

# INTERNATIONAL ECONOMY: SLOWER PACE OF EXPAN- SION, HIGH RISKS

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## **References**

This is a translated version of the original German-language chapter "Internationale Konjunktur: Nachlassendes Expansionstempo bei hohen Risiken", which is the sole authoritative text. Please cite the original German-language chapter if any reference is made to this text.

## Summary

The **positive economic development of the global economy continues**, albeit at a slightly slower pace than in 2017. Growth slowed, particularly in the first quarter of 2018, but regained momentum thereafter. Especially in the United States, growth accelerated significantly. The tax reform probably had a noticeable impact here. In China, there has not been a significant slowdown in growth up to now, despite fears to the contrary. The euro area, on the other hand, was unable to maintain the high growth rate of the previous year, falling behind the United States in terms of growth. Growth is quite heterogeneous within the euro area. Economic momentum in Japan is also more restrained. In the United Kingdom economic growth is weak against the background of the Brexit negotiations.

Some **emerging markets** have recently been a source of **concern**. The Argentine peso and the Turkish lira in particular came under devaluation pressure in 2018. High current account deficits, substantial indebtedness in foreign currency, and doubts about the overall political and institutional situation placed these countries into the focus of financial markets. To date, there have been no significant contagion effects on other countries. This is perhaps because many of the problems are home-made, and many emerging economies are now holding larger foreign exchange reserves than during past crises.

Overall, the upswing can be expected to continue, although growth rates in important economies are likely to approach the lower potential rates. Surveys show a very positive sentiment among companies and households, despite declines at the beginning of the year. The **robust development of employment** with historically low unemployment rates continues to support the growth of private consumption, although this may be slowed somewhat by the higher price of oil. Furthermore, **monetary and fiscal policy remain expansionary**. In view of increasingly overutilised capacity, they are having a procyclical effect. The upswing is probably well advanced in many countries. This is indicated not least by the rising price and wage dynamics. Some central banks, including the US Federal Reserve, have already raised interest rates, while the European Central Bank and the Bank of Japan are continuing their negative interest-rate policy.

**Risks** are high, particularly that of an **escalation of the trade dispute** between the United States and China. Only in September, the United States raised tariffs on many Chinese goods, prompting China to reciprocate with higher tariffs on US products. Although the European Union (EU) was able to reach a provisional agreement in its trade dispute with the United States, a resumption of the conflict cannot be ruled out. Apart from the direct impact of tariff increases on trade and value chains, the heightened uncertainty associated with the trade dispute could impair the positive development of the world economy. Moreover, risks to financial stability are high in some countries.

Another risk is the approaching **Brexit**. If no agreement is reached in time on future relations between the United Kingdom and the EU, there is a threat of a significant growth slowdown in the United Kingdom and, to a lesser extent, in other countries. In many member states of the euro area, major challenges are posed by **high levels of sovereign debt**, combined with low growth potential and higher interest rates in the medium term. Thus, it is questionable how much fiscal room for manoeuvre will remain in any future downturn. Furthermore, political uncertainty, the lack of determination to achieve sound public finances, and the withdrawal of structural reforms could undermine confidence in the debt sustainability of individual member states and thus in the stability of the monetary union.

# I. GLOBAL ECONOMY: UPSWING CONTINUES – RISKS ARE HIGH

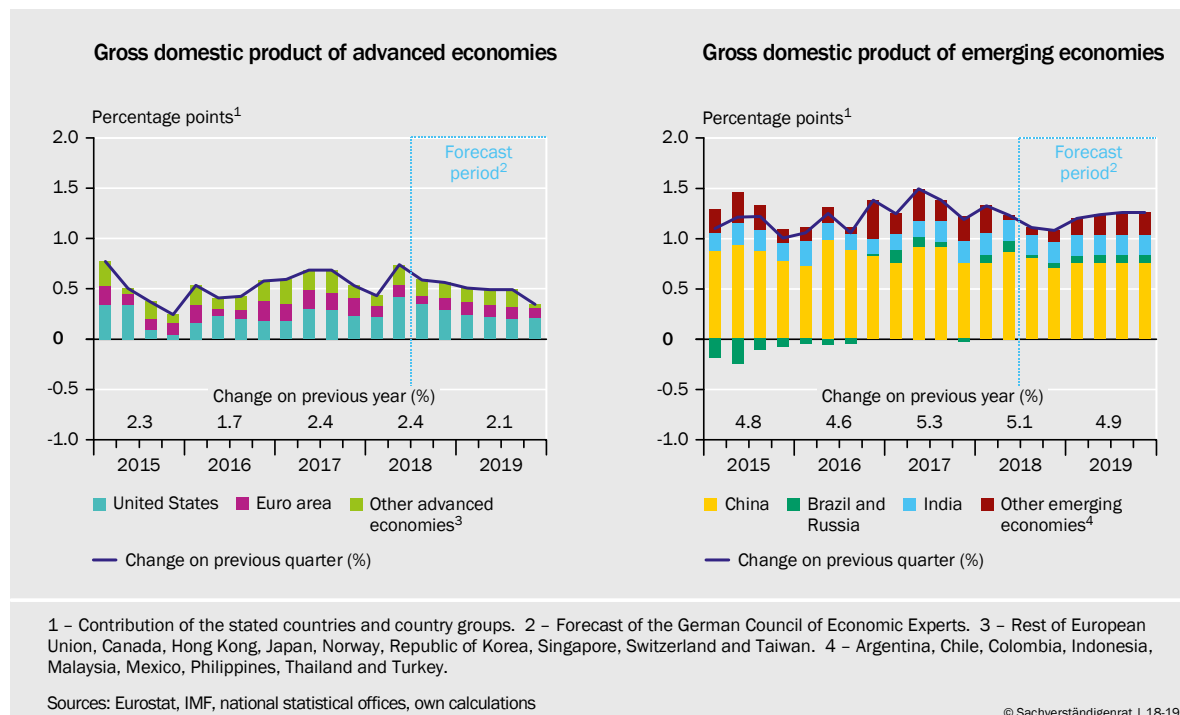
187. After last year's strong growth, economic momentum has weakened slightly in many economies. However, the **upturn** in the global economy has hitherto continued. The overall level of **capacity utilisation** is still rising in most economies; growth can therefore be expected to slow down. At the same time, the future development of the global economy is exposed to significant **risks**, one of which is a further escalation of the trade conflicts. Furthermore, developments in some emerging economies are a cause for concern. In Europe, there is continued uncertainty over Brexit. In the euro area, not least the situation of high indebtedness and political uncertainty in Italy poses risks for the stability of the monetary union.

## 1. Overview

188. In most major economies, economic output increased much more strongly in 2017 than in previous years, exceeding growth expectations. However, at the turn of 2017/2018 the **growth rates** of gross domestic product (GDP) **declined** in many countries. ↘ CHART 20 In the second quarter, above all a highly dynamic economy in the United States and stronger growth in China led to a countermovement. Overall, the growth rates of the global economy are currently relatively high. According to IMF figures, the annual average growth rate of the global economy, weighted by purchasing power parities, was 3.7 % in 2017. This is higher than the long-term average of around 3.5 % since 1980.

↘ CHART 20

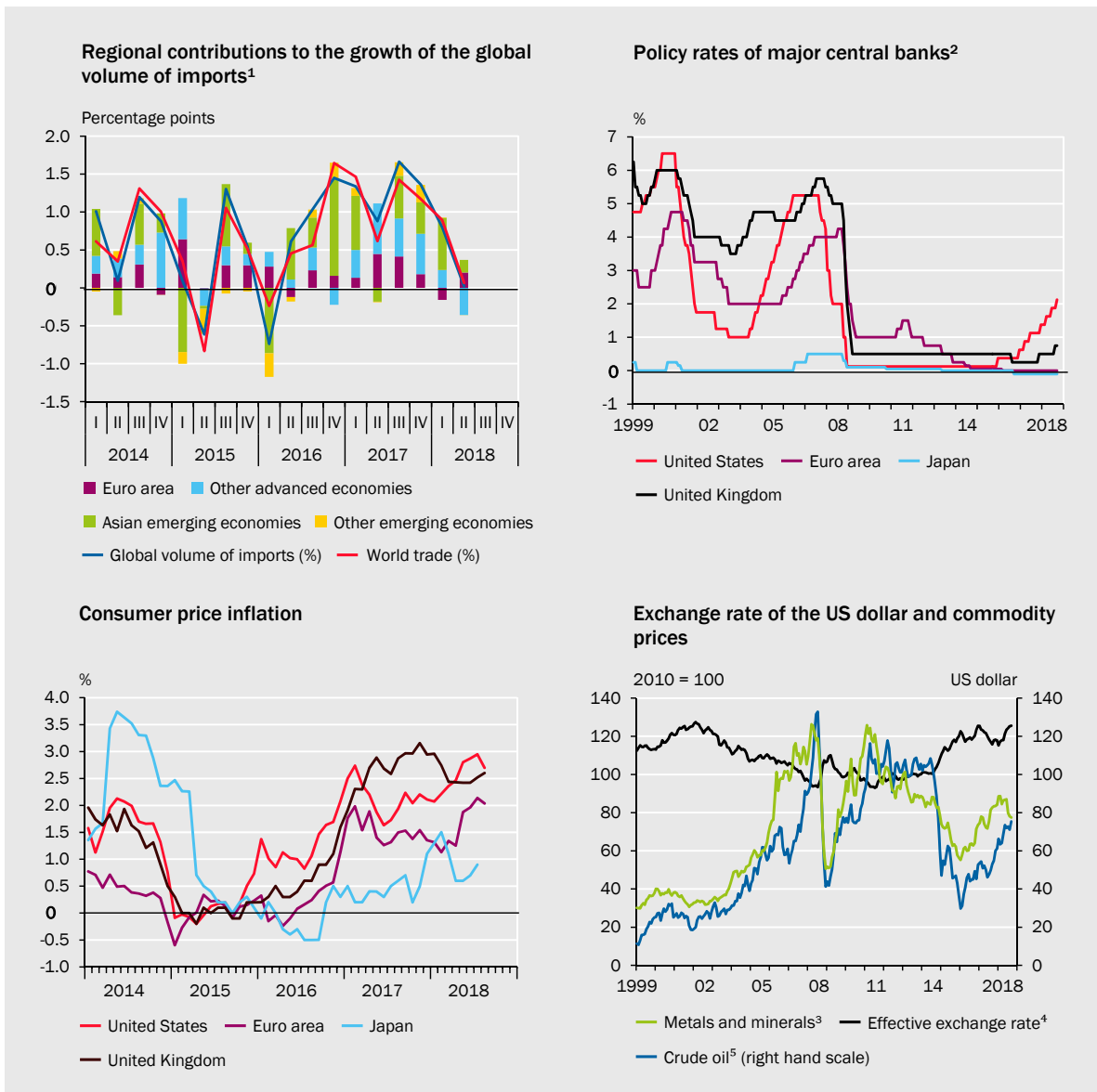
Expected development of the world economy



189. **World trade growth**, by contrast, came to a standstill for a time in the second quarter of 2018. ↪ CHART 21 TOP LEFT On the one hand, the trade conflicts might have had an influence here. ↪ ITEMS 8 FF. On the other hand, this development may primarily represent a countermovement following the **strong growth of 2017**. World trade growth relative to the same quarter of the previous year remains relatively high at 3.6 %.

↪ CHART 21

Indicators on the economic situation of the global economy

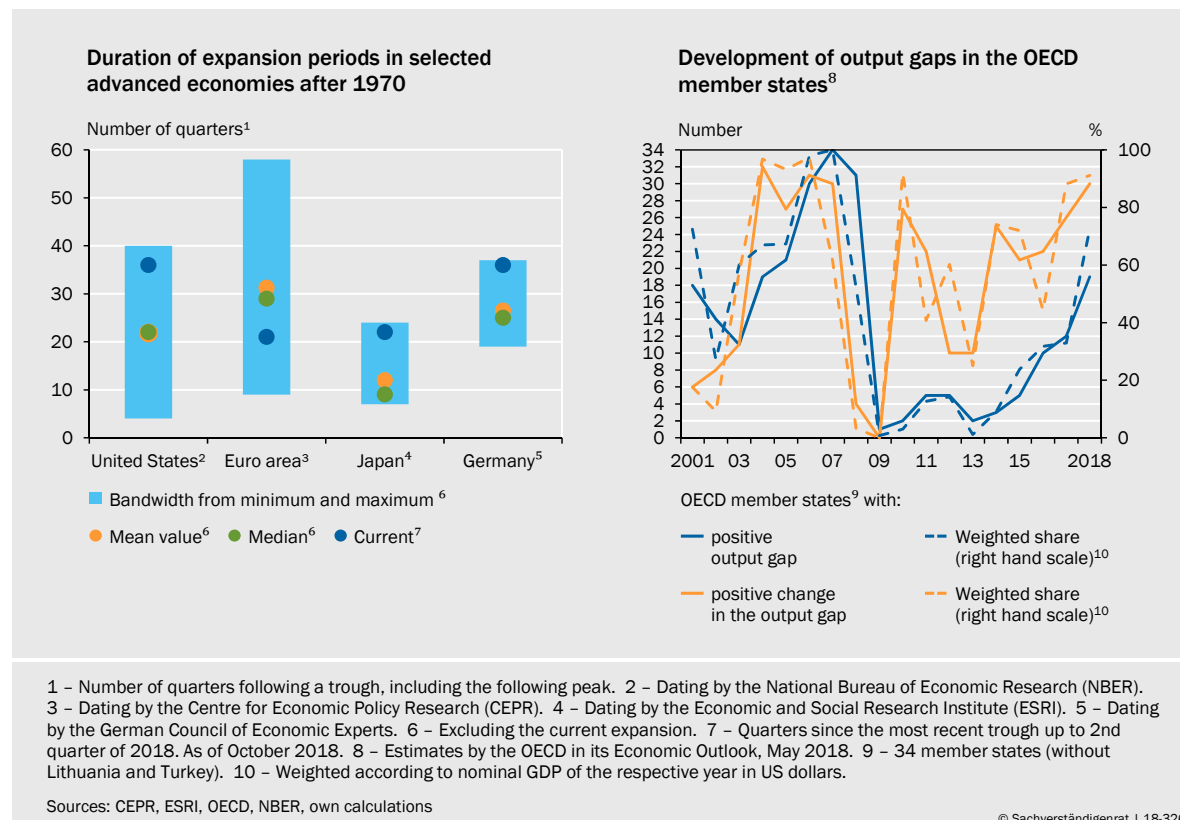


## Global economic upswing still continues

190. The global upturn since the financial crisis is now entering its ninth year. In many advanced economies, the **upswing** has thus lasted **comparatively long**. [↪ CHART 22 LEFT](#) In view of the somewhat weaker growth in the winter of 2017/2018, higher risks and lower sentiment indicators, the question arises as to whether the upturn in the global economy has already peaked and what **factors** might perhaps lead to an **economic downturn**. Although it is very difficult to recognise in real time the point when a downturn begins (IMF, 2018a) [↪ BOX 3](#), it is possible to weigh up the importance of possible factors that could lead to an end of the upswing.
191. The first clues come from the estimated position in the business cycle and the overall level of capacity utilisation in the economy. For some time now, there has been an upward trend in **output gaps** in many advanced economies, and these gaps are **positive in many countries**. [↪ CHART 22 RIGHT](#) Just like the duration of expansion periods, this is not yet an indication of an imminent downturn. However, the output gaps do suggest that the economic upswing is probably relatively far advanced in many economies. The fact that wage dynamics have picked up appreciably in the meantime, and inflation rates have also risen, fits well into this picture. [↪ CHART 21 BOTTOM LEFT](#)
192. Further information on the stability of the global upswing can be derived from the **heterogeneity of growth** across different countries. Following a synchronous cyclical upward movement in many economies in 2017 [↪ CHART 20](#), the development has become somewhat heterogeneous in the meantime. In the

[↪ CHART 22](#)

### Duration of expansion periods and development of output gaps



United States, the upswing is progressing at a fast pace, not least because of fiscal stimuli. By contrast, the momentum has weakened slightly in other advanced economies. The situation in the emerging economies is mixed: on the one hand there is sustained strong growth in China and India, on the other hand a visible deterioration in the economic situation in individual, smaller emerging economies, particularly in Turkey and Argentina, can be observed. [↘ ITEMS 201 FF.](#)

- 193. Survey indicators** of economic development, such as the purchasing manager's index in the manufacturing sector, also reflect an increased heterogeneity between developments in the United States and the other major economies. After a peak in late 2017, the indicators have been **declining** in the euro area, China and Japan, although they are still **at a high level** and above the threshold that signals growth.
- 194. Monetary policy** remains **very expansionary** worldwide. The US central bank, the **Federal Reserve** (Fed), is reacting to the advanced economic recovery and higher inflation rates in the United States with a continuous, but gradual, phasing out of expansionary measures. While the **European Central Bank** (ECB) has announced an end to its net bond purchases, it is simultaneously continuing its negative interest-rate policy. The **Bank of Japan** (BoJ) is also sticking to its expansionary monetary policy. The Fed's rate hikes therefore come at a time of increasingly **divergent interest-rate levels** between the major currency areas. [↘ ITEM 252](#)

Because of the size of the US economy and the importance of the US dollar in the international financial system, the **Fed's monetary policy** impacts on other central banks. [↘ ITEM 378](#) In previous phases in which the Fed raised interest rates, the ECB followed suit after a while with interest-rate hikes of its own. [↘ CHART 21 TOP RIGHT](#)

- 195.** Under the base scenario, **contractionary actions** in monetary policy are not initially to be expected. However, the existing capacity overutilisation is fuelling risks of consumer price inflation. If these were to materialise, the central banks could be forced to raise interest rates more quickly. Given the **high level of private and public debt**, a faster-than-expected increase in interest rates could jeopardise the stability of financial systems and public finances in some countries. Previous interest-rate increases and the strong exchange rate of the US dollar are already contributing to more restrictive financial conditions in many emerging economies (IMF, 2018b).
- 196.** An important factor influencing the future development of inflation is the **oil price**. It has risen significantly since 2016, accelerating noticeably from the middle of 2017. [↘ CHART 21 BOTTOM RIGHT](#) While this is likely to have a positive impact on commodity-exporting emerging economies, in all other economies a rising oil price reduces the purchasing power of consumers and increases production costs. Although previous highs have not yet been reached, the higher oil price represents a burden particularly for emerging economies dependent on oil imports, such as India.

197. The effects on growth depend on the **causes of the rise in the oil price**. A decomposition of oil-price developments into supply and demand shocks provides information on this (GCEE Annual Report 2015, Box 4). According to an analysis by Wollmershäuser et al. (2018), **growing demand** was the main factor contributing to the rising oil price up to January 2018, the end of the analysis period. This indicates that, from the point of view of the oil-importing economies, the negative partial effect of a higher oil price is partly offset by positive effects of a good global economic development, which in turn led to the rise in the oil price in the first place. However, should there be a further price increase due to supply-side shocks, e.g. as a result of political conflicts and sanctions, this would put a strain on the economic upturn.
198. **Key policy rates** are currently still **at a very low level**. In the event of an economic downturn, interest-rate cuts on a comparable scale to those during the downturns of 2001 or 2008 would require a markedly negative interest-rate level. Monetary policy would therefore have to fall back on unconventional measures due to the effective lower bound on interest rates. Yet many central banks already have very **high total assets**. [↘ ITEMS 368 FF](#). The question arises as to whether a further expansion might come up against institutional and political limits, particularly in the euro area.
199. **Fiscal policy** is also expansionary in many countries strengthening growth. This is likely to continue in the forecast period. One problem of this is that fiscal policy has a pro-cyclical effect due to the good economic situation. Another is that, since insufficient use was made of the long upswing for consolidation, this could have a negative impact in the future. The **high public debt** is likely to reduce the available leeway for fiscal-policy reactions in the event of a downturn (GCEE Annual Report 2017, items 520 ff.). This applies not least to many member states in the euro area. [↘ ITEM 254](#)
200. Overall, the macroeconomic conditions for a **continuation of the upswing** are still given. However, several economies must be expected to move closer to their lower potential growth. Political risks in particular could lead to the end of the upswing. [↘ ITEMS 207 FF](#).

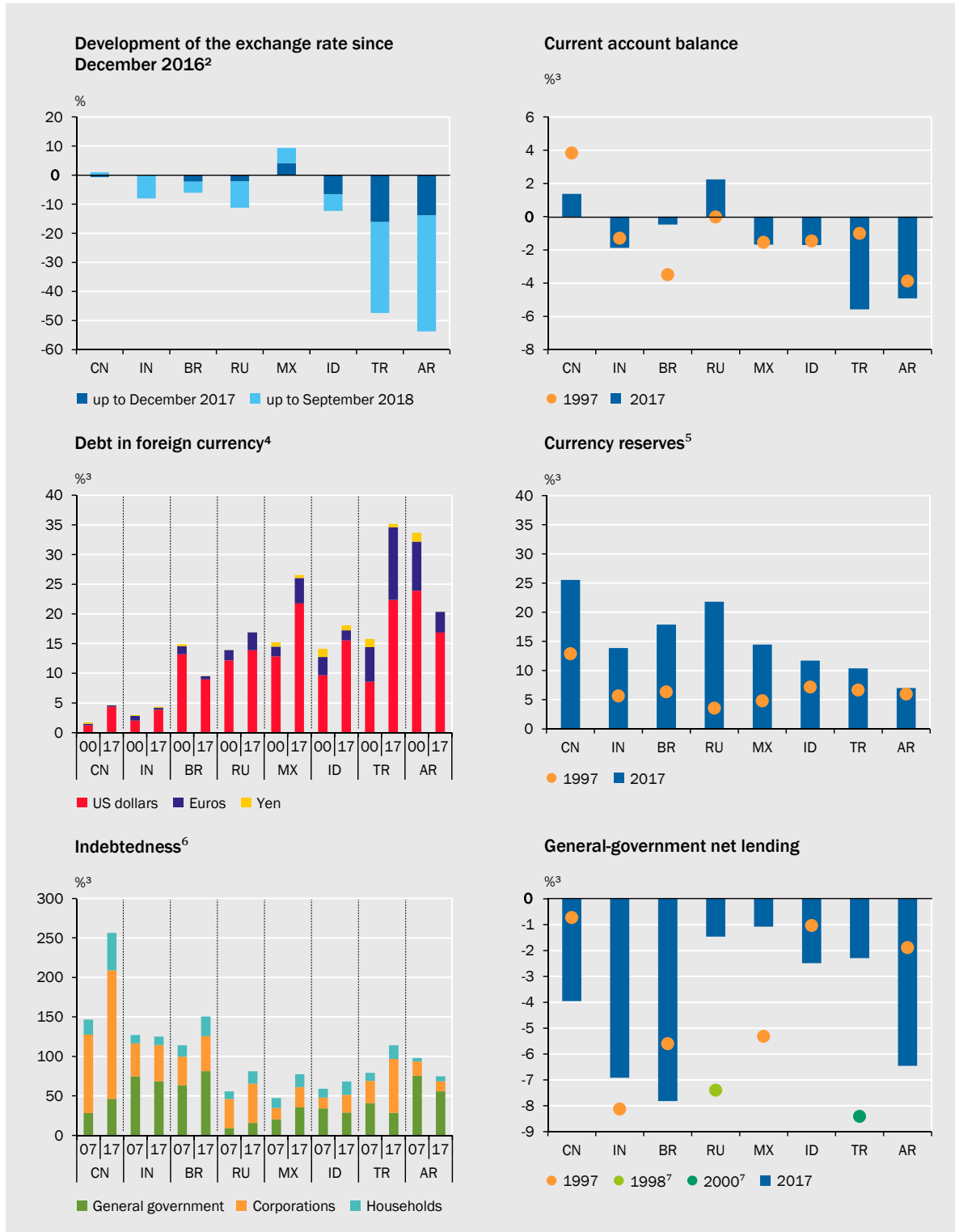
### Economic stability of the emerging economies

201. Doubts about the economic stability of some emerging economies have grown in recent months. The risks have increased not least in China. [↘ ITEMS 228 F](#). The Argentine peso and the Turkish lira have depreciated significantly. [↘ CHART 23 TOP LEFT](#) In addition to political uncertainties in individual countries, the **high level of indebtedness** in some emerging economies is a particular cause for concern. [↘ CHART 23 BOTTOM LEFT](#) Especially in the context of the appreciation of the US dollar and the interest-rate hikes by the US Federal Reserve, a special role is played by **debt denominated in US dollar**. [↘ CHART 23 CENTRE LEFT](#) In countries with high current account deficits and simultaneous high public sector deficits [↘ CHART 23 BOTTOM RIGHT](#), there is a risk of a great need for adjustment if capital inflows decline abruptly.

202. Key figures that have proved to be relevant indicators of economic vulnerability in previous crises (GCEE Annual Report 2013, Box 2) document significant **differences between the various emerging economies**. For example, Argen-

CHART 23

Indicators on the macroeconomic development of selected emerging economies<sup>1</sup>



1 – CN-China, IN-India, BR-Brazil, RU-Russia, MX-Mexico, ID-Indonesia, TR-Turkey, AR-Argentina. 2 – Relative change in the nominal effective exchange rate against 61 countries according to BIS figures. 3 – As % of nominal GDP. 4 – According to BIS global liquidity indicators. Credit in foreign currency to non-bank borrowers. 5 – Without gold. 6 – Credit to the non-financial sector. 7 – No figures for 1997, therefore different years for RU and TR.

Sources: BIS, IMF, own calculations



tina and Turkey have relatively **high current account deficits** compared to the other large emerging economies. ↘ CHART 23 TOP RIGHT Furthermore, the national currencies of these two economies depreciated considerably already in 2017. ↘ CHART 23 TOP LEFT At the same time, **inflation rates** were particularly high in both countries. Thus there are reasons why Turkey and Argentina have come under particular scrutiny. In Turkey especially the problems are largely home-made, and monetary and fiscal policies are not sufficiently geared towards stabilisation. Argentina has at least already agreed to an IMF programme and must meet the related conditions for economic policy.

203. Another question is the extent to which the group of emerging economies as a whole is prepared for external and internal economic shocks. Some factors, e.g. **comparatively high foreign exchange reserves** in many of the major emerging economies, indicate a certain potential for shock absorption. ↘ CHART 23 CENTRE RIGHT The reserves help to ensure that the external financial vulnerability of emerging economies as a whole looks less severe than at the time of the Asian crisis of 1997/1998 (IMF, 2018b). In addition, up to now investors have been **differentiating between the economies**. The countries that have been particularly at the focus of attention are characterised by a relatively high ratio of external debt to foreign exchange reserves.
204. The example of Turkey illustrates the consequences of a misguided economic policy that squanders confidence in the national currency. This is especially problematic when the private sector has run up a lot of debt in foreign currency. In this situation, the government's demand that interest rates be lowered exacerbated the crisis. The continuing depreciation increases inflation, further weakening confidence in the central bank's ability to keep rising prices under control. The **sharp devaluation is a risk factor for the balance sheets** of companies that are heavily indebted in foreign currency, as well as for the banking system.
205. Taken together, numerous factors are currently exerting **pressure on economic and financial stability** in emerging economies. The main factors are the rising interest rates in the United States and the strong exchange rate of the US dollar. They make it comparatively less attractive to invest in the emerging economies and more difficult for them to service their debts. The higher crude oil price is an additional challenge for oil-importing countries. The trade conflict with the United States is another factor that burdens the emerging economies, and the effects are not limited to China. As with the developments in Turkey and Argentina, there are certain spill-over effects on the foreign-exchange and stock markets of other emerging economies (BIS, 2018).
206. If private or public borrowers were to default on payments in emerging economies on a large scale, the **creditors in the advanced economies would suffer losses**. In addition to the direct and indirect trade effects, this would be another channel through which the advanced economies would be affected by developments in the emerging economies.

## 2. Opportunities and risks

207. The **risks** seem to have the **upper hand** in the balance between opportunities and risks. While most of these risks, taken in isolation, are probably of manageable importance for the world economy, the simultaneous occurrence of several of them could seriously unsettle the positive economic dynamics and thus lead to a downturn. In addition to geopolitical crises, ongoing political uncertainty, economic instability in some emerging economies, and turmoil on the international financial markets, the main risk is an intensification of the international trade conflicts.
208. The **tariff increases** that are already in force – and further ones threatened in the future – are likely to have negative effects on economic development. Not least, they would impair highly integrated international value chains. Any further **escalation of trade conflicts** therefore involves considerable risks for the future growth dynamics of the global economy. In particular, the growth of exports and investment could be noticeably curbed. Not least, the trade dispute could have a negative feedback on the **stability of the Chinese economy's** credit-financed growth.
209. Developments in several emerging economies highlight the short-term risk of strong reactions on the international financial markets. An unexpected, extensive spreading of the observed instabilities to other countries represents a risk to the development of the global economy and the **stability of international financial markets**.
210. An additional risk is an **unexpectedly large increase in inflation**. For instance, the price of oil could rise further as a result of geopolitical tensions, unlike the contrary assumption in the forecast. Markedly higher inflation rates could induce the central banks to raise interest rates more quickly, which, in turn, might lead to more restrictive financing conditions and sudden adjustments of asset prices. Particularly in countries where there has not been sufficient preparation for an exit from the loose monetary policy, such an unforeseen increase in interest rates could lead to disruptions. At the same time, higher inflation would reduce the real incomes of households and indirectly slow down consumption growth.
211. The global economy faces not only risks, but also **opportunities for stronger growth**. In particular, economic and fiscal policy in the United States could lead to a **larger expansion** in overall economic **capacity** than is assumed in the forecast. The labour-force participation rate could rise further, investments increase more quickly, and productivity grow faster than expected. It is possible that estimates of global production capacity are generally too low. In this case, stronger growth would be possible without any major pressure on wages and prices.

At the same time, unforeseen **solutions to the trade disputes** that lead to a reduction in trade restrictions could generate positive stimuli. It is also conceiv-

able that the political uncertainty will make **less of an impression** on consumers and investors than some market observers assume.

212. Future relations between the EU and the United Kingdom represent the main additional risk in **Europe**. In view of the lack of progress in the **Brexit** negotiations, it seems possible that the United Kingdom might leave the EU without an agreement in spring 2019. The effects of a no-deal Brexit on the United Kingdom's economy would probably be considerable. The remaining EU member states would also be negatively affected, albeit to a lesser extent. Should the players on the financial markets be insufficiently prepared, there would also be a risk of turmoil there, which might in turn have a negative impact on the real economy. [↘ BOX 14](#)
213. Economic developments in the **euro area** could be affected by increased political uncertainty, which would probably have a negative impact on the consumption and investment decisions of households and firms. **Developments in Italy** represent a major risk in this context. The combination of political uncertainty, high public indebtedness and low growth could cause **risk premiums** for Italian sovereign bonds to increase even further than in the past, particularly if there is a normalisation of monetary policy. At the same time, the open non-compliance of national governments with common fiscal rules damages the credibility of the euro architecture and raises **doubts on debt sustainability**. The high level of public sector debt in many member states could furthermore restrict the response of fiscal policy to worse economic phases in the future (GCEE Annual Report 2017, items 520 ff.).

### 3. Outlook

214. In the forecast, the baseline scenario assumes that most of the existing risks will not materialise and that there are no major distortions. Under this assumption, the upswing is likely to continue in most **advanced economies**. However, development appears to be slightly less synchronised than in the previous year. In most of the economies examined, the pace of growth will probably slow down again somewhat in 2018. [↘ TABLE 1](#) On the other hand, in the **United States** a higher GDP growth rate in the current year can be expected than in the previous year, largely due to the tax reform and further fiscal stimuli. [↘ ITEMS 218 FF.](#)

In **Japan**, growth rates can be expected to fall during the forecast period after a rate of GDP growth in 2017 that was exceptionally high by Japanese standards. [↘ ITEMS 232 FF.](#) The same applies to the euro area, where, particularly in the large member states, the pace of growth is likely to slow down slightly compared to the strong growth in 2017. [↘ ITEMS 244 FF.](#) In the **United Kingdom**, economic growth is likely to remain relatively subdued against the background of the Brexit process. [↘ ITEMS 237 FF.](#)

215. There are signs of a continuing period of high growth rates for the group of **emerging economies** as a whole. This is largely due to the large economies. The trade conflict is likely to contribute to slower growth in **China** during the

forecast period. At the same time, however, government measures will probably ensure that the country will continue to reach its growth target for the time being. ▽ ITEMS 227 FF. In **India**, there are signs of an appreciable rise in the annual average growth rate, and in Russia the development of the oil price is likely to support growth. In the further course of the forecast period, growth rates both in the emerging and in the advanced economies will probably decrease somewhat.

216. The German Council of Economic Experts (GCEE) expects a 3.3 % **increase in global economic output** in 2018. The growth rate is then likely to fall to 3.0 %

▽ TABLE 1

**Gross domestic product and consumer prices of selected countries**

Country/country group	Weight in % <sup>1</sup>	Gross domestic product			Consumer prices		
		change on previous year in %					
		2017	2018 <sup>2</sup>	2019 <sup>2</sup>	2017	2018 <sup>2</sup>	2019 <sup>2</sup>
<b>Europe</b>	<b>29.4</b>	<b>2.6</b>	<b>2.1</b>	<b>1.8</b>	<b>2.2</b>	<b>2.6</b>	<b>3.2</b>
Euro area	17.9	2.4	2.0	1.7	1.5	1.8	1.9
United Kingdom	3.7	1.7	1.3	1.4	2.7	2.5	2.3
Russia	2.2	1.5	2.0	1.8	3.7	2.9	5.3
Middle- and Eastern Europe <sup>3</sup>	1.7	4.8	4.1	3.5	1.7	2.2	2.6
Turkey	1.2	7.4	4.0	1.4	11.1	16.6	25.6
other countries <sup>4</sup>	2.7	2.1	2.3	2.2	1.3	1.7	1.6
<b>America</b>	<b>36.1</b>	<b>2.2</b>	<b>2.6</b>	<b>2.4</b>	<b>3.0</b>	<b>3.4</b>	<b>3.3</b>
United States	27.5	2.2	2.9	2.6	2.1	2.5	2.0
Latin America <sup>5</sup>	3.4	2.3	1.3	1.3	10.3	11.7	13.7
Brazil	2.9	1.0	1.0	1.8	3.4	3.8	5.1
Canada	2.3	3.0	2.1	2.1	1.6	2.4	2.2
<b>Asia</b>	<b>34.5</b>	<b>5.2</b>	<b>5.0</b>	<b>4.8</b>	<b>1.7</b>	<b>2.1</b>	<b>2.2</b>
China	17.0	6.8	6.6	6.2	1.6	2.0	1.9
Japan	6.9	1.7	1.1	1.1	0.5	1.0	1.5
Asian advanced economies <sup>6</sup>	3.9	3.2	2.8	2.6	1.5	1.6	1.7
India	3.7	6.3	7.8	7.4	3.3	4.2	4.7
Southeast Asian emerging economies <sup>7</sup>	3.0	5.2	5.1	4.9	3.0	2.8	3.4
<b>Total</b>	<b>100</b>	<b>3.4</b>	<b>3.3</b>	<b>3.0</b>	<b>2.3</b>	<b>2.7</b>	<b>2.9</b>
Advanced economies <sup>8</sup>	66.7	2.4	2.4	2.1	1.7	2.1	1.9
Emerging economies <sup>9</sup>	33.3	5.3	5.1	4.9	3.4	4.0	4.9
memorandum:							
weighted by exports <sup>10</sup>	100	3.1	2.9	2.5	.	.	.
following IMF concept <sup>11</sup>	100	3.7	3.8	3.8	.	.	.
World trade <sup>12</sup>		4.7	3.7	2.9	.	.	.

1 – Nominal GDP (US dollar) of the listed countries or country groups in 2017 as a percentage of total nominal GDP. 2 – Forecast of the German Council of Economic Experts. 3 – Bulgaria, Croatia, Czech Republic, Hungary, Poland, Romania. 4 – Denmark, Norway, Sweden, Switzerland. 5 – Argentina, Chile, Colombia, Mexico. 6 – Hong Kong, Republic of Korea, Singapore, Taiwan. 7 – Indonesia, Malaysia, Philippines, Thailand. 8 – Asian advanced economies, euro area, Middle- and Eastern Europe, Canada, Denmark, Japan, Norway, Sweden, Switzerland, United Kingdom, United States. 9 – Latin America, Southeast Asian emerging economies, Brazil, China, India, Russia, Turkey. 10 – Total of all listed countries. Weighted by the respective shares of German exports in 2017. 11 – Weights according to purchasing power parities and extrapolated to the countries covered by the IMF. 12 – As measured by the Netherlands Bureau for Economic Policy Analysis (CPB).

Sources: CPB, Eurostat, IMF, national statistical offices, OECD, own calculations

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in 2019. In line with this forecast, the GCEE expects **growth rates in world trade** of 3.7 % in 2018 and 2.9 % in 2019 based on the measurement concept applied by the Dutch Centraal Planbureau (CPB). The strong growth in trade of 2017 is thus unlikely to be repeated in the forecast period. Should the trade conflicts further escalate, trade growth will probably be much lower.

217. As regards consumer prices, an **increase in inflation rates** is to be expected in the large majority of economies in 2018. The **rise in the price of oil** is having a major impact here. If there is a slight fall in the price of crude oil later in the year, as currently indicated by the prices of crude oil futures contracts, this effect will fade during the forecast period. On the other hand, **rising capacity utilisation** in many economies will probably contribute to larger wage and price increases.

## II. THE ECONOMIC SITUATION OUTSIDE THE EURO AREA

### 1. United States: Upswing continues

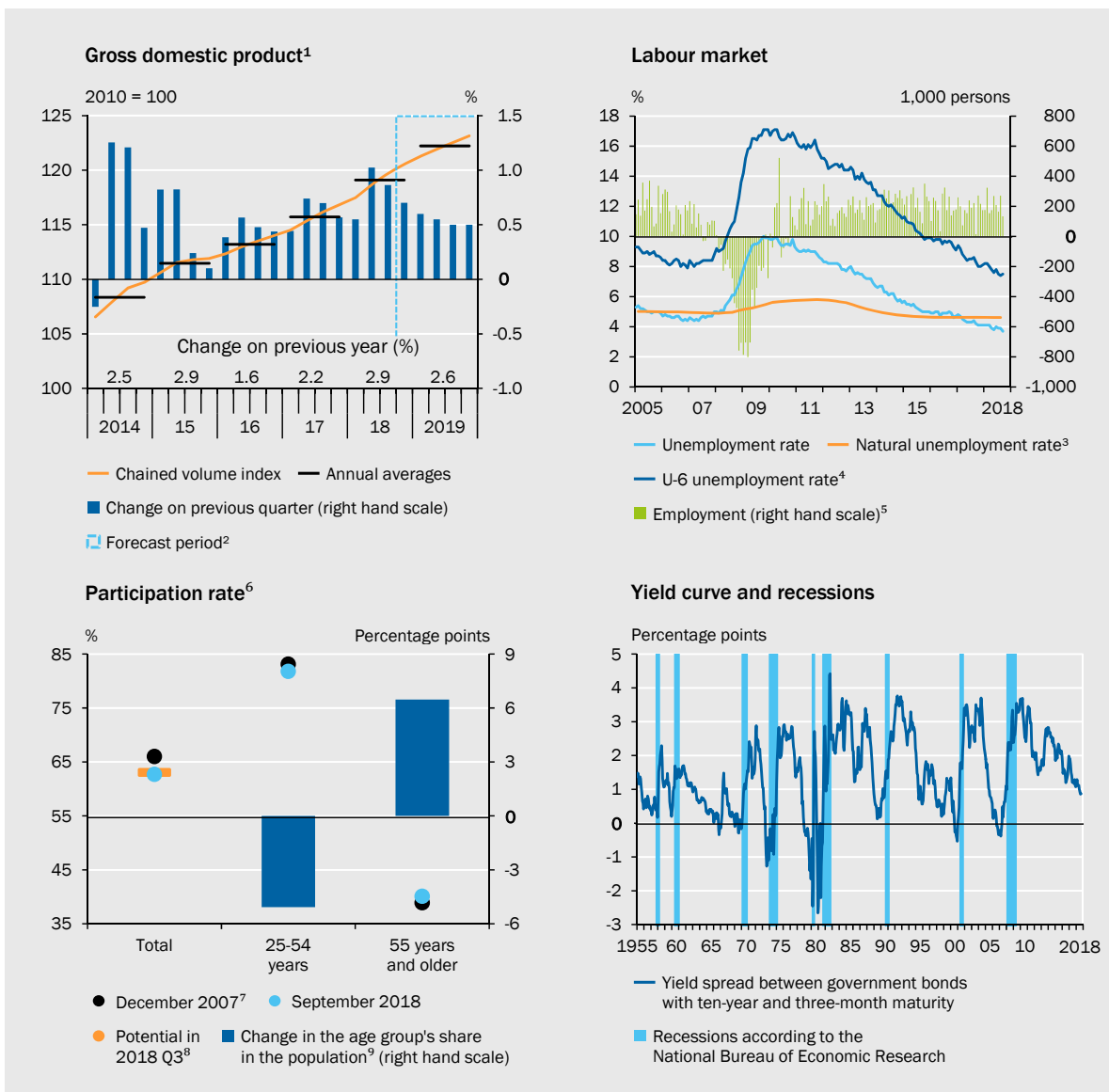
218. The economic **upswing** in the United States **has continued** during the year.   
 ↘ CHART 24 TOP LEFT A much stronger GDP growth in the second quarter helped to maintain the relatively high growth rates of the previous year. In the first half of 2018, the annualised growth rate of GDP was 2.7 % compared to the second half of last year. This corresponds to the growth rate in the second half of 2017. In the third quarter, the economy again grew strongly at an annualised rate of 3.5 %. The **expansion phase** that began in the summer of 2009 is now the **second-longest** in the past 160 years (NBER, 2018). Only the upswing in the 1990s lasted longer.
219. As regards GDP expenditure components in the first half of 2018, private **consumption** again made large contributions to growth. Similarly, gross fixed capital formation grew strongly. The main contributions to growth came from **investment** in intellectual property, such as software, research and development. Investment in production drilling for the oil and gas industry also made a strong contribution to growth. By contrast, investment in residential buildings declined. In the second quarter, **exports** rose strongly, with net exports making an annualised growth contribution of 1.2 percentage points. On the other hand, the growth contribution of changes in inventories was negative at –1.2 percentage points. This could indicate anticipatory effects relating to the trade conflicts. Exports fell back slightly in the third quarter.
220. The **tariff increases** by the government of the United States and the retaliatory measures taken by the countries affected, especially China, are likely to have a negative impact on further economic development (IMF, 2018a). ↘ ITEMS 8 FF. Apart from direct effects, not least via internationally integrated production

chains, **increased uncertainty** about how the trade disputes with China and the EU will develop is also likely to play a role.

There also remains a degree of uncertainty about future trade relations with the neighbouring countries of Canada and Mexico. Although at the end of September 2018 the three governments agreed on a successor treaty to the North American Free Trade Agreement **NAFTA**, the United States – Mexico – Canada – Agreement (**USMCA**), this agreement has not completely overcome the uncertainty. On the one hand, this treaty is yet to be ratified; on the other hand, the effects of the changes are difficult to assess, even though they are relatively small compared to what might have been expected on the basis of prior announce-

▸ CHART 24

**Economic indicators for the United States**



1 – Seasonally and calendar adjusted. 2 – Forecast of the German Council of Economic Experts. 3 – Quarterly figures, estimate by the CBO. 4 – Total unemployed, plus persons marginally attached to the labour force, plus total employed part time for economic reasons, as a percent of the civilian labour force plus all persons marginally attached to the labour force. 5 – Change on previous month. 6 – Seasonally adjusted data. 7 – December 2007 is the most recent economic peak dated by the NBER. 8 – Estimate by the CBO. 9 – Civilian noninstitutional population. Change from December 2007 to September 2018.

Sources: BEA, BLS, CBO (2018), Fed, NBER, own calculations

ments. Furthermore, the additional tariffs levied since June 2018 are still in force.

221. This year, a very expansionary **fiscal policy** is driving the growth of the United States economy. Since the fourth quarter of 2017, government expenditure has again been making noticeable positive contributions to growth. Above all, however, the **tax reform** (Tax Cuts and Jobs Act) passed at the beginning of 2018 significantly reduced taxation on incomes and corporate profits. [↘ ITEMS 561 FF.](#) This is likely to have **positive growth effects** for the economy. [↘ ITEMS 575 FF.](#) However, the revenue losses caused by the reform mean that, despite the favourable economic situation, the **government deficit** will expand markedly again, and the **high level of public indebtedness** will increase even more. In 2017, the overall government debt-to-GDP ratio was 105.2 % of nominal GDP.
222. The continuing upswing is reflected on the labour market, with the **unemployment rate** falling **below 4 %** to just 3.7 % in September 2018. [↘ CHART 24 TOP RIGHT](#) The last time it was so low was in 1969. Underemployment, measured in terms of the U-6 rate of unemployment (which includes, among others, those who are involuntarily working part-time), also declined further to 7.5 % in September – below the pre-crisis level of 2007. In the course of this year, **employment has grown** at a similarly high pace to previous years.

Some indicators point to a **rising level of capacity utilisation on the labour market**. For example, the unemployment rate is already almost one percentage point below the natural unemployment rate of 4.6 % estimated by the CBO (2018). [↘ CHART 24 TOP RIGHT](#) At the same time, the labour force participation rate of almost 63 % is close to its estimated potential. Labour market participation has fallen by over 3 percentage points compared to 2007. [↘ CHART 24 BOTTOM LEFT](#) The comparatively stable development of age-specific rates suggests that this is largely due to composition effects caused by the ageing of the population (IMF, 2018c). For example, the share of the population aged 55 years and older has risen by more than 6 percentage points since December 2007. However, this age group's participation rate is relatively small at around 40 %.

223. The rising trend in wage growth continued in view of the tighter labour market. Average hourly earnings in the second quarter of 2018 were 2.7 % up on the previous year. The **inflation rate** has also **risen** since the beginning of the year. The figure for the consumer price index (CPI) reached 2.9 % in July 2018. It subsequently fell again, however, and was recorded at 2.3 % in September. The rate of inflation measured by the price index for personal consumption expenditures (PCE) – to which the Fed pays particularly attention and whose design better reflects the substitution between consumer goods – has been above 2 % since March 2018 and was 2.2 % in August. The inflation rates of the corresponding index excluding energy and food have been around 2 % since March.

The **Fed responded** to the positive economic development and accelerating price inflation with 0.25-percentage-point **increases in the target range** for the Federal Funds Rate in December 2017 and again in March, June and September 2018. It now stands at between 2 % and 2.25 %.

224. In view of possible financial stability risks, particularly from higher asset valuations and loose lending to companies, in August 2018 members of the Federal Open Market Committee (FOMC) **discussed the activation of the countercyclical capital buffer** for large banks (FOMC, 2018a). The large increase in the volume of so-called leveraged loans could pose a **risk to financial stability** beyond the banking sector (BIS, 2018; FOMC, 2018b; IMF, 2018b). Many of these loans to already highly indebted companies with low creditworthiness ratings are held by investment funds in securitised form. The interest rates on these loans are usually linked to a reference rate, so that the debtors' interest burden increases with further rate hikes by the Fed. Furthermore, the default risk of these loans could be high because credit terms (covenants) have recently been less stringent.
225. The fact that an upswing has lasted for a long time is not, in itself, an indication that it is about to end (Rudebusch, 2016). In the past, however, an **inversion of the yield curve**, i.e. a negative yield spread between long- and short-term sovereign bonds, has been a relatively reliable **indicator** that an imminent **downturn** is more likely (Bauer and Mertens, 2018). [↪ BOX 3](#) The recent decline in the yield spread has therefore attracted some attention. [↪ CHART 24 BOTTOM RIGHT](#) However, this raises the general question of whether the term structure is still a suitable indicator of a recession in the current situation in which the central banks influence longer-term interest rates with quantitative monetary policy measures (FOMC, 2018b).
226. For the **forecast period** the GCEE expects the **strong growth to continue**. The substantial stimuli generated by fiscal policy contribute to this. For example, the tax reform alone is likely to noticeably increase the cumulative growth of GDP in both years. [↪ ITEMS 576 FF](#). Compared to the second quarter of 2018, however, the growth rates will probably fall slightly and approach the medium-term potential growth rate of about 2 % in the further course of the forecast period. The GCEE expects average annual growth rates of GDP of 2.9 % in 2018 and 2.6 % in 2019.

## 2. China: Trade dispute exacerbates trade-offs

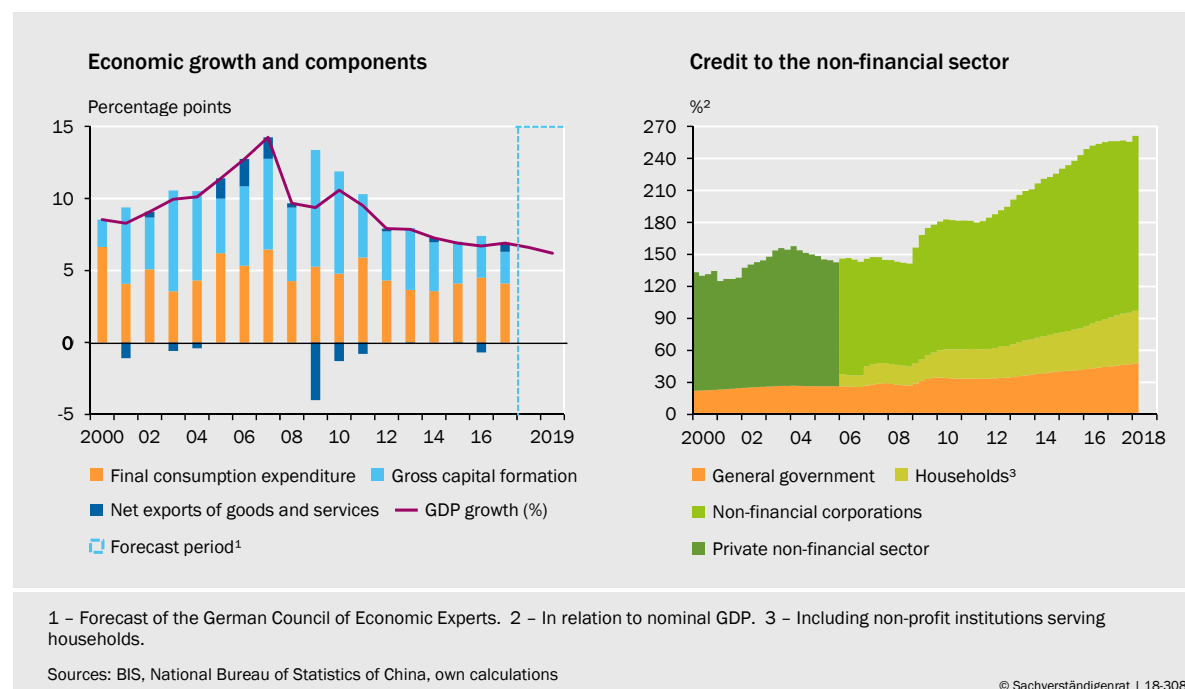
227. So far this year, the Chinese economy has **continued to grow strongly**, albeit at a slower pace than in the previous year. Although the year-over-year GDP growth rate fell to 6.5 % in the third quarter, the lowest level since 2009, this was due to base effects rather than to a particularly weak development in 2018. The seasonally adjusted annualised quarterly growth rates in the first three quarters of the year were 6.1 %, 7 % and 6.6 % respectively. Overall, the current pace of growth remains in line with the Chinese government's target of approximately 6.5 %.

The **deceleration trend** in economic growth is thus still **gradual**. The average annual GDP growth rate of 6.9 % reported for 2017 was actually 0.2 percentage points higher than the 2016 figure. [↪ CHART 25 LEFT](#) While the contribution of private consumption to growth slightly declined, the contribution of net exports



↘ CHART 25

Economic indicators for China



was again positive in 2017. At the same time, the **structural transformation process** of the Chinese economy continued, with the service sector gaining more ground on the manufacturing sector (GCEE Annual Report 2016, items 925 ff.).

228. **China** is very much **at the centre** of the trade-policy threats and measures of **the US president**. The United States has already significantly raised tariffs on many Chinese goods in the course of this year, and China has responded with countermeasures. ↘ **ITEMS 8 FF.**

Apart from the large scale of Chinese exports to the United States, the main points of criticism are China's **restrictive market-access conditions** for foreign companies and concerns about its lack of respect for intellectual property rights. While it might benefit some American companies in the short term when the imported products of their Chinese competitors become more expensive, from a macroeconomic point of view the tit-for-tat tariff hikes are likely to have negative consequences for both economies.

A **model analysis conducted by the IMF (2018a)** on the **impacts of the trade conflict** predicts in its baseline scenario that the tariffs already in force will have a negative effect on Chinese GDP of 0.2 % in 2018 and 0.6 % in 2019. When further tariffs and countertariffs as of 2019 and additional channels such as business confidence and financing conditions are considered, this effect rises to up to 1.6 % in 2019.

229. For the Chinese government, the trade conflict with the United States exacerbates the **trade-off** between limiting debt and **stabilising the financial sector** on the one hand, and reaching its **high growth targets** on the other hand. Last year, the government enacted measures focusing on risk reduction in the fi-

nancial sector (IMF, 2018d). This contributed to a slight slowing of credit growth and to a slower increase in debt relative to nominal GDP. [↘ CHART 25 RIGHT](#) **Indebtedness in the corporate sector** in particular had risen significantly in the years since the global financial crisis.

230. Against the background of the trade conflict, however, in mid-2018 the Chinese government apparently turned its attention more to **growth**, announcing its intention to **support** it with various measures. These include, for example, tax relief, infrastructure investment and measures to ease corporate financing. In view of the still very high level of debt, particularly in the corporate sector, a departure from the policy of risk reduction with the aim of generating short-term, positive stimuli for growth in view of the trade conflict is problematic since it could reinforce medium-term **financial stability risks** (IMF, 2018b).
231. The GCEE expects in its **forecast** that the Chinese economy will continue to grow quite strongly for the time being. The negative impacts of the trade conflict will be partly offset by the effects of the government's expansionary measures. In the course of the forecast period, however, growth is likely to slow down further. For 2018 and 2019, the GCEE expects GDP growth rates of 6.6 % and 6.2 %, respectively.

### 3. Japan: Capacity utilisation rising

232. After eight quarters in a row with positive quarterly growth, Japan's GDP declined by 0.2 % in the first quarter of 2018. Despite the sharp increase in the second quarter, GDP growth in the first half of the year compared to the previous half-year was thus much slower than in 2017; the annualised rate was 0.5 %. However, after this temporary dampener, the direction of **economic development** in Japan still seems to be **upward**. Private **consumption** grew more **strongly** in the second quarter after three weaker quarters. While non-governmental investment in residential buildings has been declining for four quarters, the growth of other non-government gross fixed capital formation also increased appreciably. On the other hand, export growth was slightly lower. This contributed to the fact that the statistical contribution of net exports to GDP growth has recently been negative.

In view of a declining population, it makes sense to examine the growth of real **GDP per capita** in order to assess Japan's growth dynamics. In 2017, this was 1.9 %, slightly higher than GDP growth of 1.7 %.

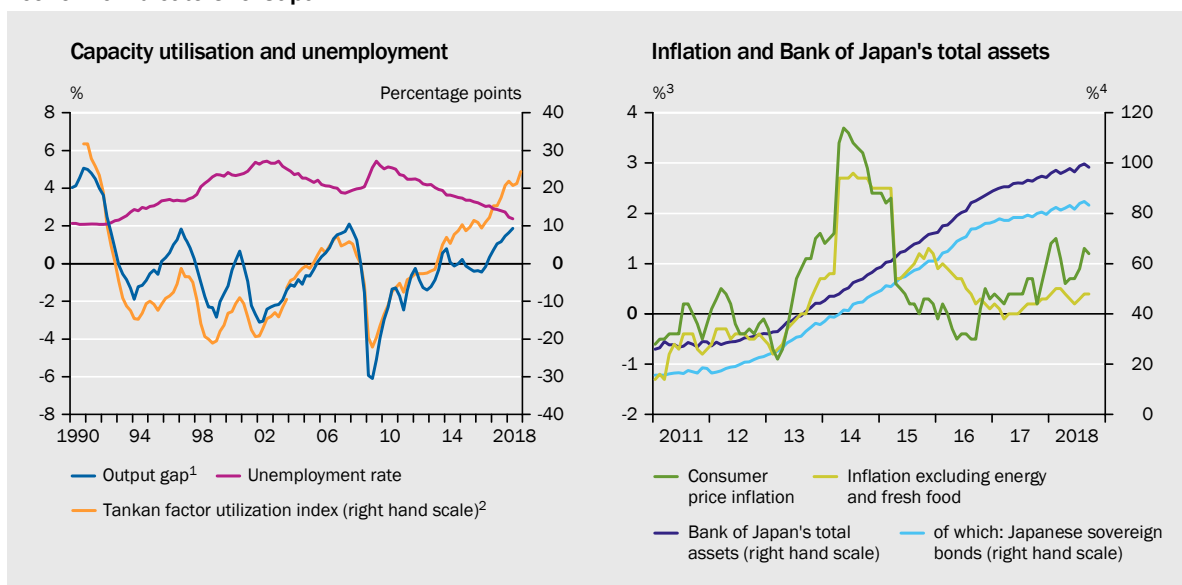
233. Following the economic upswing of the past few years, the level of **capacity utilisation** is already likely to be **very high**. The output gap estimated by the BoJ and company surveys point in this direction. [↘ CHART 26 LEFT](#) The **unemployment rate** was at the **very low level** of 2.4 % in August. The last time similar values were observed was in the early 1990s. The number of vacancies per applicant has already exceeded the highest figures reached during that boom. Up to now, employment has continued to rise, particularly because of increased partic-

ipation rates among older people and women (GCEE Annual Report 2017, item 220).

In view of population decline and the severe ageing of society, the domestic labour force potential is hardly likely to be sufficient to meet the future demand for labour. The government is therefore trying to cautiously ease **labour-related migration**, which is low by international comparison (Cabinet Office, 2018). Measures to raise productivity could offer additional potential for expanding capacities. Up to now, productivity has been markedly lower in Japan than in other advanced economies (GCEE Annual Report 2016, item 151).

- 234. The monetary-policy measures taken in recent years have significantly increased the size of the BoJ's total assets, [↪ CHART 26 RIGHT](#) which almost match the level of nominal GDP in the meantime. While the BoJ decided at its July meeting to allow certain fluctuations in long-term interest rates, it is sticking to its policy of yield curve control by making flexible bond purchases (BoJ, 2018a). With its expansionary **monetary policy** the BoJ aims to reach its price-stability target of 2 % consumer price inflation. Although the increase in oil prices recently led to higher inflation rates, [↪ CHART 26 RIGHT](#) **core inflation**, which does not take energy and unprocessed food into account, is still well below 1 %.
- 235. The government intends to raise the rate of **consumption tax** from 8 % to 10 % in October 2019. This **increase** had been postponed several times in the past, not least because of fears of negative effects on economic growth. In particular, the higher prices associated with a tax increase would be a **burden** on consumers, as was observed in 2014. [↪ CHART 26 RIGHT](#) The government is planning several measures to mitigate such effects. They could help to keep the economic impact of the tax increase lower than in the case of previous increases. Neverthe-

[↪ CHART 26](#)  
Economic indicators for Japan



1 – Estimate by the Bank of Japan. 2 – Results of a corporate survey. Positive figures indicate excessive capacity utilisation, negative figures insufficient capacity utilisation. Discontinuity in the time series due to methodological changes in fourth quarter of 2003. 3 – Change on previous year. 4 – In relation to seasonally adjusted nominal GDP.

Sources: BoJ, Cabinet Office, Japanese Government Statistics, own calculations

less, there is still significant uncertainty about the short-term economic effects (BoJ, 2018b).

236. GDP growth during the **forecast period** is unlikely to maintain last year's level, which was high for Japan. The already high level of capacity utilisation will probably be a contributory factor here. The GCEE anticipates growth rates of 1.1 % in both 2018 and 2019.

#### 4. United Kingdom: Brexit, a Sword of Damocles

237. In 2017, the United Kingdom was the only G7 economy where the annual GDP growth slowed down. The relatively **subdued economic dynamics** continued in the first half of 2018. ↘ CHART 27 TOP LEFT With an annualised GDP growth of 1.0 % compared to the second half of 2017, the pace of growth was even slightly down on the previous half year, when the figure was 1.3 %.

While **services** made a positive contribution to GDP growth in both quarters, production in the construction industry fell noticeably in the first quarter of 2018, although this was followed by growth in the second quarter. In **manufacturing**, on the other hand, production fell in both quarters of the first half year. This was accompanied by a noticeable decline in goods exports in the second quarter.

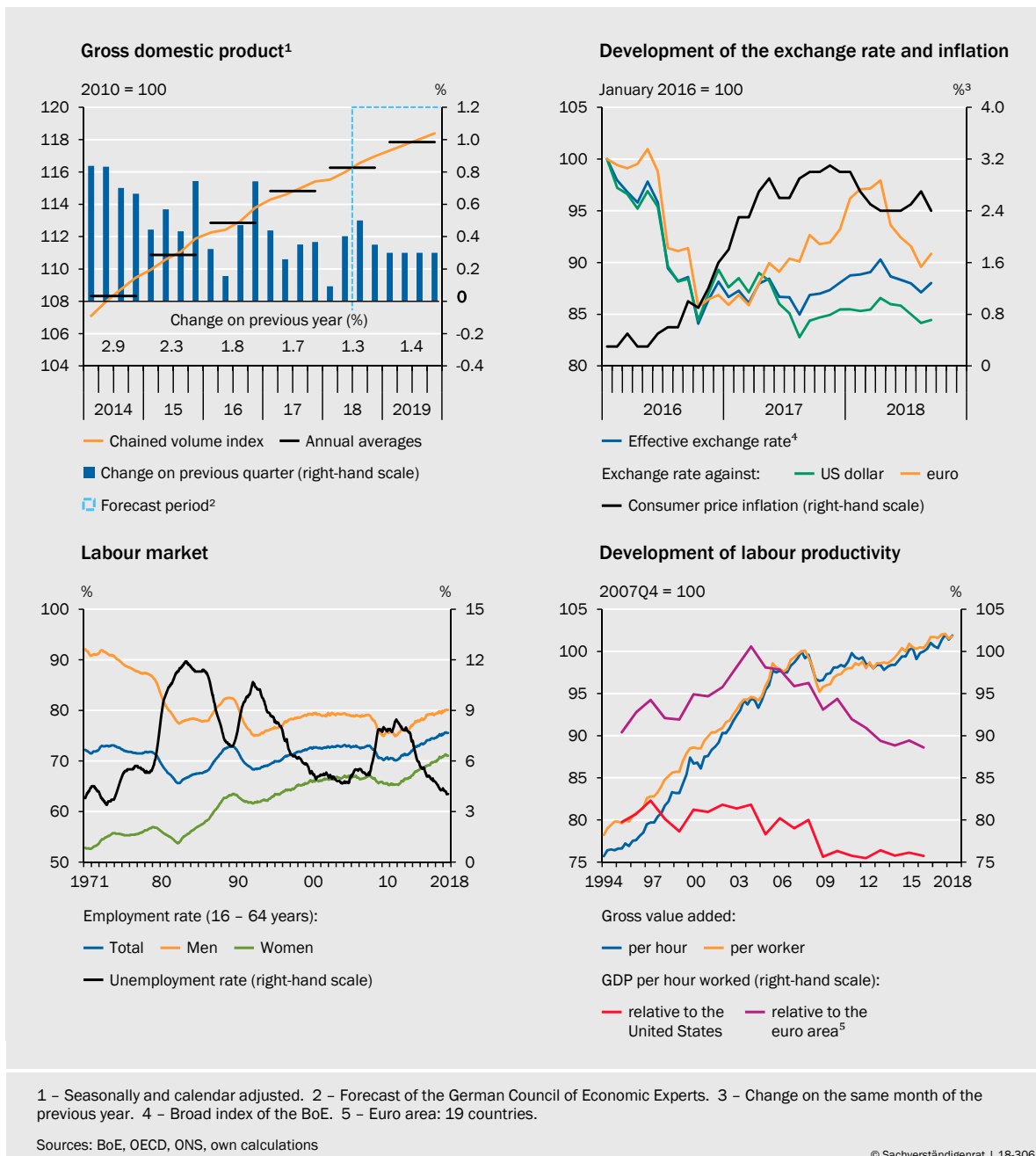
238. The development of private **consumption** remained **relatively weak**. The pound sterling depreciated considerably after the Brexit vote on 23 June 2016. ↘ CHART 27 TOP RIGHT This contributed to **inflation** rising well above the 2 % target set by the Bank of England (BoE). This increase in prices is curbing the development of households' real incomes. In response to the inflation data, the BoE raised its key policy rate by 0.25 percentage points in November 2017 and August 2018 respectively. If economic development continues as expected and there is no turmoil in the course of the Brexit process, the BoE considers a further tightening of monetary policy by gradual interest-rate increases in the future appropriate (BoE, 2018a).
239. Developments on the labour market indicate a rising level of capacity utilisation. At 4 %, the **unemployment rate** is at a very **low level** by historical comparison. ↘ CHART 27 BOTTOM LEFT In the meantime, it is even slightly lower than the long-term equilibrium unemployment rate estimated by the BoE (2018b). Since the rate of employment has already increased appreciably in recent years, there is now much less potential for any further expansion in the volume of work. Furthermore, **immigration** from other EU member states has **decreased** since 2016. The Brexit vote could have played a role here, as could the relatively strong economic momentum in the euro area and the other EU member states.
240. **Labour productivity** growth in the United Kingdom has been quite slow since the recession following the global financial crisis. ↘ CHART 27 BOTTOM RIGHT If this development continues and the indications of slower growth in the volume of work are confirmed, **potential growth** in the economy will probably be rela-

tively low. The BoE and the European Commission estimate this at about 1.5 % during the forecast period.

241. The **Brexit vote** has most likely **already perceptively curbed economic output** in the United Kingdom. Born et al. (2017) have constructed a statistical **synthetic doppelganger** for the United Kingdom on the basis of the data for 30 OECD countries. Whereas GDP in this doppelganger economy developed approximately according to the forecasts for the United Kingdom made before the Brexit vote, the United Kingdom's actual GDP rose much more slowly in the course of 2017. In addition to the weak development of consumption, the analysis explains this with the weaker increase in **investment**. This result is consistent with those of corporate surveys (BoE, 2018b). For example, the invest-

➤ CHART 27

Economic indicators for the United Kingdom



ment intentions of export-oriented companies were rather subdued last year, despite the sharp increase in global demand.

242. The GCEE **forecast** is based on the assumption that a timely **agreement** is reached in the Brexit negotiations, preventing a no-deal withdrawal of the United Kingdom from the EU in March 2019. [↘ ITEMS 34 FF.](#) It is also assumed that – perhaps by means of a transitional agreement – the **status quo** as regards market-access arrangements will remain **largely intact** beyond 2019, so that there should be no major disruptions during the forecast period. On the assumptions of this **base scenario**, the GCEE expects GDP growth rates of 1.3 % in 2018 and 1.4 % in 2019.
243. Should there be a no-deal **Brexit** in 2019 contrary to these assumptions, this is likely to involve considerable disruptions. The resulting **risk** for short-term economic development is difficult to estimate. In the long term, Brexit is likely to involve appreciable costs for the United Kingdom's economy. Depending on the shape of the UK's future trade relations with the EU, these could be substantial. [↘ ITEMS 35 FF.](#)

### III. EURO AREA: LESS DYNAMIC THAN IN THE PREVIOUS YEAR

244. The **upswing** in the euro area continues **at a slower pace**. According to the GCEE forecast, economic output will increase by 2.0 % in 2018 and 1.7 % in 2019, down from a growth of 2.4 % in 2017. The **lower growth rates** are not least the result of rising capacity utilisation and weaker stimuli from abroad. At the same time, price and wage pressures are likely to increase somewhat, while any change in the loose monetary is likely to be slow. [↘ ITEM 341](#)

#### 1. Economic situation

245. The **economic development** in the euro area was less dynamic in the first half of 2018 than in the previous year. After GDP had grown at an annualised rate of 2.7 % in the second half of 2017, growth fell to 1.9 % in the first half of 2018. The quarterly growth rates in the first and second quarter were 0.4 %, respectively and were thus close to the **potential growth rate** estimated by the European Commission. There were differences between member states. While the development in France and Italy was surprisingly weak in the first half of the year, growth in Germany and Spain slowed down only slightly.
246. **Inflation** in the euro area has **increased markedly** in the course of 2018. The inflation rate of the Harmonised Index of Consumer Prices (HICP) was 2.1 % in September. This was primarily due to **higher energy and food prices**. Core inflation, which does not take these two volatile price components into account,

was only 0.9 % in September. However, core inflation rates are expected to rise again in the fourth quarter due to expiring base effects.

**Employment** has continued to **increase** in the euro area. 1.5 % more people were employed in the second quarter of 2018 than in the same quarter of the previous year. The unemployment rate was 8.1 % in August, only half a percentage point higher than in the pre-crisis year of 2007.

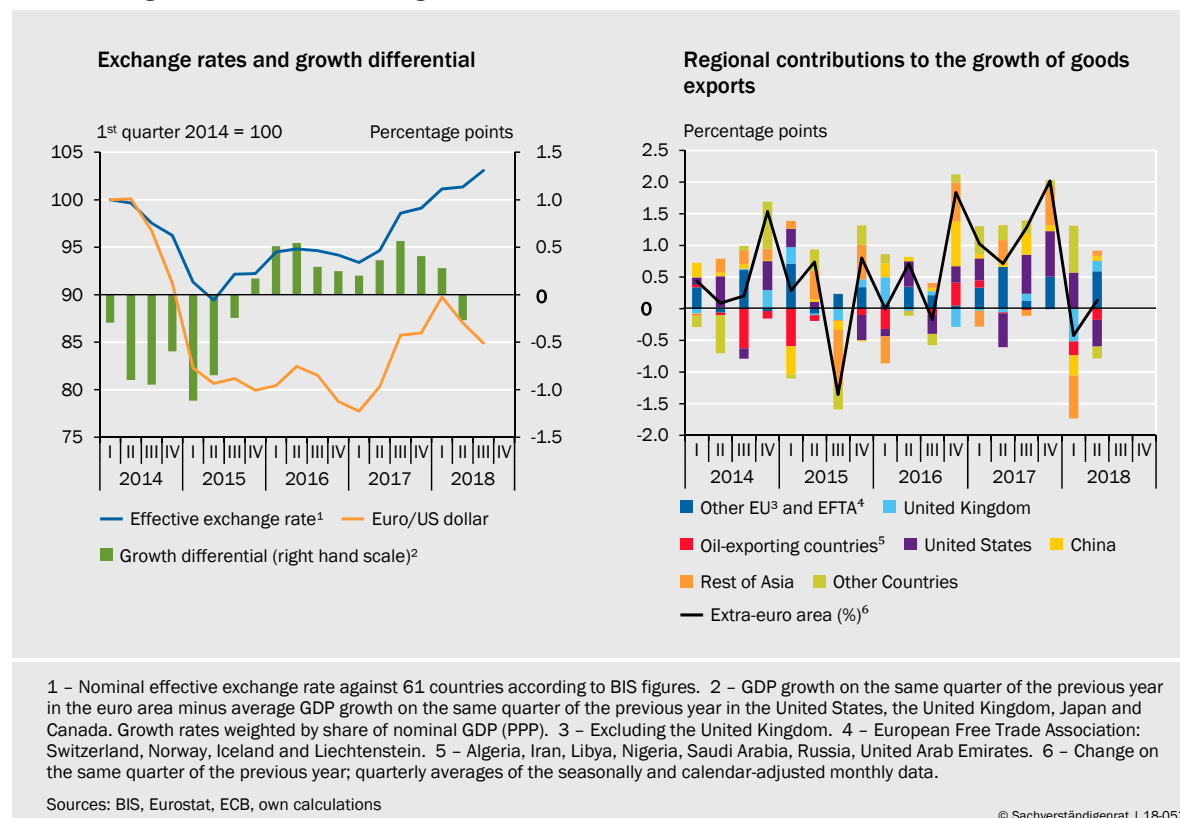
### Fewer impulses from foreign trade

247. The overall foreign-trade conditions for the euro area have deteriorated compared to 2017. The **risk of an escalating trade conflict** with the United States could discourage business investment and thus have a dampening effect on growth. In addition, the **higher price of crude oil** is reducing the real disposable income of households and is likely to have a negative effect on private consumption. In addition, the further **appreciation of the euro** has probably hampered the development of exports. From December 2017 to September 2018, the value of the euro effectively rose by 4.9 %. ↘ CHART 28 LEFT However, the euro fell slightly against the US dollar in 2018 and has been consistently below \$1.20 since the beginning of May.

248. All else being equal, a higher exchange rate leads to a deterioration in price competitiveness and could thus have a negative impact on growth. However, the rise in value could be simply a result of better economic growth in the euro area. The appreciation in the course of 2017 was probably partly due to the unexpect-

#### ↘ CHART 28

Overall foreign-trade conditions facing the euro area



edly **strong growth in the euro area** at that time. [↪ CHART 28 LEFT](#) In 2018, **worries about** the economic development of some **emerging economies** additionally strengthened the external value of the euro. In particular, the euro rose strongly against the Turkish lira, the Brazilian real and the Russian rouble.

249. Using an error correction model, the Deutsche Bundesbank estimates that the **appreciation of the euro has reduced export growth** since the second quarter of 2017 (Deutsche Bundesbank, 2018). However, this has been more than offset by strong foreign demand, so that exports rose sharply in the summer of 2017. [↪ CHART 28 RIGHT](#) The positive contribution from demand decreased again in the first half of 2018. This is in line with the marked slowdown in world trade growth at the beginning of the year. [↪ ITEM 189](#) In addition, the development of exports in the euro area deviated significantly in the second half of 2017 from the estimated long-term relationship between exports, foreign demand and the exchange rate (Deutsche Bundesbank, 2018). To this extent, the decline in the first quarter of 2018 could be regarded as a **normalisation**. The positive counter-movement of exports and incoming orders in late spring also supports this view.
250. The **positive development of exports in 2017** was characterised above all by the fact that it applied to almost all regions. The largest contributions to export growth came from the **United States, China and other Asian countries**. At the same time, exports to countries whose main export is oil rose again. In the previous years, demand from these countries had fallen sharply against the backdrop of the falling oil price. The **development of exports to the United Kingdom** has been quite **weak** recently. Factors contributing to this are most likely the lower growth rate in the United Kingdom and the devaluation of the British pound. [↪ ITEMS 237 F.](#)
251. **Exports to Asia fell sharply** in the first quarter of 2018, before recovering to some extent in the second quarter. Exports to the United States declined in the second quarter, after having grown strongly in the three previous quarters. The **trade conflict with the United States** was probably only a minor factor here. The steel and aluminium products affected by the tariff increases only represent a comparatively small proportion of the euro area's total exports to the United States. [↪ ITEM 8](#) In addition, the prospect of future tariff increases could have led to anticipatory effects and therefore higher exports in the short term.

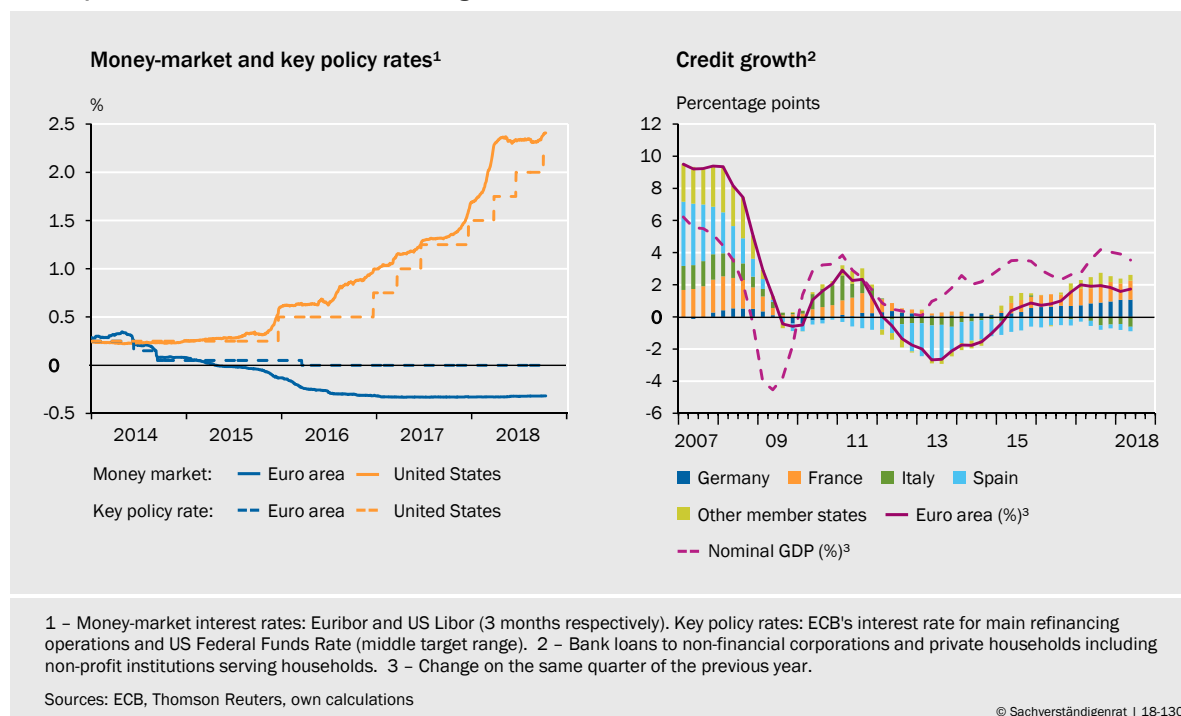
### Monetary and fiscal policies remain expansionary

252. Unlike the Fed, the ECB is continuing its **negative interest rate policy**. [↪ ITEM 223](#) The Euribor three-month rate has been below zero for three years, and the **interest rate differential with the United States** is expanding further. [↪ CHART 29 LEFT](#) The last time there was such a large difference in the three-month money-market interest rates was in January 2000. Currently, the ECB is expecting to leave the key policy rates unchanged at least through the summer of 2019. [↪ ITEM 350](#)



## ↘ CHART 29

## Development of interest rates and credit growth in the euro area



253. The increase in the volume of **loans** to households and businesses in the euro area is comparatively moderate, despite favourable financing conditions. ↘ CHART 29 RIGHT In the euro area as a whole, loans grew more slowly than nominal GDP in 2017, so that **private indebtedness continued to decline relative to nominal GDP**. This was mainly due to developments in Spain and Italy, where the volume of credit is still declining in the course of the ongoing debt reduction in the private sector. Despite progress in reducing the volume of nonperforming loans (NPL), it remains at a high level in some member states. ↘ CHART 62

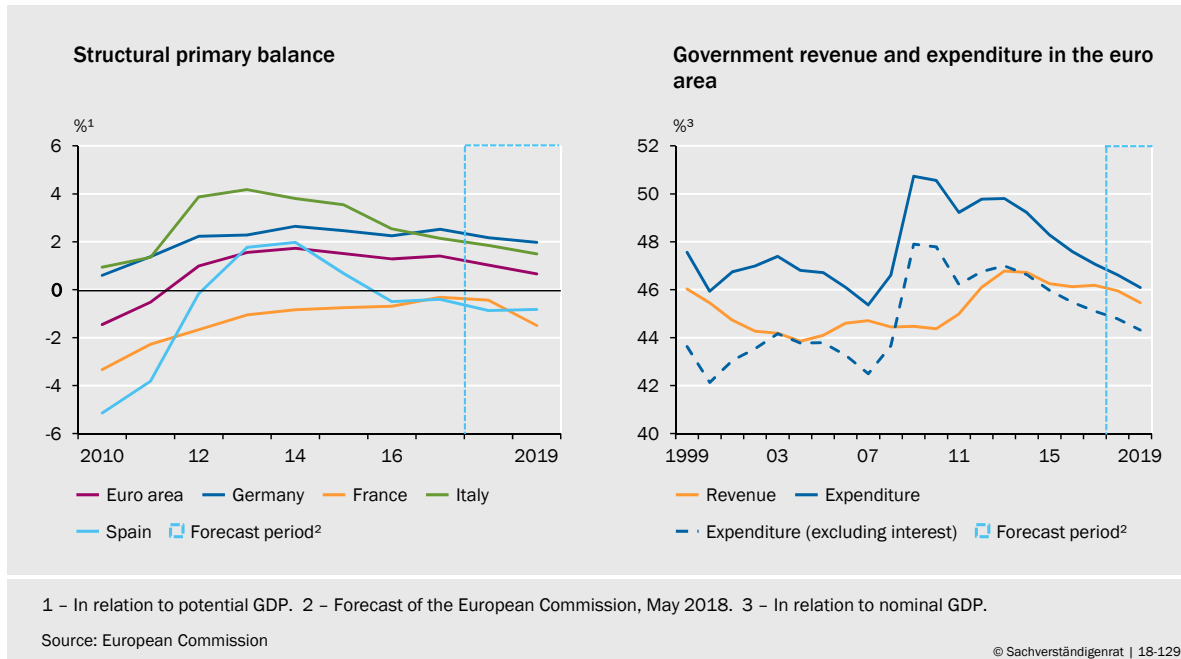
254. Not only monetary policy but also **fiscal policy** is **expansionary**. The structural primary balance in the euro area is declining. ↘ CHART 30 LEFT Particularly in Italy, this is **worrying against the background of the high level of debt**. In view of the relatively good economic environment, now would be a good time to build up fiscal buffers for more difficult times. Instead, the **Italian government's draft budget** includes comprehensive expansionary measures. ↘ ITEM 62

In 2019, the budget deficit of the Italian state is to rise to 2.4 % of nominal GDP (Ministero dell'Economia e delle Finanze, 2018). In its stability programme of May 2018, the previous government had targeted a deficit of 0.8 % of nominal GDP for 2019 (European Commission, 2018). The current draft assumes real GDP growth of 1.5 % for 2019, while the forecasts of international institutions and the Banca d'Italia only expect about 1 % growth. There is thus a **risk of an even higher deficit** next year.

255. Although the increase in the deficit could have a short-term expansionary effect, it is likely at the same time to increase **uncertainty on financial markets**. The yields on 10-year Italian sovereign bonds have already risen significantly in the last few months, recently to more than 3 %. ↘ BOX 10 One important reason for the rise is probably increasing doubts among investors about the sustainabil-

↘ CHART 30

Fiscal policy measures in the euro area



ity of Italy's government debt. The **price losses of Italian sovereign bonds** have a negative impact on Italian banks, which still hold a large proportion of government securities. For example, book losses on sovereign bonds could restrict the banks' ability to grant loans. Furthermore, banks would probably pass on their **higher refinancing costs** to companies and households, which would also have a negative impact on the real economy.

256. The **average public spending ratio in the euro area** – government spending as a percentage of GDP – has been falling since 2013. ↘ CHART 30 RIGHT However, with 47.1 % in 2017, it was still around 1 percentage point higher than the average for the years 2005 to 2007. This increase is all the more remarkable since member states have to spend significantly **less on interest payments** today despite their increased indebtedness. In the years 2005 to 2007, the aggregate interest burden in the euro area made up 2.9 % of nominal GDP; the figure has fallen since then to 2.0 % in 2017. Taking into account the lower interest expenditure, the expenditure-to-GDP ratio is almost 2 percentage points higher than in 2005-2007.

After adjusting for cyclical effects and interest payments, **general government expenditure** in 2016 was also **above the pre-crisis level**. The biggest contribution to this increase came from the higher expenditure on retirement provision (ECB, 2017). Not least against the background of ongoing demographic change, it is uncertain how well the member states are prepared for higher interest rates in the medium term (GCEE Annual Report 2017, items 377 ff.).

## 2. Expansion in the euro area well advanced

257. The economy in the euro area is expected to **grow** this year for the **sixth time in a row**. In Germany, the upturn is already entering its tenth year. ↘ ITEMS 291

FF. The question therefore arises as to how far the economic recovery has already advanced in the euro area. The survey-based indicators in particular are at historically high levels, despite the recent declines. They suggest that the euro area has put the post-crisis recovery phase behind it and that GDP is currently above its potential.

### Overutilisation may be greater than thought

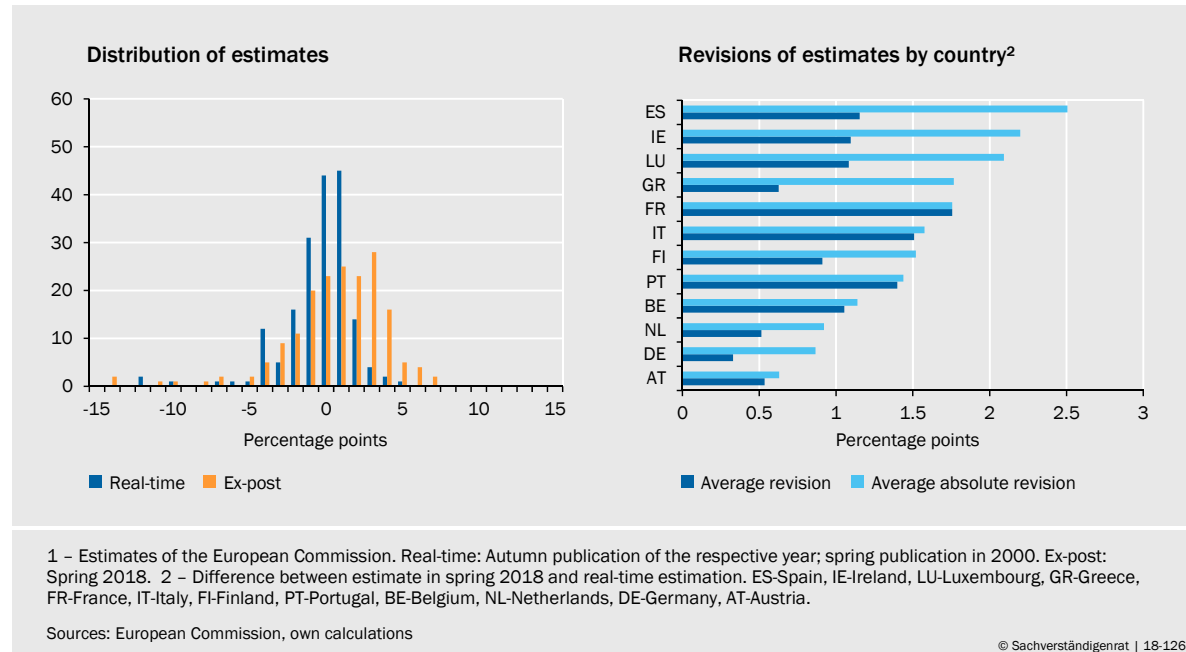
258. Economic output does not grow evenly over time, but deviates, more or less regularly, from its **growth path**. Smoothing out these **cyclical fluctuations** is a key task of economic policy (GCEE Annual Report 2008, items 407 ff.). In the euro area, economic output is still well below pre-crisis trends. This could be seen as an indication that the **economic recovery** is by no means complete, and that there is a substantial underutilisation requiring expansionary monetary and fiscal policies.

However, such an extrapolation of linear trends ignores the possibility of a flatter growth path than in the past. For the United States, for example, various studies find a marked **decline in trend growth** compared to the pre-crisis period (Luo and Startz, 2014; Antolin-Diaz et al., 2017; Grant and Chan, 2017). Reduced trend and productivity growth can be found in almost all advanced economies since the early 2000s (GCEE Annual Report 2015, items 593 ff.).

259. In order to determine the position in the business cycle, it is necessary to **separate structural** from **cyclical GDP components**. However, this is hardly possible in real time (Elstner et al., 2016). The composition of the components changes over time as new data is taken into account. This can mean that the assessment of the cyclical position needs to be subsequently corrected. Real-time estimates of the output gap therefore are uncertain and subject to sizeable revisions over time. Apart from the subsequent **revisions of data** on GDP, this is primarily due to **misjudgements of the potential** (GCEE Annual Report 2016, Box 6). For example, various potential estimates react to demand shocks that only have a temporary effect on GDP and should therefore not really be included in the potential (Coibion et al., 2017).
260. In the past, international institutions usually overestimated the degree of underutilisation in the euro area. For example, the European Commission saw a negative **output gap** in 76 % of cases in real time between 2000 and 2014. [↘ CHART 31 LEFT](#) In the case of the estimates for the original Euro 12 member states, there was a need for upward revision in 74 % of cases, i.e. the estimate in the spring of 2018 was above the respective **real-time estimates**. In France, Italy and Portugal the estimates turned out to be much too low, while in Germany, Austria and the Netherlands the **need for revision** was comparatively small. [↘ CHART 31 RIGHT](#)
261. A **tendency to overestimate the overall level of capacity underutilisation in the economy** can also be found to a similar extent for the IMF and the OECD (Deutsche Bundesbank, 2014; Kempkes, 2014). One explanation could be that the downward trend in potential growth over the past two decades was not detected until after a delay. The Hodrick-Prescott filter also estimated the output

↘ CHART 31

Revisions of output gap estimates for the euro area from 2000 to 2014<sup>1</sup>



gap in real time as too negative, although the bias was much smaller compared to the institutions' estimates (GCEE Annual Report 2017, Table 3).

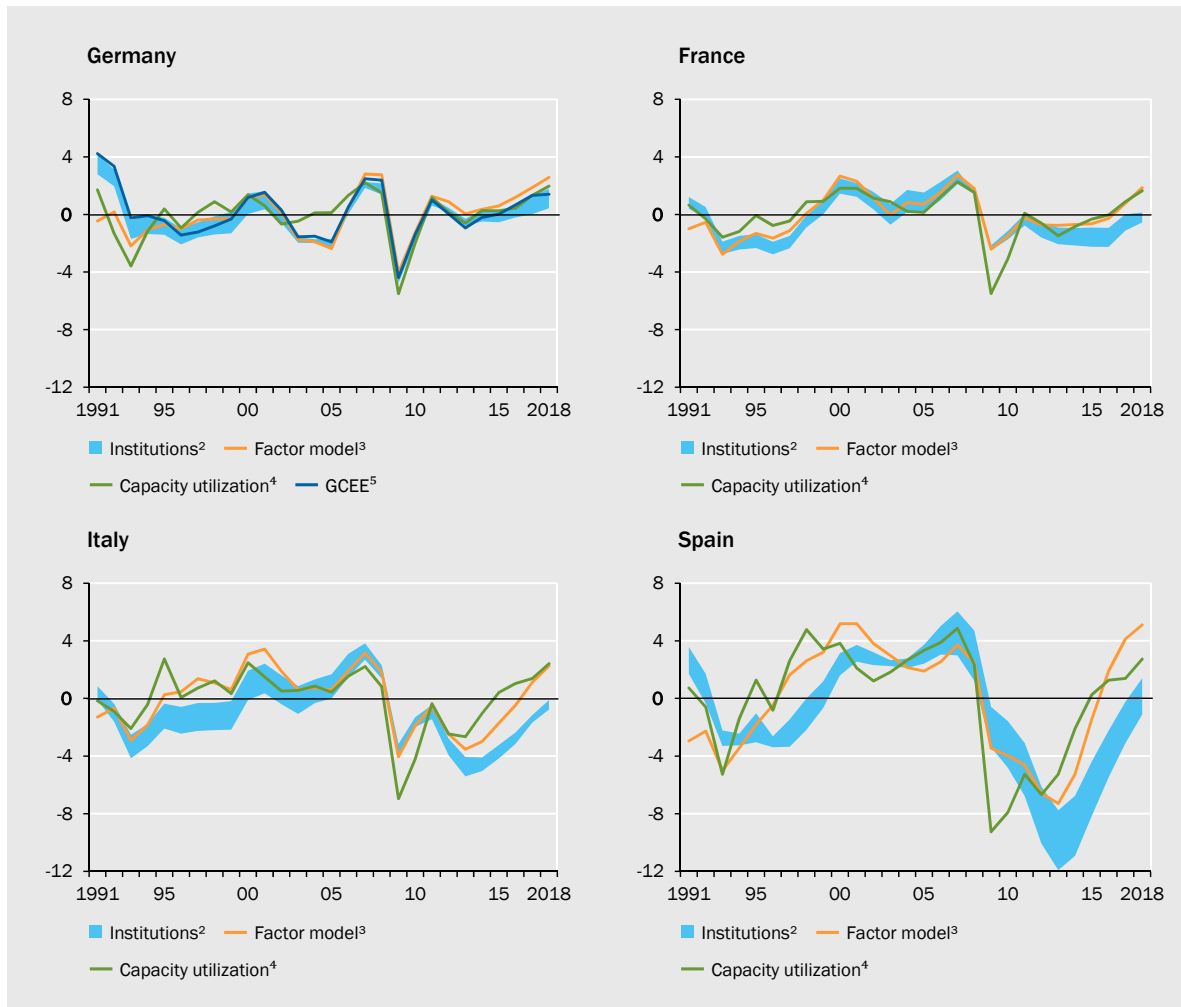
262. In the following, the output gap is estimated with the help of a factor model. It uses a **large number of indicators** that in the past were highly correlated with the ex-post output gap. These include above all business surveys on capacity utilisation, order-book levels, factors limiting production and sentiment indicators. The common underlying factor can be determined by a principal component analysis (Pybus, 2011).
263. The **estimates from the factor model** currently indicate **positive output gaps in the euro area** and are much higher than the estimates by the international institutions. ↘ CHART 32 This reflects above all the survey indicators, which are at record levels, higher investment, and falling unemployment rates. The level of capacity utilisation in the manufacturing sector is also at a high level. The factor model yields positive output gaps for all of the four large euro area member states. According to this, not only Germany is currently experiencing a boom phase. Perhaps the comparatively low level of economic growth in France and Italy over the past few years has been more of a structural nature than is suggested by the estimates of the institutions.
264. The factor model proves to be suitable for **determining economic phases timely**. ↘ BOX 2 In particular, the model can recognise in real time the marked overutilisation in 2001 and 2007 that was only identified in retrospect by the European Commission, the IMF and the OECD. This is partly due to the fact that primarily survey indicators are used for the estimation which, unlike most aggregates from the national accounts, are subject to little or no subsequent revision (Pybus, 2011; ECB, 2015; De Waziers, 2018). In addition, incorporating many time series reduces the end-of-sample problems that arise in univariate filtering techniques.

265. Economic recovery phases following financial crises tend to take longer (Cerra and Saxena, 2008; Reinhart and Rogoff, 2009; Jordà et al., 2013; Romer and Romer, 2017). This may indicate, that the recovery in the euro area could continue for some time yet. Moreover, the **results** of the output gap estimation do not necessarily imply an early end of the upswing and cannot be interpreted **as an indicator of a possible recession**.

If GDP is above its medium-run growth path, growth can be expected to approach the potential rate. The European Commission currently estimates a potential growth rate of around 1.5 % for the euro area. Against the background of a working population that is decreasing in the medium term, a higher level of growth could thus probably be achieved only through greater advances in productivity than in past years.

▾ CHART 32

Output gap estimates in the euro area  
%<sup>1</sup>



1 – Percentage deviation from potential. 2 – Bandwidth results from minimum and maximum of estimates of the European Commission, the IMF and the OECD. Data: May 2018 (European Commission and OECD), April 2018 (IMF). 3 – Based on a factor model with 37 indicators. The factor is determined by a principal component analysis. For the smoothed estimate the potential growth rate in  $t$  corresponds to the average potential growth rate from  $t-3$  to  $t+3$  implied by the unsmoothed output-gap estimate (Weiske, 2018). 4 – Capacity utilization in the manufacturing sector. Mean-adjusted and scaled to the standard deviation of the output gap estimates of the European Commission, the IMF and the OECD. 5 – Estimate of the GCEE from November 2018.

Sources: European Commission, IMF, OECD, Weiske (2018), own calculations

↳ BOX 2

### Indicator-based output-gap estimates for the euro area

The output gap is an important figure for monetary and fiscal policy. It provides information about the economy's position in the business cycle and at the same time indicates inflation trends to be expected. However, **estimating the output gap** in real time is difficult and poses a challenge for business cycle analysis.

Overall capacity utilisation in the economy can be determined in various ways. According to the production function approach, the output gap is the percentage deviation of GDP from its potential, which is determined by aggregating the different production factors: capital, labour, and the estimated total factor productivity level (Breuer and Elstner, 2017). The advantage of this methodology lies in the detailed modelling of the production factors, particularly labour input. This makes it possible to determine the different contributions to potential growth. ↳ ITEMS 333 FF. Other **methods** – such as the Hodrick-Prescott filter or state space models – estimate the trend of GDP instead of potential using time series techniques.

In addition, business surveys can be used to determine the output gap (ECB, 2015; Ademmer et al., 2018). Further possible determining factors include sentiment indicators, investment and unemployment rates, as well as various price measures. In the past, **capacity utilisation** in the manufacturing sector in particular was highly correlated with the ex-post-estimated **output gap**. ↳ TABLE 2 The correlation with sentiment indicators is also very high. These indicators slightly precede the output gap. Other indicators such as the inflation rate or the unemployment rate include structural components in addition to cyclical ones. In this analysis they are therefore detrended using a moving average. At least in France, Italy and Spain, the unemployment rate shows a clearly negative correlation with the output gap. Price indicators, on the other hand, are lagging behind the output gap (Weiske, 2018).

↳ TABLE 2

#### Leading indicator properties of selected output gap indicators<sup>1</sup>

Variable	Germany			France			Italy			Spain		
	t-2	t-1	t	t-2	t-1	t	t-2	t-1	t	t-2	t-1	t
Capacity utilisation <sup>2</sup>	-0.1	0.3	0.6	0.4	0.5	0.7	0.1	0.5	0.8	0.5	0.7	0.7
Order-book levels <sup>3</sup>	-0.2	0.3	0.3	0.5	0.6	0.6	0.2	0.6	0.7	0.6	0.7	0.6
Investment ratio: machinery and equipment <sup>4,5</sup>	-0.0	0.4	0.7	0.3	0.5	0.6	0.3	0.5	0.6	0.6	0.7	0.6
Investment ratio: construction <sup>4,5</sup>	-0.1	0.0	0.2	0.3	0.6	0.9	0.2	0.4	0.6	0.5	0.8	0.9
Sentiment: industry <sup>6</sup>	-0.1	0.3	0.3	0.5	0.6	0.5	0.2	0.6	0.6	0.7	0.8	0.5
Sentiment: consumer <sup>6</sup>	-0.2	0.4	0.5	0.5	0.7	0.6	0.3	0.5	0.4	0.8	0.8	0.4
Core inflation <sup>5,7,8</sup>	-0.3	-0.2	0.2	0.3	0.4	0.6	-0.2	-0.1	0.2	0.1	0.4	0.8
GDP deflator <sup>5,8</sup>	-0.3	-0.1	0.1	0.1	0.2	0.5	0.1	0.2	0.2	0.6	0.7	0.6
Unemployment rate <sup>5,9</sup>	0.4	-0.0	-0.2	-0.4	-0.6	-0.8	-0.1	-0.4	-0.7	-0.7	-0.9	-0.9
Insufficient demand <sup>10</sup>	-0.0	-0.3	-0.6	-0.2	-0.5	-0.8	-0.3	-0.6	-0.8	0.2	-0.5	-0.7

1 – Correlation with European Commission's output gap estimate, as of spring 2018. Period: 1991–2010. The threshold values for the colours are >0.5 ■ and <-0.5 ■. Discrepancies are due to rounding. 2 – Current level of capacity utilisation in industry. 3 – Assessment of order-book levels in industry. 4 – Investment in relation to nominal GDP. 5 – Deviation from the 7-year moving average. 6 – Economic confidence indicators. 7 – Consumer price index excluding energy and food. 8 – Change on previous year. 9 – As percentage of the labour force. 10 – Percentage of companies that state insufficient demand as production limiting factor.

Sources: European Commission, Eurostat, OECD, own calculations

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The output gap can be determined from the indicators in various ways. One possibility is to weight the indicators according to their correlation with the output gap. Alternatively, **the output gap can be de-**

terminated using a factor model (Pybus, 2011). The factor is identified by a principal component analysis, so that the common factor explains as much of the variation between different variables as possible. Weiske (2018) takes 37 different indicators into consideration for Germany, France, Italy and Spain. These include surveys of companies in manufacturing and the service sector, sentiment indicators, investment and unemployment rates, unit labour costs, various inflation measures, the yield spread and the OECD's composite leading indicator. The investment and unemployment rates, the growth rate of unit labour costs and the inflation rates are adjusted using their moving averages.

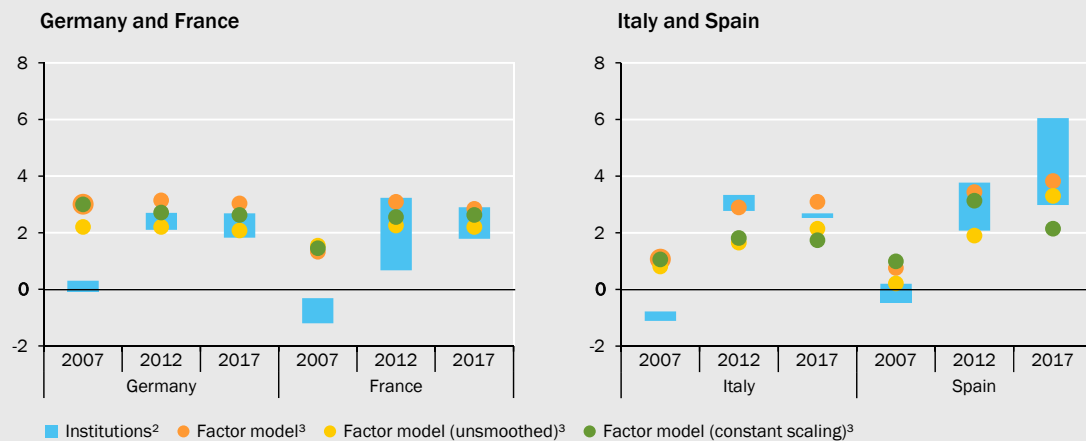
The indicators do not share a common scale, so that a normalisation is required before the factor is determined. Finally, the estimated factor is scaled in such a way that its standard deviation corresponds to the average standard deviation of the output gap estimates made for the respective country by the European Commission, the IMF and the OECD. One disadvantage of the factor model is that the estimated output gap involves an extremely volatile potential growth. This can be overcome by smoothing the factor in such a way that the potential growth rate corresponds to the two-sided 7-year moving average of the original potential growth rate.

Estimates using the factor model prove to be **less prone to revisions**. The output gaps calculated using the data available at different vintages differ only slightly from the estimates using the 2017 data. Particularly in the pre-crisis year of 2007, the factor model would have determined a positive output gap for the four countries, while the European Commission, the IMF and the OECD only came to this assessment during the 2008-2009 recession. [CHART 33](#) A similar picture arises for 2001, the previous cyclical peak. Smoothing the factor influences the model's real-time estimate only slightly. The scaling of the estimated factor has a greater impact on the proneness of the real-time estimates to revision. This is because the standard deviations of the output gap estimates by the European Commission, the IMF and the OECD are newly calculated based on the respective data.

[CHART 33](#)

**Output-gap estimates for 2007 over time**

%<sup>1</sup>



1 – In relation to potential. 2 – Bandwidth from minimum to maximum from the estimates of the European Commission, the IMF and the OECD in the autumn of each year. 3 – Based on 30 indicators; only data available at respective dates is considered. Real-time data for indicators prone to revision. In the smoothed estimate, the potential growth rate in year t corresponds to the average potential growth rate in years t-3 to t+3 that is implied by the unsmoothed factor model. The factor is scaled with the average estimated standard deviation of the output gap of the European Commission, the IMF and the OECD in the respective year. Constant scaling uses the average standard deviation of the output gap estimates from autumn 2001.

Sources: European Commission, IMF, OECD, Weiske (2018)

## Slowly increasing price pressure

266. Higher capacity utilisation should be reflected in rising prices and wages. Until now, however, the **development of core inflation** in particular **has been moderate**. The stronger increase in consumer prices over the last two years has mainly been due to higher energy and food prices. [↘ CHART 34 LEFT](#) On the other hand, prices of services and industrial goods excluding energy have risen only slowly; this was due especially to the weak price development in the autumn of 2017. At that time, special factors that temporarily led to major price fluctuations in individual components had a dampening effect on core inflation (Deutsche Bundesbank, 2017). Since the related base effects are expiring, the rate of inflation of consumer prices excluding energy and food is likely to rise considerably in the fourth quarter of 2018. At about 1.3 %, it will then probably be 0.3 percentage points higher than in the third quarter.
267. There are several possible **explanations** for the **subdued price pressure** regarding core inflation. For example, economic overutilisation could be lower than the level suggested by business surveys or sentiment indicators. Using a Phillips curve model, Jarociński and Lenza (2018) calculated an output gap in the euro area of –6 % for the end of 2015. However, survey-based estimates suggest that there was no longer a significant negative output gap in this period (ECB, 2015). [↘ CHART 32](#) Another explanation could be that the structural relationship between output gap and inflation has diminished. Such a **flattening of the Phillips curve** would explain why fully utilised production capacities and low unemployment are not reflected in a greater price pressure. A distinction must be made here from a **temporary shift in the Phillips curve**, which could have been triggered by supply shocks, for example. Which of the explanations is correct, however, is difficult to determine empirically (Praet, 2018).

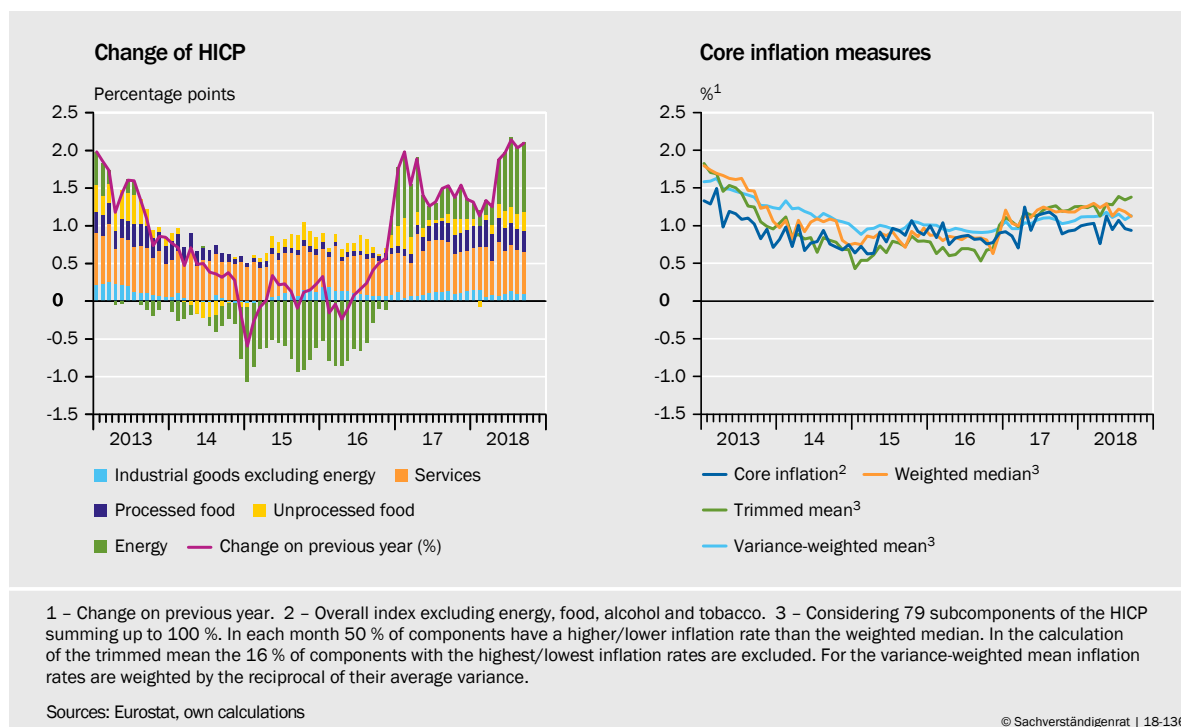


Standard measures of core inflation do not take into account particularly volatile components such as energy or food. In addition, many other core inflation measures are regularly published by some central banks. These include, among others, the weighted median and the trimmed mean (Bryan and Cecchetti, 1994), where the various components of the consumer price index are ordered according to their inflation rate in the respective month. In the case of the weighted median, components with a value of 50 % of the consumption basket show a higher or lower inflation rate than the core rate. The trimmed mean value does not, for example, take into account the 16 % of components with the lowest or highest price increases when calculating the average rate of inflation. The variance-weighted mean weights the different components in a way that is inversely proportional to their variance, so that less volatile components are given a high weight.



↪ CHART 34

### Consumer price inflation in the euro area



268. Other core inflation measures, such as the trimmed mean or the weighted median, which are less influenced by special factors, show a relatively steady increase.

↪ CHART 34 RIGHT

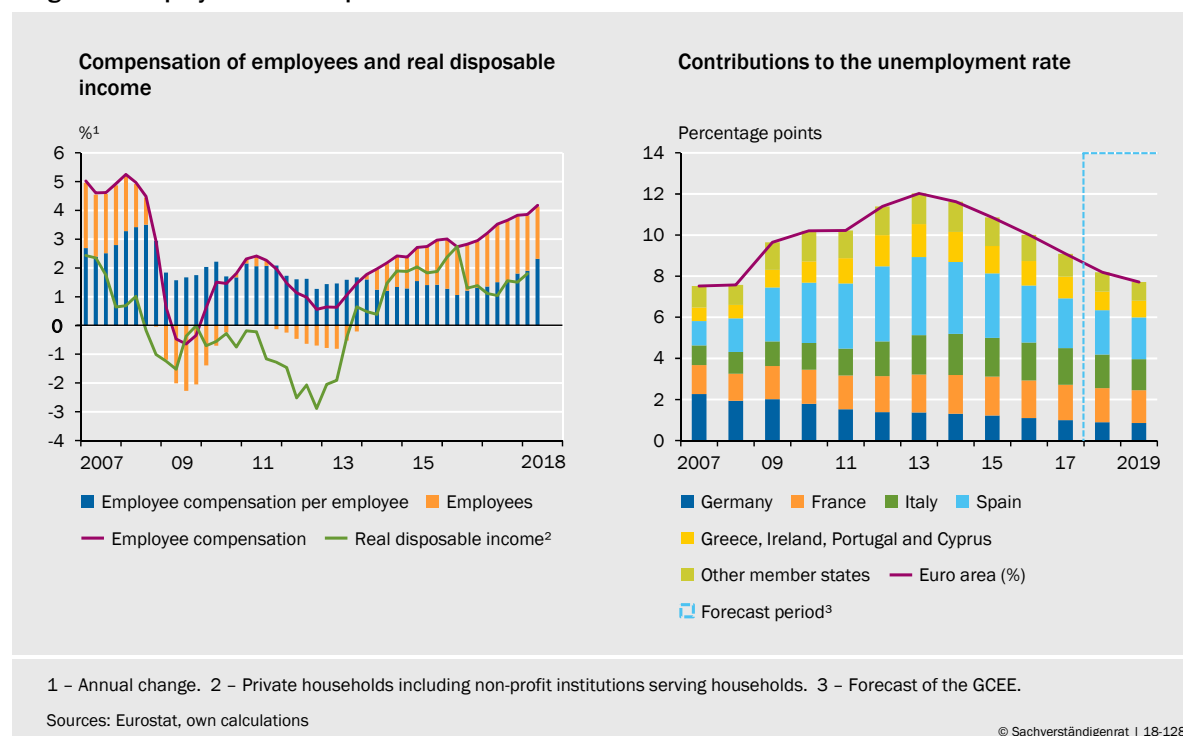
In addition, **industrial producer prices** rose very strongly, at 4.2 %, from August 2017 to August 2018, although the increase in the energy sector was particularly strong in this context at 12 %. Excluding the energy sector, prices in industry rose by 1.5 %. The **GDP deflator** in the second quarter of 2018 was 1.4 % up on the same period of the previous year, following increases of only 0.7 % in 2016 and 1.1 % in 2017. Despite the low rate of change compared to the pre-crisis years, price increases are stronger than in the recent past. ↪ CHART 49

### Dynamic development of wages and employment

269. **Wage growth** in the euro area is showing a **positive momentum** that in many countries is increasingly in line with the tight labour-market and the high capacity utilisation. After years of comparatively low growth rates, wages began to rise more strongly in the second half of 2017. In the second quarter of 2018, **compensation per employee** was 2.3 % higher than in the same quarter in the previous year. This meant that wage growth had reached the highest level since 2011.
270. **Unit labour costs** also rose much faster than in previous years. In the second quarter of 2018 they were 1.7 % higher than in the same quarter of the previous year. Compared to wages, the rise in unit labour costs took effect with some delay, since the rate of productivity growth increased in 2017. This sequence of events suggests that the positive wage development in the last few quarters was mainly determined by increased demand and not by negative labour-supply

↘ CHART 35

Wage and employment development in the euro area



shocks, which tend to reflect changes in frictions in the wage-setting process (ECB, 2018). This fits in with the fact that employment continued to rise and companies were able to expand their profit margins despite the higher wages.

Wages developed very dynamically in the central and eastern European EU member states outside the euro area. With the exception of Croatia, nominal wages were most recently more than 7 % up on the same period last year. On the other hand, labour productivity rose much more slowly, so that unit labour costs have risen strongly in these countries. This makes outsourcing more expensive for companies in the euro area.

**271. Employment** continues to increase in the euro area and is contributing to the increase in total compensation of employees approximately to the same extent as wage growth. ↘ CHART 35 LEFT The **accelerating growth of labour income** in the last few years has been an important pillar of the **robust income development** in the euro area. But the higher inflation rates since mid-2016 have slowed down the growth of real disposable income, particularly after the fall in oil prices in 2014 and 2015 had had a positive effect on real household incomes (GCEE Annual Report 2015, item 176).

**272. The unemployment rate decreased further** in the course of 2018 and is expected to fall below 8 % in the coming year. ↘ CHART 35 RIGHT This level was last undercut in 2008. In this context, there are still considerable **differences between the member states**. In Spain, the unemployment rate has fallen by more than ten percentage points since 2013. However, the projected level of 14.5 % in 2019 would still be about 6 percentage points above the pre-crisis level of 2007. Greece has by far the highest unemployment rate in the euro area, although this too is decreasing fast. In Portugal, the unemployment rate could this

year even reach its lowest level for 16 years. By contrast, unemployment has only fallen slowly in France and Italy.

### 3. Outlook

273. Various **economic indicators** point to a **continuing recovery in the euro area**. Although companies and consumers assess the economic situation as being less positive than in the previous winter, these sentiment indicators are still above their long-term averages and signal an economic expansion. Indicator-based short-term models suggest quarterly growth rates of just under 0.3 % in the third and just under 0.5 % in the fourth quarter of 2018.

The GCEE expects 2.0 % **GDP** growth in the euro area in 2018. [↘ TABLE 3](#) In the forecast period, growth rates are expected to decline slightly compared to the previous year. [↘ CHART 36](#) An annual average growth rate of 1.7 % is expected in 2019. The **rate of inflation** is likely to be 1.8 % this year and 1.9 % next year. It is assumed that crude oil prices will fall slightly in the forecast period in accordance with the prices of futures contracts. The GCEE expects a **core inflation rate** of 1.1 % in 2018, rising to 1.5 % in the coming year. This is in line with rising capacity utilisation. The unemployment rate is likely to fall further, albeit to a lesser extent than it has up to now. **Unemployment rates** of 8.2 % for 2018 and 7.7 % for 2019 are expected for the euro area.

TABLE 3

## Gross domestic product, consumer prices and unemployment rate in the euro area

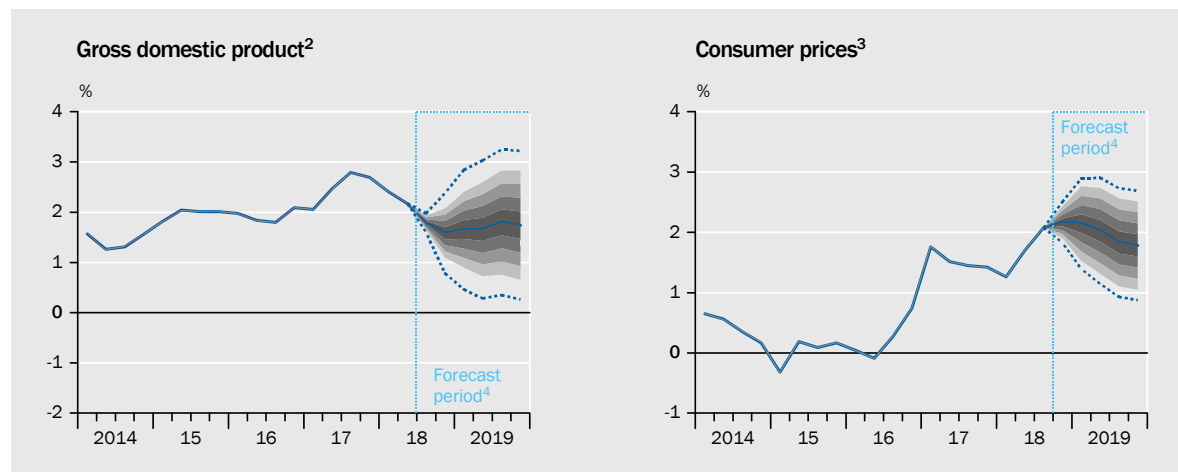
Country/ country group	Weight in % <sup>1</sup>	Gross domestic product <sup>2</sup>			Consumer prices (HICP) <sup>3</sup>			Unemployment rate <sup>4</sup>		
		Change on previous year in %						%		
		2017	2018 <sup>5</sup>	2019 <sup>5</sup>	2017	2018 <sup>5</sup>	2019 <sup>5</sup>	2017	2018 <sup>5</sup>	2019 <sup>5</sup>
<b>Euro area<sup>6</sup></b>	<b>100</b>	<b>2.4</b>	<b>2.0</b>	<b>1.7</b>	<b>1.5</b>	<b>1.8</b>	<b>1.9</b>	<b>9.1</b>	<b>8.2</b>	<b>7.7</b>
including:										
Germany	29.3	2.2	1.6	1.5	1.7	1.8	2.0	3.8	3.4	3.2
France	20.5	2.2	1.6	1.6	1.2	2.2	2.0	9.4	9.1	8.8
Italy	15.3	1.6	1.1	0.9	1.3	1.4	1.7	11.2	10.3	9.6
Spain	10.4	3.0	2.5	2.0	2.0	1.9	1.9	17.2	15.3	14.4
Netherlands	6.6	2.9	2.9	2.2	1.3	1.6	2.0	4.8	3.9	3.6
Belgium	3.9	1.7	1.6	1.6	2.2	2.3	2.3	7.1	6.3	6.3
Austria	3.3	2.6	2.8	2.0	2.2	2.1	2.0	5.5	4.8	4.6
Ireland	2.6	7.2	7.2	4.2	0.3	0.8	1.5	6.7	5.7	5.2
Finland	2.0	2.8	2.7	2.0	0.8	1.2	1.5	8.5	7.6	7.4
Portugal	1.7	2.8	2.2	1.9	1.6	1.4	1.8	9.0	7.0	6.2
Greece	1.6	1.5	2.0	2.0	1.1	0.7	1.1	21.5	19.4	17.9
memorandum:										
<b>Euro area without Germany</b>	<b>70.7</b>	<b>2.6</b>	<b>2.1</b>	<b>1.8</b>	<b>1.4</b>	<b>1.8</b>	<b>1.9</b>	<b>11.0</b>	<b>9.9</b>	<b>9.3</b>

1 – Nominal GDP in the year 2017 as a percentage of the nominal GDP of the euro area. 2 – Actual data according to Eurostat. Forecast values for 2018 and 2019 are based on seasonal and calendar adjusted quarterly figures. 3 – Harmonised index of consumer prices. 4 – Standardised according to the ILO concept. For the total euro area and euro area without Germany weighted by the labour force of 2017. 5 – Forecast of the German Council of Economic Experts. 6 – Weighted average of the 19 euro area member states.

Sources: Eurostat, own calculations

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CHART 36

Gross domestic product and consumer prices in the euro area<sup>1</sup>

1 – Change on previous year's quarter (%); Confidence bands are calculated on the basis of the average absolute forecast error for the period from 1999 to 2017. The width of the symmetric confidence band is twice the average absolute forecast error; dashed line: 68 % confidence interval. 2 – Seasonally and calendar adjusted. 3 – Harmonised index of consumer prices. 4 – Forecast of the German Council of Economic Experts.

Sources: Eurostat, own calculations

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## REFERENCES

- [Ademmer, M. et al. \(2018\)](#), Mittelfristprojektion für Deutschland im Frühjahr 2018: Wachstum lässt nach – Konjunktur kühlt ab, Kieler Konjunkturberichte No. 42 (2018|1), Institut für Weltwirtschaft, Kiel.
- [Antolin-Diaz, J., T. Drechsel and I. Petrella \(2017\)](#), Tracking the slowdown in long-run GDP growth, *Review of Economics and Statistics* 99 (2), 343–356.
- [Bauer, M.D. and T.M. Mertens \(2018\)](#), Information in the Yield Curve about future recessions, FRBSF Economic Letter 2018–20, Federal Reserve Bank of San Francisco, San Francisco.
- [BIS \(2018\)](#), BIZ-Quartalsbericht September 2018, Bank for International Settlements, Basel, 23 September.
- [BoE \(2018a\)](#), Monetary policy summary and minutes of the Monetary Policy Committee meeting ending on 12 September 2018, Bank of England, London.
- [BoE \(2018b\)](#), Inflation report – February 2018, Bank of England, London.
- [BoJ \(2018a\)](#), Strengthening the framework for continuous powerful monetary easing, Press release, Bank of Japan, Tokio, 31 July.
- [BoJ \(2018b\)](#), Outlook for economic activity and prices April 2018, Bank of Japan, Tokio.
- [Born, B., G.J. Müller, M. Schularick and P. Sedláček \(2017\)](#), The costs of economic nationalism: evidence from the Brexit experiment, CESifo Working Paper No. 6780, Munich, updated version of 18 June 2018.
- [Breuer, S. and S. Elstner \(2017\)](#), Die Wachstumsperspektiven der deutschen Wirtschaft vor dem Hintergrund des demografischen Wandels – Die Mittelfristprojektion des Sachverständigenrates, Working Paper 07/2017, German Council of Economic Experts, Wiesbaden.
- [Bryan, M.F. and S.G. Cecchetti \(1994\)](#), Measuring core inflation, in: Mankiw, N. G. (Eds.), *Monetary policy*, The University of Chicago Press, Chicago, 195–219.
- [Cabinet Office \(2018\)](#), Basic policy on economic and fiscal management and reform 2018, Cabinet Office – Government of Japan, 15 June.
- [CBO \(2018\)](#), An update to the economic outlook: 2018 to 2028, Congressional Budget Office, Washington, DC.
- [Cerra, V. and S.C. Saxena \(2008\)](#), Growth dynamics: the myth of economic recovery, *American Economic Review* 98 (1), 439–457.
- [Coibion, O., Y. Gorodnichenko and M. Ulate \(2017\)](#), The cyclical sensitivity in estimates of potential output, NBER Working Paper No. 23580, National Bureau of Economic Research, Cambridge, MA.
- [De Waziers, D. \(2018\)](#), What do business surveys tell us about the position of the economy in the business cycle?, *Trésor-éco* No. 223, Ministère de l'Économie et des Finances.
- [Deutsche Bundesbank \(2018\)](#), Monatsbericht August 2018, Frankfurt am Main.
- [Deutsche Bundesbank \(2017\)](#), Monatsbericht November 2017, Frankfurt am Main.
- [Deutsche Bundesbank \(2014\)](#), Zur Verlässlichkeit der Schätzungen internationaler Organisationen zur Produktionslücke, Monatsbericht April 2014, Frankfurt am Main, 13–38.
- [ECB \(2018\)](#), The role of wages in the pick-up of inflation, *Economic Bulletin* 5/2018, European Central Bank, Frankfurt am Main.
- [ECB \(2017\)](#), The composition of public finances in the euro area, *Economic Bulletin* 5/2017, European Central Bank, Frankfurt am Main.
- [ECB \(2015\)](#), A survey-based measure of slack for the euro area, *Economic Bulletin* 6/2015, European Central Bank, Frankfurt am Main.
- [Elstner, S., H. Michaelis and C.M. Schmidt \(2016\)](#), Das leere Versprechen der aktiven Konjunktursteuerung, *Wirtschaftsdienst* 96 (8), 534–540.
- [European Commission \(2018\)](#), Assessment of the 2018 stability programme for Italy, Generaldirektion Wirtschaft und Finanzen (DG ECFIN), Brussels.

- FOMC (2018a), Minutes of the Federal Open Market Committee Meeting held on July 31–August 1, Washington, DC.
- FOMC (2018b), Minutes of the Federal Open Market Committee Meeting held on September 25–26, Washington, DC.
- Grant, A.L. and J.C.C. Chan (2017), A Bayesian model comparison for trend-cycle decompositions of output, *Journal of Money, Credit and Banking* 49 (2–3), 525–552.
- IMF (2018a), World economic outlook, October 2018, International Monetary Fund, Washington, DC.
- IMF (2018b), Global financial stability report October 2018, International Monetary Fund, Washington, DC.
- IMF (2018c), World economic outlook, April 2018 – Chapter 2: Labor force participation in advanced economies: Drivers and prospects, International Monetary Fund, Washington, DC.
- IMF (2018d), People’s Republic of China: 2018 Article IV consultation-press release; staff report; staff statement and statement by the Executive Director for the People’s Republic of China, Country Report No. 18/240, International Monetary Fund, Washington, DC.
- Jarociński, M. and M. Lenza (2018), An inflation-predicting measure of the output gap in the euro area, *Journal of Money, Credit and Banking* 50 (6), 1189–1224.
- Jordà, Ò., M. Schularick and A.M. Taylor (2013), When credit bites back, *Journal of Money, Credit and Banking* 45 (s2), 3–28.
- Kempkes, G. (2014), Cyclical adjustment in fiscal rules: some evidence on real-time bias for EU-15 countries, *FinanzArchiv: Public Finance Analysis* 70 (2), 278–315.
- Luo, S. and R. Startz (2014), Is it one break or ongoing permanent shocks that explains U.S. real GDP?, *Journal of Monetary Economics* 66 (C), 155–163.
- Ministero dell’Economia e delle Finanze (2018), Italy’s draft budgetary plan 2019, Rome, 15 October.
- NBER (2018), US business cycle expansions and contractions, <http://nber.org/cycles/cyclesmain.html>, retrieved 17 September 2018.
- Praet, P. (2018), Economic developments in the euro area, Speech, Financial Times Festival of Finance, Genf, 7 May.
- Pybus, T. (2011), Estimating the UK’s historical output gap’, Working Paper No. 1, Office for Budget Responsibility, London.
- Reinhart, C.M. and K.S. Rogoff (2009), The aftermath of financial crises, *American Economic Review* 99 (2), 466–472.
- Romer, C.D. and D.H. Romer (2017), New evidence on the aftermath of financial crises in advanced countries, *American Economic Review* 107 (10), 3072–3118.
- Rudebusch, G.D. (2016), Will the economic recovery die of old age?, FRBSF Economic Letter 2016–03, Federal Reserve Bank of San Francisco, San Francisco.
- Weiske, S. (2018), Indicator-based estimates of the output gap in the euro area, Working Paper 12/2018, German Council of Economic Experts, Wiesbaden, in press.
- Wollmershäuser, T. et al. (2018), ifo Konjunkturprognose Sommer 2018: Gewitterwolken am deutschen Konjunkturhimmel, ifo Schnelldienst 71 (12), 33–87.