

DIW Weekly Report

A policy bulletin from the German Institute for Economic Research



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37²⁰²¹



DIW Economic Outlook Autumn 2021



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the pandemic**

LEGAL AND EDITORIAL DETAILS



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Volume 11 September 17, 2021

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Layout

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Cover design

© imageBROKER / Steffen Diemer

Composition

Satz-Rechen-Zentrum Hartmann + Heenemann GmbH & Co. KG, Berlin

ISSN 2568-7697

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AT A GLANCE

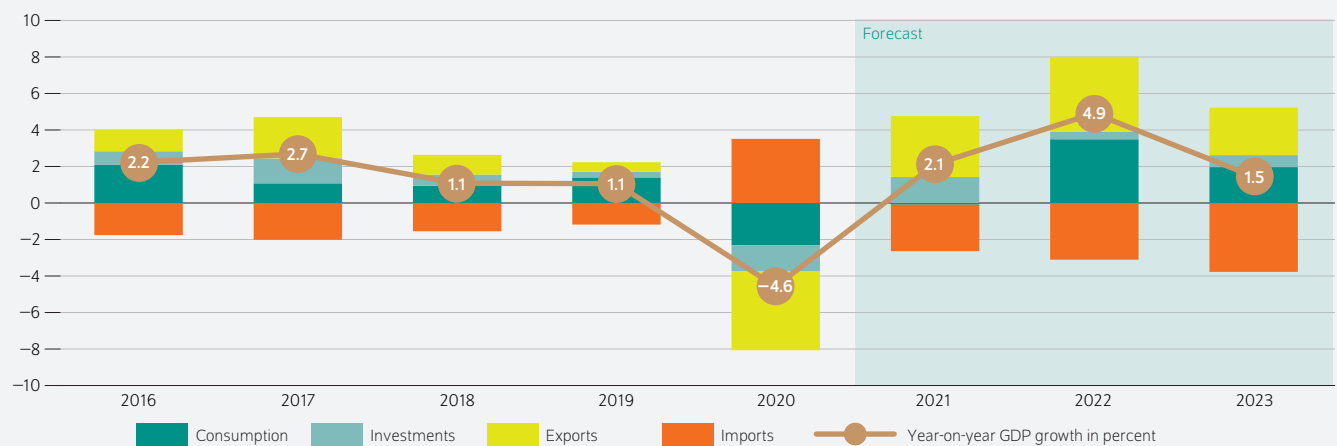
German economy only slowly emerging from the pandemic

By Marius Clemens, Simon Junker, and Laura Pagenhardt

- German economy not growing as quickly as expected – DIW forecasting experts expect 2.1 percent growth in 2021
- Global economy is booming; but in Germany, industry is slowing down despite booming demand: production is stalled due to global supply bottlenecks and exports are temporarily stagnating
- Service providers are recovering slowly and are likely to experience new setbacks in the winter – private consumption still not at its pre-crisis level
- If supply bottlenecks are solved and the pandemic is overcome in 2022, growth of 4.9 percent is expected
- Inflation boosted mainly by special effects such as the VAT cut expiry and higher energy prices – moderate inflation expected again in 2022

German economy: Substantial recovery only in 2022 – consumption boosts back to normal levels

Individual GDP components' contribution to growth in percentage points



Sources: DIW Berlin Economic Outlook Autumn 2021.

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FROM THE AUTHORS

“The vaccination and testing strategy has been effective, but private consumption is far from its pre-crisis level and will be dampened again in winter as case numbers rise again. However, supply bottlenecks will at least slowly dissolve and domestic industry will pick up speed again. We are expecting recovery on all levels from spring 2022.”

— Simon Junker —

MEDIA



Audio Interview with Simon Junker (in German)
www.diw.de/mediathek

Global economy returning to its recovery course after summer setbacks

By Guido Baldi, Geraldine Dany-Knedlik, Hella Engerer, Frederik Kurcz

ABSTRACT

Recently, the coronavirus pandemic has caused economic developments in major economies to drift apart: While infection rates were declining and production was experiencing strong growth in places such as Europe and the United States in the second quarter of 2021, emerging economies were experiencing strict economic restrictions due to high case numbers. In some of these countries, the economy declined. Globally, the spread of the coronavirus slowed considerably in late summer 2021 and accordingly, the global economy will return to its recovery course beginning in the third quarter of 2021. Although higher case numbers are expected in winter 2021/22, they will probably have far less of an impact on the economy than before due to increased vaccination rates and selectively implemented containment measures. Positive momentum, particularly in the services sector, will be provided mainly by continued strong growth in private consumption, which is likely to remain a key growth driver in the coming years. Currently, raw material and input shortages are hindering growth in the manufacturing industry. However, disruptions to international supply chains and restrictions at key primary product manufacturing sites are expected to dissipate in the first half of 2022. This will probably lead to some catch-up effects in the manufacturing sector, which is likely to provide the global economy with additional momentum. Thus, DIW Berlin is maintaining its growth forecast of 6.7 percent for the global economy. In 2022, global economic output is expected to grow by 5.2 percent. In the second quarter of 2021, the estimate was 0.3 percentage points lower. Global economic output is expected to grow by 4.2 percent in 2023.

Higher rates of infection in emerging economies slowed the global economy over summer 2021. Following sluggish growth at the beginning of 2021, the global economy contracted slightly by 0.2 percent in the second quarter compared to the previous quarter. Declines in infection rates in advanced economies contrasted with rapidly increasing rates in some emerging economies and, accordingly, the economic development of these countries drifted apart (Figure 1).

Advanced economies continued on their recovery course over summer 2021 as waves of infection petered out. During the second quarter of 2021, containment measures were rapidly scaled back in response to decreasing case numbers, which revived the personal services and retail sectors. With simultaneous solid developments in the manufacturing sector, most advanced economies recorded strong growth once again. The euro area returned to its recovery course in the second quarter of 2021 with a growth rate of 2.2 percent. With production up 1.5 percent, the USA, on the other hand, maintained its pace of expansion. At 4.8 percent, the United Kingdom recorded extraordinarily strong growth, which is primarily due to all significant restrictions on public life having been lifted in mid-May 2021. In Japan, in contrast, pandemic containment measures weighed on economic activity far into the second quarter of 2021. Accordingly, Japanese GDP grew sluggishly, only 0.3 percent compared to the first quarter.

A resurgence of infections has noticeably dampened production in emerging economies in Asia and South America. In India, likely the hardest hit emerging economy, economic output declined by around ten percent in the second quarter due to national and regional curfews. In some South American countries, too, the domestic economy was largely paralyzed over summer 2021 due to the pandemic. As a result, economic growth in Brazil came to an almost complete standstill. In China, in contrast, recovery picked up speed over the summer, gaining 1.3 percent in the second quarter of 2021 after just 0.4 percent in the first quarter.

Global economic growth is expected to pick up in the third quarter of 2021. Case numbers in many emerging economies sank again over the late summer. Accordingly, containment measures were lifted, which should boost production in the

relevant countries. Despite recent increases in the infection rate in many advanced economies, containment measures were tightened only slightly, if at all, so that the recovery is likely to continue in the third quarter of 2021, albeit at a somewhat slower pace than recently. Increasing levels of immunity among the population gives consumers overall confidence in the future. However, uncertainties about the further course of the pandemic and containment strategies are likely to have clouded consumers' sentiment somewhat recently in many advanced economies (Figure 2). Accordingly, retail sales declined somewhat again following a strong summer.

Business confidence also rose sharply once more in the summer, resulting in the purchasing managers' indices now being well above the expansion threshold of 50 index points. Despite exuberant corporate sentiment, industrial production was sluggish in many places due to supply-side shortages (Figure 3). As a result, there were disruptions to international supply chains and restrictions at key primary product manufacturing sites from spring 2021 onward. Although the order situation is extraordinarily good due to the global economic recovery, orders likely cannot be processed before spring 2022 because of input shortages. This is also indicated by the slight capacity underutilization in many places and the rising producer prices since the beginning of 2021. International trade was accordingly weaker in the second quarter of 2021. Although the global trade volume was well above the pre-crisis level at the beginning of 2021, it has been stagnating since April (Figure 4).

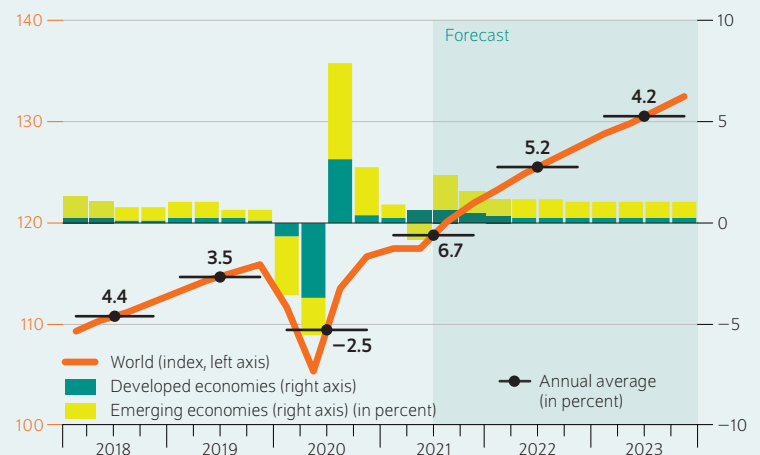
Despite an expected increase in the infection rate, the global economy should continue to expand from winter 2021, albeit at a slower rate than recently. This forecast is based on the assumption that it will be possible to curtail the pandemic with containment measures and the available vaccines. The number of infections will increase again in most advanced economies at the end of 2021. However, due to the vaccination campaign and resulting increases in immunity among the population, the share of those who experience severe illness will be significantly lower. Therefore, governments are able to tolerate higher incidences while simultaneously implementing health policy measures that restrict public life much less significantly than during previous waves. It is assumed that a reintroduction of strict health policy measures will affect vulnerable segments of the population and local coronavirus hotspots in particular. Therefore, it is also assumed that economic activity will be limited mainly due to quarantine and illness-related workforce shortages. During the spring of 2022, infection rates are expected to decline as more and more of the population is vaccinated. Over the course of 2022, existing restrictions on social life will be successively lifted. In contrast, the pandemic is expected to be combated more slowly in less advanced economies. In countries vaccinating at a slower pace, there are likely to still be strict containment measures in place.

In particular, solid growth of private consumption is likely to carry the global upswing during the forecast period. Especially in advanced economies, households should be able

Figure 1

Growth of real GDP

Compared to previous quarter, in percent



Sources: National statistical offices; DIW Berlin Economic Outlook Autumn 2021.

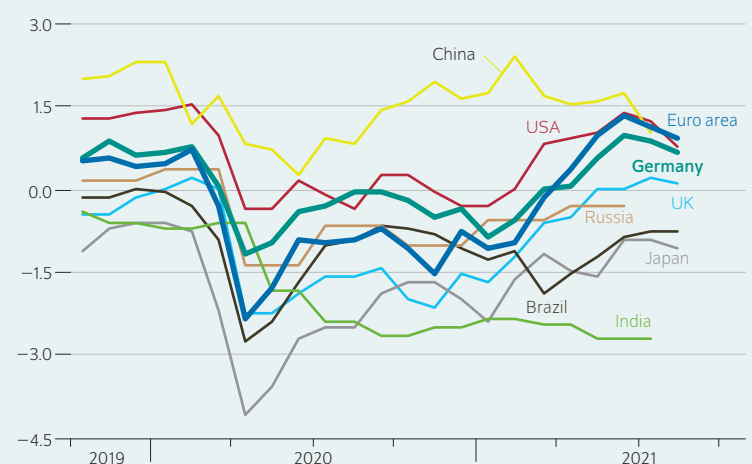
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The global economy is likely to have reached its long-term growth path by the end of 2022.

Figure 2

Consumer confidence

Indices (standardized)



Sources: Confidence Board; GfK UK; Japanese Cabinet Office; European Commission; IBRE Brazilian Institute of Economy; China Economic Monitoring and Analysis Center; Russian Federal State Statistics Services; Reserve Bank of India; authors' own calculations.

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Consumer sentiment in advanced economies fell somewhat recently.

Table

Real GDP, consumer prices, and unemployment rate in the global economy

In percent

	GDP				Consumer prices				Unemployment rate in percent			
	Change over previous year in percent											
	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023
Euro area	-6.5	4.5	4.6	1.9	0.1	2.5	1.8	1.5	7.9	7.7	7.7	7.2
without Germany	-7.3	5.6	4.4	2.1	-0.1	2.2	1.7	1.4	9.8	9.6	9.6	9.1
France	-8.0	6.0	4.0	2.3	0.5	2.2	1.9	1.4	8.0	7.8	8.3	7.8
Italy	-8.9	5.5	4.3	2.1	-0.3	1.5	1.6	1.2	9.3	9.7	9.4	9.0
Spain	-10.8	6.2	5.8	1.9	-0.3	2.5	2.0	1.4	15.8	15.2	14.7	13.9
Netherlands	-3.8	3.8	3.2	2.2	1.2	2.2	2.1	1.6	3.9	3.2	3.7	3.5
United Kingdom	-9.8	6.9	5.8	1.7	1.0	2.8	2.5	1.8	4.5	4.8	4.5	4.2
USA	-3.4	6.1	4.3	2.5	1.2	4.2	2.6	1.7	8.1	5.6	4.3	3.8
Japan	-4.7	2.4	2.8	1.9	0.0	-0.4	0.6	1.0	2.8	2.9	2.8	2.7
South Korea	-0.9	4.1	3.2	3.0	0.7	1.6	1.5	1.2	3.9	4.0	3.7	3.6
Middle Eastern Europe	-3.7	5.0	4.1	3.8	3.1	3.9	3.4	3.3	3.7	4.0	3.7	3.4
Turkey	1.6	7.6	3.0	4.3	12.3	16.3	14.2	13.0	13.1	13.4	13.1	13.0
Russia	-2.5	2.2	3.0	2.4	3.4	6.3	5.7	4.4	5.8	5.1	4.9	4.5
China	2.4	8.1	5.4	5.8	2.5	1.8	2.4	2.5	4.0	3.8	3.7	3.7
India	-7.0	9.1	9.8	6.4	6.6	5.5	5.0	5.5				
Brazil	-4.4	5.6	2.1	2.3	3.3	7.1	3.9	3.2	13.5	14.9	13.8	12.6
Mexico	-8.5	6.1	3.7	3.1	3.4	5.2	3.4	3.0	4.5	3.8	3.4	3.3
Advanced economies	-4.7	5.2	4.2	2.2	0.8	3.0	2.1	1.5	6.9	5.6	5.0	4.5
Emerging markets	-1.2	7.5	5.8	5.3	4.1	4.4	4.2	4.1	5.4	5.3	5.1	4.9
World	-2.5	6.7	5.2	4.2	2.8	3.8	3.4	3.2	6.0	5.5	5.0	4.8

Sources: National statistical offices; DIW Berlin Economic Outlook Autumn 2021.

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to maintain their consumption over winter 2021/22 despite rising case numbers. Increased immunity and accordingly fewer uncertainties regarding the further course of the pandemic should give private consumption additional momentum and decrease the saving rate in many places. The gradual recovery on the labor markets will likely support the income of private households as well. For example, the unemployment rate should continue to decline in advanced economies as long as emergency aid for businesses, such as the short-time work allowance, is not ended too early. In many emerging economies, which can afford far less fiscal support, the situation on the labor markets is likely to improve only gradually.

The recovery of private consumption will likely lead to a noticeable growth in sales in the retail and personal services sectors. Moreover, supply chains and raw material prices are likely to have normalized again in the first half of 2022. This should lead to some catch-up effects in the manufacturing sector.

Additionally, further fiscal stimuli are likely to support the recovery during the forecast period. In addition to the planned investment measures in the United States, the spending programs submitted as a part of the recovery and resilience plan of many European countries were approved. While some small upfront payments will flow through the end of 2021, the bulk of the fiscal stimulus is expected over the coming years.

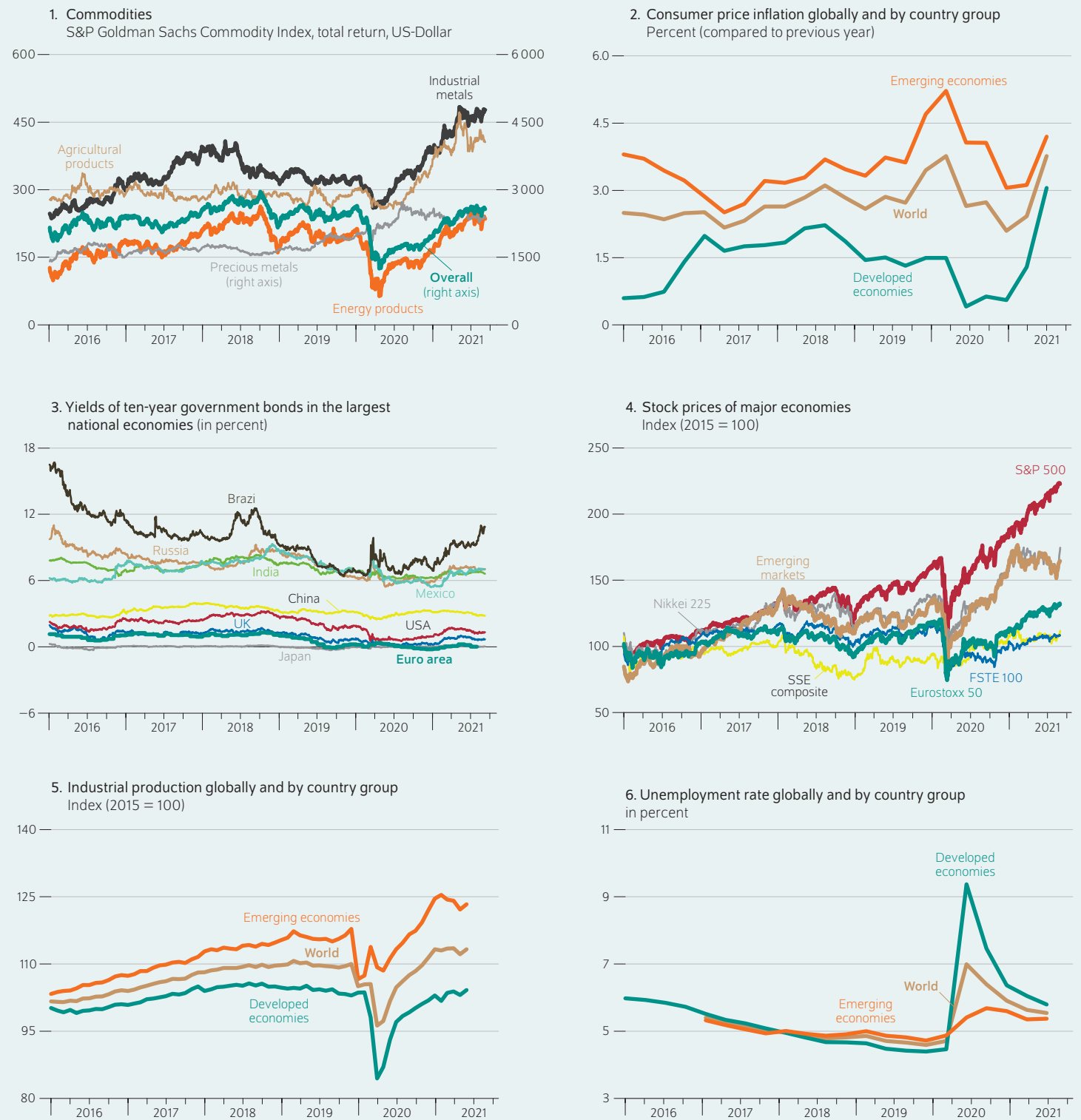
In addition to expansionary fiscal policy, the further favorable financing conditions will support corporate investment activity. While some central banks, such as the Bank of Korea, have already begun to make their monetary policy somewhat less expansive, many have announced they will not begin gradually phasing out ongoing expansionary monetary policy measures until 2022. Consumer price inflation continued to rise in many places over the summer and is likely to temporarily exceed the inflation target of the respective central bank by the end of 2021.¹ Primarily behind this temporary increase are rising raw material and energy prices as well as price increases due to supply bottlenecks within international supply chains. A sharp rise in wages, which could lead to significantly higher core inflation rates in the medium term, is not yet on the horizon; improvements on the labor markets are progressing too slowly for this in many places.

Overall, powerful growth in production in the advanced economies was able to compensate for the majority of the pandemic-related losses in emerging economies in the second quarter of 2021. Beginning in the second half of 2021, the global recovery is likely to continue as greater shares of the population are vaccinated against COVID-19. Thus, global production will likely only be able to reach its long-term growth path by the second half of 2022. The increased rates of infection in some emerging economies led to greater growth losses than previously forecast. Assuming these countries

¹ Cf. SGL 21

Figure 3

Global economic indicators

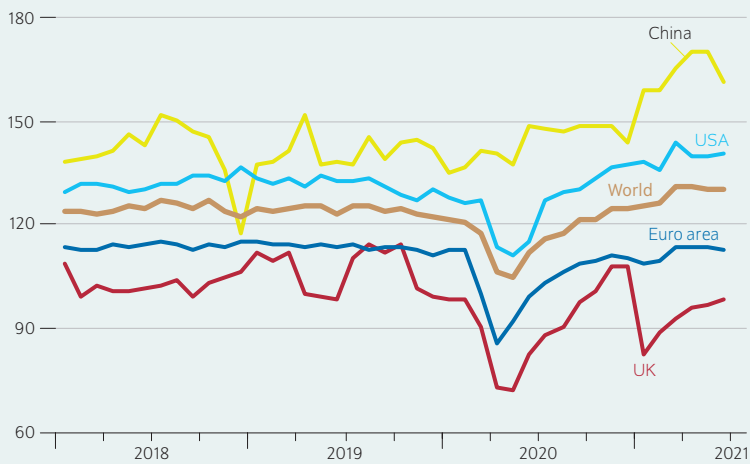


Note: Last observations on May 26, 2021 (part 1); first quarter of 2021 (part 2); April 30, 2021 (part 3); May 26, 2021 (part 4); March 1, 2020 (part 5); second quarter of 2021 (part 6).

Sources: S&P Dow Jones Indices (part 1); German Stock Exchange, CBOE (part 2); ECB, PboC, Federal Reserve, BoE, BOJ, Central Bank of Brazil (part 3); Bureau of Labor Statistics (part 4); IHS Markit (part 5); Macrobond (part 6). National statistical offices; IMF; Macrobond; Eurostat; CPB World Trade Monitor, STOXX, Nikkei Inc.; Shanghai Stock Exchange, FTSE; authors' own calculations.

Figure 4

Volumes of import goods worldwide and for selected economies Index



Source: CPB.

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The global economy stagnated over summer 2021 due to pandemic-related primary product shortages and supply chain disruptions.

will successfully be able to keep infection rates low in the future, this will result in correspondingly higher growth rates in 2022. Overall, DIW Berlin confirms its global economic forecast from summer 2021 and is increasing its forecast for 2022 by 0.3 percentage points. Thus, DIW Berlin expects growth rates of 6.7 percent for 2021, 5.2 percent for 2022, and 4.2 percent for 2023. The global economy should have reached its long-term growth path by the end of 2022 (Table).

The downward risks have recently increased, as uncertainties regarding the further course of the pandemic and the effectiveness of existing vaccines against new mutations have increased. This would make stricter lockdown measures necessary again and would likely further delay an economic upswing. Another risk is that corporate and personal insolvencies will rise sharply, in particular as a result of another (partial) lockdown. This could lead to significant loan defaults and, as a result, destabilize the financial markets, which could also jeopardize the solvency of a number of countries. Global recovery, on the other hand, would be strengthened by faster vaccine distribution and more effective treatments for COVID-19.

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JEL: E32, E66, F01

Keywords: Business cycle forecast, economic outlook

German economy only slowly emerging from the pandemic

By Marius Clemens, Simon Junker, and Laura Pagenhardt

ABSTRACT

The German economy is taking longer than expected to overcome the pandemic: It is likely to increase by only 2.1 percent in 2021 and capacities remain markedly underutilized. In addition, global supply bottlenecks are affecting German industry, resulting in stalled domestic production despite high demand. Following a profitable summer due to low case numbers and progress in the vaccination campaign, the personal services sector is weakening again as infection rates rise once more. If the supply bottlenecks are solved in 2022, industry should take off and the German economy should record powerful growth of 4.9 percent. Although inflation remains moderate in the underlying trend, higher oil prices and the return to the normal value-added tax are driving the rate up to 3.0 percent in 2021. These effects will no longer apply in 2022. Nevertheless, inflation remains somewhat elevated at around 2.0 percent, as rising production costs due to a shortage of intermediary goods are partly passed on.

The recurring waves of the coronavirus have stalled service providers' recovery repeatedly, and as a result, a strong recovery has so far failed to materialize. Although there will be a marked upswing in the third quarter of 2021, the approaching fourth wave will set service providers back over the coming months. It is assumed that policymakers will react to the likely increase in case numbers with less strict measures compared to winter 2020/21, but regional flare-ups will result in restrictions and cautious consumer behavior. Thus, personal services in particular will be affected by a fourth coronavirus wave in winter 2021/22, but to a lesser extent than previously. From spring 2022 onward, it is assumed that the pandemic will be largely contained so that service providers can then ramp up operations again on a sustainable basis (Table 1).

The global economy is booming¹ and the mood in the export-dependent industry is accordingly euphoric. However, global supply bottlenecks will continue to weigh on production for a while. Only when—as assumed by winter 2021/22 onward—the global shortages are gradually eliminated will industry be able to pick up speed and expand strongly in 2022 (Figure 1).

Overall, the German economy is likely to grow at a sluggish pace to an annual average of 2.1 percent (Table 2) and there will be little reduction in underutilization in 2021 (Figure 2). However, GDP is expected to grow by 4.9 percent in 2022, a noticeable recovery, and overall economic capacity utilization will then return to more or less normal levels. In 2023, growth is likely to be 1.5 percent, slightly above the potential rate. Capacity utilization is likely to be slightly elevated, but not excessive, as continuing strong foreign demand is supporting industrial activity.

Recently, exports have lost momentum noticeably, primarily due to disruptions in international trade (Figure 3). As industrial production increases, exports will expand significantly again, especially in 2022. In 2023, foreign demand will lose momentum somewhat but will remain dynamic.

¹ Cf. the first report in this Weekly Report: Guido Baldi et al., "Global economy returning to its recovery course after summer setbacks," *DIW Weekly Report* no. 37 (2021): 270–274.

The labor market is noticeably picking up pace since summer 2021 and with the exception of a setback in winter, this will likely continue throughout the forecast period. The number of short-time workers has decreased by half since spring 2021 (Figure 4). Employment growth will be strong in the third quarter of 2021; in addition to public service providers, other service providers, such as in the retail sector, are also likely to have hired more staff. Industry is also likely to hire to a great extent again over the further course. Overall, after a lean first half of 2021, the number of employed persons is likely to remain at around the 2020 level for 2021 before rising by almost 350,000 in 2022 and by just under 300,000 in 2023. The pre-crisis level will be achieved by the final quarter of 2022.

Registered unemployment is likely to decline by 50,000 people in 2021. As the labor force will likely recover from its losses over the further course, the number of unemployed will not decrease at the same high rate as employment is increasing. However, it will decrease by 150,000 people in both 2022 and 2023; the unemployment rate will drop from 5.8 percent in 2021 to 5.0 percent in 2023. Hourly wages will rise only moderately in 2021 but will accelerate as 2021 progresses, as the increase in employment will be driven by employment subject to social insurance contributions, even more strongly in sectors with comparably high wages.

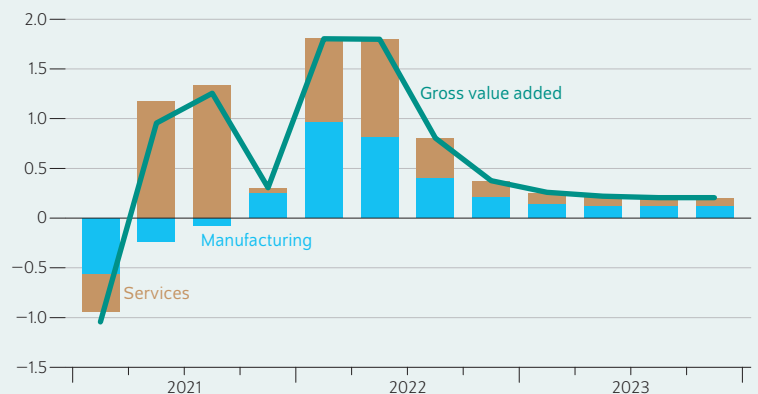
When observing the recent high inflation rates (3.9 percent in August 2021), it should be considered that around one percentage point is due to the VAT cut expiry and more than another percentage point stems from the recovery in energy prices. Neither of these will be a factor in 2022, which is why inflation, after an outlier of 3.0 percent in 2021, will be moderate again thereafter at 2.0 percent and 1.7 percent, respectively, in 2022 and 2023.

Private consumption is likely to have jumped sharply in the third quarter of 2021 while the state of the pandemic was comparably calm; however, it is likely to decrease slightly in winter 2021/22 in light of a fourth wave of the coronavirus before recovering strongly in spring 2022. Labor income is noticeably rising as wages and employment are increasing at an accelerated rate, with the reduction in short-time work contributing significantly to this. On the other hand, short-time allowances are increasingly being discontinued, which is another reason social benefits are increasing at a comparatively modest pace. The partial abolition of the solidarity surcharge at the beginning of 2021 and various measures under the Second Family Tax Burden Reduction Act will also have a relieving effect. Overall, disposable income has remained remarkably stable, in part thanks to economic stimulus programs. In the third quarter of 2021, the savings rate is likely to have decreased significantly, but will probably increase somewhat in winter 2021/22 in light of the poor outlook for services consumption, before quickly returning to its pre-crisis level over the further course of the forecast.

Investment in equipment and machinery has been weak recently, presumably due to continuing material shortages. However, in view of an increasingly positive order situation,

Figure 1

Total gross value added and components In percent (components in percentage points)



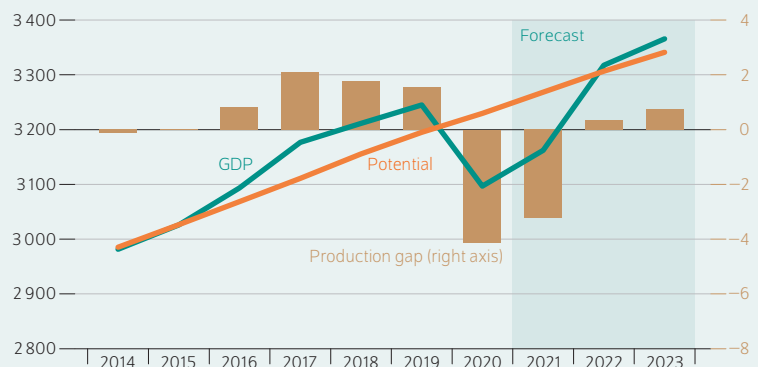
Source: DIW Berlin Economic Outlook Autumn 2021.

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Industry will not make a noticeable contribution to gross value added until 2022. Service providers will experience another setback due to the pandemic in winter 2021/2022.

Figure 2

Gross domestic product, potential output, and gap In billion euro, gap in relation to potential



Sources: Federal Statistical Office; EU Commission; DIW Berlin Economic Outlook Autumn 2021.

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The German economy will close the output gap in 2022.

Figure 3

Gross domestic product and use of GDP Seasonally and working-day adjusted



Sources: Federal Statistical Office; DIW Berlin Economic Outlook Autumn 2021, forecasts from 2021 Q3 onward.

Table 1

Use of gross domestic product, quarter-on-quarter growth rates

Price, seasonally and working-day adjusted, in percent

	2021				2022				2023			
	I	II	III	IV	I	II	III	IV	I	II	III	IV
Private consumption	-5.2	3.2	2.8	-0.5	-0.2	4.8	1.9	0.9	0.6	0.4	0.3	0.3
Public consumption	-0.7	1.8	0.7	0.5	0.2	0.0	-0.2	0.0	0.2	0.3	0.3	0.3
Gross fixed capital formation	-0.7	0.5	0.7	1.2	1.2	1.2	0.9	0.7	0.8	0.8	0.8	0.8
Investment in machinery and equipment	-0.2	0.3	-0.3	0.2	0.8	1.1	0.9	0.8	0.7	0.7	0.7	0.7
Construction investment	-0.4	0.3	1.9	2.7	2.0	1.7	0.9	0.6	1.0	1.0	1.0	1.0
Other investment	-2.6	1.3	1.2	1.2	1.1	0.9	0.8	0.8	0.8	0.8	0.8	0.8
Change in inventories ¹	1.9	0.1	-1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Domestic uses	-1.1	2.4	0.7	0.1	0.3	2.8	1.1	0.6	0.5	0.5	0.4	0.4
Net exports ¹	-0.9	-0.6	0.6	0.2	1.5	-0.8	-0.3	-0.2	-0.2	-0.3	-0.2	-0.2
Exports	1.4	0.5	-0.3	0.3	4.1	3.7	2.6	1.3	1.1	1.0	0.9	0.9
Imports	4.2	2.1	-1.9	0.0	0.9	6.3	3.6	1.9	1.7	1.6	1.5	1.5
Gross domestic product	-2.0	1.6	1.3	0.3	1.8	1.8	0.8	0.4	0.3	0.2	0.2	0.2
Gross value added	-1.0	1.0	1.3	0.3	1.8	1.8	0.8	0.4	0.3	0.2	0.2	0.2
Manufacturing	-0.8	-1.3	0.0	1.0	4.2	3.4	1.6	0.8	0.5	0.4	0.4	0.4
Construction	-5.2	0.1	-0.3	0.2	0.8	1.1	0.9	0.7	0.6	0.6	0.6	0.6
Trade, accommodation, transport	-2.7	1.1	5.1	-1.4	2.0	2.6	1.3	0.5	0.3	0.3	0.2	0.2
Business and production services	0.2	1.3	1.3	1.7	2.2	2.0	0.7	0.2	0.1	0.1	0.1	0.1
Public admin., community and social serv.	-0.1	3.8	-0.6	1.0	0.7	0.6	0.2	0.1	0.1	0.1	0.1	0.1

1 Contribution to GDP growth in percentage points

Sources: Federal Statistical Office; DIW Berlin Economic Outlook Autumn 2021, forecast from 2021 Q3 onward.

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Table 2

Key economic indicators for the German economy

	2018	2019	2020	2021	2022	2023
Real GDP ¹ (percent change over previous year)	1.1	1.1	-4.6	2.1	4.9	1.5
Domestic employment (1,000 persons)	44,858	45,268	44,898	44,885	45,228	45,517
Unemployed (ILO concept)	1,468	1,373	1,664	1,581	1,486	1,374
Unemployed (BA concept)	2,340	2,267	2,695	2,649	2,490	2,320
Unemployment rate ² (ILO concept)	3.4	3.2	3.8	3.7	3.4	3.2
Unemployment rate ² (BA concept)	5.2	5.0	5.9	5.8	5.4	5.0
Consumer prices	1.8	1.4	0.5	3.0	2.0	1.7
Unit labor costs ³	3.0	3.1	3.4	0.9	0.3	2.7
Government budget balance ⁴						
in billion EUR	64.4	51.1	-145.2	-161.4	-77.5	-42.6
in percent of GDP	1.9	1.5	-4.3	-4.6	-2.1	-1.1
Current account balance, in percent of GDP	7.8	7.4	6.9	6.8	7.3	6.0

1 Price-adjusted, chain-linked

2 As a share of domestic labor force (ILO), resp. civilian labor force (BA)

3 Compensation of employees (national concept) per hour worked over real GDP

4 According to ESA 2010

Sources: National and international institutions; DIW Berlin Economic Outlook Autumn 2021, forecast from 2021 Q3 onward.

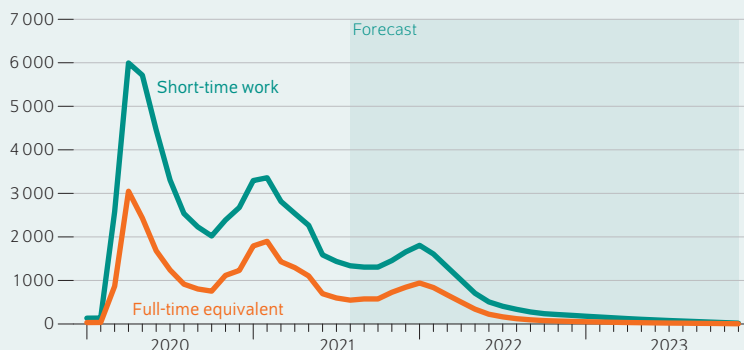
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especially among machinery manufacturers, a much more dynamic trend will emerge towards the end of 2021 and, increasingly, in 2022. As part of the economic stimulus program, significant government stimulus is being provided by the federal, state, and local governments. The tension between a good economic situation and a material shortage is also evident in the construction sector. Construction investments were subdued in all sectors in the second

quarter of 2021. The continued sharp rise in raw material prices resulted in enormous price increases in construction, which are expected to continue in the third quarter of 2021. Nevertheless, demand remains high, particularly in residential construction, and is supporting the positive underlying momentum. In public construction, the discontinuation of the trade tax equalization scheme, which was introduced because of the pandemic, is straining municipal

Figure 4

Short-time work and full-time equivalent In 1,000 persons



Sources: Federal Employment Agency; DIW Berlin Economic Outlook Autumn 2021, forecast starting 07/2021.

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Short-time work continues on its downward trend after a break in winter 2020/2021.

coffers. In the further course, however, considerable funds will be available from the *Zukunftspaket* and the reconstruction funds for flood relief.

Imports stumbled for the first time in July 2021. Due to global supply bottlenecks, sluggish consumption in winter 2021/22,

and temporarily weaker exports, they will not start to grow strongly again until spring 2022. Moreover, as domestic production potential increasingly lags behind stable domestic demand as time passes, the latter will increasingly be met by imports, and the trade surplus will shrink significantly.

The coronavirus containment measures will lead to a substantial general government deficit of just over 160 billion euros in 2021. Among other things, this deficit reflects expenditures for advance services and personnel for the national vaccination and testing strategy and emergency aid measures. Sales tax revenue is likely to be much stronger than in 2021, as the VAT rate has been raised again and consumption is gradually recovering. The rebounding economy will boost revenues from taxes and social security contributions over the course of 2021. A large part of the investment grants agreed in the *Zukunftspaket* of the economic stimulus program, amounting to around 15 billion euros, is expected to run out over 2022–2023. In principle, the momentum of government gross capital formation is likely to be quite high, not least because of the *Zukunftspaket*, although this will be held back for the time being by supply bottlenecks and the skilled labor shortage. Significant deficits of 78 and 43 billion euros are expected in 2022 and 2023. The gross debt ratio of the federal government to nominal GDP was a good 69 percent in 2020. In 2021, assuming additional loans and equity investments of 20 billion euros, it is expected to rise to around 72 percent and to fall again to 67 percent in 2022.

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JEL: E32, E66, F01

Keywords: Business cycle forecast, economic outlook

GERMAN ECONOMY

The Main National Accounts Data for the Federal Republic of Germany Forecast for 2021 and 2022

	2021	2022	2023	2021		2022		2023	
				1st half of year	2nd half of year	1st half of year	2nd half of year	1st half of year	2nd half of year
1. Origin of GDP									
Percentage change over previous year									
Domestic employment	0.0	0.8	0.6	-0.7	0.7	0.8	0.8	0.8	0.4
Hours worked, per working day	1.4	1.9	1.6	1.8	0.9	1.6	2.2	1.7	1.5
Working days	0.1	-0.1	-0.8	0.0	0.2	0.8	-1.0	0.0	-1.6
Labor volume, calendar-monthly	1.4	2.5	1.4	0.9	1.8	3.2	1.9	2.6	0.3
Labor productivity¹	0.7	2.3	0.0	1.9	-0.4	2.1	2.5	-0.1	0.2
Gross domestic product, price adjusted	2.1	4.9	1.5	2.9	1.4	5.4	4.4	2.4	0.5
2. Disposition of GDP in current prices									
a) Billion EUR									
Final consumption expenditure	2,520.4	2,684.6	2,795.9	1,212.2	1,308.2	1,294.5	1,390.2	1,369.9	1,426.1
Private consumption expenditure²	1,733.5	1,879.7	1,978.2	829.4	904.1	900.9	978.8	969.6	1,008.6
Government consumption expenditure	787.0	804.9	817.8	382.9	404.1	393.6	411.4	400.3	417.5
Gross fixed capital formation (GFCF)	788.0	847.0	888.4	371.0	417.0	404.7	442.3	427.1	461.3
Construction	235.4	254.2	264.9	109.6	125.8	120.3	134.0	126.1	138.8
Machinery and equipment	410.9	443.0	466.9	194.6	216.2	213.6	229.4	226.9	240.0
GFCF in other products	141.7	149.7	156.6	66.8	74.9	70.9	78.9	74.1	82.5
Change in stocks³	-0.7	-19.1	-19.5	13.1	-13.8	-6.7	-12.5	-10.1	-9.5
Domestic uses	3,307.8	3,512.5	3,664.8	1,596.4	1,711.4	1,692.5	1,820.0	1,786.9	1,877.9
Balance of exports and imports	202.0	233.3	189.2	110.1	92.0	136.7	96.6	114.4	74.7
Exports	1,648.3	1,848.5	1,966.9	806.3	842.0	900.9	947.6	978.1	988.9
Imports	1,446.3	1,615.2	1,777.7	696.2	750.1	764.2	851.0	863.6	914.1
GDP	3,509.8	3,745.8	3,853.9	1,706.4	1,803.4	1,829.2	1,916.6	1,901.3	1,952.6
b) Percentage change over previous year									
Final consumption expenditure	2.4	6.5	4.1	1.6	3.1	6.8	6.3	5.8	2.6
Private consumption expenditure²	1.5	8.4	5.2	-0.1	3.0	8.6	8.3	7.6	3.0
Government consumption expenditure	4.3	2.3	1.6	5.5	3.1	2.8	1.8	1.7	1.5
Gross fixed capital formation (GFCF)	7.1	7.5	4.9	5.6	8.4	9.1	6.1	5.5	4.3
Construction	8.5	8.0	4.2	11.6	6.0	9.7	6.5	4.8	3.6
Machinery and equipment	8.1	7.8	5.4	4.0	12.1	9.7	6.1	6.2	4.6
GFCF in other products	2.0	5.7	4.6	1.3	2.6	6.1	5.3	4.6	4.6
Domestic uses	4.2	6.2	4.3	2.9	5.4	6.0	6.3	5.6	3.2
Exports	12.7	12.1	6.4	14.3	11.3	11.7	12.5	8.6	4.4
Imports	13.9	11.7	10.1	11.8	16.0	9.8	13.5	13.0	7.4
GDP	4.2	6.7	2.9	4.4	4.0	7.2	6.3	3.9	1.9
3. Disposition of GDP, adjusted for prices									
a) Chain-linked estimated in billion EUR									
Final consumption expenditure	2,291.8	2,403.2	2,469.0	1,111.3	1,180.5	1,167.9	1,235.3	1,217.0	1,252.0
Private consumption expenditure²	1,592.2	1,695.3	1,757.7	767.6	824.6	816.6	878.7	865.7	892.0
Government consumption expenditure	697.5	706.6	710.5	342.5	355.0	350.4	356.1	350.9	359.6
Gross fixed capital formation (GFCF)	682.0	708.5	729.0	326.3	355.8	340.0	368.5	351.9	377.1
Construction	222.2	237.2	245.2	103.6	118.5	112.2	125.0	116.6	128.6
Machinery and equipment	327.5	334.5	343.0	159.6	167.9	162.4	172.1	167.8	175.2
GFCF in other products	131.4	136.9	141.1	62.2	69.1	65.1	71.8	67.1	74.0
Domestic uses	2,983.0	3,106.7	3,193.5	1,453.1	1,529.9	1,509.6	1,597.1	1,568.1	1,625.4
Exports	1,541.6	1,676.4	1,764.8	769.1	772.4	819.6	856.7	880.5	884.4
Imports	1,364.8	1,467.7	1,596.1	674.9	689.9	697.4	770.3	778.3	817.9
GDP	3,162.3	3,317.5	3,365.8	1,548.4	1,613.9	1,632.0	1,685.6	1,671.5	1,694.2
b) Percentage change over previous year									
Final consumption expenditure	-0.1	4.9	2.7	-0.4	0.2	5.1	4.6	4.2	1.4
Private consumption expenditure²	-1.4	6.5	3.7	-2.0	-0.9	6.4	6.6	6.0	1.5
Government consumption expenditure	2.8	1.3	0.6	3.1	2.5	2.3	0.3	0.1	1.0
Gross fixed capital formation (GFCF)	2.6	3.9	2.9	3.1	2.2	4.2	3.6	3.5	2.3
Construction	6.9	6.8	3.4	10.0	4.3	8.3	5.4	3.9	2.9
Machinery and equipment	0.9	2.1	2.5	0.5	1.3	1.7	2.5	3.3	1.8
GFCF in other products	0.8	4.2	3.1	0.2	1.4	4.6	3.8	3.1	3.1
Domestic uses	1.4	4.1	2.8	0.9	1.9	3.9	4.4	3.9	1.8
Exports	7.7	8.7	5.3	11.5	4.2	6.6	10.9	7.4	3.2
Imports	6.8	7.5	8.8	7.6	6.0	3.3	11.6	11.6	6.2
GDP	2.1	4.9	1.5	2.9	1.4	5.4	4.4	2.4	0.5

GERMAN ECONOMY

Continued: The Main National Accounts Data for the Federal Republic of Germany Forecast for 2021 and 2022

	2021	2022	2023	2021		2022		2023	
				1st half of year	2nd half of year	1st half of year	2nd half of year	1st half of year	2nd half of year
4. Price level of national expenditure (2015 =100)									
Percentage change over previous year									
Private consumption expenditure ²	3.0	1.8	1.5	1.9	4.0	2.1	1.6	1.5	1.5
Government consumption expenditure	1.4	1.0	1.0	2.4	0.6	0.5	1.5	1.6	0.5
Gross fixed capital formation (GFCF)	4.3	3.5	1.9	2.4	6.0	4.7	2.4	1.9	1.9
Construction	1.6	1.2	0.8	1.5	1.6	1.4	1.0	0.8	0.7
Machinery and equipment	7.1	5.6	2.8	3.5	10.6	7.9	3.5	2.8	2.8
Exports	4.7	3.1	1.1	2.6	6.8	4.8	1.5	1.1	1.1
Imports	6.7	3.9	1.2	3.9	9.5	6.2	1.6	1.3	1.2
GDP	2.1	1.7	1.4	1.5	2.6	1.7	1.8	1.5	1.4
5. Distribution of income									
a) Billion EUR									
Primary income of private households ²	2,415.9	2,528.1	2,636.4	1,183.9	1,232.0	1,232.1	1,296.0	1,298.7	1,337.7
Employers' social contributions	349.3	368.7	383.6	169.2	180.1	181.4	187.2	188.8	194.8
Gross wages and salaries	1,561.2	1,645.0	1,714.9	737.2	824.1	779.4	865.6	822.3	892.6
Other primary income of private households ⁴	505.4	514.4	538.0	277.5	227.9	271.2	243.2	287.7	250.3
Primary income of other institutional sectors	503.5	600.8	575.6	225.5	278.0	284.5	316.3	277.9	297.7
Net national income (primary income)	2,919.4	3,128.9	3,212.0	1,409.4	1,510.0	1,516.6	1,612.3	1,576.6	1,635.4
Consumption of fixed capital	687.9	720.9	748.9	339.1	348.8	357.6	363.3	371.7	377.3
Gross national income	3,607.3	3,849.8	3,960.9	1,748.5	1,858.8	1,874.2	1,975.5	1,948.3	2,012.6
Memorandum item:									
Net national income (factor costs)	2,636.2	2,786.6	2,849.7	1,279.9	1,356.4	1,344.4	1,442.3	1,394.1	1,455.6
Property and entrepreneurial income	725.7	773.0	751.3	373.5	352.2	383.5	389.4	383.1	368.2
Compensation of employees	1,910.5	2,013.7	2,098.4	906.4	1,004.2	960.9	1,052.8	1,011.1	1,087.4
b) Percentage change over previous year									
Primary income of private households ²	1.5	4.6	4.3	0.4	2.7	4.1	5.2	5.4	3.2
Employers' social contributions	3.3	5.6	4.0	2.9	3.8	7.2	4.0	4.0	4.0
Gross wages and salaries	3.1	5.4	4.2	2.1	4.0	5.7	5.0	5.5	3.1
Other primary income of private households ⁴	-4.1	1.8	4.6	-5.2	-2.9	-2.3	6.7	6.1	2.9
Primary income of other institutional sectors	18.9	19.3	-4.2	36.0	7.9	26.2	13.8	-2.3	-5.9
Net national income (primary income)	4.2	7.2	2.7	4.8	3.6	7.6	6.8	4.0	1.4
Consumption of fixed capital	4.5	4.8	3.9	2.9	6.0	5.5	4.1	3.9	3.9
Gross national income	4.2	6.7	2.9	4.4	4.0	7.2	6.3	4.0	1.9
Memorandum item:									
Net national income (factor costs)	4.3	5.7	2.3	6.1	2.6	5.0	6.3	3.7	0.9
Property and entrepreneurial income	7.3	6.5	-2.8	17.0	-1.3	2.7	10.6	-0.1	-5.5
Compensation of employees	3.2	5.4	4.2	2.2	4.0	6.0	4.8	5.2	3.3
6. Income and expenditure of private households									
a) Billion EUR									
Mass income	1,596.7	1,657.6	1,714.9	766.9	829.7	794.0	863.6	828.6	886.2
Net wages and salaries	1,062.0	1,121.3	1,161.8	495.0	566.9	526.4	594.9	555.0	606.8
Social benefits	680.3	686.8	708.5	343.2	337.1	341.2	345.5	349.7	358.8
Fewer levies on social benefits	145.6	150.4	155.5	71.3	74.3	73.6	76.8	76.1	79.4
Other primary income ⁴	505.4	514.4	538.0	277.5	227.9	271.2	243.2	287.7	250.3
Other transfers received (net) ⁵	-95.4	-97.4	-99.0	-48.2	-47.2	-49.3	-48.1	-50.3	-48.6
Disposable income	2,006.6	2,074.6	2,153.9	996.2	1,010.4	1,016.0	1,058.7	1,066.0	1,087.9
Memorandum item:									
Adjustment for the change in net equity of households in pension funds reserves	60.9	62.0	63.1	29.5	31.3	30.1	31.9	30.6	32.5
Private consumption expenditure	1,733.5	1,879.7	1,978.2	829.4	904.1	900.9	978.8	969.6	1,008.6
Saving	334.0	257.0	238.8	196.4	137.6	145.2	111.8	127.0	111.9
Saving ratio in percent ⁶	16.2	12.0	10.8	19.1	13.2	13.9	10.3	11.6	10.0
b) Percentage change over previous year									
Mass income	3.7	3.8	3.5	4.1	3.3	3.5	4.1	4.4	2.6
Net wages and salaries	4.0	5.6	3.6	2.9	5.0	6.3	4.9	5.4	2.0
Social benefits	3.2	1.0	3.2	5.7	0.8	-0.6	2.5	2.5	3.8
Fewer levies on social benefits	3.8	3.3	3.3	3.2	4.4	3.3	3.4	3.3	3.4
Other primary income ⁴	-4.1	1.8	4.6	-5.2	-2.9	-2.3	6.7	6.1	2.9
Disposable income	1.6	3.4	3.8	1.3	1.8	2.0	4.8	4.9	2.8
Private consumption expenditure	1.5	8.4	5.2	-0.1	3.0	8.6	8.3	7.6	3.0
Savings	2.1	-23.1	-7.0	8.1	-5.4	-26.1	-18.8	-12.5	0.1

GERMAN ECONOMY

Continued: The Main National Accounts Data for the Federal Republic of Germany Forecast for 2021 and 2022

	2021	2022	2023	2021		2022		2023	
				1st half of year	2nd half of year	1st half of year	2nd half of year	1st half of year	2nd half of year
7. Government revenues and expenditures ⁵									
a) Billion EUR									
Revenues									
Taxes	802.8	839.7	879.9	407.1	395.7	421.9	417.7	442.1	437.7
Direct taxes	441.4	451.5	473.6	223.6	217.8	225.5	226.0	236.4	237.2
Indirect taxes	361.4	388.1	406.3	183.5	177.9	196.4	191.7	205.8	200.5
Net social contributions	630.4	660.2	687.4	305.4	325.0	320.7	339.5	333.9	353.6
Property income	15.0	17.2	17.0	7.4	7.5	9.8	7.4	9.7	7.3
Other transfers	26.3	27.7	28.3	11.5	14.8	12.5	15.1	12.8	15.5
Capital transfers	16.5	17.1	17.6	7.5	9.0	7.8	9.3	8.0	9.5
Sales	129.9	133.7	137.7	59.3	70.7	61.0	72.8	62.7	74.9
Other subsidies	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total revenues	1,621.1	1,695.7	1,767.9	798.3	822.8	833.7	862.0	869.3	898.6
Expenditures									
Intermediate consumption	213.5	211.9	213.1	103.6	109.9	102.9	109.0	104.1	109.0
Compensation of employees	292.3	299.1	308.8	140.7	151.6	143.7	155.4	148.2	160.5
Social benefits in kind	331.3	344.7	347.2	158.2	173.1	166.7	178.0	167.7	179.5
Property income (interests)	18.9	17.8	17.1	10.3	8.5	9.7	8.1	9.2	7.9
Subsidies	78.2	45.9	44.0	54.0	24.2	24.2	21.7	23.3	20.7
Social benefits	615.3	620.7	641.4	310.9	304.4	308.4	312.3	316.3	325.1
Other transfers	88.3	86.5	87.8	43.2	45.0	42.6	43.9	43.0	44.8
Gross capital formation	92.5	97.8	101.7	39.3	53.2	41.5	56.4	43.0	58.6
Capital transfers	52.8	49.5	50.2	19.3	33.6	22.5	27.0	22.8	27.4
Acquisitions less disposals of non-financial non-produced assets	-1.3	-1.3	-1.3	-0.6	-0.7	-0.6	-0.7	-0.6	-0.7
Other taxes on production	0.7	0.7	0.7	0.3	0.4	0.3	0.4	0.3	0.4
Total expenditures	1,782.5	1,773.2	1,810.6	879.2	903.3	861.7	911.5	877.4	933.2
Balance	-161.4	-77.5	-42.6	-80.9	-80.5	-28.0	-49.5	-8.0	-34.6
b) Percentage change over previous year									
Revenues									
Taxes	3.8	4.6	4.8	4.3	3.3	3.6	5.6	4.8	4.8
Direct taxes	3.2	2.3	4.9	4.5	1.9	0.9	3.8	4.8	5.0
Indirect taxes	4.5	7.4	4.7	4.0	5.0	7.0	7.8	4.8	4.6
Net social contributions	3.7	4.7	4.1	3.4	4.0	5.0	4.5	4.1	4.1
Property income	-24.2	14.8	-1.2	-37.9	-3.0	31.8	-1.9	-1.0	-1.4
Other transfers	8.5	5.2	2.2	2.0	14.1	9.0	2.2	2.3	2.2
Capital transfers	6.6	3.3	2.8	5.7	7.3	3.5	3.2	3.5	2.2
Sales	3.2	2.9	2.9	1.9	4.4	2.9	3.0	2.9	3.0
Other subsidies	-0.8	0.0	0.0	-2.0	0.0	0.0	0.0	0.0	0.0
Total revenues	3.5	4.6	4.3	3.1	3.8	4.4	4.8	4.3	4.3
Expenditures									
Intermediate consumption	1.8	-0.8	0.6	6.6	-2.4	-0.6	-0.9	1.1	0.0
Compensation of employees	2.9	2.3	3.2	3.2	2.6	2.1	2.5	3.2	3.3
Social benefits in kind	6.8	4.0	0.7	5.9	7.6	5.4	2.9	0.6	0.9
Property income (interests)	-9.9	-5.8	-3.8	-10.7	-9.0	-6.4	-5.0	-4.4	-3.0
Subsidies	9.8	-41.3	-4.2	44.4	-28.5	-55.2	-10.4	-3.8	-4.6
Social benefits	3.4	0.9	3.3	6.2	0.7	-0.8	2.6	2.6	4.1
Other transfers ⁷	5.8	-1.8	1.3	3.3	2.4	-0.7	-1.1	0.4	0.9
Gross capital formation	1.7	5.7	3.9	-2.7	5.3	5.4	6.0	3.8	4.0
Capital transfers ⁷	4.9	-3.3	0.7	1.4	3.4	3.2	-6.6	0.3	0.4
Acquisitions less disposals of non-financial non-produced assets ⁷	-0.1	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
Other taxes on production ⁷	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Total expenditures	4.1	-0.5	2.1	6.9	1.5	-2.0	0.9	1.8	2.4

1 GDP (price-adjusted) per man-hour.

2 Including private organizations without pecuniary reward.

3 Including net increase in valuables.

4 Entrepreneurial income/operating surplus and received minus paid asset income.

5 Transfers, received minus paid.

6 Current saving as percentage of disposable income.

7 Absolute change over previous year in billion EUR.

8 All administrative units including social security.

Sources: Federal Statistical Office (Fachserie 18: Volkswirtschaftliche Gesamtrechnungen); DIW Berlin Economic Outlook Autumn 2021.