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MONTHLY REPORT • ECONOMIC AND FINANCIAL MARKET OUTLOOK

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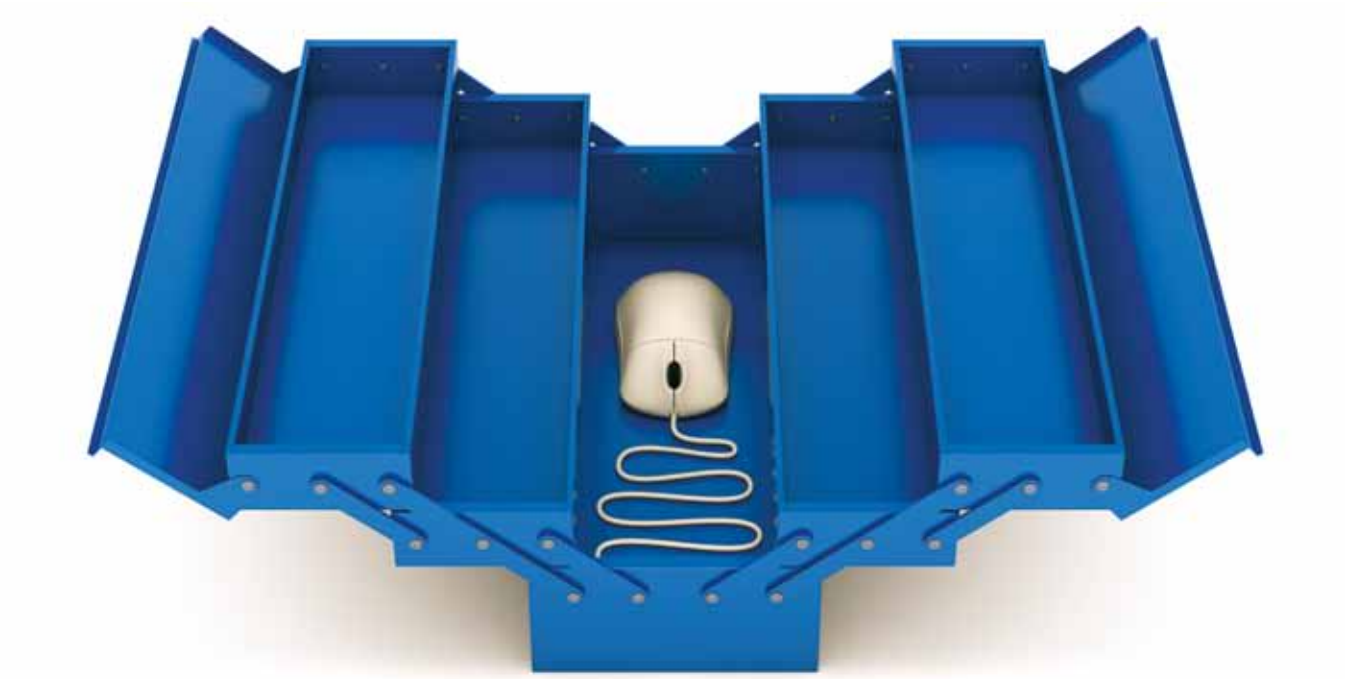

ECONOMIC & FINANCIAL ENVIRONMENT

DOSSIER: INDUSTRY 4.0

CaixaBank Research

MONTHLY REPORT - ECONOMIC AND FINANCIAL MARKET OUTLOOK
November 2016

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The future of industry

In the 20 years between 1995 and 2015, Spain's industry lost 15% of its jobs while the rest of the economy's sectors gained 37% more employment. But this phenomenon was not limited to Spain: deindustrialisation is having a widespread effect on advanced economies in general and in some, such as the US, it has been taking place for more than half a century.

Deindustrialisation is characterised by a combination of three factors: a reduction in industry employment, both in absolute and relative terms (in Spain the share of industrial employment went from 19.0% in 1995 to 12.7% in 2015); to a lesser extent a decrease in the sector's contribution of value-added to the total gross domestic product (from 19.5% to 16.4% for the same period in Spain) and, in contrast, an increase in the value-added contributed by the sector in real terms (+33% in the same 20 years and +56% per worker).

There are many different reasons for deindustrialisation but the fundamental cause is the fact that industry benefits more from technological progress than the other sectors as a whole. The automation or robotisation of processes boosts productivity so that much more can be made with less, which ends up displacing part of industry's employment to other sectors. In addition to this technological effect are other factors that also improve productivity, such as outsourcing certain services (for example, accounting) and offshoring part of the production to other countries, possible thanks to globalisation and the development of the emerging economies. With regard to demand, it has also been shown that, as economies develop, demand for services tends to grow more quickly than the demand for goods.

Although the origins of deindustrialisation lie in unmistakably positive factors such as improvements in productivity, it is also true that this phenomenon is often perceived with mistrust and unease. And for good reason. On the one hand because industry's loss of relative weight is also due, in part, to a number of obstacles that could be minimised with the right economic policies. And, on the other, because deindustrialisation does not benefit everyone (a worker who has lost their job is not consoled by the fact that the economy as a whole is growing).

Some propose deceptively simple recipes to minimise job losses and promote reindustrialisation, such as barriers to imports and direct subsidies for the sector. This is Donald Trump's approach, for example, but economic history is full of resounding failures by such policies, which have ended up encouraging corruption and inefficiency rather than sustainable development. Such an approach could also lead to an increase in protectionist measures at a global level and a decline in the world economy, as happed in the Great Depression.

Classic industrial policies, through which governments attempt to directly promote the development of certain industries, do not enjoy a good track record either. When it comes down to it, predicting which industries are more likely to expand successfully is no easy task.

A strategy that is not so simple but more effective involves taking measures in several areas: compensating those losing out to technological innovation and globalisation, for instance with training programmes and help in finding another job; having an educational system that is in line with industry's new requirements, such as modern professional training; promoting infrastructures that make complete sense from a cost-benefit point of view, such as the Mediterranean corridor, and redesigning those regulations that act as a brake on companies growing in size, which tend to hit the industrial sector particularly hard. It is no longer a question of positive discrimination for a sector; the aim should be, at the very least, not to penalise it.

Enric Fernández
Chief Economist
31 October 2016

CHRONOLOGY

OCTOBER 2016

29 Mariano Rajoy is sworn in as President of the Spanish government.

SEPTEMBER 2016

21 The Bank of Japan readjusts its ultra-expansionary monetary policy instruments in order to achieve a sharper interest rate curve.

AUGUST 2016

4 The Bank of England cuts its official interest rate to 0.25% and surprises by introducing more expansionary measures than expected.

JULY 2016

11 The Japanese Prime Minister, Shinzo Abe, approves a new package of fiscal stimuli.
27 The European Council annuls its fines on Spain and Portugal for not having taken effective measures to correct their excessive deficits and sets new budget targets.
29 The results of the EBA's stress tests are published.

JUNE 2016

23 The United Kingdom votes to leave the EU, causing huge turbulence in international markets.
26 Early general elections are held in Spain.
29 The ECB restores the eligibility of Greek sovereign debt as collateral in the central bank's regular financing operations and acknowledges the Greek government's commitment to applying the agreed adjustment measures.

MAY 2016

11 The Brazilian Senate temporarily suspends President Dilma Rousseff from office, intensifying the country's political instability.
18 The European Commission proposes new public deficit targets for Spain, whose approval is postponed to July together with the decision regarding the penalty for not meeting the 2015 deficit target.
24 The Eurogroup approves the first review of financial assistance for Greece and payment of the second tranche (10.3 billion euros). It also agrees to extend repayment dates and delay the payment of interest on public debt, but without providing any details.

AGENDA

NOVEMBER 2016

1-2 Fed Open Market Committee.
3 Registration with Social Security and registered unemployment (October).
7 Industrial production index (September).
13 Japan's GDP (Q3).
18 Loans, deposits and NPL ratio (September).
21 International trade (September).
24 Quarterly national accounts (Q3).
29 Flash CPI (November).
Central government budget execution (October).
Economic sentiment index of the euro area (November).
30 Balance of payments (September).

DECEMBER 2016

2 Registration with Social Security and registered unemployment (November).
5 Industrial production index (October).
8 Governing Council of the European Central Bank.
13 Fed Open Market Committee.
15-16 European Council.
16 Quarterly labour cost survey (Q3).
19 Loans, deposits and NPL ratio (October).
20 State budget execution (November).
22 International trade (October).
29 Household savings rate (Q3).
30 Flash CPI (December).
Balance of payments (October).
Net international investment position (Q3).

A situation of calm and good figures for the final part of the year

The global economy has embarked on the last quarter of the year with fewer sources of uncertainty. In the US, the good performance of the economy and the Fed's own communications have further boosted expectations of an interest rate hike in December, leading to an upswing in yields on public debt and stock market gains for the banking sector. Moreover, China's good growth figures have reduced the risks of a hard landing for the economy in the short-term although doubts are still present in the medium term. The world economy is therefore en route to ending 2016 with 3.1% growth and with the prospect of this rate speeding up in 2017 to 3.5%. Nevertheless, for these predictions to actually come about the global economy still needs to successfully handle some geopolitical risks (Brexit negotiations, the electoral calendar in Europe and political idiosyncrasies in Turkey, Brazil and Russia, among others), the growing level of global debt and the Fed's medium-term normalisation strategy.

The emerging economies are speeding up in the second half of the year, supported by China maintaining its growth rates, India's acceleration and improvements in Brazil and Russia (moving away from the most severe phase of their respective recessions). Specifically, the Chinese economy grew by 6.7% year-on-year in Q3 for the third consecutive quarter but there are still some underlying risks in spite of this good performance, particularly the sustainability of corporate debt and the country's real estate boom. In the opposite phase of the cycle, indicators for Brazil and Russia are pointing to some improvement in their respective economies although they will not be able to avoid posting negative growth rates for the year as a whole (CaixaBank Research forecasts –0.8% for Russia and –3.3% for Brazil for the whole of 2016).

The US and the euro area are following separate paths. In the US, GDP grew by 0.7% quarter-on-quarter in Q3, indicating an acceleration in the growth rate compared with the first half of the year. Meanwhile the euro area's GDP continued to advance slowly but surely, with 0.3% growth quarter-on-quarter, the same figure as in Q2. Although we predict that the US and the euro area will have grown at the same rate for the whole of 2016 (1.5% year-on-year), in the coming quarters the expansion of the US economy is expected to liven up (CaixaBank Research forecasts growth of 2.1% year-on-year in 2017). A slight slowdown is expected, however, for the euro area (1.3% year-on-year for 2017), in line with its lower growth potential and due to its economic tailwinds running out of steam (rising oil prices and less stimulus from monetary policy), as well as political uncertainty. Moreover, while the good tone of the labour market and the upswing in inflation in the US suggest, with increasing certainty, that the Fed will raise its fed funds rate in December, in the euro area the ECB has yet to provide any information on the future of its asset purchase programme, provisionally planned to end in March 2017. Although the euro area's inflation is recovering in line with expectations, the bulk of the evidence available suggests that, in the coming quarters, it will remain below the 2% target so the ECB is likely to announce an extension to its quantitative easing programme in December. However, it must accompany this announcement with technical adjustments to ensure the programme is implemented properly.

Spain continues to advance strongly. GDP growth for the Spanish economy slowed up slightly to 0.7% quarter-on-quarter in Q3, in line with the forecasts. With this good performance, and after growing by 0.8% quarter-on-quarter in Q1 and Q2, the Spanish economy is expected to advance by 3.2% year-on-year in 2016 as a whole, driven by domestic demand and growth in exports. Domestic demand is benefitting from the good tone of the labour market, which ended Q3 with a 2.7% rise in employment year-on-year and an unemployment rate of 18.9%, 1.1 pps below the figure for Q2. In the coming quarters the fact that the temporary factors boosting the economy will diminish (less fiscal stimuli and rising oil prices), this growth in economic activity will lessen slightly (2.4% for 2017). This will also help the transition towards a more balanced pattern of growth, favouring a gradual reduction in net external debt. In spite of this positive environment, however, the public deficit is being corrected very slowly. The budget executed so far reflects an insufficient adjustment in the public accounts although the recently approved corporation tax reform should correct this trend and help to achieve the deficit target of 4.6% of GDP in 2016. With a view to 2017 the new budget, which is an extension of the 2016 budget, suggests that the reduction in the deficit will be supported by the economy's good performance but also highlights the need for the new government to present a revised budget including further adjustment measures to achieve the target agreed with the European Commission (3.1%).

FORECASTS

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

International economy

	2014	2015	2016	2017	2016 Q1	2016 Q2	2016 Q3	2016 Q4	2017 Q1	2017 Q2
GDP GROWTH										
Global	3.4	3.2	3.1	3.5	3.0	3.1	3.1	3.1	3.4	3.5
Developed countries	*1.9*	*2.1*	*1.5*	*1.7*	*1.5*	*1.5*	*1.6*	*1.5*	*1.6*	*1.7*
United States	2.4	2.6	1.5	2.1	1.6	1.3	1.5	1.8	2.1	2.3
Euro area	1.2	1.9	1.5	1.3	1.7	1.6	1.6	1.3	1.1	1.2
Germany	1.6	1.5	1.8	1.4	1.8	1.7	1.8	1.7	1.3	1.3
France	0.7	1.2	1.3	1.0	1.4	1.3	1.1	1.2	0.8	1.2
Italy	0.2	0.6	0.9	0.8	0.9	0.7	0.9	0.9	0.7	0.9
Spain	1.0	3.2	3.2	2.4	3.4	3.4	3.2	2.9	2.7	2.4
Japan	–0.1	0.6	0.6	1.0	0.1	0.8	0.5	1.1	0.9	1.0
United Kingdom	3.1	2.2	1.8	0.5	1.9	2.1	2.3	1.0	0.6	0.1
Emerging countries	*4.6*	*4.0*	*4.2*	*4.7*	*4.1*	*4.2*	*4.2*	*4.2*	*4.7*	*4.7*
China	7.3	6.9	6.6	6.3	6.7	6.7	6.7	6.5	6.5	6.5
India [1]	7.2	7.6	7.4	7.6	7.9	7.1	7.4	7.4	7.5	7.6
Indonesia	5.0	4.8	5.1	5.4	4.9	5.2	5.2	5.3	5.3	5.4
Brazil	0.1	–3.8	–3.3	1.1	–5.4	–3.8	–2.7	–1.3	0.5	1.2
Mexico	2.2	2.5	2.2	2.5	2.4	2.5	2.0	2.0	2.2	2.4
Chile	1.9	2.3	1.7	2.0	2.2	1.5	1.7	1.5	1.8	1.9
Russia	0.7	–3.7	–0.8	1.3	–1.2	–0.6	–0.7	–0.6	1.0	1.3
Turkey	3.1	3.9	3.2	2.9	4.7	3.1	2.7	2.4	2.2	2.7
Poland	3.3	3.6	3.3	3.5	3.4	3.3	3.3	3.4	3.6	3.6
South Africa	1.7	1.2	0.5	1.3	–0.5	0.7	0.9	1.0	1.1	1.2
INFLATION										
Global	3.2	2.8	2.8	3.3	2.9	2.8	2.7	2.9	3.2	3.3
Developed countries	*1.4*	*0.3*	*0.7*	*1.7*	*0.6*	*0.6*	*0.7*	*1.1*	*1.7*	*1.7*
United States	1.6	0.1	1.2	2.2	1.1	1.0	1.1	1.6	2.3	2.1
Euro area	0.4	0.0	0.2	1.4	0.0	–0.1	0.3	0.7	1.4	1.4
Germany	0.8	0.1	0.3	1.6	0.1	0.0	0.4	0.7	1.5	1.5
France	0.6	0.1	0.3	1.5	0.0	0.1	0.4	0.7	1.4	1.4
Italy	0.2	0.1	0.0	1.2	0.0	–0.3	–0.1	0.5	1.2	1.2
Spain	–0.1	–0.5	–0.3	1.8	–0.7	–0.9	–0.2	0.8	2.1	1.9
Japan	2.8	0.8	–0.2	0.8	0.0	–0.3	–0.5	0.0	0.7	0.6
United Kingdom	1.5	0.1	0.6	2.1	0.3	0.3	0.7	1.2	1.9	2.0
Emerging countries	*4.7*	*4.7*	*4.4*	*4.4*	*4.7*	*4.5*	*4.3*	*4.2*	*4.3*	*4.4*
China	2.0	1.4	2.0	2.0	2.1	2.1	1.7	2.0	1.5	2.0
India	6.6	4.9	5.1	5.4	5.3	5.7	5.1	4.2	5.8	5.4
Indonesia	6.4	6.4	3.7	4.5	4.3	3.5	3.0	3.9	4.1	4.8
Brazil	6.3	9.0	8.8	6.5	10.2	9.2	8.7	7.3	6.7	6.5
Mexico	4.0	2.7	2.9	3.2	2.7	2.6	2.8	3.4	3.3	3.2
Chile	4.4	4.3	4.0	3.2	4.6	4.2	3.8	3.3	3.0	3.1
Russia	7.8	15.5	7.2	5.7	8.3	7.3	6.8	6.1	5.7	5.8
Turkey	8.9	7.7	7.8	7.0	8.6	6.9	8.0	7.5	7.4	7.2
Poland	0.2	–0.9	–0.6	1.7	–0.8	–0.9	–0.7	0.2	1.3	1.5
South Africa	6.1	4.6	6.4	5.9	6.5	6.2	6.0	6.8	6.1	5.5

Note: *1. Annual figures represent the fiscal year.*

Forecasts

Spanish economy

	2014	2015	2016	2017	2016 Q1	2016 Q2	2016 Q3	2016 Q4	2017 Q1	2017 Q2
Macroeconomic aggregates										
Household consumption	1.5	2.8	3.3	2.3	3.7	3.5	3.0	2.9	2.4	2.4
General government consumption	0.2	2.0	1.2	1.0	2.0	0.7	1.3	0.9	0.6	1.6
Gross fixed capital formation	1.0	6.0	3.9	3.1	4.9	3.7	3.5	3.3	3.2	2.8
Capital goods	10.7	10.1	6.8	3.0	9.3	7.8	5.7	4.4	4.2	2.4
Construction	–4.7	4.9	2.5	3.2	3.1	2.1	2.2	2.6	2.8	3.0
Domestic demand (contr. Δ GDP)	1.4	3.5	3.0	2.1	3.6	3.0	2.6	2.6	2.0	2.2
Exports of goods and services	4.2	4.9	6.0	5.0	4.3	7.2	5.8	6.7	7.1	4.4
Imports of goods and services	6.1	5.6	5.7	4.4	5.9	6.4	4.9	5.5	5.5	4.2
Gross domestic product	**1.0**	**3.2**	**3.2**	**2.4**	**3.4**	**3.4**	**3.2**	**2.9**	**2.7**	**2.4**
Other variables										
Employment	1.1	3.0	2.8	2.1	3.1	2.7	2.7	2.5	2.0	2.3
Unemployment rate (% labour force)	24.4	22.1	19.7	18.2	21.0	20.0	18.9	19.0	19.3	18.2
Consumer price index	–0.1	–0.5	–0.3	1.8	–0.7	–0.9	–0.2	0.8	2.1	1.9
Unit labour costs	–0.3	0.2	–0.2	0.6	–0.3	–0.3	–0.3	0.0	–0.2	0.5
Current account balance (cum., % GDP)[1]	1.1	1.4	2.0	1.8	1.4	1.8	1.9	2.0	2.0	1.9
Net lending or borrowing rest of the world (cum., % GDP)[1]	1.6	2.0	2.6	2.4	2.1	2.4	2.5	2.6	2.6	2.5
Fiscal balance (cum., % GDP)[2]	–5.8	–5.0	–4.6	–3.8						

Financial markets

INTEREST RATES										
Dollar										
Fed Funds	0.25	0.26	0.52	1.06	0.50	0.50	0.50	0.58	0.83	1.00
3-month Libor	0.23	0.32	0.75	1.44	0.62	0.64	0.79	0.95	1.14	1.34
12-month Libor	0.56	0.79	1.38	2.03	1.17	1.25	1.46	1.64	1.80	1.95
2-year government bonds	0.44	0.67	0.82	1.63	0.85	0.77	0.72	0.95	1.22	1.49
10-year government bonds	2.53	2.13	1.76	2.42	1.92	1.75	1.56	1.84	2.07	2.30
Euro										
ECB Refi	0.16	0.05	0.01	0.00	0.03	0.00	0.00	0.00	0.00	0.00
3-month Euribor	0.21	–0.02	–0.26	–0.21	–0.19	–0.26	–0.30	–0.30	–0.28	–0.25
12-month Euribor	0.48	0.17	–0.03	0.05	0.01	–0.02	–0.05	–0.06	–0.03	0.01
2-year government bonds (Germany)	0.05	–0.24	–0.55	–0.24	–0.46	–0.52	–0.64	–0.56	–0.43	–0.34
10-year government bonds (Germany)	1.23	0.53	0.09	0.71	0.30	0.12	–0.12	0.06	0.24	0.51
EXCHANGE RATES										
$/€	1.33	1.11	1.11	1.06	1.10	1.13	1.12	1.10	1.07	1.06
¥/€	140.40	134.33	118.58	114.76	127.05	121.91	114.26	111.09	111.27	113.42
£/€	0.81	0.73	0.83	0.89	0.77	0.79	0.85	0.91	0.91	0.89
OIL										
Brent ($/barrel)	99.45	53.61	46.01	59.32	35.72	47.35	47.49	53.51	56.17	58.57
Brent (€/barrel)	74.54	48.30	41.39	55.83	32.38	41.94	42.57	48.65	52.50	55.25

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

Forecasts

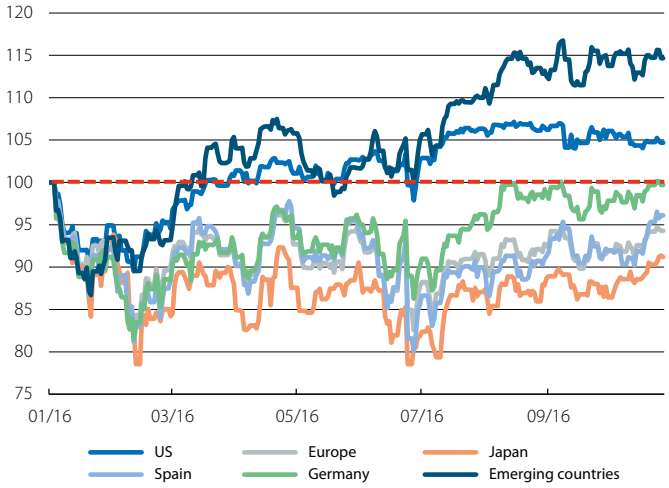
FINANCIAL OUTLOOK · Interest rates and inflation expectations on the rise, stock markets on hold

Markets remain calm in a complex environment. The main focuses of attention are still the monetary policy actions that will be carried out by the main central banks in the short and medium term; political risks; the strength of the macroeconomic situation and the resilience of Europe's banks. The last month has seen positive signs on each of these fronts, albeit to a greater or lesser extent. The market is digesting the more than likely fed funds rate hike in December without any huge problems. Moreover, the rise in sovereign yields this hike will bring about is benefiting bank share prices, which made considerable gains in October. On the macroeconomic front, the figures published have tended to reinforce a scenario of acceleration in the emerging and US economies, in line with the forecasts by CaixaBank Research. Nevertheless the risks remain relatively high, also on all these fronts. In the short term, and in the political sphere, all eyes are on the outcome of the US elections and Italy's referendum; while as far as monetary policy is concerned the market is anxiously awaiting the ECB's meeting in December, when it will have to decide whether to extend its quantitative easing programme (QE) in the euro area.

The ECB is keeping quiet about the future of QE until December. The meeting last 20 October of the Governing Council (GC) of the ECB did not provide any significant news and the parameters of the ECB's monetary policy remained unaltered: the refi rate held steady at 0.0%, the marginal lending facility rate stayed at 0.25% and the deposit facility rate at –0.4%. However, investors' attention focused on the adjustments that might be announced in QE. Officially QE will continue until March 2017 but the bulk of the evidence available suggests this will be extended. The question was, and still is, how long and with which tools. Specifically, Mario Draghi stated that the GC had not discussed any prolongation of the programme but acknowledged that it would continue to assess possible adjustments to ensure appropriate implementation up to March 2017, or beyond if necessary. He also noted that he believed an abrupt halt to asset purchases was unlikely. Lastly, he pointed out another element that could influence the decision to extend QE, namely the updated economic forecasts carried out by the ECB in December. The baseline scenario maintained by the markets is still an extension to the programme although there is a lot of uncertainty regarding how this will be done and for how long. Given this situation, the next GC meeting, set for 8 December, has been highlighted on the agendas of all market analysts and agents and, whatever the decision taken by the ECB, it will have to be explained in great detail so as not to damage the authority's credibility and bring about another upswing in volatility.

Main international stock markets

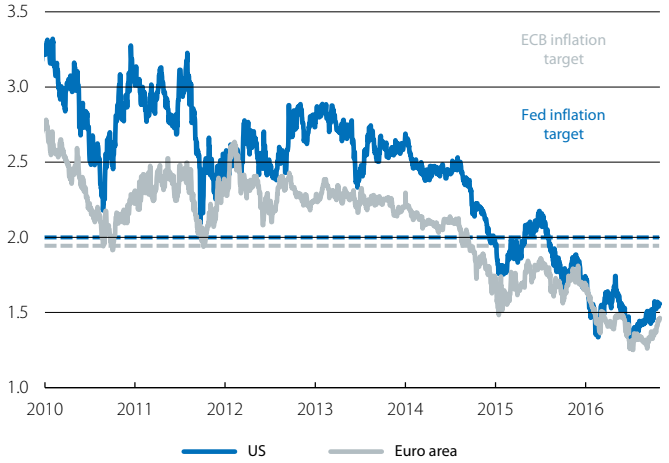
Index (100 = January 2016)



Source: *CaixaBank Research, based on Bloomberg data.*

*Inflation expectations: * US and euro area*

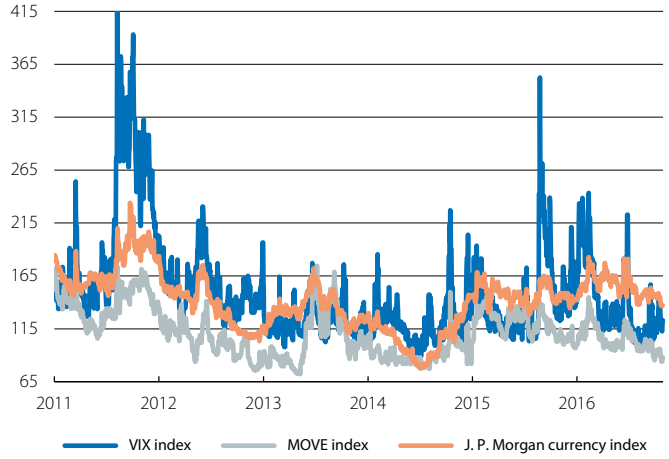
(%)



Note: ** Inflation Swap Forward 5Y5Y.*
Source: *CaixaBank Research, based on Bloomberg data.*

Implied volatility: equity, public debt and currencies

Index (100 = January 2007)



Source: *CaixaBank Research, based on Bloomberg data.*

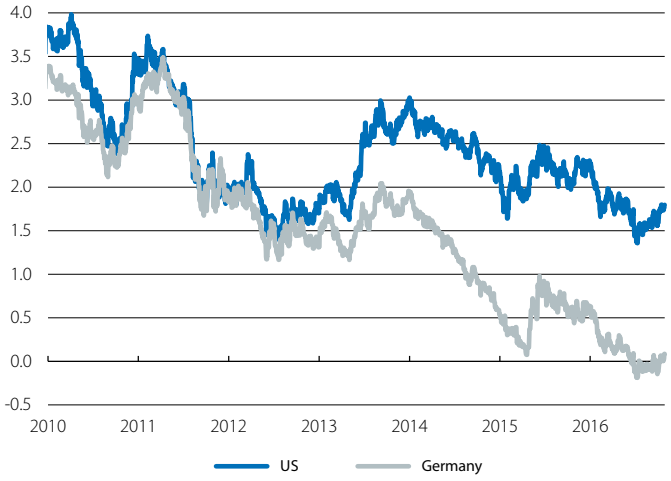
Meanwhile the Fed is duly preparing the market in advance for its next interest rate hike in December. The winds are blowing in the Fed's favour as all indicators support another hike. Both business indicators and those for prices point to inflation continuing to rise over the coming months and this has helped inflation expectations to recover notably in the last few weeks. Given such indicators, the Fed is allowing the market to adjust asset prices assuming the next interest rate hike will be in December. Moreover, the market is also pricing the Fed's greater tolerance of a possible upswing in inflation. All this is pushing up sovereign debt yields and the return on US bonds rose by 23 bps in October to 1.83%. The recovery in the monetary market is also considerable although in this case part of the increase in yields is also due to certain technical adjustments in how this market operates. As is customary, the change in expectations regarding the Fed's actions is also affecting assets in the euro area with increases in yields on bonds and the European monetary market, albeit to a lesser extent. For example, the German 10-year bond stood at 0.16% while the 12-month Euribor rate rose to –0.07%. The other side of the coin has been the drop in bond indices, in particular those with longer maturities. In the US and in the euro area, the indices for sovereign bonds with maturities between 1 and 10 years lost 0.65% last month on average while those with maturities longer than 10 years, which are more sensitive to interest rate changes, have fallen by 4%.

Equity is benefitting from the improved macroeconomic environment and a good earnings season. Regarding this last factor, it should be noted that, in general, the earnings reported by the main US and European firms have been higher than expected. Specifically, the earnings of the 276 S&P 500 companies that have published their accounts posted a year-on-year increase of 3.4%. In Europe, where almost half the Eurostoxx companies have reported their Q3 earnings, profits were up by 33%, thanks especially to the strong improvement in the consumer sector and the good performance by banks. Eurostoxx increased by 1.1% in the month of October. The improved returns for the banking sector are largely due to steeper sovereign curves as this is expected to have a positive effect on the industry's margins. The S&P 500 Banks subindex posted a rise of 4.7% in October while the gain made by its European peer was 12.8%.

The credit market remains stable. This situation can be seen on both sides of the Atlantic and in different types of assets. For example, CDS premia, both investment grade and high yield corporate bonds, have moved sideways without any huge fluctuations. Without doubt one of the main factors underlying this pattern is the belief that the monetary policy of the main central banks will remain highly accommodative for a long period of time. Given this situation, one of the surprises in the last few months has been the slowdown in the rate of issuances in euros. This is partly due to the upswing

Yields on 10-year public debt

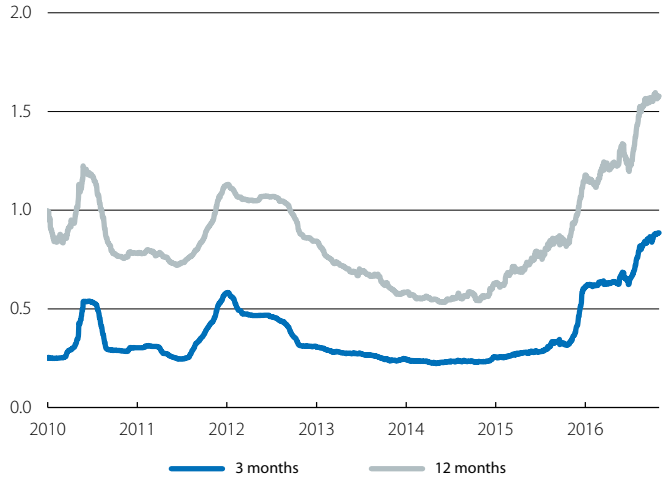
(%)



Source: *CaixaBank Research, based on Bloomberg data.*

Interbank rates: Libor in dollars

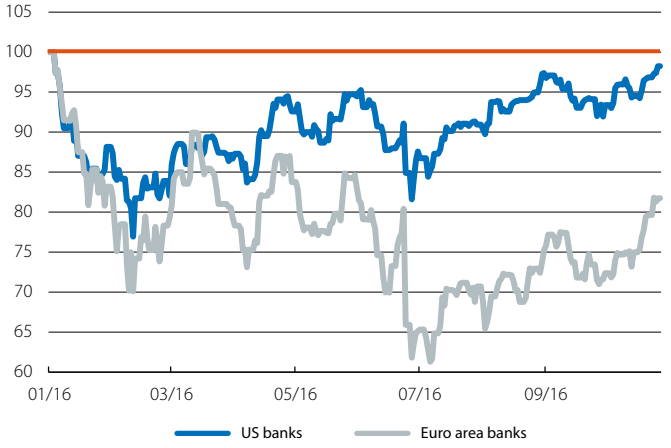
(%)



Source: *CaixaBank Research, based on Bloomberg data.*

Banking sector: US and euro area

Index (100 = January 2016)



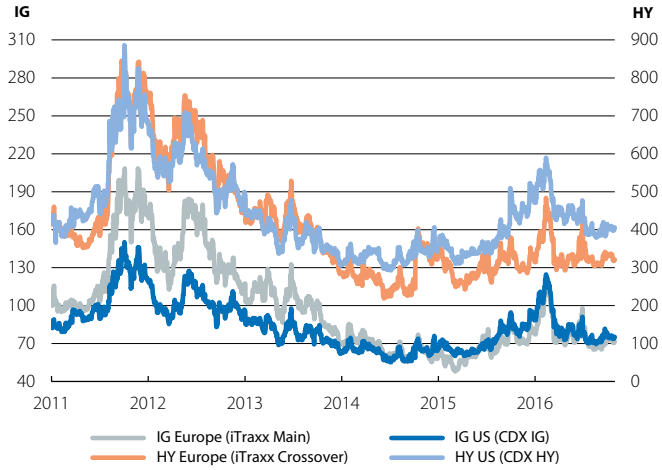
Source: *CaixaBank Research, based on Bloomberg data.*

in political uncertainty in the euro area and is therefore seen as a temporary phenomenon as the ECB's monetary policy will continue to be highly accommodative in the coming quarters. Nevertheless, apart from favourable financial conditions, the crucial element still lacking for any sustained improvement in the credit market is a more vigorous recovery in corporate investment which, to date, is still more tentative than usual. In this respect, of note is the good trend posted by corporate investment in the US in Q3, with 0.3% growth quarter-on-quarter in real terms, a figure that has encouraged investors to a certain extent.

Emerging markets are taking a break in their upsurge. The MSCI Emerging Markets index only advanced by 0.2% in October but from January to October this year it has already accumulated an increase of 14%. As described in more detail in the Focus «Stock markets in the emerging countries: the turn of domestic factors» in this *Monthly Report*, two factors are driving the emerging markets. On the one hand, the Fed maintaining its expansionary monetary policy (compared with what had been expected a few months ago). The second factor is the improvement in macroeconomic conditions. The first factor is expected to disappear in the next few months. In fact, the sovereign yields of the main emerging countries have seen a slight upswing in the last few weeks, as will probably be the case for the yields on corporate bonds in the next few months, although these are still stable at present. The big question is whether the second factor can take over from the first. This should be the case according to CaixaBank Research forecasts and those of analysts on the whole, but the risks are high. At any rate, it must be remembered that the emerging bloc is still highly heterogeneous. On its weaker side we find countries such as Brazil and Russia which are still in recession, although they are now starting to see some light at the end of the tunnel. China is in the middle, immersed in the process of changing its production model, involving a gradual slowdown in growth, but the underlying risks are still significant (real estate boom, corporate debt, etc.). On the positive side is India, which is enjoying an enviable growth rate in excess of 7%.

Europe and US: CDS premia by credit rating

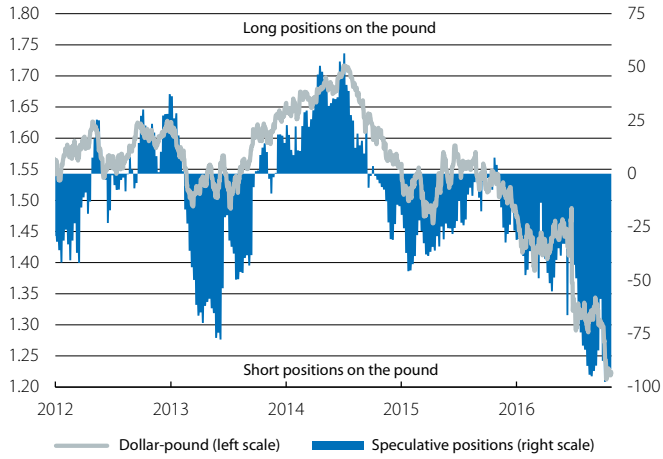
(bps)



Source: *CaixaBank Research, based on Bloomberg data.*

Currencies: speculative positions on the dollar-pound exchange rate

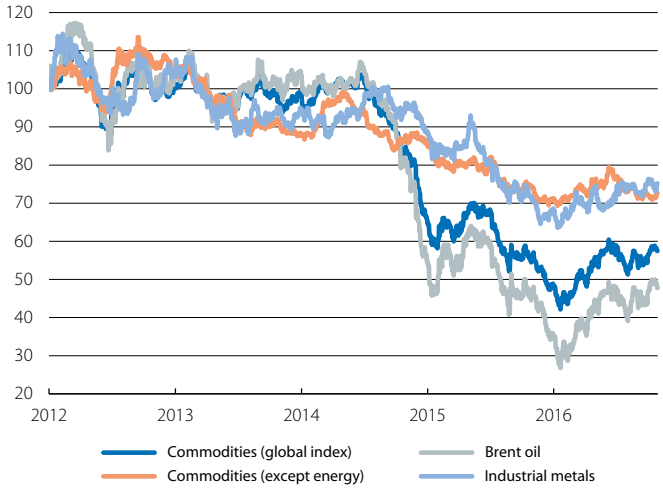
(Dollars per euro) *(Thousands of contracts)*



Source: *CaixaBank Research, based on Bloomberg data.*

Commodities

Index (100 = January 2012)



Source: *CaixaBank Research, based on Bloomberg data.*

FOCUS · Stock markets in the emerging countries: the turn of domestic factors

The main index representing the emerging stock markets recorded a 16% rise between January and October this year in spite of the dramatic fall observed in the first month of the year. This figure contrasts with the meagre 3% gain in developed stock markets. Numerous voices have doubted this resurgence in emerging stock markets with the main argument that the Federal Reserve (Fed) will soon restart its interest rate hikes. There is no doubt that this is a fundamental factor but it is not the only one nor necessarily the most important.

When examining the trends in emerging equity markets, and in order to understand the dynamics of the capital flows towards these countries in general, it is very useful to distinguish between two types of determining factors. On the one hand, push factors: forces of global scope that cause an impact from outside the emerging markets, such as global risk aversion or interest rate levels in developed economies. On the other hand there are pull factors: those attributes of the emerging countries that affect investor decisions, such as macroeconomic fundamentals and geopolitical risks.

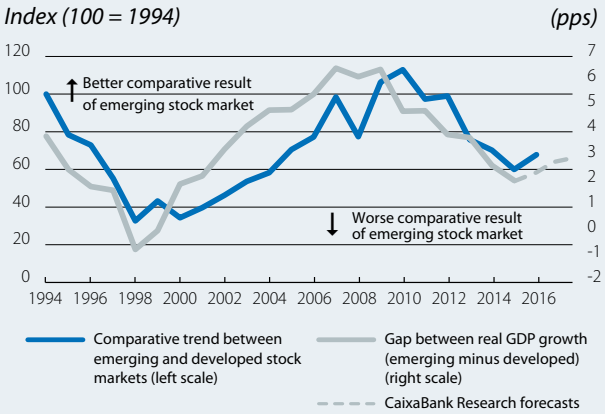
At the beginning of the year, both push and pull factors combined to hit emerging assets hard. The rise in global risk aversion fuelled by renewed doubts regarding China's economy was the main trigger for widespread stock market losses which were particularly pronounced in the emerging economies. This was further aggravated by the fact that such markets were already facing an adverse external environment since the Fed had begun to normalise interest rates in December 2015; all this within a worryingly fragile context in terms of the economies and internal policies of several emblematic countries such as Brazil, South Africa and Turkey.

Since then, the sharp gains made by emerging stock markets have mainly been supported by push factors. On the one hand, the Fed has reconsidered its plans to raise interest rates. At the end of 2015 it was intending to carry out four hikes of 0.25 points in 2016 and several more in 2017, while now it is only considering one more hike before the year ends and just two or three next year. This more accommodative monetary tone has fuelled a phenomenon known as the «search for yield». In fact, the prospect of an environment of low and even negative interest rates for a prolonged period of time is good news for emerging assets since a substantial reduction in risk-free yields makes riskier assets more attractive. The solid recovery in commodity prices during these months, in particular the 80% rise in oil, has also been an important support for emerging equity.

These two tailwinds are now easing and are unlikely to continue driving the emerging stock markets with the same intensity. Certainly the expectations now being revealed by investors regarding the Fed's hikes (and also regarding the ECB's bond purchases) are unlikely to err on the side of caution and such an extra boost seems improbable. In fact, the opposite scenario is beginning to appear: faster than expected interest rate hikes in the US, which could be motivated by an upswing in inflation and would result in a notable rise in long-term interest rates in developed countries and strong appreciation of the dollar; a recipe for capital outflows and stock market losses in the emerging economies. Nonetheless, this risk is low at present and a scenario of slow rises is more plausible, so that the search for yield should continue to moderately benefit emerging stock markets, at least in the short term.

Beyond the fluctuations which will surely appear as a result of the Fed's actions, or any outbreaks of risk aversion for economic reasons (doubt still hover over China) or political reasons (there is a very full electoral agenda worldwide), the outlook for the emerging stock markets now depends on pull factors and these are moderately positive. The relative improvement in growth for the emerging bloc compared with the developed economies should act as the driving force for the emerging stock markets (see the graph). In any case, selectivity seems crucial, even more than ever as the emerging markets constitute an increasingly less homogeneous bloc, as shown by the contrast between the economic strength of several emerging countries (in particular India and Indonesia) and the uncertainty that still hovers over the future of other developing countries (such as Brazil, Turkey and Russia).

Emerging and developed countries: GDP and stock markets



Note: *The figure for the comparative trend between emerging and developed stock markets in 2016 corresponds to the value at 25 October 2016.*
Source: *CaixaBank Research, based on Bloomberg data.*

FOCUS · The IMF's keys to global financial stability in the medium term

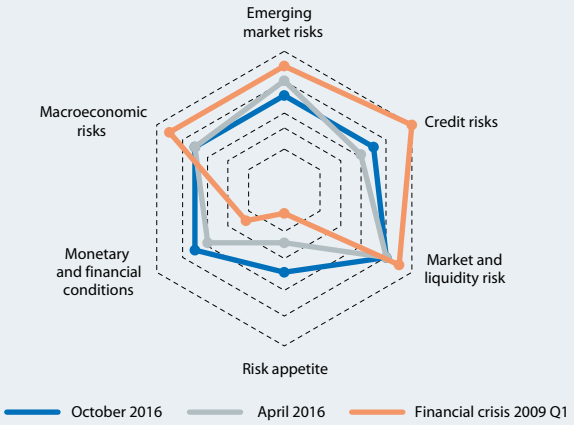
Just a few days ago the International Monetary Fund (IMF) published its latest Global Financial Stability Report. In this report the institution systematically and exhaustively analyses the trends and state of different markets, as well as providing a future projection which reviews the keys risks facing the global financial system. The panorama outlined on this occasion has both positive and negative aspects. First of all, the IMF believes that the overall health of the global financial system has improved and that risks have abated, at least slightly. It notes the progress made in terms of cohesion and confidence in safety nets which has helped markets to adjust to Brexit concerns relatively smoothly and avoid potential spillovers. Nevertheless it stresses the possible adverse consequences of two challenging issues: the low level of both growth and interest rates and the high level of leveraging in emerging countries.

The IMF points to several reasons for the persistent drop in interest rates. Not only have short-term interest rate expectations declined significantly but central banks' bond purchases have also narrowed the spread between short and long-term rates, known as the term premium. This situation may also have been caused by the higher demand for long duration assets by pension funds and insurance companies, as well as by the increase in demand for safe assets in general. One important consequence of these flatter yield curves, which the report does not examine in detail on this occasion, is the pressure on prices for different financial and real assets. This can make it difficult for investors to estimate the different risk premia incorporate within such assets and thereby adjust the return-risk ratio of their portfolios. According to the IMF, the slowdown in global average growth (2.1% since 2008 compared with 3.0% between 1982 and 2008), persistent low inflation and increased uncertainty have resulted in a long period of low interest rates and low yields on assets as a whole. This scenario produces a dangerous effect: it gradually erodes the capital and solvency buffers which banks have worked so hard to establish over the last few years, especially because it reduces interest margins. The report notes that a continued decrease in the profitability of financial intermediaries could end up deteriorating the provision of credit. According to calculations made by the report, the situation of the financial sector will not be resolved via a cyclical recovery in the economy but needs structural reforms. It does acknowledge, however, that progress has been made and also suggests some actions that should be taken in the future: revising the legal framework to handle non-performing loans more readily (and/or addressing recapitalisation processes that are not financed by taxpayers), rationalising banks so that only the most operationally efficient remain in the sector and taking measures to be able to handle a more competitive environment due to changes in technology (fintech) and consumer habits.

On a more optimistic note, the report believes that the emerging economies now have the opportunity to resolve their high leverage levels, especially regarding corporate debt. The IMF refers to the upswing in flows of financial investment received by these economies, notably improving corporate bond yields. This is creating an appropriate environment to carry out the work of corporate deleveraging, which would also create positive externalities since almost 80% of corporate debt is on the balance sheets of banks in the respective countries, thereby improving their solvency.

In conclusion, the IMF's diagnosis states that the foundations for global financial stability have improved to some extent but predicts a lengthy period of painful convalescence for the banking sector in developed countries, as well as prescribing a quick therapy for the emerging countries to redress their corporate balance sheets.

Global financial stability: risks and conditions



Source: *CaixaBank Research, based on IMF data.*

KEY INDICATORS

Interest rates (%)

	31-Oct	30-Sep	Monthly change (bps)	Year-to-date (bps)	Year-on-year change (bps)
Euro area					
ECB Refi	0.00	0.00	0	–5.0	–5.0
3-month Euribor	–0.31	–0.30	–1	–18.2	–24.5
1-year Euribor	–0.07	–0.06	–1	–13.0	–17.7
1-year government bonds (Germany)	–0.69	–0.65	–4	–31.2	–34.0
2-year government bonds (Germany)	–0.62	–0.68	6	–27.5	–30.5
10-year government bonds (Germany)	0.16	–0.12	28	–46.9	–35.7
10-year government bonds (Spain)	1.20	0.88	32	–57.1	–47.2
10-year spread (bps) [1]	104	100	4	–10.6	–11.9
US					
Fed funds	0.50	0.50	0	0.0	25.0
3-month Libor	0.88	0.85	3	26.7	54.6
12-month Libor	1.58	1.55	3	40.2	71.2
1-year government bonds	0.64	0.59	5	4.3	31.9
2-year government bonds	0.84	0.76	8	–20.8	11.6
10-year government bonds	1.83	1.59	24	–43.9	–31.2

Spreads corporate bonds (bps)

	31-Oct	30-Sep	Monthly change (bps)	Year-to-date (bps)	Year-on-year change (bps)
Itraxx Corporate	73	73	0	–4.3	2.0
Itraxx Financials Senior	97	101	–4	20.3	27.7
Itraxx Subordinated Financials	223	242	–19	66.9	75.0

Exchange rates

	31-Oct	30-Sep	Monthly change (%)	Year-to-date (%)	Year-on-year change (%)
$/€	1.098	1.124	–2.3	1.1	–0.2
¥/€	115.100	113.920	1.0	–11.9	–13.3
£/€	0.897	0.866	3.6	21.7	25.7
¥/$	104.820	101.350	3.4	–12.8	–13.1

Commodities

	31-Oct	30-Sep	Monthly change (%)	Year-to-date (%)	Year-on-year change (%)
CRB Commodity Index	403.6	402.4	0.3	7.7	2.1
Brent ($/barrel)	46.7	47.7	–2.1	30.6	–2.0
Gold ($/ounce)	1,277.3	1,315.8	–2.9	20.3	11.8

Equity

	31-Oct	30-Sep	Monthly change (%)	Year-to-date (%)	Year-on-year change (%)
S&P 500 (USA)	2,126.2	2,168.3	–1.9	4.0	2.3
Eurostoxx 50 (euro area)	3,055.3	3,002.2	1.8	–6.5	–10.6
Ibex 35 (Spain)	9,143.3	8,779.4	4.1	–4.2	–11.8
Nikkei 225 (Japan)	17,425.0	16,449.8	5.9	–8.5	–8.7
MSCI Emerging	905.1	903.5	0.2	14.0	6.8
Nasdaq (USA)	5,189.1	5,312.0	–2.3	3.6	2.7

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

ECONOMIC OUTLOOK · The emerging countries are driving the global economy in the second half of 2016

The global economy is en route to recording 3.1% growth in 2016 and 3.5% in 2017. The acceleration of the emerging economies in the second half of 2016 will support the improvement in global growth throughout the coming quarters. The aggregate index of economic growth produced by the Institute of International Finance points to growth rates of 4.5% (annualised quarter-on-quarter) for the emerging economies as a whole compared with the more moderate 3.5% recorded at the start of 2016. The still significant growth rates in China, the acceleration in India and the improvement in Brazil and Russia (now moving away from the most severe phase of their respective recessions) all support this scenario.

The IMF maintains its global growth forecasts but warns of political risks. Given this situation, in its «World Economic Outlook» in October (WEO) the Fund kept its forecasts for world economic growth unaltered: namely 3.1% in 2016 and 3.4% in 2017 (a scenario in line with the CaixaBank Research forecasts). The main risks according to the international institution are of a political nature, particularly the shift towards protectionist policies and populist measures. Risks of a macrofinancial nature (such as financial volatility and capital flows towards the emerging countries), as well as concerns regarding China's capacity to avoid a hard landing, are still present but have once again become slightly less prominent.

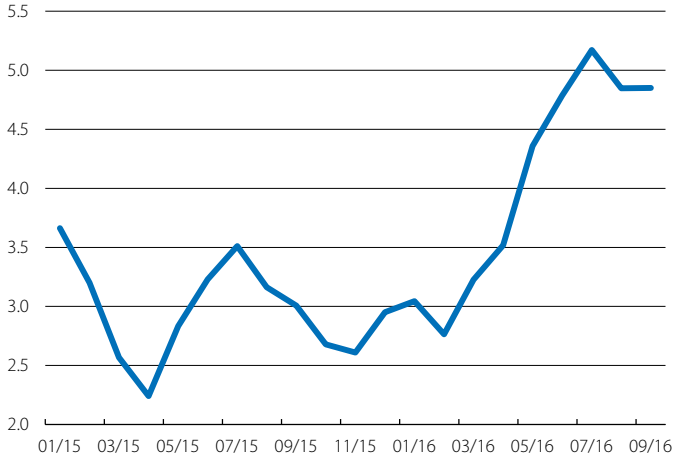
UNITED STATES

Good GDP figures for Q3. The US economy grew by 0.7% quarter-on-quarter in 2016 Q3 (1.5% year-on-year), faster than the more moderate growth rates recorded in the first half of 2016 (0.3% quarter-on-quarter on average). On the side of demand, this improved figure was largely due to strong growth in exports and the positive contribution made by inventories after five quarters of negative contributions. Private consumption, which represents close to 70% of GDP, also continued to record significant growth and corporate investment started to show signs of improvement (+0.3% quarter-on-quarter in Q3 compared with –0.3% on average in the first half of the year). As a whole, growth for Q3 is in line with the CaixaBank Research forecasts, so we have not altered the annual growth figure predicted for 2016 of 1.5%, or the 2.1% forecast for 2017.

Beyond the GDP figures for Q3, business indicators also improved substantially in September and October after the weakness shown in August. This dispelled some of the

Emerging countries: growth index

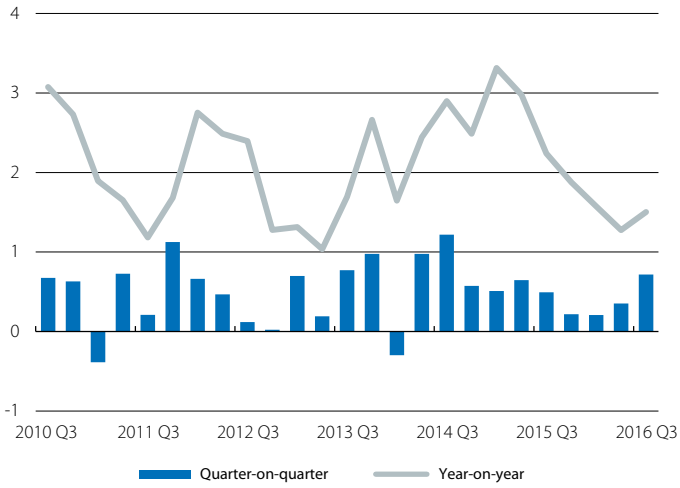
Annualised quarter-on-quarter change (%)



Source: *CaixaBank Research, based on data from the Institute of International Finance (EM Growth Tracker).*

US: GDP

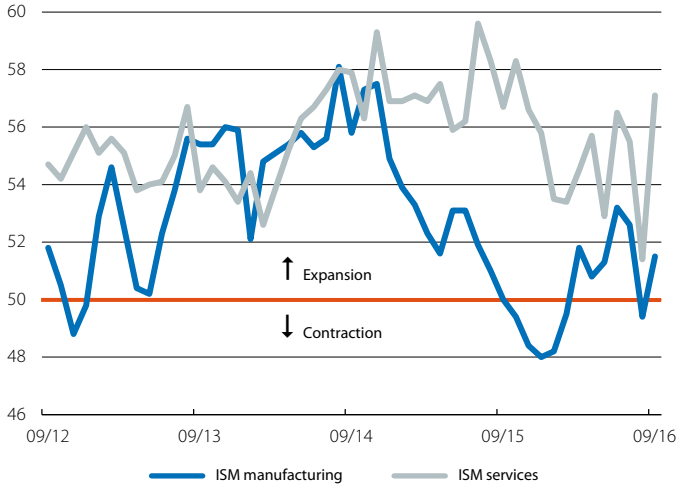
Quarter-on-quarter and year-on-year change (%)



Source: *CaixaBank Research, based on data from the BEA.*

US: activity indicators

Level



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

doubts hovering over the US economy's capacity to advance. The (ISM) business sentiment index for manufacturing rose to 51.5 points, leaving behind the poor figure posted in August which was below the 50-point threshold (49.4). Meanwhile the similar index for services climbed to 57.1 points (51.4 the previous month), posting the largest month-on-month increase for the series. The Conference Board consumer confidence index stood at 98.6 points in October; although below September's post-crisis peak (103.5) it is still above the historical average, confirming the strength of private consumption as the mainstay of the country's economic growth.

The labour market continues to post healthy figures, supporting the dynamism in consumption and justifying the Fed's second fed funds hike. 156,000 jobs were created in September, bringing the monthly average for the year to date to 178,000. Unemployment remained at a subdued 5.0% and wages continued to post significant growth (2.6% year-on-year). Given this situation, inflation continued to recover: headline inflation stood at 1.5% in September, 0.4 pps above the previous month's figure (the highest since October 2014). Undoubtedly this recovery and the solidity of the labour market justify the Fed continuing to raise the fed funds rate, an action which began in December 2015. Nonetheless the process of monetary normalisation will be very gradual (more than expected a few months ago), with hikes of between 0.50 and 0.75 pps per year in 2017 and 2018.

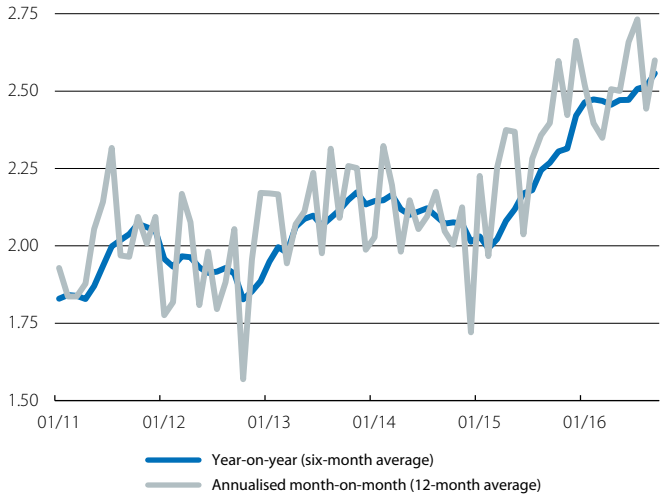
In the longer term, the reduction in the growth potential of the US is of concern. Although this potential is still significant (~1.9% compared with previous estimates of ~2.3%), several factors could push it down further: the ageing population, a slowdown in the advance of human capital and the end of a period of exceptional productivity (between 1995 and 2004) driven by information technology. Nonetheless the country's institutional quality and its capacity to innovate and attract talent will keep the US economy at the head of world development. Given this situation, the outcome of the presidential elections and those for the House of Representatives and the Senate is particularly relevant. At the time of writing, the polls give some margin to H. Clinton in the presidential race, whose economic agenda appears to be more sensitive towards this issue with specific measures both for taxation and infrastructures and also education, which could support growth somewhat in the medium and long term (see the Focus «Clintonomics *vs.* Trumponomics» in MR10/2016 for an economic analysis of the proposals of the two main presidential candidates in the US).

JAPAN

Still fragile. The Tankan index for Q3, which measures business sentiment, has remained weak over the last few quarters. Specifically the index for large manufacturing companies stood at 6 points (compared with 12 points in 2015 Q4) while the index for large services firms stood at

US: wages

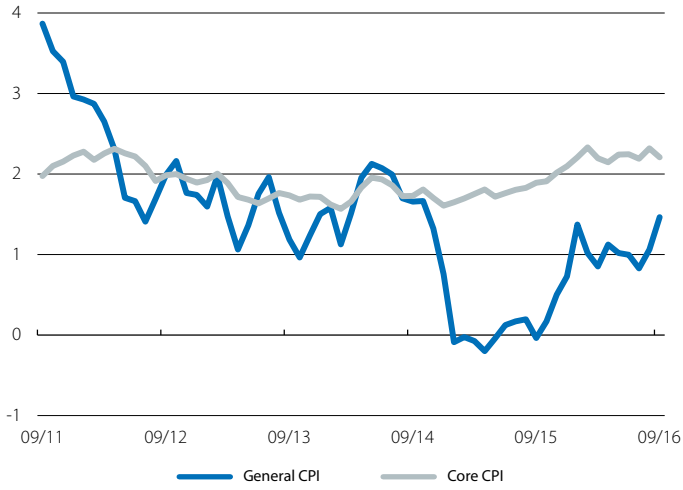
Change (%)



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

US: CPI

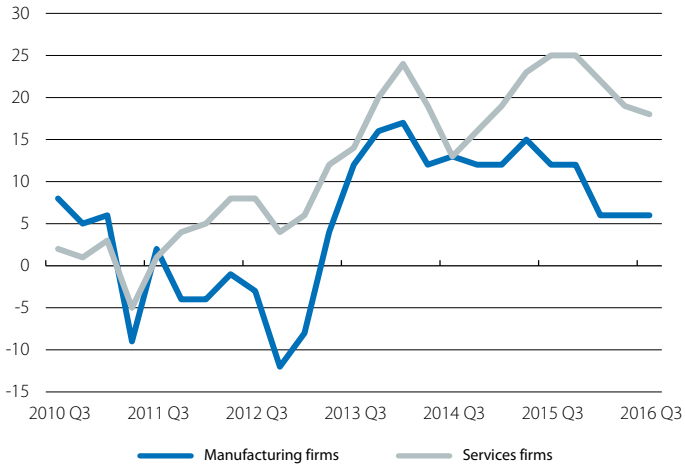
Year-on-year change (%)



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

Japan: business sentiment index (Tankan)*

Level



Note: ** Index for large firms.*
Source: *CaixaBank Research, based on data from the Bank of Japan.*

18 points, below the 25 points recorded in 2015 Q4. The appreciation of the yen (+16% against the dollar for the year to date) and persistent deflationary pressures (headline inflation stood at –0.5% in September) are factors that weigh heavily on this business sentiment. Consequently, the CaixaBank Research forecast for 2016 has been kept at a contained 0.6% in 2016 and 1.0% in 2017 although a slight acceleration has been predicted, supported by the fiscal stimuli announced last summer.

EMERGING ECONOMIES

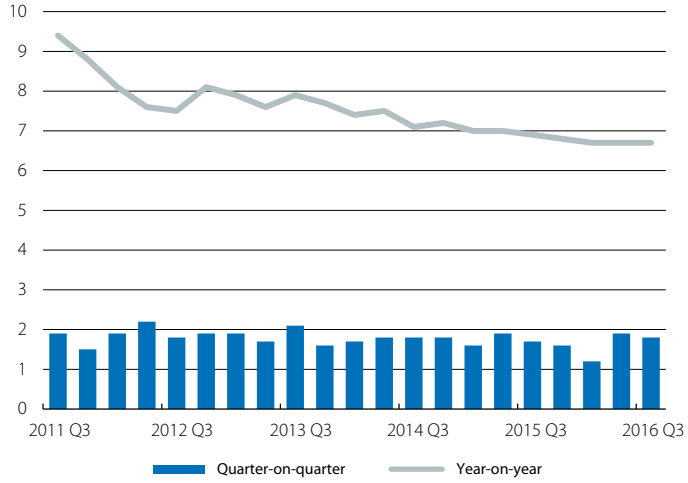
China continues to record significant growth. The Chinese economy grew by 6.7% year-on-year in Q3, the same rate as in the first half of 2016 and slightly above the CaixaBank Research forecasts and those of the consensus of analysts, while most business indicators remained dynamic in September: retail sales grew considerably by 10.7% year-on-year, the largest increase of the year, while industrial production was up 6.1%, just 0.2 pps less than in August. The foreign sector was actually the only element to show some weakness in the most recent figures posted by the country: exports fell by 6.8% year-on-year (cumulative over 12 months) compared with –6.3% in August. Beyond this short-term perspective, however, there are still important sources of risk. Of particular concern is the sizeable and growing corporate debt, largely financed by the country's banking system (see the Focus «China's financial system: a giant with feet of clay?» in this *Monthly Report*).

Russia and Brazil, two large emerging economies, can see the light at the end of the tunnel. Although both countries will still report declines in their annual growth figures for 2016 (–0.8% in Russia and –3.3% in Brazil), the latest activity indicators for Q3 point to some improvement in both economies. In particular Russia is expected to post positive growth in GDP in Q3 (in quarter-on-quarter terms) while, in Brazil, the drop in activity seems to have bottomed out and a minimal decline is expected in quarter-on-quarter terms. Nonetheless there are still big doubts in the Latin American country regarding its capacity to reduce its hefty public deficit and its willingness to undertake measures that could improve its medium-term growth capacity.

Mexico posts surprisingly good GDP figures. GDP grew by 1.0% quarter-on-quarter in Q3, higher than the consensus forecasts of analysts and than Q2's figure of –0.2%. This somewhat better figure than expected, together with the increase in oil prices (boosted by OPEC's potential agreement to limit the supply of crude oil), diminishing financial uncertainty and a better GDP trend in the US in the last part of the year, suggest that this improvement should continue over the coming quarters.

China: GDP

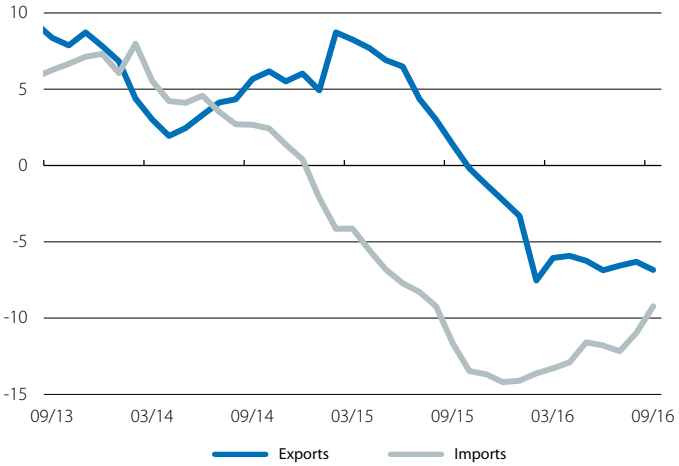
Quarter-on-quarter and year-on-year change (%)



Source: *CaixaBank Research, based on data from the Chinese National Statistics Office.*

China: international trade of goods *

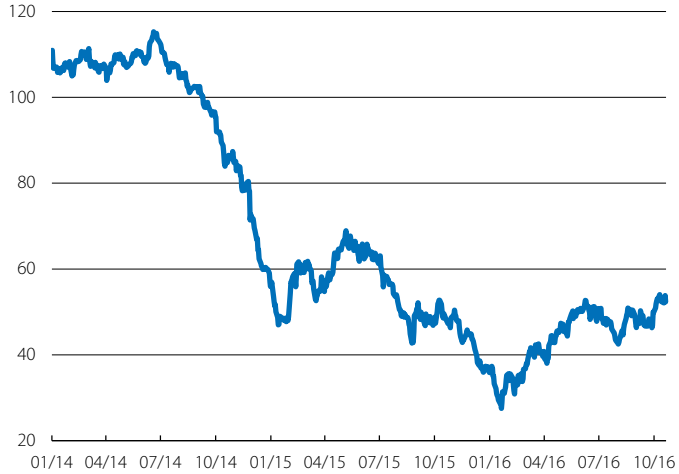
Year-on-year change, cumulative over 12 months (%)



Note: ** Nominal data.*
Source: *CaixaBank Research, based on data from the Chinese National Statistics Office.*

Price of a barrel of Brent oil

(Dollars per barrel)



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

FOCUS · Emerging debt: a weak flank given the Fed's monetary normalisation

In 2016 Q1, global debt in the non-financial sector (companies, households and the public sector) reached 245% of GDP, an all-time high. More than two thirds of this debt corresponds to advanced countries. Does this mean that emerging debt is of no concern? Such a conclusion is probably misguided. Although the level of emerging debt is lower than the advanced countries' debt, its growth since 2006 has been noticeable and, to a certain extent, worrying: while advanced non-financial debt has multiplied by 1.4 since then, emerging debt has increased 3.4 times. At this point in the debate it is usually argued that the aggregate figure for emerging debt is dominated by the fact that China alone accounts for 60% of the total. China is indeed a source of risk but there are still warning signs even after the Asian giant has been left out of the equation, as the debt in the rest of the emerging countries has doubled since 2006.[1]

Are such levels excessive? One way to answer this question is to compare the figures with their underlying trend. According to the BIS, history tells us that, when the gap between the current level of credit (as a percentage of GDP) and the long-term level is greater than 10%, there has been a financial crisis in any of the following three years.[2] The countries that are currently in this vulnerable situation, or very close to it, are Chile, Indonesia, Malaysia, Saudi Arabia, Thailand and Turkey.

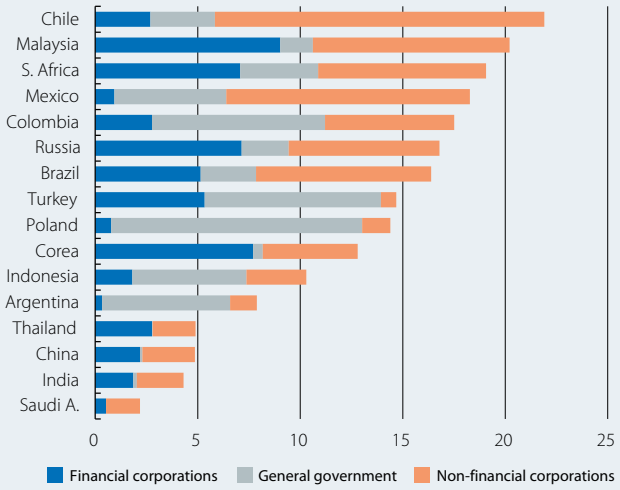
Another of the aspects that could play a key role in an adverse environment for international financing is external debt. Although today's conventional view is that external debt does not represent a serious problem, unlike the situation in the financial crises of the 1980s and 90s, it is still premature to claim it no longer has any part to play. Malaysia and Poland's external debt currently exceeds 70% of GDP, Chile's is over 60% and Turkey and South Africa's, 50%. All these figures are too close to the customary safety thresholds for emerging countries. Another important aspect is the time profile of their debt, which tends to be related to the availability of international reserves: Turkey appears to be the most vulnerable as its international reserves do not cover all its short-term external debt, and it is almost the same case for Malaysia and South Africa, suggesting a limited capacity to respond to tougher financial conditions.

Moreover, external debt is not the only type with liabilities sensitive to tighter international financing conditions. Within a context of increasing globalisation, the BIS has repeatedly warned of the risk posed for the solvency of a firm's parent company by its subsidiaries located abroad issuing international bonds.[3] Although this cause might seem anecdotal *a priori*, it is not the case: for the group of emerging countries analysed, between 2006 and 2015 the total outstanding balance of their international bond issuances tripled, reaching 12.9% of GDP. As the last decade has advanced, the public sector has tended to resort less to issuing international bonds in most countries while issuances by the financial sector and especially by companies have increased. In this last segment, Chile has a particularly high level of debt (its international corporate debt totals 16.1% of GDP), as well as Malaysia (9.6%), Brazil (8.5%) and South Africa (8.2%). Although many of the indebted firms in these countries benefit from «natural» hedging (they are exporters paid in dollars), such figures are still high.

In conclusion, if we compare the three lists of emerging countries (those with high levels of debt, those with a less solid external debt position and those which have perhaps taken too much advantage of the opportunities for international financing in foreign currencies) some names are repeated (Chile and Malaysia) while others are in two of the three categories (Brazil, South Africa and Turkey). We must therefore keep a close eye on their capacity to handle such a high burden of debt, especially in a financial context that will probably become more demanding over the next few quarters as the Fed raises interest rates.

International bonds outstanding in 2015

(% of GDP)



Source: *CaixaBank Research, based on data from the Bank for International Settlements.*

1. On China's situation, see the Focus «China's corporate debt: a reason for concern?», in MR10/2016. In our Focus, which does not analyse China's problems, the group of emerging economies under study is made up of: Argentina, Brazil, Mexico, Colombia, Chile, Russia, India, Indonesia, Malaysia, Thailand, Korea, Turkey, Poland, South Africa and Saudi Arabia.
2. Specifically, the BIS estimates that, historically, when this credit-to-GDP gap has been 10% it accurately predicts 70% of the financial crises occurring in the following three years.

3. One example of such transactions would be a subsidiary of an Indian firm located in Europe that issues a bond in dollars in London.

FOCUS · China's financial system: a giant with feet of clay?

Doubts concerning the sustainability of China's high level of debt have fuelled concerns regarding the state of the country's financial system since, according to the World Bank, the domestic credit provided by China's financial sector now represents 196.9% of GDP (in the euro area this is 155.6% and in the US, 238.3%). But apart from this rise in debt there are also worries concerning its quality and the institutions involved in this phenomenon, two factors which, as we will see, are closely related.

With regard to the institutions involved, China's financial system is dominated by banks. Their assets are five times the size of the rest of the sector made up by shadow banks. In turn, large state-owned banks predominate, holding 38% of all bank assets. Nonetheless the map of banking is changing as this figure was close to 50% just five years ago. A large number of smaller banks have recently emerged, mainly urban commercial banks, which already hold 11.5% of bank assets (less than 1% in 2011), as well as commercial banks with mixed capital[1] (18.5% of assets currently and 16% in 2011). At present there are 133 urban commercial banks and 12 mixed capital banks in China.

Turning our attention to debt quality, the official figures for non-performing loans place this at less than 2% of the total although the Chinese authorities themselves acknowledge that the proportion of bad quality debt is higher. On the one hand not all bad quality debt is classified as non-performing (for instance, some loans that have been restructured) while there is also the suspicion that many non-performing loans have been securitised and turned into wealth management products (WMPs) which banks have sold to shadow banking institutions or retail customers. WMPs are financial products that offer higher returns than bank deposits and represent a significant source of risk for two reasons. Firstly, there is a lack of information regarding which investments they are actually financing and, in fact, there are concerns that these are high-risk investments with a significant proportion in the real estate sector (where there are well-publicised fears of a bubble having been created). The second reason is the risk of maturity mismatch: the WMPs sold tend to have short-term maturities (six months) while the assets underlying these vehicles typically mature later (relatively illiquid loans with maturities of more than one year). An additional source of concern is the high degree of uncertainty regarding the real risk entail by these products for banks: 74% of WMPs have no explicit guarantee provided by banks but there are concerns of implicit or informal guarantees which, in the case of default, would mean that banks would have to assume part of the losses.

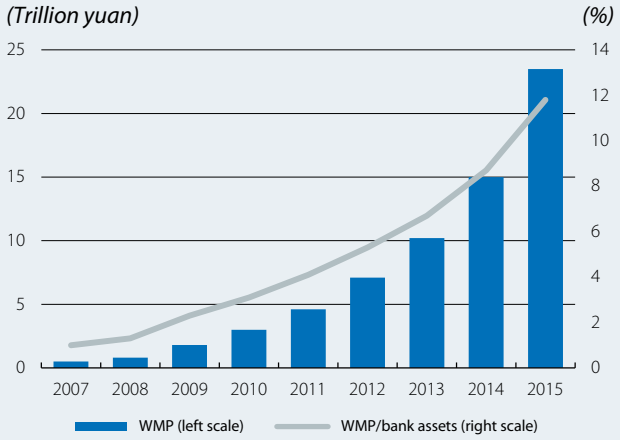
1. The government doesn't own mixed capital banks although, in general, it has a minority share.

WMP have been used mostly by small and medium-sized urban commercial banks and also mixed capital banks as well as rural institutions,[2] which do not enjoy the same degree of state support, in order to artificially boost t heir balance sheets when reporting to the regulatory authorities. And the risks of the financial system have recently become worse as these banks have resorted en masse to the interbank market.[3] As these institutions have considerably increased their dependence on the interbank market, so have the risks of contagion from this segment of banks to the rest of the system. The latest alarm bell has been sounded by the main ratings agencies such as Moody's and S&P, warning that small banks have begun to invest in the WMPs of other banks.

Another notable factor that threatens debt quality is the high exposure of urban and rural commercial banks to the real estate market. This phenomenon is due to the close ties between such banks and local authorities, leading to them granting a large number of loans to investors and local governments to finance costly real estate projects of dubious viability. A sharp fall in house or land prices could hit these banks' balance sheets hard as it would reduce the value of the collateral used for the loans and push up the NPL ratio.

In summary, in the last few quarters the risks within the Chinese financial system have grown considerably. Small banks have come to the fore but they are the most vulnerable institutions. This has made the financial system even more complex and interconnected and has resulted in significant fragmentation of the risks and an increase in bad quality debt and exposure to the real estate sector. Such elements make it even more difficult to sort out China's already intricate financial system.

Wealth management products (WMP)



Source: *CaixaBank Research, based on data from the China Banking Regulatory Commission and the IMF.*

2. Rural banks, which total 2,350, have held a stable share of bank assets over the last few years of around 13%.
3. The interbank market currently accounts for 16% of all bank financing compared with 8% in 2010, according to IMF data.

KEY INDICATORS

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

UNITED STATES

	2014	2015	2015 Q3	2015 Q4	2016 Q1	2016 Q2	07/16	08/16	09/16
Activity									
Real GDP	2.4	2.6	2.2	1.9	1.6	1.3	–	1.5	–
Retail sales (excluding cars and petrol)	4.5	4.3	4.2	3.5	4.0	–118.9	3.6	3.3	3.4
Consumer confidence *(value)*	86.9	98.0	98.3	96.0	96.0	94.8	96.7	101.8	103.5
Industrial production	2.9	0.3	0.1	–1.6	–1.6	–1.1	–0.7	–1.3	–1.0
Manufacturing activity index (ISM) *(value)*	55.6	51.3	51.0	48.6	49.8	51.8	52.6	49.4	51.5
Housing starts *(thousands)*	1,001	1,108	1,156	1,135	1,151.3	1,159.3	1,218	1,150	1,047
Case-Shiller home price index *(value)*	171	179	179	183	187	188	188	188	...
Unemployment rate *(% lab. force)*	6.2	5.3	5.2	5.0	4.9	4.9	4.9	4.9	5.0
Employment-population ratio *(% pop. > 16 years)*	59.0	59.3	59.3	59.4	59.8	59.7	59.7	59.7	59.8
Trade balance [1] *(% GDP)*	–2.8	–2.8	–2.8	–2.8	–2.7	–2.7	–2.7	–2.7	...
Prices									
Consumer prices	1.6	0.1	0.1	0.5	1.1	1.0	0.8	1.1	1.5
Core consumer prices	1.7	1.8	1.8	2.0	2.2	2.2	2.2	2.3	2.2

Note: *1. Cumulative figure over last 12 months.*
Source: *CaixaBank Research, based on data from the Department of Economic Analysis, Department of Labor, Federal Reserve, Standard & Poor's, ISM and Thomson Reuters Datastream.*

JAPAN

	2014	2015	2015 Q3	2015 Q4	2016 Q1	2016 Q2	07/16	08/16	09/16
Activity									
Real GDP	–0.1	0.6	1.8	0.8	0.1	0.8	–	...	–
Consumer confidence *(value)*	39.3	41.3	41.0	42.2	41.4	41.2	41.3	42.0	43.0
Industrial production	2.1	–1.2	–0.4	–1.1	–3.2	–1.7	–0.9	1.1	0.8
Business activity index (Tankan) *(value)*	13.5	12.8	12.0	12.0	6.0	6.0	–	6.0	–
Unemployment rate *(% lab. force)*	3.6	3.4	3.4	3.3	3.2	3.2	3.0	3.1	3.0
Trade balance [1] *(% GDP)*	–2.6	–0.6	–1.0	–0.6	–0.2	0.1	0.4	0.5	0.7
Prices									
Consumer prices	2.8	0.8	0.1	0.2	0.0	–0.3	–0.5	–0.5	–0.5
Core consumer prices	1.8	1.0	0.6	0.7	0.6	0.6	0.3	0.2	0.1

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

CHINA

	2014	2015	2015 Q3	2015 Q4	2016 Q1	2016 Q2	07/16	08/16	09/16
Activity									
Real GDP	7.3	6.9	6.9	6.8	6.7	6.7	–	6.7	–
Retail sales	12.0	10.7	10.7	11.1	10.3	10.2	10.2	10.6	10.7
Industrial production	8.3	6.1	5.9	5.9	5.9	6.1	6.0	6.3	6.1
PMI manufacturing *(value)*	50.7	49.9	49.8	49.7	49.5	50.1	49.9	50.4	50.4
Foreign sector									
Trade balance [1] *(value)*	383	608	583	608	601	602	610	602	585
Exports	6.0	–2.3	–6.3	–5.2	–11.5	–5.0	–5.6	–2.8	–10.0
Imports	0.4	–14.2	–14.4	–11.8	–13.7	–6.8	–12.6	1.5	–1.9
Prices									
Consumer prices	2.0	1.4	1.7	1.5	2.1	2.1	1.8	1.3	1.9
Official interest rate [2] *(value)*	5.60	4.35	4.60	4.35	4.35	4.35	4.35	4.35	4.35
Renminbi per dollar *(value)*	6.2	6.3	6.3	6.4	6.5	6.5	6.7	6.6	6.7

Notes: *1. Cumulative figure over last 12 months. Billion dollars. 2. End of period.*
Source: *CaixaBank Research, based on data from the National Bureau of Statistics of China and Thomson Reuters Datastream.*

ECONOMIC OUTLOOK · **Slow but steady progress in the euro area**

The euro area's economy keeps on with a sustained recovery. In spite of the episodes of uncertainty observed during the year (financial volatility at the start of 2016 and the Brexit referendum in June), the euro area's recovery has remained solid. One example of this is that the IMF's latest forecasts place growth in 2016 at the same figure of 1.7% predicted by the institution at the beginning of the year (slightly higher than the 1.5% forecast by CaixaBank Research), thereby reversing the downward revisions made halfway through the year. However, these forecasts also reflect the absence of acceleration in the recovery in spite of the stimulus provided by the ECB's monetary policy, which has been particularly expansionary since the beginning of 2015. In fact a slowdown in growth is expected for 2017 (1.5% according to the IMF; 1.3% according to CaixaBank Research) due to the disappearance of some tailwinds (rising oil prices and stabilisation of the euro) and political uncertainty (UK-EU negotiations, voting in Italy, Austria, the Netherlands, France and Germany).

The euro area's GDP for Q3 was slightly higher than expected, up by 0.3% quarter-on-quarter and by 1.6% year-on-year, the same figures as in the previous quarter. By country, the figures for Spain (0.7% quarter-on-quarter) and France (0.2%) have been published. The composition of the growth in this last figure shows that consumption by French households continued at a standstill in Q3 (0.0% quarter-on-quarter for the second month in a row) while growth in investment returned to positive terrain (0.3%). This combination of good and bad points in the situation of the French economy has therefore failed to dispel doubts regarding France's economic recovery. The figures for the UK were notable, however, with 0.5% quarter-on-quarter growth which surprised the consensus of analysts (predicting 0.3%). Nevertheless, the breakdown by sector shows that only services enjoyed positive growth (0.8% quarter-on-quarter) while production fell in agriculture, industry and construction, indicating that the British economy will continue to slow down as a consequence of Brexit.

Business indicators point to a moderate growth rate. Both the initial indicators available for 2016 Q4 and those still being published for 2016 Q3 point to the recovery in the euro area continuing steadily. Industrial production picked up in August by 0.8% (average year-on-year change for the last three months), approaching the average for 2016 Q2 (0.9%). Moreover, the PMI remains comfortably in the area in line with economic expansion (above 50 points) and rose to 53.7 points in October, offsetting the slight drop experienced after the outcome of the Brexit referendum. Lastly, and along the same lines, the economic sentiment index (ESI) of the euro area reached an annual peak, standing at 106.3 points in October

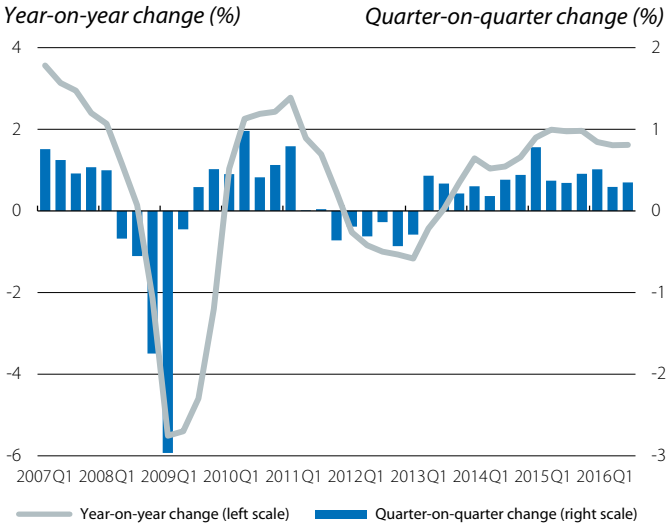
Euro area: IMF forecasts

Annual change (%)

		GDP forecast		Change compared with July 2016 forecast	
	2015	2016	2017	2016	2017
Euro area	2.0	1.7	1.5	▲ 0.1	▲ 0.1
Germany	1.5	1.7	1.4	▲ 0.1	▲ 0.2
France	1.3	1.3	1.3	▼ 0.2	▲ 0.1
Italy	0.8	0.8	0.9	▼ 0.1	▼ 0.1
Spain	3.2	3.1	2.2	▲ 0.5	▲ 0.1

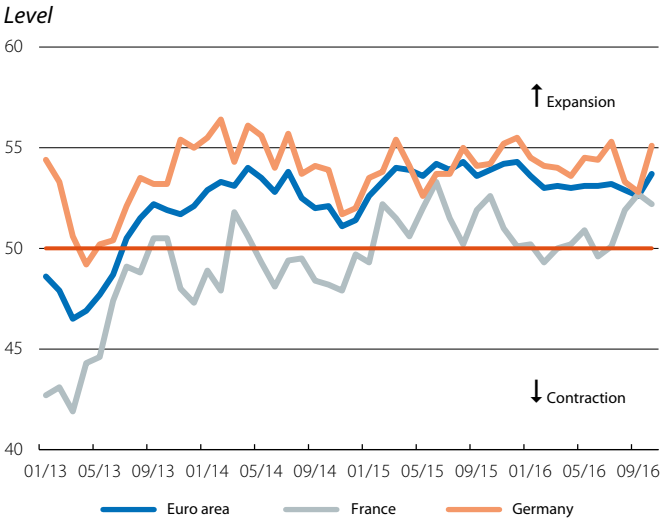
Source: *CaixaBank Research, based on IMF data (WEO, October 2016).*

Euro area: GDP



Source: *CaixaBank Research, based on Eurostat data.*

Composite PMI activity indicator



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

(+1.4 points compared with September). By country, the indicators highlight Germany's drive, with industrial production recovering in August (0.5%) and significant improvement both in the PMI (up to 55.1 points in October, the best figure all year) and in the ESI (108.7 points in October, the highest for 2016).

Domestic demand continues to boost the recovery. The initial figures for 2016 Q4 point to household consumption continuing to perform well. Specifically, the consumer confidence index for the euro area looked stable in October at –8.0 points, slightly better than the average of –8.2 for Q3. The indicators being published for Q3 also suggest private consumption has played an important role in activity's growth. In particular, retail sales rose by 1.5% year-on-year on average in the months of July and August, a similar figure to the one in Q2, continuing to place private consumption as one of the mainstays for the euro area's recovery.

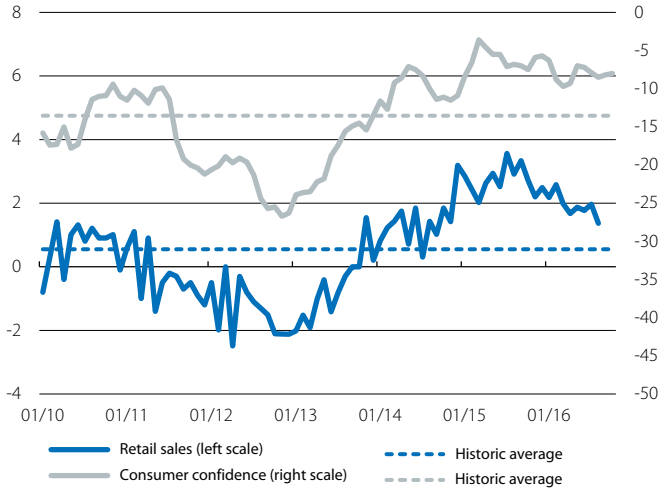
The upswing in inflation occurs as predicted. The harmonised index of consumer prices (HICP) for October states that headline inflation for the euro area rose to 0.5%, 0.1 pps above September's figure, while core inflation slowed down slightly to 0.7%, 0.1 pps below the previous figure. This growth in headline inflation is due to a smaller decline in the energy component and, in this respect, we expect to go on seeing a sustained recovery over the next few months, with the base effect of the slump in oil prices in 2014 and 2015 gradually fading. Core inflation will also rise steadily thanks to growth in activity.

The recovery is consolidating within an unfavourable external environment. The latest data available, from July 2016, show the EU's domestic demand to be boosting exports to different European countries, countering the drop in foreign demand, with the figures suggesting that exports to outside the EU have shrunk in real terms since September 2015. However, in the last two years intra-European exports have continued to expand steadily (with the exception of May 2016), boosted by the upswing in domestic demand. This strong domestic recovery has therefore helped to offset the impact of the slowdown in the emerging economies in 2016.

The level of public debt remains high. In spite of an ongoing reduction in public deficit, down by 1.5% of GDP in 2016 Q2 for the euro area as a whole, the debt of member states has remained stable and above 90% of GDP. Specifically, in 2016 Q2 public debt represented 91.2% of GDP in the euro area as a whole, practically the same level as in 2015 Q3 (91.5%). This stability, however, obscures disparate situations in different countries. On the one hand, public debt is falling more quickly in those countries with a lower level of debt in 2015, such as Germany (70.1% in 2016 Q2, –2.5 pps compared with 2015 Q2), Ireland (77.8% in 2016 Q2, –13 pps compared with 2015 Q2) and the Netherlands (63.7 pps in 2016 Q2, –3.3 pps compared with 2015 Q2). On

Euro area: consumption indicators

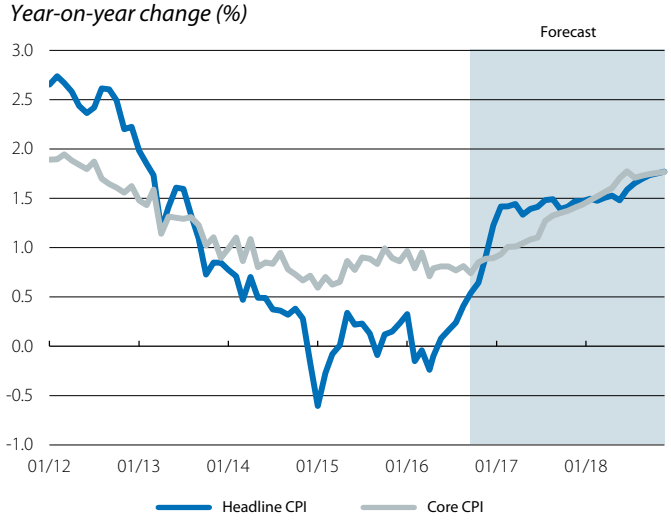
Year-on-year change (%) *Level*



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

Euro area: harmonised CPI

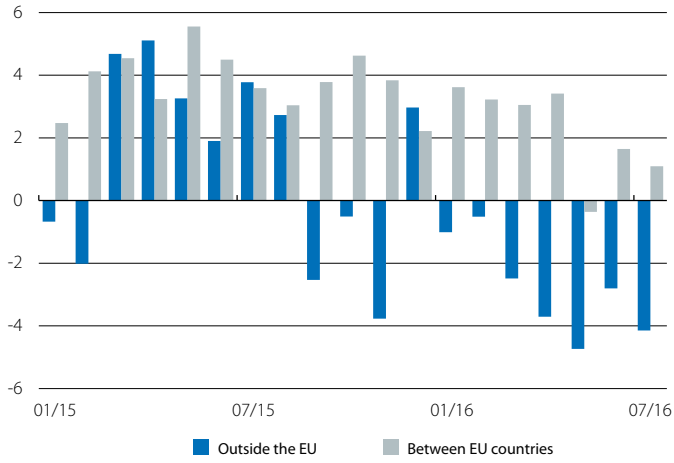
Year-on-year change (%)



Source: *CaixaBank Research, based on Eurostat data.*

European Union: exports *

Year-on-year change (%)



Note: ** Data at constant prices.*
Source: *CaixaBank Research, based on Eurostat data.*

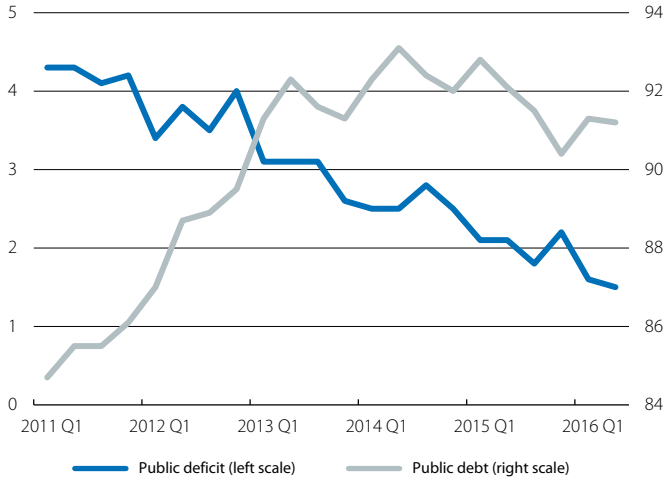
the other hand, in another group of countries debt has remained stable or even increased (Belgium, Spain, France, Italy, Austria and Portugal). Given that this second group has higher levels of public debt, it is important for them to start reducing this figure to more sustainable levels. Moreover, in a context in which most of the weight of stimuli falls disproportionately on monetary policy, it is also important for those countries enjoying some fiscal margin to take advantage of this to boost growth and strike a better balance between monetary and fiscal policy.

Financial conditions are highly accommodative, supporting the recovery in domestic demand. The ECB's bank lending survey shows that, in Q3, households had easier access to loans for consumption and to purchase housing while companies continued to benefit from the easier conditions achieved in previous quarters. The survey indicates that this relaxation in criteria to grant loans is largely due to competitive pressure in the banking sector. These pressures are taking place in an environment of negative interest rates that is squeezing the industry's margins and, in turn, is making the ECB's expansionary monetary policy less effective. To lessen some of the responsibility that falls to monetary policy for stimulating the economy, it is important not to ease off with the process of structural reforms and to design fiscal policy with a view to boosting growth.

Political uncertainty adds to weak growth in Italy. Italy's growth forecasts are 0.9% for 2016 and 0.8% for 2017 but the absence of any comprehensive strategy to resolve its banking problems (with a high non-performing loan ratio) makes this a significant source of instability. Moreover, on 4 December a referendum will be held on Italy's constitutional reform which aims to make the legislative process more agile. The large number of undecided voters indicated by the polls (more than 30%) is keeping uncertainty high regarding the outcome and a clear «no» victory could jeopardise the country's political stability and its reformist drive.

Euro area: public deficit and debt

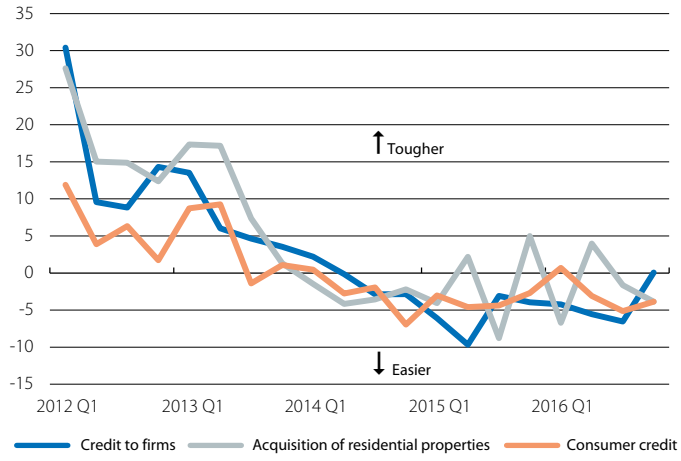
(% of GDP) *(% of GDP)*



Source: *CaixaBank Research, based on Eurostat data.*

Euro area: bank lending survey

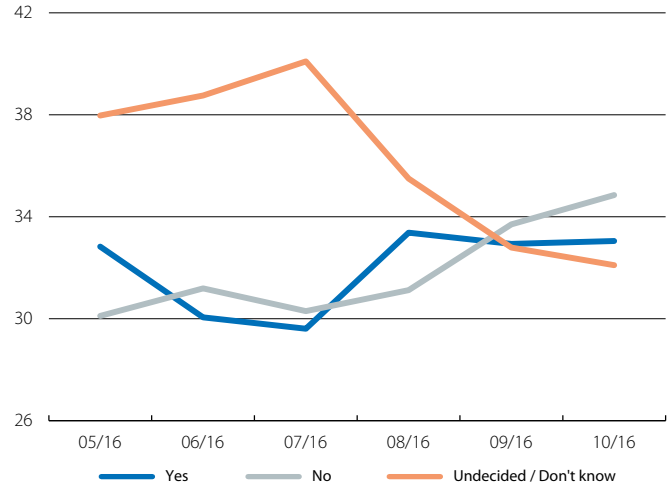
Banks with tougher (+) or easier (–) criteria for approving loans (net %)



Source: *CaixaBank Research, based on data from the ECB.*

Constitutional referendum in Italy: polls

Intended vote (% of total)



Source: *CaixaBank Research, based on a series of surveys.*

FOCUS · Labour markets in the euro area after the crisis: a reality-check

Employment has been recovering in the euro area since 2013 and is expected to reach its 2008 pre-crisis level by the end of 2016 with around 154 million people in work. This recovery is still incomplete, however, and is occurring at different rates depending on the country in question, resulting in a highly heterogeneous labour market.

In 2016 Q2 the employment rate was once again above 65% in the euro area on average, a similar level to 2008. The situation in countries such as Germany is very good: its employment rate exceeded 74% in 2016 Q2 (4 pps more than in 2008). But this scenario is far from widespread and employment rates are almost 6 pps lower than their pre-crisis level in particularly the peripheral countries, especially in Greece with a rate of 52.1%, almost 10 pps below its 2008 level. If we consider that a country's employment rate is a measure of how much the economy's human capital is being utilised, peripheral countries are making much less use of this resource than Germany or the Netherlands.

Variations between countries in terms of the duration and impact of the crisis and also in terms of the intensity of their recovery have accentuated the differences in unemployment rates even further. In the euro area as a whole, unemployment has fallen slowly but steadily since 2013, reaching 10.1% in 2016 Q2 (although it is still 3 pps higher than in 2008). Germany's low unemployment figure (4.3%) means that the country's situation can be classified as almost full employment in practical terms, when the remaining unemployment is merely frictional, due to the time taken by workers to move from one job to another. But other countries such as the Netherlands and France and especially those on the periphery are finding it difficult to reduce their unemployment rate to its pre-crisis level. The unemployment rate in Italy, Spain and Greece is still very high: at 5, 10 and 16 pps above the levels of 2008, respectively.

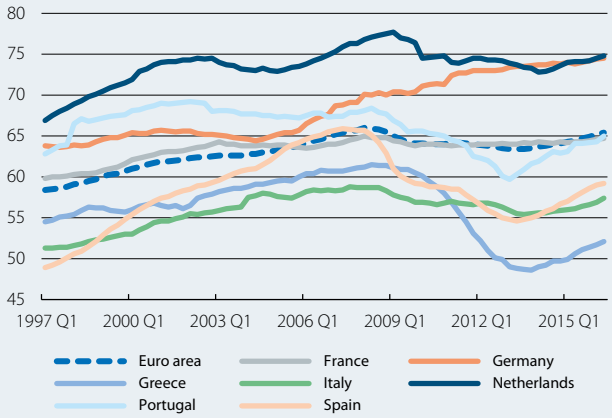
The people most affected by job losses are those less qualified, younger and/or less experience. For example, youth unemployment (those aged between 15 and 24) is more than double the general unemployment rate (20.9% in 2016 Q2) and reaches even more alarming levels in the periphery, close to 50% in Greece and Spain, 36% in Italy and 27% in Portugal. Another consequence of the prolonged economic crisis is that an increasing proportion of unemployment is long-term: in the euro area one out of every two unemployed people have been out of work for more than a year. This is particularly serious because the longer an individual is unemployed, the harder it is for them to find another job.

One piece of good news in this scenario is the continued increase, widespread among all countries, of participation rates between 2008 and 2016, reaching 72.8% of the working age population in 2016 Q2 for the euro area as a whole. This increase is due to structural factors such as the greater participation of older people but should be accentuated to be able to counter the effects of an ageing population.[1]

In conclusion, the panorama we have briefly described shows us that, although employment has reached a similar level to before the economic crisis, there is still a long way to go before we can ascertain a widespread recovery in the euro area's labour markets.

Employment rate

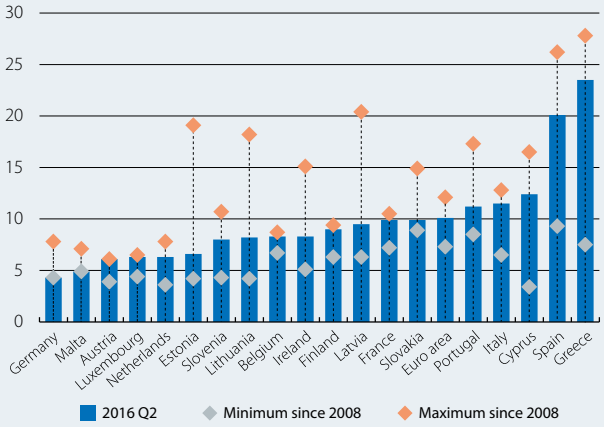
(% of the population at working age)



Source: *CaixaBank Research, based on Eurostat data.*

Unemployment rate

(% of the labour force)



Source: *CaixaBank Research, based on Eurostat data.*

1. See «The 2015 Ageing Report» by the European Commission.

FOCUS · Fiscal adjustment in the periphery: a job half done

The periphery has made a significant fiscal consolidation effort over the last few years; nevertheless it is not easy to measure and analyse the composition of this consolidation accurately. For example, in a recession, budget balances tend to deteriorate as tax revenue drops due to the decline in economic activity while there is an increase in some items of expenditure, such as unemployment benefits. There is also extraordinary expenditure, such as financial bail-outs for banks. The opposite occurs in a recovery. In order to correctly measure the fiscal effort it is therefore important to take into account the effect of cyclical factors.

The budget balance adjusted for the effects of the economic cycle and minus interest costs is known as the underlying primary balance. If we look at the evolution trends of this balance in the peripheral countries between 2009 and 2013 we can see that the fiscal adjustment these countries carried out[1] was above 1 pp of GDP per year. In general, the adjustment which focused on reducing expenditure items was, on average, 4 pps of GDP, while the increase in income was 2 pps.

Focusing on expenditure, the largest adjustment was in public investment, which was cut by almost half in the peripheral countries as a whole and made up half the total adjustment in public spending (2 pps of GDP). Of note is the reduction in transport infrastructure, military defence and investment related to the provision of general services. There was less adjustment in the other items of expenditure but the cuts were nevertheless considerable: current expenditure on education and healthcare fell by 9% while intermediate consumption and spending on other civil servant wages was cut by 6%.

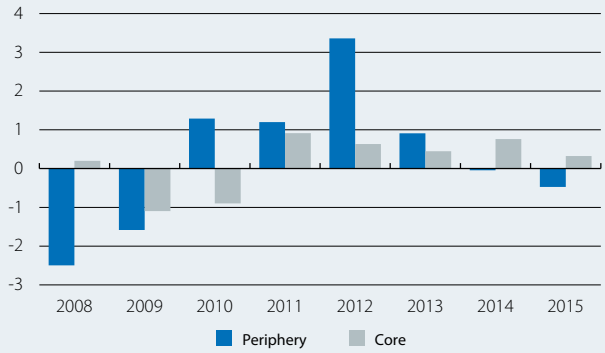
To carry out these adjustments and quickly reduce the deficit, countries mostly resorted to measures that could be rapidly implemented. Some of these measures may have negatively affected the provision of public services although in most cases it is not easy to measure their impact. For example, cuts in healthcare spending have lengthened waiting lists in the peripheral countries and seem to have affected the quality of the service provided: the proportion of citizens satisfied with the availability of good quality healthcare, in general, has decreased.[2] Nevertheless, structural measures were also implemented which should improve the efficiency and transparency of the provision of public services. In this respect, of note is the promotion of online platforms and purchasing centres in public procurement and the restructuring and simplification of public corporations and bodies.

1. An episode of fiscal consolidation is usually defined as a period of two or more consecutive years of improvements in the primary structural budget balance.
2. See «OECD, Government at a Glance 2015».

An analysis of the fiscal adjustment in Europe's peripheral countries over the last few years shows that it particularly focused on expenditure items. However, the way in which this adjustment has been carried out raises doubts as to whether it can be sustained. Firstly because most of the adjustment was focused on public investment which plays an important role in determining a country's growth potential. In fact, given the high level of government debt, high unemployment rates and poor growth prospects in several countries in the periphery, this is one of the items that should have been adjusted the least. And secondly because the quality of public services also seems to have been affected and citizens are unlikely to accept this over the medium term. In summary, for the adjustment in public spending to be structural and sustainable over the medium term, the focus should be on improving the efficiency with which public services are provided.

Euro area: change in the primary structural balance in peripheral and core countries

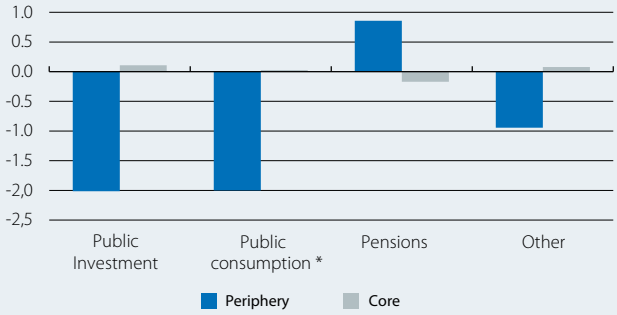
(pps of potential GDP)



Note: *The peripheral countries are Spain, Ireland, Italy, Greece and Portugal. The core countries are Germany, Austria, Belgium, Finland, France and Netherlands.*
Source: *CaixaBank Research, based on OECD data.*

Composition of the adjustment in public expenditure

(pps of potential GDP)



Notes: *The peripheral countries are Spain, Ireland, Italy, Greece and Portugal. The core countries are Germany, Austria, Belgium, Finland, France and Netherlands. Adjustment period: Germany, Finland France and Portugal (2011-2013); Austria, Belgium, Spain and Greece (2010-2013); Ireland (2009-2013); Italy (2010-2012) and Netherlands (2012-2013).*
** Public consumption includes spending on education, healthcare, other wages and intermediate consumption.*
Source: *CaixaBank Research, based on OECD data.*

KEY INDICATORS

Activity and employment indicators

Values, unless otherwise specified

	2014	2015	2015 Q4	2016 Q1	2016 Q2	07/16	08/16	09/16	10/16
Retail sales *(year-on-year change)*	1.4	2.8	2.5	2.3	1.7	1.9	0.6	...	...
Industrial production *(year-on-year change)*	0.9	2.0	1.7	1.3	1.1	–0.5	1.8	...	...
Consumer confidence	–10.2	–6.2	–6.4	–8.3	–7.8	–7.9	–8.5	–8.2	–8.0
Economic sentiment	101.5	104.2	106.2	104.0	104.3	104.5	103.5	104.9	106.3
Manufacturing PMI	52.3	52.4	52.8	51.9	51.8	51.4	51.7	52.6	53.3
Services PMI	53.9	54.6	54.5	53.5	53.0	51.5	52.8	52.2	53.5
Labour market									
Employment (people) *(year-on-year change)*	0.6	1.0	1.3	1.4	1.4	–	...	–	–
Unemployment rate: euro area *(% labour force)*	11.6	10.9	10.5	10.3	10.1	10.1	10.1	...	...
Germany *(% labour force)*	5.0	4.6	4.5	4.3	4.3	4.2	4.2	...	...
France *(% labour force)*	10.3	10.4	10.2	10.2	10.0	10.3	10.5	...	...
Italy *(% labour force)*	12.6	11.9	11.6	11.6	11.5	11.4	11.4	...	...
Spain *(% labour force)*	24.5	22.1	20.9	20.5	20.1	19.6	19.5	...	...

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

	2014	2015	2015 Q4	2016 Q1	2016 Q2	07/16	08/16	09/16
Current balance: euro area	**2.5**	**3.3**	**3.3**	**3.3**	**3.5**	**3.4**	**3.5**	**...**
Germany	7.3	8.5	8.5	8.6	9.0	8.8	8.9	...
France	–1.1	–0.2	–0.2	–0.8	–0.9	–0.9	–1.1	...
Italy	1.9	1.6	1.6	1.9	2.3	2.4	2.5	...
Spain	1.1	1.4	1.4	1.4	1.8	1.8	1.9	...
Nominal effective exchange rate[1] *(value)*	**101.8**	**92.3**	**92.4**	**94.1**	**94.8**	**94.9**	**95.2**	**95.3**

Note: *1. Weighted by flow of foreign trade. Higher figures indicate the currency has appreciated.*
Source: *CaixaBank Research, based on data from the Eurostat, European Commission and national statistics institutes.*

Financing and deposits of non-financial sectors

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

	2014	2015	2015 Q4	2016 Q1	2016 Q2	07/16	08/16	09/16
Private sector financing								
Credit to non-financial firms[1]	–2.6	–0.4	0.4	1.1	1.6	1.9	1.9	1.9
Credit to households[1, 2]	–0.1	0.7	1.3	1.5	1.7	1.8	1.8	1.8
Interest rate on loans to non-financial firms[3] *(%)*	2.0	1.6	1.5	1.4	1.4	1.3	1.3	...
Interest rate on loans to households for house purchases[4] *(%)*	2.6	2.1	2.0	2.0	1.8	1.8	1.9	...
Deposits								
On demand deposits	6.0	11.0	11.4	11.2	10.1	9.4	9.9	9.4
Other short-term deposits	–2.0	–3.9	–4.0	–2.6	–2.1	–1.4	–1.5	–1.3
Marketable instruments	–7.2	2.8	0.7	–1.0	2.5	5.0	4.4	5.5
Interest rate on deposits up to 1 year from households *(%)*	1.3	0.8	0.7	0.6	0.6	0.5	0.5	...

Notes: *1. Data adjusted for sales and securitization. 2. Including NPISH. 3. Loans of more than one million euros with a floating rate and an initial rate fixation period of up to one year. 4. Loans with a floating rate and an initial rate fixation period of up to one year.*
Source: *CaixaBank Research, based on data from the European Central Bank.*

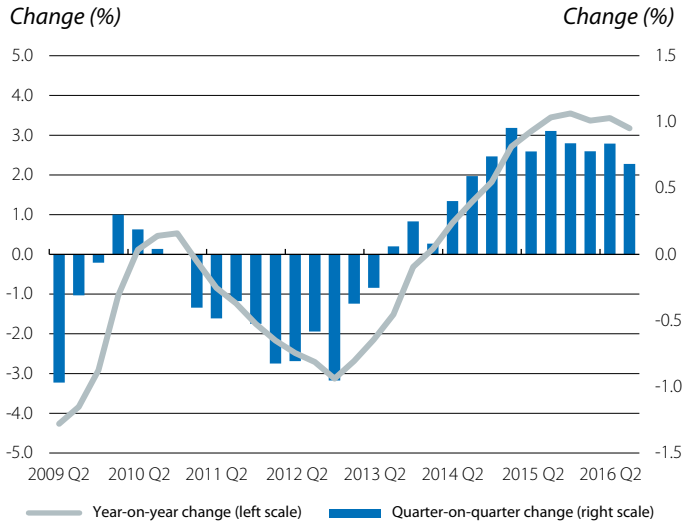
ECONOMIC OUTLOOK · **Economic growth is gradually maturing**

The Spanish economy continues its very positive trend. GDP growth stood at 0.7% quarter-on-quarter in Q3 (0.8% in Q2), a much higher figure than the average for the euro area countries. With its publication of this figure, the INE also revised the historical series of quarter-on-quarter GDP. The latest figures show that growth was slightly stronger in the preceding quarters, leading us to revise our GDP growth forecast for the year as a whole to 3.2%. Without the component breakdown, leading indicators point to this high rate of growth being driven by domestic demand. The consumer confidence index stood at –6.1 points in the average for Q3, a figure that is slightly lower than the average in Q2 (–3.2) but much better than the historical average (–13.6). Retail sales also rose by 3.8% in Q3 (the same figure as in Q2), so private consumption is likely to continue as the main engine for growth. With a view to the coming quarters, we expect the growth rate for economic activity to slow down and the economy to enter a more mature phase of the cycle in which foreign demand is expected to gradually take over. The positive effects of structural adjustments, such as the improvements in competitiveness, the rebalancing of the real estate sector and a healthier banking industry will support this growth in activity as the tailwinds that have boosted Spain's economic growth over the last two years steadily run out of steam.

Job creation remains dynamic. The country's good economic performance is reflected in the rate of job creation, which has grown non-stop for the last two years. This good situation consolidated in Q3, as shown by the rise in the number of workers affiliated to Social Security and confirmed by the labour force survey. Specifically, employment increased by 2.7% in year-on-year terms (2.4% in Q2), reducing the unemployment rate significantly to 18.9%, 1.1 pps lower than the previous quarter. As a consequence of this dynamism, we have revised upwards our job creation forecasts to 2.8% in 2016 and 2.1% in 2017 (from 2.7% and 2.0% previously, respectively). The positive trend in the labour market will continue to boost private consumption and prices. However, and in spite of the number of jobs created over the last few years, the quality of employment in Spain is a source of concern. As described in the Focus «Job quality: Spain within the international context» in this *Monthly Report*, the statistics suggest that job quality in Spain is among the lowest of all OECD countries.

Inflation picks up, in line with expectations. The CPI, boosted by dynamic private consumption, grew by 0.7% year-on-year in October, confirming the start of the upward trend expected for the coming months as the base effect of the slump in oil prices at the end of 2015 and beginning of 2016 disappears. In fact, the price of oil is still low and, although we expect it

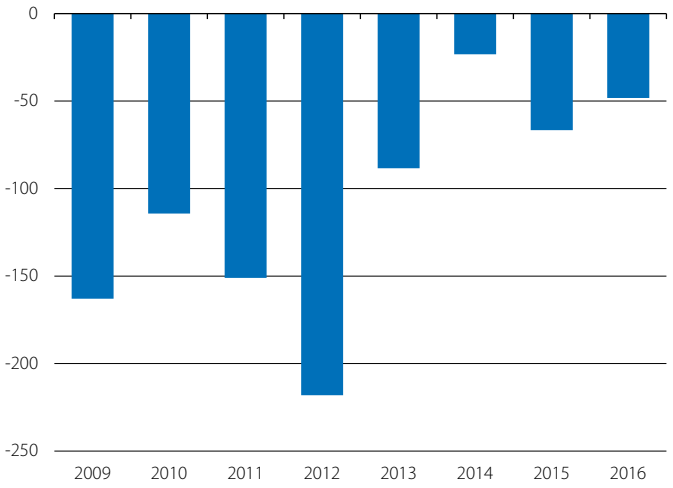
GDP



Source: *CaixaBank Research, based on INE data.*

Registered workers affiliated to Social Security

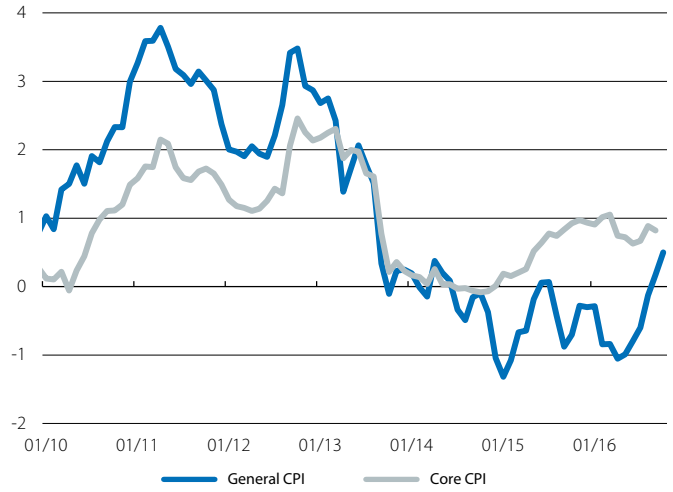
Change in Q3 (thousands)



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

CPI

Year-on-year change (%)



Source: *CaixaBank Research, based on INE data.*

to recover gradually, it will continue to benefit the Spanish economy and particularly the trade balance.

The foreign sector is still a source of good news. In August the balance of trade of goods increased to approximately –11 billion euros in the cumulative figure for the year (an improvement of 5 billion euros compared with 2015). This was due to a larger decline in imports (3.5% year-on-year cumulative over three months) than in exports (–0.4%). This sharp drop in imports can be explained by the lower value of the energy goods imported, thanks to low oil prices. Exports, which in the short term are still being buoyed by the euro's depreciation, will remain dynamic over the coming years thanks to the improvements in competitiveness achieved in the last few years, to the considerable internationalisation efforts made by Spanish companies and the diversification of destinations for exports beyond the euro area. In spite of this good underlying trend, however, there are still some sources of global uncertainty such as Brexit, the slowdown in world trade and the shift of global trade policy towards greater protectionism.

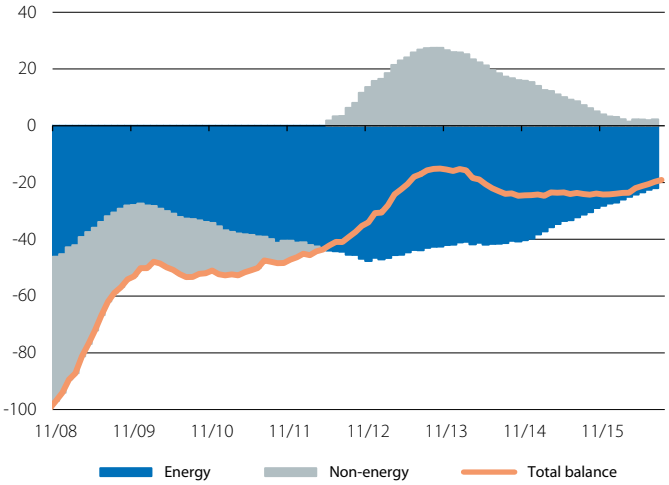
Tourism continues to break records. 60 million international tourists came to Spain between January and September, 10.1% more than in the same period of 2015, while the summer season of 2016 has been historic. As detailed in the Focus «Tourism, an exceptional year?» in this *Monthly Report*, the sector's high competitiveness, the support provided by the euro's depreciation and the geopolitical disturbances occurring in some of the main rival destinations are the major factors behind this good performance by Spanish tourism.

The real estate sector, which has been posting a positive trend for several months now, remains dynamic thanks to a constantly rising housing demand as a consequence of the recovery in employment and household income, better credit conditions and the upswing in demand for housing by foreigners. Specifically, house sales rose by 14.3% in August (cumulative over 12 months). This strong growth in demand is very heterogeneous between provinces, as explained in the Focus «Demand for housing: uneven growth» in this Report. On the supply side, new building permits totalled 60,351 in July (cumulative over 12 months), the equivalent to one tenth of the permits registered in 2007. This unevenness in demand for housing, combined with a limited supply and lack of housing for sale in certain prime zones (for instance large cities), will result in a highly disparate increase in house prices between provinces. For the country as a whole we expect house prices to grow by 2.7% in 2016. The dynamism observed in the real estate sector is having a positive effect on the banking sector.

Spain's banks appear very stable. This is the main conclusion reached by the sixth assessment carried out by the European Commission after the end of the bank bail-out programme. This stability is supported by low financing costs, economic growth and the sector restructuring being

Trade balance

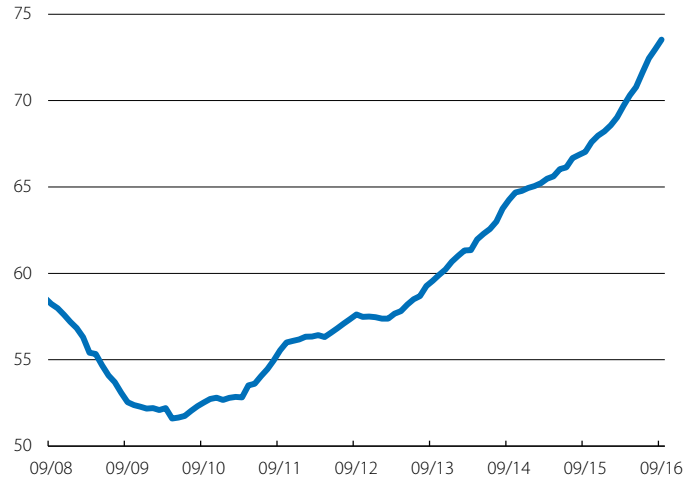
Cumulative over 12 months (billion euros)



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

International tourists

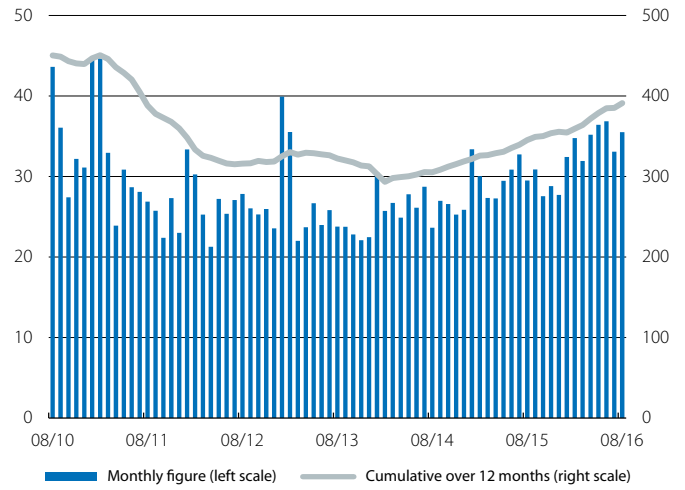
Cumulative over 12 months (million)



Source: *CaixaBank Research, based on INE data.*

House sales

(Thousands of residential properties) *(Thousands of residential properties)*



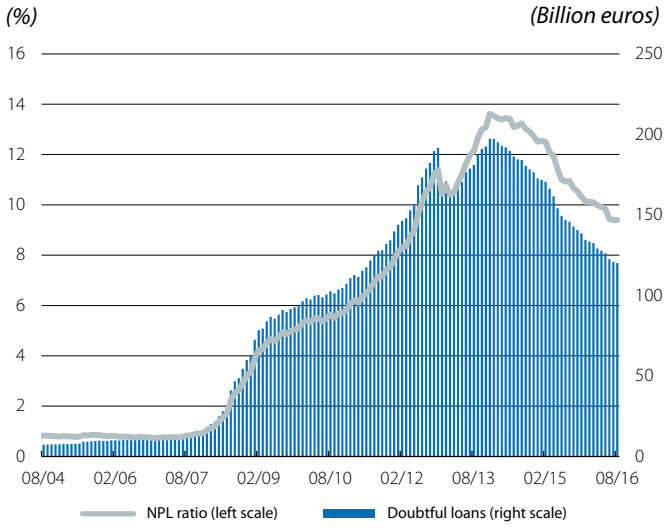
Source: *CaixaBank Research, based on INE data.*

carried out. Regarding this last aspect, however, the European Commission stresses the need to complete the restructuring and carry out the privatisation still pending. The most recent figures for the sector endorse this positive view: in August the volume of doubtful loans fell slightly (–790 million euros) to 120 billion euros, accumulating a decline of 39% since the peak reached in January 2014. At the same time the NPL ratio held steady at 9.4% in August, equalling July's figure. Nonetheless we expect the improvement in the economy, low interest rates and the sale of portfolios of non-performing loans will continue to help push down banks' NPL rates.

The adjustment of public accounts is still pending. In August the budget deficit for public administrations as a whole, excluding local government corporations and losses due to bail-outs, stood at 3.3% of GDP, 0.1 pps below the figure for August 2015. By administration, the central government budget deficit rose to 2.6% of GDP in September, 0.3 pps higher than one year ago. This worse figure is largely due to the transfer of resources to regional governments in August, corresponding to the settlement of the 2014 financing system. Thanks mostly to this transfer of resources, the autonomous communities have improved on their figure for August 2015 by 0.7 pps, posting a deficit of 0.1% in July. Nevertheless the structural problems in Social Security are worsening the deficit, which increased to 0.6% of GDP in August (0.3 pps higher than the figure for the same period in 2015). Consequently, the budget execution figures available to date reflect an insufficient adjustment in the public accounts although the corporate tax reform approved recently by the government should correct this trend in the latter part of the year and help to achieve the budget deficit target of 4.6% agreed with the European Commission. However, the level of public debt, in excess of 100% of GDP, shows that the process of fiscal consolidation must continue.

The central government budget for 2017 does not contain any adjustment measures. The budget proposed, which is an extension of the 2016 budget, is based on reasonable macroeconomic forecasts (2.3% GDP growth and 2.2% growth in employment). According to this budget, the economy's good performance will help to reduce the budget deficit by 0.8 pps, bringing it to 3.6% of GDP in 2017. Consequently, to achieve the target agreed with the European Commission (3.1%), the new government will have to propose an updated budget including some adjustment measures, as the European Commission has demanded.

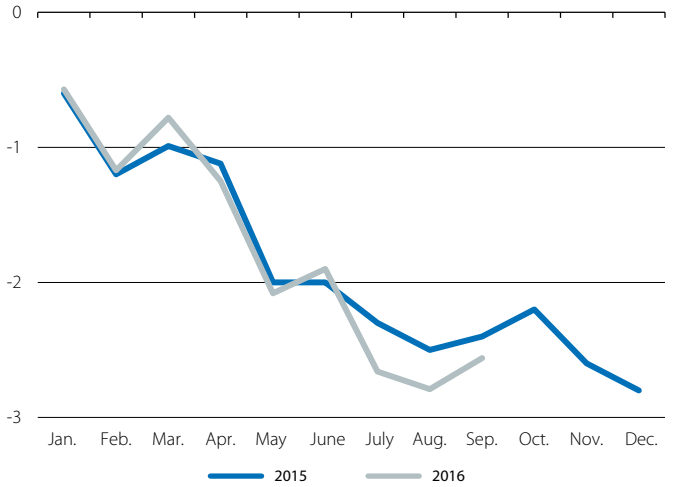
Doubtful loans



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

Central government budget balance

Cumulative for the year (% of GDP)



Source: *CaixaBank Research, based on State Public Accounts data.*

Economic forecasts of the Central Government Budget 2017

Annual change (%)

	2015	Government October 2016		CaixaBank October 2016	
		2016 Forecast	2017 Forecast	2016 Forecast	2017 Forecast
Real GDP	3.2	2.9	2.3	3.2	2.4
Nominal GDP	1.6	2.0	3.2	3.6	3.7
Employment (FTE)	3.0	2.7	2.2	2.8	2.1
Unemployment rate (%)	22.1	19.7	17.8	19.7	18.2
Interest rate (public debt at 10 years)	1.8	1.7	1.9	1.4	1.7

Source: *CaixaBank Research, based on the Central Government Budget 2017.*

FOCUS · Job quality: Spain within the international context

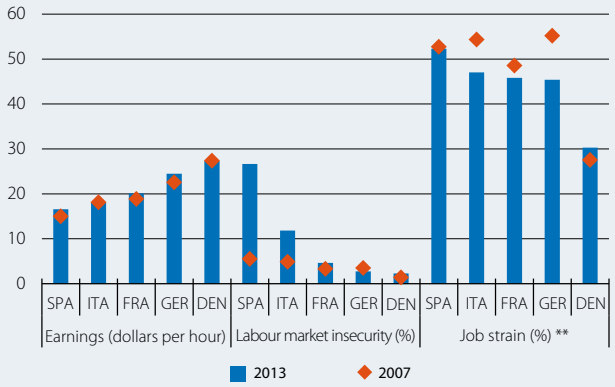
The Spanish labour market is making good progress in quantitative terms: in the last three years the number of employees has increased by almost 1.5 million while the unemployment rate has fallen by around 8 pps, reaching 18.9% in 2016 Q3. However, one of the greatest causes of concern is the quality of the jobs being created.

Measuring job quality is no easy task. Experts in this area point out that it is a multi-dimensional construct and various characteristics have to be taken into account, both regarding the employment relationship and the job. The OECD, for example, has proposed a conceptual framework to evaluate job quality based on three components: earnings (adjusted for inequality of its distribution), labour market insecurity and the working environment, measured as the strain suffered by employees due to job demands or having insufficient resources to carry out their work. According to these indicators, employment quality in Spain is among the lowest of all OECD countries. Specifically, Spain is among the 10 countries with the worst indicators in two out of the three factors analysed, together with countries such as Slovakia, Greece, Hungary, Italy, Poland, Portugal and Turkey.[1] At the other end of the scale are countries such as Norway, Switzerland and Denmark, the latter generally being used as the paradigm for an efficient labour market.[2] Spain's poor position in the ranking of developed countries can partly be explained by the greater impact of the crisis on the Spanish labour market. Between 2007 and 2013 Spain worsened its position in the component of labour market security, falling from 27th to 32nd (out of 33 countries), as well as the working environment component with Spain being the penultimate country, ahead only of Greece. In any case even before the crisis, when the unemployment rate was around 8%, the situation of the labour market in qualitative terms was not at all enviable (see the first graph).

The conceptual framework proposed by the OECD aims to assess job quality from an individual point of view due to the impact this has on the well-being of workers. Employment quality, however, is also a fundamental issue from an aggregate point of view as it is closely linked to the better utilisation of labour as a factor of production. In fact, employment quality affects participation in the labour market and worker productivity and therefore has a direct impact on a country's macroeconomic performance. From this perspective, it is useful to explore other dimensions such as the type of employment contract and how far an economy's labour resources are being utilised. The type of contract can affect productivity as the incentives for employees and employers to invest in specific human capital and training are less when the employment relationship is shorter in duration. On the other hand a country's total production is reduced when labour resources are utilised below their potential. To measure the extent of this situation, variables can be used such as the percentage of part-time employees who would prefer to work full-time or to what extent employees are over-qualified (when employees have higher qualifications than those required by the job). An international comparison once again reveals that Spain's situation is far from encouraging (as shown by the second graph). So there is still a long way to go and labour policies should therefore focus on improving not only the quantity of employment but also its quality.

1. 2013 figures for the first two components and 2015 figures for the third component. See «OECD Employment Outlook 2016».
2. The Danish labour market is characterised by its flexi-security, which combines the labour flexibility required by companies with security for employees via stable contracts, unemployment benefits and active policies.

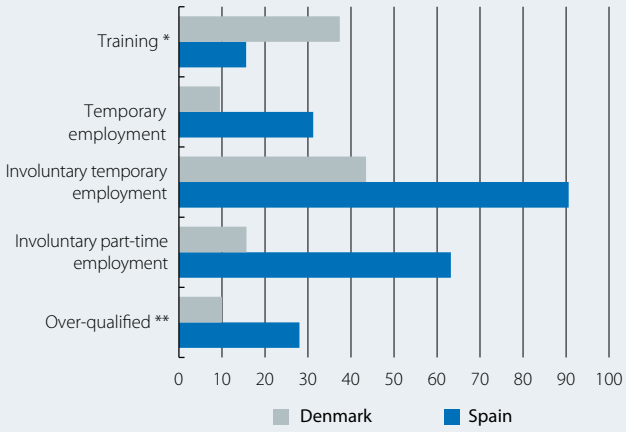
*Components of job quality according to the OECD **



Notes: ** Earnings in dollars per hour adjusted for purchasing power parity and inequality of its distribution. Labour market instability measures the risk of becoming unemployed and the expected cost as a percentage of previous earnings. Job strain measures the proportion of workers who face more job demands than the number of resources they have at their disposal. ** Data from 2005 and 2015.*
Source: *CaixaBank Research, based on OECD data (Job Quality Database, 2016).*

Job quality indicators

(%)



Notes: ** Workers who have taken part in training in the last four weeks.*
*** Percentage of employees with higher qualifications who carry out tasks requiring medium or low qualifications.*
Source: *CaixaBank Research, based on data from Eurostat and OECD.*

FOCUS · Demand for housing: uneven growth

The recovery in the real estate market is getting stronger by the month. This can be seen in the number of house sales, which have enjoyed double-digit growth for the last year and a half. This sharp increase is being supported by underlying factors that are shared throughout the country, pushing up demand for housing in general, but there are also other factors that affect each region differently, with the result that the recovery is particularly strong in some zones (see the first graph).

Among the most important factors boosting demand for housing throughout the country are the improvement in financial conditions and the recovery in economic activity. More solvent banks and the ECB's accommodative monetary policy have helped to improve credit conditions. This can be seen in the rise in new mortgage loans granted, 13% in the cumulative figure for the year up to August (24.4% if we exclude refinancing loans), and also in the drop in mortgage interest rates, close to 0.9 pps in the last two years. A more dynamic labour market is also helping to improve the disposable income of households.

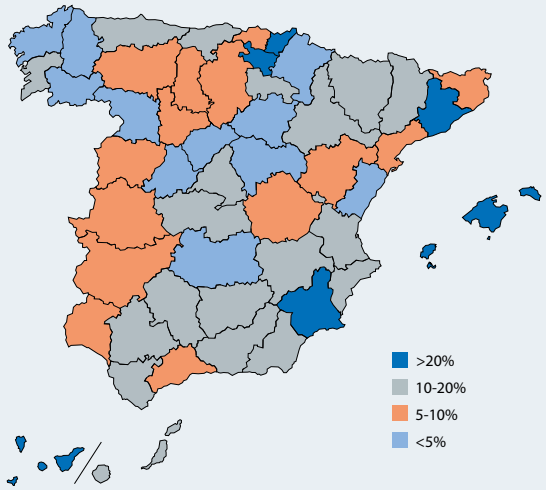
At the same time, more localised factors are pushing up demand for housing in certain zones, and particularly foreign demand. Foreigners buying second homes lie behind a large proportion of the sales recorded on the Mediterranean coast and Canary Islands. Specifically, these account for more than 30% of the total purchases made in the Balearic Islands, the Canary Islands, Malaga and Murcia (as shown by the third graph). The purchase of housing as a means of investment is also becoming more significant given its attractive return compared with other alternatives,[1] already accounting for 20% of all sales.[2] This phenomenon is particularly significant in large cities, which also attract international investors.[3]

The combination of these factors, both common and local, is responsible for the uneven growth in sales recorded in the current expansionary cycle. This heterogeneity in demand is passed on to prices, whose trends have also differed throughout Spain. The extent of the recovery comes down to each region.

1. In 2016 Q2 the return on housing, defined as the average annual rental per m² divided by the average price per m² 12 months previously, was 4.4%.
2. See Servihabitat Trends (2016), «Mercado residencial en España».
3. For example, in PWC (2016), «Emerging Trends in Real Estate», Madrid is the fourth most attractive city in Europe for investment and Barcelona the 12th.

House sales in 2016 Q2

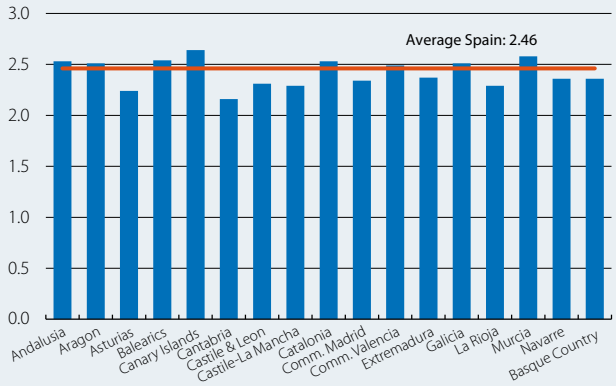
Cumulative change over four quarters (%)



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

Interest rate on new mortgages granted in 2016 Q2

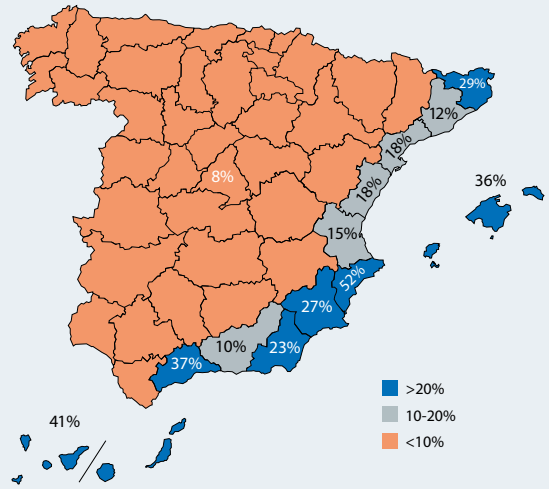
(%)



Source: *CaixaBank Research, based on data from the Colegio de Registradores de la Propiedad, Mercantiles y Bienes Muebles de España.*

House purchases by foreigners in 2016 Q2

(% of total sales)



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

FOCUS · Tourism, an exceptional year?

2016 is turning out to be an exceptionally good year for foreign tourism in Spain. 60 million tourists arrived between January and September, 10.1% more than in the same period in 2015. These figures place Spain among the top three countries in the world in international tourist arrivals (together with the United States and China). Another figure that clearly shows the sector is going through a good patch, and the importance of this for the economy as a whole, is the revenue from foreign tourism, which will account for almost 5% of GDP in 2016.

The impact of foreign tourism in Spain is relatively high when compared at an international level:[1] the sector contributes 7.7% of GDP, a larger share compared to other countries of similar size and supply, such as Italy (2.8%) and France (2.6%), although small when compared to countries such as Portugal and Greece, where the contribution is 10.8% and 11.2%, respectively (see the first graph). The tourism sector's weight highlights the need to examine its most recent trends and outlook for the future.

In the last year foreign tourism in Spain has grown more quickly than in countries with a similar tourist appeal. While the overnight stays of foreign tourists in Spain have accelerated in 2015 and 2016, these have slowed down in Italy (perhaps the most comparable destination) and in Greece, where growth over the 12 months up to June was around 0.5%. Croatia has a similar pattern to Spain but is starting from a much lower level. So can we expect this boom to continue?

The good results seen in 2016 are largely supported by the high competitiveness of Spain's tourism industry. Spain topped the World Economic Forum's global ranking in 2015 (8th in 2011 and 4th in 2013), above France (2nd), Italy (8th), Greece (31st) and Croatia (33rd). Regarding Italy, Spain has consolidated its advantage in terms of price competitiveness and especially in better transport and service infrastructures.

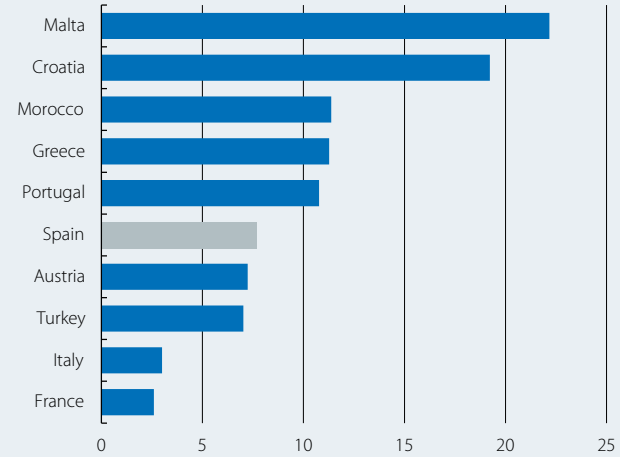
On the other hand it should also be noted that European tourist destinations, and particularly Spain, have benefitted from external factors, for example the geopolitical unrest in destinations in North Africa and the Middle East, such as Egypt and Tunisia, which are pushing the tourists who would have visited these regions towards safer destinations such as Spain and Italy. As this unrest is unlikely to calm down in the near future, such external factors suggest the good season of 2016 may continue. This observation needs to be qualified, however. If we examine the growth in the number of tourists received by Spain by country of origin, we can see that the arrival of British tourists has accelerated (11.8% year-on-year in the last 12 months up to August) whereas the number of German tourists has declined (2.5%).

In this respect, we should note the greater sensitivity of British tourism to the country's domestic economic conditions. Specifically, in the case of British tourists there is a high correlation of tourist arrivals by country of origin with GDP growth in the country of origin while the correlation is more moderate in the case of German or French tourists. With regard to British tourism, we should add that although it accounts for 23.5% of the total, British tourists contributed 35% to the increase in tourism revenue in the 12 months up to August (see the second graph). Given such figures, there is no doubt that Brexit represents a significant risk factor for Spain's tourist industry.

1. Data from Oxford Economics and from the World Travel & Tourism Council.

Contribution of foreign tourism to GDP

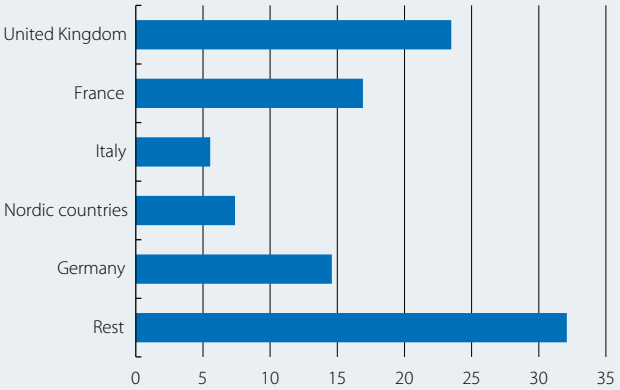
(% of GDP)



Note: ** Data from 2015.*
Source: *CaixaBank Research, based on data from the World Travel & Tourism Council, Oxford Economics and the IMF.*

*Spain: tourism by country of origin **

(%)



Note: ** Share of total foreign tourists. Data from August 2016 (cumulative over 12 months).*
Source: *CaixaBank Research, based on INE data.*

KEY INDICATORS

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

Activity indicators

	2014	2015	2015 Q4	2016 Q1	2016 Q2	07/16	08/16	09/16	10/16
Industry									
Electricity consumption	–0.1	1.6	2.5	–0.8	0.9	–3.7	0.3	3.8	...
Industrial production index	1.3	3.3	4.2	2.6	1.4	0.2	4.2	...	...
Indicator of confidence in industry *(value)*	–7.1	–0.3	0.3	–1.9	–2.8	–3.1	–5.2	–3.0	–0.1
Manufacturing PMI *(value)*	53.2	53.6	52.5	54.3	52.5	51.0	51.0	52.3	...
Construction									
Building permits *(cumulative over 12 months)*	–7.7	20.0	31.1	45.2	47.9	46.9	...	...	...
House sales *(cumulative over 12 months)*	–5.6	10.9	11.9	10.6	14.1	13.5	13.3	...	...
House prices	–2.4	1.1	1.8	2.4	2.0	–	–	–	–
Services									
Foreign tourists *(cumulative over 12 months)*	7.2	5.6	4.8	5.9	7.4	8.5	...	...	...
Services PMI *(value)*	55.2	57.3	55.9	54.7	55.5	54.1	56.0	54.7	...
Consumption									
Retail sales	1.0	3.0	3.4	3.8	3.8	5.0	3.2	3.4	...
Car registrations	18.4	21.3	17.1	8.0	17.8	4.3	14.6	14.0	...
Consumer confidence index *(value)*	–8.9	0.3	1.6	–2.5	–3.2	–5.8	–5.2	–7.3	–4.8

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

Employment indicators

	2014	2015	2015 Q4	2016 Q1	2016 Q2	07/16	08/16	09/16
Registered as employed with Social Security [1]								
Employment by industry sector								
Manufacturing	0.1	2.2	2.7	2.8	2.7	2.7	2.7	2.8
Construction	–1.6	4.7	4.1	2.6	2.1	2.5	2.6	2.8
Services	2.2	3.5	3.4	3.1	3.0	3.3	3.3	3.3
Employment by professional status								
Employees	1.4	3.5	3.6	3.4	3.1	3.5	3.5	3.5
Self-employed and others	2.2	1.9	1.4	1.2	1.0	0.9	0.9	0.9
TOTAL	**1.6**	**3.2**	**3.2**	**3.0**	**2.7**	**3.1**	**3.0**	**3.0**
Employment [2]	**1.2**	**3.0**	**3.0**	**3.3**	**2.4**	**–**	**2.7**	**–**
Hiring contracts registered [3]								
Permanent	18.8	12.3	7.6	8.3	17.4	10.9	30.9	11.8
Temporary	13.1	11.2	11.8	6.2	9.1	0.4	15.3	5.7
TOTAL	**13.4**	**11.3**	**11.5**	**6.4**	**9.8**	**1.1**	**16.3**	**6.2**
Unemployment claimant count [3]								
Under 25	–8.2	–11.0	–11.7	–10.9	–12.0	–14.3	–14.8	–14.0
All aged 25 and over	–5.3	–7.2	–7.5	–7.8	–7.5	–8.5	–8.6	–8.7
TOTAL	**–5.6**	**–7.5**	**–7.9**	**–8.1**	**–7.9**	**–9.0**	**–9.1**	**–9.1**

Notes: *1. Mean monthly figures. 2. LFS estimate. 3. Public Employment Offices.*
Source: *CaixaBank Research, based on data from the Ministry of Employment and Social Security, INE and Public Employment Offices.*

Prices

	2014	2015	2015 Q4	2016 Q1	2016 Q2	07/16	08/16	09/16	10/16
General	**–0.1**	**–0.5**	**–0.3**	**–0.7**	**–0.9**	**–0.6**	**–0.1**	**0.2**	**0.7**
Core	0.0	0.6	0.9	1.0	0.7	0.7	0.9	0.8	...
Unprocessed foods	–1.2	1.8	2.5	2.1	2.7	5.7	3.7	1.2	...
Energy products	–0.8	–9.0	–10.2	–13.1	–13.6	–12.0	–9.1	–4.8	...

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

Foreign sector

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

	2014	2015	2015 Q3	2015 Q4	2016 Q1	2016 Q2	07/16	08/16
Trade of goods								
Exports *(year-on-year change)*	2.5	4.3	3.4	3.8	0.2	4.3	–9.1	8.9
Imports *(year-on-year change)*	5.7	3.7	3.3	3.3	–0.7	–0.3	–12.0	4.2
Current balance	**11.2**	**14.7**	**16.0**	**14.7**	**15.4**	**19.4**	**19.8**	**21.0**
Goods and services	25.5	26.2	26.8	26.2	26.0	29.7	30.7	31.3
Primary and secondary income	–14.3	–11.5	–10.8	–11.5	–10.6	–10.3	–10.9	–10.3
Net lending (+) / borrowing (–) capacity	**16.3**	**21.7**	**22.1**	**21.7**	**22.2**	**25.9**	**26.1**	**26.8**

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

Public sector

Percentage GDP, cumulative in the year, unless otherwise specified

	2014	2015	2015 Q3	2015 Q4	2016 Q1	2016 Q2	07/16	08/16
Net lending (+) / borrowing (–) capacity [1]	**–6.0**	**–5.1**	**–3.0**	**–5.1**	**–0.7**	**–3.1**	**–**	**...**
Central government	–3.7	–2.6	–2.1	–2.6	–0.8	–1.9	–2.7	–2.8
Autonomous regions	–1.8	–1.7	–1.1	–1.7	–0.1	–0.7	–0.1	–0.1
Local government	0.6	0.4	0.3	0.4	0.1	...	–	...
Social Security	–1.0	–1.2	–0.2	–1.2	0.2	–0.6	–0.5	–0.6
Public debt *(% GDP)*	**100.4**	**99.8**	**100.3**	**99.8**	**101.1**	**101.0**	**–**	**...**

Note: *1. Includes aid to financial institutions.*
Source: *CaixaBank Research, based on data from the IGAE, Ministry of Taxation and Bank of Spain.*

Financing and deposits of non-financial sectors

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

	2014	2015	2015 Q3	2015 Q4	2016 Q1	2016 Q2	07/16	08/16	Balance 08/16 [1]
Financing of non-financial sectors [2]									
Private sector	–6.2	–3.9	–4.0	–3.1	–3.7	–3.5	–2.9	–2.9	1,613.2
Non-financial firms	–7.1	–4.0	–4.3	–3.0	–4.1	–4.2	–3.5	–3.5	898.0
Households [3]	–5.1	–3.7	–3.6	–3.3	–3.1	–2.6	–2.1	–2.1	715.3
General government [4]	5.9	4.0	3.5	3.7	3.5	4.3	5.4	4.6	1,102.1
TOTAL	**–2.1**	**–1.0**	**–1.2**	**–0.5**	**–0.9**	**–0.5**	**0.3**	**0.0**	**2,715.3**
Liabilities of financial institutions due to firms and households									
Total deposits	–0.9	–1.0	–1.1	–0.5	–0.4	–0.3	–0.6	–0.1	1,156.0
On demand deposits	10.8	18.5	18.8	17.7	16.2	16.0	15.5	17.3	428.4
Savings deposits	5.8	12.9	13.7	15.2	13.4	12.1	11.5	11.7	271.9
Term deposits	–7.6	–15.3	–16.3	–15.8	–15.4	–16.4	–17.2	–17.6	434.0
Deposits in foreign currency	1.1	5.6	5.1	–2.3	–4.0	1.6	–2.6	–1.8	21.7
Rest of liabilities [5]	–8.2	–13.0	–14.0	–15.1	–16.7	–16.3	–12.8	–7.0	91.6
TOTAL	**–1.7**	**–2.2**	**–2.3**	**–1.9**	**–1.9**	**–1.7**	**–1.6**	**–0.7**	**1,247.6**
NPL ratio *(%)* [6]	**12.5**	**10.1**	**10.7**	**10.1**	**10.0**	**9.4**	**9.4**	**9.4**	**–**
Coverage ratio *(%)* [6]	**58.1**	**58.9**	**60.6**	**58.9**	**59.0**	**58.7**	**59.0**	**58.9**	**–**

Notes: *1. Billion euros. 2. Resident in Spain. 3. Including NPISH. 4. Total liabilities (consolidated). Liabilities between different levels of government are deduced. 5. Aggregate balance according to supervision statements. Includes asset transfers, securitized financial liabilities, repos and subordinated deposits. 6. Data end of period.*
Source: *CaixaBank Research, based on data from the Bank of Spain.*

INDUSTRY 4.0

Industry as the crux of transformation: past, present and future

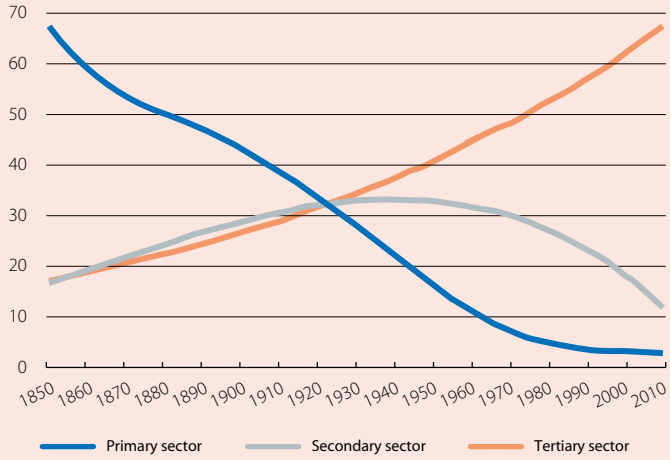
Over the last few centuries industry has become crucial for countries' economic development. The expansion of industrial activity has been hugely important in driving technological innovation, export capacity and the sophistication of production processes. In short, it has been key to boosting economic growth. The effects of the different industrial revolutions, moreover, have gone beyond what is strictly economic, encouraging important changes at a social and demographic level, such as creating an extensive middle class and increasing the population. It therefore comes as no surprise that industry's apparent loss of relative importance over the last few decades has been a recurring source of concern.

The Fischer-Clark model provides a conceptual framework that is useful to explain how a country's economy goes through different cycles of sector development over time. The hypothesis of this framework is essentially as follows. During the earlier phases of economic development, agriculture and fishing employ most of the working age population; the hallmark of pre-industrial societies. As technical advances in industrial activities increase the sector's production capacity, agricultural employment loses relative weight at the same time as manufacturing employs an increasingly larger share of the population. Industrialisation advances and becomes more complex until industry becomes the most important engine in an economy's production structure (in terms of employment and GDP), albeit for a short period of time. It is during industry's development phase that industrial societies come about and in most of the countries that make up the advanced bloc today, this occurred at the end of the 19th century and beginning of the 20th. From this point on, the technological factor becomes increasingly important and gains in productivity in the manufacturing sector accelerate. As this pattern consolidates and the income of workers increases, so does the relative weight of activities related to the services sector, such as those connected with leisure, healthcare and education. This increase in demand for services is partly due to the income elasticity of demand for services, which tends to be higher than in the case of demand for manufactured goods. Services therefore become the economy's main sector of activity, a distinctive trait of post-industrial societies.

The graph reproduces the Fischer-Clark model for the case of the US, although the underlying message also applies to the rest of the developed countries. The relative weight of the secondary sector in the US has gone from accounting for almost 30% of GDP in the mid-20th century to just over 11% in 2015. A very similar trend to the one observed in employment: this has fallen from 35% of the total number of employees in the mid-20th century to 10% currently. However, it should be noted that the secular decline in industry is due to a combination of factors and some of these entail significant distinctions when quantifying industry's «real» loss in terms of GDP and employment. The production and organisational changes that have occurred in this sector and the growing degree of interdependence between industry and services (a phenomenon known as the servitisation of manufacturing) are just some of the most important aspects, as detailed in the article «Industry is dead! Long live industry!» in this Dossier.

US: a very long-term view of the economy's sector structure

Each sector's contribution to total employment (%)



Source: *CaixaBank Research, based on data from the US Census Bureau and the BEA.*

One of the most far-reaching issues related to the phenomenon of deindustrialisation is whether they involve a shift towards a new economic, social and even demographic order. In this respect, throughout history there have been watersheds that have resulted in drastic changes regarding the predominant *status quo* at any particular time. One of these is the Industrial Revolution, which started in Great Britain in the second half of the 18th century and whose main hallmarks are the mechanisation of the textile industry and the development of the factory production system (replacing decentralised, home-based production methods). As everyone knows, these technological developments had a formidable impact throughout the following decades. Firstly, an incredibly important historical fact occurred, namely the emergence of the working middle class. Secondly, and related to this last point, the world's demographic pattern changed radically. The population grew considerably, doubling its size in the

100 years following the Industrial Revolution and reaching 1,240 million inhabitants in 1850. This contrasts with the feeble growth in population that had been the pattern until then.[1] Moreover, manufacturing firms grouped together in cities to be close to their suppliers and customers, reducing transport costs both for intermediate and end goods. These agglomeration economies encouraged a proliferation of industrial districts in many cities in the 19th century, as was the case of the East End in London and Poblenou in Barcelona. The Second Industrial Revolution took place between the last few years of the 19th century and the early 20th, introducing assembly lines and the concept of mass production with electricity and fossil fuels as its key features. The process of urbanisation intensified, population growth rocketed and the consciousness of the working class became firmly established.

Now that industry's downward trend is difficult to refute, its influence on important areas such as demography, the role played by cities and inequality has once again come under the spotlight. Regarding demographics, although the reduction in the birth rate has coincided with the decline in industry's relative weight, particularly in the main developed countries, this relationship does not seem to be causal. In fact, the reduction in the birth rate is more closely related to a change in preferences and needs as the level of economic development increases.

Regarding cities, although it is true that their growth was closely linked to the development of industry because this helped to reduce transport costs, their role has been undergoing considerable changes for several decades now. In an increasingly tertiarised economy, cities play a very important role in providing leisure services and creating a denser labour market, improving its efficiency and enhancing the environment for generating and spreading innovative ideas.[2] The bulk of the evidence available therefore suggests that the process of urbanisation will continue in the next few decades in spite of industry's decline.

The issue of increasing inequality, or the smaller relative weight of the middle class, is different. In this case there does seem to be some connection between the rise in inequality observed in countries over the last few decades and industry's loss of relative weight. Ultimately we must remember that industry, like other economic sectors, is going through a far-reaching metamorphosis due to the emergence of new technologies such as the digitalisation of production processes, the development of artificial intelligence and robotisation, the new production possibilities brought about by 3D printing and the use of big data, among others. All these advances, stealthy in essence but powerful in intensity, are giving rise to what is known as Industry 4.0 and entail important changes in the kind of professional skills required by the sector. Whereas industry originally employed a large number of workers from the agricultural sector without them requiring much training, those now employed in the sector have an increasingly higher level of education, essential to be able to take maximum advantage of the opportunities provided by new technologies. However, the more mechanical or repetitive tasks, which used to be carried out by workers receiving an average wage, are being replaced by robots or mechanised processes. As noted in the article «The new industrial policy: challenges and opportunities» in this Dossier, such changes pose a considerable challenge for economic policy.

In summary, there can be no doubt that an effort must be made to promote those advances that will bring about Industry 4.0 and the servitisation of manufacturing while, at the same time, minimising the potential repercussions of this new industrial paradigm. The challenge for economic policy is not inconsequential; neither is the threat.

Carlos Martínez Sarnago
Financial Markets Unit, Strategic Planning and Research Department, CaixaBank

1. An excellent account of the history of the world's population is provided by Livi-Bacci, M. (1990), «Historia mínima de la población mundial». Editorial Ariel, Barcelona. The author documents an average annual growth in the planet's population from year 0 to 1750 of 0.06%. Over the next 200 years (1750-1950), the average annual growth rate increases to 0.6%.
2. On this issue, see the Dossier «The time of cities» in MR06/2016.

Industry is dead! Long live industry!

On 2 January 1956, *Time* magazine named Harlow Curtice, CEO of General Motors, its Person of the Year. At 62, Curtice had spent the last 42 years working at General Motors, the leading car and truck manufacturer of the time that employed almost 600,000 workers and whose sector (manufacturing) accounted for approximately 30% of employment and GDP in the US. Almost 50 years later, in 2010, Mark Zuckerberg, 25 and founder of Facebook, at that time with fewer than 3,000 employees,[1] was the person chosen. Rather than a mere anecdote, these covers illustrate industry's loss of importance in favour of services in advanced economies since the second half of the 20th century.[2] As is explained in the articles «Industry as the crux of transformation: past, present and future» and «The new industrial policy: challenges and opportunities» in this Dossier, there exists a social concern that the deindustrialisation of the advanced economies might impoverish their societies and there are differences of opinions as to whether reindustrialisation should be encouraged. However, this article argues that such a transformation is the result of structural factors and, contrary to appearances, is actually encouraging greater integration between industry and services.

Time *Magazine Person of the Year*

1956 **2010**

Note: *The faces of Harlow Curtice, CEO of General Motors, and Mark Zuckerberg, founder of Facebook, were on the cover of* Time *magazine as its Person of the Year in 1956 and 2010, respectively, illustrating industry's loss of importance in favour of services in advanced economies since the second half of the 20th century.*
Source: *CaixaBank Research, from a General Motors archive (Harlow Curtice) and Shutterstock (Mark Zuckerberg).*

As of today, 12% of the US' GDP is produced by manufacturing while professional and financial services and those related to information, education and healthcare, as a whole, account for 45% of GDP (this share was around 20% in the 1950s). This structural change can also be seen in a loss of employment in industry in favour of services. However, deindustrialisation does not result in fewer manufactured goods being produced: quite the opposite since, as shown by the second graph, the volume of manufactured goods produced is at an all-time high.

The fact that jobs are being lost in the industrial sector at the same time as a peak in manufacturing production reflects one of the structural factors behind the deindustrialisation process: growth in productivity is faster in industry than in services. This gap between productivity growth rates is pushing down the relative price of manufactured goods compared with services, resulting in a readjustment of the economic structure. On the one hand it generates incentives to consume more manufactured goods (which are relatively cheap) and fewer services (relatively expensive) but, on the other hand, the fall in the price of manufactured goods increases our purchasing power and allows us to consume more manufactured goods and also more services. Deindustrialisation occurs when the second effect is more dominant and the services sector needs to hire more workers to meet the rise in demand (while the greater productivity of the industrial sector allows it to meet this demand with fewer workers).[3] Moreover, in advanced economies this effect is amplified by the tendency for the consumption of services to increase as societies become wealthier (for example due to the ageing population, which results in a higher demand for healthcare services) and by globalisation (playing a leading role in the development of manufacturing industry in China), which helps to increase the competitiveness of manufacturing firms by offshoring part of the production process.

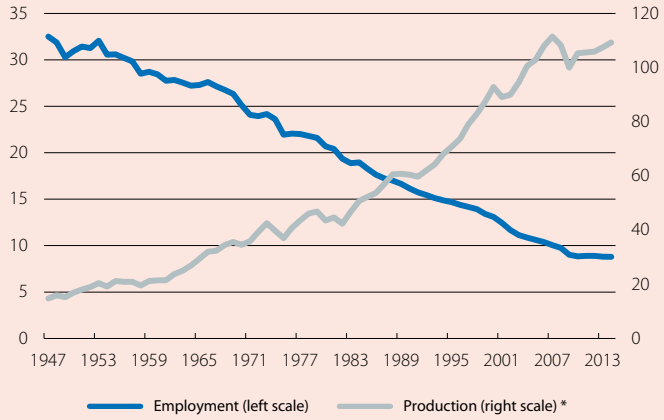
The advances being made in automation lie behind industry's faster growth in productivity. To mechanise the production of a good or service we need to describe the production process using a list of instructions that are standardised, well-defined and performed repeatedly, and this is much easier to do in manufacturing than in services. For example, all the pianos from an assembly line have the same size, the same number of keys, etc., but each concert in which a piece by Mozart is performed is unique and unrepeatable. Given that automation benefits industry to a greater extent, technological improvements encourage manufacturing firms to replace those workers who carry out repetitive tasks and follow well-defined rules.

1. Facebook currently employs almost 15,000 workers.
2. Deindustrialisation is characterised by manufacturing firms losing their share of total employment and, to a lesser extent, their share of total manufacturing value. Rodrik, D. (2015), «Premature Deindustrialization», NBER Working Paper, No. 20935 states that this process can also be seen in emerging economies.
3. Growth in manufacturing demand is a reflection of the rise in real production observed in the second graph. Note that this is compatible with a reduction in manufacturing firms' share of the value compared with the total value-added of the economy.

Nevertheless, the automation of production processes does not eliminate the demand for a skilled industrial workforce: for example, although a number of robots may be capable of transforming basic materials into a car, specialists are still required to design the vehicle and market it. In other words deindustrialisation does not only consist of replacing manufacturing with services but also leads to company requirements being redefined. This is illustrated in the third graph which shows how the services sector has become an increasingly important supplier and client for the manufacturing sector. Traditional manufacturing companies are abandoning the stage of goods production (through outsourcing) and are no longer registered as manufacturers in the official statistics but they are keeping the stages of pre-production (R&D, design, engineering) and post-production (sales strategy, marketing, logistics), which is actually where there is more value-added.[4] One example of this kind of company is Apple, famous for its mobile devices and computers: Apple is responsible for designing, developing and marketing its products but outsources production to companies such as Foxconn, employing a significant degree of automation and mostly manufacturing outside the US. Other companies have remained in the manufacturing sector but complement their traditional production of goods with the provision of services, what is known as the servitisation of manufacturing.[5] The aforementioned structural factors encourage manufacturing firms to produce services as they help to boost customer loyalty (e.g. through marketing or corporate social responsability campaigns), differentiate products (such as the iOS operating system, only available for iPhones) and ensure a more stable source of income (for example, with an average life in excess of 10 years, cars offer a more regular income through maintenance and repair services than through sales).

Manufacturing: employment and production

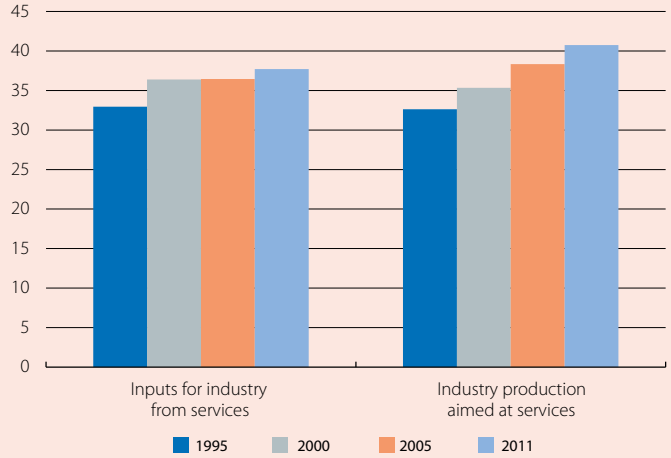
(% of total employment) *Index (100 = 2009)*



Note: ** Chain-linked index at constant prices.*
Source: *CaixaBank Research, based on data from the Bureau of Labor Statistics and the Bureau of Economic Analysis.*

Increase in integration between industry and services

(%)



Source: *CaixaBank Research, based on data from the World Input-Output Database.*

As we already discussed in a previous Dossier,[6] automation provides the chance to enrich the whole of society and involves a reorientation of the nature of work. In this article we have seen that, perhaps somewhat paradoxically, the increase in productivity taking place at the same time as deindustrialisation is increasing the importance of services and transforming industry towards a servitisation of manufacturing. The advances being made in automation are on a par with the improvements in knowledge and technology and are forcing us to break moulds. Although, in 1776, in reference to manufacturing firms and services, Adam Smith[7] wrote: «A man grows rich by employing a multitude of manufacturers; he grows poor by maintaining a multitude of menial servants», today the reality is that automation is amplifying the value-added offered by services for the production process. Deindustrialisation therefore entails a reorganisation of the production structure to allow workers to specialise in those tasks in which the human factor comes to the fore, such as creativity and personal interaction, also within industry itself (engineers, managers, publicists, etc.).

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4. See Bernard, A. B. and Fort, T. C. (2013), «Factoryless Goods Producers in the US», NBER Working Paper No. 19396.
5. See Crozet, M. and Milet, J. (2014), «The Servitization of French Manufacturing Firms», CEPII Working Paper No. 2014-10.
6. See the articles in the Dossier «New technologies and the labour market» in MR02/2016.
7. See Smith, A. (1776), «An Inquiry into the Nature and Causes of the Wealth of Nations», book 2, chapter 3.

The new industrial policy: challenges and opportunities

What are the best industrial policies for a globalised world? The answer is complex as we are currently witnessing a redefinition of what we understand as industrial policies and what their goals and tools should be. This is happening because globalisation and the emergence of new technologies have brought about a metamorphosis of industry, as explained in the article «Industry is dead! Long live industry!» in this Dossier.

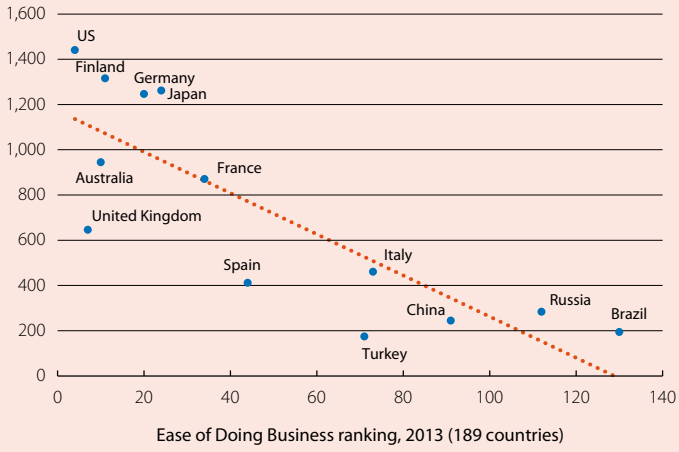
The first obstacle we encounter in defining exactly which sectors should be covered by industrial policy is the very ambiguity of the term «industry». This term comes from the Latin word that originally meant «diligence and hard work». During the last century industry was associated with manufacturing companies but, as a result of the economy's shift towards the tertiary sector, the concept of industry has widened its boundaries. Because of this, modern industrial policies must take into account the fact that industries also consume and produce services. The activities of pre- and post-production, such as innovation, design and marketing, can generate more value than the production of a tangible good *per se*. The American firm Apple is a case in point of this new «servitisation of manufacturing» and industrial policies must therefore be redesigned to include the changes the industrial sector is currently going through.

Historically, traditional industrial policies tended to adopt a sector-based and in many cases protectionist approach, supporting industries such as steel and coal. These policies might have been reasonable in post-war Europe to help rebuild the continent and boost sectors requiring heavy investment but this kind of policy makes no sense in today's globalised world and given the new technologies that have reduced the minimum scale required for production in many industries. Moreover, the financial system is now able to fund large investment projects. As a consequence, new industrial policy has tended to adopt a more general approach, analysing the economy's activities as a whole and determining what is expected from them. New industrial policy is therefore based on two fundamental actions. The first consists of creating the appropriate regulatory and legislative framework that respects copyright, does not inhibit innovation and ensures that services associated with industry can flourish. The second is to identify those economic activities that might be held back by faults in the market and, in turn, design policies to help these activities realise their full potential.

The first action is crucial as it creates a fertile breeding ground for entrepreneurship and innovation. The best way to foster innovation and R&D is by providing beneficial conditions for the development of new ideas and projects and, indeed, the graph shows that R&D expenditure is higher in those countries with a more favourable environment for entrepreneurship, measured by the World Bank's ease of doing business index. It is essential to create a regulatory framework that guarantees contracts are fulfilled, that minimises the red tape associated with start-ups and strengthens legal security. The economy must also be encouraged to integrate within global trade so that new industry can reap the advantages of global value chains.

Innovation and business conditions

R&D per capita, 2013 (dollars in purchasing power parity)



Source: *CaixaBank Research, based on data from the World Bank and UNESCO.*

On the other hand, another important aim of new industrial policy must be to encourage servitised manufacturing and promote the synergies between industry and its associated new services. Some industries will decide to provide these services themselves while others will outsource them but, whatever the case, industrial policy must smooth the way for such processes.

Lastly, competition policy is another key element since, with the emergence of great technological innovations comes the risk of a few companies monopolising the markets, creating barriers that block any innovation by their rivals. To prevent such a situation, competition policy must promote national, active policies of competition, must keep markets open and get rid of any barriers to both entry and exit. The pharmaceutical industry in Switzerland, the car industry in Spain, the chemical industry in Germany and the computer industry in the US all epitomise the virtues of competition and of domestic rivalry between firms.

The second action mentioned above must be subordinated to the first because industrial policies can only correctly determine the functioning of markets and intervene wisely once the right regulatory framework is in place. In fact, industrial policies focusing on promoting certain specific sectors have historically tended to be relatively limited in terms of effectiveness and, *a priori*, there is no reason to think that the public sector has access to any more or better information than the markets to decide which sectors to allocate resources to. In fact there is the risk that the institution responsible for deciding where to invest public resources may be influenced by pressure groups, distorting the allocation of the resources even further. The most successful industrial policies have therefore concentrated on supporting R&D and the training of human capital. As far as R&D is concerned, the production of knowledge and innovation are public goods since the use of knowledge by one person does not diminish when it is used by another and this can discourage some companies from carrying out research and innovating. Because of this, it is important to combine a system of patents that encourages innovation through industrial policies that support basic research in order to increase the spread of technological advances. One example of how to implement such policies appropriately would be the allocation of R&D aid via public tenders and according to merit, prioritising high-tech activities that tend to suffer from credit constraints because they have high levels of intangible capital. The policies for training human capital are very closely linked to promoting innovation and industrial policies should improve the training of this capital when there is not enough private incentive in the markets. Investment in higher education and encouraging synergies between business and academia are just some of the ways to bring this about.

If we look at the European Union's new industrial policy, we can see this has both good and bad points. Among the good points is the reduction in the relative weight of old sector-based policies, which went from 44% of all European Union aid to member states in 1992 to just 10% in 2012, according to data from the European Commission. However, all that glitters is not gold. The main problem is the EU's productivity gap[1] with the US as the European Union has not taken as much advantage of the opportunities offered by new technologies and R&D spending in the US is much higher. The main reason for this phenomenon is the small degree of competition in the EU's new services. To boost competition, the agenda of reforms should be completed to bring about a single services market, reduce the fragmentation of European financial markets and eliminate regulatory barriers. These reforms are particularly pressing, for example, to create a *bona fide* European telecom industry. One indication that the European Union might be returning to old habits it seemed to have abandoned is the goal set by the European Commission for manufacturing to regain a 20% share of GDP by 2020 (this share was 15% in 2014). In addition to not being very realistic, this target does not take into account the fact that the relative share of traditional industry has fallen due to higher growth in industrial productivity than the average growth for the economy, as well as its integration with the services sector. European industrial policy should therefore focus on carrying out reforms on its regulatory framework to facilitate the expansion of new industry and its associated services.

In summary, industrial policy is currently undergoing a transformation in parallel with the production and technological changes occurring in the world economy. The main function of new industrial policy is to design policies that help the production sector to prosper and grow. It is not a question of favouring one sector at the expense of another but of creating the right conditions to foster innovation, growth and job creation. Such a task is motivating but not easy and Europe's public powers would be well-advised to buckle down and get down to business as soon as possible.

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1. See, for example, Rincón, A., Saraidaris, A., Vecchi, M. and Venturini, F. (2012), «Closing the US-EU productivity gap: Knowledge assets, absorptive capacity, and institutional reforms», VOX CEPR.

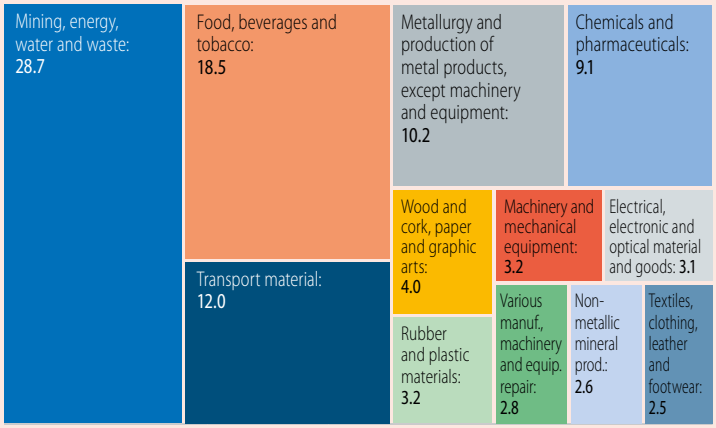
The future of industry in Spain

Advanced economies are facing the challenge of undertaking the so-called Fourth Industrial Revolution, developing an industrial sector with «smart factories» that make use of digital technologies, robots and artificial intelligence, transforming the production process from start to finish. Spain, which did not have much success when the First Industrial Revolution took off in the 19th century,[1] is facing the same challenge. We shall now examine the current state of affairs in the country and how it might successfully implement the new Industry 4.0.

The industrial sector is important for the Spanish economy: in 2014 it employed more than 1.9 million workers (11.5% of the total), generated 572 billion euros in turnover and its gross value added accounted for 15% of GDP.[2] The sector includes a wide range of activities, from food (15.6% of the sector's total turnover) and motor vehicles (10.1%) to the production and distribution of electricity (12.2%). Industry also has a higher average labour productivity than the rest of the economy's sectors (up to 47% more than the services sector if we exclude real estate).[3] It is also key for exports: almost 30% of its sales are abroad, two thirds of them in the EU. In short, the Spanish economy has a diverse, export-focused industrial fabric with high productivity.

*Activity sectors of Spanish industry by turnover **

(% of total turnover)



Note: ** Turnover corresponds to a company's volume of sales in one year.*
Source: *CaixaBank Research, based on data from the Encuesta Industrial de Empresas 2014 (INE).*

Deindustrialisation is, however, a secular phenomenon that is occurring in Spain as it is in the rest of the developed countries. Industry's relative weight in the economy fell by 5 pps between 1995 and 2015 while the services sector increased its share by 8 pps over the same period (to 68%). Nevertheless this separation between industry and services is increasingly blurred as production processes are becoming more fragmented and many activities that used to be carried out by manufacturing firms are now being subcontracted to the services sector and even performed abroad, processes known as outsourcing and offshoring, respectively (for more detail, see the article «Industry is dead! Long live industry!», in this Dossier). The services sector's share of intermediate consumption has therefore increased both in manufacturing and also in services, although its relative

Intermediate consumption of manufacturing and service companies in Spain by branch of activity

*(% of total intermediate consumption) **

		Type and origin of intermediate consumption											
		1995						2011					
		Manufacturing			Services			Manufacturing			Services		
Branches of activity			Spain	Rest of the world		Spain	Rest of the world		Spain	Rest of the world		Spain	Rest of the world
Manufacturing	Food	**50.8**	45.5	5.3	**49.2**	47.4	1.8	**48.2**	41.5	6.7	**51.8**	48.1	3.8
	Textiles and paper	**65.4**	50.2	15.2	**34.6**	33.2	1.4	**53.8**	34.0	19.7	**46.2**	42.4	3.8
	Chemicals	**51.2**	35.1	16.1	**48.8**	43.3	5.5	**52.2**	29.7	22.5	**47.8**	39.3	8.6
	Machinery	**69.2**	50.4	18.8	**30.8**	29.1	1.7	**70.9**	48.2	22.6	**29.1**	26.6	2.5
	Automobiles	**77.2**	47.5	29.7	**22.8**	21.6	1.2	**67.6**	29.4	38.1	**32.4**	30.1	2.3
Services	Maintenance and sales	**26.4**	16.9	9.5	**73.6**	70.8	2.7	**17.0**	7.8	9.2	**83.0**	75.7	7.3
	Transportation	**19.6**	14.8	4.9	**80.4**	75.5	4.8	**14.9**	8.7	6.2	**85.1**	76.2	8.8
	Telecommunications	**22.8**	18.0	4.7	**77.2**	73.2	4.0	**19.3**	9.8	9.4	**80.7**	72.5	8.2
	Financial services	**15.4**	12.7	2.7	**84.6**	79.2	5.3	**14.7**	11.5	3.2	**85.3**	75.5	9.8
	Other	**42.5**	36.1	6.4	**57.5**	54.5	3.0	**37.8**	27.1	10.7	**62.2**	57.4	4.8

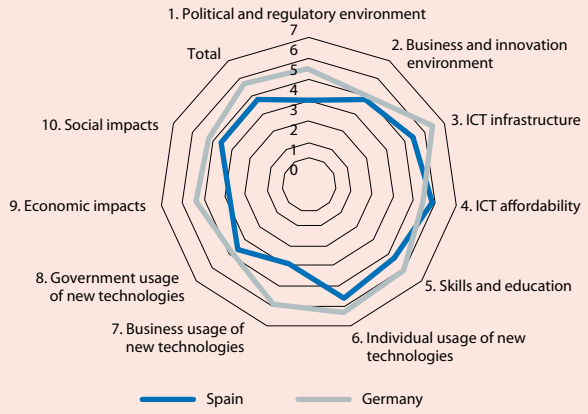
Note: ** Excludes the intermediate consumption of the primary, energy and construction sectors.*
Source: *CaixaBank Research, based on data from the World Input-Output Database.*

1. Nadal, J. (1975), «El fracaso de la revolución industrial en España, 1814-1913», Editorial Ariel, Barcelona.
2. Data from the Encuesta Industrial de Empresas, 2014 (INE).
3. Average apparent labour productivity in 2015 was 39.9 euros/hour while in services this was 31.0 euros/hour and, if we exclude the real estate sector, 26.5 euros/hour (INE).

importance varies depending on the branch of activity. The expansion of global value chains has also encouraged the offshoring of intermediate consumption, both for manufacturing and services. The automobile industry is a case in point: between 1995 and 2011 the share of intermediate consumption from manufacturing firms fell by 9.7 pps to 67.6%, at the expense of services (see the enclosed table). At the same time, in this sector the offshoring of production processes took the share of intermediate consumption for manufacturing in the rest of world from 29.7% to 38.1%. Lastly, a larger percentage of manufacturing production in Spain is now aimed at the services sector (going from 29.2% in 1995 to 31.5% in 2011). This phenomenon is even greater in other countries such as the US (where the percentage of manufacturing production aimed at services increased from 32.6% to 40.7%).

Networked Readiness Index *

Index (from a minimum of 1 to maximum of 7)



Note: ** Networked Readiness Index (NRI) by pillars.*
Source: *CaixaBank Research, based on data from the World Economic Forum.*

Within this transformation there are many different challenges facing Spanish industry, ranging from improving competitiveness and internationalisation to investment in R&D and new technologies and the training of human capital. Among other things, improving competitiveness involves curbing production costs (costs of transportation, energy, business financing, etc.) but it is also important for labour costs to develop in line with productivity. Encouraging Spain's industrial firms to become larger would also help to increase their productivity and internationalisation by augmenting their economies of scale and capacity to make larger investments, including technological. In Spain, the productivity of a manufacturing firm with over 250 employees[4] is 76% higher than that of a small firm (with 10 to 49 employees) and it exports a larger share of its production (33.5%, almost double that of a small firm). The vast majority of industrial firms currently employ fewer than 50 people, so increasing their size could be a decisive factor in improving their competitiveness and growth potential.

«Digital enablers», those elements that enable the digital transformation of industry such as the Internet of Things (IoT), will also help to boost industry's competitiveness.[5] Some of these enable new production methods that are less costly in terms of investment (cloud data storage services, the «Uberisation» of production processes, etc.). But, at present, fewer companies use these technologies in Spain than in other, similar countries.[6] Other «digital enablers» require considerable investment in R&D, so an increase in this would be beneficial. In Spain, R&D investment currently totals 1.2% of GDP compared with the 2% average in the EU (and 4.2% in South Korea).

The education and training of the labour force will also be crucial for the development of new industry. Although Spain's industrial labour force is more highly skilled than in the rest of the economy, the set of skills required to be able to take part in these production processes has changed and those individuals without such skills will need to acquire them.[7] Greater emphasis on vocational training, including dual vocational training, as well as on collaboration between businesses and academia will help to implement these new production methods.

Lastly industrial policy, understood as policy that foments a favourable environment for innovation and entrepreneurship (for more detail, see the previous article in this Dossier) will also be decisive in developing Spain's new industry. This will be helped by an increase in stability and less red tape. According to the Networked Readiness Index,[8] which analyses both the regulatory and business environment and also the availability and usage of technologies such as ICTs, Spain does not enjoy a very advantageous position in political or regulatory terms, or in other aspects such as the business environment and use of new technologies (see the second graph).

In conclusion, the development of Industry 4.0 in Spain will offer new opportunities for the sector but will require contributions both from companies as well as from institutions and workers themselves. In spite of the progress that has been made, Spain is still lagging behind most of its European neighbours. There is no time to lose to charge up its «lithium batteries».

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4. Value-added per employee.
5. See «Industria conectada 4.0: La transformación digital de la industria española» (2016), preliminary report, Ministry of Industry, Energy and Tourism.
6. Spain has a score of 3.9 out of 7 in the business use of new technologies, placing it 45th in the ranking of 139 countries analysed by the Global Information Technology Report 2016, behind most EU countries.
7. See «OECD Skills Outlook 2013».
8. Networked Readiness Index (NRI), defined in the Global Information Technology Report 2016.

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	MILLION €
Customer funds	296,599
Receivable from customers	206,437
Profit atributable to Group	814
Market capitalisation	18,702
Customers (million)	13.8
Staff	32,242
Branches in Spain	5,211
Self-service terminals	9,631

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	MILLION €
Social	308.8
Research and education	61.3
Spreading culture and knowledge	129.9
TOTAL BUDGET	**500**

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