Global and European setting

Global economic developments

Global economy still buoyant in Q3, albeit with clear regional differences

The global economy is likely to have lost some momentum during the third quarter, particularly within the group of advanced economies. Although the strong economic upturn levelled off only slightly in the United States, growth in the euro area slowed markedly, and output even contracted somewhat in Japan. However, in the latter two cases, temporary pressures played a role. By contrast, the pace of economic growth in the United Kingdom picked up noticeably. Amongst the emerging market economies, growth in the Chinese economy, still high by international standards, dipped slightly. In Russia and Brazil, economic recovery is likely to have continued at a sluggish pace. Overall, the global economy remains buoyant, albeit with significant regional differences. According to monthly data provided by the Dutch Centraal Planbureau (CPB), international goods trade appears to have picked up speed again following a sideways movement in the first half of the year.

Continued upswing according to the IMF, even though projections lowered slightly

According to current projections by the International Monetary Fund (IMF), the global upturn will continue at the same pace in both this year and in 2019. Compared with the July estimate, the IMF slightly reduced its projection for global growth in both 2018 and 2019 to 3.7% (weighted in terms of purchasing power parity) in October. Any hopes that may have arisen in the meantime of an acceleration in economic growth were therefore dashed. Growth projections for a number of emerging market economies, in particular, were lowered substantially. This was mainly driven by country-specific factors, but tighter financing conditions as well as geopolitical tensions also played a role. Furthermore, the IMF staff factored in the potential repercussions of the measures recently taken in the trade dispute between the USA and China.[1] Growth projections for 2019 were consequently reduced by 0.2 percentage point for both countries. These adjustments are similar in scale to the effects on gross domestic product (GDP) resulting from the Bundesbank's NiGEM simulations of new trade barriers between the USA and China (see the box on p. 11ff.). According to the simulations, if the trade dispute were to escalate further, its adverse effects could intensify and have a distinctly negative impact on the global economy. The IMF staff see this, alongside a sudden tightening of global financing conditions, as a major downside risk to the global upturn.

Recent substantial decline in crude oil price

The price of crude oil has decreased significantly since the start of October 2018. Prior to this, however, uncertainties surrounding the extent of available production capacity to compensate for possible production losses in Iran and Venezuela had driven up prices substantially. In the first week of October, the spot price for a barrel of Brent crude oil was a little more than US$85 – its highest level since October 2014. However, some major oil-producing countries succeeded in expanding their production. In addition, inventories grew substantially in the United States. The US Administration also agreed with certain countries to allow them to continue importing Iranian oil even after the entry into force of sanctions. Against this background, the prices of crude oil recently fell significantly. As this report went to press, the spot price for a barrel of Brent was as little as US$66. Twelve-month oil futures traded at a slight premium. The prices of other commodities have showed uneven movement over the past few months. On the whole, the non-energy commodity price index compiled by the Hamburg Institute of International Economics (HWWI) remained virtually unchanged, record-

1 For details of the protectionist trade measures factored into the baseline, see IMF, Global Prospects and Policies, World Economic Outlook, October 2018, p. 12.

The potential global economic impact of the USA-China trade dispute

Protectionist sentiment is regarded as a significant downside risk for the global economy. In the past two years, trade rhetoric, in particular, was initially intensified. Isolated symbolic moves imposed by the US Administration, such as the introduction of tariffs on steel and aluminium imports, affected only a small percentage of international trade.[1] In the past few months, however, the dispute between the United States and China has escalated.[2] Citing intellectual property rights violations, the United States slapped import tariffs on Chinese goods beginning in early July 2018, gradually extending them to cover nearly half of all imports from China. Following the announced increase in January 2019, the new measures will entail an effective rate of a considerable 25% on imports. The Chinese side initially responded tit-for-tat, but then moved away from this approach following the latest intensification of the conflict. Since the end of September, therefore, new tariffs have weighed less on US products destined for the Chinese market than vice versa.[3] However, a further escalation does not appear to be out of the question. US government representatives have, in fact, threatened on several occasions to slap additional tariffs on all imports from China.

An extended version of the NiGEM global economic model can be used to study the aggregate impact of additional tariffs between the United States and China.[4] In this framework, surcharges on bilateral export prices are used to model tariffs.[5] In line with the decisions taken by the governments involved, the burdens gradually increase from the third quarter of 2018 to the first quarter of 2019.[6] The additional customs receipts are assumed to be transferred to households as income tax cuts.[7] Other trade or economic policy moves, such as the greater degree of US fiscal accommodation, are not considered in the analysis.[8]

The introduction of new import tariffs triggers a variety of responses in NiGEM. Tariffs directly increase the domestic price of for-

1 If, in addition, the tariffs on washing machines and solar panels imposed by the USA at the beginning of 2018 and the retaliatory measures taken by major trading partners are considered, at mid-year less than 0.5% of world trade was affected by trade barriers created by new tariffs.
2 In other trade disputes involving the USA, on the other hand, there are signs of détente. For instance, the governments of the United States, Canada and Mexico recently came to an agreement in principle on an arrangement to replace the North American Free Trade Agreement (NAFTA). An accord on a reworked agreement between the United States and South Korea had been reached prior to this. Furthermore, the USA has launched negotiations with the EU and Japan.
3 The Chinese government's response to criticism of relatively high trade barriers included reductions on import duties for cars and car parts and a reduction, effective as of November of this year, in tariff rates on a significant portion of Chinese imports. In addition, it held out the prospect of additional reforms. These measures are not taken into account in the simulations below.
4 NiGEM is the global economic model developed by the UK-based National Institute of Economic and Social Research (NIESR). It models economic interconnectedness between over 60 economies and regions via foreign trade and the interest rate-exchange rate nexus. The expanded "US Tariff & BREXIT" version makes it possible to analyse trade policy measures. The model has New Keynesian features, especially forward-looking elements on the financial and labour markets. For further information, see https://nimodel.niesr.ac.uk
5 For similar studies based on selected announcements concerning the USA-China trade dispute, see I. Liadze (2018), Trade wars – any winners?, National Institute Economic Review No 245, p. F47; and I. Liadze (2018), Trade war – the saga continues, National Institute of Economic and Social Research, NiGEM Observations, No 13.
6 It was additionally assumed that the tariff barriers would slowly be reduced as from 2025. Throughout the simulation period, net export prices do not respond to additional tariffs.
7 It could alternatively be presumed, for instance, that customs receipts are used to reduce the budget deficit or increase government expenditure.
8 For an analysis of this, see Deutsche Bundesbank, The potential macroeconomic impact of US tax reform, Monthly Report, February 2018, pp. 14-16.

Trade policy moves in the USA-China dispute

Date	US measures			Chinese measures		
	Additionally affected trade values		Effective average tariff rate (%)	Additionally affected trade values		Effective average tariff rate (%)
	US$ billion	% of imports[1]		US$ billion	% of imports[1]	
6 July 2018	34	6.5	25.0	34	18.1	25.0
23 August 2018	16	3.1	25.0	16	8.5	25.0
24 September 2018	200	38.2	10.0	60	31.9	6.9
1 January 2019	[2] –	[2] –	25.0	.	.	.

Sources: Peterson Institute for International Economics, US Census Bureau and Bundesbank calculations. **1** Bilateral imports of goods and services; data taken from the US foreign trade statistics. **2** Increase in the tariff rate on goods on which new tariffs were imposed in September; no additional products affected.
Deutsche Bundesbank

eign goods in the first instance. Although this curbs demand for imports and boosts domestic production, consumers' purchasing power takes a hit, as the higher prices are passed through directly to them. The higher inflation rate, moreover, drives up interest rates. All this dampens domestic activity. The assumed income tax relief only softens this effect. Owing to rising interest rates, the domestic currency appreciates as well, which erodes price competitiveness in foreign business. On the whole, within the framework of this model even a unilateral increase in trade barriers does harm to the country's own economy.[9]

In the current USA-China dispute, the negative impacts of additional tariffs imposed by one side are amplified whenever the other side retaliates. According to the simulation, as early as in the coming year the adopted measures, on balance, will reduce US economic growth by just over one-quarter percentage point relative to a scenario without additional tariffs. Whereas the retarding effects in China are initially smaller, they last longer. In the medium term, real GDP in both economies remains 0.5% below the baseline. Should the dispute escalate further, considerably higher losses are possible. In the scenario of an expansion of US tariffs to all bilateral imports, China's medium-term GDP losses would be close to 1%. US losses would be only slightly smaller.

Bilateral trade disputes radiate to third countries through a variety of channels. Although those countries' exporters – unaffected by the imposition of tariffs – can gain market share owing to their relatively improved price competitiveness, the reduction in US and Chinese output, ceteris paribus, will reduce demand for products from other economies. In addition, dampening impacts of higher inflation rates and interest rates could spill over from the United States and China to other economic areas through the exchange rate channel. In the simplified NiGEM model world, the drags prevail most of the time. The real GDP losses relative to the baseline are perceptible in precisely those countries which are closely interconnected with the United States and China through trade links. The losses for the euro area and particularly Germany tend to remain limited, however.[10]

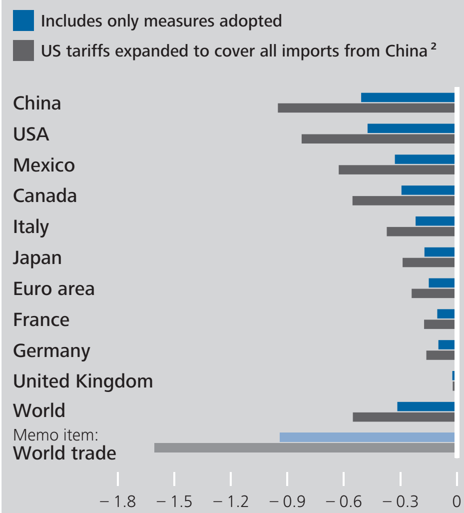
9 This result occurs not only in earlier NiGEM studies but also in comparable simulations using the Bundesbank's DSGE model. See Deutsche Bundesbank, The danger posed to the global economy by protectionist tendencies, Monthly Report, July 2017, pp. 77-91.
10 In the simulation calculations, Germany's own export prices adjust relatively strongly, reducing the German economy's comparative vulnerability. Exports therefore are considerably more resilient than would be expected following the severe damper to foreign demand.

A further escalation of the dispute reduces the volume of global trade in the medium term by more than 1.5% compared with a scenario without additional tariffs.

Compared with the results of other studies, the dampening impacts of trade disputes are, in some cases, more strongly pronounced in NiGEM. Thus, for instance, IMF simulations using the Global Integrated Monetary and Fiscal Model (GIMF), a dynamic stochastic general equilibrium model, suggest a markedly smaller loss of US GDP in the medium term. Some economies – including the euro area – could even benefit from the USA-China trade dispute.[11] Since international trade relations are modelled in a less detailed fashion in NiGEM than in the GIMF model, the aggregate losses could be overstated somewhat. However, the IMF and other institutions likewise regard considerably larger income losses as possible. Thus, in simulations, tariff scenarios are generally augmented by additional shocks, which dampen investment demand in particular.[12] Lastly, neither NiGEM nor the GIMF model takes account of sectoral developments and interconnectedness through cross-border value chains. The disruptive effects of trade barriers could therefore be underreported. Hence, it seems advisable not to underestimate the potential drag of restrictive trade policy measures on third parties, too.

Potential implications of the USA-China trade dispute for major economies' real GDP

Results of NiGEM simulations[1], percentage deviation of real GDP from baseline in 2023



Source: Bundesbank calculations using NiGEM. **1** Simulations based on US Tariff & BREXIT Expanded Model V3.18c. Customs receipts used to reduce household income tax rates. Monetary policy responses in accordance with standard rules. **2** Import tariffs of 25% imposed on all US imports from China as from Q2 2019.

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11 The IMF analysis additionally incorporates the general tariffs on imports of steel and aluminium imposed by the United States in March 2018, its trading partners' responses and a slight increase in the strength of China's retaliation as from 2019. See IMF, Global Trade Tensions, World Economic Outlook, October 2018, pp. 33-35.

12 Typically, citing confidence and uncertainty effects, either risk premia on international capital markets go up, or investment or output growth are marked down directly. See IMF (2018), op. cit.; A.G. Dizioli and B. van Roye (2018), Macroeconomic implications of increasing protectionism, Economic Bulletin, Issue 6, ECB, pp. 35-38; A. Berthou, C. Jardet, D. Siena and U. Szczerbowicz (2018), Quantifying the losses from a global trade war, Banque de France Eco Notepad, blog entry of 19 July 2018; Bank of Finland, Trade policy tensions casting shadow on economic horizon, Economic Bulletin 4/2018, pp. 40-47; and European Commission, European Economic Forecast Autumn 2018, Institutional Paper No 089, November 2018.

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

Monthly averages, log scale

Sources: Bloomberg Finance LP and HWWI. • Latest figures: average of 1 to 9 November 2018, or 1 to 15 November 2018 for crude oil.
Deutsche Bundesbank

ing an October level only slightly below that of July.

Slightly decreased consumer price inflation in industrial countries of late

In line with high but declining year-on-year rates of change for crude oil prices, annual energy price inflation in industrial countries decreased from almost 10% in June to 7% in September on the year. Headline consumer price inflation during this period accordingly slipped from 2.3% to 2.1%. By contrast, the core rate, excluding energy and food, fell only slightly to 1.5%.

Selected emerging market economies

Gradual slowdown in growth in China

In the third quarter, according to official data, growth in China decelerated further on the year to 6.5% – its lowest rate since the financial crisis. In spite of an escalation of the trade dispute with the United States, foreign trade has remained buoyant thus far. In the third quarter, imports of goods in US dollar terms were up by more than one-fifth from the figure for the same quarter a year earlier, and exports rose by just under 12%. Overall, consumption activity remained robust. Sentiment among households remained optimistic, even though the survey data were slightly down from their early-year peaks. Annual consumer price inflation increased slightly in the third quarter to 2.3%. Excluding energy and food, the rate of change remained subdued at 1.9%.

Strong GDP growth in India

In India, the positive macroeconomic developments continued. Economic growth even accelerated to 8.2% year-on-year in the second quarter. However, this rapid pace will probably not be fully maintained. Industrial output growth, for instance, has been markedly weaker over the past few months. Similarly, according to surveys, business confidence decreased slightly at the current end. Most recently, price inflation declined noticeably, particularly in the case of food. On average for the months from July to September, consumer prices increased by 3.9% on the year. The inflation rate thus broadly corresponded with the medium-term target set by the Reserve Bank of India, which nevertheless continued to gradually tighten its monetary policy and raised its policy rate to 6.5% in August.

Pace of growth still slow in Brazil

In Brazil, seasonally adjusted real GDP in the second quarter rose by 0.2% on the quarter and by 1.0% on the year. The economic recovery thus failed to make any meaningful progress. In the third quarter as well, for which official data are not yet available, growth appeared to have been only marginally higher. No lasting improvement can yet be identified in

China's foreign trade and aggregate growth

Year-on-year percentage change

Sources: NBS, General Administration of Customs of the People's Republic of China and Bundesbank calculations. **1** Nominal, in US dollar terms.

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the labour market. The unemployment rate declined slightly to 12.1% after seasonal adjustment in the third quarter, but the employment growth of the past few months was primarily attributable to the informal sector. In line with this, wage growth remained weak. At last report, consumer prices rose significantly, and the average of the third quarter exceeded its previous-year level by 4.4%. The inflation rate was thus close to the target set by the Central Bank of Brazil.

Persistently moderate growth in Russia

In Russia, the pace of economic growth remained subdued even though oil price developments continued to be favourable in the third quarter. A preliminary estimate by the Russian Federal State Statistics Office showed a decline in annual economic growth to 1.3%. This is consistent with the picture derived from the business cycle indicators. Consumer confidence and the business climate continued to deteriorate during the summer months, and motor vehicle sales were down from the previous quarter. At the same time, consumer price inflation accelerated markedly again. In the third quarter, the annual rate of consumer price inflation expanded to 3.0% from 2.4% in the preceding quarter. The seasonally adjusted unemployment rate held steady at 4.8%.

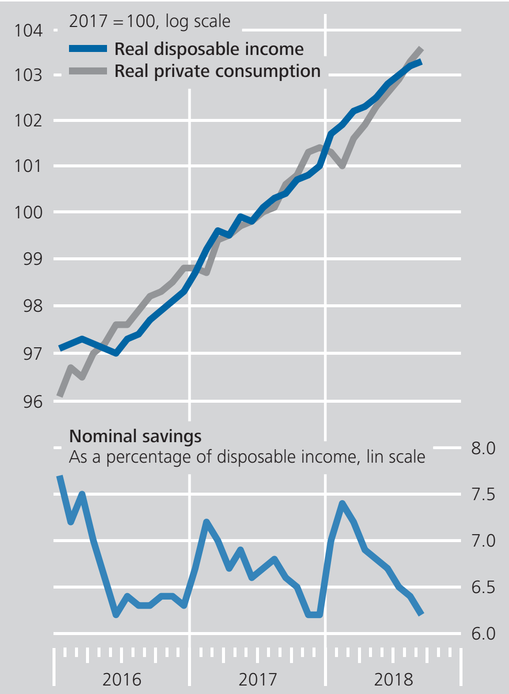
United States

Slightly slowed growth in Q3

In the United States, economic activity remained brisk in the third quarter of 2018. Real GDP, according to the first official estimate, increased by 0.9% from the second quarter in seasonally adjusted terms. The fact that this upswing could not entirely keep up with the even higher rate of the preceding period was partly due to a normalisation of foreign business. Following a sharp increase in the second quarter, exports, for example, were lower, in line with expectations. Furthermore, business investment, which had been quite buoyant up to that point, began to stumble, partly due to a probably temporary setback in the mining sector. Against the backdrop of the expansionary fiscal policy stance, public and private consumption remained an important driver of economic upturn. Household consumption expenditure increased by approximately 1% for the second consecutive quarter, after adjustment for seasonal and price variations. In the future, private consumption may again increasingly emulate the flatter expansionary path of disposable income, as the scope for expenditure created by the tax reform is likely to have been all but exhausted. The decline in the saving ratio since the beginning of the year is indicative of this. However, the exceptionally good labour market situation should continue to bolster consumer spending. In October, the unemployment rate stood at 3.7%, its lowest level since 1969, while wage growth firmed. Labour income per hour worked accelerated substantially in real terms as well, although consumer price inflation remained strong. In October, the CPI exceeded the previous year's level by 2.5%. In this setting, the US Federal Reserve maintained its stance of a gradual nor-

Indicators of private consumption in the United States

Seasonally adjusted



Sources: Bureau of Economic Analysis, Haver Analytics and Bundesbank calculations.
Deutsche Bundesbank

malisation of monetary policy and raised its policy rate by 25 basis points in September.

Japan

Blip in economic growth due to natural disasters

The expansion of the Japanese economy did not continue in the third quarter. According to a preliminary official estimate, seasonally adjusted real GDP even decreased by 0.3% compared with the second quarter, in which it had grown by as much as 0.8%. Production losses resulting from natural disasters are likely to have been a major factor here.[2] Private consumption was unable to match the level attained in the preceding quarter. Business investment activity also dipped slightly. A significant contraction in exports coincided with a marked drop in imports. The labour market remained robust throughout the period. The unemployment rate held firm at an extremely low level in the third quarter, and domestic consumer price inflation remained weak. In September, the annual core inflation rate (excluding energy and food) remained unchanged at 0.2%. Against this backdrop, the Japanese central bank maintained its accommodative stance.

United Kingdom

Economic activity firming

In the UK, economic growth accelerated again in the third quarter. After adjustment for the usual seasonal variations, price-adjusted GDP in the third quarter was up by 0.6% from the previous period, during which it had already risen by 0.4%. Firming economic activity was primarily due to a considerable expansion of manufacturing output following a second-quarter decline. Additionally, construction output rose significantly. By contrast, the services sector, which is of particular importance in the United Kingdom, expanded only moderately. In line with the somewhat increased aggregate growth dynamic, the labour market situation remained favourable in the third quarter. At last report the unemployment rate, at 4.1%, was only slightly above the extremely low level of the previous quarter. The annual increase of the Harmonised Index of Consumer Prices (HICP) was static in October at 2.4%. The Bank of England adhered to its monetary policy stance.

New EU member states

Summer upturn stepped up

In the new EU member states (EU-6),[3] the economic upswing intensified in the third quarter of 2018. Real GDP rose sharply compared with the previous quarter in most countries. On the expenditure side, economic growth continues to be buoyed up by vigorous private consumption being supported by the improved labour market situation. In the summer, the unemploy-

2 In July, unusually heavy rainfall caused flooding in the west of the country. In September, economic activity was impaired in the aftermath of a typhoon and an earthquake.
3 This group comprises the non-euro area countries that have joined the EU since 2004, i.e. Poland, the Czech Republic, Hungary, Bulgaria, Romania and Croatia.

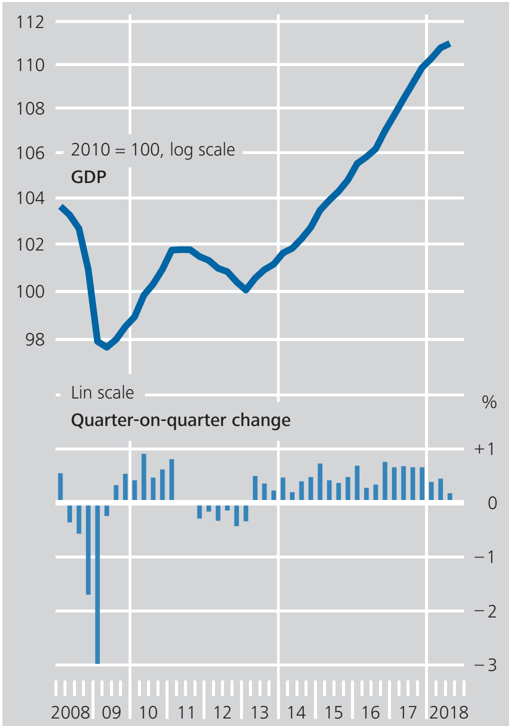
ment rate dropped to a new low of 3.9%, 0.9 percentage point lower than in the summer of 2017.

Consumer prices rising perceptibly

Consumer price inflation rose perceptibly on the year to 2.4% in the third quarter. HICP rates ranged from 1.4% in Poland to 2.3% in the Czech Republic, 3.5% in Hungary, 3.6% in Bulgaria and 4.6% in Romania. The key factors behind the increase in consumer prices were not only the rise in energy prices due to crude oil prices but also domestic inflationary pressures, which were increasing in some countries. This is linked to the strong wage growth, which had been boosted in some areas by a considerable hike in the minimum wage at the beginning of the year. Excluding energy and food, prices in the third quarter were up by 1.1% on the year, with a broad spectrum ranging from 0.2% in Poland to over 2% in the Czech Republic, Bulgaria and Romania. Owing to the distinct increase in consumer prices, in early November the Czech Republic's central bank raised its policy rates for the third time this year.

Aggregate output in the euro area*

Price and seasonally adjusted, quarterly data



Source: Eurostat. * Affected by a level shift in Irish GDP from Q1 2015 onwards.
Deutsche Bundesbank

Macroeconomic trends in the euro area

Moderate economic growth

The euro area saw only a moderate rise in economic activity in the summer. According to Eurostat's flash estimate, real GDP in the third quarter of 2018 was up by a paltry 0.2% on the quarter after seasonal adjustment, with the year-on-year figure falling to 1.7%. Temporary production losses in Germany's automotive industry are likely to be a major reason behind this further slowdown in growth. The forces fuelling economic activity generally appear to be intact despite a further dip in sentiment. This is suggested by the significant increase in exports and firming investment activity, which were accompanied by a marked pick-up in imports. That said, the underlying pace of real GDP growth has slowed distinctly since the beginning of the year.

Private consumption showing little momentum

Once again, there was likely only a slight rise in private consumption expenditure in the third quarter, with retail sales even declining marginally after price and seasonal adjustment. Nevertheless, there was a marked increase in new motor vehicle registrations. Registrations were probably brought forward to August in anticipation of a new exhaust testing standard applicable from 1 September 2018. Private consumption was bolstered by improvements in the labour market situation. Despite the rise in consumer prices, the real value of disposable income is likely to have picked up somewhat. However, households' assessment of the labour market outlook deteriorated again. Consumer confidence remained at a high level, however, in spite of a slight downturn.

Investment activity intact

The upturn in investment likely continued at a slower pace in the third quarter. Investment in machinery and equipment probably picked up again distinctly despite aggregate growth decelerating somewhat. Production of capital

Industrial activity in the euro area

Seasonally adjusted

Sources: Eurostat and European Commission. **1** Balances of industrial business survey responses.
Deutsche Bundesbank

goods, for instance, was stepped up substantially in the third quarter, and enterprises' propensity to invest was fostered by high levels of capacity utilisation. Despite the slowdown in growth since the beginning of the year, the capacity utilisation rate for industry fell only slightly. Construction investment, primarily in the housing sector, probably saw further gains. Construction output increased moderately in the third quarter. Furthermore, the business climate index for construction has remained at a very high level to date.

Encouraging growth stimulus from exports

Foreign business emitted positive growth stimuli in the summer, with earnings from exports to third countries rising noticeably despite the woes afflicting the motor vehicle industry. In addition to the firming of demand in certain key sales markets, the marginal improvement in price competitiveness observed since the spring is also likely to have contributed to this. Exports to the United States saw especially robust growth, and sales to China also picked up. Meanwhile, exports to the United Kingdom, Russia and Turkey continued their slide. Exports expanded markedly in real terms as well. In keeping with the pick-up in final demand, a clear rise in imports was recorded after price adjustment, with imports of capital goods showing the strongest growth. Intra-euro area trade remained subdued in the third quarter.

Industrial output stagnating

Industrial activity in the euro area has been distinctly losing momentum since the start of 2018. As in the previous quarter, industrial production stagnated in the third quarter. Production losses in the automotive industry were a major factor in this (for more information on this development in Germany, see p. 46 f.). Excluding motor vehicles, capital goods production expanded robustly in the third quarter. The production of consumer goods remained lacklustre, and the production of intermediate goods shrank somewhat.

Economic output up in most countries

Regional growth patterns appear to be quite mixed. Whilst aggregate output contracted somewhat in Germany, most member states saw an increase in the third quarter. In France, economic growth picked up steam again after having been held back by one-off factors such as tax hikes and strikes in the first half of the year. Real GDP grew by 0.4% from the preceding quarter after seasonal adjustment. Private consumption also rose perceptibly due to improvements in the income situation. Gross fixed capital formation continued to expand considerably. Exports increased markedly not least due to the aircraft industry eliminating its production bottleneck. In Italy, overall economic output stagnated after having risen by 0.2% in the previous quarter. Sluggish industrial activity, in particular, had had a negative impact. On the expenditure side, the slowdown in growth was probably caused by a weaker rise in investment. Private consumption expenditure is likely to have expanded slightly on the back of the notable increase in real disposable income. This is supported by the marginal gain in retail sales. Foreign business is also likely to have provided a positive growth stimulus, with Italian goods exports up noticeably in the third quarter after price adjustment. Spain's cyclical upswing continued in the summer months. Real GDP surpassed the preceding quarter's level again by 0.6%, and domestic demand remained very buoyant. In particular, investment expenditure rose substantially. Exports, by contrast, recorded a significant decline, especially in services. Economic output expanded markedly in Slovakia and Latvia as well, while aggregate output also grew quite considerably in Belgium and Austria. Real GDP was up only slightly in the Netherlands and Portugal.

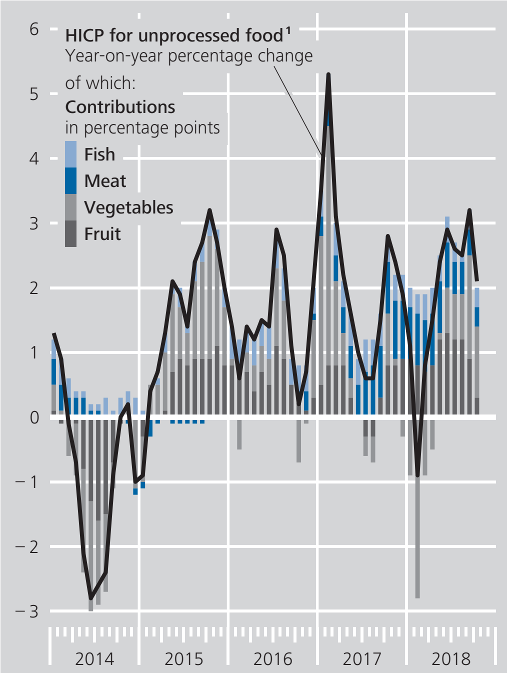
Further improvement in the labour market

Euro area labour market conditions continued to improve in the third quarter. The number of unemployed people in the third quarter fell by 275,000 compared to the second quarter of 2018, after seasonal adjustment, and by 1.4 million on the year. The standardised unemployment rate stood at 8.1% in September. The figure one year earlier had been as high as 8.9%. Employment grew by 2.0 million people in the third quarter, or by 1.3% compared to one year earlier. The upward trend in wages firmed in the light of favourable developments in the labour market (see the box on p. 20). The sideways movement in the unemployment rate since July and the recent decline in the labour shortages of industry and services may signal that the slowdown in the pace of cyclical growth since the beginning of the year is now having an impact on the labour market as well.

Consumer prices up considerably again in summer

Consumer prices in the euro area rose in the third quarter of 2018 by a seasonally adjusted 0.5% compared to the preceding quarter, representing another considerable increase. Owing to a hike in crude oil prices, energy prices went up sharply for the fourth consecutive quarter. Food products likewise became markedly more expensive; this was particularly the case for unprocessed food. This was affected by the unusually dry weather in several European countries, which in some cases resulted in major losses in vegetable yields. Prices for services continued along their moderate upward trajectory, while non-energy industrial goods prices

Contributions to unprocessed food price inflation in the euro area



Sources: Eurostat, ECB and Bundesbank calculations. **1** Differences between inflation rate and contributions are due to rounding.
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still rose only slightly. Annual headline HICP inflation increased markedly from 1.7% to 2.1%. HICP consumer prices excluding energy and food were up by 1.0% in the third quarter compared to one year earlier, which is much the same as in the preceding three quarters.

Palpable increase in headline and core rates in October

The rise in consumer prices continued in October, particularly in the case of energy prices, while seasonally adjusted food price inflation largely stalled. Inflation for other components remained moderate. Accordingly, annual headline HICP inflation increased to 2.2% The rate excluding energy and food also rose, to 1.1%. The fact that dampening one-off effects (especially the reductions in motor vehicle insurance premiums that came into effect in Germany in October last year as well as in university tuition fees in Italy) were excluded from the year-on-year comparison was a factor in this regard.

The persistently positive sentiment in the euro area, despite a gradual decline, suggests that

Recent wage developments in the euro area

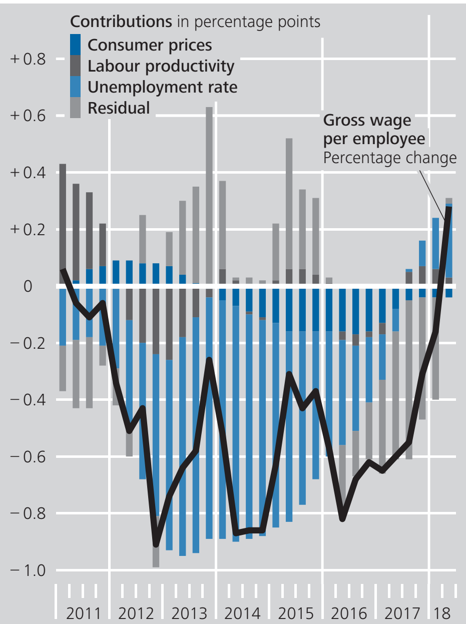
Following a prolonged period of weakness, euro area wage growth has been accelerating continuously since mid-2016, especially in the first half of 2018. Gross wages per employee were up in the first quarter of 2018 by 1.9% on the year after seasonal and calendar adjustment and in the second quarter by 2.4%. Their growth in 2017 had been merely 1.6%.[1] Considerable increases in negotiated wages are one of the primary factors behind the acceleration in growth. According to ECB statistics, they picked up in the first quarter by 1.8% on the year and in the second quarter by 2.2%. This contrasted with growth in the past year of only 1.5%.

According to an estimated wage Phillips curve, which explains the annual change in gross wages per employee by the lagged consumer price inflation rate, labour productivity growth and the lagged unemployment rate,[2] the improved labour market situation is the primary cause of accelerated growth in the first half of the year. Although the euro area unemployment rate, at 8.3% in the second quarter of 2018, remained above its pre-crisis level, in the past year it had already dropped below the average of the period from the first quarter of 2000 to the second quarter of 2018, on which this estimate is based. According to the estimate, positive stimuli were emitted not only by the improving labour market situation but also by productivity growth, and the dampening effects of the low inflation rates subsided. In addition, in the second quarter wage growth corresponded quite largely to the development of the determinants captured here, having fallen short of them in the previous quarters. This could be a sign that additional factors which in the recent past had weighed on wage growth were no longer relevant in the second quarter of 2018. These may have included the after-effects of nominal downward rigidities, which had initially stifled significant wage adjustments during the last economic downturn. The absence of wage cuts later weighed on wage developments. For instance, in Italy, negotiated wages in the public sector were increased sharply in the second quarter, after having been frozen since 2010. On the other hand, it is possible that deferred pay increases were being made up. In that case, the recent movement in the underlying tendency could be somewhat overstated.

When assessing wage and employment data, it should generally be noted that, at the current end, they should be regarded as provisional and are frequently revised. They should therefore be taken with the proverbial grain of salt. Nevertheless, on balance, the data would appear to indicate that the upward wage trend in the euro area has stabilised.

Estimated components of wage growth based on the wage Phillips curve*

Year-on-year change



Sources: Eurostat and Bundesbank calculations. * Deviations from the mean over the Q1 2000 to Q2 2018 estimation period.

Deutsche Bundesbank

1 In each of the first and second quarters of 2018, gross hourly wages rose by 1.8%, following 1.4% last year.
2 For more on the specification of the wage Phillips curve used here, see also Deutsche Bundesbank, The Phillips curve as an instrument of analysis and forecasting inflation in Germany, Monthly Report, April 2016, pp. 31-45; and Deutsche Bundesbank, Wage dynamics amid high euro area unemployment, Monthly Report, December 2016, pp. 33-55.

Stronger economic growth again in the fourth quarter

the economic upturn is set to continue. Though the Purchasing Managers' Index for the whole economy fell to its lowest level in two years – particularly in manufacturing, for which the index recently saw considerable deterioration – the indices for manufacturing and market services do still signal an expansion in aggregate output. Moreover, the European Commission's indicators of business and consumer sentiment still remained well above their long-term averages, despite a significant downturn in recent months. Favourable financing conditions, the continuing improvements in the labour market and the vibrant global economy are continuing to provide buoyancy. If additional disruptions are kept at bay, euro area economic output should still see accelerated growth in the final quarter of 2018.