistics Institute of Spain and the National Statistics Institute of Portugal.

ageing of the population will have contributed to reducing short-term global interest rates by 150 bps since 1980. In addition, these three studies forecast that the demographic dynamics will continue to exert downward pressure on interest rates in the coming decades. This is primarily due to the increase in life expectancy, which they assume will result in an increase in household savings, and due to the fact that the ageing of the population will lead to a greater relative weight of groups with more accumulated capital.

One of the limitations of all the above estimates is that they analyse the impact of the ageing of the population based on a closed economy perspective: that is, without taking into account the fact that the population pyramid is also changing in the rest of the world, which can generate capital flows between different regions. In this regard, the analysis by Krueger and Ludwig (2007)[13] suggests that considering these international capital flows does not substantially affect the estimates, at least for the US (in line with the studies mentioned previously, their results also point towards the demographics continuing to apply downward pressures on interest rates). However, Goodhart and Pradhan (2017)[14] from the Bank of International Settlements argue that the demographic transition of China will have major implications at the global level, reducing its high level of savings and pushing interest rates up. In addition, unlike the previous studies, these authors predict that the demographics will push up interest rates over the coming years for two reasons (in addition to the «China» factor): on the one hand, they consider that the increase in life expectancy will not significantly increase savings, while on the other hand, they argue that the upward pressure resulting from a reduced flow of savings (due to the increase in pensioners, with lower savings rates) will more than offset the downward pressures exerted by the high levels of capital accumulated by these pensioners throughout their working lives.

In conclusion, the evidence available suggests that, besides the cyclical changes in monetary policy (which over the next few years should push interest rates upwards), demography will remain a key variable for understanding how interest rates will change in the medium to long term.

Adrià Morron Salmeron
CaixaBank Research

10. E. Gagnon *et al.* (2016), «Understanding the New Normal: the Role of Demographics», Finance and Economics Discussion Series, Board of Governors of the Federal Reserve System.
11. C. Carvalho *et al.* (2017), «Demographic Transition and Low U.S. Interest Rates», Federal Reserve Bank of San Francisco Economic Letter.
12. N. Lisack *et al.* (2017), «Demographic trends and real interest rate», Bank of England Staff Working Papers.
13. D. Krueger and A. Ludwig (2007), «On the Consequences of Demographic Change for Rates of Returns to Capital, and the Distribution of Wealth and Welfare», Journal of Monetary Economics.
14. C. Goodhart and M. Pradhan (2017), «Demographics will reverse three multi-decade global trends», BIS Working Paper.

The challenges of ageing: a new society, a new economy

Thanks to advances in medicine and a better quality of life, the quote by Quevedo «We all want to live to an old age, and we all deny that we have reached it» could apply to an increasing number of our readers, at one time or another. Indeed, the ageing of the population in advanced societies is a silent and unstoppable phenomenon that will have an undeniable impact on macroeconomic and financial variables... but not only that. The ageing of the population will have a much wider and more far-reaching impact that will shape the type of society we will live in, and it will pose a number of inescapable economic and social challenges. In this article, we will shed some light on this and other issues by analysing the impact of population ageing on society, the kind of economy we will shift to and the major challenges that we will face at the intergenerational level.

Let us start with the social sphere, a dimension that economists are taking increasingly seriously, given the important interactions between society and the economy. One of the most important issues to settle is how society's preferences will change due to the greater relative weight of the more elderly generations. In a recent article, a group of economists[1] analysed the attitude towards risk among a group of German and Dutch citizens throughout their life cycle. The conclusion of the study was clear: as we get older, we are less willing to risks. Specifically, a 10-year increase in the median age of society substantially reduces risk-taking, equivalent to a reduction of 2.5% in investment in equities or of 6% in the number of people who are self-employed. This implies that ageing societies will possibly be more risk-averse, which can have a myriad of repercussions on people's economic, political and social behaviour. For instance, two economists from the University of Chicago, Lubos Pastor and Pietro Veronesi,[2] have documented that support for populist parties is significantly higher among voters who are more risk-averse, as these voters take safer financial and consumption decisions and, therefore, are less sensitive to political and economic uncertainty.

Impact of ageing on risk
Willingness to take risks (level)
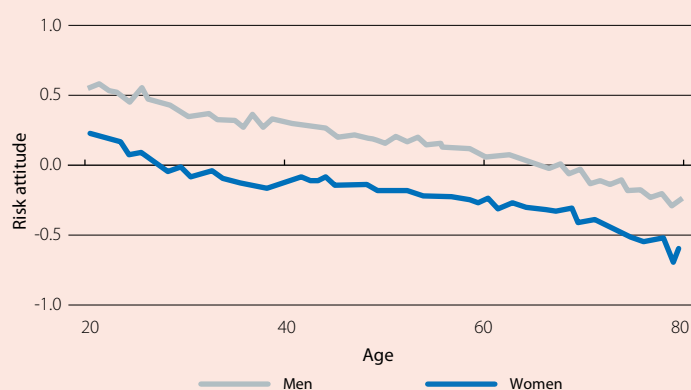
Note: *Willingness to take risks is measured on the basis of a questionnaire, and its average value has been standardised to 0. Lower values correspond to a lower predisposition to risk. Panel data corresponding to German citizens.*
Source: *CaixaBank Research, based on data from Dohmen et al. (2017), «Risk attitudes across the life course», The Economic Journal.*

A more risk-averse society can also have a significant influence on the speed of the technological change that we are witnessing. As an example, it has been documented that a greater relative weight of workers aged between 50 and 59 has a restricting effect on innovation, measured using the total number of patents.[3] However, it should be pointed out that the net effect of population ageing on innovation and technology is still under discussion. The MIT economist Daron Acemoglu, for instance, has shown that in the industrial sector, robots are much better substitutes for occupations performed by middle-aged people than those of older people. Using this data, Acemoglu has found that in older societies – which therefore have a greater relative scarcity of middle-aged workers –, more robots are used per worker.[4] Therefore, more aged societies such as Germany, South Korea and Japan have a greater demand for industrial robots than younger societies like the US or the United Kingdom.

In fact, this gap could increase with the greater needs for automation in the healthcare sector in ageing societies.

The ageing of society will also have a significant impact on consumption patterns and the type of economy that will result from these changes. The main feature of the «silver economy» – a term referring to the economy of people aged over 50 – is an expansion of the services sector, driven by greater healthcare requirements and also, potentially, by an increase in tourism and cultural activities in a society that will have to deal with the problem of loneliness (42% of people living alone in Spain are currently already over 65 years of age). Thus, the «silver economy» will provide new business opportunities and its relative importance will increase rapidly: according to the European Commission, this economy will contribute 6.4 trillion euros to the GDP of the EU by 2025 (32% of GDP), almost double today's level, and it will generate 88 million jobs (38% of the total).

1. See Dohmen *et al.* (2017), «Risk Attitudes Across the Life Course», The Economic Journal.
2. See L. Pastor and P. Veronesi (2018), «Inequality Aversion, Populism and the Backlash Against Globalization», NBER Working Paper.
3. See Y. Aksoy *et al.* (2015), «Demographic structure and macroeconomic trends», Working Paper n° 1528 of the Bank of Spain.
4. See D. Acemoglu and P. Restrepo (2017), «Demographics and robots», NBER Working Paper.

In addition, we must bear in mind that longer life expectancy will lead to people remaining active in the labour market and engaging in their occupations for longer. This will increase the need to tailor homes, workplaces and means of transport to these workers' needs, so that they can live and work autonomously.

It should be noted that a significant portion of the «silver economy» will be related to healthcare and dependency. The European Commission estimates that public expenditure on items related to population ageing will increase by 1.7 pps between 2016 and 2070 in the euro area, reaching 26.7% of GDP. However, there is great uncertainty regarding these types of estimates, since they depend on factors such as technology (advances in the field of healthcare are expected to be particularly powerful) and morbidity rates (will longer life expectancies mean more years of health or more older people living in poor health?). The mortality rate element is no less important: correctly controlling healthcare expenditure close to the time of death can reduce healthcare expenditure attributed to age by up to 40%.[5]

Percentage of people living close to the poverty line, by age group
(%)
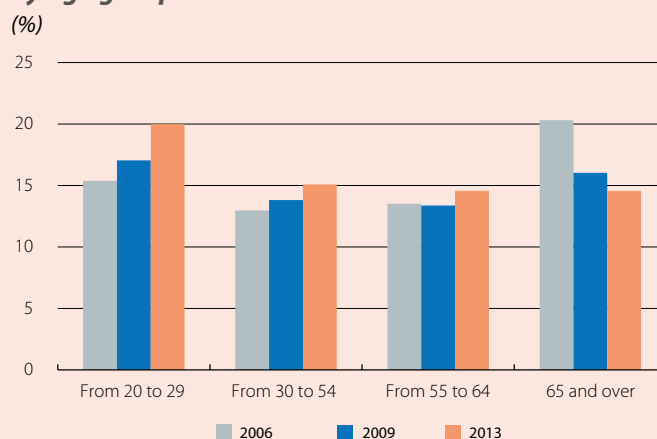
Note: *Data for the EU from 28 countries in 2009 and 2013, and from 27 (without Croatia) in 2006.*
Source: *CaixaBank Research, based on data from the European Commission.*

Whatever the case, these greater public expenditure needs will have to be financed in some way, which could generate pressures and uncertainties in the tax system and the redistribution between generations. In the end, the consequences of population ageing will depend on the type of taxation they affect: the intergenerational effects will be much greater if they fall upon social security contributions and income tax than if they fall on consumption. The debate surrounding which generation should bear the brunt of the tax burden will be bitter, and it could cause a generational gap between older and younger people if the public authorities fail to balance the interests of all the generations. Good sense among the policy makers will be crucial, since in a society with a higher prevalence of older people, it is quite possible that in electoral processes there will be majorities in favour of a very substantial intergenerational redistribution from workers to retirees.

In fact, it is worth bearing in mind that these trends in intergenerational redistribution have already begun to appear, as shown by two sets of data. The first is that, in the last 30 years in Europe, the disposable income of young adults (between 18 and 25 years of age) has fallen, for the first time, below the average income of the population as a whole. The elderly, meanwhile, have been the only age group to have seen an increase in their relative income. The second is that the percentage of elderly people living close to the poverty line in the EU has fallen from 20.3% to 14.6%, whilst on the other hand it has increased among all younger groups, which already have a higher percentage of people living close to the poverty line than those over the age of 65 (see second chart). These figures confirm the perception that certain problems related to intergenerational justice are already beginning to emerge, as a result of the difficulties young people are experiencing to join the labour market compared to older cohorts, who enjoy greater protection to cope with adverse economic shocks.

In short, the ageing of the population is a phenomenon that is here to stay and which brings with it a litany of profound changes in the preferences of society, how to organise the economy and how to redistribute resources between generations. The challenges will be arduous, but the good news is that we have older generations who are full of plans and vitality and who will undoubtedly contribute to converting the ageing of the population into an opportunity for our economies.

Javier Garcia-Arenas
CaixaBank Research

5. See G. López-Casasnovas (2015), «Envejecimiento y cambio de coordenadas demográficas. Algunas reflexiones acercas de su impacto con el gasto sanitario», Health Policy Papers Collection 2016-02.

KEY FIGURES

CAIXABANK GROUP
As of 30 September 2018

	MILLION €
Customer funds	363,621
Loans and advances to customers, gross	223,465
Profit attributable to Group, YTD	1,768
Market capitalisation	23,544
Customers (millions)	15,7
Employees	37,511
Branches	5,176
Retail branches in Spain	4,482
Number of ATMs in Spain	9,422

BPI
As of 30 September 2018

	MILLION €
Customer funds	33,153
Loans and advances to customers, gross	23,422
Profit attributable, YTD	529
Profit attributable to operations in Portugal, YTD	324
Customers (millions)	1.9
Employees	4,898
Branches	496
Number of ATMs	1,356

"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** *

* Of which €10 million are allocated to Portugal.

PUBLICATIONS

Through its publications, CaixaBank Research stimulates debate and the exchange of experiences among all sectors of society and promotes the dissemination of the major themes of the socio-economic environment of our time.
All publications are available at: **www.caixabankresearch.com**

MR MONTHLY REPORT

Analysis of the economic outlook for Spain, Portugal, Europe and at the international level, as well as of the trends in the financial markets, with specialised articles on topical subjects.

WEEKLY ECONOMIC PULSE

Report which analyses and interprets the most significant economic indicators published in the last seven days.

WORKING PAPERS

Collection which brings together the scientific research currently being performed by CaixaBank Research's economists.

SECTOR REPORT

Regular update on the major business sectors in Spain, based on the analysis of the main economic indicators and big data.

CIBI

Analysis of the strengths and weaknesses of 67 countries, for the purposes of determining their appeal to Spanish companies seeking to expand internationally.

COLECCIÓN COMUNIDADES AUTÓNOMAS

Strategic diagnosis which seeks to help to provide a better understanding of Spain's complex economic and territorial situation.

CÁTEDRA "LA CAIXA" ECONOMÍA Y SOCIEDAD

Master classes and lectures to promote reflection and debate on the major economic and social challenges of our time.

KEY ISSUES

Read online our latest articles on key issues related to the economy and the financial markets

This month we highlight:

Emerging economies at a crossroads: from expansion to uncertainty

- Financial upheaval in the emerging economies: a prelude to something else?
- Turkish financial crisis: in stoppage time

Brexit: chronicle of an unknown shock

- What will the future EU-UK relationship be like?
- Brexit, the road ahead

Oil prices: in search of equilibrium

- What is behind the rise in oil prices?
- Shale production: the end of the golden age?

The boom in Spanish exports and its spillovers

- Is Spain importing as much as it used to?
- Exports and the quality of employment