

The German economy

Macroeconomic situation

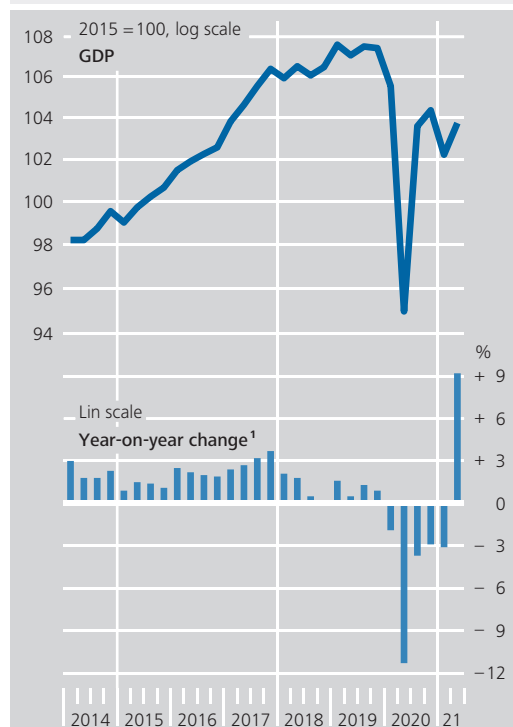
Fairly steep growth in German GDP in Q2

German gross domestic product (GDP) saw a fairly substantial recovery in the second quarter of 2021. According to the Federal Statistical Office's flash estimate, real GDP was 1.5% up on the quarter after seasonal adjustment. This did not entirely make up for the decline in the first quarter, however, and nor was the Bundesbank's June projection fully matched. The main reason for the increase in the second quarter is that measures to contain the coronavirus pandemic were loosened considerably after the incidence of COVID-19 infections started falling sharply as of May. This benefited services sectors in particular, such as hotel and restaurant services and parts of the bricks-and-mortar retail sector. Industry, on the other hand, was unable to tap the healthy order books because bottlenecks in the supply of some intermediate

goods tightened once again. Industrial output even dropped markedly. By contrast, the construction sector grew, although here, too, there were increasing reports of bottlenecks in the supply of various building materials. Overall, GDP still fell short of its pre-crisis level (of the fourth quarter of 2019) by almost 3½%. It remains to be seen whether GDP will return to its pre-crisis level in the third quarter already. Although business in the services sectors is likely to expand strongly, bottlenecks in the supply of intermediate goods continue to represent a source of uncertainty, particularly for industrial output. To the extent that risks stemming from the pandemic do materialise, they are likely to have a greater impact only as of the fourth quarter. For example, the Delta variant and the considerable slowdown in the pace of vaccination could result in tighter restrictions being reimposed.

Overall output

Price and seasonally adjusted



Source of unadjusted figures: Federal Statistical Office. 1 Price and calendar adjusted.
 Deutsche Bundesbank

On the demand side, private consumption was the mainstay of the economic recovery in the second quarter. This reflects the fact that, as restrictions were loosened, it was possible again to take advantage of consumption opportunities that had previously been unavailable. Government consumption is also likely to have risen sharply in view of spending on COVID-19 tests and vaccination efforts. By contrast, supply bottlenecks made a more or less significant dent in investment and exports. Business investment in new machinery and equipment is unlikely to have seen a quarter-on-quarter increase, whilst exports (including exports of services) probably likewise rose only slightly despite the continued high level of demand from abroad.

Consumption up sharply; investment and exports throttled by supply bottlenecks

Exports of goods stagnated in the second quarter. Although exports of goods to euro area countries saw an increase after price and seasonal adjustment, this was matched by a similar-sized decrease in exports to non-euro area countries. In terms of value, substantial

Exports of goods stagnant overall, but picture mixed

declines on the first quarter were recorded in particular for exports to India and other emerging market economies in South and East Asia, and there was at least a marked decline in the value of exports to China. By contrast, exports to the United States, whose economy continued to grow strongly on account of the easing of containment measures and expansionary fiscal policy, remained at a high level. The value of exports to the United Kingdom also rose again somewhat, having fallen sharply at the beginning of the year. The transitional arrangements for cross-border transactions in goods put in place after the United Kingdom's withdrawal from the EU expired at the turn of the year. Broken down by category of goods, there was a decline in exports of capital goods, particularly in the automotive sector, according to the value-based figures available up to May. However, exports of intermediate and consumer goods saw an increase once again. In the breakdown by sector, the strong growth in exports of pharmaceutical products is particularly striking. Coronavirus vaccines produced in Germany for export are also likely to have had an impact here.

Probable decrease in business investment in machinery and equipment

Business investment in machinery and equipment is likely to have declined in the second quarter. Less machinery and equipment was sourced from both Germany and abroad. In seasonally adjusted terms, the value of capital goods imports therefore decreased again on an average of April and May compared with the first quarter. In addition, manufacturers of capital goods also experienced a drop in domestic sales, with the German automotive industry, in particular, again recording huge losses in some cases. There was also a sharp decline in turnover in other transport equipment. By contrast, manufacturers of computers, electronic and optical products as well as manufacturers of machinery recorded significant sales growth.

Construction investment likely to have risen only marginally

Construction investment is likely to have grown only slightly in the second quarter. On an average of April and May, turnover figures in the main construction sector available up to May

Foreign trade

Seasonally adjusted, quarterly data



Source of unadjusted figures: Federal Statistical Office. 1 Adjusted using the price indices for foreign trade.
 Deutsche Bundesbank

were considerably higher than in the previous quarter after seasonal adjustment. This is true of both housing construction and commercial and industrial construction. However, the return of the VAT rates to their higher levels and the exceptionally poor weather conditions in January and February had been a heavy burden on the construction sector in the first quarter, meaning a strong countermovement was therefore to be expected. That said, ifo Institute surveys show that the construction sector is beset by materials shortages. These shortages contributed to part of the increase in sales being negated by sharply rising construction prices. Furthermore, turnover in the main con-

struction sector has fluctuated relatively strongly since May 2020. Turnover figures are less suitable as an indicator of real construction investment during such phases.¹

Sharp rise in private consumption in second quarter

Private consumption made a swift recovery owing to the falling incidence of COVID-19 infections as of May and the subsequent easing of many protective measures. For instance, real turnover in the hotel and restaurant industry saw a month-on-month increase of around one-sixth in May, after seasonal adjustment, followed by another increase of over 60% in June. It had positively plummeted in the first quarter due to the strict and prolonged measures to protect against the coronavirus. Retail also flourished as restrictions were relaxed, with real turnover in June almost reaching the record level seen in November 2020. According to data provided by the German Association of the Automotive Industry (VDA), the number of new private passenger car registrations climbed only slightly.

Imports of goods also up substantially

Imports of goods to Germany recorded robust growth in the second quarter in price-adjusted terms. They were mainly buoyed by imports from non-euro area countries. By contrast, imports from the euro area stagnated. In terms of value, total imports grew even more steeply. As in the first quarter, import prices rose considerably, particularly on account of higher energy prices. This also had a noticeable effect on the value of imports from the Organization of the Petroleum Exporting Countries (OPEC), which recorded a very sizeable increase. Imports from the United Kingdom also rebounded strongly. They broadly reached the level recorded in the fourth quarter of 2020 following the slump at the beginning of this year when transitional arrangements for cross-border transactions in goods put in place after the United Kingdom left the EU came to an end. Broken down by category of goods, intermediate and consumer goods were responsible for the particularly steep rise in imports in terms of value. Pharmaceutical products recorded steep growth, an area that includes, for example, imported

coronavirus vaccines. But imports of chemical products and metals and fabricated metal products also saw a sharp increase. By contrast, imports of capital goods fell due to declining motor vehicle imports.

Sectoral trends

The bottlenecks in the supply of intermediate goods and some commodities made a significant dent in German industry in the second quarter of 2021. The previous swift recovery of the industrial sector had already been stalled by bottlenecks in the first quarter. Despite persistently high demand, industrial output actually declined in the second quarter. According to an ifo Institute survey, in July almost two-thirds of industrial enterprises reported that their production was being hampered due to materials shortages, considerably exceeding the record high seen in April again. Suppliers' delivery times recorded by IHS Markit also indicate that there was a further severe worsening of supply bottlenecks compared with the first quarter. In fact, delivery times saw the greatest increase since the survey began in 1996. The automotive sector was particularly hard hit as a result, with output falling again considerably in comparison with the already weak first quarter. This was chiefly due to the shortage of semiconductors. Excluding the automotive industry, industrial production remained at the level of the previous quarter. However, many other branches of the capital goods sector were also unable to maintain their production level. Manufactures of computer, electronic and optical products were an exception in this regard. Producers of intermediate and consumer goods, on the other hand, recorded marked growth in some cases. As far as intermediate goods are concerned, this mainly included

Industrial output still subdued on account of supply bottlenecks

¹ In the national accounts, construction investment is defined as gross fixed capital formation in construction works for new buildings, conversions and extensions. The main construction sector only accounted for just over one-third of construction investment in 2020. See Hauptverband der Deutschen Bauindustrie (2021).

manufacturers of paper and paper products as well as manufacturers of electrical equipment. In the consumer goods sector, growth in output was broadly spread amongst its various segments.

Capacity utilisation in the industrial sector at a high level

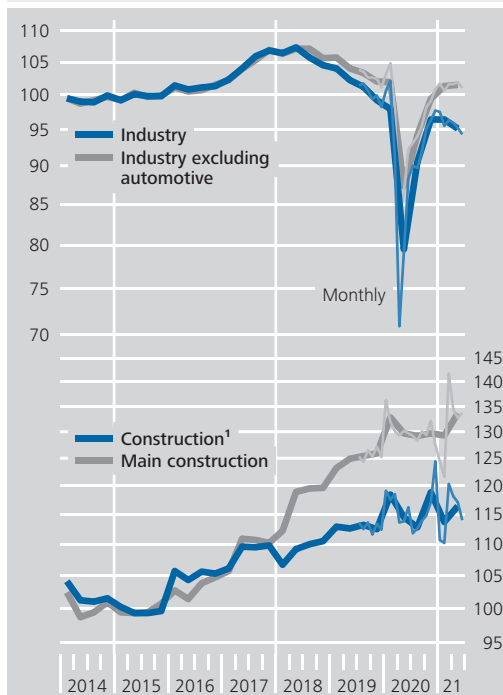
According to the ifo Institute, capacity utilisation of tangible fixed assets in manufacturing rose quite strongly again between the surveys in April and July. In July it almost reached its historical maximum seen in April 2008. Only manufacturers of capital goods recorded a significant decline in capacity utilisation in line with the drop in their production figures. However, overall the high utilisation of tangible fixed assets is somewhat at odds with the weak level of industrial output. In this context, the question arises as to what extent slightly reduced capacities at present – even compared with before the pandemic – are keeping capacity utilisation high. It is possible that mothballed equipment has not been put back into full operation and that investment has been postponed in some cases. Furthermore, according to the ifo Institute, an increasing number of enterprises are complaining of production hold-ups caused by a lack of skilled labour.

Significant increase in construction output

In the second quarter, construction output rose considerably compared with the first quarter in seasonally adjusted terms. Although a certain countermovement was to be expected following the previous quarter, which was depressed by one-off effects, the extent of this growth is striking as, according to ifo Institute surveys, construction activity was increasingly hindered by materials shortages. Nonetheless, according to the ifo Institute, the level of equipment utilisation in the main construction sector was persistently high. Overall, construction activity therefore remained intact despite shortages of various building materials. This applies to all segments of the construction sector. In particular, strong output growth was seen in the main construction sector and its sub-sectors – building construction and civil engineering – but also in the finishing trades.

Output in industry and in construction

2015 = 100, seasonally adjusted, quarterly data, log scale



Source of unadjusted figures: Federal Statistical Office. 1 Main construction sector and finishing trades.
 Deutsche Bundesbank

Many services sectors benefited considerably from the easing of measures to protect against the coronavirus. Economic activity picked up rapidly from May, after the protective measures linked to the local incidence of COVID-19 infections were eased relatively quickly. The hotel and restaurant services sector saw a particularly substantial recovery, but significant growth was also seen in the wholesale trade and, in particular, in the retail sector. Some retail segments that were previously affected by the measures to protect against the coronavirus expanded strongly. For example, in seasonally and calendar-adjusted terms, sales at bricks-and-mortar clothing stores almost doubled compared with the first quarter. By contrast, other parts of the retail sector that had previously benefited were unable to increase sales further. This included online and mail order trade, as was the case when measures were eased a year ago. A similar pattern was seen for trade in food, beverages and tobacco products, where sales actually declined significantly in the

Considerable increase in activity in services sectors

second quarter. Wholesale trade saw robust sales growth in April and in May (the most recent month for which statistics are available). ifo Institute surveys assessing the situation at wholesalers indicate uninterrupted good business in June. Even the motor vehicle industry, which was hard hit by supply bottlenecks (and for which statistics are available up to May) is likely to have regained some ground in terms of turnover relative to the particularly bad first quarter. While many potential buyers of new vehicles refrained from making such purchases on account of long delivery times, they increasingly showed an interest in the used car market. According to data provided by the German Association of the Automotive Industry (VDA), the number of vehicle title transfers rose significantly. Motor vehicle dealers are also likely to have benefited from the flourishing used car market. Sales of new vehicles, by contrast, remained exceptionally low. VDA data indicate that new car registrations by private and commercial owners in the second quarter were only marginally higher than in the previous quarter. Economic output in other services is likely to have increased. According to the ifo Institute's survey results, the situation here thus improved substantially in the second quarter.

■ Labour market

Labour market started to bounce back strongly towards end of Q2

The economic recovery that got under way in the second quarter of 2021 was initially reflected in the labour market by an uptick in hours worked. The main reason for this was that short-time work, which was highly prevalent in the first quarter due to the crisis, decreased. It was only towards the end of the quarter under review that employment began to see stronger growth and unemployment started to rapidly decline. Leading indicators suggest that this favourable development will continue over the coming months.

There was a steep decline in the number of employees in short-time work for economic reasons. According to an initial estimate by the

Federal Employment Agency, this figure declined by one-third from a peak in February of this year, dropping to 2.23 million people by May. As the average loss of working hours per short-time worker also decreased somewhat, the volume of work lost contracted by as much as 40% within the space of three months. Because many pandemic-related protective measures have since been relaxed, it is likely that enterprises made significantly less use of short-time work schemes in the months that followed as well. Based on its own economic surveys amongst enterprises, the ifo Institute estimates that the number of short-time workers had decreased to 1.06 million by July. Furthermore, the number of registrations for short-time work has fallen to a very moderate level overall over the past few months. That said, according to the data up to 25 July, registrations in the manufacturing sector have edged up recently. The persistent shortage of specific intermediate goods, which has hindered production, is likely to have had an impact here.

Substantial decline in short-time work since February; supply bottlenecks potentially behind recent increase in notifications of short-time work in manufacturing sector

The number of persons employed initially rose only slightly, as the economic recovery seen since March chiefly resulted in short-time work at firms being scaled back. Only in June did employment begin to experience stronger growth. Overall employment on an average of the second quarter of 2021 stood at a comparatively moderate 75,000 persons above the level of the previous quarter in seasonally adjusted terms, representing an increase of just under 0.2%. The long-standing negative trend in self-employment eased at least slightly in the second quarter. Data for persons in exclusively low-paid part-time employment and employment subject to social security contributions are only available up to May, and therefore do not capture the substantial rise in employment seen in June. While the number of persons solely in mini-jobs declined up to May, employment subject to social security contributions saw further slight growth.

Stronger growth in employment only as of June

Employment subject to social security contributions had already begun to rise again – bol-

Employment subject to social security contributions almost back to pre-crisis levels, but large differences in recovery process across sectors

stered by short-time work – after the first wave of the pandemic, almost reaching its pre-crisis level by May 2021. However, this masks significant sectoral shifts resulting from the pandemic. The hotel and restaurant sector has been by far the hardest hit, with one in six jobs being lost on account of long-term closures over the past 15 months.² Here, there are also reports of labour shortages as establishments attempt to reopen.³ A portion of existing staff but also potential new staff are likely to have shifted to other sectors less significantly affected by the crisis.⁴ The same applies to the arts, entertainment, recreation and other personal services, in which the share of jobs with full social security is even lower than in the hotel and restaurant sector. In the production sector (excluding construction), the absolute number of jobs declined to a similar extent as in the hotel and restaurant sector (-2½%). Employment had already declined in this area due to weak industrial activity in 2019. The crisis only exacerbated this. Despite the early recovery seen in industry, employment does not appear to have reached its lowest point until the second quarter of 2021. By contrast, the temporary employment sector had already started hiring again in the third quarter of last year. Staff in this sector, which is particularly affected by cyclical fluctuations, are frequently employed in manufacturing. The pandemic had a widely varying impact on the retail sector. Overall, employment in this area saw relatively little change during the crisis, and latterly stood only slightly below its pre-crisis levels. Sectors concerned with the provision of basic public services recorded a substantial rise in employment: 3% in health and social services and more than 4% in public administration since the start of 2020. Demand for IT professionals and construction staff was also consistently

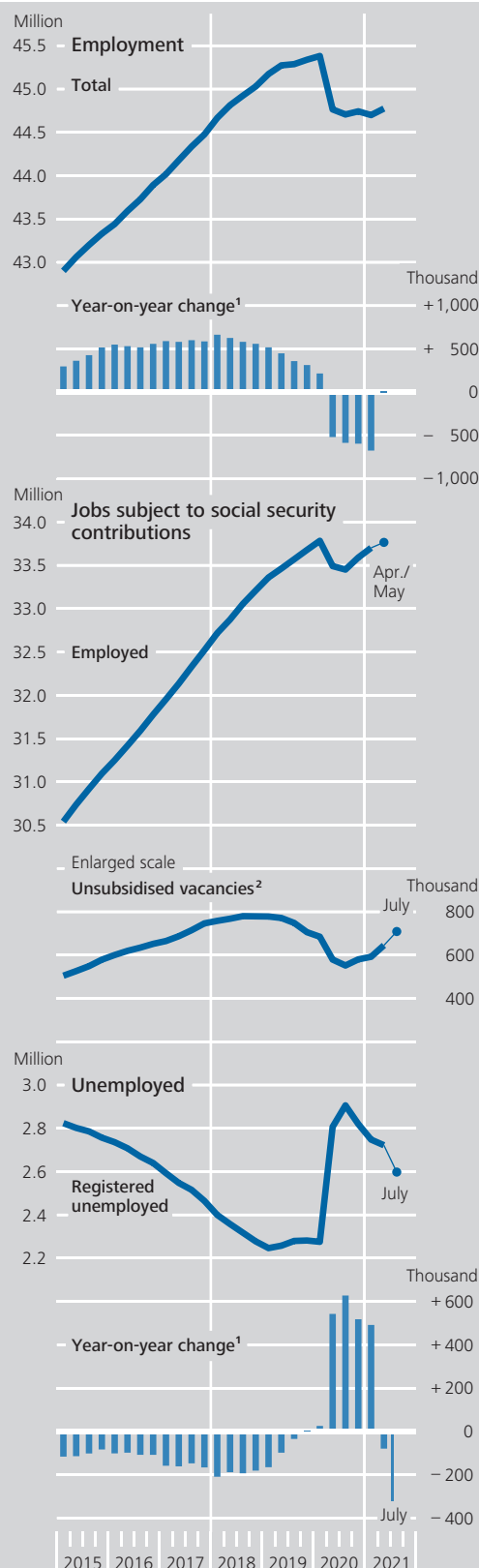
² In the hotel and restaurant sector, low-paid part-time work also plays a prominent role. Here, job losses have been much greater still.

³ For example, the ifo Institute has reported considerable shortages of skilled labour at hotels and guesthouses. See ifo Institute (2021).

⁴ See German Hotel and Catering Association (2021).

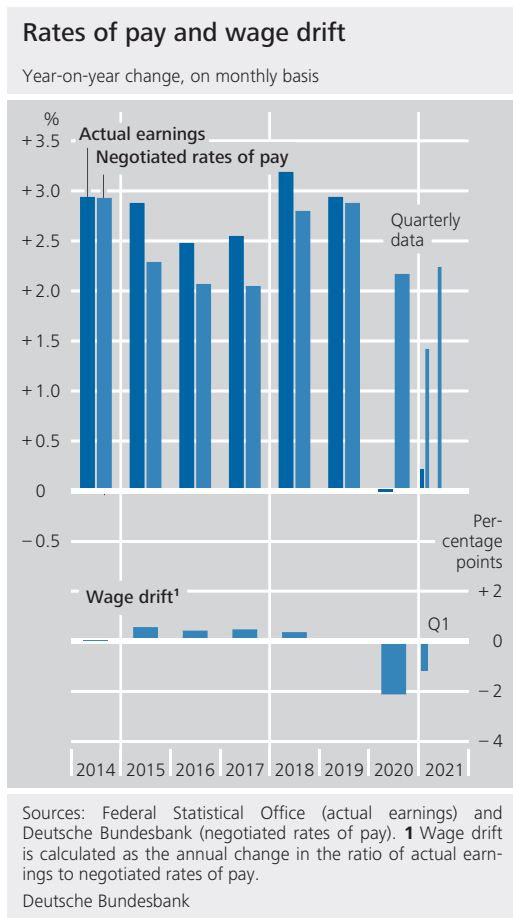
Labour market

Seasonally adjusted, quarterly data



Sources of unadjusted figures: Federal Statistical Office and Federal Employment Agency. ¹ Not seasonally adjusted. ² Excluding seasonal jobs.

Deutsche Bundesbank



high. In these sectors, employment increased by around 4% and 2% respectively.

Significant decline in unemployment of late

Registered unemployment has recently fallen significantly. In the second quarter of 2021, it declined by 26,000 people in seasonally adjusted terms, or 0.1 percentage point. Unemployment only began to decline significantly in June and then fell very sharply in July, decreasing by 0.2 percentage point to its present level of 5.7%. This was chiefly attributable to a contraction in the cyclically sensitive statutory unemployment insurance system. By contrast, unemployment covered by the basic welfare allowance remained close to its crisis peak.

Leading indicators indicate strong confidence

The leading indicators for the labour market currently suggest that employment will continue to recover over the next few months. The ifo employment barometer, which reflects recruitment plans in trade and industry for the next three months, is well into expansionary territory, as is the employment barometer of

the Institute for Employment Research (IAB). Yet in July, expectations regarding the speed of recovery were scaled back somewhat on the previous month. Both the freshly subdued expectations regarding the incidence of infections owing to the Delta variant and persistent delivery problems for some intermediate goods may have contributed to this. However, the number of vacancies has recently seen fairly reliable growth, already returning to its level of the fourth quarter of 2019, which had, however, been subdued by the economic slowdown. The IAB's unemployment barometer is currently at its most favourable level ever. This reflects the fact that aside from a cyclically induced decrease in unemployment, there is also the potential for greater implementation of labour market policy measures. It became necessary to significantly restrict the latter in the wake of the pandemic, meaning that participants ended up in open unemployment at that time.

Wages and prices

In the second quarter, the increase in negotiated wages was stronger than in the previous quarter. Taking into account additional benefits, negotiated wages were up by 2.2% on the year in the second quarter of 2021, compared with only 1.4% previously. This was chiefly due to large special coronavirus payments being made in a number of sectors.⁵ However, basic rates of pay again grew only moderately in the second quarter. Here, a particular impact could be seen from the months without a pay rise in larger sectors governed by wage agreements from the current year and from previous years. On the other hand, actual earnings probably went up by more than negotiated wages overall in the second quarter due to a substantial

Negotiated wage growth stronger in Q2 than in Q1; actual earnings growth possibly even stronger

⁵ The Federal Ministry of Finance initially extended the tax and social security contribution-free status of coronavirus special payments for employees made in 2020 until the end of June 2021, and then once more until the end of March 2022. The ceiling for tax and social security contribution exemption was restricted to €1,500 per employee.

reduction in short-time work and a corresponding increase in the number of hours worked per employed person. Wage drift is therefore also likely to have left negative territory again for the first time since the start of the pandemic.

Few and moderate wage agreements in Q2

Only a few wage agreements were made in the reporting quarter, and these were moderate. A relatively high number of months without a pay rise has initially been agreed for Volkswagen and the automobile trade and service sector. In return, substantial special coronavirus payments have been arranged in both cases. This will dampen scheduled increases in rates of pay but will still lead to a pay rise for employees. The focus of the social partners' attention was on preserving jobs. Furthermore, expanded options to convert additional remuneration or wage increases into extra days off also played a role.

Current wage negotiations complicated in some cases

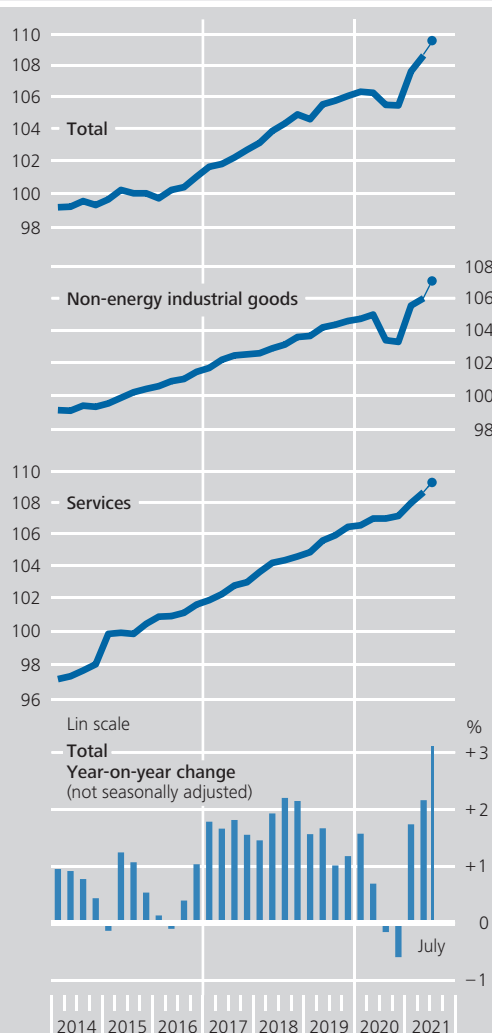
Wage negotiations have been under way for some time between Deutsche Bahn and train drivers' union GDL, in the retail sector, in wholesale and foreign trade, at public and private banks and in the main construction sector. Here, too, the wage demands brought to the table by unions have been lower than in previous years. Even so, the dispute between Deutsche Bahn and GDL has led to nationwide strikes. Furthermore, negotiations in the retail sector in particular are proving complex due to the sector's extremely heterogeneous situation. While food retailers benefited from the pandemic and some large food retailers have already pre-empted future wage increases without further consultations with wage bargainers, the economic situation of textile and fashion retailers, for example, is much more strained.

Rise in general minimum wage to €9.60 per hour

The general statutory minimum wage stood at €9.50 per hour at the end of the second quarter and was raised by 1.1% to €9.60 per hour on 1 July 2021. The gap between it and the nearest generally binding sector-specific minimum wage level in waste management

Consumer prices*

2015 = 100, seasonally adjusted, quarterly data, log scale



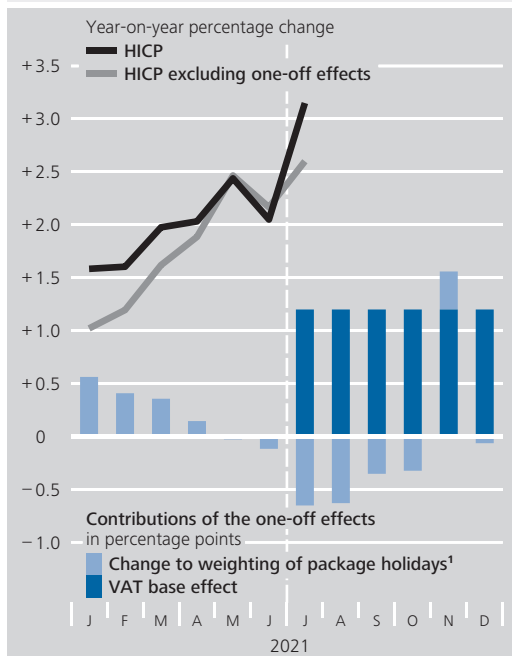
Source of unadjusted figures: Federal Statistical Office. * Harmonised Index of Consumer Prices.
 Deutsche Bundesbank

(€10.25) and in temporary employment (€10.45) thus narrowed slightly.

In the second quarter of 2021, consumer price inflation (Harmonised Index of Consumer Prices (HICP)) increased markedly as a general trend. At 1% on the quarter in seasonally adjusted terms, the inflation surge was not as strong as in the first quarter. However, the reversal of the temporary VAT reduction and the newly introduced carbon prices as part of the climate package placed strong upward pressure on prices at the start of the year. Disregarding these one-off effects in the first quarter, the seasonally adjusted rate of change in the

Consumer prices in Q2 see sharp quarter-on-quarter growth

Impact of selected one-off effects on the inflation rate



Sources: Federal Statistical Office and Bundesbank calculations.
1 Change in the contribution of the HICP sub-index for package holidays owing to a change in the weighting of this sub-component in 2021 compared to 2020.
 Deutsche Bundesbank

second quarter saw its sharpest increase since the second quarter of 2019.

Increase in prices broadly based

Prices went up in all major components of the HICP. In the case of energy, the price dynamics resulted from higher crude oil prices, which again surpassed pre-crisis levels on average over the quarter. Consumer prices for food were similarly affected by agricultural producer prices, which had risen significantly, probably partly due to unfavourable weather conditions. Prices for non-energy industrial goods went up surprisingly strongly as of May. It appears that price increases at the earlier stages of the pricing chain, which were caused not only by robust demand but also by bottlenecks along supply chains, were passed on to consumers to a considerable extent. Another potential factor here is that, after reopening, businesses charged higher prices in an attempt to recoup some of the losses they incurred as a result of having to close due to the pandemic. This has probably been the case for clothing and shoes

in particular. Prices of services likewise went up quite substantially. The aim of compensating for losses suffered during the shutdown is likely to have had an impact here, too. In addition, it was relatively easy to push through higher prices due to the pent-up demand on the part of consumers. Prices for accommodation services in Germany or for restaurant visits went up markedly in June, for example. However, price increases for services were also driven by air travel and package holidays, for which prices still had to be largely estimated (imputed) due to the restrictions that continued to be in force at the time.⁶

Annual inflation increased overall from 1.7% in the first quarter to 2.2% in the second quarter – and this was in spite of a one-off statistical effect no longer pushing up inflation as it had in the first quarter. This effect resulted from the significant change made to the weight used for package holidays in the HICP basket at the turn of 2020-21.⁷ As this one-off effect had no impact in the second quarter, core inflation excluding food and energy declined from 1.8% to 1.3%. If the volatile components of travel and clothing are also removed from the equation, the rate stayed virtually constant at 1.5% on a quarterly average. However, from April to June it increased from 1.4% to 1.7%.

Inflation rate higher

Inflation rose further in July. After seasonal adjustment, HICP inflation was up by 0.6% compared with June, with prices in all major sub-components distinctly higher again. Annual inflation surged overall from 2.1% to 3.1%, as price levels in the same month of the previous year were down markedly due to the temporary reduction in VAT rates. However, this price-driving base effect was counteracted by the aforementioned one-off statistical effect. In contrast to the first quarter, it did not push the headline rate up in July but dampened it by ¾ percentage point. The weakening effect had an even stronger impact on the core rate and

Stronger inflation in July, annual rate higher too due to VAT base effect

⁶ See Federal Statistical Office (2021).
⁷ See Deutsche Bundesbank (2021).

more or less offset the VAT base effect. The core rate rose from 1.2% to 1.8% as a result of the recent greater price momentum. Annual inflation as measured by the national consumer price index (CPI), which is unaffected by the statistical effect, went from 2.3% to 3.8% overall.

Very high inflation rates expected for a time at year-end

The reported rate of inflation is set to increase further as the year goes on. This is partly because the one-off statistical effect, which in the current month still has a similarly strong dampening effect as in July, will weaken distinctly in September and October, then become slightly positive in November before finally ceasing to apply in December. As things currently stand, inflation rates of between 4% and 5% are possible at the end of the year. At the beginning of 2022, inflation is likely to stabilise again markedly, mainly because the price-driving base effect caused by the temporary reduction in the VAT rates will be eliminated. Nonetheless, inflation of above 2% could persist up to the middle of 2022.

■ Order books and outlook

Economic output set for strong expansion in Q3

Economic output in Germany is set for strong expansion in the third quarter of 2021, at a rate that will far surpass the growth recorded in the second quarter (see the box on pp. 66f.). The main reason for this is the considerable easing of containment measures as of mid-May, which is having a stronger and, in particular, more prolonged impact in the current quarter than in the second quarter. The main sectors to benefit from the loosening of restrictions are especially hard-hit services sectors such as hotel and restaurant services, travel services and parts of the bricks-and-mortar retail sector. In industry and the main construction sector, order books are well filled. There are initial signs that the supply bottlenecks for certain intermediate goods and commodities are at least not worsening as significantly as they were in the second quarter. The infrastructure and production capacity destroyed in areas affected by the flood disaster

Demand for industrial goods and construction services

Volumes, 2015 = 100, seasonally adjusted, quarterly data



Source of unadjusted figures: Federal Statistical Office. ¹ Only calendar-adjusted.
 Deutsche Bundesbank

Estimating real monthly gross domestic product for Germany and applying it in the short-term economic forecast

Since March 2020, economic activity in Germany has to a large extent been determined by the coronavirus pandemic and the measures taken to contain it. This has led to sharp fluctuations in aggregate output even within individual quarters. For this reason, high-frequency and timely observations of economic activity have since taken on particular significance. However, real gross domestic product (GDP) for Germany is only published as a quarterly aggregate, and with a considerable time lag at that. In order to get a better picture of macroeconomic developments within a specific quarter without a long time lag, monthly GDP is estimated using monthly economic indicators. In a first step, the already published seasonally adjusted quarterly GDP data are broken down (interpolated) into monthly data using seasonally adjusted indicator variables.¹ In a second step, the monthly GDP path is extrapolated using the same indicators. This is done using the forecast models² already established in the business cycle analysis and expert assessments. The indicator variables used are comprised of five economic indicators closely linked to

GDP or its individual components: industrial output, price-adjusted retail sales, price-adjusted goods exports, output in the main construction sector and price-adjusted turnover in the hotel and restaurant industry.³

An advantage of this procedure over the weekly activity index (WAI),⁴ which also provides a timely picture of developments in aggregate economic output, is thus that it is additionally suitable for forecasting.⁵ Furthermore, the estimated monthly GDP is easier to interpret than the WAI, which provides a rolling 13-week growth rate of economic activity. Quarter-on-quarter growth, which is frequently the main focus of interest, therefore only becomes apparent at the end of a given quarter. For the same reason, the WAI reacts relatively sluggishly to abrupt changes. By contrast, as a weekly index, the WAI has the advantage of allowing an even earlier estimation of current economic developments. Furthermore, the indicators that feed into it do not have to be extrapolated.



1 The interpolation method used is that developed by Chow and Lin (1971). An unobserved monthly GDP series (the state variable) is estimated based on monthly indicator variables using a state space model. Here, the observation equation of the state space model ensures that the quarterly average of estimated monthly GDP corresponds to quarterly GDP. The model is estimated using the Kalman filter. For the application of the procedure to the euro area, see Mönch and Uhlig (2005), and regarding the beginning of the coronavirus crisis, see Deutsche Bundesbank (2020a).

2 For a description of the established models, see Deutsche Bundesbank (2018).

3 In choosing the indicator variables, account was taken of their explanatory power with regard to the estimation of monthly GDP, the sign and stability of the estimated parameters and the quality of the extrapolation.

4 See Deutsche Bundesbank (2020b) and www.bundesbank.de/wai

5 However, it is fairly simple to use the WAI to generate “nowcasts” for GDP, i.e. estimates for the current quarter. See Eraslan and Götz (2021).

Estimated monthly GDP fell by 7% in March 2020 compared with February of the same year. In April it dropped again, this time by more than 11%. These declines were attributable to the first wave of the coronavirus pandemic and the measures taken to contain it. After these measures were eased, GDP grew continuously in the months that followed. However, due to the resurgence of the pandemic and the gradual tightening of containment measures, it contracted again in November and December 2020, as well as in January 2021. It then recovered somewhat in the remainder of the first quarter of 2021. In April, i.e. at the beginning of the second quarter, the economy suffered a further significant setback as the third wave of the pandemic took hold. Nevertheless, the containment measures were swiftly loosened again as of about mid-May, after which economic activity recorded strong growth. In June, GDP was es-

timated to be just over 2% higher than the average for the second quarter. This statistical carry-over effect shows how high quarter-on-quarter GDP growth would be in the third quarter if the activity level reached in June were to remain unchanged until September.

Alongside other information sources, such as the results of the established models and the WAI, this model has been used at the Bundesbank for some time now to create a short-term forecast for German GDP. According to the model, GDP in the third quarter could grow by just over 3% on the quarter, thus seeing it return to its pre-crisis level even before the summer is out.

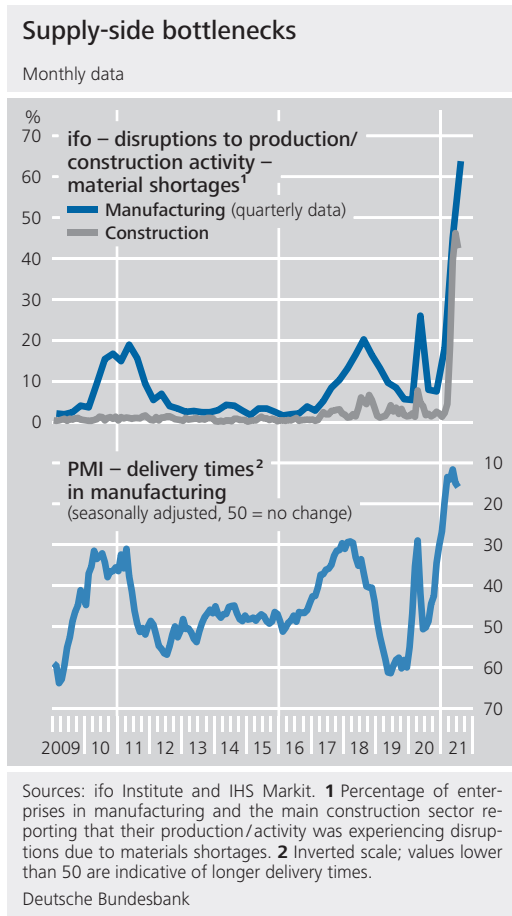
represent an additional, but from a macroeconomic perspective probably manageable, drag on the economy.⁸ All in all, it remains to be seen whether GDP will reach its pre-crisis level in the third quarter already or whether this will be a fourth-quarter event. There is uncertainty surrounding the further economic impact of the pandemic. For example, the Delta variant and vaccination slowdown could result in tighter restrictions being reimposed. However, this could then be expected to weigh more heavily on the economy in the fourth quarter. Not least in view of lower than expected growth in the first half of 2021, economic growth could, as things now stand, be slightly lower on average for the year than foreseen in the June projection.

The sentiment prevailing in the German economy is favourable. However, somewhat less optimistic expectations resulted in the ifo business climate index falling slightly in July from a high level. That said, the somewhat subdued

expectations also have to be seen against the broad-based improvement in the assessment of the current situation during recent months. This somewhat mixed development overall is mirrored in most sectors. Only in the retail trade sector (including motor vehicle trade) was there also a deterioration in the assessment of the current situation. By contrast, in the main construction sector, both the assessment of the current situation and expectations continued to improve in July. The rating of the current situation improved sharply in the hotel and restaurant sector and in retail, owing to the easing of restrictions in June and July, and recently surpassed the assessment made in the third quarter of 2020. Expectations in the hotel and restaurant sector, in particular, deteriorated significantly, however, with the spread of the Delta variant possibly sparking fears of a fourth

Business climate in German economy favourable, but no further improvement of late due to somewhat less optimistic expectations

⁸ By contrast, the positive effects for economic activity resulting from the measures for rebuilding are likely to be spread out over a longer period.



wave of the pandemic with new restrictions. On the one hand, in July almost two-thirds of enterprises in industry complained of disruptions due to supply bottlenecks,⁹ and production plans were somewhat less optimistic, too. On the other, the assessment of the current situation improved and the dampening impact of suppliers' delivery times declined slightly according to surveys conducted by IHS Markit in June and July.

Industrial orders rose again fairly steeply in price and seasonally adjusted terms from the already very high level posted in the first quarter. Seeing as output flagged at the same time on the back of bottlenecks in the supply of some intermediate goods, the stock of orders that have not yet been processed continued to grow. According to information provided by the Federal Statistical Office, the level of orders in the second quarter considerably surpassed the already high level of the first quarter. The results of surveys by the ifo Institute on order

Situation in industry still very positive

books confirm this finding. Broken down by region, orders from the euro area partner countries were up particularly steeply this time, in contrast to the first quarter. Economic activity in this area picked up markedly during the second quarter, not least on account of the easing of measures to protect against the coronavirus. Demand for German goods also benefited from this. New orders from non-euro area countries declined slightly, however. The strongest growth in new orders was recorded for consumer and capital goods, with manufacturers of other transport equipment, machinery and electronic equipment benefiting in particular. Shipbuilding, which is included under other transport equipment, recently received a large domestic order of considerable size. In addition, motor vehicle manufacturers also enjoyed more new orders. By contrast, manufacturers of chemical and pharmaceutical products saw a fall in new orders compared with the first quarter.

The construction sector is also likely to grow in the third quarter. New orders were down again in the main construction sector, with a rise recorded only in housing construction and public building construction after a weak first quarter. Nevertheless, construction activity remains intact. According to the ifo Institute's survey, the reach of existing orders even expanded somewhat in the past few months. Equipment utilisation likewise remained high in July and was well above its long-term average. The pronounced materials shortages pose a risk. According to the ifo Institute, however, the disruptions they caused were at least not exacerbated in July, but tailed off slightly for the first time in a long while.

Incoming orders in construction down, but construction activity still intact and on an upward trajectory

Private consumption will also remain the most important pillar of the exceptionally steep economic growth expected in the third quarter. The easing of containment measures are a key

⁹ Association of German Chambers of Commerce and Industry (DIHK) also reported widespread materials shortages. See Association of German Chambers of Industry and Commerce (2021).

Private consumption likely to remain most important pillar of economic growth in third quarter

factor, mainly because the consumption opportunities thus freed up again will have a much longer-lasting impact in the current than in the previous quarter. The consumer sentiment indicator forecast by the market research institution Gesellschaft für Konsumforschung (GfK) for the month of August is significantly higher than the average of the second quarter. Consumers' propensity to consume, as surveyed by the GfK, has also risen steadily since the easing

of measures in May. By contrast, the current sharper rise in prices is having a negative impact.¹⁰ Private consumption would also be dampened if containment measures have to be tightened again due to a strong fourth wave of the pandemic. However, it is likely this would primarily affect the fourth quarter.

¹⁰ See Gesellschaft für Konsumforschung (2021).

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