

## ■ Global and European setting

### ■ World economic activity

*Global economy's pace of growth remains subdued*

As in the fourth quarter of 2015 and the first quarter of 2016, the global economy probably expanded only modestly again in spring. The pace of economic growth remained moderate, particularly in the advanced economies, with the dynamics shifting somewhat between individual countries. Real gross domestic product (GDP) in the United States grew barely faster in the second quarter than in the preceding period, not least as a result of ongoing changes in inventories. At the same time, the remarkable vigour with which the euro-area economy had begun the year waned. On an average of the first two quarters, growth in the euro area was roughly in line with the moderate underlying rate which has for some time now set the pace and which is enough to bring unemployment down gradually. As this report went to press, official GDP figures for Japan were not yet available. However, there are a number of indications that the relatively strong growth recorded at the start of the year was not maintained in the second quarter. Despite the increased uncertainty surrounding the Brexit referendum, the upturn in aggregate economic activity in the United Kingdom proved to be robust in the second quarter. In the emerging market economies, activity appears to be stabilising further. In China, this was probably primarily due to the authorities' efforts to stimulate growth. Additionally, the feeling that the recessions in Brazil and Russia were easing became more ingrained over the first half of the year.

*No disruptions in financial markets following Brexit vote*

On 23 June 2016, the people of the United Kingdom voted to leave the EU, an event which had previously often been seen as a significant downside risk for the global economy. However, fears that a decision in favour of a Brexit could result in severe disruptions in the international financial markets did not materialise. Following initial and, in some cases, substantial

price volatility, the markets quickly stabilised again (see the section "Financial markets" on pages 39 to 48) with no impairment to their functioning.

According to the first surveys available, the sentiment among consumers and enterprises became more gloomy in the immediate aftermath of the referendum. Essentially, though, this development was restricted to the United Kingdom. The confidence indicators for the euro area, which has quite close foreign trade links with the British economy, barely changed in July. Even the survey results for the United Kingdom presented a mixed picture. Whilst the Purchasing Managers' Indices fell sharply, signalling a contraction in economic activity in July, European Commission surveys showed that it was primarily consumers who lost confidence. Price increases in the wake of the substantial depreciation of the pound sterling could indeed depress consumption activity in Great Britain in the months to come. Conversely, exporters are likely to profit from the exchange rate shift. According to data from the Bank of England, the majority of its business contacts reported no direct impairment of activity or expenditure following the referendum. However, in some cases, longer-term investment projects and recruitment plans are being reconsidered.<sup>1</sup> The extent to which uncertainty and lack of confidence will ultimately be mirrored in production and employment in the United Kingdom is also likely to hinge on how long uncertainty persists about the speed and form of the Brexit process, and thus its medium to long-term economic consequences. A key step has already been taken in the political arena with the swift formation of a new UK government. At the beginning of August, the Bank of England further loosened

*Downbeat mood in the United Kingdom*

<sup>1</sup> See Bank of England, Agents' summary of business conditions, July 2016 Update, as well as the August 2016 Update, available at <http://www.bankofengland.co.uk/publications/Pages/agentssummary/default.aspx>.

### Selected confidence indicators according to European Commission surveys

Monthly, seasonally adjusted and standardised<sup>1</sup>



Sources: European Commission and Bundesbank calculations.  
 1 Standardisation through mean and standard deviation from October 1985 onwards.  
 Deutsche Bundesbank

its already unusually expansionary monetary policy stance to counter dampening effects on aggregate demand.

*Downside risks for global growth reduced somewhat*

Weaker growth of the British economy alone does not pose a significant risk to the global economy.<sup>2</sup> In fact, the strengthening labour market in the United States – after intermittent worries that the country could slip into recession – and the stabilisation of the emerging market economies suggest that the downside risks for the global economy have recently eased somewhat. Considering the monetary and fiscal policy measures already in place or devised, there is currently little to support stimulating global growth with new state spending programmes. Demands of this kind have not least been directed at Germany in the past. Economies' relative sizes and degree of interconnectedness are important in terms of the international spillover effects of fiscal policy stimuli via the foreign trade channel. Model calculations for a temporary increase in public

demand in Germany show that such spillover effects would be minor even in many euro-area partner countries (see the box on pages 13 to 17). What is required is not a new economic flash in the pan with its restrictions in terms of space and time, but rather greater efforts on the part of industrial nations and emerging market economies to reform their economic structures and thus permanently improve the outlook for growth.

Prompted by the Brexit vote, the International Monetary Fund (IMF), in its July update of the World Economic Outlook, considerably lowered its growth projections for the British economy (by 0.2 percentage point to +1.7% for 2016 and 0.9 percentage point to +1.3% for 2017). The annual average rates mask the fact, however, that the revisions in the quarterly profile are focused on 2016. The IMF was thus expecting the referendum to have immediate marked slowing effects. This would have fallout for the euro area, too. Economic growth in 2017 here was projected to be only 1.4% (-0.2 percentage point).<sup>3</sup> By contrast, the forecast revisions for other economies had little to do with the referendum in the United Kingdom. The downward revision of the still very favourable growth projection for the United States this year, in particular, was to be expected.<sup>4</sup> The IMF considered Brazil and Russia's economic prospects of late to be considerably better than in April. Additionally, it slightly improved its growth projections for the Chinese economy in the year 2016. Overall, the global growth projections for 2016 and 2017 were marked down only

*Only slight downward revision of IMF global growth projections following Brexit decision*

<sup>2</sup> Calculated on the basis of market exchange rates, the United Kingdom's share of global economic output last year was small at just under 4%. In 2015, it imported goods and services to the value of US\$840 billion; these imports, as seen from the rest of the world's point of view, are exports that corresponded to little more than 1% of own GDP.

<sup>3</sup> Here, too, the revisions of the projected annual average rates – the forecast for 2016 was even revised up slightly – provide a distorting view of the effects taken into account. For instance, the fourth-quarter rate of euro-area real GDP, which measures the annual change in GDP on a fourth-quarter-to-fourth-quarter basis, was lowered by 0.2 percentage point for 2016, but unchanged for 2017.

<sup>4</sup> See Deutsche Bundesbank, Global and European setting, Monthly Report, May 2016, p 12.

## The international spillover effects of an expansion of public investment in Germany

Given that global economic growth has been subdued by longer-term standards and that the euro area is perceived to be recovering at a slow pace, calls for fiscal policy stimulus measures have persisted. These calls are primarily addressed at Germany, as public finances here are believed to still offer a relatively large degree of room for manoeuvre and the high current account surplus is held to indicate persistently weak domestic demand. This raises the question as to how significant the spillover effects of fiscal expansion in Germany would be for economic growth in its partner countries in the euro area and the rest of the world.

According to data from the International Monetary Fund (World Economic Outlook, April 2016), Germany accounted for 4.6% of global economic output last year, calculated on the basis of market exchange rates.<sup>1</sup> This means that any expansionary measure of a plausible size that can be taken by the public sector in Germany must have a small impact on the global economy. However, within the euro area, the German share of value added (almost 30%) is far greater, meaning that the impact of fiscal stimulus in Germany on the euro area could be perceptible. The overall impact should go beyond the direct, purely arithmetical, effect on euro-area gross domestic product (GDP), as higher demand in Germany would stimulate the economy in the neighbouring countries – particularly through the trade channel. This is often believed to hold out the promise of a substantial contribution to reviving the economies of the euro-area periphery countries, in particular.

The magnitude of these effects can be estimated via simulations using the NiGEM global econometric model developed by the National Institute of Economic and

Social Research (NIESR).<sup>2</sup> In line with other studies, a deficit-financed expansion of public investment in Germany by 1% of GDP over two years was assumed. This is equivalent to a nearly 50% increase in public investment expenditure.<sup>3</sup> Assuming no change in the nominal interest rates,<sup>4</sup> according to NiGEM real GDP in Germany would then increase by 0.5% on average over the first two years compared with the baseline. This output effect is considerably smaller than the original fiscal stimulus, primarily because a substantial part of the additional government expenditure would ultimately be spent on foreign goods and services. Thus, German imports would rise by no less than 2%.

The additional German imports stimulate the economic output in the partner countries in NiGEM. The degree of this impact depends on the extent to which the country has trade links with Germany and the importance of foreign trade for the econ-

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<sup>1</sup> This equates to less than one-fifth of the contribution of the United States. If the calculation is made using purchasing power parities, Germany's share of the global economy amounts to only 3.4%, just over one-fifth of that of the United States.

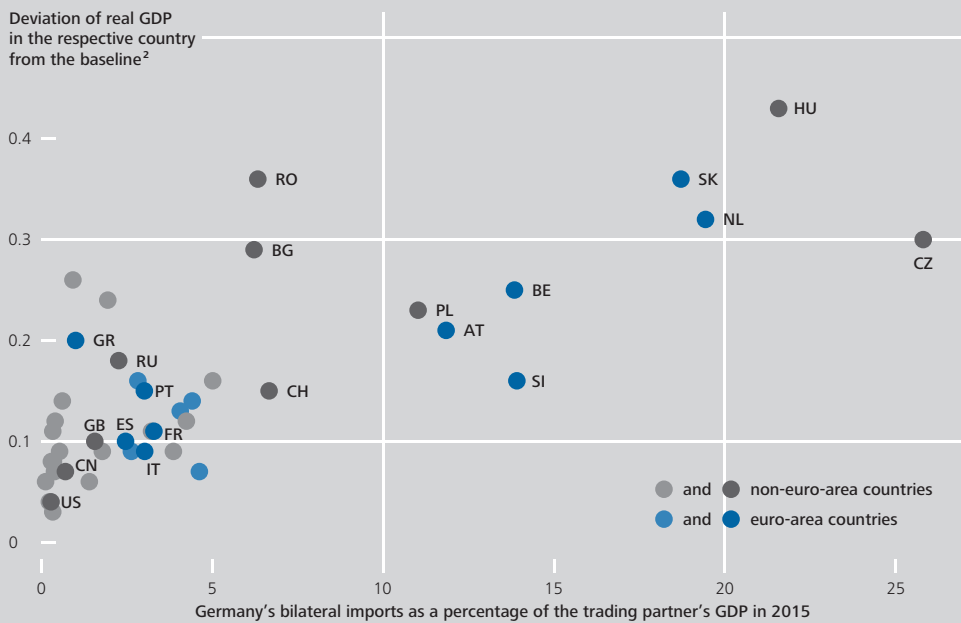
<sup>2</sup> In NiGEM, most of the OECD countries and the major emerging market economies are modelled separately and linked to each other via foreign trade as well as the interest-exchange rate nexus. The model has New Keynesian features and, in particular, anticipatory elements on the financial and labour markets. For further information on the model structure, see <https://nimodel.niesr.ac.uk>

<sup>3</sup> The important questions of whether there are actually any meaningful projects on this scale and how such an additional investment volume can be implemented in administrative and practical terms, ie given potential constraints to the supply of the additionally required goods and services (for example, in the construction sector), are not addressed here.

<sup>4</sup> In NiGEM the short-term interest rates follow a monetary policy rule that is primarily based on the inflation rate. It is thus possible to interpret the suppression of the monetary policy response to an expansionary shock as monetary easing. In this respect, in a model with endogenous monetary policy, it is difficult to isolate the impact of the central bank response from the effects of the observed shock.

### Importance of trade links for the spillover effects of increased public investment in Germany

Results of NiGEM simulations,<sup>1</sup> %



Sources: IMF World Economic Outlook, IMF Direction of Trade Statistics and Bundesbank calculations. **1** Modelling of a two-year deficit-financed increase in public investment in Germany by 1% of GDP given exogenous monetary policy. **2** Average of the first two years after the shock occurred.

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omy in question. Important determinants in this context are proximity and country size. There are found to be sizeable positive stimuli primarily in some small to medium-sized economies neighbouring Germany and in central Europe. In the large euro-area countries of France, Italy and Spain, the impact on real GDP would be small (+0.1% each). In Greece and Portugal the impact would only be slightly greater (+0.2%), as is also the case for the euro area as a whole excluding Germany. Significant non-euro-area countries are affected to an even lesser extent.

The impact on the current account balances would also be similar in scale. The German current account surplus in relation to GDP would fall by 0.7 percentage point on average over the first two years, whereas the balance for the rest of the euro area would rise by less than 0.1 percentage point.<sup>5</sup> This once again illustrates that German economic policy cannot redress other coun-

tries' external imbalances or relieve them of their adjustment burdens.<sup>6</sup> This is because, despite a relatively high import content, increased demand in Germany is directed to

<sup>5</sup> In addition to volume effects, the (countervailing) price effects should also be taken into account in this context. Owing to the expansion in domestic demand, the prices of German products rise compared with the baseline, resulting in a short to medium-term improvement in the terms of trade in Germany. Conversely, the relative foreign trade prices of the partner countries initially deteriorate slightly. Compared with the increase in the level of demand in Germany, these price shifts are of minor significance when determining the output effects.

<sup>6</sup> See T Bettendorf and M León-Ledesma (2016), Are lower German wages creating current account imbalances in the euro area?, Deutsche Bundesbank, Research Brief, Issue 2; N Gadatsch, N Stähler and B Weigert, German labor market and fiscal reforms 1999 to 2008: can they be blamed for intra-euro area imbalances?, Deutsche Bundesbank Discussion Paper No 29/2015; Federal Ministry of Finance, Gesamtwirtschaftliche Auswirkungen fiskalpolitischer Impulse, Monatsbericht, November 2013, pp 15-22; Deutsche Bundesbank, The macroeconomic impact of an increase in wages in NiGEM simulations, Monthly Report, February 2013, pp 18-20; and Deutsche Bundesbank, On the problems of macroeconomic imbalances in the euro area, Monthly Report, July 2010, pp 17-38.

only a minor extent at goods and services provided by specific partner countries.

The fiscal stimulus in Germany spills over to the euro-area partner countries not only through the trade channel but also via the single monetary policy. Assuming no change in the nominal interest rates, the inflation rate in the second year of the simulation rises perceptibly in Germany and slightly in the euro area as a whole. Were the monetary policy stance appropriate prior to the fiscal stimulus, the new situation would actually call for the key interest rates to be hiked (or for a less intensive use of unconventional monetary policy measures). However, this would dampen not only inflation but also growth in economic activity in the euro area. The average increase in real GDP in the euro area compared with the baseline in the first two years would then dwindle from just under 0.3% with fixed interest rates to just under 0.2% with a monetary policy response. Moreover, this dampening effect would predominantly be felt in the partner countries. While the increased demand triggering the stimulus occurs mainly in the German economy, the nominal interest rate would increase evenly throughout the euro area. In addition, according to NiGEM, the economies of the periphery countries respond to a greater extent to a change in the interest rates than the German economy, for example, does. This is why, given endogenous key interest rates, the fiscal stimulus has hardly any impact anymore when it reaches these countries.<sup>7,8</sup>

An increase in public investment expands the capital stock and can enhance potential output. Assuming that a sufficient number of meaningful projects can be identified and implemented, the level of real GDP in Germany would rise by 0.2% in the long term compared with the baseline. This is by no means a “free lunch”. Once the additional expenditure has run out after two years, the negative effects on public

### Short-term output effects of an expansion of public investment in Germany\*

Average percentage deviations of real GDP from the baseline over the first two years

Item	Interest rates	
	Unchanged	Rule-based
Euro area	0.26	0.18
<i>of which</i>		
Germany	0.52	0.45
France	0.11	0.04
Italy	0.09	0.03
Spain	0.10	0.02
Netherlands	0.32	0.20
Belgium	0.25	0.14
Austria	0.21	0.13
Portugal	0.15	0.07
Greece	0.20	0.05
Slovakia	0.36	0.23
Poland	0.23	0.16
Czech Republic	0.30	0.22
Hungary	0.43	0.31
United Kingdom	0.10	0.05
United States	0.04	0.00
Japan	0.07	0.01
China	0.07	0.05

Source: Bundesbank calculations using NiGEM. \* Simulation of a deficit-financed expansion of public investment by 1% of GDP for two years. Nominal interest rates fixed globally or responding in line with standard monetary policy rules.

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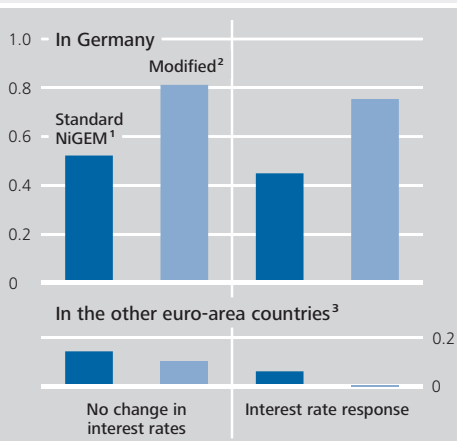
finances (and the current account balance) largely dissipate. However, according to the model, the government debt level would remain entrenched at an elevated level – assuming fixed interest rates it would be 1.7 percentage points higher in relation to GDP. Such a sizeable increase in public debt could be avoided by financing the investment programme through taxes. But, in the model framework selected here, the short-

<sup>7</sup> For information on the significance of the monetary policy response for the spillover effects of fiscal policy, see also N Gadatsch, K Hauzenberger and N Stähler (2016), Fiscal policy during the crisis: A look on Germany and the euro area with GEAR, Economic Modelling, Vol 52, pp 997-1016.

<sup>8</sup> The increase in the key interest rate also causes the euro to appreciate and other currencies to depreciate. This loss in value tends to have an inflationary impact on the affected non-euro-area countries, meaning that, here too, monetary policy countermeasures are required to a certain extent, albeit on a smaller scale than in the euro area. In the United States, an increase in the short-term interest rates by a few basis points is already enough to compensate for the small stimulus of the increased demand from Germany. In the medium term, real GDP there even remains slightly below the baseline owing to the interest rate cut.

### Importance of the import content for the short-term output effects of an expansion of public investment in Germany\*

Average percentage deviation of real GDP from the baseline over the first two years



Source: Bundesbank calculations using NiGEM. \* Simulation of a deficit-financed expansion of public investment in Germany by 1% of GDP for two years. Nominal interest rates fixed globally or responding in line with standard monetary policy rules. **1** Imports dependent on aggregate demand of a country, not on individual expenditure components of GDP. **2** Modification of the import equation in Germany in line with the import content of individual expenditure components. **3** Aggregated using nominal GDP weights.  
 Deutsche Bundesbank

term demand effects, including the international spillover effects, would then be perceptibly dampened.

If public consumption, rather than investment, were temporarily expanded, aggregate production capacities would not increase, but the economy at home and abroad would, according to NiGEM, be stimulated on a similar scale. In this context, it should be noted that in NiGEM the imports are modelled as a function of an economy's aggregate demand. The various expenditure components impact identically on imports. However, in actual fact, there are quite considerable differences in the import content of the demand components. In the case of government consumption, it is typically particularly small. In this respect, the NiGEM simulation of an expansion of public consumption underestimates the stimulating impact on the domestic economy, while the international spillover effects are overstated.

This also tends to be the case for the presented scenarios of higher government investment, albeit not on the same scale.<sup>9</sup> If the NiGEM equation for German imports is brought in line with the import content of the individual expenditure components, the expansion of public investment pushes up real GDP in Germany to a perceptibly greater extent than was previously the case, namely by 0.8% on average over the first two years. The impact on the economy in the euro-area partner countries is somewhat smaller, however. It even drops to virtually zero if the rule-based interest rate response is allowed to take place.

With regard to the international spillover effects, other studies reach conclusions similar to the simulations presented above. According to in 't Veld (2013), an expansion of public investment in Germany and other euro-area surplus countries by 1% of GDP over two years boosts economic activity in Germany by 0.9% initially and 0.2% in the long term. The short-term output effects in other euro-area countries are estimated at between 0.2% and 0.3%.<sup>10</sup> Elekdag and Muir (2014) record a significantly higher impact on capacity utilisation in Germany, as in their calculation a larger public capital stock increases the marginal productivity of

<sup>9</sup> The data on import content are based on input-output tables in which no distinction is made between private and public investment. However, if the data for investment in machinery and equipment and construction are properly weighted, this suggests that the import content in the case of public investment, which has a higher share of construction investment than commercial investment, is significantly greater than is the case for government consumption, but lower than the average aggregate demand.

<sup>10</sup> See J in 't Veld (2013), Fiscal consolidations and spillovers in the euro area periphery and core, European Commission, Directorate-General for Economic and Financial Affairs, European Economy, Economic papers No 506.

other factors of production.<sup>11</sup> However, the (short-term) impact on real GDP in other euro-area countries also peaks at +0.3% in this model framework. Here, too, the economic effects in the periphery countries are found to be smaller than in the other euro-area economies and, if there is a monetary policy response, they are dampened markedly. A recent study by the European Central Bank finds that an increase in public investment in Germany has a sizeable impact on the real economy.<sup>12</sup> However, the expenditure programme examined in that study is far more extensive than the one assumed in the model presented here.<sup>13</sup> Furthermore, the assumptions regarding the aggregate impact on productivity of the public capital stock are likely to figure prominently in the results. Nonetheless, this investigation also confirms that the spillover effects are negligible, based on a rule-based monetary policy response.<sup>14</sup>

Simulation results always depend on the selected model framework and assumptions. The trade channel modelled in NiGEM makes it clear that an expansionary fiscal stimulus via higher public expenditure in Germany would certainly affect other economies, but that the impact would be small, particularly in some southern European countries. In addition, there is the often overlooked amalgamation through a single monetary policy which dampens the expansionary demand effects, not least in those countries that do not have such close foreign trade links with the German economy. A public expenditure programme in Germany thus seems to be an ill-suited means of considerably boosting the international economy.<sup>15</sup> As things currently stand, the German economy does not need a short-term stimulus, which would instead have a procyclical impact. There are, to be sure, potentially good reasons for a government to increase its investment expenditure. Such projects would, however, need to be selected with great care. But their financing

should not put compliance with the European and German fiscal rules at risk (see the section “Public finances” on pages 59 to 77).

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<sup>11</sup> See S Elekdag and D Muir (2014), *Das Public Kapital: How Much Would Higher German Public Investment Help Germany and the Euro Area?*, International Monetary Fund, Working Paper, WP/14/227. For information on the empirical link between productivity and public investment in infrastructure, see J G Fernald (1999), *Roads to Prosperity? Assessing the Link Between Public Capital and Productivity*, *American Economic Review*, Vol 89, No 3, pp 619-638; and P R D Bom and J E Ligthart (2013), *What have we learned from three decades of research on the productivity of public capital?*, *Journal of Economic Surveys*, Vol 28, pp 889-916.

<sup>12</sup> See ECB, *Public investment in Europe*, *Economic Bulletin*, No 2/2016, pp 75-88.

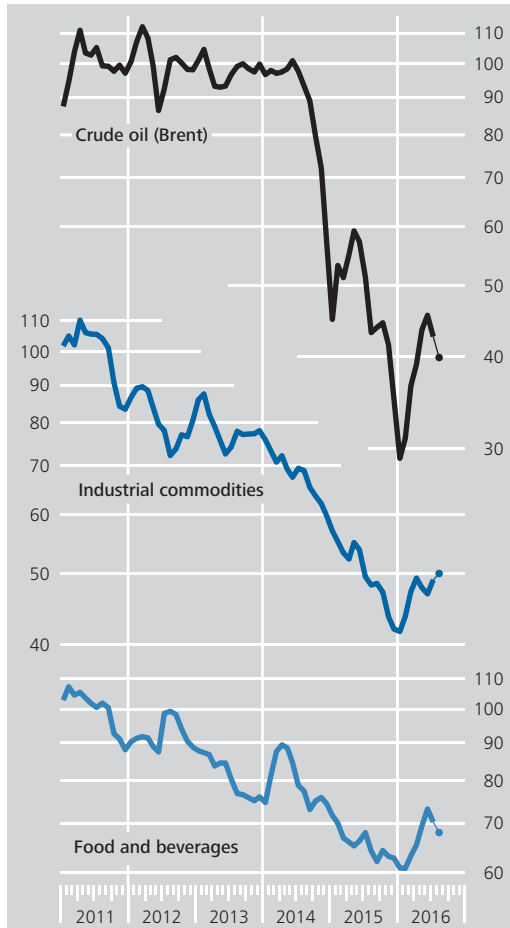
<sup>13</sup> Specifically, an expansion of public investment by 1% of GDP for five years was assumed, which is subsequently scaled back only gradually.

<sup>14</sup> Furthermore, the short-term increase in real GDP in Germany with endogenous monetary policy is substantially smaller than would be the case for the reference scenario without a monetary policy response. The high multiplier effect is thus likely to be due not least to the importance of inflation expectations in the applied model, which are fuelled by the suppression of the central bank response.

<sup>15</sup> It should also be noted that a temporary expenditure programme only initially increases real GDP growth in Germany compared with the baseline and, once the programme expires, real GDP growth actually falls, even if the level of macroeconomic activity is permanently higher due to a capacity effect.

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

US dollar basis, 2011 = 100, monthly averages, log scale



Sources: Thomson Reuters and HWWI. • Latest figures: average of 1 to 5 August 2016, or 1 to 11 August 2016 for crude oil.

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moderately. The IMF continued to predict a gradual acceleration in world output, from +3.1% in the current year to +3.4% in 2017.

*Slowdown in commodity price rebound*

The rebound in commodity prices lost momentum in the reporting period. Against the backdrop of temporary production losses in major oil-producing countries, the spot price of a barrel of Brent crude climbed to more than US\$50 in late May/early June. It subsequently plummeted, however, and the structural oversupply, which is easing only gradually, became more perceptible again. Futures prices did not decline to the same extent, causing forward premiums to rise noticeably. As this report went to

press, the spot price for a barrel of Brent was US\$46. Commodity prices excluding energy trended slightly upwards overall until July, although the main categories saw mixed developments.

After seasonal adjustment, consumer prices in industrialised countries increased noticeably in the second quarter compared with the winter months. The sharp quarter-on-quarter rise in crude oil prices was a contributing factor here. Energy prices remained considerably down on the year, though. Accordingly, the inflation rate for the entire basket of consumer goods (headline inflation) was depressed (+0.6%). Core inflation, which excludes energy and food prices, remained well above this level at 1.5%.

*Consumer price inflation still depressed in industrialised countries*

### Selected emerging market economies

According to the official estimate, real GDP in China was up by 6.7% on the year in the second quarter of 2016. This means that the Chinese economy maintained the pace of growth achieved in the preceding quarter.<sup>5</sup> Consumption continued to be an important mainstay of economic activity, with a contribution to growth in arithmetical terms of almost 5 percentage points in the first half of the year. By contrast, investment activity has been subdued so far this year. Although there has been a noticeable expansion in construction investment as monetary policy easing measures have led to a further discernible recovery in the demand for real estate, investment in machinery and equipment has tended to be weak; this is also borne out by declining imports of capital goods. Nevertheless, total imports of goods increased by 3% in terms of volume in the first half of the year, mainly as a result of additional

*Pace of growth maintained in China*

<sup>5</sup> Viewed over the period, economic activity has actually accelerated according to calculations by the National Bureau of Statistics of China. These calculations show that seasonally adjusted economic output was up by 1.8% on the first quarter, in which it had picked up by only 1.2%.



commodity imports, particularly crude oil.<sup>6</sup> Exports of goods increased by only 1%. Thus, Chinese industrial output remained largely dependent on domestic stimuli. Consumer price inflation has tailed off somewhat in the past few months. The slowdown in inflation from 2.3% in March to 1.9% in June was caused primarily by subsiding food price inflation.

*Strong growth trend in India possibly overstated*

India's Central Statistical Office identified a year-on-year increase in economic output of 7.9% for the first quarter of 2016, the most recent covered by its GDP estimate, suggesting that the pace of growth has accelerated further. However, it has long been suspected that the official figures for the country's GDP growth are overstated. Survey-based measures of activity, for instance, indicate a more leisurely pace of aggregate economic growth. It is probably with this in mind that the central bank maintained its easier monetary policy stance in the spring, even though consumer price inflation increased from 5.3% in the first quarter to 5.7% in the second quarter. The central bank is striving for an inflation rate of 5% by the end of the current fiscal year.

*Recessionary tendencies in Brazil have eased*

In Brazil, first-quarter real GDP growth was only 0.3% down on the preceding period after seasonal adjustment. Indicators suggest a similar-sized decline for the quarter just ended. The recession thus softened considerably in the first half of 2016. The country's serious internal political crisis has also eased a little recently. As a result, the mood among firms and households has improved somewhat. This gives reason to hope that the economic situation will stabilise in the second half of the year. Even a slight recovery appears possible. The substantial appreciation of the Brazilian real was one of the main reasons why consumer price inflation continued to slide in the past few months, albeit to a still high level of 8.8% in June.

In the quarter just ended, Russia's real GDP was down by 0.6% on the year according to an initial estimate by the Russian Federal State Statis-

tics Service. This compares with a fall of 1.2% in the first quarter. The downward momentum in imports, which declined by no less than a quarter last year, has now also tailed off. All in all, there are increasing signs that the recession will end in the second half of the year. A strong recovery is unlikely, however, owing to the Russian economy's structural weaknesses.<sup>7</sup> Consumer price inflation has hovered around the 7% mark in the past few months and the rouble has tended to post gains. Not least for these reasons, the central bank cut its key interest rate in June.

*Economic contraction in Russia weakened further*

## United States

According to the first official estimate, seasonally and price-adjusted GDP in the United States rose by 0.3% in the second quarter compared with the preceding three months and thus at a similarly muted rate as on average over the fourth quarter of 2015 and the first quarter of 2016.<sup>8</sup> Although this overall result was disappointing in relation to most forecasts, the growth rate of private domestic final demand rose again to 0.7%, which is equal to the average rate since the beginning of the upswing in the third quarter of 2009. The main factor slowing aggregate growth recently was that stockbuilding gave way to destocking after the build-up of inventories had already decelerated gradually in the preceding quarters. In addition, government demand was scaled back somewhat for the first time since the fourth quarter of 2014. The moderate expansion of private domestic final demand was, in turn, largely due to the steep rise in consumption, which masks

*Sharp rise in private consumption, but weak investment*

<sup>6</sup> The strong growth in crude oil imports of 14% in the first half of the year is likely to have resulted, among other things, from the Chinese government's efforts to build up a strategic oil reserve. There are also indications that the state is stockpiling other commodities.

<sup>7</sup> See Deutsche Bundesbank, The economic crisis in Russia, Monthly Report, May 2016, pp 14-16.

<sup>8</sup> The growth rates for the final quarter of 2015 and the first quarter of 2016 were adjusted slightly downwards in the annual revision process. By contrast, annual average real GDP in 2013 and 2015 expanded somewhat faster than previously reported.

sluggish developments in most investment categories. The fall-off in industrial and commercial construction investment is primarily due to adjustments in the oil industry, which may have been concluded by the middle of the year. By contrast, the reduction in spending on machinery and equipment was more broadly based. Housing investment also decreased after a protracted period of steady growth. Overall, there is some indication that investment will rebound with the termination of the adjustments in the oil industry and stockbuilding. However, since the recent elevated consumption momentum will probably not be maintained, only slightly higher, and therefore generally moderate, GDP growth is likely in the second half of the year.

*US economy at normal capacity*

Employment rose more sharply in June and July following a weak May, while the unemployment rate recently remained close to its cyclical low. According to the consumer price index (CPI) excluding energy and food, the core inflation rate increased to 2.3% in June. This all indicates that the US economy is operating at a normal level of capacity utilisation. The headline CPI rate stood at just 1.0%, however. In the light of this, the US Federal Reserve once again refrained from raising its policy rates.

## Japan

*Economy flatlining*

Despite significant fluctuations in the GDP quarterly rates, the underlying cyclical trend in Japan has remained flat. The decline in real GDP in the fourth quarter of 2015 was surprisingly offset in the first three months of this year. This favourable GDP result may have owed something, however, to the omission of the leap-year effect in the seasonal adjustment. Aggregate output was nevertheless only slightly higher than in the third quarter of 2013. In the second quarter of 2016, for which there were still no GDP figures when this report went to press, the economy remained in a lacklustre state according to standard indicators. Thus industrial production, which is often a close proxy for aggregate output, stagnated. On the

demand side there were signs of a renewed slackening of private consumption. This is consistent with the significant decrease in goods imports, although this was accompanied by a surge in exports. The labour market remained robust, and the unemployment rate in June fell to its lowest level in almost 21 years (3.1%). The inflation rate for the basket of consumer goods excluding energy and food slowed to 0.4% in June. The Japanese central bank responded to these developments at the end of July by further easing its stance. The government had earlier announced the suspension of its planned VAT hike in 2017 and a substantial increase in government expenditure in a supplementary budget.

## United Kingdom

In the United Kingdom, according to a preliminary estimate, real GDP increased by 0.6% in the second quarter compared with the first three months of this year after adjustment for seasonal factors. The quarter-on-quarter growth of the UK economy thereby accelerated somewhat, due mainly to a jump in manufacturing output. Real value added in the key services sector again expanded markedly, whereas construction output fell further. The ongoing robust upturn in the second quarter contradicts the assessment of some observers, who seemingly perceived signs of a dampening effect resulting from the increased uncertainty surrounding the Brexit referendum. They pointed to the reduction in business gross fixed capital formation during the final quarter of 2015 and the first quarter of 2016.<sup>9</sup> However, half of this reduction was attributable to mining and quarrying, which includes oil producers whose investment restraint was doubtless due to the low crude oil prices. In line with the favourable overall economic setting, the unemployment rate in the three-month period

*Robust momentum up to mid-year*

<sup>9</sup> Figures on the expenditure side were not available for the second quarter of 2016 as this report went to press because they are normally only published with the second GDP estimate.

from March to May dropped to a new cyclical low (4.9%). Even so, inflation as measured by the year-on-year change in the Harmonised Index of Consumer Prices (HICP), excluding energy and unprocessed food, remained muted in June (+1.1%).

## New EU member states

*Stronger recovery in Q2*

Economic growth in the new EU member states (EU-6)<sup>10</sup> strengthened in the second quarter. In the four countries that have published initial results, seasonally adjusted real GDP increased quarter on quarter, in some cases considerably. The first-quarter lull had been due primarily to a marked drop in investment. A major factor in this was probably the fact that EU funds for financing infrastructure projects within the scope of the 2007 to 2013 financial framework could only be drawn down until the end of 2015. Private consumption, which continued to benefit from the improved employment and wage developments, once again seems to have provided a positive impetus between April and June. Households' purchasing power was additionally boosted by lower consumer prices. They fell by 0.8% on the year across all six countries in the second quarter. Even after stripping out energy and unprocessed food, the HICP increased by just 0.2%.

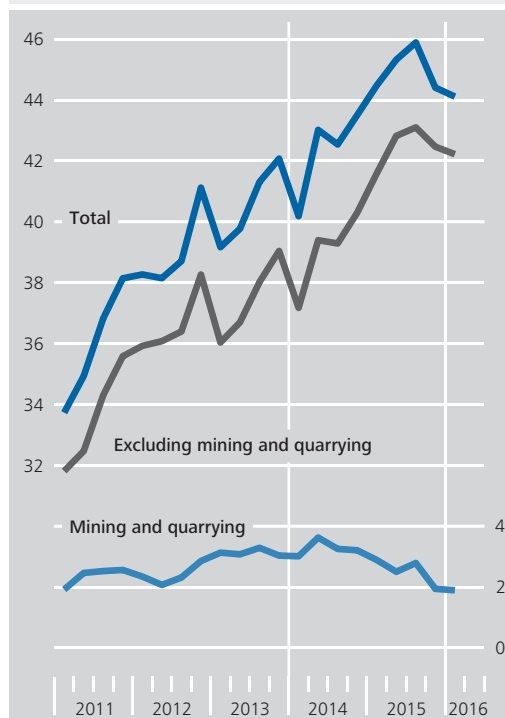
## Macroeconomic trends in the euro area

*Ongoing moderate upturn*

In the euro area, the moderate cyclical upswing continued in the second quarter. According to Eurostat's flash estimate, real GDP in the second quarter of 2016 was up after seasonal adjustment by 0.3% on the quarter and by 1.6% on the year.<sup>11</sup> While the macroeconomic growth rate consequently slowed down distinctly compared with the first quarter, exceptional factors had fuelled the remarkably strong growth seen at the start of the year. On the whole, the economic recovery in the first half

### Business gross fixed capital formation in the United Kingdom

£ billion, quarterly, seasonally adjusted



Source: Office for National Statistics.  
 Deutsche Bundesbank

of 2016 proved to be very robust, while unemployment continued to decline.

It is likely that domestic growth stimuli lost momentum in the second quarter, however. Although the sustained labour market recovery presumably further strengthened households' purchasing power, private consumption probably did not increase as much as in the first quarter. Retail sales only increased a little after seasonal and price adjustment, and new car registrations actually fell slightly.

*Weaker domestic momentum in Q2*

Investment in the euro area appears to have experienced a setback in the second quarter. Construction investment, which had been cur-

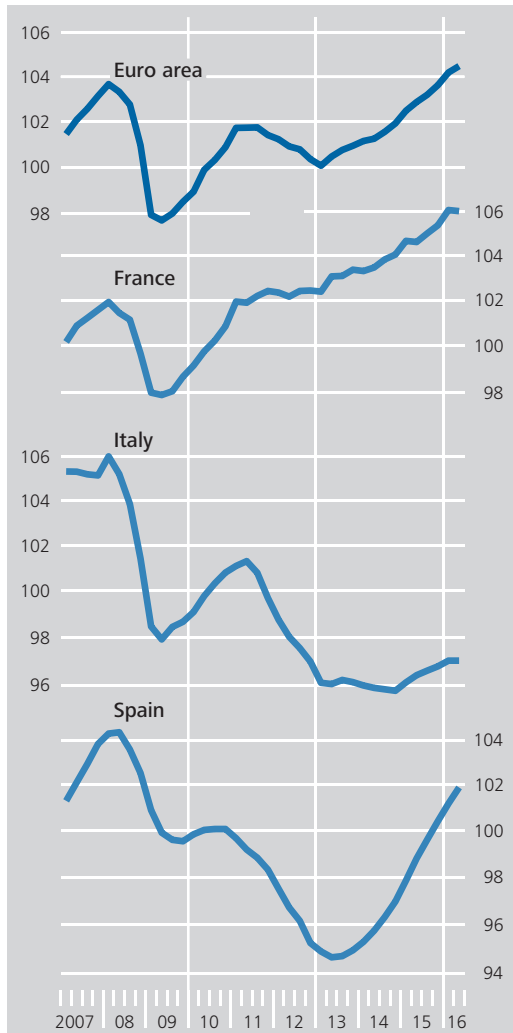
*Setback in investment*

<sup>10</sup> 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.

<sup>11</sup> It should be noted that the calculation of the year-on-year change for the four preceding quarters was based on the data as at 7 June 2016. Hence the new GDP figures for Ireland, for example, are not included (see footnote 12 on p 23).

### Aggregate output in the euro area

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



Source: Eurostat.  
 Deutsche Bundesbank

tailed less in the first quarter of 2016 than in other years due to the unusually mild winter, is expected to have fallen considerably in the second quarter after adjustment for seasonal variations. This is suggested by the marked contraction of construction output in April and May compared with the previous three months. Investment in machinery and equipment, too, may have failed to match the first-quarter level. In any case, the domestic turnover of capital goods producers in the second quarter was somewhat lower than in the first quarter after adjustment for seasonal and price variations. Although sales to other euro-area countries went up noticeably, they are less important in

terms of volume than domestic turnover. While corporate profitability has not recovered further in recent quarters, the ongoing favourable funding environment, the above-average level of capacity utilisation in the manufacturing sector and not least fiscal investment incentives in individual member states nevertheless suggest that the moderate underlying upturn in investment will continue.

Despite the continuing muted global dynamics, external demand probably generated positive stimuli in the second quarter. Whereas Eurostat data indicate that exports of goods fell on average in the months of April and May compared with the first quarter after seasonal and price adjustment, data from major member states that include the June figures paint a brighter picture. According to reports from individual countries, the tourist season also appears to be going well. This should have given a strong boost to exports of services. However, significantly fewer goods were imported. Trade with non-euro-area countries contracted much more than that within the euro area.

*External demand showing positive momentum*

In the second quarter, industry failed to maintain its good performance in the first three months. Industrial production fell between April and June by 0.4% after seasonal adjustment compared with the first-quarter level. This decline affected all components. Consequently, considerably fewer capital goods and intermediate goods were produced. The production of consumer goods and energy output likewise registered no further increase.

*Industrial activity muted*

Economic developments in the euro area were again somewhat heterogeneous across the member countries in the second quarter. In France, economic output stagnated after picking up sharply in the first quarter. This owed something to a strike wave in those three months. Growth stimuli only came from government consumption, due in part to increased spending on security ahead of the European football championship in June. By contrast, private consumption stagnated, and invest-

*Economic developments in euro area mixed*

ment and exports shrank. Italy, too, showed no increase in aggregate output. The already very subdued recovery was thus halted in the second quarter. The labour market gave mixed signals. Firms' willingness to recruit continued to be encouraged by a cut in social contributions applicable this year for new permanent employment contracts. At any rate, surveys indicate that employment increased distinctly in the second quarter. This should have encouraged private consumption. However, unemployment only fell very slowly. Spain once again recorded the strongest expansion among the large member states, with a quarterly GDP rise of 0.7%. The ongoing difficulties in forming a government seem not to have adversely affected the country's dynamic economic recovery so far. One contributory factor may have been the buoyant tourism industry, which is benefiting from the problems in other Mediterranean countries. Economic developments in the rest of the euro area were predominantly positive.<sup>12</sup> The Netherlands and Belgium, as well as Slovakia and Cyprus, were able to continue their upward trend and increase real GDP, in some cases significantly. In Finland, Portugal, the Baltic states and Greece, economic output increased markedly. Only in Austria did GDP stagnate in the second quarter.

*Slow but steady labour market recovery*

The labour market in the euro area is recovering slowly but steadily. The seasonally adjusted standardised unemployment rate fell in the second quarter by 0.9 percentage point on the year to 10.1%. The decline was fairly broadly based across regions. The reduction in unemployment faltered only in Italy and Belgium in the preceding quarters, while in Austria and Estonia it actually rose. The number of employees increased by 1.4% on the year in the first quarter of 2016. The job increase in the market-based services industries was particularly pronounced. The manufacturing sector also recruited more staff. The increase in wages remained subdued in light of continued high levels of unemployment. In the first quarter they increased only slightly to 1.8% on the year.

### Economic indicators for the euro area

Seasonally adjusted, quarterly averages, log scale



Sources: Eurostat, ECB and Bundesbank calculations. <sup>1</sup> Nominal export and import data according to foreign trade statistics (intra and extra trade). Price-adjusted using the producer price index (exports) or the import price index.  
 Deutsche Bundesbank

In the second quarter of 2016, quarter-on-quarter consumer prices in the euro area increased very steeply by 0.4% after seasonal adjustment, after they had fallen in the two preceding quarters. The main reasons for this were higher crude oil prices and unfavourable weather conditions, which ensured that the

*Jump in consumer prices mainly due to energy and food*

<sup>12</sup> There are no data yet for the second quarter for Ireland. In the first quarter, real GDP shrank by 2.1% according to official data following a leap of 26.3% on an annual average in 2015. Originally, an increase of +7.8% had been recorded for 2015. These GDP rates, which are difficult to interpret, may be attributable to restructuring operations of multinational enterprises. See Central Bank of Ireland, Recent revision to the national income and expenditure accounts, Quarterly Bulletin, No 3/2016, p 11.

### Consumer prices in the euro area

Year-on-year percentage change

Item	2015		2016	
	Q3	Q4	Q1	Q2
Total HICP	0.1	0.2	0.0	-0.1
<i>of which</i>				
Energy	-7.2	-7.2	-7.4	-7.7
Food	1.2	1.4	0.8	0.9
HICP excluding energy and food	0.9	1.0	1.0	0.8
<i>of which</i>				
Industrial goods excluding energy	0.4	0.5	0.6	0.5
Services	1.2	1.2	1.1	1.0

Deutsche Bundesbank

previously negative effect of energy and food on the quarterly HICP rate turned positive again. Inflation was otherwise muted. The prices of services continued to rise moderately. By comparison, the sub-index for industrial goods excluding energy remained unchanged. Despite the upward dynamics of volatile components at the current end, the year-on-year change in HICP fell slightly to -0.1% due to baseline effects. The inflation rate excluding energy and food fell to +0.8%. This was probably in part due to Easter falling in March and therefore in the first quarter this year, which is likely to have dampened the annual rate of change for services, in particular.

*Industrial goods prices in euro area excluding Germany slightly down of late, but up in Germany*

The flat price trend for industrial goods excluding energy in the euro area in the second quarter overlies divergences in individual countries. Thus whereas prices for industrial goods fell in seven countries (including Ireland, Greece, Portugal and France) against those of the second quarter of 2015 (probably due to continuing

weak demand), another seven countries recorded inflation rates between 0% and 1% (including Spain, Italy and the Netherlands). In the remaining countries (including Belgium and Germany), the prices of industrial goods actually rose by 1% or more. Taking the average of all other member states in the euro area, annual inflation in industrial goods prices has consistently been at least 0.5 percentage point lower than in Germany since the beginning of 2014.

In July 2016, consumer prices in the euro area rose slightly on June according to Eurostat's flash estimate. The steep drop in energy prices was almost completely offset by a sharp rise in prices for unprocessed food. The prices of services rose moderately. Prices for other categories of goods barely changed. The annual change in the headline HICP rate increased slightly to 0.2% against June, and marginally to 1.0% excluding energy.

*Headline HICP slightly higher in July*

The moderate upward trend in the euro area is set to continue over the coming months. Although private consumption will probably not match last year's growth, which was lifted by steep falls in energy prices, domestic demand in the euro area will continue to be supported by the sustained improvement in the labour market and the underlying uplift in investment. No major impetus can be expected from the global economy, which is expanding only moderately at present. On the other hand, the Brexit referendum in the United Kingdom is likely to have very little impact on the euro-area economy in the immediate future. This, at least, is suggested by developments in the sentiment indicators for the euro area in July.

*Sustained upturn expected in euro area*