

Global and European setting

World economic activity

Global economy gaining momentum

The global economy continued to expand briskly in the third quarter. Global economic output is likely to have accelerated at a similarly strong pace as in the second quarter. The United States in particular was able to maintain the fairly rapid pace of growth seen in the second quarter. Although economic activity in some US states was temporarily disrupted by two hurricanes, the dampening impact of those events on the economy as a whole is – in line with econometric evidence regarding past hurricanes – likely to have been small. Real gross domestic product (GDP) in the euro area continued to expand at a markedly faster pace than potential output in the third quarter, even though it did not quite match the strong pace of growth of the second quarter. Conversely, economic activity in the United Kingdom picked

up slightly after the subdued development of the previous two quarters. Chinese growth, high by international standards, remained remarkably stable. At the same time, the overall economic recovery in Brazil and Russia continued.

Cyclical recovery in some commodity-exporting countries as well as in major advanced economies prompted the International Monetary Fund (IMF) to revise its global growth projections for 2017 and 2018 slightly upwards compared to the projections from July in the October edition of its World Economic Outlook. For both years, it is now expecting the largest gains in global economic output since 2011.¹

Slight increase in IMF growth projections

The improvement is attributable, not least, to the fact that the global upswing has broadened to include more countries compared to previous years. In 2012-13, the global economy was adversely affected by the debt crisis in a number of European countries, and in 2015-16 by recessions in major commodity-exporting countries. In those years, countries with contracting real GDP accounted for between 7% and 9% of global economic activity.² Based on IMF projections, this share is likely to have fallen to 1% in 2017. This would be the lowest value since the strong upswing prior to the global financial and economic crisis.

Broad-based upswing

Prevalence of recessionary tendencies*



Sources: IMF, Haver Analytics and Bundesbank calculations.
 * Defined as a decline in annual average real GDP compared to the previous year. According to IMF projections for 2017 (World Economic Outlook, October 2017). ¹ From a fixed group of 171 countries. ² Aggregate based on purchasing power parities.

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The international exchange of goods is also benefiting from the broadly-based upward movement. According to figures provided by the Dutch Centraal Planbureau, the average volume of global goods trade in the July-August two-month period was 5% higher than in the

Indicators still favourable at the current end

¹ Aggregated using purchasing power parities, global growth is forecast to be 3.6% this year and 3.7% next year. Based on market exchange rates, this represents an increase of 3.0% and 3.1% respectively.

² The calculation is based on an assessment of the IMF database in the current World Economic Outlook. The proportions of global economic output are derived from purchasing power parities.

same period last year. This was the largest increase recorded for more than six years, perceptibly exceeding the 3¾% growth rate in global industrial output. At the beginning of the fourth quarter, sentiment indicators were not pointing to any significant change in the underlying cyclical trend.

Significant rise in crude oil prices

The price of crude oil rose significantly over the reporting period. In the first half of November, the spot price for a barrel of Brent crude oil was more than US\$60 – its highest level since mid-2015. The favourable macroeconomic environment was just one factor behind the recent price hike. Another was the prospect that production cutbacks by key oil-producing countries could be extended to the end of 2018. Above all, however, it is likely that the current political conflicts in the Middle East played a part. The fact that forward quotations did not rise to as great an extent suggests that short-term factors were key. As this report went to press, a barrel of Brent crude oil cost US\$62 and forward deliveries were trading at marked discounts over the entire maturity range. The prices of other commodities showed uneven movement over the past few months. All in all, the HWWI price index for non-energy commodities slightly surpassed its July level in October.

Accelerated consumer price inflation

The higher crude oil prices also had an impact on consumer prices in industrial countries. Energy prices were 7% up on the year in September, while they had only been 2.2% up in June. Accordingly, headline inflation rose from 1.5% to 1.9%. However, excluding energy and food products from the basket of consumer goods, price inflation remained moderate. In September, core inflation stood at 1.4%, or 1.6% if Japan is not included in the calculation.

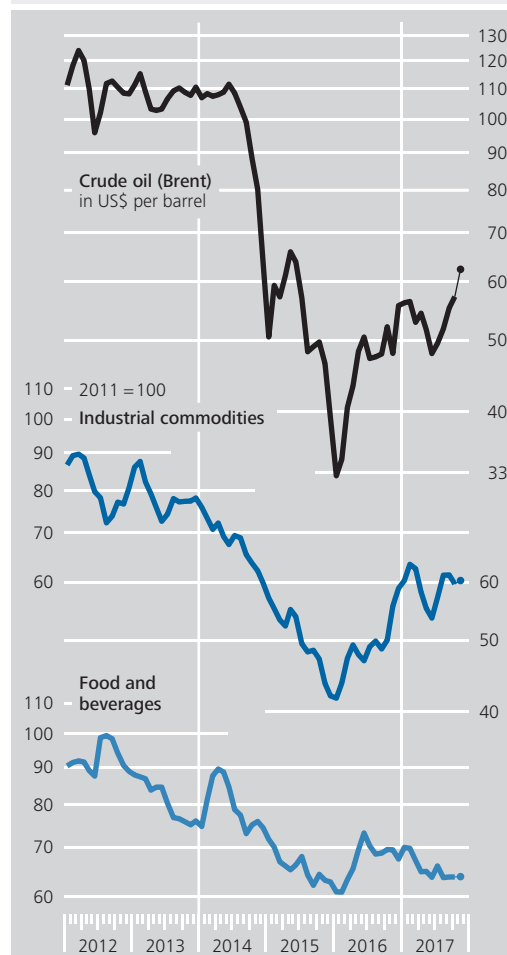
Selected emerging market economies

Stable economic growth in China

According to the official estimate, real GDP in China was up by 6.8% on the year in the third

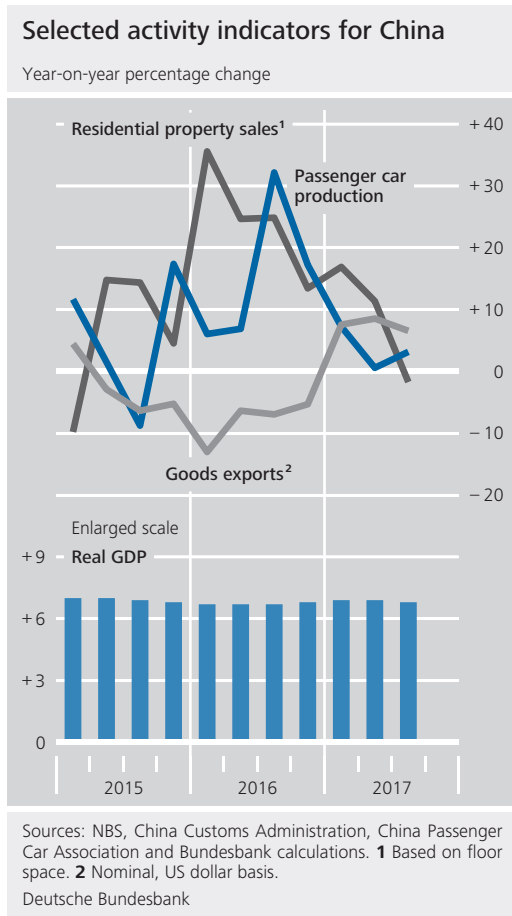
World market prices for crude oil, industrial commodities and food and beverages

US dollar basis, monthly averages, log scale



Sources: Thomson Reuters and HWWI. • Latest figures: average of 1 to 10 November 2017, or 1 to 16 November 2017 for crude oil.
 Deutsche Bundesbank

quarter of 2017. The growth rate of the Chinese economy was therefore only slightly lower than in the first half of the year. Growth had also remained remarkably stable previously: since the beginning of 2015, year-on-year GDP growth had fluctuated by no more than one-tenth of a percentage point from one quarter to the next. This contrasts to some extent with the volatility of other economic indicators. For example, goods exports have seen substantial growth over the course of the year so far, partially offsetting their previous decline. At the same time, there have been considerable fluctuations in passenger car production – one of



the most important industrial sectors – as a result of temporary tax incentives to purchase new cars. Finally, the real estate market has experienced pronounced ups and downs in recent years.³ Consumer price movements are largely in line with the steady course of GDP growth. According to official figures, the rate of inflation stood at 1.5% in the third quarter of 2017. Since the beginning of 2015, the quarterly average has consistently been in the range of 1.4% to 2.3%.

Indian economic growth slows down again

Economic activity in India weakened once again in the second quarter of 2017, up to which national accounts data are available. At 5.7%, year-on-year GDP growth was the lowest for more than three years. Upward movement could have continued to be held back by the cash reform of November 2016, due to which a large proportion of cash in circulation was removed from the economy. The recent introduction of a nationwide goods and service tax is likely to also be a drag on the economy.

Although the reform was only fully implemented in July 2017, it seems that merchants had already reduced their inventories in advance. In September, consumer prices rose by 3.3% on the year. This meant that the rate had returned to almost the same level as at the end of 2016, after having declined to 1.5% in the meantime. Noticeable fluctuations in food prices were key in this context.

The economic improvement in Brazil is making only slow progress. In the second quarter, seasonally adjusted economic output rose by just 0.2% compared to the previous quarter, and growth did not pick up significantly in the third quarter either. Nevertheless, there are signs that investment may have recently bottomed out as well. However, a wide-ranging recovery in fixed capital formation – which seems necessary given the comparatively low investment ratio of 15% of GDP – is not to be expected due to ongoing political uncertainties. The rate of inflation, as measured by the consumer price index (CPI), fell to 2.6% in the third quarter. The central bank therefore maintained its accommodative monetary policy stance. At 7.5%, the policy rate is now only slightly higher than its record low at the turn of the year 2012-13.

Sluggish economic improvement in Brazil

According to a preliminary estimate by the Russian Federal State Statistics Service, real GDP in Russia saw a year-on-year increase of 1.8% in the last quarter. Accordingly, the overall economic recovery continued at a somewhat weaker pace.⁴ Private consumption remained a key pillar of the economy and is likely to have profited from the fact that households' real scope for expenditure improved considerably as a result of easing consumer price inflation. The consumer price inflation rate fell further to 3.4% on average in the third quarter, hitting its lowest level since the beginning of the trans-

Russian economy on road to recovery

³ Following the sharp increase in residential property prices last year, local authorities took a number of measures to combat speculative purchases. Since then, the real estate market has shown clear signs of slowing down.
⁴ A factor in the slowdown may have been that the increased stockpiling that had driven economic growth in the second quarter returned to normal levels.

formation. Against this background, the Russian central bank cut its policy rate in September and again in October.

United States

Economic growth remains brisk

At 0.7% on the quarter according to the first official estimate, seasonally and price-adjusted GDP in the United States grew almost as strongly in the third quarter as it did in the second. However, this highly strong growth should be viewed in the light of the more subdued upward movement in the final quarter of 2016 and the first quarter of 2017. The underlying pace of economic growth is likely to have remained moderate. This is also suggested by the fact that growth in the third quarter was driven largely by restocking and, to a lesser extent, by foreign trade. By contrast, private final domestic demand, which may be more closely linked to underlying tendencies in economic activity, recorded its weakest growth for the last one and a half years. Private consumption had already received a considerable boost in September due to replacement purchases for cars that had been destroyed in the recent hurricanes. This stimulating effect is indicative that the hurricane's dampening impact on the average pace of overall economic growth for the quarter was likely to have been limited. This had also been the case in previous years (see box on pages 14 and 15). Employment growth stalled only temporarily in September, while unemployment hit a new cyclical low in October at 4.1%. In September, rising energy prices in particular drove CPI inflation up to 2.2%, while, by contrast, core inflation remained moderate at 1.7%. In this environment, the Federal Reserve began implementing its programme to normalise its balance sheet in October.

Japan

Marked slowdown in aggregate growth

The growth of the Japanese economy calmed down during the summer. According to a provisional estimate, seasonally adjusted real GDP

increased by 0.3% compared to the second quarter, in which it had grown by as much as 0.6%. Domestic demand and especially private consumption were unable to maintain the high level they had reached in the spring. In parallel with this, imports were also significantly reduced. Exports, which grew fairly strongly, proved to be a bulwark of the economy. Although the unemployment rate fell to its lowest level in a little over 23 years in summer and employment continued to see brisk growth, there were few signs of a rise in domestic inflation. The GDP deflator barely increased on the year and consumer prices excluding energy and food in September remained unchanged on the year. The Japanese central bank maintained its extremely expansionary monetary policy stance.

United Kingdom

Aggregate growth in the United Kingdom picked up only slightly in the third quarter. After adjustment for the usual seasonal variations, real GDP was up by 0.4% from the previous quarter according to a provisional estimate, having increased by 0.3% in each of the first two quarters. This slight acceleration was mainly attributable to strong growth in production in the manufacturing sector following a contraction in the spring. Meanwhile, construction continued its downward movement from its high level at the start of the year. The significant services sector grew at a moderate pace as before. Last but not least, on the expenditure side, private consumption is likely to have remained weak. While unemployment fell in the summer to the lowest level for more than 42 years, at 4.3%, wage growth fell far short of inflation, the level of which was considerable. Measured by the Harmonised Index of Consumer Prices (HICP), the inflation rate rose in September to 3.0%; the year before it had stood at 1.0%. At the beginning of November, the Bank of England raised its policy rate for the first time in more than ten years after having lowered the rate further in August 2016.

Economic activity remains weak

The impact of hurricanes on economic activity in the United States

In August and September, hurricanes left a trail of severe damage on the US Gulf Coast. This resulted in temporary production stoppages in the (petro)chemicals industry, which are likely to have played a major role in the slight decline in overall industrial production in the summer months.¹ Services, a far more important sector of the economy, seem to have been less strongly affected, however; the drag on aggregate economic output, therefore, probably remained small.² Overall, real gross domestic product (GDP) grew in the third quarter at a rate similar to that in the second.

This is consistent with past experience. If real GDP growth rates are regressed on dummy variables for hurricane landfalls,³ their coefficients turn out, individually and collectively, not to be significantly different from zero.⁴ The absence of evidence of any impact due to hurricane activity is likely to indicate that the fallout is local in nature and also typically shows up in regions which are not of much macroeconomic significance. In addition, the adverse impact of hurricanes on economic activity is probably only very short-term, and these effects are obscured in the quarterly data.

One sign of this is that similar estimations conducted for a monthly GDP proxy and for real consumer expenditures and industrial production show distinct evidence of an impact due to hurricane activity. The estimations, moreover, indicate a reversal in the subsequent month. One contributing factor in this is that losses in individual economic sectors are offset partly by increased activity elsewhere, such as in the construction sector. At least this is what the significantly positive contributions by contemporaneous and

lagged hurricane variables to explaining the change in employment in this sector of the economy seem to be saying. For aggregate employment growth, however, there are no effects which are statistically different from zero.⁵ Overall, the estimation results for monthly activity indicators suggest that the dampening impact in the current hurricane season has been somewhat more visible than usual even in quarterly time series since activity was impaired over a period of two months (August and September). Conversely, the resumption of usual economic activities and rebuilding efforts are likely to continue to boost US economic growth slightly at the start of the final quarter of the year.

¹ According to US Federal Reserve estimations, hurricanes dampened the month-on-month change in industrial production in August by just under 0.7 percentage point and, in September, by 0.2 percentage point. See Board of Governors of the Federal Reserve System, Industrial production and capacity utilization: technical Q&As, Federal Reserve statistical release, published on 16 November 2017.

² Some indicators also suggest compensatory responses. For example, it is likely that the jump in car sales in September could be attributable to replacement purchases.

³ Information on 54 hurricanes which, according to data provided by the Atlantic Oceanographic and Meteorological Laboratory, hit mainland USA in the period from 1980 to 2016 was used to calculate the indicator variables. In line with earlier approaches to analysing weather effects, the calculation takes account of diminishing trend growth over time and the change in cyclical conditions by incorporating indicator variables representing the NBER-dated economic cycles. The estimation was performed using the least squares method. See Deutsche Bundesbank, Weather effects on real GDP growth in the USA in the first six months of 2014, Monthly Report, August 2014, pp 22-24.

⁴ This result is consistent with the literature, which finds no evidence of any significant impairment of economic growth at the national level. See E Strobl (2011), The economic growth impact of hurricanes: evidence from US coastal counties, Review of Economics and Statistics 93 (2), pp 575-589.

⁵ This contrasts with weak employment growth in September of the current year. A significant factor may have been that Hurricane Irma struck the United States during the reference week of the payroll survey conducted by the Bureau of Labor Statistics.

Regression of the change in various indicators of activity* for the USA on dummy variables for hurricane influences

Item	Real GDP	GDP proxy ¹	Industrial production	Household consumption	Employment	
					Total	Construction
Hurricane dummy ²						
Contemporaneous	0.27	- 2.89**	- 2.26*	- 1.25*	- 6.69	6.31**
Lagged (one period)	- 0.08	2.79**	1.38	1.39	35.1	7.22**
Lagged (two periods)		1.50	1.13	- 0.35	5.01	1.91
Lagged (three periods)		- 2.84**	0.00	- 0.05	- 1.83	1.38
Constant and dummies for economic cycles ³	Yes	Yes	Yes	Yes	Yes	Yes
Frequency	Quarterly	Monthly	Monthly	Monthly	Monthly	Monthly
Number of observations	147	299	441	441	441	441
R ²	0.47	0.09	0.29	0.07	0.53	0.36
F-test of insignificance of all hurricane variables (p-value)	0.75	0.02	0.17	0.31	0.67	0.04

Sources: BEA, Macroeconomic Advisers, Board of Governors of the Federal Reserve System, BLS, NBER, Atlantic Oceanographic and Meteorological Laboratory, Haver Analytics and Bundesbank calculations. * Dependent variable expressed as an annualised period-on-period percentage change or, for employment variables, the absolute period-on-period change in thousands. Robust Newey-West standard errors; stars (*, **, ***) denote the statistical significance of the coefficients at the usual levels (10%, 5% and 1% respectively). ¹ Monthly GDP estimation by Macroeconomic Advisers. ² Has the value of one for periods in which hurricanes struck mainland USA. ³ NBER-dated.
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New EU member states

Sustained upturn

Economic activity remained lively during the third quarter in the new EU member states (EU-6)⁵ as a whole. Real GDP for the region grew by just over 5% on the year, which was the fastest growth rate since the outbreak of the global financial and economic crisis. The mood in the industrial sector, the main driving force behind the strong upturn, has been very positive thus far. However, increasing labour market bottlenecks could constrain the sector's further growth potential. In surveys carried out by the European Commission, a large number of businesses in manufacturing have named a labour shortage as a key obstacle to production. Growth in aggregate wages and salaries continued to gain traction in many places in the second quarter. That said, consumer price inflation within this group, as measured by the HICP, remained muted last quarter, at 1.6% on the year. The inflation rate excluding energy and food was just 0.9%.

Macroeconomic trends in the euro area

The strong economic upswing of the summer months continued across the euro area. According to Eurostat's flash estimate, real GDP in the third quarter of 2017 rose by 0.6% after seasonal adjustment compared to the preceding quarter and by 2.5% on the year. This meant that the aggregate pace of growth remained virtually unchanged compared to the first half of the year and continued to be far above the estimated pace of potential output growth. As in the two preceding quarters, the increase in GDP was boosted by the domestic economy as investment in particular grew noticeably. Furthermore, the favourable external environment also once again provided key impetus, resulting in further strong increases in

Underlying pace of economic growth remains relatively high

⁵ This group comprises the non-euro area countries that have joined the EU since 2004, ie Poland, the Czech Republic, Hungary, Bulgaria, Romania and Croatia.



and equipment in particular. At the very least, production of capital goods was stepped up very strongly in the third quarter. It also appears that there was an increase in imports of capital goods. By contrast, the sideways movement in construction output suggests that construction investment rose moderately, at best.

The global economy's continued robust growth is mirrored in the euro area's foreign business. Although the foreign trade data for the third quarter indicate only a slight increase in revenue from exports of goods to non-euro area countries, export prices saw a marked decline at the same time, resulting in a fairly steep rise in real terms. Price-adjusted imports of goods recorded notable growth, in keeping with the vigorous domestic economy. Intra-EU trade also continued to pick up.

Foreign trade continues to be buoyant

Industrial production continued its growth trajectory. In the third quarter, industrial output in the euro area rose by 1.1% on the quarter after adjustment for seasonal variations, resulting in an increase of 3.5% on the year. As in the second quarter, output growth was broadly based across sectors. Only energy production lagged behind the level of the preceding quarter.

Industrial production on clear upward trajectory

The economic situation improved markedly in most euro area member states. In France, real GDP in the third quarter was up by 0.5% from the preceding period, following on from a 0.6% rise in the spring. Growth was fuelled mainly by the domestic economy, where private consumption and investment saw considerable increases. There was probably also a significant build-up of inventories, which should be viewed against the backdrop of strong rises in imports. The Italian economy grew 0.5% more strongly in the third quarter than in the second, when real GDP had increased by just 0.3%. Growth was driven mainly by investment in machinery and equipment, and by exports. Industrial activity experienced very dynamic growth recently as a result. There were also positive trends on the labour market. While the

GDP rise across all regions

euro area exports. The upbeat mood also augurs robust economic activity in the fourth quarter, which means that there is likely to be noticeably stronger aggregate growth for 2017 compared to the GDP rise of 1.8% last year.

Private consumption somewhat less buoyant

Private consumption is also likely to have picked up in the third quarter, even if probably somewhat less strongly than in the second quarter. For example, retail sales saw a visible rise in price and seasonally adjusted terms following the large increase in the previous quarter, while new passenger car registrations remained virtually unchanged from the second quarter. Consumption growth was also buoyed by a renewed increase in consumer confidence, mainly on the back of more positive expectations regarding future economic growth.

Clear increase in investment

Investment appears to have accelerated in the third quarter against the backdrop of the continued favourable economic situation, with a probable clear rise in investment in machinery

unemployment rate remained the same over the summer, employment continued to rise. In Spain, economic output in the third quarter was up by 0.8% on the quarter. The pace of growth therefore only slowed slightly compared to the spring. Private consumption is likely to have lost some momentum following significant gains in the second quarter. However, investment in machinery and equipment is expected to have expanded considerably, while additional stimulus is likely to have come from construction investment. The economy also proved to be mostly buoyant in other euro area member states, too. GDP growth was strong in Latvia, Finland, Cyprus and Slovakia, while in Austria, Portugal and the Netherlands it increased considerably. By contrast, economic output only picked up moderately in Belgium, and Lithuania saw hardly any growth.

Continued improvement in the labour market

Labour market conditions continued to improve in the third quarter. The reduction in unemployment continued: after seasonal adjustments, the number of unemployed people fell by just over 200,000 compared to the second quarter of 2017 and by 1.5 million compared to the previous year. The standardised unemployment rate fell to 8.9% by September, compared with 9.1% in June and 9.9% one year earlier. The available employment data, which are less up-to-date than the latest data on unemployment, indicate a steep year-on-year rise in the number of employed persons, of approximately 2.4 million or 1.6% for the second quarter. Despite the improved labour market situation, wage growth remained subdued. The increase in gross hourly wages was down slightly on the year to 1.7% in the second quarter. Overall, however, it was higher in the first half of the year than in the previous year.

HICP inflation in summer virtually unchanged at 1.4%, while core inflation continued to rise

HICP consumer prices in the euro area were up in the third quarter by 0.2% on the quarter, after adjustment for seasonal variations. There was a steep rise in food prices, while energy prices fell again significantly owing to the appreciation of the euro, despite slightly higher international crude oil prices. There were no

Sentiment indicators for the euro area

Percentage balances, seasonally adjusted, monthly data



Source: European Commission.
 Deutsche Bundesbank

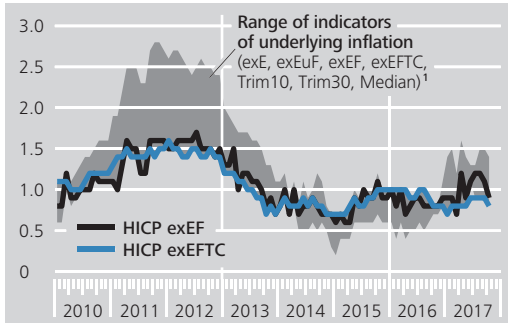
notable appreciation effects for the prices of non-energy industrial goods, which had risen slightly. Services prices once again increased quite strongly. Headline inflation rose by 1.4% on the year, much like in the second quarter (1.5%). Excluding energy and food, however, core inflation continued to increase to 1.2%, thereby exceeding the rate of the last quarter of 2016 by 0.4 percentage point.

In October, annual HICP inflation in the euro area fell slightly to 1.4% despite food prices, in particular, having risen quite steeply. HICP inflation excluding energy and food even fell to 0.9%. A steep decline in the prices of package holidays and considerable reductions in motor vehicle insurance premiums made themselves felt in Germany, while in Italy a decrease in tuition fees was the key factor. While the effects of package holidays and motor vehicle insurance prices are, at least in some cases, likely to be temporary, the change in tuition fees in Italy

October rate also slightly lower due to one-off effects

Underlying inflation in the euro area

Year-on-year percentage change



Sources: Eurostat, ECB and Bundesbank calculations. ¹ exE = HICP excluding energy; exEuF = HICP excluding energy and unprocessed food; exEF = HICP excluding energy and food; exEFTC = HICP excluding energy, food, travel and clothing; Trim10 = mean trimmed by 10%; Trim30 = mean trimmed by 30%.

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is expected to have a twelve-month dampening effect on inflation.

Trend inflation higher than in 2016

The core inflation rate frequently used for analysis, which is defined as excluding energy and food, still includes components for which the prices are subject to significant fluctuations, such as clothing and travel (see also the box on pages 49 to 51), making it more difficult to filter out inflation trends. It therefore makes

sense to consider a variety of indicators in the underlying inflation, such as other core rates (also excluding clothing and travel, for example) or what are known as trimmed means, in which, on an alternating monthly basis, the components with the highest and lowest inflation rates are factored out. Finally, econometric methods can be used to calculate trends. Looking at the overall picture sketched by these indicators shows a clear increase in trend inflation in the euro area since the end of 2016.

Leading indicators suggest a stable and robust pace of growth for the fourth quarter. The Purchasing Managers' Index maintained its high level in October. The European Commission's indicator of business and consumer sentiment rose yet again and has now surpassed the pre-crisis peak of spring 2007. Surveys indicate that businesses are planning to increase employment, which should bolster income growth and private consumption. The rise in capacity utilisation is likely to provide additional impetus to capital formation. The increase in orders from non-euro area countries and the brightening sentiment among exporters suggest that foreign business has remained buoyant.

Economic growth probably robust in Q4, too