Global and European setting

Global economic developments

Global activity is likely to have remained weak at the end of 2019 as well, with economic expansion even slowing slightly in the advanced economies. However, one-off effects played a role here. This was particularly true for Japan, where economic output is expected to have fallen substantially in the fourth quarter owing to a tax hike and a typhoon. In the United Kingdom, concerns about a disorderly exit from the European Union seem to have contributed to a sideways movement. In addition, growth in the euro area slowed. Only in the United States did economic expansion continue at a moderate pace. The situation was slightly more favourable in the emerging market economies (EMEs). For instance, economic growth in China stabilised after having continuously lost momentum in the preceding quarters. Economic activity in the other large EMEs appears to have regained some traction, too.

Nevertheless, economic growth for 2019 as a whole looks set to have been at its lowest level since the global financial and economic crisis, both in the EMEs and worldwide. This was chiefly due to the weakness in industry and in global trade. According to data provided by the Dutch economic research institute Centraal Planbureau (CPB), the underlying trend in global industrial production has seen only sideways movement since the final quarter of 2018. The volume of global trade has even declined slightly.

Nonetheless, there have been increasing signs of a certain degree of improvement in the past few months. The global Purchasing Managers’ Index (PMI) for manufacturing, in particular, now appears to have bottomed out. It continued to increase in January 2020, and now lies somewhat above the expansion threshold again. The primary reason for this was likely to have been the fading of negative demand shocks (see the box on pp. 11f.). The PMI for the services sector also rebounded again recently after a certain time lag.¹ The Bundesbank’s leading indicator for the world economy rose even more significantly. In January, it reached its highest level in one and a half years, boosted by improved sentiment in the financial markets. On the whole, there are a number of indications that the global economy is gradually firming.

A similar assessment also forms the basis of the current projection published by the International Monetary Fund (IMF). Although the IMF revised its projections for global economic

¹ This confirms the pattern that has been observed in the past, where turnarounds in the manufacturing sector typically anticipate similar changes in sentiment in the services sector. See Deutsche Bundesbank (2019a).
Driving forces of global industrial activity

Weakness in global industrial activity over the last two years has been a major factor behind the slowdown in global economic growth. The causes of this development can be analysed using a structural vector autoregressive (SVAR) model. This allows a distinction to be made between supply-side and demand-side explanatory factors. For this purpose, structural shocks are identified using sign restrictions. A negative demand shock initially reduces output and prices, whereas an adverse supply shock lowers output and increases prices.

The bivariate SVAR model is estimated using seasonally adjusted monthly data from the Global Manufacturing PMI (Purchasing Managers’ Index). The output component serves as an indicator of production, whereas the survey results on producer prices are used as a measure of price dynamics. A historical decomposition for the variables contained in the model is derived from the estimated model and the shock identification. It decomposes the deviations of each variable from its unconditional mean into the contributions of present and past realisations of the identified shocks.

The results of this analysis suggest that since the beginning of 2018, demand-side factors have contributed significantly to the decline in the output component of the global PMI. In 2017, these had provided a noticeable boost to industrial activity. This reversal can probably be attributed in part to the declining investment momentum following a previous boom. Another factor may have been an increase in (trade policy) uncertainty. In addition, supply-side disruptions have continued to weigh on industrial activity right up to the present. These could potentially reflect higher trade costs for intermediate goods resulting from the trade disputes of the last year and a half and the production cuts by OPEC and its partners.

The coincident occurrence of pronounced adverse supply and demand shocks distinguishes the current episode from previous periods of weakness in the global economy since its recovery from the global financial and economic crisis. Although there were

**Historical shock decomposition of the Global Manufacturing PMI**

<table>
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<tr>
<th>Deviation from unconditional mean</th>
<th>Supply shocks</th>
<th>Demand shocks</th>
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Sources: IHS Markit and Bundesbank calculations. * Output component. 1 Contributions of contemporaneous and past realisations of economic shocks, as derived from the SVAR model. Differences between the actual deviations shown and the sum of the contributions are due to the model.
negative demand shocks of a similar magnitude during the economic soft patch of 2015 and 2016, these were mitigated by supply-side impulses, which were probably mainly related to falling commodity prices as a result of a strong increase in production volumes. Due to this constellation of shocks, the economic slowdown at the time was not only milder, but was also distributed less evenly across regions. While industrial momentum in 2015 had weakened above all in China and some commodity-exporting countries, in mid-2019 it weakened in almost all countries.

Since the second half of 2019, the output component of the Global Manufacturing PMI has recovered somewhat. The shock decomposition identifies subsiding negative demand shocks as a major driver of this. That said, the recent improvement should be interpreted with caution, not least due to the existing estimation uncertainty. Furthermore, the PMI at the start of 2020 was only marginally above the expansion threshold. It therefore remains to be seen how much momentum industry will have as it emerges from its trough.

These concerns have already left their mark on international commodities markets during the reporting period. At the beginning of the year, however, oil prices still rose markedly against the backdrop of the confrontation between Iran and the United States. In the preceding months, crude oil prices had gone up distinctly owing to the expected extension of production cuts, which OPEC and its partners then adopted at the start of December 2019. Demand prospects were considered to be more favourable, giving oil prices an additional boost after the partial agreement in the trade dispute between the United States and China. In the first half of January, a barrel of Brent crude oil at times cost just under US$70 on the spot market, thus

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3 This interpretation is supported by an extended model that includes crude oil prices and thus also allows for a simplified identification of oil price shocks. 4 See Deutsche Bundesbank (2015).
putting it around 16% higher than in October last year. Crude oil prices have registered a steep decline in recent weeks, however. The spread of the new coronavirus has probably been a factor in this, as has the stabilisation of the situation in the Middle East. The travel restrictions put in place to contain the infectious disease are likely to have markedly dampened China’s demand for oil during the main holiday season there. As this report went to press, the price of a barrel of Brent crude oil stood at just US$56. Recently, similar prices have had to be paid for future deliveries. The prices for industrial commodities essentially followed the pattern traced by oil prices during the reporting period. By contrast, prices for key food and beverages rose slightly. Overall, compared with its level in October, the HWWI index for non-energy commodities was down somewhat until the start of February.

The increase in oil prices was accompanied by a rise in the costs of living in industrial countries up to the end of 2019. Annual consumer price inflation went up from 1.3% in September to 1.8% in December 2019. The core rate excluding energy and food rose slightly over the same period to 1.8%. The underlying inflationary pressures thus remained subdued.

Selected emerging market economies

In China, real gross domestic product (GDP) exceeded the previous year’s fourth quarter level by 6% according to the official figures for the fourth quarter of 2019. This meant that GDP growth maintained the pace seen in the third quarter following five quarters of gradual contraction. Industry is likely to have contributed the most to stabilising the economy as a whole. Supportive stimuli were provided by motor vehicle manufacturing, which was able to expand production again for the first time after a longer period of downward movement. By contrast, the export sector has remained lacklustre recently. In 2019 as a whole, revenue from goods exports as measured in US dollars hovered close to the previous year’s level. In fact, exports to the United States declined by 13% due to the trade dispute. A further escalation of the conflict was averted for the time being with the signing of an initial trade agreement in January 2020. Notably, China has committed to importing a considerably greater volume of US goods and services in future. The United States is hoping for greater demand from China, not least for food products. China currently also has high demand for meat products in particular, given the losses caused by swine fever. This is reflected in the steep rise in food prices. Overall, annual headline consumer price inflation (CPI) rose further to 4.3% in the fourth quarter, which was its highest rate since the end of 2011.

3 At the end of 2019, additional tariffs had been imposed on around two-thirds of the total volume of goods traded between the United States and China. For more information on the US-China trade dispute and its impact, see Deutsche Bundesbank (2020).
Since mid-January 2020, public life in China has largely been brought to a standstill due to the rapid spread of the new coronavirus strain. The government cordoned off several particularly severely affected cities and provinces, and companies across China extended their holiday shutdowns. Against this backdrop, there are indications of considerable disruption to economic activity for the current quarter. The growth losses could be distinctly higher than during the SARS epidemic of 2002-03, when the number of people infected was significantly lower and the authorities reacted less decisively. Nevertheless, as has been the case in previous epidemics, economic activity should swiftly return to normal levels once this epidemic has been contained.

In India, business activity is likely to have stabilised by the end of 2019, after having previously decelerated sharply. In the third quarter of 2019, year-on-year economic expansion had fallen to 4.5%. The main reason for this was probably the crisis in the shadow banking industry, which plays a vital role in the supply of credit to households and small enterprises. Although the problems are clearly not quite over yet, various indicators, including motor vehicle sales, have tended upwards again recently. Against this backdrop, the central bank has not lowered its policy rate any further since October. Intensifying consumer price inflation is also likely to have played a role here. Inflation increased in the previous quarter to 5.8% on the year. This was primarily attributable to a strong rise in food prices due to monsoon-related crop failures.

There has also still not been any data published from Brazil’s national accounts for the final quarter of 2019. However, the trend in the central bank’s monthly activity indicator suggests that GDP has grown moderately once again. The economic recovery following the deep recession of 2015-16 thus appears to have strengthened somewhat over the past year. Nevertheless, GDP has not yet returned to its pre-crisis level. There has also been hardly any reduction in the high level of unemployment so far. In February 2020, the central bank lowered its policy rate again by 25 basis points, putting it at a new all-time low. Although consumer price inflation accelerated to 4.3% on the year by December 2019, this rise was probably largely attributable to temporary effects. Both the core rate and inflation expectations hovered at a low level.

In Russia, the slight upturn in economic activity that had already become apparent in the third quarter of 2019 continued until the end of the year. Although a GDP estimate for the past quarter is not yet available, the distinct pick-up in retail turnover – well above the rate of inflation – points to an increase in private consumption. This was caused by a marked increase in real disposable income brought about by the weaker rise in consumer prices. At 3.4% on the year, inflation in the fourth quarter was quite low by Russian standards. Against this background, the central bank maintained its accommodative monetary policy stance. At the same time, the Russian government signalled at the start of 2020 that its fiscal policy will be less restrictive in future.

In the United States, the overall economic upturn continued, maintaining its moderate pace in the final quarter of 2019. According to an initial estimate, real GDP increased by 0.5% on the third quarter. Economic output had risen at similar rates in the second and third quarters. The expansion of domestic demand most recently lost considerable momentum, however. Business investment was cut again, for example, and inventory stockpiling came to a halt. Furthermore, the strong rise in private consumption of the previous two quarters weakened markedly. There was even a decline in the demand for foreign consumer goods. This is one of the reasons why imports were far below their level in the third quarter. In keeping with the persistent sluggishness in international...
trade, US exports saw little growth. The considerable additional purchases to which China committed itself in the latest US-China trade agreement suggest, however, that US export business could pick up some steam again in the coming quarters. According to surveys of purchasing managers, US companies have recently taken a more positive view of the future again in light of the easing tensions in trade politics. The continued favourable labour market situation is also boosting private consumption. In January 2020, the unemployment rate remained close to its 50-year low. Annual consumer price inflation went up to 2.5% in the same month. Given this context, the US Federal Reserve System refrained from further loosening its monetary policy stance.

**United Kingdom**

The United Kingdom’s overall upward economic movement faltered in the fourth quarter of 2019. According to an initial estimate, and after elimination of the usual seasonal influences, real GDP stagnated at the third-quarter level, in which it had still seen distinct growth. Temporary concerns about a disorderly withdrawal from the European Union are likely to have played a role in this regard, impacting on the manufacturing sector in particular. Momentum waned in the services sector as well, however. On the other hand, the labour market situation remained very favourable. On an average for September to November, the seasonally adjusted unemployment rate remained at its provisional cyclical low of 3.8%. Moreover, many enterprises considered business conditions to be more favourable again at the start of 2020. The Purchasing Managers’ Index for the whole economy climbed well above the expansion threshold in January. The fact that the new government’s clear majority in the UK parliament paved the way for an orderly withdrawal from the EU on 31 January 2020 is likely to have been a key factor in this context. How long this improvement in sentiment will last also depends on how well the negotiations on the future relationship with the EU progress. The annual rate of the Harmonised Index of Consumer Prices (HICP) went down further in past months and most recently stood at 1.3%. At the end of January, the Bank of England maintained its monetary policy stance.

**Japan**

In Japan, economic output at the end of 2019 appears to have fallen substantially, following fairly brisk growth in real GDP in the first three quarters of the year. One of the main reasons for this is likely to have been the increase in value added tax on 1 October 2019. Similar measures in the past have been associated with significant contractions in private consumption. Indeed, the Bank of Japan’s price-adjusted Consumption Activity Index has recently fallen well below the level seen in the third quarter of 2019. Output losses that occurred after a typhoon hit the Japanese mainland in the middle of October were another contributing factor. As a result, industrial output in the fourth quarter was significantly lower than in the preceding quarter and was accompanied by a marked decline in the import of goods. The export of goods was also unable to maintain its level of the preceding quarter. However, there is much to indicate that the Japanese economy will veer back onto a sound expansionary path in the coming quarters. The labour market continued to provide robust support for private consumption, and, at the end of the year, the unemployment rate held firm at an exceedingly low level. In order to accelerate cyclical normalisation and avert downside risks, the Japanese parliament (National Diet) adopted an extensive Stagnation in real GDP

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4 If a corresponding trade agreement is not reached, significant tariff barriers would come into force on the basis of World Trade Organization rules once the transition period expires on 31 December 2020.

5 Analyses for the United States show that hurricanes lead to a marked dampening of both industrial output and private consumption in the short term. Initially, this negative impact on the overall economy is only partly offset by an increase in activity in the construction sector that is probably connected to reconstruction work. See Deutsche Bundesbank (2017).
stimulus package at the end of January 2020. The core inflation rate – as measured by the annual rate of the CPI excluding energy and food – remained weak in December at 0.5%. Against this backdrop, the Japanese central bank maintained its accommodative stance.

Poland

In Poland, there was a significant slowdown in economic growth in the final quarter of 2019. Real GDP grew by just 0.2% on the quarter in seasonally adjusted terms, following growth of 1.2% in the preceding quarter. According to an initial estimate, economic output for the year as a whole increased by 4.0%, which was markedly lower than the rate of 5.1% seen in the previous year. While investment in the fourth quarter lost some of its momentum, the economy continued to be buoyed by private consumption, which benefited from a favourable labour market situation and increased social security benefits. While the number of unemployed persons rose again slightly of late, the unemployment rate remained decidedly low at 3.2%. Monthly gross wages grew substantially again in the fourth quarter, up 6.9% in year-on-year terms. Consumer price inflation (CPI) rose to 2.8% on the year in the fourth quarter. In December, the inflation rate jumped to 3.4% and the core rate increased to 3.1%, primarily due to the steep rises in prices for services. The Polish central bank left its policy rate unchanged, as consumer price inflation was still within its medium-term target corridor for the inflation rate.

Macroeconomic trends in the euro area

In the euro area, aggregate output increased only marginally in the final quarter of 2019. According to Eurostat’s flash estimate, real GDP rose by a mere 0.1% on the preceding quarter in seasonally adjusted terms. The increase fell to 0.9% on the year and thus remained considerably lower than the potential rate of 1.3% estimated by the European Commission. One of the key reasons for this only weak economic growth was the further decline in manufacturing output, despite growth in export business. It is likely that enterprises were reducing their inventories, which were reported as being too high in European Commission surveys. Furthermore, sluggish industrial activity adversely affected industry-oriented services sectors. By contrast, consumer-related services proved once again to be fairly robust.

Following the steep rise in the third quarter, private consumption is likely to have grown somewhat less strongly in the fourth quarter. In price and seasonally adjusted terms, retail sales saw only moderate growth. While new passenger car registrations increased considerably over the course of the quarter and offset the temporary decline in September linked to the further tightening of emission standards, registrations increased only slightly on a quarterly average. The additional scope for expenditure due to the marked increase in disposable income

6 Simulations using the NIGEM global econometric model indicate that Japanese economic growth in 2020 could end up 0.5 percentage point higher as a result of the fiscal measures taken. However, GDP growth in the subsequent year is expected to be markedly weaker due to the withdrawal of fiscal stimuli. 
7 In the third quarter, it rose by a seasonally adjusted 0.3%.
was therefore presumably not fully exhausted in the fourth quarter. A role may have been played here by the slight dimming of consumer expectations regarding future economic development, as indicated by the European Commission’s consumer survey.

Investment activity probably remained sluggish in the final quarter of 2019.\(^8\) Investment in machinery and equipment continued to fall, and construction investment presumably nudged downwards following a previous rise. At any rate, domestic sales among capital goods producers weakened in October and November, and construction work fell distinctly at the end of the year. Although capacity utilisation in manufacturing remained close to its long-term average between October and January, the weak demand is likely to have dampened the propensity to invest. This is what the European Commission surveys suggest, in any case. For construction investment, by contrast, the surveys indicate that growth was stifled more by supply-side impediments.

According to the foreign trade statistics, the value of goods exports to countries outside the euro area increased markedly in the final quarter of 2019.\(^8\) Exports to China, in particular, which had fallen slightly in the two preceding quarters, rose considerably once again. Exports to Turkey and Russia also recorded fairly robust growth. Deliveries to the United Kingdom, on the other hand, were down somewhat, whilst exports to the United States fell distinctly at the end of the year. Import demand, which recently has only been weak, is likely to have had an impact here. By contrast, the additional tariffs on aircraft and agricultural products introduced by the United States in the fourth quarter were probably only responsible for a small part of the decline. Given the only muted rise in export prices, the volume of exports to third countries is also likely to have risen markedly. By contrast, according to the foreign trade statistics, the volume of imports from this group of countries fell distinctly in the fourth quarter. On an average of October and November, there was an increase in imports of capital goods and consumer goods, while imports of intermediate goods continued to decline. In price-adjusted terms, foreign trade within the euro area has increased significantly again of late.

Industrial output continued to fall in the fourth quarter, with an especially sharp decline in the production of capital goods. There was once again a significant drop in the manufacture of cars, bringing production roughly 15% lower than its last peak in the fourth quarter of 2017. The manufacture of intermediate goods also fell. By contrast, the production of consumer goods increased slightly in line with the robust

8 This section concerns developments in the euro area excluding Ireland. In Ireland, the national accounts data, including the data on gross fixed capital formation in particular, have been heavily influenced by the activities of multinational enterprises for a number of years. The large fluctuations that result are also perceptible in the euro area aggregates. Excluding Ireland therefore allows for a better analysis of the cyclical trend in the euro area. See Deutsche Bundesbank (2018).
Consumer demand. In the services sectors, growth lost some of its momentum in October and November. A marked weakening in the pace of growth was seen, in particular, in the transport industry, the information and communications sector and other business and support services.

In terms of individual countries, the downturn in economic activity in the euro area was attributable primarily to declines in France and Italy. Most other Member States largely maintained their paces of growth. In France, real GDP fell by 0.1% in the final quarter of 2019 compared to the preceding period, owing in part to production losses caused by strikes and maintenance activities at a large refinery. These events also left their marks on the expenditure components of GDP, such as the substantial fall in expenditure on transport services. Much the same applies to exports of energy and pharmaceutical products. Even the extensive deliveries of transport equipment failed to fully offset this, as accompanying reductions in inventory made a negative contribution to growth. In Italy, aggregate output contracted by 0.3% according to the flash estimate of the Italian statistical office despite the foreign trade statistics showing a marked rise in goods exports. The domestic economy, however, proved weak. Given the only moderate increase in households’ real disposable income, private consumption expenditure is likely to have increased only slightly at best. The same is probably true for investment activity, despite the incentives to invest introduced in the first half of last year. The movements in inventories are likely to have resulted in a large negative contribution to growth. In Spain, by contrast, economic growth increased slightly on the quarter to 0.5%, with exports providing the key stimuli. Conversely, investment activities were pared back considerably and private consumption stagnated, albeit following strong growth in both areas in the preceding quarter. In line with the current weak domestic demand, imports fell markedly. In other Member States, such as the Netherlands, Austria and Belgium, growth continued at a moderate pace, while in some eastern Member States, economic activity remained vigorous. However, real GDP in Finland contracted.

The situation on the labour market in the euro area further improved, albeit only incrementally. In seasonally adjusted terms, the number of unemployed people in the fourth quarter fell by 86,000 compared to the preceding quarter, and by around 700,000 on the year. The standardised unemployment rate fell to 7.4% by December. It was therefore only marginally higher than its last cyclical low prior to the financial and economic crisis, when it stood at 7.3%. According to Eurostat’s flash estimate, growth in the number of persons in employment was, at 0.3%, actually higher again in the final quarter compared with the preceding quarter. As employment growth has only exhibited a muted response to the economic slowdown, productivity has stagnated since the beginning of 2018. Given the scarcity on the labour markets, which continues to be fairly pronounced as indicated...
by European Commission surveys, enterprises appear to be building up a labour buffer. Wage growth is likely to have also remained brisk in the fourth quarter.

Compared with the previous quarter, consumer prices in the euro area saw slightly stronger growth in the fourth quarter of 2019, rising by a seasonally adjusted 0.3% on the quarter. This was due chiefly to the energy component. By contrast, prices for services increased to a similar extent as in the previous quarter, roughly matching their average rate of growth since the start of the currency union. The same is true of prices for industrial goods excluding energy. Food prices rose less sharply than in the third quarter, above all because prices for unprocessed products normalised again following weather-induced volatility. Overall, annual headline HICP remained unchanged at 1.0% in the fourth quarter of 2019. By contrast, the inflation rate excluding energy and food rose from 0.9% to 1.2%, partly due to a one-off effect in the sub-index for package holidays.9

In 2019 as a whole, consumer price inflation amounted to 1.2% and was thus slightly lower than the 1.8% seen in 2018. Excluding energy and food, however, the rate of inflation persisted at 1.0%, as in the preceding two years. While for industrial goods, both in aggregate terms and for the sub-components, the price movements observed were similar to those in the previous year, shifts took place in the area of services. Here, the rise in prices for travel services weakened considerably, while inflation for household services increased and housing rents also went up.

According to the Eurostat flash estimate, annual headline HICP inflation increased to 1.4% in January 2020 from a level of 1.3% in December 2019. Prices for energy and processed food in particular increased fairly substantially on the month in seasonally adjusted terms, but the slightly positive price trend for industrial goods excluding energy also continued. By contrast, the prices of services fell somewhat on account of package holidays.

Despite the slowdown in growth at the end of the year, there are mounting signs of a brightening economic outlook. A key factor here is the prospect of the decline in manufacturing output potentially coming to an end. Sentiment in industry has, at any rate, improved somewhat of late. Furthermore, adjustments to inventories are likely to have made significant progress. This lowers the probability of further contagion effects in the hitherto fairly stable tertiary sector and to the labour markets, which have scarcely been affected thus far. Business climate in the services sectors and the construction sector continued to exceed their respective long-term averages. Overall, therefore, there are signs that growth in the euro area is accelerating at the start of 2020. That said, significant risks still stand in the way of a compre-

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9 See Deutsche Bundesbank (2019b).
hensive improvement in the economic outlook. The trade disputes have yet to be resolved, the future relationship between the United Kingdom and the European Union has yet to be clarified, geopolitical tensions in parts of the world mean that uncertainty remains high, and the dangers stemming from the new coronavirus strain are currently difficult to gauge. In addition, structural problems are continuing to place a burden on individual euro area countries.

### List of references


