

■ Global and European setting

■ World economic activity

*2015 probably
off to sluggish
start*

The global economy appears to have got off to a relatively sluggish start this year. On the basis of the data available as this report went to press, global economic activity had already lost steam in the final quarter of 2014, and this slowdown continued into the beginning of 2015. Aggregate economic growth tailed off in a number of key emerging economies, in particular; a prominent example was China. In Russia and Brazil, real gross domestic product (GDP) is likely to have even contracted compared with the previous quarter. Furthermore, growth in the US economy virtually came to a standstill. It could have been impaired by the, at times, severe winter weather, amongst other factors. The upturn in the UK economy also slowed down. In the absence of initial national accounts data, it is very difficult to calculate Japanese economic growth, especially since the standard monthly indicators were extremely volatile in the winter. The euro area's performance was favourable by comparison. Despite the weakness in the global economy, the pace of the euro area's economic recovery was even accelerated slightly.

*Lower oil prices
have provided
no visible
stimulus to date*

In the past, too, the growth rates for global economic output had fluctuated heavily at times from quarter to quarter, without the underlying cyclical trend ultimately changing. However, amidst widespread expectations of a gradual acceleration in growth, the slowdown over the past few quarters is striking. Such hopes had been fuelled by the sharp decline in oil prices, in particular. However, the stimulating effect of this price drop on the global economy as a whole is uncertain.¹ In the meantime, retarding influences are emerging, and not just in oil-exporting countries such as Russia. In the United States, too, still a net importer of crude oil, the domestic oil industry has substantially reined in its investment and thus dampened real GDP growth. US households have not

made full use of their greater real income, which means that the saving ratio has risen significantly and stimulus effects have not materialised to the extent often expected.

The cyclical slump observed in many areas is also being reflected in global industrial output. According to data provided by the Dutch Centraal Planbureau (CPB), average output for January and February was up only sluggishly from the final quarter of 2014. Over the same period, the volume of global trade even dropped significantly. An extended strike affecting US west coast ports may have played a certain role. Although the global Purchasing Managers' Index (PMI) for services reflects considerably brighter sentiment up to and into April, its manufacturing counterpart is showing no improvement. Overall, there are few signs at present that the global economy is about to accelerate its pace of growth, the underlying tendency of which is moderate.

*Global industrial
sector listless*

Nonetheless, the International Monetary Fund (IMF), in the April issue of its World Economic Outlook, continues to expect a gradual improvement in economic activity. As already projected in January, the IMF expects global economic activity, aggregated using purchasing power parities (PPPs), to grow by 3.5% this year. The 2016 projection was even raised slightly (+3.8%), against a background of, in some cases, significant yet countervailing corrections to projections for individual economies. Most notably, the previously very optimistic forecast for US economic growth was scaled back considerably. Compared with the preceding years, however, the pace of growth is still expected to accelerate significantly in 2015 and 2016. On the other hand, the IMF has perceptibly revised upwards its projections for Japan

*IMF growth
forecast
unchanged*

¹ See Deutsche Bundesbank, Potential impacts of the fall in oil prices on the real economy, Monthly Report, February 2015, pp 12-14.

Global industrial output and world trade

2010 = 100, seasonally adjusted, quarterly, log scale



Source: Centraal Planbureau. ¹ OECD excluding Chile, Czech Republic, Hungary, Israel, Mexico, Poland, South Korea and Turkey, but including Cyprus.
 Deutsche Bundesbank

World market prices for crude oil, industrial commodities and food and beverages

US dollar basis, 2010 = 100, monthly averages, log scale



Sources: Thomson Reuters and HWWI. • Latest figures: average of 1 to 8 May 2015, or 1 to 14 May 2015 for crude oil.
 Deutsche Bundesbank

and the euro area for this period. Among the emerging economies, the outlook for Brazil, Russia and other commodity-exporting economies, in particular, has once again been downgraded. Although, on the other hand, the projected growth rate for India has been revised upwards sharply, it does not mean that the outlook for India's economy has suddenly brightened, but is instead the outcome of an extensive change in the official statistics which lifted the growth rates of previous years accordingly. This forced the IMF to revise real GDP growth figures for 2014 for the emerging market economies up to 4.6%, which means the Fund now expects a further perceptible deceleration for this group of countries in 2015 despite leaving its projection of +4.3% unchanged. The advanced economies as a group are therefore the sole driver of the slight strengthening of global activity in the current year diagnosed by the IMF.

The sluggishness of global manufacturing activity is probably a major reason why industrial commodity prices continued to fall in the past few months. According to the relevant HWWI index, commodities were quoting 6% lower in April on a US dollar basis than three months earlier, with the decline in the aggregate attributable in key measure to plunging iron ore and scrap metal prices. However, food and beverages prices also fell considerably. Towards the end of the reporting period, industrial commodities prices strengthened, tracking crude oil prices, which had already regained their footing in January. Since February, the spot price of Brent crude has fluctuated around the US\$60 per barrel mark, amidst perceptible swings. In addition to evidence of sharp adjustments in the North American oil industry, a recent resurgence of military conflict in the Middle East may have tended to strengthen the price; as this report went to press, the spot price for a barrel of Brent crude was US\$67. Although premiums were still being demanded for futures, they were no longer as high as three months earlier.

Prices for non-energy commodities down further; crude oil price has recovered

Industrial countries' consumer price inflation stabilised

Along with the oil price, headline consumer price inflation in the industrial countries has halted its slide. After dropping from +1.7% in June 2014 to zero in January 2015, headline inflation in this group of countries rebounded to +0.2% by March. Over the same period, annual energy price inflation dropped from +3.1% to -12.8% before recovering recently to -11.1%. By contrast, core inflation, which refers to the basket of consumer goods excluding energy and food, remained relatively stable; in March, it remained perceptibly positive at +1.2%.

Selected emerging market economies

Economic activity in China quite sluggish at start of year

In the quarter ended, real GDP growth in China slowed down somewhat on the year, dipping from 7¼% to 7%. However, it must be noted that the latest figure is positively affected by the depressed level of the prior-year period. On the quarter, however, seasonally adjusted GDP rose all of 1¼%. One of the causes of this, by China's standards, relatively slow growth is likely to be the cooling-off in the housing market, which carries considerable heft in the economy as a whole owing to the preceding boom. In addition, private consumption appears to have lost steam. Another sign of a domestically-induced weakening of economic activity is goods imports, which – even after factoring out falling commodity prices – dropped sharply in the first quarter, with exports proving more robust. Annual consumer price inflation was 1.2% in winter, representing a renewed decline. This even led to isolated fears of deflationary tendencies. However, the main reason for lower inflation is a dampening of food and energy price inflation, as well as sluggish housing cost growth owing to a slumping real estate market.

Unclear statistical picture of aggregate growth in India

There is currently considerable uncertainty regarding the strength of India's GDP growth and its position in the business cycle. The Indian Ministry of Statistics recently revised its method of GDP calculation and, in this connection,

upped real growth rates at the current end considerably. For example, owing to the new methodology, GDP growth for the fiscal year ended is now reported at 7½%. These results have been called into question by India's central bank, amongst others.² Indeed, there are many indicators pointing to slower GDP growth. One is that, for instance, real imports of goods and services last year fell for the second consecutive year. In the first quarter of 2015, Consumer Price Index (CPI) inflation stood at 5.2%, thus remaining, by India's standards, quite low. The government and the central bank recently reached an agreement to accord primacy to price stability as the objective of Indian monetary policy. From the coming fiscal year, the target inflation rate will be 4%.

Economic activity in Brazil seems to have subsided significantly in the new year. According to the available monthly indicators, including industrial output, seasonally adjusted real GDP is likely to have even contracted perceptibly. As long ago as spring 2014, Brazil's economic output fell markedly, recovering only slightly since then. At last report, GDP was 1% below its early-2014 peak. Structural problems are at the heart of the slumping Brazilian economy, along with a tight monetary policy stance with which the central bank is attempting to rein in the strong inflation. Consumer price inflation in the first quarter climbed to 7.7%, its highest rate since 2005.

The international sanctions and plummeting oil prices have put the Russian economy to a severe test. Following slight year-on-year growth in the final quarter of 2014, real GDP, according to a government estimate, contracted by 2¼% after the turn of the year. According to the indicators, it is particularly private consumption which seems to have collapsed, mainly as a result of skyrocketing infla-

Brazilian real GDP probably contracted at year's beginning

Russian GDP distinctly contractionary in first quarter

² See Reserve Bank of India, Monetary Policy Report April 2015, especially Box III.1, New Series of National Accounts, p 22.

tion, which caused a considerable erosion of households' purchasing power. Consumer price inflation in the first quarter of the year stood at 16%, double its 2014 level. The primary reason for the very strong upward pressure on prices is the rouble's depreciation. Another factor was the ban on imports of food from Western countries imposed by the government in retaliation for economic sanctions. Owing to weaker domestic demand in conjunction with the rouble's depreciation, Russian imports declined considerably.

United States

*Economic upturn
sputtering*

After only moderate expansion in autumn 2014, seasonally adjusted real GDP growth, according to an initial official estimate, ground to a virtual halt in the winter. The anaemic performance is attributed by many to one-off factors, particularly the adverse impact of the extremely harsh winter weather in February (see the box on pages 15 to 18). Although the weather might well have caused a perceptible slowdown in GDP growth, even in the absence of this effect, real GDP growth in the first quarter would have probably been modest at best. The slowdown in household consumption growth in the first quarter, which in a month-on-month view had already begun in December 2014, was a particularly disappointing development. Since households made only limited use of the increase in their real disposable income, caused above all by the drop in oil prices, to step up their expenditure, their saving ratio rose considerably. Cheaper fuel prices have thus far had no major stimulating impacts; instead, oil companies have constrained GDP growth by cutting back their investment. The effects of the continuing adjustments in this sector on GDP might well be felt into the spring as well. Nonetheless, the robust employment growth in April indicates that the US economy is on a sound upward trajectory. The standardised unemployment rate in that month stood at 5.4%, 0.3 percentage point lower than at the beginning of the year. Given the progress made in the labour

market, the US Federal Reserve adjusted its outlook for the fed funds rate during the reporting period. Whereas annual headline CPI inflation intermittently dipped slightly into negative territory, core inflation (excluding energy and food) remained moderate, at +1.8% in March.

Japan

Even though official GDP figures were not yet available as this report went to press, the Japanese economy is likely to have remained on its underlying recovery path at the start of the year. It is questionable, however, whether the quite distinct growth rate of the final quarter of 2014 was successfully maintained. This uncertainty is being fuelled by extremely volatile key monthly economic indicators, probably in connection with the date of this year's Chinese New Year, which is of great significance to some of Japan's major East Asian trading partners. For instance, Japan's industrial output skyrocketed in January before subsiding in the following months; for the first quarter as a whole, it was nonetheless still up considerably on the period. Exports of goods followed a similar trajectory in terms of volume. However, since corresponding real imports accelerated at a similarly considerable pace in winter, the calculated contribution to GDP growth made by net exports is likely, on balance, not to have been quite as noticeable as a quarter earlier. In addition, various indicators are showing that household consumption growth has tended to be muted. The average unemployment rate over the winter months remained at a low level (3.5%). The impact of the consumption tax hike still boosted domestic inflation. Excluding energy and food (but including alcoholic beverages), annual CPI inflation in March 2015 stood at 2.1%, as in December 2014 already.³

*Economic
recovery
probably
continuing*

³ The Bank of Japan estimates that the consumption tax hike in April 2014 pushed up this rate by 1.7 percentage points. This impact is expected to have diminished to a mere 0.2 percentage point in April 2015. See Bank of Japan, Monthly Report of Recent Economic and Financial Developments, April 2015, p 18.

The effect of one-off factors on real GDP growth in the USA in the first quarter of 2015

If quarter-on-quarter real gross domestic product (GDP) growth in the USA in the first quarter of 2015 is annualised, the first official estimate gives a rate of just +¼%. Economic observers have attributed this virtual stagnation in the US economy to a number of one-off factors. Specifically, the unusually harsh winter weather, the extended strike in west coast ports, the appreciating US dollar and the slump in investment in the oil industry have all been mentioned. The plausibility and extent of these impacts will be analysed below.

Negative effects on economic activity owing to adverse weather conditions are reflected in the official figures for real GDP in the USA if they break with the normal seasonal pattern. Such effects were already discussed and quantified in connection with the severe fluctuations in macroeconomic growth in the first half of 2014.¹ Those estimates revealed effects which were indeed statistically significant and economically important. If the relationship identified at that time to the deviation in the population-weighted indices for the number of heating and cooling degree days from their long-term average is taken as a basis, annualised (quarterly) real GDP growth in the first quarter of 2015 is likely to have been dampened by just over 1 percentage point. Based on the average growth rate in the current upturn (+2¼%), weather effects would certainly have been noteworthy, but on the whole, would not have sufficiently explained the observed slowdown. With regard to aggregate growth in the current quarter, the estimate only implies a positive effect of just under ½ percentage point (annualised), assuming that the weather normalises again. One

reason is that the lagged positive weather effects are generally lower than the preceding negative effects.² Another is that the estimated dampening effect of the weather in the first quarter of 2015 is itself partly the result of a countermovement following a positive effect from the final quarter of 2014 which, however, no longer affects the spring figures.

The estimate does not imply a correlation between unusual weather conditions and the contributions to growth made by inventory changes or foreign trade. However, some observers ascribe the renewed distinctly dampening effect of net exports on real GDP growth in the first quarter to an additional one-off factor, namely the strike in ports on the US west coast, which lasted for months and was only called off in February. This kind of labour dispute certainly may have restricted inflows and outflows of goods. A possible impact on foreign trade's contribution to GDP growth is not immediately apparent, however, since only the balance of imports and exports is ultimately relevant here.³ Monthly data on flows in the goods trade, adjusted for price and seasonal variations, show a surge in imports in March, but only a comparably small in-

¹ See Deutsche Bundesbank, Weather effects on real GDP growth in the USA in the first six months of 2014, Monthly Report, August 2014, pp 22-24.

² Probably a particularly significant factor in this is that the dampening effect of adverse weather conditions on the growth rate in private services consumption (excluding energy) in the subsequent quarter is not reversed; instead, it appears to simply peter out.

³ In the event of a reduction in real imports and exports of the same percentage, price-adjusted GDP in the USA rises on account of the level difference between these amounts (trade deficit). Indirect effects on other components via the interruption in supply chains are not considered here; relevant data are not available.

Selected phases in which real gross fixed investment by the US oil industry contracted*

Period		Share in GDP ¹	Decrease ²	Contribution to growth ³
Peak	Trough			
1981 Q4	1983 Q2	1.96	- 44.8	- 0.88
1985 Q1	1986 Q3	0.78	- 59.0	- 0.46
1991 Q1	1992 Q2	0.36	- 34.5	- 0.12
2001 Q3	2002 Q2	0.41	- 36.1	- 0.15
2008 Q4	2009 Q3	0.95	- 41.3	- 0.39
2014 Q4	2015 Q1	0.98	- 14.9	- 0.15

Source: Bundesbank calculations based on data from the Bureau of Economic Analysis. * Approximated aggregate of real commercial investment in oil and gas production structures and of real commercial investment in mining and oilfield machinery. **1** Gross fixed investment as a percentage of nominal GDP at peak. **2** Cumulative percentage decrease in real gross fixed investment over the contraction phase. **3** Approximated contribution to rate of change in real GDP over the contraction phase in percentage points.

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crease in exports. In mathematical terms, this accounts for the more favourable quarterly performance of imports and the corresponding macroeconomic dampening effect.⁴ In particular, imports from China rose steeply in March. Consequently, the development in the USA could also be the reverse of erratic movements in Chinese foreign trade observed in connection with the new year celebrations there.⁵

These rather technical considerations already make clear that the rise in imports in the first quarter probably is not significantly attributable to the substantial effective appreciation in the US dollar in the 2014 Q4-2015 Q1 period. Strong, persistent exchange rate shifts do have the potential to divert international goods flows, but in order for final demand to respond accordingly, prices first have to be adjusted to this stage. However, exchange rate impulses are sometimes only partially and gradually relayed across different levels, depending in particular on the country in question and the relevant type of good.⁶ Thus, the import prices for consumer goods in the USA have

seen just a slight reduction in the past few months.

What must also be considered is that pronounced import movements, in particular, can also be accompanied by a change in inventory dynamics. In winter, for example, the dampening effect of foreign trade was counteracted by the positive contribution to growth made by increased inventory stockpiling.⁷ It is possible that countermovements in these expenditure components will again tend to offset each other in the current quarter.

In addition, the high volatility of foreign trade's quarterly contributions to growth must also be borne in mind. As recently as summer 2014, a not insignificant portion of GDP growth was attributable to net exports. Between 2011 and 2014, however, the average annual contribution to growth made by foreign trade was almost nil. A distinctly dampening effect would have been expected, though, given the favourable growth in domestic demand in the USA compared with key trading partners. The growth in US imports in the past few years

⁴ Since the rise in imports in March was greater than had been assumed by the US Bureau of Economic Analysis (BEA) in its initial GDP estimate for the winter, GDP could still be revised downwards in the second estimate.

⁵ After adjustment for the usual seasonal effects, Chinese statistics show that nominal goods exports to the USA shot up in February, before falling well below the January level in March. Provided that there is a connection between the foreign trade figures for China and the USA, which lags by one month, US imports in April and also on average over the current quarter could be markedly lower than the average for the winter months. It is possible that macroeconomic growth would then be propped up by foreign trade, on balance.

⁶ See Deutsche Bundesbank, Japanese goods exports in the aftermath of the strong yen depreciation, Monthly Report, February 2014, pp 16-18.

⁷ Final domestic demand can be determined by subtracting both net exports and inventory changes from GDP. Last winter, its quarterly growth was only slightly stronger than that of aggregate output (annualised +3/4%).

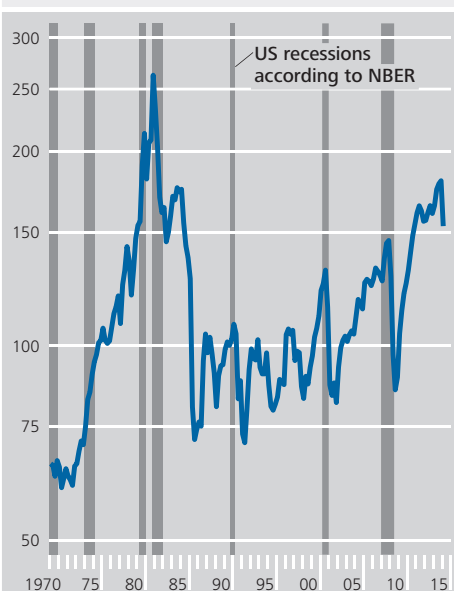
has thus been remarkably weak.⁸ Compared with exchange rates, demand levels generally prove to be more significant determinants of international goods flows. US exports therefore have to be viewed not least in the setting of global economic activity.

Yet even without directly affecting the volume of foreign trade, the appreciation in the US dollar can influence US economic activity. In particular, it can alter the profitability and hence ultimately the investment behaviour of enterprises that do business abroad. Such adjustments are also only likely to be made with a time lag, however. The current lull in commercial spending on machinery and equipment appears to be, if anything, a response to the very strong growth in 2014 Q2 and Q3.

Added to this are the latest corrections in the oil industry as a result of the drop in crude oil prices. This sector is small from a macroeconomic perspective. Expenditure of US\$143 billion for oil and gas production structures was posted in the national accounts last year. If investment in mining and oilfield machinery of US\$25 billion is also included, this corresponded to just 1% of economic output. However, after eliminating price effects, investment by the oil industry was very sharply constrained on different occasions in the past. A corresponding approximated index fell by 41% over the first three quarters of 2009. In summer 1986, it even posted a loss of 59% against its level at the start of 1985. Despite its inherently low weight, this significantly restrained the growth rate of real GDP. In the first quarter of 2015, the contraction in this index was not unusually strong compared with the aforementioned historical episodes, at -15% (non-annualised) on the previous quarter. This is likely to have reduced the annualised expansion in overall

Real gross fixed investment* by the US oil industry

2009 = 100, seasonally adjusted, quarterly, log scale



Source: Bundesbank calculations based on data from the Bureau of Economic Analysis. * Approximated aggregate of real commercial investment in oil and gas production structures and of real commercial investment in mining and oilfield machinery.

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economic output by just over ½ percentage point. Given the decline in drilling activity, which has persisted throughout the reporting period, a similarly strong effect could emerge again in the spring. But historical experience also shows that investment in the quarters following the end of a contraction has recovered perceptibly in some cases.

Overall, the significance of one-off factors for the virtual stagnation in the US economy last winter defies a unique, definitive assessment. The adverse weather conditions are certainly likely to have had a perceptible, but limited, impact. An equal but opposite movement is not to be expected in the current quarter. Even if weather effects are disregarded, the past few months

⁸ See Deutsche Bundesbank, The decline in the elasticity of global trade to global economic activity, Monthly Report, January 2015, pp 27-29.

do not reveal any indications of a substantial increase in the pace of the overall economy, as many experts had predicted. The adjustments in the oil industry entailed by the steep drop in oil prices and their macro-economic effects were to be expected.⁹ At the same time, the stimulating effects of the falling oil price on the US economy are generally less clear than has often been assumed.¹⁰

Similarly to the setback at the start of last year, the bout of weakness in the US economy in winter 2015 is unlikely to herald a cyclical downturn. The solid labour market performance in April is just one factor suggesting that the underlying moderate growth path of real GDP is sound. However, the virtual stagnation in winter is again highlighting the fact that, owing to lower potential growth, certain one-off factors or the usual fluctuations in expenditure com-

ponents that are subject to volatility can push the rate of GDP growth down to or below the zero mark more often than before.¹¹

⁹ See Deutsche Bundesbank, Global and European setting, Monthly Report, February 2015, pp 10-22.

¹⁰ See Deutsche Bundesbank, Potential impacts of the fall in oil prices on the real economy, Monthly Report, February 2015, pp 12-14.

¹¹ See Deutsche Bundesbank, The US economy in the current economic upturn, Monthly Report, April 2013, pp 15-37.

United Kingdom

Construction extremely weak

The United Kingdom, too, saw economic output growth decelerate in the winter months. According to an initial estimate, after adjustment for price and the usual seasonal effects, GDP grew by only ¼% from the previous quarter, in which it had risen by a little over ½%; this was the slowest GDP growth since the end of 2012. Construction seems to have been hit by a renewed slump; real gross value added in this sector contracted by 1½% in the first quarter of the year after having already fallen by 2¼% in the preceding three-month period. In purely mathematical terms, the fact that output growth in the services sector fell by nearly half to ½% was a more important factor in slowing down the economic recovery; however, this was in turn attributable in key measure to virtual stagnation in financial and other business-related services, to which the construction slump could have radiated. Production sector output (excluding construction) was

slightly lower in the winter, especially owing to considerable cutbacks in oil and gas production. Nonetheless, the labour market situation continued its perceptible improvement. According to national data, the standardised unemployment rate fell to 5.5% in the first quarter, its lowest level since mid-2008. Consumer price inflation declined over the winter months, even excluding energy and unprocessed food; known as core Harmonised Index of Consumer Prices (HICP) inflation, it fell from +1.2% in December 2014 to merely +0.8% three months later. This trend was dictated by movements in the prices of industrial goods (excluding energy) and processed food, with increased competition in retail trade and the appreciation of the pound sterling likely to have been meaningful factors.

New EU member states

Further acceleration of upswing

In the new EU member states (EU-6)⁴ as a whole, the cyclical upturn accelerated further in the first quarter. Real GDP skyrocketed in the Czech Republic, in particular, though the aggregate economic recovery accelerated in other countries as well. The sharp rise in domestic demand was the primary reason for the buoyant economic activity. Private consumption benefited from the improved situation in the labour market, with the unemployment rate continuing to fall in many places. Households' purchasing power was additionally boosted by lower consumer prices. Average aggregated annual headline HICP inflation in the first quarter was -0.8%. Energy and unprocessed food prices were primarily responsible for the slide; excluding these goods, HICP inflation stood at +0.6%. Owing to the dampened underlying inflationary dynamics, the central banks of Hungary, Poland and Romania slashed their policy rates once again in the past few months.

Macroeconomic trends in the euro area

Slight acceleration in pace of economic activity

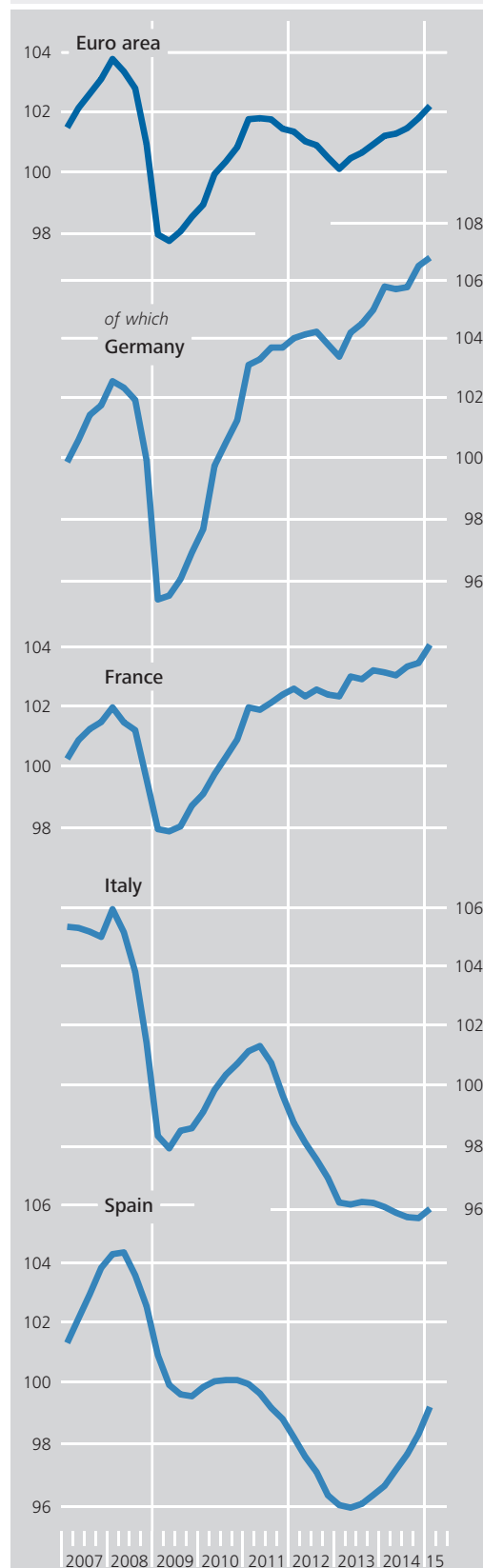
Despite the problems in the global economy, the euro area's economic recovery even accelerated slightly. The more favourable financing terms, the euro's depreciation and the lower crude oil price appear to have created an environment which is conducive to the euro-area upswing. According to the first official estimate, aggregate output was up by just under ½% on the period in winter 2015, after seasonal adjustment, and thus up by 1% from the same period a year earlier.

Member states largely on growth trajectory, ...

Economic growth in the first quarter of the year varied considerably from one country to the next. Of the 15 economies for which initial data are available, 11 showed positive quarterly

Aggregate output in the euro area

Real GDP, 2010 = 100, seasonally adjusted, quarterly, log scale



Source: Eurostat.
 Deutsche Bundesbank

⁴ This group comprises the non-euro-area countries that have joined the EU since 2004, ie Poland, the Czech Republic, Hungary, Bulgaria, Romania and Croatia.

European Commission survey of euro-area consumers

Quarterly averages, seasonally adjusted



Source: European Commission Business and Consumer Survey. Weighted balance of positive and negative assessments, each as a percentage of responses submitted. Weighting based on individual countries' percentage shares of real private consumer expenditure in the euro area. **1** Possible responses: "very likely", "fairly likely", "not likely" and "not at all likely". **2** "Increase more rapidly", "increase at the same rate", "stay about the same" and "fall". **3** "Yes, it is the right moment now" and "no, it is not the right moment now".

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real GDP growth. Economic output grew strongly in Spain again, considerably in France and perceptibly in Germany and Italy. For Italy, this represented the first quarter of GDP growth since the summer of 2013. Real GDP was also up markedly in the Netherlands, Belgium and Portugal, while Slovakia, Latvia and Cyprus even posted, in some cases, strong growth. By contrast, Austria's economy grew only minimally. Aggregate output in Finland continued to contract slightly, whereas in Estonia and Lithuania dynamic economic growth was followed by cyclical setbacks.

The deterioration of Greece's economic situation, which already began late last year, continued in the first quarter of 2015. High uncertainty about the country's economic policy track following the change of government in January contributed in particular to the economic slump. The rather optimistic expectations regarding economic growth in 2015 have been dashed thus far; for instance, the projec-

... but Greece's economic situation expected to worsen

tion published in early May by the European Commission puts growth for 2015 at a mere ½%, down 2 percentage points from its February forecast. However, there are currently no signs that this is affecting economic growth in the other euro-area member states.

Euro-area real GDP growth, as seen from the output side, was driven particularly by the industrial sector, the average first-quarter output of which was up by 1% on the period. One of the forces behind this distinct growth was a strong increase in energy production. Intermediate and consumer goods production were also up perceptibly, while capital goods production was increased a little. In April 2015, utilisation of production capacity was accordingly up slightly from January, returning to its long-run average for the first time in four years. Construction output grew moderately in the first two months of 2015, surpassing its autumn 2014 level by ½%. Data already available for March imply a marked increase for Germany in the first quarter as a whole, whereas in France the construction sector remained mired in a slump.

Cyclical recovery in industrial sector, too

On the expenditure side of GDP, the revival of private consumption, which had begun in mid-2014, continued in the first quarter of the year. Real retail sales (excluding motor vehicles and fuel) were up by 1% on the period after seasonal adjustment. In addition, the number of new car registrations took off, rising by 4¾% compared with the autumn months. Despite losing some swing in February and March, on a quarterly average they were still up by 9% on the year. Enterprises' increasing capacity utilisation may have also helped additionally fuel investment activity. The steady increase in the output of capital goods and the more favourable financing terms are consistent with increased expenditure by enterprises. With the global economy in the midst of a slump, foreign trade with non-euro-area countries has not yet generated any meaningful stimuli. For instance, on an average of the first two months of the year, nominal goods exports were down

Perceptible stimuli from private consumption

¼%, after seasonal adjustment, from their level in the last quarter of 2014. Imports fell perceptibly over the same period in terms of value (-½%).

Survey indicators continuing to signal expansion

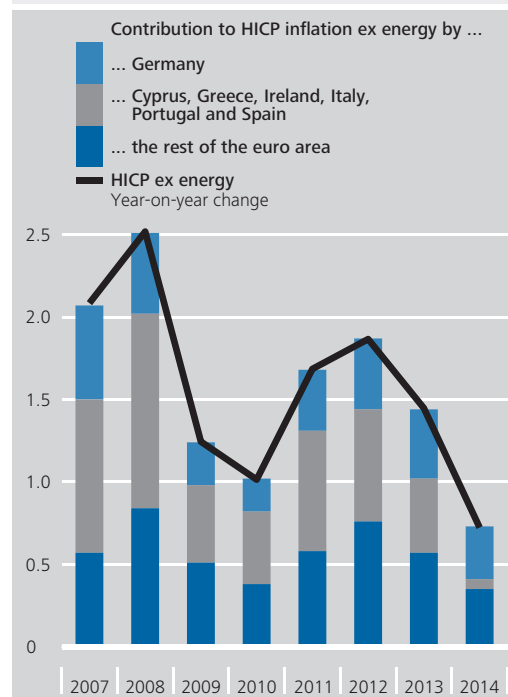
According to the available short-term indicators, the upturn in aggregate economic activity in the euro area continued at the beginning of spring. However, the indicators for orders-based industry, in particular, are no longer that favourable; in this area, new orders fell perceptibly in January-February compared to the fourth quarter of 2014, thus signalling more muted developments of late. If large orders are excluded, however, the decline was not as steep. By contrast, the purchasing managers' index (PMI) for April, as already in the winter months, indicated a marked expansion of business activity, especially in the services sector. The index was in expansionary territory for manufacturing as well. In April, the European Commission's industrial confidence indicator – despite becoming slightly gloomier against the previous month – was still somewhat higher than in the first quarter. Consumer confidence likewise sagged in April, but was markedly brighter than its average for the first quarter. Households' propensity to make big-ticket purchases seems to have increased in the past few months, in particular. In April, the relevant indicator remained on its ascending trajectory, which has already been observed for quite some time. The increase in real disposable incomes associated with falling oil prices and lower inflation is likely to have fuelled the propensity to consume.

Gradual improvement in the labour market

The labour market situation continued to brighten during the period under review. In March 2015, as in the first quarter as a whole, the standardised (seasonally adjusted) unemployment rate stood at 11.3%, compared with as much as 11.5% in the final quarter of 2014. It is on the decline in nearly all member states, France and Italy being two exceptions. The unemployment rate in France has been trending back upwards slightly since mid-2014, peaking anew in the winter at 10.6%. Although the

Euro-area HICP inflation excluding energy and contributions by groups of countries

% or percentage points



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first-quarter unemployment rate in Italy, at 12.8%, was 0.2 percentage point below the level of the last quarter of 2014, in March 2015 it went back up to 13.0%.

While the number of unemployed persons in the euro area as a whole was declining, as it had been doing since mid-2013, jobs were concurrently being created. According to available employment data, which are not as recent as the available data on unemployment, the number of employed persons increased by a slim margin in the fourth quarter of 2014 from the previous period, and were up by just over ½% on an average of the past year. Given the rather tame upturn in aggregate output, the addition of jobs in 2014 was thus comparatively pronounced. A large percentage of the increase was in services, whereas employment in the industrial sector all but stagnated. Job shedding continued in the construction sector. These sectoral shifts could be one reason for

Euro-area productivity growth

The steady but relatively flat macroeconomic recovery seen in the euro area in recent years was accompanied by a slight increase in employment. In the final quarter of 2014, the number of employed persons was 1% above the trough experienced at the beginning of 2013, while real gross domestic product (GDP) exceeded its lowest level by 1¾%. Given that employment normally grows at a markedly slower rate than GDP due to technological progress and increasing capital use, the relatively high employment intensity of growth experienced over the past two years is remarkable. This is reflected in low productivity growth, ie a rather small increase in value added per employed person. The relatively weak productivity growth in recent years raises the question as to whether this is a long-term trend or just a short-lived phenomenon.

A cyclical and therefore temporary slowdown would exist, for instance, in the event of labour hoarding despite a weak demand for goods. A cyclical slump in investment can also slow down the increase in capital intensity and thus average labour productivity. By contrast, a trend change would exist, for example, if continuous technological progress were to cause persistently higher growth rates of labour productivity. Similarly, a sectoral change could also have long-term effects on labour productivity dynamics. For example, a reallocation of employment to usually less capital-intensive services sectors triggers a decline in average labour productivity growth at the macroeconomic level, even if it remains unchanged in individual sectors. Moreover, structural barriers in the labour and product markets can create unfavourable investment conditions and therefore persistently

hamper growth in capital intensity and labour productivity.

The relationship between economic output, employment and labour productivity can be illustrated as

$$LP = GDP/E,$$

meaning labour productivity (LP) measures the average economic output (GDP) per employed person (E). Alternatively, owing to cyclical or longer-term changes in average hours worked per employed person, output per hour worked (H) is measured in many cases. This hourly productivity is expressed as

$$LP_H = \frac{GDP}{H} = \frac{GDP}{E} / \frac{H}{E}.$$

The change in GDP can thus be explained by changes in the number of employed persons, the average hours worked per employed person, and the average hourly productivity.

Euro-area productivity growth since the start of the new millennium can be broken down into four stages. Between 2000 and 2007, real GDP per employed person saw comparatively steady growth. With the slump in economic output caused by the global financial crisis of 2008-09, productivity measured in this way did not fall as sharply as GDP initially and was able to return to its previous peak relatively quickly during the following economic recovery phase. During the second period of weak economic activity (the sovereign debt crisis of 2011-12), productivity did not shrink; however, output per capita has remained stagnant since 2011. Overall, it saw annual growth of ¼% between 2007 and 2014,

Employment in the euro area as a whole and in selected member states

Item	Total	of which			
		Industry	Market services ¹	Construction	Non-market services ²
Euro area					
Change in number of employed persons (in thousands)					
2000 to 2007	11,429	- 1,462	9,375	1,426	2,685
2007 to 2014	- 3,155	- 2,436	1,379	- 2,880	1,389
Share of total hours worked					
2000	.	19.2	45.7	8.2	20.0
2007	.	16.9	48.3	8.9	20.1
2014	.	15.6	50.5	6.7	21.8
Average annual growth in labour productivity (hours)					
2001 to 2007	1.1	3.0	0.8	- 1.0	0.3
2008 to 2014	0.6	1.3	0.1	1.1	0.5
Germany					
Change in number of employed persons (in thousands)					
2000 to 2007	408	- 625	1,296	- 582	375
2007 to 2014	2,327	189	1,259	135	763
Share of total hours worked					
2000	.	21.8	44.8	8.2	21.6
2007	.	20.3	47.4	6.7	22.5
2014	.	20.1	47.3	6.8	23.1
Average annual growth in labour productivity (hours)					
2001 to 2007	1.5	3.4	1.3	- 0.4	0.2
2008 to 2014	0.4	0.7	- 0.1	1.2	0.7
France					
Change in number of employed persons (in thousands)					
2000 to 2007	1,371	- 377	1,115	338	384
2007 to 2014	72	- 412	403	- 44	207
Share of total hours worked					
2000	.	15.1	45.0	6.7	26.2
2007	.	12.8	47.1	7.8	26.3
2014	.	11.2	48.6	7.6	27.2
Average annual growth in labour productivity (hours)					
2001 to 2007	1.4	3.6	1.3	- 0.5	0.7
2008 to 2014	0.4	1.2	0.4	- 2.3	0.8
Italy					
Change in number of employed persons (in thousands)					
2000 to 2007	2,274	23	1,716	453	126
2007 to 2014	- 952	- 683	290	- 405	- 87
Share of total hours worked					
2000	.	21.5	48.9	6.8	15.6
2007	.	19.8	50.8	8.3	14.3
2014	.	17.4	54.4	6.5	15.3
Average annual growth in labour productivity (hours)					
2001 to 2007	0.1	1.0	- 0.1	- 1.3	0.5
2008 to 2014	- 0.1	0.4	- 0.7	- 0.7	0.0
Spain					
Change in number of employed persons (in thousands)					
2000 to 2007	4,594	- 57	3,074	873	736
2007 to 2014	- 3,109	- 759	- 625	- 1,754	176
Share of total hours worked					
2000	.	18.7	45.6	12.0	16.3
2007	.	14.7	49.4	14.4	15.9
2014	.	13.3	55.1	6.0	20.0
Average annual growth in labour productivity (hours)					
2001 to 2007	0.4	2.7	- 0.3	- 3.2	1.0
2008 to 2014	1.7	2.1	0.8	6.2	0.4

Sources: Eurostat and Bundesbank calculations. **1** Trade, transportation, hotels and restaurants, information and communication, financial service providers, business-related services, services relating to art and culture. **2** Public administration, defence, education, health.

compared with $\frac{3}{4}\%$ per year between 2000 and 2007.

In some cases, divergent developments in the four largest member states are being concealed by the aggregate picture for the euro area. For example, in Germany and France, labour productivity experienced a marked increase between 2000 and 2007. Since then, however, it has stagnated in Germany and has only inched upwards in France. Exactly the opposite occurred in Spain, where considerable productivity gains have been recorded in recent years.¹ In Italy, by contrast, output per employed person actually fell between 2007 and 2014 by just under $\frac{3}{4}\%$ per year.² The slow productivity growth in the euro area as a whole over the past two years of economic recovery, however, matches the situation in the individual countries.

The weakness in output per employed person can be explained in part by trends in hours worked. The average working week of full-time employees has decreased from 41.1 hours in 2007 to 40.5 hours in 2014. In addition, the number of full-time employees has declined significantly since 2007, while the number of people in part-time employment has risen. Now at 22.4%, part-time employment as a share of total employment increased by 3.6 percentage points before the crisis (2000 to 2007) and by another 3.2 percentage points after the crisis began (2007 to 2014). On the one hand, this can be seen as a structural phenomenon in the sense of a strengthened preference for part-time work. On the other hand, there has been a noticeably sharper rise in involuntary part-time employment as a share of total employment since 2007 than in voluntary part-time employment, which is a sign of cyclical factors.³ This is also indicated by the fact that the share of involuntary part-time employment grew

most in Spain and Italy during the crisis and that the share is the highest there.

In purely arithmetic terms, the reduction in the average hours worked per employed person has had a negative impact on the average output per employed person. Between 2007 and 2014, hourly productivity grew by $\frac{3}{4}\%$ a year and therefore somewhat stronger than real GDP per employed person. However, compared with the period before the crisis, in which the growth was still just over 1%, a slowdown can also be seen here, which has become even more pronounced since economic activity began to rebound in 2013.

The reduction in productivity gains per hour worked affects not only the euro area but

¹ This is largely related to substantial adjustments in the construction sector, where the largest number of jobs were lost. The significantly countercyclical progression of labour productivity observed solely in Spain, however, seems to be mainly attributable to the country's high labour market duality – during upswings, a greater number of temporary workers are hired, who can quickly be laid off during a crisis. For various reasons, these employees tend to have low productivity. See Deutsche Bundesbank, Distinctive features of unit labour cost developments in Spain, Monthly Report, February 2014, pp 21-25, as well as S Bentolilla, J J Dolado and J F Jimeno (2012), Reforming an insider-outsider labor market: the Spanish experience, IZA Journal of European Labor Studies, 1:4.

² Various structural aspects – including not only labour, product and capital markets but also the justice system and the public transport and telecommunications infrastructure – have contributed to the weak productivity growth. Furthermore, Italy has an unusually large number of small enterprises that manage to remain in the market despite lower productivity, which suggests frictions may be interfering with the efficient allocation of resources. See OECD (2015), Economic Survey Italy, as well as IMF (2014), Italy, Country Report No 14/283.

³ The involuntary part-time employees' share of total employment did not rise as much before the crisis as the voluntary part-time employees' share (+1.5 percentage points vs +2.1 percentage points). After 2007, however, their increase was greater than the voluntary part-time employees' share growth (+2.2 percentage points vs +1.0 percentage point). Last year, 29% of part-time employees cited inability to find full-time work as the reason for their part-time employment.

also other mature economies.⁴ In addition, productivity gains were already starting to decrease before 2007.⁵ A possible cause of this development could be the sectoral structural change which involves the reallocation of employment to services sectors.⁶ Here, productivity increases at a slower rate on average than in other economic sectors because of the lower capital intensity. With an increasing weight on the services sector, productivity growth would fall at the macro-economic level, even if it remained constant in the individual sectors.

Despite significant differences between countries and horizons, the sectoral change can be observed in all member states under review. Generally, job creation was particularly strong in the services sector, primarily in the area of market services. Between 2000 and 2007, the number of persons employed in the euro area rose by 11½ million overall and 9½ million in market services. By contrast, employment decreased in the industrial sector. After 2007, 3¼ million jobs were lost in this sector, while the area of market services grew by an additional 1½ million jobs. In the euro area as a whole, as well as in its four largest member states, the share of persons employed in the services sector was markedly higher in 2014 than in 2000. At the same time, growth in hourly productivity was distinctly stronger in the industrial sector than in market ser-

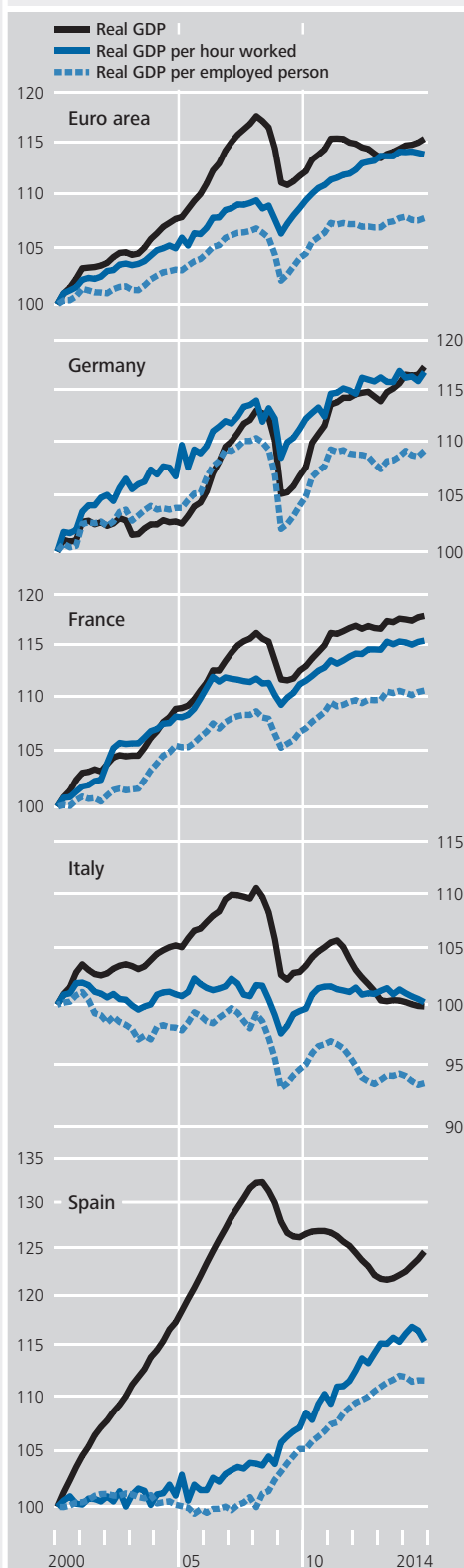
⁴ See, for example, Bank of England, The UK productivity puzzle, Quarterly Bulletin 2014 Q2, pp 114-128, and Deutsche Bundesbank, The US economy in the current economic upturn, Monthly Report, April 2013, pp 15-37, as well as Deutsche Bundesbank, Weak productivity performance in the United Kingdom in comparison with the United States, Monthly Report, April 2013, pp 28-30.

⁵ See Dabla-Norris et al (2015), The new normal: A sector-level perspective on productivity trends in advanced economies, IMF Staff Discussion Note 15/03.

⁶ See S Klinger and E Weber, Seit der Großen Rezession: schwächerer Zusammenhang von Konjunktur und Beschäftigung, Wirtschaftsdienst 10/2014, pp 756-758.

Aggregate output and labour productivity in the euro area

2000 Q1 = 100, seasonally adjusted, quarterly, log scale



Sources: ECB and Bundesbank calculations.
 Deutsche Bundesbank

vices.⁷ Although the gap between these growth rates narrowed after 2007, the larger productivity increases generally observed in the more capital-intensive industrial sector were also present in recent years.

The trend reallocation of employment to services sectors can, nevertheless, only explain part of the observed slowdown in productivity gains. The sectoral reallocation has tended to weaken somewhat since 2007. What is more significant, though, is that the productivity growth rate has also fallen within the individual sectors.⁸ The industrial sector is experiencing a particularly rapid decline in growth, which is concentrated on the cyclical recovery phase. Therefore, although the weaker productivity gains are likely to partly reflect an intersectoral shift in employment, intrasectoral changes in productivity are more relevant.

The causes of the weaker productivity growth in the individual sectors are diverse. For example, uncertainty regarding the future of the euro area has been very high among enterprises in recent years.⁹ In addition, growth-enhancing structural reforms were not always rigorously implemented in the member states.¹⁰ These points, together with cyclical sluggishness, have curbed investment activity in recent years; capital intensity has risen slightly, if at all. Furthermore, the economic recovery in some member states was initially weaker than expected.¹¹ It is possible that these countries, anticipating higher growth in demand than what actually occurred, were hoarding labour.

The causes of the recently observed slowdown in productivity growth are not yet entirely clear.¹² However, there is evidence to suggest that the recent stagnation of labour productivity was only partly caused

by structural factors. Hence, with stronger acceleration in investment activity, hourly productivity should start to rebound. Involuntary part-time employment is also expected to become less significant and real GDP per employed person should grow more substantially again. However, a sustainably steeper growth path can only be achieved through increases in investment and innovation. This would not least be supported by the consistent and continued implementation of growth-enhancing structural reforms.

7 The main focus of this analysis is on the industrial sector and market services; employment in the construction sector follows a highly pro-cyclical pattern. In the public services sector, especially in healthcare, an upward trend in employment has been observed for some time now, although productivity is particularly difficult to measure here.

8 One exception to this is Spain, where market services experienced a higher growth rate after 2007 than previously, though it was unable to match the growth rate seen in the industrial sector.

9 Although the economic policy uncertainty index for Europe (available at www.policyuncertainty.com) has fallen since 2011-12, the peak of the sovereign debt crisis, its level has remained higher than before 2007. See S Baker, N Bloom and S J Davis (2013), *Measuring Economic Policy Uncertainty*, manuscript.

10 See, for example, OECD (2015), *Going for Growth*.

11 For instance, in winter 2013, the European Commission's euro-area GDP growth forecast for 2014 was 1½%, which was ½ percentage point greater than actual growth. For France, the gap was ¾ percentage point and for Italy, 1¼ percentage points.

12 See, for example, Bank of England, *The UK productivity puzzle*, Quarterly Bulletin 2014 Q2, pp 114-128, as well as Dabla-Norris et al (2015), *op cit*.

the relatively dampened aggregate productivity growth (see the box on pages 22 to 26).

HICP inflation has probably bottomed out

In the first quarter of 2015, euro-area consumer prices again dipped by 0.3% on the quarter after seasonal adjustment, owing to the energy component; however, impacted by rising oil prices, they went back up as the quarter progressed. Consumer price inflation excluding energy accelerated slightly, after seasonal adjustment, to 0.2%. Whereas food and services prices were still rising tepidly, industrial goods prices continued to move sideways. The euro's depreciation, which has become quite substantial now, will probably only make itself perceptibly felt in the second half of the year. Annual HICP inflation flipped into slightly negative territory (to -0.3%) for the first time since 2009. Excluding energy, it stood at +0.6%, as in the two preceding quarters.

The decline in non-energy HICP inflation has been halted particularly in the former crisis countries, which had previously contributed in disproportionate measure; either the slump in prices was slowed or prices even went back up slightly. However, inflation initially continued to decelerate in the countries that were not hit as hard by the crisis; only towards the end of the reporting period have there also been signs of a turnaround.

Non-energy HICP inflation recently back up in former crisis countries

Euro-area consumer prices continued their rise in April 2015 after seasonal adjustment. According to a Eurostat flash estimate, prices were, on average, unchanged from April 2014. Whereas annual energy price inflation was pointedly negative, food and services prices rose modestly. Excluding energy, annual HICP inflation rose slightly to 0.7%.

Annual HICP inflation no longer negative in April