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Global economic situation and outlook at the start of 2018

Associate Directorate General International Affairs

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After two consecutive years of slowing global activity, there was a rise in world GDP growth in 2017 which was widespread across advanced and emerging market economies and was higher than expected at the start of the year. Inflation rose moderately in 2017, largely due to increases in commodity prices, but core inflation remained more stable and far from central bank targets.

The outlook for 2018 indicates that these global trends will continue. Some of the factors that will influence these developments are analysed in detail in this article. First, several factors (the cyclical recovery, progress in deleveraging, fiscal changes and higher wages) indicate that the momentum of investment recorded in advanced economies in 2017 will continue in the short term, however, over a longer time frame, whether this strength is maintained will hinge on real interest rate developments, technological factors and resistance to the threat of protectionism. Second, the expected change in the macroeconomic policy mix in the United States and other advanced economies towards a more expansionary fiscal policy and a less loose monetary policy may raise short-term growth but, if they are not gauged properly, bouts of instability in international financial markets could ensue. Lastly, global financial conditions remain favourable. However, the turmoil on US equity markets early in 2018 which spread swiftly and vigorously to other stock markets seems to indicate less favourable global financial conditions in the future and, at the same time, warns against the risks associated with a sharp adjustment in international financial markets.

GLOBAL ECONOMIC SITUATION AND OUTLOOK AT THE START OF 2018

This article was written by the Associate Directorate General International Affairs.

Introduction

After two consecutive years of slowing global activity, world GDP growth rose in 2017. This renewed growth was widespread across advanced and emerging economies and was higher than expected at the beginning of the year. Noteworthy in the case of the advanced economies was the positive performance of business investment, which, following its lacklustre behaviour in previous years, showed signs of greater robustness and had a positive knock-on effect on world trade. In fact, the possible increase in protectionism and its impact on international trade was one of the chief downside risks identified in last year's article which did not materialise, although fears about this type of scenario resurfaced as a result of the tariff measures approved recently by the US administration. Most notable among the emerging market economies was the exit from recession of large economies such as Brazil and Russia. Additionally, in China, another focal point for risk due to its high debt, the authorities implemented a mix of monetary, fiscal and macro-prudential policies which stabilised its situation.

Inflation rose moderately in 2017 as a result of the increase recorded in the advanced economies, compared with the slight decline seen in the emerging economies. However, rising inflation was largely due to increases in commodity prices, whereas core inflation remained more stable and far from central bank targets.

The outlook for 2018 indicates that these global trends will continue with a fresh rise in world growth and a slow increase in inflation. Some of the factors that will influence these developments are analysed in detail in this article. One such factor refers to whether the more buoyant investment in the advanced economies in 2017 is temporary or permanent, which is not only important for determining the strength of the recovery but also because the modest vigour of this variable following the global financial crisis is one of the factors weighing on the potential growth of these economies. The article also focuses on the expected switch in the macroeconomic policy mix in the United States and in other advanced countries towards a more expansionary fiscal policy and a less loose monetary policy, and the impact this may have on macroeconomic developments in these countries and at a global level, and the risks it may entail. The third area of analysis is the favourable conditions prevailing on international financial markets in 2017, which provided significant support to world growth, despite the monetary policy normalisation process in the United States. 2018 began, however, with turmoil on US equity markets that spread swiftly and vigorously to other stock markets which, on one hand, seems to point to less favourable global financial conditions in the future and, on the other, warns against the risks associated with a sharp adjustment in international financial markets.

As indicated above, although the short-term global economic outlook is positive, significant risks exist. The change in the economic policy mix in the United States may raise short-term growth, but, if it is not gauged properly, it could overheat the economy and lead to a faster normalisation of monetary policy and substantial adjustments in international financial markets, against a backdrop of high private and/or public debt in many economies. Furthermore, the risk of greater protectionism is increasingly real, with adverse implications for the global allocation of resources. At the same time, the medium and long-term low growth outlook persists both in the advanced and emerging economies.

The global economy in 2017

GLOBAL ECONOMIC DEVELOPMENTS

In 2017, the global economy grew 3.7%, 0.5 percentage points (pp) more than in 2016 (see Table 1) and 0.3 pp higher than the IMF's projections at the beginning of the year (see Chart 1). This greater momentum in global activity was observed in the developed economies, where GDP growth increased by 0.6 pp (from 1.7% to 2.3%), and in the emerging market economies, where it rose (from 4.4% to 4.7%), underpinned by the resilience of the Asian economies – including China, whose growth increased – and by the exit from recession of some countries. The economic policy stance remained expansionary, despite the normalisation of monetary policy in the United States and its incipient normalisation in the United Kingdom.

Investors continued operating in a scenario characterised by the search for yield and high risk appetite, which took the shape of constant increases in the prices of numerous financial assets and very low volatility, which reached a trough at end-2017. The main stock market indices of developed and emerging market economies increased and in some cases, such as in the United States, exceeded their all-time highs (see Chart 2); spreads on the sovereign debt of emerging market economies and on lower-rated corporate debt were squeezed further; and there were significant capital inflows into emerging market economies. The dollar depreciated against most currencies, in particular those of countries with which the United States has a higher trade deficit. Accommodative financial conditions contributed to an improvement almost across the board in the confidence of households and businesses and to the increase in investment, employment and trade.

As noted in the introduction, in February 2018 there was a sharp increase in volatility measured by the VIX (index of implied volatility of the S&P), as a result of the publication of higher-than-expected wage growth data in the United States. This episode triggered substantial falls in the stock markets in most economies, moderate rises in long-term rates on government debt and it halted the weakening of the dollar. Nevertheless, it did not affect risk premia or financial conditions in general.

The increase in global demand in 2017 was felt in commodity prices which rose by 6.5% on average during the year (see Chart 3). Metal prices climbed by 25% and were also supported by certain supply-side restrictions, amply offsetting the moderating impact of good harvests on food prices. The price of a barrel of Brent oil rose 21% over the year as a whole, although its performance differed: initially the price fell from $55/barrel to $45/barrel since the increase in supply of US shale oil offset the cuts agreed by OPEC with other producers; however, from summer onwards prices moved upwards, climbing by more than 30% to above $70/barrel in early 2018. This rise was prompted by greater demand coinciding with the prolongation until the end of 2018 of the output cuts of OPEC and other oil producing countries, and by certain tight supply-side conditions (see Chart 3); futures markets are discounting similar prices to current ones. Although the increase in commodity prices pushed overall inflation slightly higher in the advanced economies, the absence of inflationary pressures continued to be the norm worldwide (see Chart 1).

The backdrop of economic recovery contributed to the quickening of world trade, which, following growth of 2.5% in 2016, increased by 4.7% in 2017 with the result that the apparent elasticity of trade to global GDP rose to 1.3 – a figure still below its historical average. In early 2017 the rise in world trade was underpinned by buoyant interregional trade in Asia which, in turn, was boosted by the fiscal stimulus for growth in the Chinese economy. From summer onwards, the increase in trade was driven by the higher imports of the advanced economies and, in particular, of the euro area which were fuelled by the recovery of investment. In the early months of 2018, the risks of increased protectionism

MAIN MACROECONOMIC INDICATORS (a)

TABLE 1

	2014	2015	2016	2017	2016				2017			
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
United States												
Gross domestic product	2.6	2.9	1.5	2.3	1.4	1.2	1.5	1.8	2.0	2.2	2.3	2.6
Consumer price index (b)	1.6	0.1	1.3	2.1	1.1	1.0	1.1	1.8	2.5	1.9	2.0	2.1
Current account balance	-2.1	-2.4	-2.4	-2.4	-2.6	-2.3	-2.4	-2.4	-2.4	-2.6	-2.1	-2.6
General government balance	-4.5	-4.0	-4.6	-4.3	-4.7	-4.7	-4.5	-4.6	-4.4	-4.4	-4.1	-4.6
Gross public debt (c)	124.8	126.9	128.0	124.9	128.5	127.4	127.3	128.0	126.9	125.9	125.1	124.9
Unemployment rate	5.6	5.0	4.7	4.1	5.0	4.9	5.0	4.7	4.5	4.3	4.2	4.1
Euro area												
Gross domestic product	1.4	2.0	1.8	2.6	1.7	1.7	1.7	2.0	2.1	2.5	2.8	2.8
Consumer price index (b)	0.4	0.0	0.2	1.5	0.0	-0.1	0.3	0.7	1.8	1.5	1.5	1.4
Current account balance	2.6	3.4	3.8	3.7	2.8	3.7	4.0	4.8	2.4	2.5	4.9	5.1
General government balance	-2.7	-2.2	-1.6	—								
Gross public debt	91.8	89.9	88.9	86.6								
Unemployment rate	11.3	10.4	9.6	8.7	10.2	10.1	9.9	9.6	9.4	9.0	8.9	8.7
United Kingdom												
Gross domestic product	3.1	2.3	1.9	1.8	1.9	1.8	2.0	2.0	2.1	1.9	1.8	1.4
Consumer price index (b)	1.5	0.0	0.7	2.7	0.4	0.4	0.7	1.2	2.1	2.7	2.8	3.0
Current account balance	-5.3	-5.2	-5.8	-4.1	-6.2	-5.6	-6.8	-4.6	-3.9	-5.1	-3.8	-3.6
General government balance	-5.4	-4.3	-3.0	-1.8	-4.0	-3.7	-3.4	-3.0	-2.4	-2.4	-2.1	-1.8
Gross public debt	92.1	99.0	109.7	106.0	86.7	88.1	87.2	88.2	86.7	86.6	86.2	87.7
Unemployment rate	5.7	5.1	4.8	4.4	5.1	4.9	4.8	4.8	4.6	4.4	4.3	4.4
Japan												
Gross domestic product	0.4	1.4	1.0	1.7	0.6	0.8	0.9	1.5	1.4	1.6	2.0	1.9
Consumer price index (b)	2.8	0.8	-0.1	0.5	0.0	-0.3	-0.5	0.3	0.3	0.4	0.6	0.6
Current account balance	0.8	3.1	3.8	4.0	3.2	3.4	3.6	3.7	3.8	3.8	3.8	4.0
General government balance	-4.5	-3.3	-2.3	-3.5	-3.0	-2.6	-2.4	-2.3	-2.6	-2.7	-3.2	-3.5
Gross public debt	218.3	216.6	222.4	224.1	218.0	219.4	221.0	222.4	223.1	223.6	223.8	224.1
Unemployment rate	3.4	3.3	3.1	2.7	3.2	3.1	3.0	3.1	2.8	2.8	2.8	2.7
China												
Gross domestic product	7.3	6.9	6.7	6.9	6.7	6.7	6.7	6.8	6.9	6.9	6.8	6.8
Consumer price index (b)	2.0	1.4	2.0	1.5	2.1	2.1	1.7	2.2	1.4	1.4	1.6	1.8
Current account balance	2.3	2.8	1.8	1.4	2.5	2.4	2.4	1.7	1.5	1.3	1.0	1.4
General government balance	-1.8	-3.4	-3.8	-3.7	-3.7	-4.1	-4.4	-3.8	-4.0	-4.3	-3.9	-3.7
Gross public debt	39.9	41.1	44.3	47.8								
Emerging Asia (excluding China) (d)												
Gross domestic product	5.4	5.8	6.0	5.3	6.5	6.3	5.7	5.5	5.2	5.0	5.5	5.6
Consumer price index (b)	5.2	3.8	3.4	3.0	3.7	3.7	3.4	2.9	3.1	2.5	2.8	3.5
Current account balance	0.4	1.2	1.6	0.8	1.4	1.5	1.7	1.5	1.4	1.1	0.9	—
General government balance	-2.5	-2.1	-2.3	-2.6	-2.8	-2.6	-2.2	-2.0	-2.4	-2.1	-2.3	—
Gross public debt	52.1	53.5	53.6	53.2								
Latin America (e)												
Gross domestic product	1.2	0.4	-0.2	1.6	-0.5	-0.2	-0.5	0.1	1.2	1.4	1.9	2.1
Consumer price index (b)	4.9	5.9	6.0	4.3	6.6	6.2	6.1	5.8	5.1	4.5	4.0	3.7
Current account balance	-3.1	-3.1	-2.0	-1.6	-2.9	-2.5	-2.2	-1.9	-2.0	-1.6	-1.6	-1.6
General government balance	-4.0	-6.1	-5.6	-4.4	-4.5	-4.4	-4.7	-4.5	-4.2	-4.9	-4.3	-4.1
Gross public debt	51.9	57.1	58.6	59.9								

SOURCES: IMF, Banco de España, Eurostat and national statistics.

a GDP and inflation are expressed as a year-on-year percentage change; current account balance, general government balance and gross public debt are expressed as a percentage of GDP.
b The quarterly CPI is the average for the quarter.
c Federal government, state and local government liabilities, including pension payment commitments to public sector employees. Obtained from the financial accounts published by the Federal Reserve.
d Emerging Asia includes: China, India, South Korea, Indonesia, Thailand, Malaysia, Philippines, Hong Kong and Singapore.
e Latin America: Brazil, Mexico, Argentina, Colombia, Venezuela, Peru and Chile. Excluding Argentina and Venezuela for the CPI aggregate, and Venezuela for the aggregate of the general government balance.

MAIN MACROECONOMIC INDICATORS (a) (cont'd) TABLE 1

	2014	2015	2016	2017	2016				2017			
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Eastern Europe (f)												
Gross domestic product	3.0	4.0	3.2	—	3.1	3.9	2.8	3.0	4.3	4.2	5.3	—
Consumer price index (b)	0.3	-0.4	-0.2	1.7	-0.5	-0.7	-0.2	0.5	1.6	1.5	1.6	2.1
Current account balance	-0.7	0.3	0.5	—	0.0	0.5	0.7	0.8	0.7	0.4	0.5	—
General government balance	-3.0	-1.9	-1.8	—								
Gross public debt	50.0	50.9	50.1	49.6								
Pro-memoria: GDP growth (a) (g)												
World	3.6	3.4	3.2	3.7	3.3	3.3	3.1	3.4	3.6	3.7	4.0	—
Advanced economies	2.1	2.2	1.7	2.3	1.5	1.6	1.6	1.9	2.1	2.3	2.5	—
Emerging market economies	4.7	4.3	4.4	4.7	5.0	4.9	4.5	4.8	5.0	5.1	5.4	—
Pro-memoria: inflation (g)												
World	3.2	2.8	2.8	3.1	2.3	2.5	2.5	2.8	2.5	2.2	2.2	—
Advanced economies	1.4	0.3	0.8	1.7	0.6	0.5	0.7	1.2	1.9	1.6	1.6	1.7
Emerging market economies	4.7	4.7	4.3	3.9	3.8	4.2	4.2	4.3	3.0	2.7	2.7	—

SOURCES: IMF, Banco de España, Eurostat and national statistics.

a GDP and inflation are expressed as a year-on-year percentage change; current account balance, general government balance and gross public debt are expressed as a percentage of GDP.
b The quarterly CPI is the average for the quarter.
c Federal government, state and local government liabilities, including pension payment commitments to public sector employees. Obtained from the financial accounts published by the Federal Reserve.
d Emerging Asia includes: China, India, South Korea, Indonesia, Thailand, Malaysia, Philippines, Hong Kong and Singapore.
e Latin America: Brazil, Mexico, Argentina, Colombia, Venezuela, Peru and Chile. Excluding Argentina and Venezuela for the CPI aggregate, and Venezuela for the aggregate of the general government balance.
f Eastern Europe: Poland, Czech Republic, Romania, Hungary, Bulgaria and Croatia.
g Annual data show the latest IMF forecasts publicly available when this report went to press. Quarterly data calculated using a sample of 41 economies (17 advanced and 24 emerging) representing almost 90% of global GDP, weighted in PPP terms. All economies referred to in notes d, e and f are included in the sample.

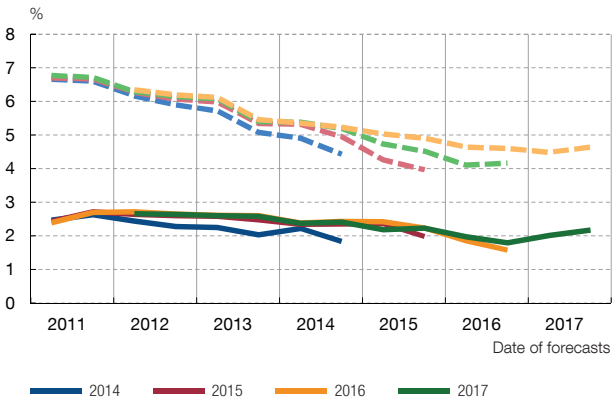
in the United States, which had remained slightly muted in 2017 in the wake of the NAFTA negotiations, once again grew stronger following the tariff rises announced by the US administration for certain products, especially those from China, and to which the authorities of the countries affected have yet to determine their response. These measures, which in fact led to a second bout of market turmoil in March of this year, could trigger a trade war that would affect world trade and could cut short the global upturn in activity.

Lastly, global external imbalances, calculated through current account flows, decreased slightly (see Chart 4). These imbalances are currently concentrated in the advanced economies where high surpluses persist in certain euro area countries (Germany and the Netherlands) and substantial deficits remain in the United States and the United Kingdom. Owing to the persistence of deficits and surpluses, the imbalances measured in terms of the net international investment position have continued to increase, also supported by the associated valuation effects including, among others, the different behaviour of equity markets in the various economies.

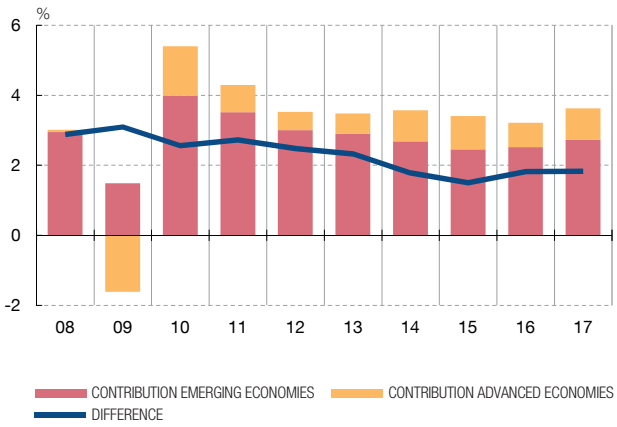
THE ADVANCED ECONOMIES

Private consumption continued to be the chief engine for growth in 2017 in the advanced economies (see Chart 5) in conjunction with investment (see the section which questions the recovery of investment in the advanced economies), prompting more buoyant aggregate expenditure. Among the advanced economies, growth of the US economy quickened notably from 1.5% in 2016 to 2.3%, in line with expectations at the beginning of the year. Economic activity also accelerated more than projected in the euro area, reaching export-led growth of 2.4% and in Japan GDP grew by 1.6%. The United

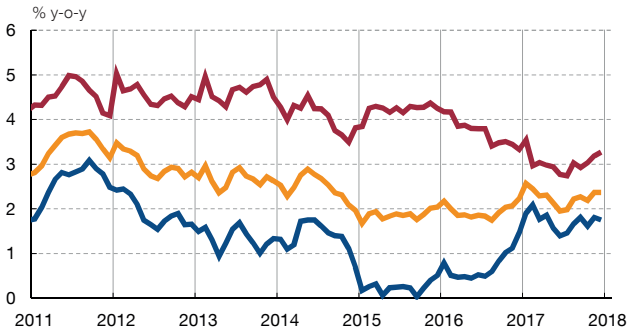
1 GDP GROWTH FORECASTS (a)



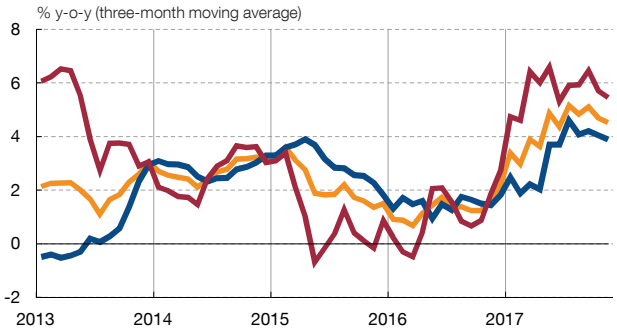
2 CONTRIBUTION TO WORLD GDP GROWTH OF ADVANCED AND EMERGING ECONOMIES AND DIFFERENCE



3 OVERALL CPI



4 VOLUME OF GOODS TRADE (b)



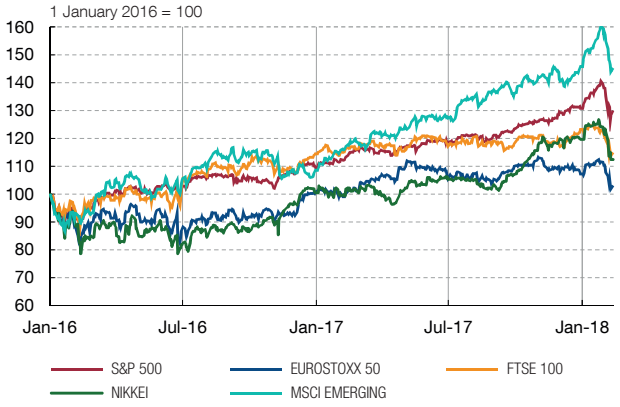
SOURCES: IMF and Datastream.

a Solid lines: advanced economies. Dotted lines: emerging economies.
b Average of exports and imports.

Kingdom bucked this trend of improvement of the largest advanced economies, its growth fell from 1.9% to 1.7% on account of the effects of the deprecation of the pound on household purchasing power, which amply offset the increased momentum of exports and business investment.

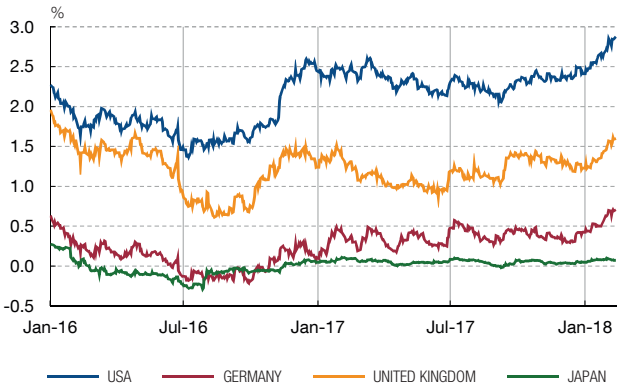
As indicated above, inflation rates generally remained relatively contained, marked by the profile of energy prices (see Chart 5). For instance, in the United States the rate of change of the CPI fell from 2.7% at the start of the year to 1.6% in June and rose to 2% at year-end; in the euro area it decreased from 2% to 1.3%-1.5% where it has held in recent months; and in Japan it remained for practically the whole year at around 0.4% and has recently risen to 1%. Once again, the exception was the United Kingdom where inflation continued to move on a rising path to reach 3% on account of the effects of the depreciation of the pound following the Brexit referendum. Core inflation rates remained more stable and were still below central banks' targets, except for in the United Kingdom. These developments occurred against a background of moderate wage growth, in contrast with its usual behaviour during recoveries, owing to the convergence of a series of factors which are reviewed in Box 1. Medium and long-term inflation expectations obtained from market variables continued to show a similar profile to that of observed inflation, they declined in the first half of the year and increased subsequently.

1 STOCK MARKET INDICES

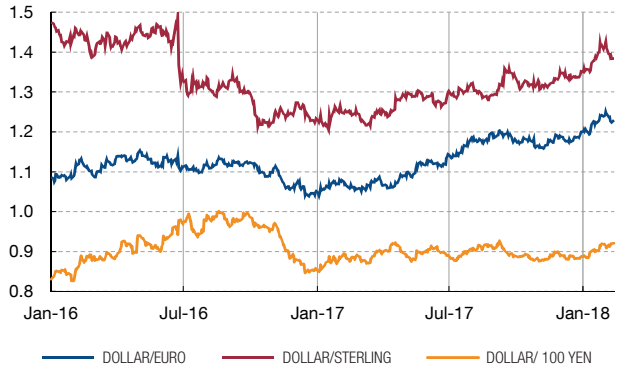


2 UNITED STATES: PER

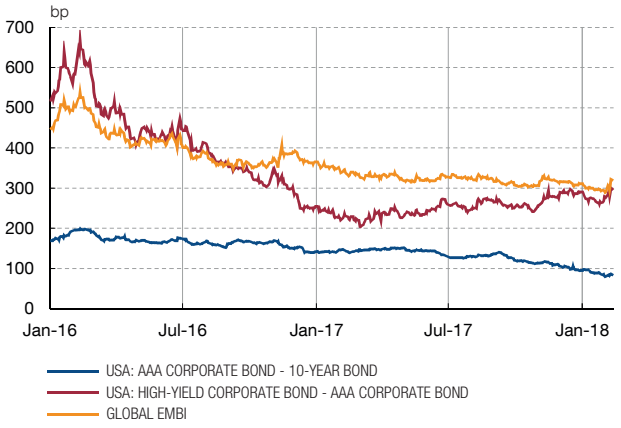
3 INTEREST RATES ON 10-YEAR BONDS



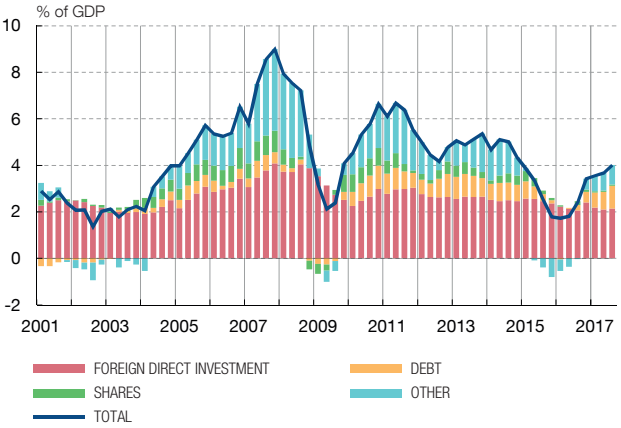
4 DOLLAR EXCHANGE RATES (c)



5 INTEREST RATE SPREADS



6 GROSS CAPITAL INFLOWS INTO EMERGING ECONOMIES (% OF GDP)



SOURCES: Datastream, Bloomberg and Institute of International Finance.

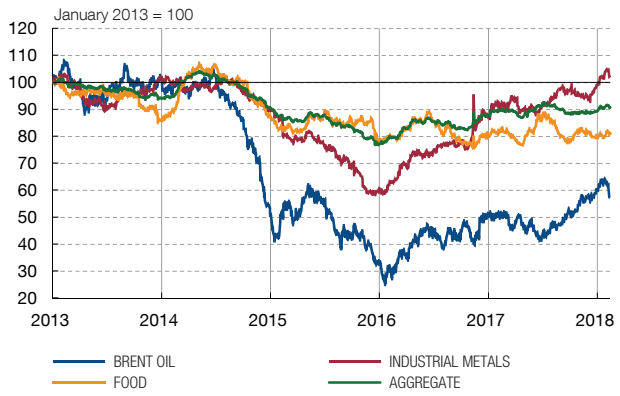
a PER of S&P 500.
b Cyclically-adjusted PER (CAPE).
c An increase (decrease) means a depreciation (appreciation) of the dollar against the other currencies.

In this context, the monetary policy stance remained expansionary, although progress was made to different degrees in the normalisation process (see Chart 6). Thus, in the United States, where the stage of economic recovery is more advanced, the Federal Reserve raised the federal funds target interest rate three times by 25 basis points (bp) to position it within the range of 1.25%-1.50% according to the projections of the Federal Open

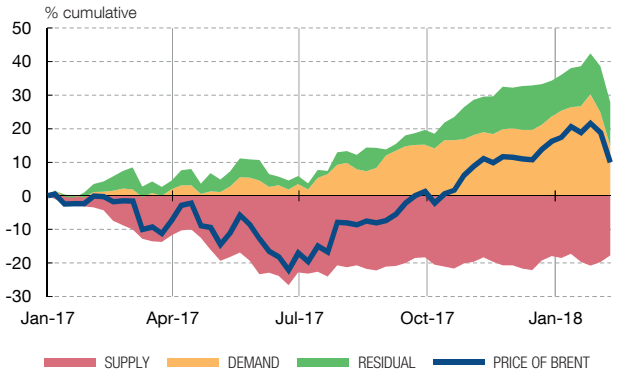
OIL AND COMMODITIES

CHART 3

1 COMMODITY PRICES



2 BREAKDOWN OF CHANGES IN OIL PRICES

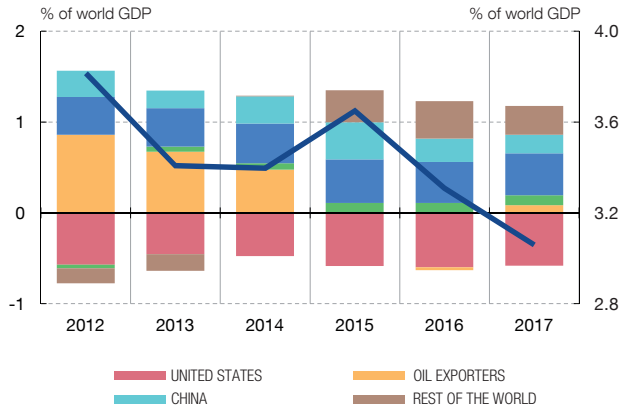


SOURCES: Datastream, OPEC and Oil Price Dynamics Report (NY Fed).

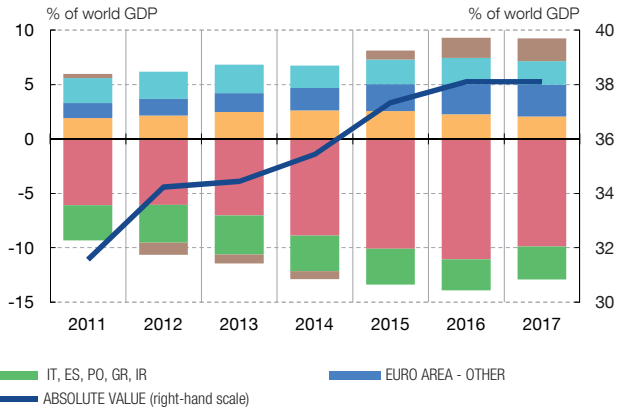
GLOBAL IMBALANCES AND CAPITAL FLOWS

CHART 4

1 CURRENT ACCOUNT BALANCE



2 NET INTERNATIONAL INVESTMENT POSITION BY AREA

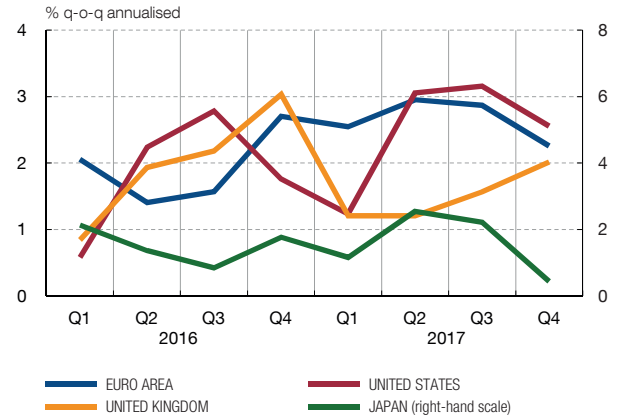


SOURCES: IMF, World Bank, national statistics, EPFR Global, Bloomberg and Thomsom Reuters Datastream.

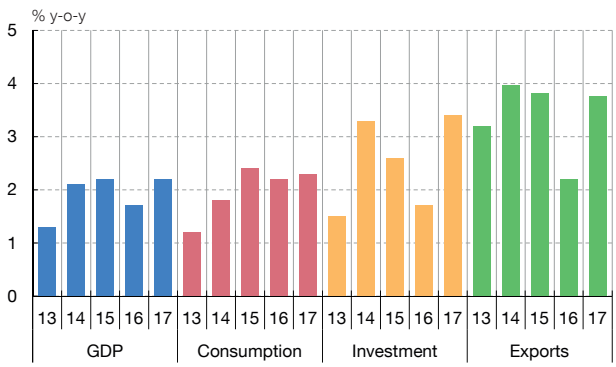
Market Committee (FOMC) at the beginning of the year. It was the first year since the beginning of the normalisation that the FOMC met its projections and that the path of rate increases expected by the market rose, approaching the FOMC's projection and not the other way around. Furthermore, the Federal Reserve began to reduce its balance sheet in October by gradually ceasing to reinvest in assets. Nevertheless, the financial conditions in the United States were looser in 2017 than in 2016 due to the weakening of the dollar against the major currencies, the limited pass-through of official interest rate rises to long-term rates and higher stock prices (see Chart 2). US government debt yields have increased gradually since January 2018 – coinciding with the improved outlook for economic growth and higher inflation expectations – and, in line with the above-mentioned movements in financial markets, the stock market adjusted slightly, with an increase in implied volatility.

The Bank of England's Monetary Policy Committee also raised official interest rates by 25 bp in November to 0.5%, in view of inflation data which exceeded its projections, and in the same vein the Financial Policy Committee raised the countercyclical capital buffer of financial institutions on two occasions from 0% to 1%. However, the ECB held interest rates at very

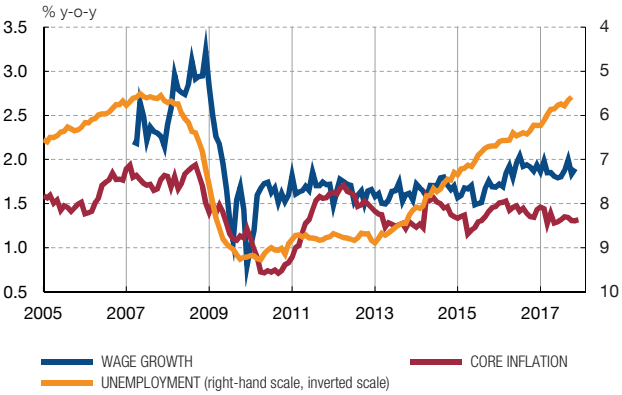
1 QUARTERLY GDP



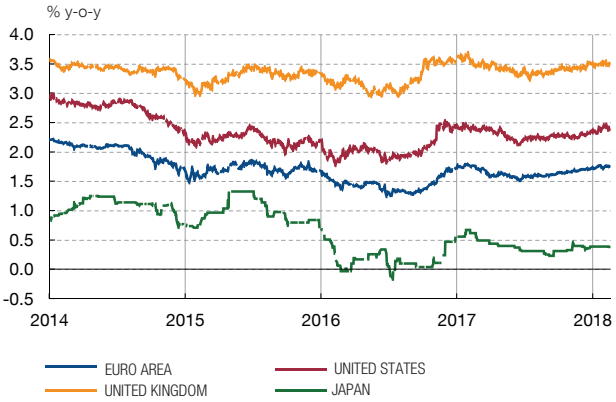
2 GDP AND DEMAND-SIDE COMPONENTS IN ADVANCED ECONOMIES



3 RATE OF UNEMPLOYMENT, WAGE GROWTH AND CORE INFLATION IN ADVANCED ECONOMIES (a)



4 INFLATION EXPECTATIONS (5y-5y)



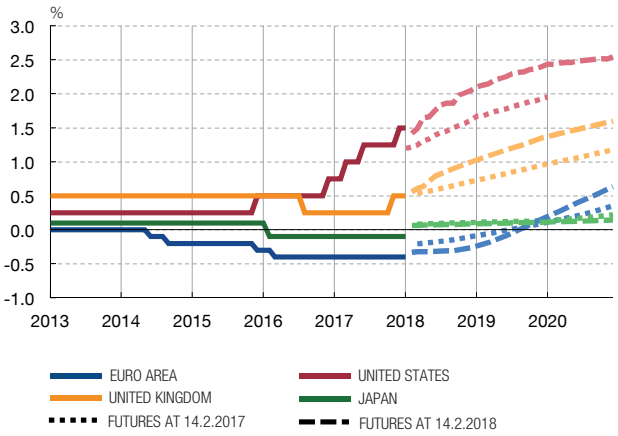
SOURCES: IMF, national statistics, Barclays Live and Thomson Reuters Datastream.

a Aggregate of United States, euro area, United Kingdom and Japan.

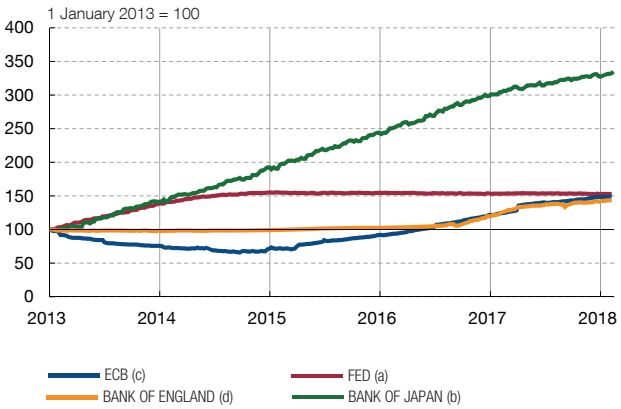
low levels and in October extended the public and private asset purchase programme (APP) until September 2018, at least, although the purchases per month decreased from €60 billion to €30 billion. Finally, the Bank of Japan maintained its extraordinarily expansionary policy which comprises yield curve control, with the aim of positioning the ten-year rate at around 0% through the purchase of treasury bonds, and a commitment to the sustained increase in inflation to above the target of 2%, although it delayed the date for meeting the target by one year to the fiscal year 2019. In other advanced economies, Canada was the only country where official interest rates rose, on two occasions, to 1%, whereas the central bank of Sweden enlarged its government bond purchase programme.

The fiscal policies of the advanced economies maintained a slightly expansionary stance in 2017 with positive fiscal impulses except for in the United Kingdom, although the average government deficit narrowed slightly from 3.3% to 3.2% of GDP and the public debt ratio decreased from 114.6% to 113.9%, thanks to higher nominal GDP growth (see Chart 6). The year ended with the approval of the long-awaited tax reform in the United States, the details are presented in Box 2, which is estimated to raise the budget deficit by $1.5 billion over the next ten years. In addition to the tax cut, in February 2018 public spending limits were increased, whose impact, together with that of the reform, is analysed in the section on the change in the macroeconomic policy mix in the advanced economies.

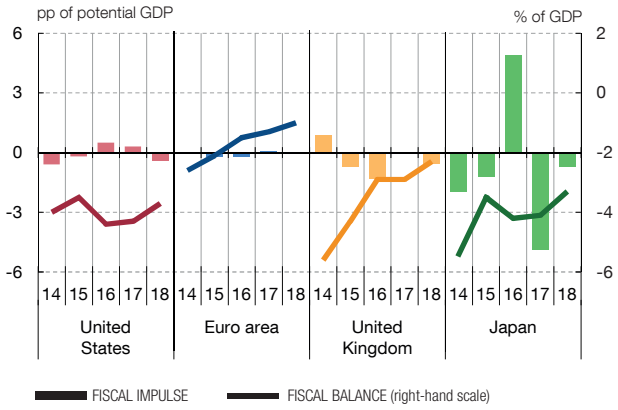
1 OFFICIAL INTEREST RATES AND INTEREST RATE EXPECTATIONS



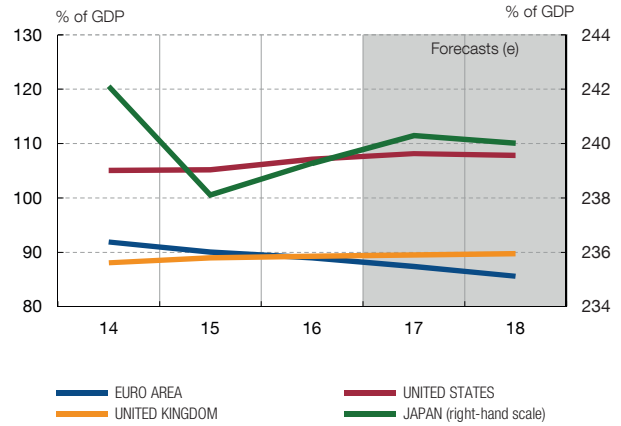
2 CENTRAL BANK BALANCE SHEETS: TOTAL ASSETS



3 BALANCE AND FISCAL IMPULSE (2014-2018)



4 PUBLIC DEBT



SOURCES: Federal Reserve, ECB, Bank of England, Bank of Japan, Thomson Reuters Datastream and IMF.

a The Federal Reserve's reserves relate to the "Deposits of depository institutions" series.
b The Bank of Japan's reserves relate to the sum of the "Current deposits" and "Legal and special reserves" series.
c he European Central Bank's reserves relate to the "Minimum capital requirements" series.
d The Bank of England's reserves relate to the "Reserve balances" series.
e The forecasts for Japan start in 2015.

Lastly, it should be noted that, although the challenges of the slow progress in productivity and the ageing of the population remain important in the advanced economies, in general less effort is seen to be made in the area of structural reforms, according to the reports of international organisations such as the OECD.

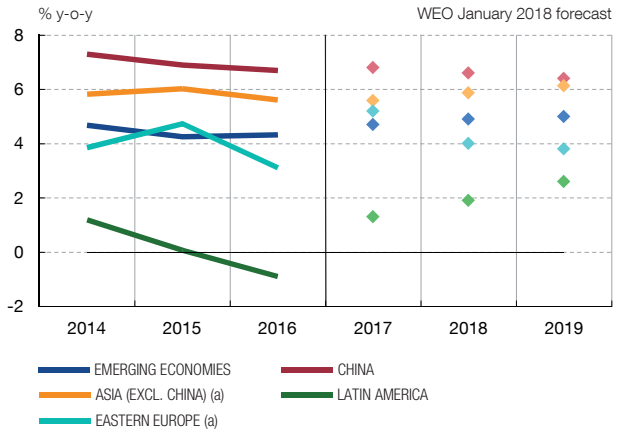
THE EMERGING MARKET ECONOMIES

The increased vigour of the emerging market economies as a whole in 2017 arose from the slight acceleration in activity in China, the upturn in activity in Eastern Europe and the exit from recession of Russia, Brazil and Argentina (see Chart 7). Overall, the factors which, to a greater or lesser extent, depending on the country, determined this performance were the implementation of more expansionary economic policies, higher demand of the developed economies and the change in trend of commodity prices halfway through the year.

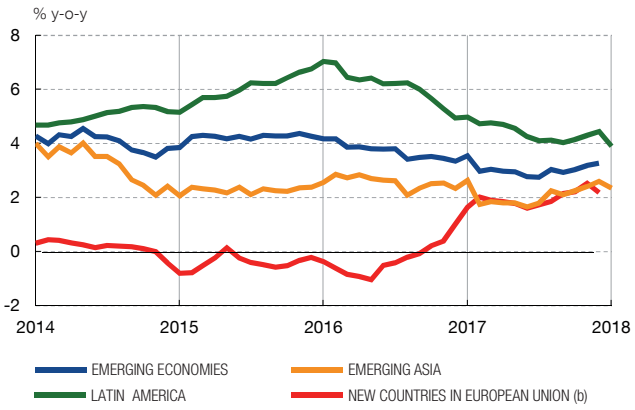
Inflation increased in the second half of 2017, after having reached its lowest point since 2010, resulting in a moderate decline in the average for the year. As with the developed economies, the upturn was coupled with higher energy prices since core inflation increased to a much lesser degree. The weighted key central bank rate of the emerging economies as

MACROECONOMIC DEVELOPMENTS IN EMERGING ECONOMIES CHART 7

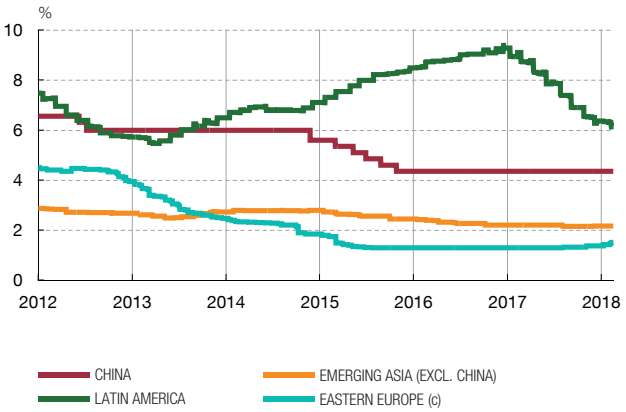
1 YEAR-ON-YEAR GROWTH RATES



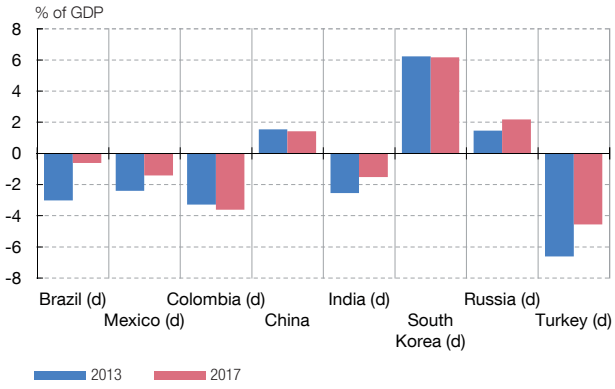
2 INFLATION RATES



3 OFFICIAL INTEREST RATES



4 CURRENT ACCOUNT BALANCE



SOURCES: IMF, Thomson Reuters Datastream, Bloomberg and national statistics.

a WEO October 2017 forecasts.
b Aggregate of Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland and Romania.
c Aggregate of Czech Republic, Hungary, Poland and Romania.
d Data until 2017 Q3.

a whole declined, reductions were seen in most Latin American countries, in Russia and some Asian economies, such as India and Indonesia; however, monetary policy became tighter in certain Easter European countries, South Korea, China, Mexico and Turkey. In any event, conditions in the financial markets remained benign for the emerging economies, with capital inflows in the form of debt and bank loans. Save rare exceptions – Turkey and Argentina – these economies corrected their external deficits, in particular, those exporting commodities.

The Chinese economy posted growth of 6.9% in 2017, 0.2 pp more than in 2016, which was underpinned partly by the positive contribution of net exports. The process of rebalancing the economy barely progressed and the weight of the service sector remained at slightly above 50%. As for inflation, although the output price index climbed notably at the start of 2017, reversing the downward trend of the previous five years, consumer price index inflation rose gradually to reach 1.8% in December (compared with an official target of 3%). The renminbi appreciated by 7% against the dollar, amid tighter capital controls, such that the Chinese economy built up its reserves once again ($129 billion) and the authorities were able to withdraw early in 2018 the "counter-cyclical factor" which limited daily movements of the

Chinese currency. The political highlight of the year was the National Congress of the Communist Party of China (held every five years) at which future policies are defined and politburo members are elected. The speeches indicated greater tolerance of lower, albeit more balanced, growth thanks to the implementation of structural reforms without resorting to higher public and/or private debt. In the closing months of 2017 and in the opening months of 2018, the authorities approved numerous new regulations to plug legal loopholes and reduce the risks of shadow banking, which led to a moderation of credit growth.

In the rest of emerging Asia, growth was slightly higher than in 2016, except for in India where the demonetisation of the economy and the uncertainty surrounding the introduction of a new indirect tax weighed on demand. Inflation in the region rose, although the core component remained the same.

In Latin America, as a result of Brazil and Argentina exiting the recession, the region's GDP grew for the first time since 2014. However, investment recovered more slowly than in other emerging regions and fell back in some countries. Inflation decreased in all the countries with inflation targets and in Brazil, Chile and Peru it ended the year below target. Mexico was an exception, where inflation rose notably due to the reduction of certain subsidies for energy products early in the year, the increase in the minimum wage and the depreciation of the Mexican peso. Thus, the central banks of Brazil, Chile, Colombia and Peru cut key interest rates, whereas Mexico's central bank raised them on several occasions in the first half of the year and then again in December, when it confirmed that inflation was not falling as it had anticipated. In Argentina inflation stood notably above target for the year as a whole, which led to an interruption in the process of reducing the key interest rate with two unexpected rate rises at the end of the year; early in 2018 the inflation targets were relaxed and the central bank recommenced the monetary easing cycle. Fiscal positions only improved noticeably in Mexico and Brazil, although in Brazil uncertainty about the scope of the pension system reform increased.

The Eastern European economies showed higher growth rates than in 2016 for different reasons. For instance, the recovery of oil prices enabled Russia to exit the recession, loose policies led Turkey to post growth rates of slightly more than 6.5% and the vigour of the euro area boosted the economies whose main export market is located in that region. Inflation rose throughout the area, except for in Russia, particularly noteworthy was the increase seen in Turkey which led the central bank to raise its late liquidity window rate several times in order to moderate demand pressures.

Conditioning factors of the global economic outlook

Before discussing the outlook for the world economy in 2018, this section analyses in detail some of the factors which are going to influence world economic developments this year. In particular, three important topics have been selected: whether the rise in investment observed in the advanced economies in 2017 is temporary or permanent; the transition towards a different policy mix in these economies with less accommodative monetary polices and more expansionary fiscal policies; and those raised by the foreseeable transition towards a setting of less benign financial conditions in international financial markets. The possibility of a shift towards protectionism in international trade – which, should it materialise, would notably influence the world outlook – has already been analysed in last year's article.

IS INVESTMENT RECOVERING IN THE ADVANCED ECONOMIES?

Private productive investment has shown a slower and more subdued recovery following the global financial crisis, compared with the exit from other recessions. Several analyses have suggested that the more modest recovery of activity and

investment[1] was due to the eminently financial nature of the crisis, although the policy response – essentially the monetary policy response – contributed to softening the effect of the financial friction and heightened uncertainty. However, since the end of 2016, business investment has gained fresh impetus in the main developed economies. This section reviews the possible determining factors of this renewed buoyancy in an attempt to draw conclusions about how it will behave in the future.

Some authors indicate that capital accumulation had already begun to slow in the main developed economies in the pre-crisis years. That weak investment was linked to changes in productive structures, technological progress, changes in the relative cost of factors of production and the internationalisation of business investment decisions. After the global financial crisis, other arguments of a more temporary nature gained momentum as an explanation for low investment: financial conditions[2,3] (both the internal financial conditions of firms owing to over-indebtedness and external ones owing to the situation of financial institutions), uncertainty and the possibility that the downward revision of demand and activity expectations in the wake of the crisis had given rise to excess capital.

Among the more structural factors, the "tertiarisation" process of advanced economies, combined with the technological changes which boost investment in intangibles, could have negatively impacted the rate of investment since firms in the services sector have lower investment rates than industrial firms and higher expenditure on intangible assets, which is only partly recorded as investment in National Accounts terms. However, evidence shows that the decrease in the aggregate rate of investment has been explained not by cross-sectoral changes in production but mainly on account of the decline in the rate of investment within each sector. In fact, it has been in the services sector where investment rates have fallen[4] (see Chart 8) and also where technological progress and markedly less expensive intangible assets seem to have bolstered this type of investment, which is more productive and has lower entry costs[5]. In a large number of sectors, the proportion of total investment in intangible assets has grown sharply, in tandem with a decline in the concomitant rate of investment[6]. This phenomenon will continue to have an effect in the next few years insofar as technological progress continues to move in this direction.

As for the relative cost of the factors of production[7], technological innovation has lowered the relative price of investment goods since before the global financial crisis, which has not been offset by an increase in depreciation rates. If, in addition to this, the real interest rate and taxes payable by firms have tended to decline, it is logical that the user cost of capital will have fallen (the case of the United States is shown in Chart 8). After the crisis,

1 See IMF (2015), *World Economic Outlook,* and J. C. Berganza, P. Burriel, M. Folch, M. Romero and T. Sastre (2015), "La debilidad de la inversión empresarial en las economías desarrolladas", *Boletín Económico,* July-August, Banco de España.

2 See, for example, I. Hernando and C. Martinez-Carrascal (2008), "The impact of financial variables on firms' real decisions: Evidence from Spanish firm-level data", *Journal of Macroeconomics,* 30, pp. 543-561, and H. Almeida, M. Campello, B. Laranjeira and S. Weisbenner (2009), *Corporate Debt Maturity and the Real Effects of the 2007 Credit Crisis,* Working Paper No. w14990, National Bureau of Economic Research.

3 See, for example, S. Bond and C. Meghir (1994), "Dynamic Investment Models and the Firm's Financial Policy", *Review of Economic Studies,* 61 (2), pp. 197-222, and Á. Estrada and J. Vallés (1998), "Investment and Financial Cost: Spanish Evidence with Panel Data", *Investigaciones Económicas,* 22, pp. 337-359.

4 The trend in industrial sectors has not been to reduce their rate of investment but to increase it.

5 Dottling, Ladika and Perotti (2017), "The Self-Funding of Intangibles", May, mimeo, detected this relationship using sectoral and corporate data.

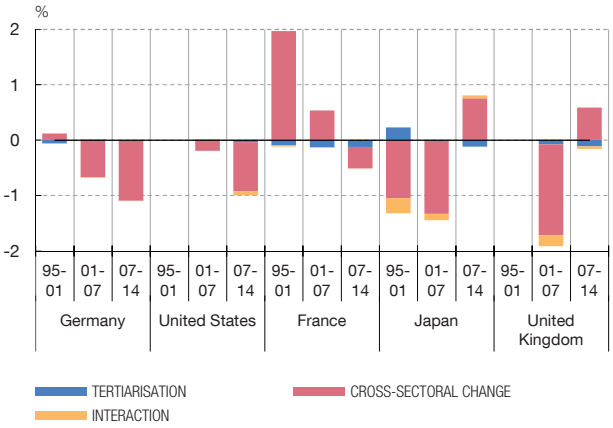
6 R. Döttling, G. Gutiérrez and T. Philippon (2017), "Is there an investment gap in advanced economies? If so, why?", *ECB Forum on Central Banking. Investment and growth in advanced economies, Sintra, Portugal.*

7 User cost of capital (relative price of investment goods and the real interest rate, including the depreciation of investment goods) and labour costs for the labour factor.

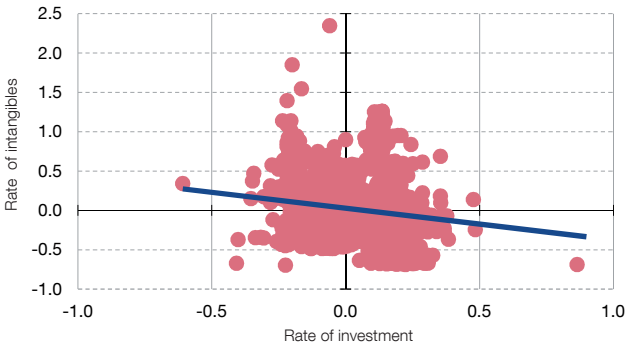
THE RECOVERY OF PRIVATE PRODUCTIVE INVESTMENT

CHART 8

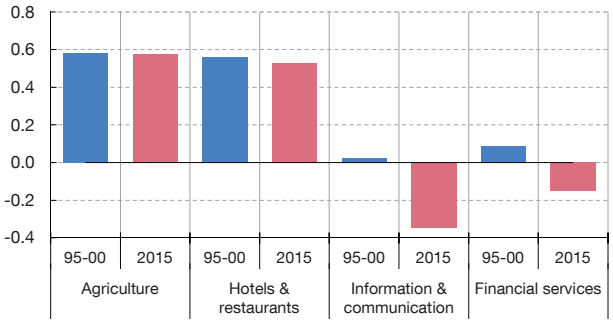
1 CHANGE IN THE NOMINAL RATE OF INVESTMENT (TERTIARISATION AND CROSS-SECTORAL EFFECT) (a)



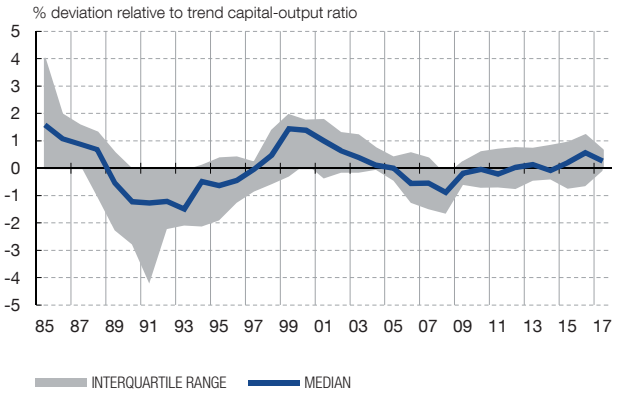
2 RATE OF INVESTMENT AND INTANGIBLES (b)



3 FDI EFFECT ON INVESTMENT (c)



4 CAPITAL-OUTPUT GAP (d)



SOURCES: OECD and Banco de España.

a In order to perform this exercise we used two sectors: the services sector and other sectors (agriculture, industry and construction).
b Investment rate residuals relative to their lag, the relative price of capital and fixed country effects are shown on the horizontal axis. Intangible investment rate residuals relative to their lag, the relative price of capital and the fixed country effects are shown on the vertical axis.
c The sectors are as follows: A. Agriculture; I. Hotels and restaurants; J. Information and communication; K. Financial services.
d In order to isolate the cyclical effect of the productive capital stock relative to that of GDP, the cyclical component of the productive capital ratio as a percentage of potential output is obtained by using the Hodrick-Prescott filter. The following advanced economies are considered: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Japan, Luxembourg, New Zealand, Netherlands, Norway, Portugal, South Korea, Spain, Sweden, Switzerland, United Kingdom and United States.

both real interest rates and the relative price of investment seem to have bottomed out, whereas wage costs have edged down significantly, boosting more labour-intensive production technologies in most of the advanced economies. Furthermore, the private sector deleveraging process which has not yet ended in some advanced economies could have curtailed the development of new investment plans[8]. Looking ahead, despite the foreseeable increase in real interest rates, the potential reaction of wages to labour markets with little slack can be expected to act as a counterweight to the relative cost of capital and to boost investment against a backdrop of lower corporate leverage. Furthermore, the lower tax burden of firms in the United States and the United Kingdom may spur investment in both countries (see the section on the macroeconomic policy mix in the advanced economies).

8 See BIS (2017), *87th Annual Report*

The increasing internationalisation of firms has led their production and investment decisions to take on a global dimension which may have affected productive investment in the advanced economies. The international growth of firms may adopt different forms which combine two variants of the production process to a greater of lesser degree. On one hand, where production is fragmented into stages distributed across various locations (vertical integration), occasionally structured in the form of value chains, the investment made in the different areas will be complementary. Conversely, if the internationalisation is based on plants in different locations which replicate the same production process (horizontal integration), foreign investment would replace domestic investment[9].

It is possible to examine the relationship of private productive investment with foreign direct investment and cross-check which of the two above-mentioned effects is the dominant one[10] by formulating an equation on sectoral investment for a set of developed economies. The estimates for a set of developed economies indicate that complementarity between sectoral gross capital formation and foreign direct investment has been prevalent (see Chart 8), which would be consistent with the assumption of the vertical integration of production chains. Accordingly, it is estimated that the increase in the last three years of foreign direct investment outflows from advanced economies will support the recovery of domestic investment. However, looking forward, increased global protectionism could have an unfavourable effect on investment in the advanced economies.

The argument that the limited recovery of investment after the crisis reflects a process of correcting the excess productive capital built up during the boom (capital overhang)[11] when expectations were more favourable, does not seem to be applicable across the board. Indeed, in the United States, the United Kingdom and the euro area the total capital stock per unit of output was above trend until the global financial crisis. Yet, when focusing on productive capital, the phenomenon of the capital overhang is observed to have been significant between 1995 and 2005; however, subsequently it has not been widespread (see Chart 9), whereby it would not be limiting the increase in firms' productive investment.

An additional factor to be taken into account is the improvement in global activity which became firmer in 2017 and is an important stimulus for investment. One way to assess the role which may be played by demand expectations and the relative cost of productive factors in the recovery of business investment is to use econometric models[12]. In the case of the United States, the simulations indicate that the recovery of investment observed since 2016 is explained by the growth of activity and the drop in the relative price of capital; furthermore, there is an unexplained negative component after 2015 which could reflect the impact of the sharp fall in oil prices in 2014 on the investment of the shale oil extraction industry. The fiscal impulse envisaged in the United States, which includes a reduction of the tax burden on corporations, should raise the investment of that economy over the next few years. In the United Kingdom, the recovery in investment is chiefly explained by the change in the relative cost of capital which has returned to a moderately

9 Indeed, the foreign plants of firms with a more horizontal structure tend to use certain intermediate inputs simultaneously – for example, activities with a technological content linked to creativity and knowledge – which are usually "non-exclusive" (they may be used simultaneously at several plants).

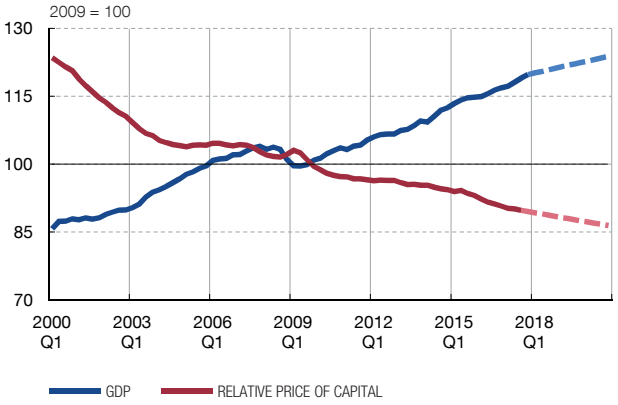
10 In the model, each sector's investment depends on the demand outlook and the user cost of capital, in addition to foreign direct investment.

11 See M. Carney (2017), "Investment and growth in advanced economies", speech at the *ECB Forum on Central Banking,* Sintra, 28 June.

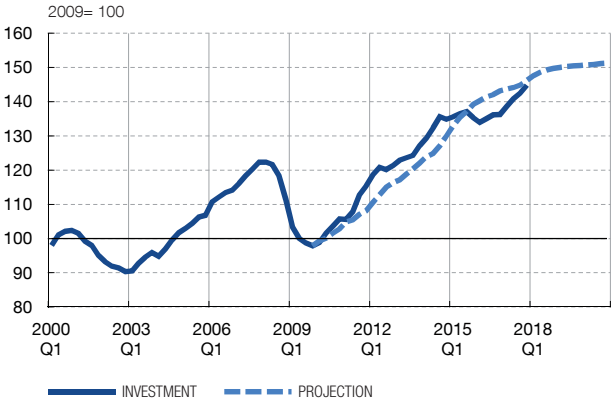
12 Two vector error correction models (VECM) are used, one each for the United States and the United Kingdom, which include three variables (business investment, GDP and the relative cost of capital), to simulate the behaviour of investment.

THE RECOVERY OF PRIVATE PRODUCTIVE INVESTMENT IN THE UNITED STATES AND THE UNITED KINGDOM CHART 9

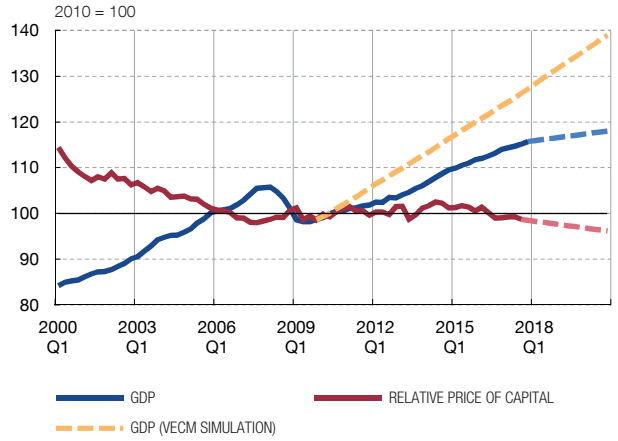
1 UNITED STATES: ACTIVITY AND PRICE OF CAPITAL



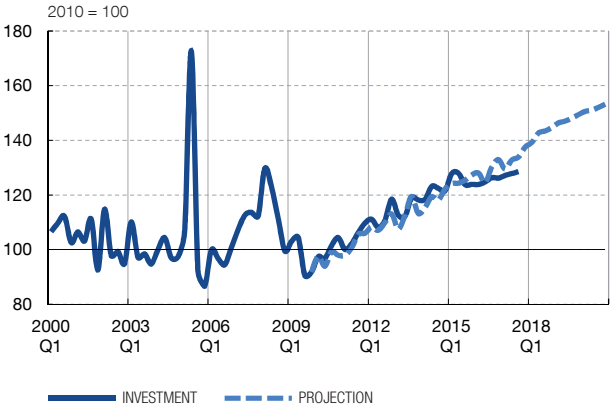
2 UNITED STATES: BUSINESS INVESTMENT



3 UNITED KINGDOM: ACTIVITY AND PRICE OF CAPITAL



2 UNITED KINGDOM: BUSINESS INVESTMENT



SOURCES: US Bureau of Economics Analysis, UK Office of National Statistics and Banco de España.

declining path. In the last two years, there is an unexplained negative component in the changes in investment which could be in response to the uncertainty prompted by Brexit. Also in the United Kingdom, the reduction approved in corporation tax should raise the net return on investment.

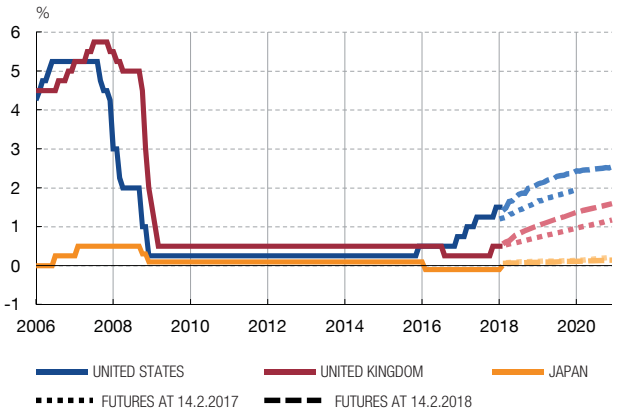
Overall, it can be expected that in the short and medium term, the cyclical upswing in activity, progress in the deleveraging process, changes in the taxation of firms and the recovery of wages across the board, against a backdrop of lower unemployment rates, will be the factors to prompt greater momentum in investment. The ongoing normalisation of monetary policy will tend to operate in the opposite direction, leading to an – in principle very progressive – increase in real interest rates. In the longer term, technological factors will continue to dominate developments in investment, gearing it more towards intangibles, which will affect adversely the aggregate investment rate. The main uncertainty lies in the risk of a worldwide escalation of protectionist policies, which were implemented initially in the United States and might endanger the globalisation process.

THE CHANGE IN THE MACROECONOMIC POLICY MIX IN THE ADVANCED ECONOMIES

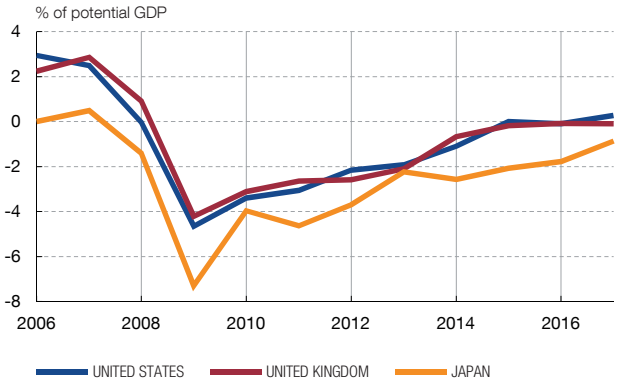
After nearly ten years of monetary stimulus, in December 2015, the US Federal Reserve (the Fed) began a very gradual process of increasing the official interest rate: the first rate hike in 2015 was followed by another in 2016 and three more in 2017; furthermore in October 2017 it began the – also very progressive – reduction of its balance sheet.

SWITCH IN MACROECONOMIC POLICIES IN ADVANCED ECONOMIES CHART 10

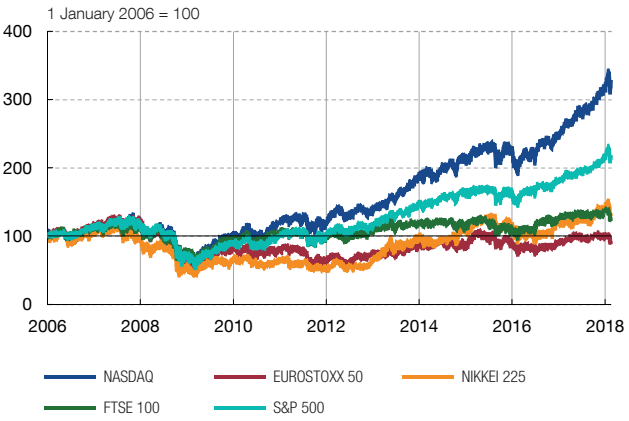
1 OFFICIAL INTEREST RATES AND INTEREST RATE EXPECTATIONS



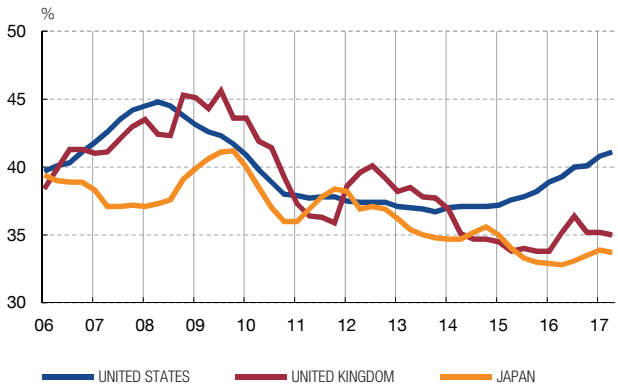
2 OUTPUT GAP IN ADVANCED ECONOMIES



3 STOCK MARKET DEVELOPMENTS



4 DEBT SERVICE RATIO OF NON-FINANCIAL CORPORATIONS



SOURCES: Federal Reserve, ECB, Bank of England, Bank of Japan, Thomson Reuters Datastream, Bank for International Settlements and IMF.

Following in the footsteps of the Fed, other central banks of some advanced economies are weighing up exit strategies from their extremely expansionary monetary policies (see Chart 10). At the same time, fiscal policies are adopting a more expansionary stance. Specifically, the United States and Japan are implementing tax cuts and tax incentives for corporations, together with plans to increase spending on infrastructure (the United States), education and childcare (Japan).

This change in macroeconomic policy mix is taking place in an economic setting of positive and closed output gaps, low unemployment rates, high rates of public and private indebtedness and signs of over-valuation in some financial market segments. Furthermore, the central banks are facing this upswing in the economic cycle – with incipient demand pressure on productive capacity and what are practically tight labour markets – with inflation rates that continue to be below their targets, which suggests that there could still be some room for monetary support to bolster the economic recovery. In short, regulating the intensity of the normalisation of monetary policies will be a very complex task[13].

13 The normalisation of the Fed's monetary policy comprises: i) increasing its target rate; ii) reducing the central bank's balance sheet, and iii) rebalancing the central bank's portfolio in terms of maturity and asset composition according to the pre-crisis standards (Policy Normalization Principles and Plans, Fed (2014)).

The unprecedented monetary impulse over the last decade took the form of a high volume of liquidity in financial markets and very low long-term interest rates which translated into loose financial and credit conditions and the increased risk exposure of investors. At global level, these conditions have resulted in elevated stock prices, an increase in high-risk corporate debt issuance, substantial capital flows into emerging markets and only a limited reduction in private and public debt.

In this setting, a significant increase in debt service – currently at very low levels for households and non-financial corporations owing to low interest rates (see Chart 10) – could lead to the materialisation of some of the risks entailed by the high level of private sector indebtedness. Investors' portfolio rebalancing towards less risky assets will have adverse consequences especially for firms which are financed through high-risk liabilities, once investors' considerable appetite for risk has moderated. Also, given that, traditionally, a part of emerging countries' debt is denominated in foreign currency, if monetary normalisation were to trigger an appreciation of the dollar, this would increase the debt service burden, as well as the debt itself, which could have a negative impact on investment, offsetting the effect of the possible improvement in the country's competitiveness brought about by the depreciation of its national currency[14].

In an ideal scenario of sustained economic growth, low unemployment rates and moderate inflationary pressure, gradual and well-communicated monetary normalisation would avoid sharp changes in market confidence and avoid abrupt and protracted corrections. However, where a high degree of overheating of the economy forces central banks to implement stronger normalisation, considerable adjustments could be prompted in the financial markets, as analysed in the next section.

Undoubtedly, one of the factors which would affect the pace of monetary normalisation is a more expansionary fiscal policy. In a scenario of low real interest rates, insufficient private investment, high savings rates and high unemployment (similar to "secular stagnation"), an expansionary fiscal policy could be justified to stimulate demand and, if public infrastructure is developed, to raise potential growth[15]. However, in the current setting of limited slack in the productive system, low rates of unemployment and of recovery of private investment, pro-cyclical fiscal measures would encourage the economy to overheat, generating an increase in inflation which is above the central bank's target. In this situation, the central bank would have to step up the pace of monetary normalisation and raise short-term interest rates more swiftly (or reduce the size of its balance sheet over a shorter period) which would have a negative impact on private spending. Besides, in a setting of high growth rates and elevated public debt, monetary normalisation – implemented through an increase in rates and a reduction of the balance sheet – would prompt a rise in the interest burden for the public sector.

Box 2 analyses the impact of the recently approved tax package in the United States and illustrates some of the potential consequences for monetary policy. Furthermore, in the case of the United States, the fiscal expansion may have implications for the rest of the world, given the weight of the US economy in global GDP and its core position in the international financial system. Specifically, part of the boost to demand represented by the fiscal shock will be filtered abroad in the form of imports; this transmission channel will be more instrumental under the current circumstances of high capacity utilisation in the United

14 See BIS (2017), *87th Annual Report.*
15 See L. Summers (2016), "The Age of Secular Stagnation".

States. If inflation in the United States were to increase above the Fed's target, the latter would react by normalising its monetary policy more quickly than the markets expect, and the increase in interest rates would feed through to other financial markets with potential spillover effects and a rise in risk aversion. In principle, this would lead to capital inflows into the United States and an appreciation of the dollar in a flight to quality, which would place emerging economies' non-financial corporations with dollar-denominated debt in a difficult situation. However, the widening of the external deficit could finally trigger a deprecation of the dollar, as has occurred over the last year, affecting other economies whose monetary policy reaction is estimated to be of crucial interest, as analysed in Box 3 for the case of China.

GLOBAL FINANCIAL CONDITIONS

As noted in the previous section, developments in international financial markets over the course of the year were marked by a strong risk appetite, which spurred a search for yield by investors and manifested itself in high stock market prices and low levels of volatility. Indices based on implied volatility, such as the VIX (calculated on the S&P index) and the MOVE (calculated on ten-year US government bonds), reached historical lows at the end of 2017. Nevertheless, there was a sharp upturn in volatility in February 2018, following the publication of higher-than-expected wage-growth data in the United States (see Chart 11), and again in March, with the announcement of higher tariffs on certain products in the United States.

Although the most obvious driving factor behind the search for yield was the very low interest rate environment resulting from ultra-expansionary monetary policies in recent years, there are also other factors contributing to low volatility. The more cyclical factors include the favourable corporate earnings published over the course of 2017, the generally low market sensitivity to geopolitical uncertainty, and the high volumes of equity buybacks, which companies use to boost their share price. Moreover, in recent years there have been a number of changes in market structure that have encouraged this phenomenon. For instance, the greater weight of passive investment strategies, to the detriment of active investment, has increased the number of positions centring on the average investor. Meanwhile, the bigger role being played by electronic platforms, with automated trading techniques based on mathematical models, and the development of financial products that hinge on volatility, may have increased the persistence of this variable. These structural changes could cause stronger adjustments in volatility if investors exhibit herd behaviour.

However, implied volatility is only a partial indicator of the prevailing financial market conditions, and more importantly, whether or not they are supportive of the real economy. To explore these issues, synthetic "financial conditions indices" (FCIs) are constructed, based on a relatively broad range of information. Alongside implied volatility, the simplest of these indices include short-term interest rates, long-term interest rates, the exchange rate and share prices. However, there are indices that can summarise over a hundred variables, such as the Chicago Fed National Financial Conditions Index (NFCI), which is widely used to analyse US financial markets.

FCIs are not indicators of central banks' monetary policy stance, as they include variables that the central bank can only affect very indirectly. However, as can be seen from Chart 11, which shows the Chicago NFCI and US policy rates, in previous episodes of monetary policy tightening both tended to move in unison. Nevertheless, the current process of monetary policy normalisation is an exception. Official rates have risen gradually since December 2015, and since October 2017 there has been a gradual reduction in the size of the Fed's balance sheet. However, the NFCI eased significantly in 2017. These looser

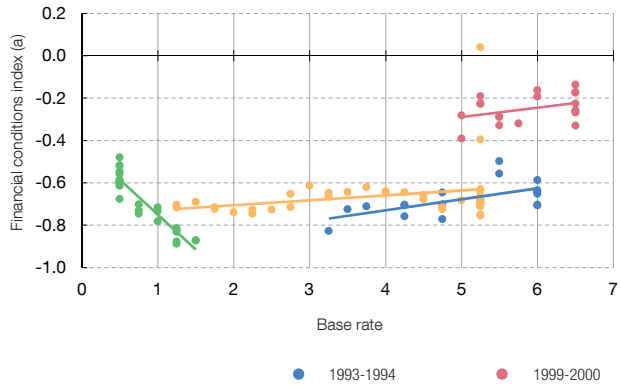
LOW VOLATILITY AND LOOSE FINANCIAL CONDITIONS

CHART 11

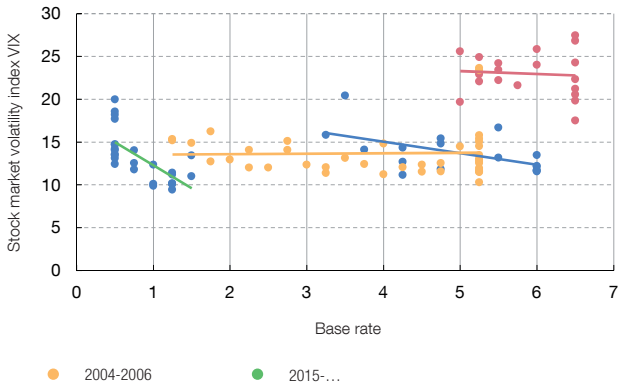
1 BOND AND STOCK MARKET VOLATILITY

2 UNITED STATES: FINANCIAL CONDITIONS INDICATOR AND FEDERAL RESERVE TARGET RATE

3 FINANCIAL CONDITIONS INDEX (FCI) AND BASE RATE IN VARIOUS CYCLES (b)

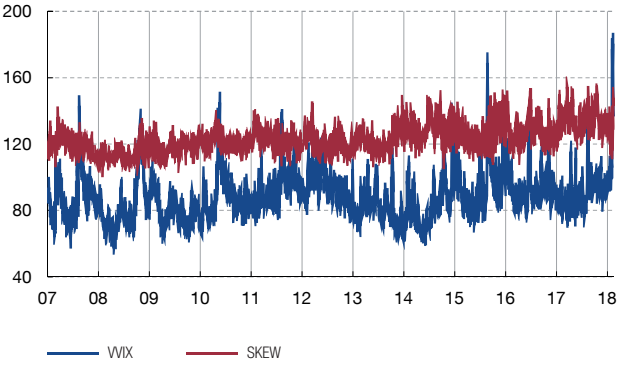


4 FINANCIAL CONDITIONS INDEX (FCI) AND BASE RATE IN VARIOUS CYCLES (b)



5 FIXED INCOME ISSUES ON INTERNATIONAL MARKETS TOTAL EMERGING MARKET ECONOMIES AND HIGH YIELD BONDS

6 SKEW AND VVIX VOLATILITY INDICES



SOURCES: Datastream and Dealogic.

a A decrease (increase) indicates a loosening (tightening) of financial conditions.
b The trend line for each cycle is included.

financial conditions were the result of rising stock market indices (positive wealth effect), the weakening of the dollar against the main currencies (competitiveness gains) and the reduction in implied volatility (lower risk premiums), which more than offset rising short- and (to a lesser extent) long-term interest rates.

The current monetary tightening cycle is the first since the financial crisis and coincides with an abundance of global liquidity, after almost a decade of ultra-expansionary policies and low interest rates. Indeed, this monetary policy normalisation phase is starting out from much lower federal funds rates than in previous phases. Moreover, there have been no significant monetary policy surprises, at least since the taper tantrum,[16] and the Federal Reserve's communication policy has allowed rate movements to be discounted by the markets. Nevertheless, the drop in implied volatility does not represent an anomaly in relation to previous cycles (see Chart 11), such that the looseness of current financial conditions compared to previous normalisation phases rests on other variables, such as the dollar exchange rate and long-term rates, which usually react more strongly to changes in short-term rates. Indeed, the dollar's downward trend against almost all other currencies is in contrast with the positive economic data from the United States and the divergence in monetary policy stance with other developed regions. Other factors, such as the growing external debt and insufficient correction in the current account balance may underlie this phenomenon. For its part, as happened in the pre-crisis cycle between 2004 and 2006, the slow increase in long-term interest rates, with term premiums close to historical lows, could be related in this case with the quantitative easing programmes (whereby central banks are absorbing a large volume of long-term government debt), holdings of US government debt by non-residents (particularly emerging economies aiming to build up their reserves) and the high overall demand for US government debt as a safe asset.

Low volatility and the current environment of loose financial conditions are spurring investments in higher-risk assets, such as stock markets, high yield corporate debt and emerging-market debt (see Chart 11), as well as in less liquid assets, such as real estate, such that vulnerabilities may build up among certain investors that it would be advisable to monitor. Moreover, low volatility may discourage the use of risk hedging mechanisms, which would affect investors' own risk management models, and create an incentive to take high-risk positions. The credit risk of these exposures would remain hidden while global growth remains buoyant and refinancing requirements are low, but could materialise in the event of a shock.

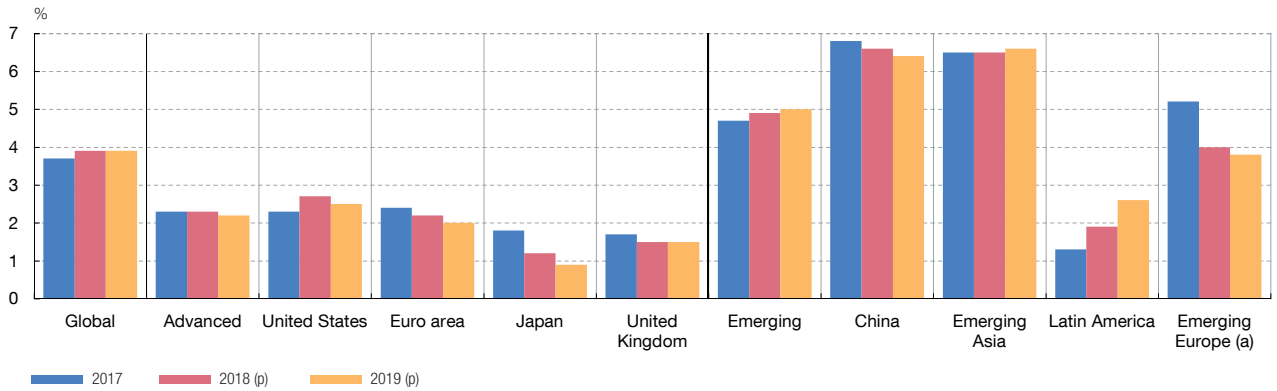
Markets provide instruments with which to interpret the probability of the occurrence of some kind of extreme event. In particular, the CBOE Skew Index (SKEW), which measures the asymmetry of the distribution of options on the S&P 500, and the VVIX (which is a proxy for the volatility of the VIX) indicates that investors have already started demanding more protection against a sharp correction. These indicators rose yet further in the wake of the turbulence in February-March 2018, which was closely focused on volatility and stock markets (see Chart 11).

There could be a sharp correction if the term premia on US government debt yields were to rise (the ten-year premium is currently highly compressed) or if monetary policy were to surprise with a faster-than-expected normalisation, associated, among other factors, with

16 The *taper tantrum* was a bout of financial turbulence following the announcement by members of the FOMC in 2013 that the Fed might soon start reducing the volume of government debt purchases under way at the time through its quantitative easing programmes.

OUTLOOK FOR THE WORLD ECONOMY IN 2018-2019 CHART 12

GDP GROWTH FORECASTS



SOURCES: International Monetary Fund (January 2018 WEO update).

a Aggregate of Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Hungary, Kosovo, FYR Macedonia, Montenegro, Poland, Romania, Serbia and Turkey.

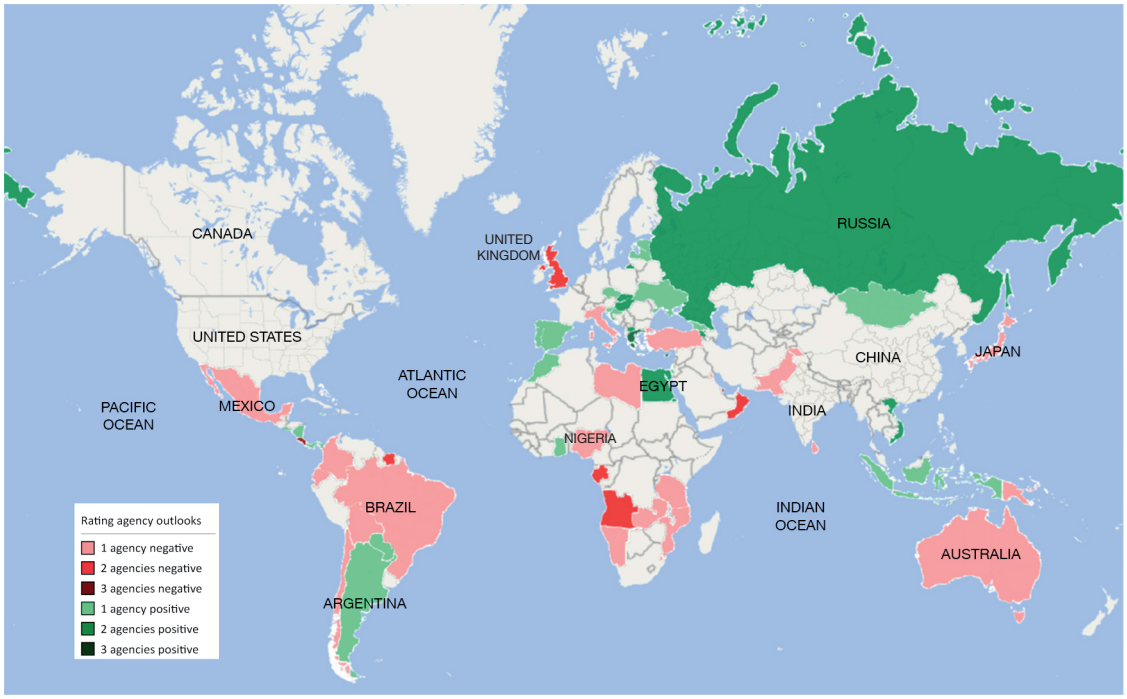
higher inflation resulting from a potential overheating of the US economy. At present, the Fed's communications policy (forward guidance) makes this scenario rather unlikely, although a repeat of the events of 2013 (taper tantrum) cannot be ruled out. Other factors that could trigger a similar reaction to term premiums include a reduction in US debt holdings by non-residents, the end of monetary policy divergence with the start of monetary policy normalisation in the euro area and Japan, or an upturn in volatility not associated with monetary policy due to increasing geopolitical tensions of various kinds.

Outlook for 2018

The favourable economic indicators being published in the first few months of the year and the combination of economic policies are configuring a central scenario for the global economy in which activity strengthens over the short-term horizon. However, this scenario is surrounded by considerable uncertainty about the continuity of some of the factors underlying the global economy's recent buoyancy. Indeed, the process of monetary policy normalisation that is on the horizon with differing intensities in the main advanced economies, the expansionary stance of fiscal policy in some of the advanced economies while the output gap is already positive, the bouts of tension that agitated international financial markets at the start of the year, and some countries' rethinking of trade relations just as international trade is starting to pick up, make the global outlook look somewhat complex.

The IMF's central scenario for 2018 envisages global economic growth slightly higher than that posted in 2017 (3.9%). This performance would be the result of the strengthening of emerging market economies, whose average growth is expected to be close to 5%, while the rate of expansion in the advanced economies is likely to stabilise at around the 2.3% posted in the previous year (see Chart 12). Nevertheless, there is considerable heterogeneity in both aggregates. Among the advanced economies, a substantial increase in the growth rate is anticipated in the United States, mainly as a result of the fiscal stimulus, which could represent a positive impact on growth of between 0.5 pp and 1 pp. Activity in the euro area will tend to become gradually less buoyant after the positive surprises in 2017, as it will in the United Kingdom, with the continuing uncertainty associated with the process of its exit from the EU. The moderation in growth is likely to be somewhat more intense in Japan.

CREDIT RATING OUTLOOKS FOR 2018 MAP 1



SOURCES: Standard and Poor´s, Moody´s, Fitch and Banco de España.

In the case of the emerging market economies, Brazil, Argentina, Russia and Nigeria, which emerged from recession last year, are expected to continue to strengthen. Meanwhile other commodity exporters, particularly Saudi Arabia, are benefiting from current oil prices. In general, emerging market economies will, to a varying extent, be constrained by tightening global financial conditions, against the background of the progressive withdrawal of monetary stimulus in the United States, continuation of the global economic recovery, and the intensity of the slowdown in China (which is expected to remain gradual), and the growing commitment of the Chinese authorities to reducing financial vulnerabilities. Meanwhile, the outlook for the Latin American economies suggests a moderate strengthening of the recovery, but they are particularly sensitive to the prospect of the normalisation of global financial conditions.

As regards inflation, in the absence of abrupt changes in commodity prices, the gradual reduction in the degree of slack in the advanced economies and in some emerging economies would suggest that inflation rates will tend to converge on central banks' target rates.

Against this background, the rating outlooks for 2018 assume the positive and negative outlooks for the sovereigns rated by the rating agencies to be relatively balanced (see Map 1). However, by region, the trends are more pronounced. In aggregate terms, in Europe and the emerging Asian countries, improvements in credit are anticipated in 2018, while in Africa, the Middle East and Latin America, negative outlooks predominate. It is worth noting the impact of the policies in some of the main emerging economies on the outlook going into 2018. The recent rise in the oil price and Russia's fiscal adjustment, where the economy had being suffering from the oil-price drop in 2014 and the imposing of international economic sanctions, strengthened the economic fundamentals, in contrast to the risks still affecting the Brazilian and Turkish economies.

There are a number of upside risks to this central scenario, deriving from the context of high consumer and business confidence levels in the majority of the advanced economies, and the potential impact of the fiscal policy measures recently adopted in the United States. However, the main downside risk scenario is associated with an abrupt correction to the current situation in the international financial markets, which are characterised by high asset valuations, low volatility levels and risk premiums, and investors' high appetite for risk. This correction may be triggered by the materialisation of certain latent risks, such as geopolitical conflicts, unanticipated economic policy measures, or a higher-than-expected rise in inflation, creating expectations of more abrupt monetary policy normalisation, particularly in the advanced economies. These developments would result in more tightening of global financial conditions than expected, which could be particularly detrimental to segments with high debt levels, as is the case of certain companies with low credit ratings in the United States, or the corporate sector in certain emerging economies. In this setting, the course of the dollar exchange rate is crucial. A rising dollar, consistent with the process of monetary policy normalisation and the recently approved strong fiscal stimulus, would be particularly detrimental to those countries with dollar-denominated debt. By contrast, if the dollar continues to depreciate, driven by factors including the accentuation of the twin deficits in the United States (government and external), countries such as China may find it harder to reduce their vulnerabilities. Finally, the shift towards protectionism begun by the Trump administration's recent trade decisions has increased the downside risks to growth and the upside risk to inflation.

Over the medium term horizon, the main risks coincide with those prevailing the previous year. The advanced economies continue to face the possible materialisation of a scenario of prolonged low growth. Although the risks of deflation have disappeared, the recent global economic recovery seems to have been basically cyclical, without there being any sign at present of the economies concerned having increased their potential growth. Meanwhile, the insufficient correction of some imbalances (external debt) could result in a persistent low-growth scenario, which would be accentuated if the drift towards protectionism materialises. Among the emerging market economies, the risks associated with the transition in the economic model in China stand out, although the measures that have begun to be applied reduce the chances of an abrupt adjustment.

In short, the global economy got off to a strong start in 2018, in an environment of low inflation and favourable financial conditions. However, the outlook is not without its risks. The main challenge is to withdraw the current prolonged monetary accommodation in a gradual way without triggering an abrupt correction on financial markets. Secondly, a widespread raising of barriers to international trade needs to be avoided. In these circumstances, as discussed in Box 4, there is a need to shore up global economic governance. Moreover, internal economic policies play an essential role. Specifically, macroeconomic policies need to avoid procyclicality so as not to accentuate swings in the economy and to facilitate the adoption of reforms tending to increase growth potential and economies' resilience to adverse shocks, while doing everything possible for the benefits of globalisation and advances in technology to reach all sectors of the population.

5.4.2018.

The wage restraint that has been seen in the main advanced economies since the global financial crisis, despite the progress of the labour market recovery, has become an important issue. From the macroeconomic viewpoint, this is one of the reasons cited to justify the persistence of low inflation rates, with the implications this has for the normalisation of central banks' monetary policies. From the microeconomic viewpoint, it may be significant for the labour supply and income distribution.

The academic literature has suggested several explanations for this phenomenon, centring on the framework given by the Phillips curve, which posits that nominal wage growth is inversely related to the amount of slack in the labour market, and directly related to productivity, past inflation and expected future inflation. The empirical evidence suggests that in recent decades the Phillips curve for wages has flattened, i.e. wages have become less responsive to the degree of slack in the labour market in absolute terms (see Chart 1). Nevertheless, recent studies[1] have shown that

1 See, for example, IMF (2017), "Recent wage dynamics in advanced economies: drivers and implications", Chapter 2 of the World Economic Outlook, October 2017.

Chart 1
WAGES AND CYCLICAL UNEMPLOYMENT (a)

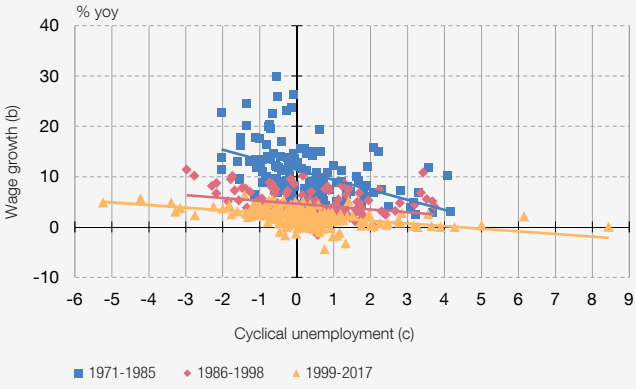


Chart 2
UNEMPLOYMENT RATE AND U-6 UNEMPLOYMENT RATE IN ADVANCED ECONOMIES

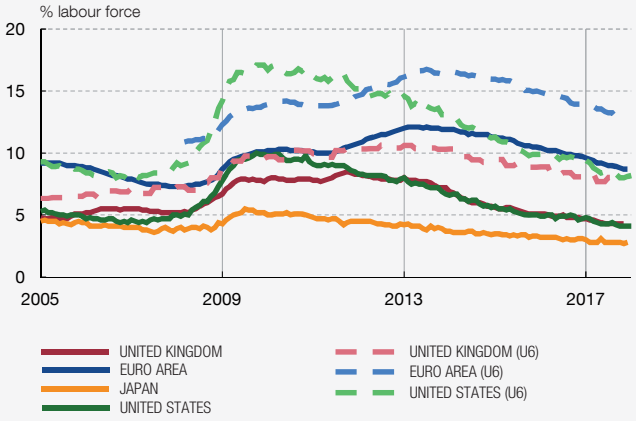
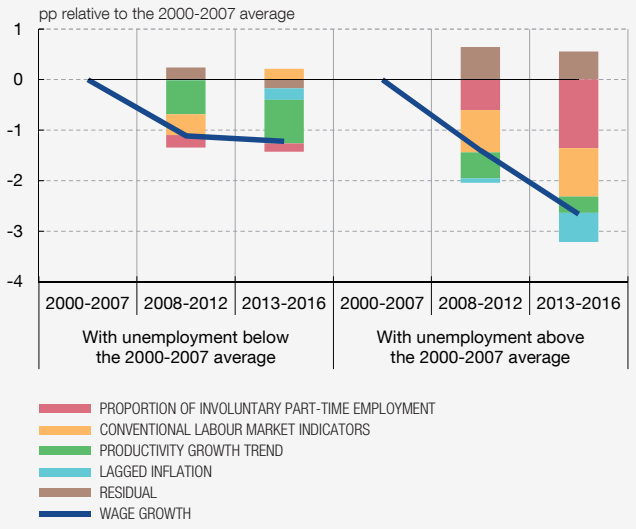


Chart 3
WAGE GROWTH, PRODUCTIVITY AND INFLATION IN ADVANCED ECONOMIES

Chart 4
BREAKDOWN OF WAGE DYNAMICS IN ADVANCED COUNTRIES



SOURCES: BIS Annual Report (2014), ECB Statistical Data Warehouse, World Economic Outlook October 2017 (IMF), Datastream.

a Annual data, regression lines estimated with unbalanced panel data with fixed individual effects, controlling for year-on-year changes in commodity prices. The countries are Australia, Canada, France, Germany, Italy, Japan, Spain, Sweden, Switzerland, the United Kingdom and the USA.
b Year-on-yearchange in wages.
c Unemploymentrate minus NAIRU.

slow wage growth in recent years could be explained primarily by changes in the degree of slack, although this would leave an unexplained negative component of wage growth. Specifically, in some economies that are further along the economic cycle, such as the United States, the United Kingdom, Germany or Japan, the measures of slack in the labour market, usually proxied by the unemployment rate, have gone from being a drag on wage growth to making a positive contribution, while in other economies, including some euro area countries with unemployment rates that remain high, this slack is still holding back wage growth. In this context, one factor that may explain the negative residual referred to above is that the degree of slack in the labour market may be more than is suggested by the unemployment rate,[2] i.e. the amount of slack may be larger when broader measures of underutilisation of the labour factor are taken (such as the U-6 rate, which includes involuntary part-time employment and people not included in the labour force but who want to work, for example), which would have increased since the crisis and subsequently decreased less than the unemployment rate (see Chart 2). According to the IMF's estimates, this alternative measure of the degree of slack would be significant in economies in which the unemployment rate has dropped least (see Chart 4).

Slow productivity growth during the recovery from the crisis and past low inflation may also help explain the low wage growth in almost all economies (see Chart 3). According to IMF estimates, slower productivity growth accounts for around two thirds of lower wage growth in those economies where unemployment rates have dropped most. As regards the increasing significance of past inflation for wage growth, the results are consistent with the increase in the persistence of inflation found in recent empirical analysis,[3] suggesting that past inflation rates may have more weight in price and wage setting processes in some economies.

In addition to these explanations, other potential factors exist, but for which the empirical evidence is inconclusive. Thus, part of the literature has sought to capture non-linearities in the Phillips curve, such that the relationship between wages or prices and the degree of slack could be larger or smaller depending on whether the unemployment gap is positive or negative. Another possible factor mentioned in the United States is "pent-up wage deflation". This assumes that downward nominal wage rigidity during the crisis kept real wages above their equilibrium level for part of the labour market and, subsequently, the drop in unemployment during the expansion brought real equilibrium wages up to observed levels. On this view, observed wages could now start to rise abruptly. It is also argued that the composition of the employment generated in the wake of the crisis could play a significant role, as the new cohorts have lower wages than those retiring, the labour-force participation rate among older workers has increased, as has employment of low-skilled immigrant workers and activity in lower-productivity sectors. Another possibility is that workers might be accepting low wage growth in exchange for job security. Indeed, voluntary job changes (which is when workers tend to significantly increase their wages) have not currently increased as strongly as in other post-recession recoveries. In some countries the effects of structural reforms on labour markets have been highlighted, which might have heightened the sensitivity of wages to the degree of slack (as seems to be the case in Italy, Spain and Finland).[4]

One hypothesis often put forward in relation to this issue is that underlying these developments in labour markets are structural changes that have altered the relationship between employees and employers, such as technological progress driving processes of task automation, or stronger international competition in a more globalised world underpinned by the expansion of the global workforce and the development of global production chains.[5] If this is the case, these factors could exercise more lasting pressure on labour markets and make the underutilisation of the labour factor and low wage growth permanent.

2 An analysis of this type for the European case can be found in Banco de España (2017) "Quarterly Report on the Spanish Economy" 3/2017.

3 For the euro area, see M. Ciccarelli and C. Osbat (eds.) (2017), "Low inflation in the euro area: causes and consequences", Occasional Paper Series, No 181, ECB, January 2017; and for the world economy, J. C. Berganza, F. Borrallo and P. del Río (2017), "Determinants of low global inflation rates", forthcoming in L. Ferrara, I. Hernando and D. Marconi (2018), *International Macroeconomics in the Wake of the Global Financial Crisis*, Springer.

4 For Spain, see L. J. Álvarez and A. Urtasun (2013). "Variation in the cyclical sensitivity of Spanish inflation: an initial approximation", Economic Bulletin, July-August, Banco de España, pp 11-17, and for Italy M. Riggi and F. Venditti (2014). "Surprise! Euro area inflation has fallen", Banca d'Italia, Questioni di Economia e Finanza, n.º 237.

5 See, for example, R. Auer, C. Borio and A. Filardo (2017), "The globalisation of inflation: the growing importance of global value chains", BIS Working Papers, No 602. Nevertheless, other studies find no conclusive evidence of the validity of this hypothesis. For example, for the euro area, ECB (2017) "Domestic and global drivers of inflation in the euro area", Economic Bulletin, Issue 4.

Fiscal policy has adopted a clearly expansionary stance in the United States with the passing of a tax reform in late December and the signing of a bipartisan agreement to raise the spending ceiling in the 2018 and 2019 fiscal years. In a context of favourable economic performance, the ultimate effect of these procyclical measures will largely depend on how monetary policy reacts. This box aims to give an approximate estimate of the impact of the fiscal stimulus using the NiGEM model.[1] To this end, the measures approved are described, and then the results for the main macroeconomic variables are presented in the three monetary policy reaction scenarios.

On 22 December the president of the United States ratified the tax reform knows as the Tax Cuts and Jobs Act. The most significant change to corporate income tax introduced by the reform was a cut in the tax rate from 35% to 21% –taking the United States from being the OECD country with the highest statutory rate to just above the OECD average– and the immediate deduction of 100% of investment expenditure over the next ten years, with a gradual tapering of the deductible percentage as of 2022. At the same time, the reform made changes to the taxation of multinationals' profits earned abroad, including a tax amnesty for the repatriation of profits held abroad, with a "deemed repatriation tax" of 15.5% on liquid assets (8% on illiquid assets). Measures to avoid the erosion of the tax base were also established. In the case of personal income tax, the reform temporarily cuts the rates for all levels of income, but the reduction expires in 2025. The second fiscal stimulus measure was the outcome of the bipartisan agreement adopted in the Senate and ratified by the president on 9 February, raising the spending ceiling by USD 296 billion over the 2018 and 2019 fiscal years, of which USD 165 billion will be

1 NiGEM is a semi-structured model of the global economy developed by the National Institute of Economic and Social Research (NIESR). It includes 60 countries, from which it uses quarterly data to simulate the effects of economic policy changes and other shocks.

Chart 1
GDP FORECAST

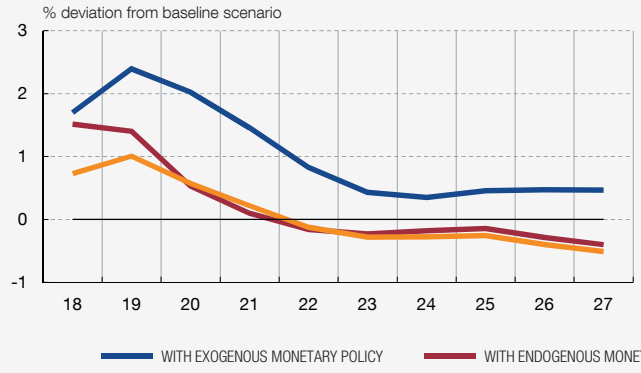


Chart 2
INFLATION FORECAST

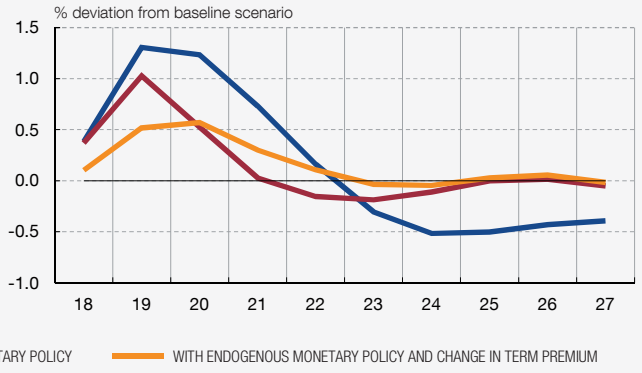
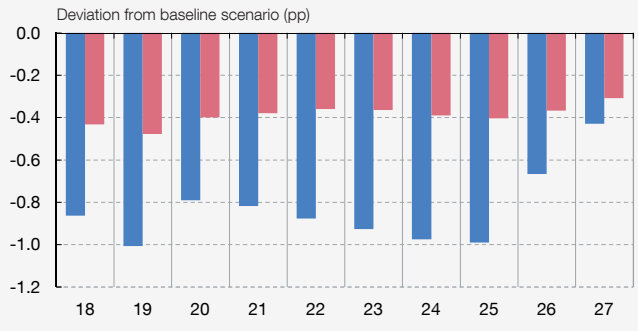


Chart 3
FORECAST TWIN DEFICITS WITH EXOGENOUS MONETARY POLICY



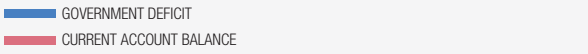
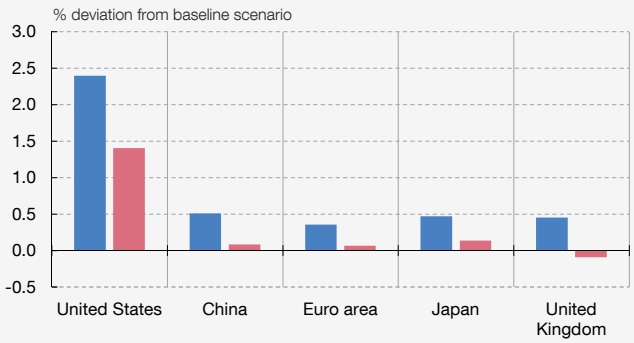
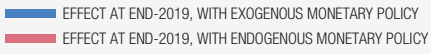


Chart 4
INTERNATIONAL SPILLOVERS RELATIVE TO GDP





SOURCE: Banco de España calculations using NiGEM model.

devoted to defence and a further USD 131 billion to other spending categories.[2]

According to the estimates made using the NiGEM model, the fiscal stimulus deriving from these two measures would result in a temporary increase in GDP, lasting between three and five years, depending on the monetary policy reaction, together with an increase in inflation over the current forecasts, a rise in short-term interest rates, and a deterioration in the fiscal and external imbalances. In an initial scenario in which the Fed does not react to the expansionary effects of the fiscal expansion, GDP would be 2.4% higher in 2019 than in the scenario without fiscal stimulus, with an impact on growth in 2018 of more than 1.5 pp (see Chart 1). Nevertheless, if monetary policy responds to the rise in GDP and inflation deriving from the fiscal measures, the expansionary effect on the level of GDP would moderate to 1.4% in 2019. Moreover, in the case of an upturn in the term premium on ten-year rates (simulated by a 75 bp increase to return to its historical average), the maximum impact of the fiscal expansion on GDP would drop to 1 pp at the end of 2019, with 0.7 pp higher GDP growth in 2018, the effects of which would start to dissipate in 2020. These results are in line with other studies, although in our case monetary policy reacts significantly, which is something analysts do not currently foresee.

Inflation would also exceed current projections, particularly in the exogenous monetary policy scenario (1.3 pp in 2019). Logically, this deviation is smaller if monetary policy reacts endogenously (1 pp) and smaller still if markets raise the term premium (0.5 pp). Finally, it is worth noting that there would be a deterioration in the fiscal and external balance, with a deviation of 0.8 pp and 0.4 pp from the baseline scenario in the next few years, coming to 6% and 4% of GDP, respectively (see Chart 3).

An important point that is worth noting is the possible transmission of this fiscal stimulus to the rest of the world. If monetary policy does not react to the fiscal stimulus, GDP in China, Japan and the United Kingdom is expected to rise by 0.5 pp by the end of 2019. In the euro area the impact would be slightly smaller, at 0.4 pp. In the endogenous monetary policy scenario, with an increase in the term premium of 75 bp, the effects are substantially smaller, at 0.1-0.2 pp. Moreover, the term premium increase in the United States may trigger a rise in long-term rates in other countries, given the US economy's central position in global financial markets, which would have a contractionary effect on their GDP. In some countries, this financial channel could exceed the commercial channel discussed earlier.

In short, the fiscal expansion will contribute to stronger growth in the United States in the short term, although it is likely that inflationary pressures will intensify, hardening the Fed's monetary policy stance. Moreover, in a context of a positive output gap, this will widen the US economy's imbalances, with a deterioration in the public finances and current account deficit. The international impact of this fiscal expansion is likely to be modest and could even be negative if there is contagion to other countries' financial markets. This effect could be intensified if the US authorities introduce protectionist measures to offset the deterioration of their external balance.

2 Furthermore, in February, president D. Trump presented a USD 200 billion ten-year infrastructure-improvement plan expected to generate total investment of at least USD 1.5 trillion by encouraging investment by state and local governments, together with private firms. However, this plan is still at the early discussion stage and it looks unlikely to pass without significant cuts. This measure is therefore not included in the simulations.

Over the last few decades, in parallel with a broader process of transformation of the country's economic structure, China's monetary policy framework has also been changed to add the interest rates on new credit facilities for financial institutions. The objective of the People's Bank of China (PBoC) is to "maintain the stability of the value of the currency and so promote economic growth", from which the goal of price stability may also be deduced. However, as publicly stated by the PBoC's governor,[1] China's central bank also takes other objectives into account, ranging from job creation to financial reform.

At the same time, China's growing integration in the global economy means a closer intertwining of national and international economic policies.[2] One of the implications of this is that the impact of advanced economies' monetary policy is more readily transmitted to China. In this connection, Girardin et al. (2017)[3] have found evidence that US monetary policy to some extent shapes China's monetary policy decisions, or at least has done so over the last fifteen years. This box examines two specific episodes to illustrate how China has responded to US monetary policy shocks.

The first episode occurred following the global financial crisis, specifically in 2014 and 2016. China (and the PBoC in particular) implemented a policy of monetary accommodation,[4] which contributed to credit growth. Shadow banking, structural imbalances, asset bubbles and concerns about financial stability also increased. In parallel, in mid-2013 the United States began to normalise its ultra-expansionary monetary policy, first by ceasing to expand the Fed's balance sheet, and then by raising interest rates. In fact, the possibility that the Fed's government debt purchase programme might be scaled back initially caught markets by surprise, pushing up not only long-term US bond rates, but also those in other developed and emerging economies, triggering sharp market corrections (see Chart 1).[5] Later on, in December 2014, the Fed began to gradually taper its monthly asset purchases and in December 2015 it raised its interest rates for the first time in six years without causing a sudden market reaction, having given precise information about its intentions before hand. In this context, the renminbi faced strong downward pressure,[6] leading the PBoC to reduce its foreign-exchange reserves. Official reserves fell from USD 4 trillion in mid-2014 to just over USD 3 trillion in December 2016 (see Chart 2). China was facing the so-called "impossible trinity":[7] in order to maintain monetary policy autonomy and avoid further depreciation of the renminbi, it had to reverse the incipient opening up of its external financial account to halt capital outflows.

Since December 2015, the Fed has continued to normalise its monetary policy, raising its interest rate on five more occasions and gradually reducing the size of its balance sheet. China, for its part, has gradually gone from a monetary cycle adjustment to encouraging financial deleveraging, thus aligning its monetary policy with that of the United States. This monetary policy

1 Zhou Xiaochuan (2016), "Managing Multi-Objective Monetary Policy: From the Perspective of Transitioning Chinese Economy", Michel Camdessus Central Banking Lecture – IMF, June.
2 See E. Prasad (ed.) (2004), China's Growth and Integration into the World Economy, Occasional Paper No. 232, Washington: IMF press.
3 E. Girardin, S. Lunven and G. Ma (2017), "China's evolving monetary policy rule: from inflation-accommodating to anti-inflation policy", BIS Working Papers No. 641, May.
4 In 2014-2016, the PBoC cut its benchmark interest rate six times and the reserve requirement five times.
5 Specifically, other countries' currencies depreciated rapidly against the dollar, stock market indices fell and capital flows to emerging countries declined.
6 The renminbi lost 7% of its value against the dollar following the first Fed rate hike, the biggest annual drop since the process of liberalisation of the RMB began in 2005.
7 See, L. Cuadro-Sáez and S. Gallego (2016), "Financial liberalisation in China: economic policy outlook and global implications", Economic Bulletin, Banco de España, May.

Chart 1
TEN-YEAR GOVERNMENT BOND SPREAD FOR SELECTED EMERGING ECONOMIES JANUARY 2013-FEBRUARY 2018

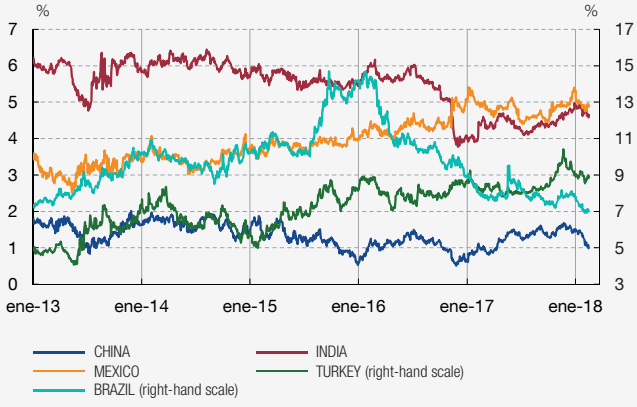
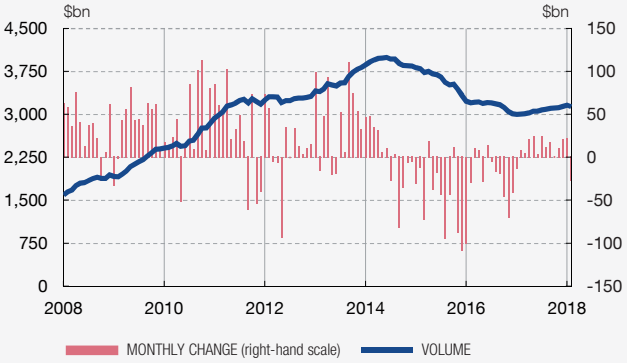


Chart 2
INTERNATIONAL RESERVES



SOURCES: Datastream, The People's Bank Of China, CEIC.

synchronisation was possible because both China's external and internal macroeconomic conditions have improved (a stronger renminbi,[8] positive net capital flows with a reversal of the trend towards diminishing reserves, moderate inflation and higher than expected growth). China is also benefiting from the multiple monetary policy tools the PBoC has been implementing since 2013. Unlike previous monetary tightening cycles in which reference interest rates and deposit rates were raised, in 2017 interest rates were left unchanged, with the adjustment falling on a rise in the interest rates on various credit facilities and reverse repos, within the new monetary policy framework, which consists of an interest rate corridor and a guide for the medium-term lending rate (see Table 1). Two of the three occasions when this happened were immediately after the Federal Reserve rate hikes in March and December 2017. This suggests that the PBoC intends to stabilise the interest rate spread between China and the United States to ease the pressure on the exchange rate and capital flows, while also avoiding an excessive impact on activity and interference in the deleveraging process.

Therefore, for 2018 the PBoC faces the challenge of ensuring the liquidity the economy needs, while at the same time avoiding sharp adjustments to the exchange rate. Although the PBoC can use multiple monetary policy and macroprudential instruments to contain the financial risks in a changing international context, the suitability and flexibility of its new monetary policy framework is going to be put to the test. Specifically, excessive monetary tightening could cause turbulence on domestic markets, which could affect financial stability. And these domestic risks could be amplified by external shocks, such as corrections to stock markets, a weaker dollar, or an increase in trade protectionism.

8 In 2017, the RMB appreciated by 6.8 % against the dollar. The introduction of the so-called "countercyclical factor" in the daily rate setting formula for the RMB in May 2017 seems to have been crucial to this.

Table1
INSTRUMENTS USED BY THE PEOPLE'S BANK OF CHINA

	Description
Reserve ratios	Regulates the minimum reserves a bank is required to keep relative to its loans
Reference rates on deposits and loans	Minimum deposit rates and maximum lending rates. The only reference rates before deregulation (October 2015) and have remained so since.
Interest rate on excess reserves	Interest rate at which commercial banks can deposit their reserves with the PBoC
Open market operations (OMOs)	— 7, 14, 21, 28 and 91 day repos — Reverse repos (r.r.): 7, 14, 21, 28, 63 and 91 days — Central bank bonds: 3 months, 1 and 3 years
Short-term liquidity operations (SLO)	— Used occasionally to reduce volatility of money markets, prior to OMOs taking place every working day (as of January 2016) — From 1 to 7 days (repos and reverse repos)
Standing lending facility (SLF)	— Used to support liquidity backing for small and medium-sized financial institutions and to contrast seasonal fluctuations — From 1 to 7 days (reverse repos) — Loans from 1 to 3 months
Medium-term lending facility (MLF)	— Used to encourage the allocation of credit to the broader agricultural sector and small and medium-sized enterprises — 3-6 month and 1 year loans.
Pledged supplementary lending (PSL)	— Used to support the government's urban-development programme — 3-5 year loans
Window guidance	— A "moral persuasion" mechanism consisting of meetings between senior representatives of PBoC and the major financial institutions. Generally used in combination with other monetary policy instruments to shape market expectations — The aim is to guide banks and other financial institutions to follow official guidelines
Capital controls	These are regulations aiming to limit capital flows between China and the rest of the world
Macroprudential tools	Macroprudential assessments carried out by the PBoC, which require coordination with other institutions (CBRC, CSRC, CIRC)

SOURCE: Banco de España on PBoC, Komlóssy *et al.* (2017), Geiger (2008), Banco de España (2017).

The financial crisis highlighted the need to strengthen international economic and financial coordination. In response, at the end of that same year the G-20 became the main forum for global economic and financial guidance, and started to drive changes in the multilateral institutional structure. Thus, the IMF strengthened its role in crisis anticipation and prevention, launching a profound transformation of its operations and main policies –covering governance, surveillance, lending and resources– while establishing a new pillar of financial regulation and supervision, with the creation of the Financial Stability Board (FSB).[1] The crisis also gave fresh prominence to Regional Financing Arrangements (RFAs) to supplement the traditional lending policies of the IMF and multilateral development banks. Later, the creation of the International Working Group with joint backing from China and the United States in 2012 also opened the door to broader coordination of export credit policy outside the OECD's sphere.

There is no doubt that the strengthening of international coordination helped deliver a joint response to the international financial crisis, avoiding certain past mistakes –such as recourse to trade protectionism, once again under discussion– and correcting some of the imbalances that led to it. Nevertheless, the challenges remain significant. The G20 has increased the flexibility of coordinated decision-making, but the growth objectives set have not been achieved, despite the growth framework established for this purpose –with the definition of growth strategies and mutual evaluation of the degree of compliance with the commitments, as a means of coordinating economic policies.

For its part, during the crisis, the IMF reinforced its central role as lender of last resort in the global financial safety net, increasing its available resources –both own resources, with the doubling of quotas, and external resources, with the signing of bilateral loans and expansion of the New Arrangements to Borrow (NAB). Additionally, it rationalised its set of credit lines and programme conditionality, eliminating old unused lines and creating new precautionary lines with ex-ante conditionality requirements. Finally, it also strengthened its surveillance policy by including spillover effects of each country's economic policies and by factoring financial factors into its analysis to a larger extent, while improving the institution's governance, with a realignment of quotas in favour of the emerging economies. Nevertheless, some significant issues remain. These include the question of how to improve emerging and low-income economies' representation to balance their power in the IMF's decision-making bodies with their current weight in the global economy; achieving greater traction for the economic policy recommendations in the IMF's country monitoring in the countries assessed, and defining exit strategies for precautionary credit lines.

The FSB has coordinated financial sector reforms to boost its resilience, but the level of implementation of the new prudential regulations varies across regions and countries, with some issues still pending. Finally, multilateral development banks and RFAs have improved their capacity by increasing their available resources, with new facilities for emerging and low-income countries.

Ten years after the outbreak of the crisis, the international economic environment has changed substantially. The global economy is in a more expansionary phase, but a degree of reform-fatigue is apparent. In parallel, there has been a turnaround in US government policy in the last two years, the European Union is facing the exit of the United Kingdom, and some emerging economies are showing their reservations about full economic cooperation –particularly on trade– jeopardising key features of international cooperation: in particular, the multilateral approach to international trade, the role of institutions such as the IMF or the relevance of the G20, as well as issues such as tackling climate change.

In this context, it is necessary to continue to emphasise that the best way of tackling the problems deriving from globalisation is through international cooperation and coordination. In both the prevention and resolution of crises, joint action by countries enables a more rapid and effective response, makes it easier to carry out thorough reforms at the global level, allows greater equality in the treatment of all countries, offers significant multiplier effects regarding the resources used, and represents a valuable signal to markets. It is therefore necessary to continue making headway on international coordination with the overall goal of achieving stronger, broader, more balanced and inclusive growth.

1 Likewise, national and regional organisations, both in the financing arena and in supervision and oversight, have had a significant boost.