Global and European setting

Global economic developments

Significant loss in momentum of global economic recovery

The global economic recovery lost significant momentum in the third quarter of 2021. Severe shortages of intermediate goods hindered economic activity in many regions. As the Delta variant of the coronavirus spread, pandemic-induced burdens in some countries were also exacerbated again, including in China, Japan and the United States as well as parts of Europe – a situation compounded at times by additional inhibiting factors. For instance, economic growth in China also slowed due to problems on the real estate market. In the United States, weather-induced production losses and the expiry of fiscal transfer payments were partly responsible for weaker growth. Recovery in the United Kingdom likewise continued at a markedly reduced pace. In the euro area, meanwhile, price-adjusted gross domestic product (GDP) saw renewed robust growth, but here, too, the recovery lost significant momentum over the course of the quarter.

Global industry increasingly suffering from shortages of materials

The manufacturing sector, above all, suffered from shortages of important input products. For months, enterprises in all manner of sectors had already been complaining of increasing suppliers' delivery times. These delays have now begun to have an ever-growing impact on downstream production stages. In spite of well-filled order books, global industrial production sank markedly over the course of the third quarter, and global trade remained listless. The problems were particularly pronounced in the automotive industry, with production lines coming to a standstill in many places in the third quarter owing to a shortage of semiconductor components. Compared with the already depressed level of the previous quarter, the number of passenger cars produced worldwide was again down by more than 10%. According to industry estimates, for the first nine months of the year production losses already amounted to around 7½ million vehicles.[1] In value terms, the direct losses in this period are likely to have amounted to almost 0.5% of global economic output.[2]

Energy price growth robust of late

A high demand for fossil fuels in the third quarter was also met with market scarcity, which caused prices to increase sharply. The natural gas price, in particular, reached new record highs in recent months. According to the HWWI index, it doubled at times compared with August and nearly quadrupled on the year. In Europe, prices rose even more dramatically as the natural gas reservoirs were at unusually low levels before the onset of cold weather. One reason for this was reduced delivery

Global economic indicators*

Q4 2019 = 100, seasonally adjusted, log scale

Sources: CPB, national data, Haver Analytics and Bundesbank calculations. * Groups of countries vary due to differences in data availability. 1 Bundesbank aggregate of national data, based on the number of units.

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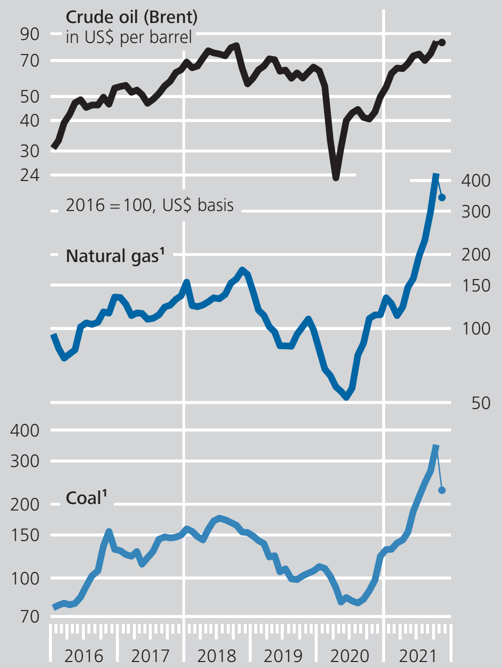
1 See IHS Markit (2021).
2 This calculation is based on the assumption that an average passenger car costs US$37,000.

World market prices for energy commodities

Monthly averages, log scale



Sources: Bloomberg Finance L.P. and HWWI. • Latest figures: average of 1 to 12 November 2021, or 1 to 18 November 2021 for crude oil. **1** According to HWWI commodity price index.

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quantities from Russia – Europe's most important source of natural gas. There is no indication that prices on the futures markets will drop anytime soon. Only longer-term futures are trading at significant discounts. Alongside natural gas, coal likewise rose in price in the reporting period, at times quite significantly. Crude oil prices were also up markedly in recent months. A barrel of Brent crude oil cost around US$83 in November to date – more than twice as much as one year previously. This was partly due to a significant pick-up in global demand, also as a result of gas being substituted by oil. Global supply failed to keep pace on account of isolated production shortfalls and the decision by OPEC and its partners to expand their own production only slightly. Strategic considerations by oil-producing countries also speak against an ample market supply looking ahead, too. Nonetheless, contracts for crude oil deliveries in the medium and longer term were trading at distinct discounts.

Rise in consumer prices strengthening again worldwide

The significant increase in energy prices was a distinct factor behind the rise in consumer prices strengthening once again worldwide over the last few months. Furthermore, some enterprises in sectors that had been especially hard hit by pandemic-induced restrictions increased their prices substantially. Lastly, producers seem to be passing on cost pressures, which have persisted for some time now, to the end customer to an increasing extent. In the industrial countries, the increase in consumer prices strengthened to 4.8% on the year by October, or 3.3% excluding energy and food. This was the sharpest rise for more than 15 years. Further price pass-through to consumers can be expected over the coming months, too, on account of the persistent inflationary pressure on industrial producer prices. However, as supply bottlenecks are gradually overcome, the associated price surges should abate. That said, there is a risk of accelerated price increases becoming entrenched due to higher inflation expectations, for instance. Against this backdrop, the first central banks in the industrial countries have initiated an exit from their very accommodative monetary policy. Many emerging market economies have already been substantially tightening their monetary policy for quite some time.

IMF emphasises upside risks to inflation outlook

In its most recent World Economic Outlook, the International Monetary Fund (IMF) is still projecting a return to moderate rates of inflation soon. However, IMF staff underline the high level of uncertainty surrounding the inflation outlook and emphasise upside risks. The IMF lowered its global economic growth projection for the current year marginally to 5.9%. It thus took account of the rather disappointing economic developments in a number of industrial countries over the course of the third quarter. The IMF left its projection for global GDP growth in 2022 unchanged at 4.9%. This forecast rests on the assumption that the US economy, in particular, will continue to be massively supported by accommodative fiscal policy. The scope of the infrastructure programme that has now been adopted, as well as of the imminent compromise in the dispute over future social policy, has fallen short of expectations, however (see the box on pp. 17 f.). IMF staff also maintained their favourable outlook for China.[3]

China

Economic expansion significantly weakened, …

The expansion in the Chinese economy, which had already distinctly lost momentum in the first half of 2021, slowed further in the third quarter. According to official estimates, real GDP grew by just 0.2% on the previous quarter in seasonally adjusted terms.[4] A number of factors played a role in the particularly weak pace of growth. First, there were coronavirus outbreaks in several regions in the third quarter, which the authorities again countered with rigorous containment measures. This hampered activity in consumption-related services sectors. Shortages in energy supply and of key intermediate goods constrained industrial production. Lastly, the macroeconomically important real estate market also weakened markedly. If the slump on the housing market intensifies in the coming months, this would not only significantly dampen economic growth in China but could also spill over to other economies (see the box on pp. 14 f.).

… but, at the same time, price rises for industrial goods accelerated further

Despite the slowdown in global economic activity and the supply-side problems in industry, revenues from goods exports (on a US dollar basis) increased further in the quarter just ended. The level of the third quarter of 2020, already elevated by pandemic-induced shifts in demand, was exceeded by one-quarter.[5] However, this was largely attributable not least to price increases. According to the average value index, export prices in September were up by almost 17% on the year. Producer prices (on a renminbi basis) went up by 10.7% over the same period. By contrast, consumer price inflation remained extremely subdued according to official figures. The consumer price index increased by just 0.7% on the year in September. Even excluding food, which became significantly cheaper, the rise in prices was moderate at 2%.

Consumer prices in industrial countries and emerging market economies

Year-on-year percentage change

Sources: IHS Markit and Bundesbank calculations. **1** Consumer prices excluding energy and food; additionally excluding alcoholic beverages and tobacco products for the EU, Norway, Switzerland and the United Kingdom. **2** EU, Japan, Canada, Norway, Switzerland, the United States and the United Kingdom. **3** Brazil, China, India, Indonesia, Mexico, Russia, Saudi Arabia, South Africa and Turkey.

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Other selected emerging market economies

Recovery in India after GDP slump in Q2

The Indian economy is likely to have largely recovered in recent months from the consequences of the severe coronavirus wave in April and May. It is, however, unclear whether economic output already returned to its pre-pandemic level in the third quarter. In any case, industrial production picked up significantly and exceeded its pre-crisis level. One key reason for this is likely to have been the boom in

3 See International Monetary Fund (2021).
4 The year-on-year growth rate decreased from 7.9% in the second quarter to 4.9%. As this report went to press, the pre-crisis level was exceeded by just over 8% in seasonally adjusted terms.
5 Chinese export growth in the past year was attributable inter alia to pandemic-related medical products and consumer goods. See Deutsche Bundesbank (2021a).

The potential effects of a sharp downturn on the Chinese real estate market

The debt crisis surrounding the real estate group China Evergrande has shaken the entire Chinese residential real estate market. Additional real estate enterprises in that country have already encountered financial distress, and a number of major building projects have been put on ice. Chinese home-buyers, who generally have to pay in advance, have been taking a wait-and-see attitude in this environment. In October, housing transactions (based on floor space sold) were down by one-quarter from the previous year. This further worsened property developers' liquidity situation.

The current problems represent a potential tipping point for the Chinese real estate market, which had experienced a virtually uninterrupted upswing since the early 1990s, giving this sector very large weight in the economy as a whole by international standards. In 2020, housing investment was estimated to have made up around 8% of gross domestic product (GDP).[1]

A long and severe housing market downturn would thus be a considerable drag on economic activity in China. That, in turn, would spill over to other economies owing to China's importance in the global economy. In order to analyse these effects more closely, we will perform a simulation below using the macroeconomic multi-country model NiGEM.[2]

The scenario of a strong real estate market downturn in China is oriented to developments in the United States during the real estate crisis of 2006-09. Our primary assumption is of a temporary halving of housing investment in China.[3] We also assume a decline in Chinese house prices by one-fifth. Major losses in the value of real estate that is also used to secure loans could lead to losses among Chinese commercial banks, which would respond by constraining their supply of credit or tightening their credit standards. Such turmoil in the credit markets is modelled in the simulation by a rise in the investment risk premium (a mark-up over long-run interest rates on government bonds).[4] This raises the cost of the financing of the corporate sector.

According to the NiGEM simulation, the slump in construction investment and the higher investment risk premium dampen overall investment in China considerably. The drop in house prices erodes households' wealth; they respond by cutting back their consumption significantly.[5] These factors push China's real GDP around 7% below the baseline in the first year.[6] The

1 Since these figures are not published in the Chinese national accounts, the calculation was based on data from Chinese construction statistics. For more on the methodology, see Deutsche Bundesbank (2014). Other studies often rank the significance of the Chinese real estate market considerably higher (at up to 30% of GDP). However, their calculations generally then contain commercial and infrastructure construction in addition to housing construction. Multiplier effects for aggregate demand are occasionally also incorporated into the calculation; see, for instance, Rogoff and Yang (2021).

2 NiGEM models economic interconnectedness between 60 economies and regions via foreign trade and the interest rate-exchange rate nexus. 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

3 All shocks are fed into the model such that they occur immediately and at full intensity. After one year, the relevant variables gradually return to their original path.

4 Specifically, a temporary five percentage point increase in the investment risk premium in China is assumed.

5 This channel is significant in China because of the high rate of home ownership. Around 70% of total household net wealth in China is held in the form of real estate.

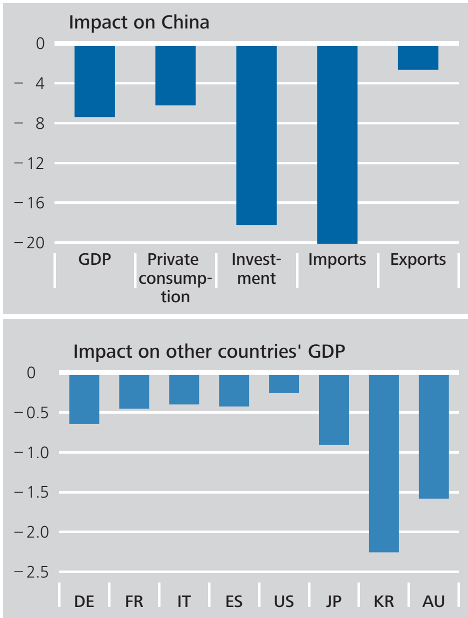
6 Assuming that the Chinese economy would have grown by about 5% on the year absent the shock, GDP in the scenario being studied here would thus contract by around 2%.

monetary policy response to this crisis causes the Chinese renminbi to depreciate considerably.[7] This depreciation and the drop in demand cause Chinese imports to fall by around one-fifth.[8] This has implications for China's trading partners: in Germany, GDP falls in the first year by 0.6% relative to the baseline owing, above all, to a decline in exports. For some economies that are more heavily dependent on trade with China, the GDP losses are even greater.

All things considered, the simulation shows that a severe crisis in the Chinese real estate market could have perceptible effects on the real economies of Germany and other countries. The model may well even understate the impact. For instance, NiGEM does not account for the major global uncertainty that could be unleashed by an economic crisis in China. Nor does it allow for the possibility of such a crisis triggering significant falls in commodity prices. It is conceivable, in particular, that prices of industrial metals could drop sharply owing to cutbacks in construction activity in China. This would dampen economic activity in the relevant exporting countries.

Impact of a severe crisis on the Chinese real estate market according to a NiGEM simulation*

Percentage deviations from the baseline in the first year



Source: Bundesbank calculations using NiGEM. * All variables price adjusted.
Deutsche Bundesbank

7 In NiGEM, imports are affected by a country's total demand. It therefore makes no difference whether a shock affects certain demand components to different degrees. See Deutsche Bundesbank (2018a).
8 The assumption of Chinese monetary policy autonomy represents a departure from the standard configuration of NiGEM, in which Chinese monetary policy shadows that of the United States and the renminbi is pegged to the US dollar.

Real GDP in selected major emerging market economies

Q4 2019 = 100, seasonally and calendar adjusted, log scale

Sources: National Bureau of Statistics of China, Central Statistics Office of India, Brazilian Institute of Geography and Statistics, Rosstat – Federal State Statistics Service, and Bundesbank calculations.

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goods exports. Export revenue was almost two-fifths higher in the quarter just ended compared with the same period of the previous year. Import expenditure rose considerably more sharply due to the increased commodity prices, however, causing the trade deficit to widen. The rate of consumer price inflation declined slightly in the third quarter to 5.1%. The core inflation rate (from which energy and food prices are stripped out) likewise fell marginally to 5.8%. The Reserve Bank of India left its policy rate at 4%.

Economic stagnation and growing price pressures in Brazil

Brazil's economic output had already returned to its pre-crisis level at the beginning of the year. It stagnated at this level in the second quarter, and real GDP is not likely to have recorded any notable growth in the third quarter, either. Although exporters continued to benefit from the high international commodity prices, particularly for industrial metals and agricultural goods, households suffered on account of a strong increase in consumer prices, which rose to 10.7% on the year by October. One reason for the price surge was the severe drought in the third quarter, which was a major factor in the steep rise in food and energy prices.[6] The Central Bank of Brazil raised its policy rate further to 7.75%. It has already raised its policy rate by a total of 575 basis points since commencing monetary policy tightening in March.

Slowdown in Russian economic activity

The Russian economy already returned to its pre-crisis level in the second quarter of 2021. In the quarter just ended, however, economic activity appears to have slowed down. Manufacturing output declined, driven in part by disruptions to supply chains. By contrast, receipts from energy exports increased further in the light of the sharp rises in oil and gas prices. The pandemic situation has been worsening again considerably since the end of September. New containment measures, including the announcement of a "non-working week" from late October to early November, are likely to weigh on economic activity in the current quarter. The rate of consumer price inflation has grown significantly since mid-2021, reaching a level of 8.1% on the year in October. For this reason, the Bank of Russia has increased its policy rate in three steps by a total of 200 basis points since the beginning of July to 7.5% as this report went to press.

United States

Upswing stalled by bottlenecks

The economic upswing in the United States lost significant pace over the third quarter. According to the preliminary estimate, real GDP increased by just 0.5% after seasonal adjustment compared with the second quarter. This was the lowest quarterly rate since the end of the pandemic-induced recession. Recovery was stalled by various factors limiting production, including the sluggish recovery of the labour supply and shortages of industrial intermediate

6 The drought played a role in the sharp rise in energy prices as it resulted in failures in hydroelectric power generation and output losses for ethanol, which is used as a fuel in Brazil.

The economic effects of the planned longer-term fiscal packages in the United States

Many experts had expected that US President Joe Biden's plans to renew public infrastructure and expand the social security network would be implemented quickly and generate considerable growth effects.[1] The reality, however, is that even finding a Congressional majority has proven a difficult task. No budget has been adopted yet for the current fiscal year, and negotiations on the social policy agenda are also still in progress.

The US administration was able to notch a success in early November 2021 with the passage of a large investment package. Known as the Infrastructure Investment and Jobs Act, its envisaged measures include higher spending on transport infrastructure, water supply and broadband network expansion, as well as various climate action initiatives. Estimates put the costs at around US$570 billion over a ten-year period. Savings elsewhere would lessen the fiscal impact of the package somewhat.[2]

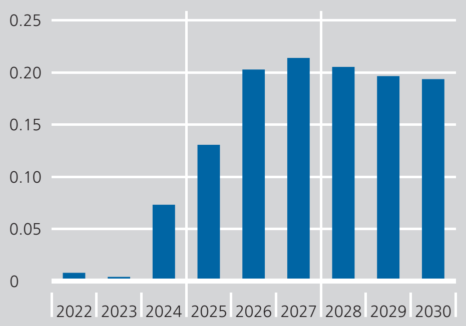
President Biden is banking on the package of measures creating millions of new jobs, amongst other effects. However, there is palpable doubt concerning these optimistic expectations. The non-partisan Congressional Budget Office (CBO) has come to the conclusion that the maximum boost that a comparably-sized public infrastructure programme would give to real GDP would barely exceed 0.1%. The long-term effects on potential output would be negligible.[3] Bundesbank calculations using the NiGEM global economic model paint a somewhat more favourable picture.[4] The adopted package could lead to US GDP being just under ¼% higher in 2030 than under current fiscal policy.[5] The fact that the expansion of the public capital stock in NiGEM stimulates private sector investment and employment has a role to play here. However, the effects will be largely non-existent over the short term because, amongst other things, it will probably take some time before the available budgetary funds are drawn upon and begin to impact on demand. In addition, in the simulation calculations, long-term interest rates pick up immediately in anticipation of higher demand going forward, which is a drag on investment and private consumption. Owing to the initially dampened demand response, the package is not likely to have a major impact on consumer prices, either.

The fiscal stance of the United States in the next few years is therefore likely to be shaped in key measure by the fate of the Biden Administration's second major fiscal policy project. The Build Back Better Act proposes tax relief, especially for families and low-income households; an expansion of free pre-schooling and healthcare; and investment in housing and environmentally friendly technologies. In earlier planning phases, US$3.5 trillion had been earmarked

1 To wit, in early July 2021 economists at the International Monetary Fund (IMF) were expecting the various long-term initiatives to add just over 5¼% cumulatively to US GDP over the 2022-24 period. A similar assessment is likely to have underpinned the projection by IMF staff, published in the October World Economic Outlook, that real GDP in 2024 would be nearly 3% higher than had been expected prior to the pandemic. See Hodge and Lin (2021) and International Monetary Fund (2021).
2 See Congressional Budget Office (2021a) and Committee for a Responsible Federal Budget (2021a).
3 See Congressional Budget Office (2021b).
4 For more information on the model used, see https://nimodel.niesr.ac.uk
5 The time paths for public investment and government consumption assumed in the simulations are derived from the cost estimates produced by the Congressional Budget Office (2021a). In the simulations, central bank interest rates follow the monetary policy rules implemented in the model.

Macroeconomic effects of the Infrastructure Investment and Jobs Act in the United States

Percentage deviations of real US GDP from the baseline



Source: Bundesbank calculations using the NiGEM global macroeconometric model based on CBO cost estimates.
Deutsche Bundesbank

for these initiatives over a ten-year period. Despite marked cutbacks, the legislative package that is likely to make it to a House vote is still considerable. According to provisional estimates, the US$2.4 billion price tag will be offset by savings of nearly the same amount and revenue increases that would have to be funded primarily by the corporate sector and high earners.[6] In the short term, however, the measures could distinctly increase the general government deficit.[7] This is predicated on the bill passing both houses of Congress in this form. Given the slim Democratic majority in the Senate and the persistent resistance on the part of individual US senators from the majority party, the possibility of certain items being struck or the initiative being postponed or even failing to pass Congress cannot be ruled out, either.

Even if, alongside the public investment package, the rest of the agenda were to be implemented, US fiscal policy on the whole is not likely to further boost economic growth in the coming year. This is because the programmes launched in response to the COVID-19 crisis are gradually expiring.[8] Indeed, it would appear quite appropriate to scale back the degree of fiscal expansion in the United States given the advanced state of economic recovery and mounting signs that at least some sectors of the US economy are encountering capacity constraints.

6 New government borrowing would accordingly increase by only around US$160 billion in total over a ten-year period. See Committee for a Responsible Federal Budget (2021b).
7 The US Congressional Budget Office estimates that the various measures could add US$155 billion net to the deficit during the current fiscal year, which would work out to just over 0.6% of annual GDP. See Congressional Budget Office (2021c).
8 According to earlier simulations using NiGEM and the dynamic stochastic general equilibrium (DSGE) model EAGLE, the wearing-off of the effects of the American Rescue Plan could reduce US GDP growth by between ½ percentage point and 1¾ percentage points in the coming year. See Deutsche Bundesbank (2021b).

inputs. The automotive industry was especially hard hit, with a number of plants having to halt production at times owing to a lack of semiconductor components.[7] Other sectors, too, lamented delivery delays. Further GDP losses occurred after Hurricane Ida hit the East Coast of the United States in August and September, leaving some areas absolutely devastated.[8]

Damper on investment in machinery and equipment as well as goods consumption

Given the already limited inventory levels, at the end of the reporting period production losses were able to be cushioned only to a limited extent by destocking.[9] Investment in machinery and equipment as well as private goods consumption thus sank fairly steeply. In this context, the financial conditions for many households were also no longer as favourable as they had been recently; their disposable income fell significantly in price-adjusted terms. Alongside strong inflationary pressure, the expiry of fiscal transfer payments was a factor. Despite another wave of new coronavirus infections, the consumption of services continued its recovery in the third quarter.

Persistently strong upward pressure on prices

The scaling back of wage replacement benefits that had been expanded during the crisis might, however, give the recovery in the US labour market a new boost. Over the past few months, the still subdued labour force participation, in particular, has stood in the way of larger employment gains. The strong demand for labour has therefore been reflected not least in accelerated wage growth. This also increases the risk of rising production costs continuing to be passed through to consumers and of accelerated price increases becoming entrenched. In October, the year-on-year rate of the consumer price index (CPI) increased to 6.2% – its highest rate in over 30 years. Core inflation (from which energy and food prices are stripped out) rose to 4.6%. Against this background, the US Federal Reserve announced a gradual tapering of its asset purchases in mid-November.

Real GDP in selected industrial countries

Q4 2019 = 100, seasonally and calendar adjusted, log scale

Sources: Bureau of Economic Analysis, Office for National Statistics, Cabinet Office of Japan, Statistics Poland and Bundesbank calculations.

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Japan

Economic output contracted owing to measures to contain pandemic and slump in motor vehicle production

In Japan, the economic recovery encountered a setback in the third quarter. According to the initial official estimate, real GDP fell by a seasonally adjusted 0.8% from the previous quarter, in which it had grown slightly. It was particularly social distancing measures taken to contain the worst wave of COVID-19 infections so far which had a dampening effect. The

7 Against this backdrop, motor vehicle production fell by 12½% in the third quarter. Excluding the direct contribution of this slump, real GDP growth would have been 0.4 percentage point higher over the same period.
8 According to estimates by the US Federal Reserve, the hurricane might have curbed industrial production growth by around 0.6 percentage point in September alone. However, in the past, production has normalised again rapidly after similar damage. See Board of Governors of the Federal Reserve System (2021) and Deutsche Bundesbank (2017).
9 Price-adjusted aggregate inventories no longer fell quite as steeply in the third quarter as they did in the second quarter. In arithmetical terms, changes in inventory thus supported GDP growth markedly.

slump in motor vehicle production as a result of the semiconductor shortage also took its toll on the Japanese economy. Private consumption declined markedly in this environment, after expanding in the previous quarter. Business investment was not able to maintain the upward path on which it had embarked in the second quarter either, contracting significantly. In the light of the production losses in the automotive industry, exports fell distinctly. Imports were also down in line with domestic demand, and inventory levels rose. Even so, the labour market remained quite robust. The seasonally adjusted unemployment rate even decreased slightly in the third quarter to 2.8%. Only in the new quarter did the pandemic-related burdens become less important. In October, the Japanese government introduced far-reaching steps to open up the economy in view of the receding wave of infections and successful vaccination campaign. Owing to the sharp reduction in mobile phone charges, the significant rise in producer prices has, to date, not been reflected in developments in consumer prices.[10] The year-on-year increase in the CPI amounted to 0.1% in October. Against this backdrop, the Bank of Japan maintained its accommodative monetary policy stance.

United Kingdom

Recent slowdown in recovery against backdrop of persistent bottlenecks

In the United Kingdom, economic recovery continued in the third quarter, albeit at a markedly slower pace. According to the preliminary estimate, real GDP increased by a seasonally adjusted 1.3% on the quarter. High-contact services such as hotel and restaurant services or the recreation and entertainment sector, which benefited from the far-reaching easing of many containment measures, saw especially robust growth. Value added in the services sector overall had nearly returned to its pre-crisis level by the end of the quarter. But, unlike in the second quarter, the upswing was no longer broadly based of late. The construction and manufacturing sectors sustained distinct losses. Intensifying bottlenecks, in particular, were probably a factor in this, with the most recent Purchasing Managers' Index pointing to problems stemming from a shortage of materials and higher prices for input products, as well as to difficulties in recruiting employees. Alongside global tensions in various markets and one-off effects owing to the pandemic-related recovery, Brexit is likely to have played a key role as the UK economy now faces many new hurdles in trade with the EU and in terms of labour migration.[11] On the labour market, the high demand was reflected in a somewhat lower unemployment rate once again and in robust wage growth. Employees' purchasing power gains remained within narrow bounds, however, as the increase in consumer prices accelerated further. The year-on-year rate of the Harmonised Index of Consumer Prices (HICP) rose to 4.2% recently. Nevertheless, at the beginning of November, the Bank of England maintained its accommodative monetary policy stance.

Poland

Continued economic upswing, rise in consumer prices intensified once again

Poland's economic upswing continued in the summer months. According to the flash estimate, real GDP grew by 2.1% in the third quarter after adjustment for seasonal variations. Economic activity had already returned to pre-crisis levels in the second quarter, despite the gradual relaxation of pandemic containment measures not having started until late April. While private consumption continued to expand in an environment of sharply rising wages and an overall good labour market situation – in quarter-on-quarter terms, retail sales grew by nearly 4% after seasonal and price adjustment – the previous sharp rise in industrial production levelled off. One factor behind this change was that a shortage of semiconductor components had stalled motor vehicle produc-

10 Since a reform of mobile phone charges in April, they have declined by 53% by October. In October, this one-off effect pushed down the year-on-year rate of the CPI by 1.5 percentage points.
11 See Deutsche Bundesbank (2021c).

tion in Poland and its European neighbours, which also depressed demand for motor vehicle parts made in Poland. This was also reflected in exports. The standardised unemployment rate fell to 3.4% in the third quarter, a mere 0.2 percentage point above its level before the crisis. The rate of consumer price increase accelerated to 6.8% on the year up until October; excluding energy and food, it was 4.5%. The rise in consumer prices thus significantly overshot the National Bank of Poland's inflation target. The bank changed its assessment of this overshooting of the inflation rate, no longer categorising it as temporary. It raised its policy rate in two stages – by 40 basis points in October and by 75 basis points in November – to 1.25%.

Macroeconomic trends in the euro area

Strong GDP growth in Q3

The euro area's economic recovery continued in the third quarter of 2021. According to Eurostat's flash estimate, seasonally and price-adjusted GDP rose by 2.2% on the quarter, reducing the gap versus the pre-crisis level to 0.5%. However, the quarterly rate is likely to overstate the general pace of economic growth thanks to the progress that had already been made at the end of the second quarter. In June in particular, economic activity rose substantially once many of the pandemic containment measures had been lifted. The high-contact service sectors continued to recover in the third quarter and at the start of the fourth quarter, although, as economic activity has normalised, the pace of said recovery has begun to slacken. During the third quarter, the industrial sector faced worsened supply bottlenecks and high – in some cases rising – prices for intermediate goods, commodities and international transport services. The aggregate economic recovery saw a marked loss of momentum during the quarter as a result.[12]

The pandemic situation initially improved markedly in the third quarter. This was largely attributable – alongside seasonal effects – to the progress made in the vaccination campaigns. Given the generally improved provision of vaccines, prioritisation rules were lifted. Even so, there were major regional differences in levels of vaccine campaign success. Whilst almost 90% of the population in Portugal had received at least one dose of the vaccine by mid-November, only a little over 45% of the population in Slovakia had done the same. In the European Union on average, around 70% were at least partially vaccinated, in comparison to nearly 75% in the United Kingdom and just under 70% in the United States. In some regions, the number of new infections has begun to rise since the end of the third quarter in particular, which has in some cases led to a return to more stringent containment measures. The restrictions remained, however, comparatively mild, due to the exceptions made for those vaccinated against or who have recently recovered from COVID-19, or who present a valid negative test result. To improve the level of protection for the general population, several countries have introduced a vaccine mandate for certain occupational groups and begun

Pandemic situation significantly improved, measures eased considerably

Estimated monthly path for aggregate output in the euro area

Q4 2019 = 100, price, seasonally and calendar adjusted, log scale

Source: Bundesbank calculations based on Eurostat data.
Deutsche Bundesbank

12 As indicated by the estimate of the monthly aggregate economic activity level. As the index for euro area service output has not yet been made available, however, this estimate is subject to major uncertainty. For details on the basic methodology, see Deutsche Bundesbank (2020).

providing booster vaccinations for at-risk groups.

Marked pick-up in private consumption

In the third quarter, major progress was made towards the normalisation of private consumption. The increasing relaxation of protective measures allowed greater utilisation of the services provided by the arts, entertainment and recreation sectors and the hospitality sector. Domestic tourism thrived and, once most of the requirements had been lifted, more tourists began to travel abroad. The retail trade sector, major sections of which had benefited significantly from the shift to consumption of goods prompted by the pandemic, nevertheless barely poked its head above the quarterly growth rate. The decline in new motor vehicle registrations continued due to supply issues in the motor vehicle industry. However, European Commission surveys indicate that consumers' propensity to purchase has generally remained high.

Subdued investment activity

Investment activity remained listless in the third quarter.[13] Although investment in intellectual property is likely to have increased further – driven by research and development and by digitalisation – spending on machinery and equipment probably decreased slightly in price-adjusted terms. One reason for this may be the supply issues in parts of the industry. Construction investment only generated very little stimulus, if at all. Despite healthy order books, materials shortages and rising costs made themselves felt here too.

Price-adjusted trade in goods with non-euro area countries likely shrinking

Although euro area export revenue in the third quarter once again rose significantly, this was solely due to the continuing sharp rise in prices, especially of intermediate goods. After price adjustment, it was likely actually in decline. The same is true of imports of goods. The tourism sector made a sizeable contribution to a significant recovery in exports of services. In regional terms, the value of goods exports to the United States rose somewhat more quickly than in the previous quarter, and the recovery in exports to the United Kingdom continued, albeit more slowly.[14] Exports to China declined steeply in the wake of its weakening economic activity.

Various obstacles stalling manufacturing

Manufacturing output stagnated despite healthy order books in the third quarter, and capacity utilisation even dropped slightly between July and October. This was mainly due to supply bottlenecks and high – in some cases rising – prices of key intermediate goods and transport services. The worst hit were motor vehicle manufacturers, who had to at times halt production in some factories due to a shortage of semiconductors. Consumer goods producers were less affected, especially in the pharmaceutical industry.

Service providers bouncing back strongly

On the other hand, various services sectors grew substantially in the third quarter. The hospitality and cultural sectors in particular greatly expanded their activities. The tourism and transport sectors recovered much more strongly during the summer holiday season than in the previous year. Business-related service providers also increased their activity.

Regionally broadly-based recovery in euro area

Economic activity increased in the third quarter in most euro area Member States, albeit to varying degrees. This remained due primarily to each country's individual pandemic situation and economic structure, especially the importance of tourism and the motor vehicle industry.

Economic output in France at pre-crisis levels

In France, quarter-on-quarter GDP growth accelerated to 3.0% in the third quarter, according to the initial estimate, meaning economic activity had nearly returned to pre-crisis levels. A major driver of this robust growth was the sharp rise in services consumption. The hospitality sector reduced the disparity between its current and pre-crisis levels from nearly 40% in the second quarter to just over 4%. This was

13 Excluding Ireland where, for several years now, the statistical recording of investment, and of investment in intellectual property in particular, has been strongly influenced by the strategic planning of multinational enterprises. See Deutsche Bundesbank (2018b).
14 Exports to the United Kingdom had dropped sharply at the beginning of the year as a result of trade relations being reorganised. See Deutsche Bundesbank (2021c).

helped along by the major increase in exports of services in the wake of rising cross-border tourism, although goods consumption also rose again after a setback in the previous quarter.

Renewed steep rise in Italy's real GDP

In Italy, the recovery in economic activity continued at a similar pace to the previous quarter. Preliminary figures show its GDP rose by a strong 2.6%, putting it 1.4% below pre-crisis levels. Italian industry appeared less badly affected by materials shortages than the euro area average. Exports and investment in machinery and equipment may have risen even further. The services sector continued to recover, which was also due to tourism having taken a significant step towards normalisation. Private consumer spending probably fell distinctly short of pre-crisis levels, however.

Subdued recovery in Spain

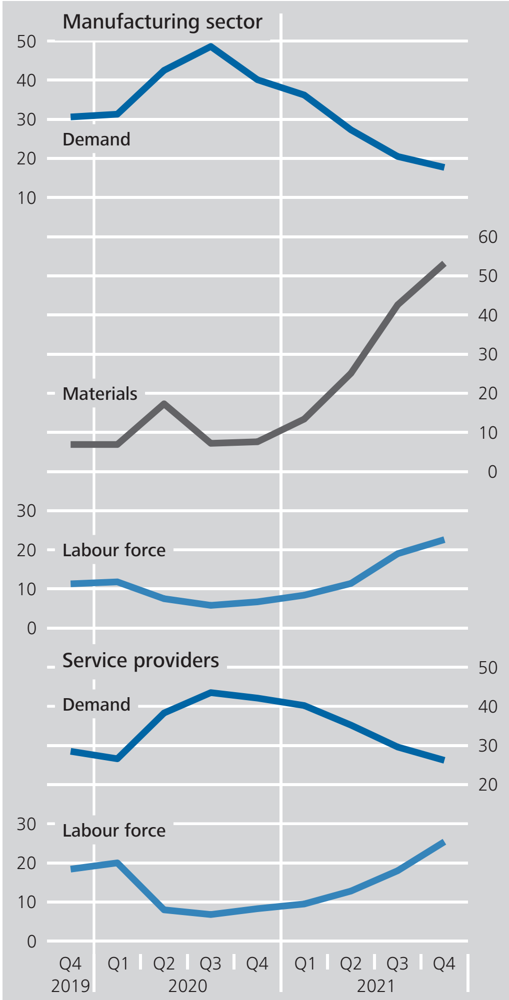
In Spain, aggregate economic output rose somewhat more strongly at 2.0% in the third quarter than in the second, but economic activity remained around 6.5% below pre-crisis levels. No other euro area country had such a large disparity between current and pre-pandemic levels in the third quarter. One key reason for this was that – while there was a marked revival in tourism – the number of overnight stays was still nearly one-third lower than in the corresponding period in 2019. The value added in those sectors most affected by tourism (trade, transport and hospitality) was 15% below pre-crisis levels. In fact, private consumption even dropped slightly in the third quarter after price adjustment. This may have been due to the particularly sharp rise in consumer prices for energy products, which squeezed consumer purchasing power.[15] The situation in the industrial sector looked rosier in the third quarter. Value added in the manufacturing sector rose markedly, alongside exports of goods.

Smaller Member States also saw GDP increases, but with significant variation

The third quarter saw continued growth in economic activity in most of the other Member States as well. Those countries with a large tourism sector, including Austria and Portugal, saw particularly robust growth. Elsewhere – in Belgium, Finland and the Netherlands, for example – the recovery continued at a more moderate pace. In some of the smaller Member States which had already returned to their pre-crisis levels, such as Latvia and Lithuania, aggregate economic output only increased a little in the third quarter.

Factors limiting production in manufacturing and services

Percentage of enterprises surveyed, multiple responses possible



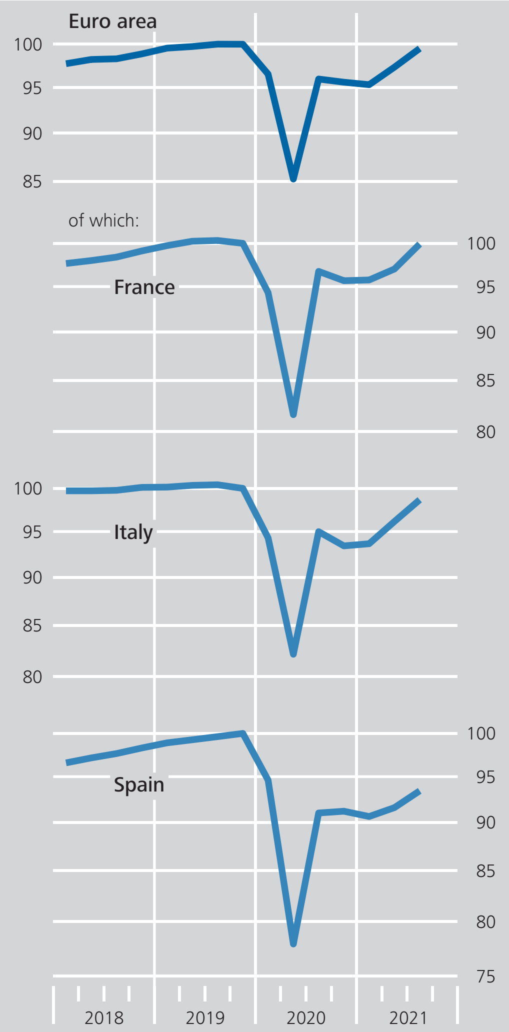
Source: European Commission.
Deutsche Bundesbank

The labour market continued to improve in the third quarter. The standardised unemployment

15 The rise in energy prices in Spain was considerably higher than in the euro area as a whole (+24.5% on the year in the third quarter in comparison to +15.8% in the euro area).

Aggregate output in the euro area

Real GDP, Q4 2019 = 100, seasonally and calendar adjusted, log scale



Sources: Eurostat and Bundesbank calculations.
Deutsche Bundesbank

Unemployment back to pre-crisis levels, employment still below

rate had already returned to pre-crisis levels by September 2021 (7.4%). Despite a substantial increase of 0.9%, however, the number of persons in employment remained 0.3% below pre-pandemic levels. This was caused by a decline in the labour force. The number of inactive persons is still higher in the euro area than it was before the coronavirus pandemic. In addition, some employees from non-euro area countries who had returned to their home countries during the pandemic seem to have remained there. In any case, the number of non-resident EU citizens working in the euro area was still more than 5% below pre-crisis levels in the second quarter.

No indications so far of a wage cost surge

Wages and salaries, which had already reached pre-crisis levels, are likely to have gone up further in the third quarter. There are still no indications of a surge in wage costs, despite growing evidence of labour shortages. Looking ahead, this will strengthen employees' bargaining position as they seek a way to balance their loss of purchasing power.

Increase in consumer prices in third quarter significantly strengthened

The rise in consumer prices intensified significantly in the euro area in the third quarter of 2021. As measured by the HICP, seasonally adjusted prices showed an increase of 1.1% on the quarter. This strengthening of the rise in consumer prices was equally visible in non-energy industrial goods and in services. Energy prices continued to rise sharply, while food products saw another marked price increase. This resulted in the year-on-year rate of the HICP jumping from 1.8% in the second quarter to 2.8% in the third quarter. The inflation rate excluding energy and food rose from 0.9% to 1.4%. Price increases for high-contact services played a particularly important role here. These include hospitality, domestic flights and passenger rail transport, to list some examples. Rental costs for parking spaces and motor vehicles and the prices of telephone services also rose. The inflation rate for non-energy industrial goods doubled to 1.8%. In particular, new and used cars, furniture, clothing and hygiene and wellness products increased steeply in price. Besides the sharp increase in prices for intermediate goods, this was probably also caused by the significant increase in international transport costs and the ongoing supply bottlenecks.

Inflation rate continued to rise in October

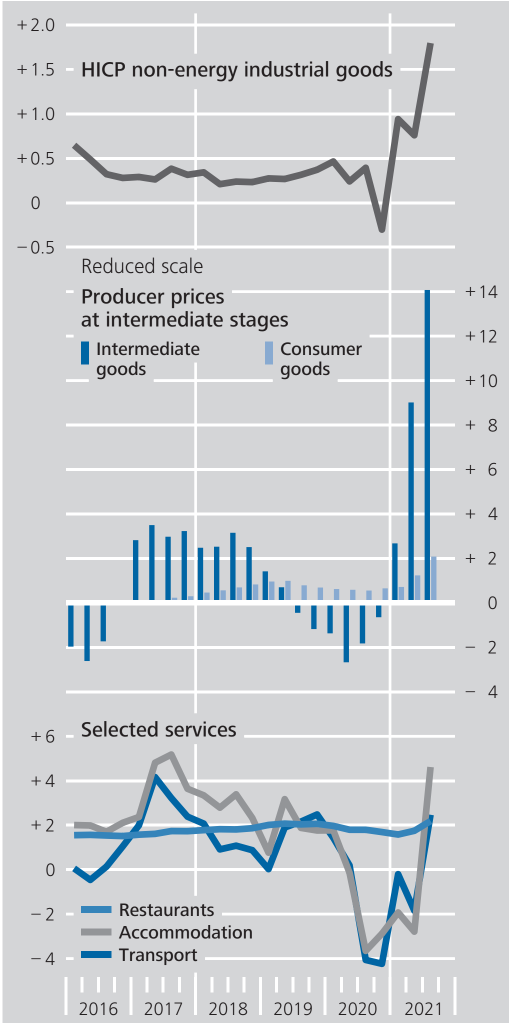
In October, the year-on-year rate of the HICP accelerated from 3.4% in September to 4.1%. This surprisingly sharp increase was attributable to a large degree to natural gas prices. In some Member States, utilities passed the surge in procurement costs more or less directly through to consumers. The rate excluding energy and food picked up slightly from 1.9% to 2.0%. While the rise in prices for services intensified markedly, it decreased somewhat for industrial goods excluding energy. In November, the year-on-year rate of the HICP is likely to initially increase slightly before going back down somewhat at the start of next year, when the base effects regarding the energy component and the temporary cut to value added tax in Germany expire. Nevertheless, the headline rate of the HICP is likely to initially remain over 3%, as cost increases at upstream stages of the production chain are expected to continue to feed through to consumer prices.

Marked slowdown in the current quarter

The economic recovery is likely to continue only at a considerably slower pace in the current quarter. The pandemic situation is worsening again in several Member States, some of which have reinstated extensive containment measures. Consumers are also likely to return to exercising caution. Although some may bring forward purchases in anticipation of prices continuing to rise, shortages of certain goods may stymie these plans, and some households may be increasingly financially strapped as a result of the sharp increase in consumer prices, especially energy prices. No major stimulus is thus to be expected from private consumption in the current quarter. The difficulties arising from materials shortages and the high price of intermediate goods and transport services are unlikely to be resolved in the near future, especially not in the industrial sector. At the same time, order books and overall sentiment have been very good. Sentiment has remained at a very high level in the construction sector, too, and at an above-average level in the services sector. All in all, this indicates that aggregate economic output in the fourth quarter may increase only slightly. Only once the obstacles have been dealt with is economic growth likely to strengthen markedly.

Selected HICP components in the euro area

Year-on-year percentage change, quarterly data



Source: Eurostat.
Deutsche Bundesbank

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