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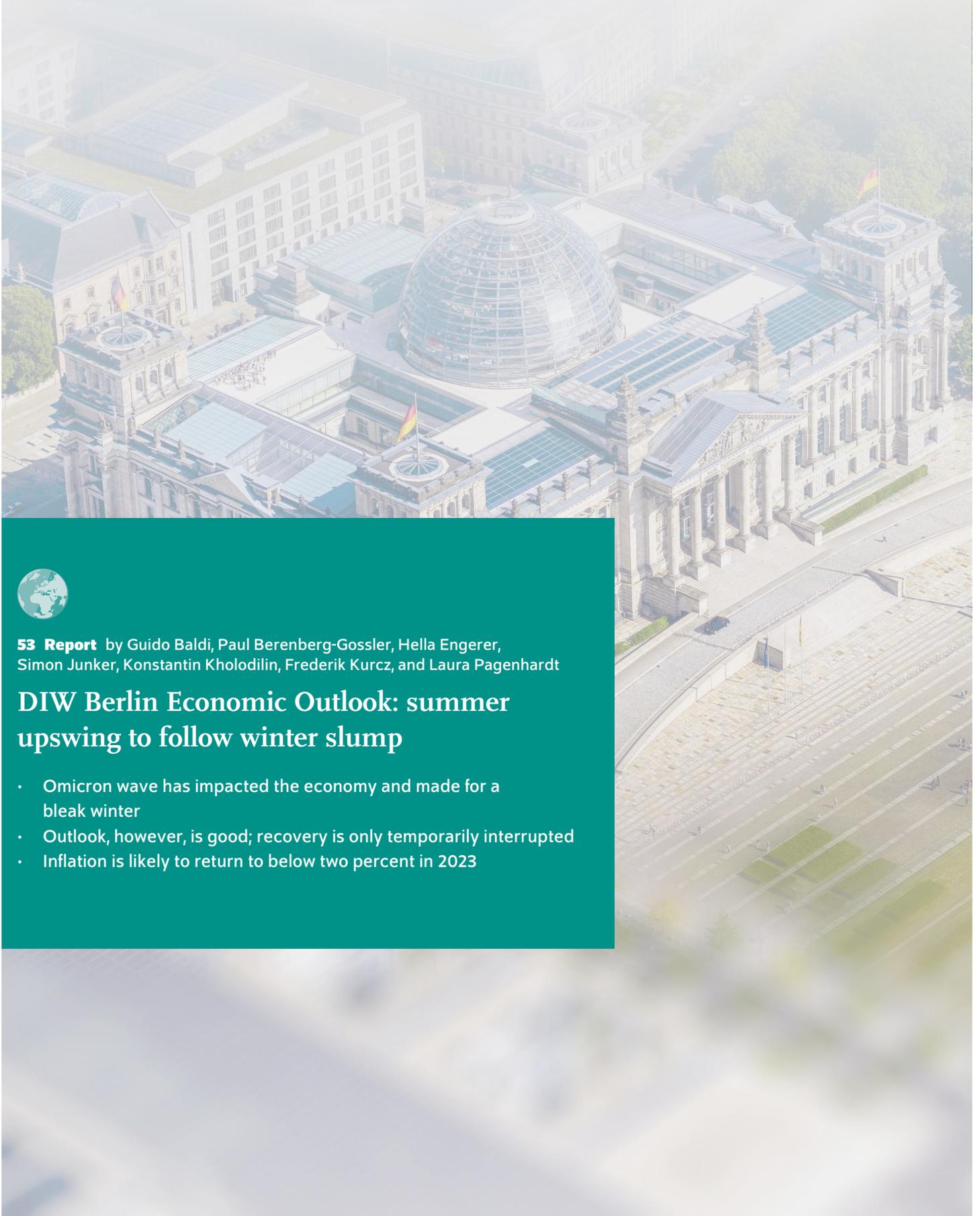
DIW BERLIN



53 Report by Guido Baldi, Paul Berenberg-Gossler, Hella Engerer, Simon Junker, Konstantin Kholodilin, Frederik Kurcz, and Laura Pagenhardt

DIW Berlin Economic Outlook: summer upswing to follow winter slump

- Omicron wave has impacted the economy and made for a bleak winter
- Outlook, however, is good; recovery is only temporarily interrupted
- Inflation is likely to return to below two percent in 2023



LEGAL AND EDITORIAL DETAILS



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AT A GLANCE

DIW Berlin Economic Outlook: summer upswing to follow winter slump

By Guido Baldi, Paul Berenberg-Gossler, Hella Engerer, Simon Junker, Konstantin Kholodilin, Frederik Kurcz, and Laura Pagenhardt

- Omicron wave impacted the German economy and economies worldwide and made for a bleak winter
- If the pandemic subsides, the economy will return to a clear upward growth trend
- DIW Berlin forecasting experts predict the German economy will grow by 3.0 percent in 2022 and by 2.9 percent in 2023
- Inflation will be higher in 2022 than in 2021 but will likely be well below the two percent target in 2023
- Global economic environment currently full of risks, including Russia/Ukraine and China's real estate sector

German economy continues on its recovery path and is expected to reach pre-pandemic level in summer 2022

Individual GDP components' contribution to growth in percentage points



Source: Authors' own surveys and calculations.

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FROM THE AUTHORS

"If the pandemic gradually subsides worldwide from the spring or summer onward, then the dislocations in the supply chains will also decrease. When everything has normalized again, we can expect that the goods shortages and the related price tensions will ease significantly."

— Simon Junker —

MEDIA



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

DIW Berlin Economic Outlook: summer upswing to follow winter slump

By Guido Baldi, Paul Berenberg-Gossler, Hella Engerer, Simon Junker, Konstantin Kholodilin, Frederik Kurcz, and Laura Pagenhardt

ABSTRACT

The Omicron wave of the coronavirus has impacted economies worldwide, resulting in a bleak winter. Although restrictions on economic and public life have been less severe than at the beginning of 2021 in many places—mainly due to the progress of vaccination campaigns—and there are prospects of easing restrictions in Germany as well, the labor shortage caused by the current rates of infection is noticeable. Nevertheless, the economic recovery in Germany has only been interrupted—as soon as the pandemic subsides in the spring, there will be a marked increase in business for personal service providers in particular, such as those in the hospitality sector. With the global economy picking up and supply bottlenecks dissolving, the export-oriented German industry is expected to gain momentum too. While inflation will be higher in 2022 than it was in 2021, it will fall below the two-percent target in 2023, supporting private consumption. The poor start to 2022 means that overall, the German economy is likely to grow by 3.0 percent in 2022, less than previously expected. However, the pre-pandemic level of 2019 will likely be achieved by summer 2022. In 2023, global economic output is expected to grow by 2.9 percent.

Global economy:¹ Omicron interrupts recovery

The global economy was halted in its tracks as Omicron swept over the world at the end of 2021. A few months later in early 2022, the situation is unlikely to have changed much. Issues with international supply chains remain, not least because quarantine-related labor shortages are hampering trade and production for the time being. China, too, is expected to maintain its relatively restrictive COVID-19 containment policy. Thus, supply bottlenecks will only resolve gradually over the course of the first half of 2022. However, assuming the pandemic subsides from the summer onward, a powerful recovery is expected, especially in countries with strong progress in vaccination. The catch-up-driven upswing in the global economy will slow down from the fourth quarter of 2022 onward, as most advanced economies will have reached their approximate long-term growth path by then and the global economy will swing to a more leisurely growth path (Table 1).

USA: unsustainable growth pace

The US economy continued to grow at a comparatively brisk rate even in the final quarter of 2021. This was partly caused by many companies—which had scaled back their just-in-time production and whose inventories had emptied over the summer—restocking their inventories due to concern about the ongoing supply bottlenecks. The temporarily high inflation rate of seven percent significantly reduced households' purchasing power. While inflation will gradually decline as global supply chains normalize and the fiscal packages adopted in December 2020 and March 2021 expire, the end of fiscal stimulus measures will also dampen private consumption and goods imports. In light of the high inflation rate, the US Federal Reserve announced it will allow its asset purchase program to expire in March 2022 and will gradually increase key interest rates, which will also contribute to a gradual decrease in the inflation rate.

¹ This forecast was completed on February 10, 2022.

Table 1

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

In percent

	GDP				Consumer prices				Unemployment rate in percent			
	Percentage change (year-on-year)											
	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023
Euro area	-6.5	5.2	3.7	2.3	0.3	2.6	3.4	1.6	8.0	7.7	7.0	6.7
excl. Germany	-7.1	6.2	4.1	2.0	0.2	2.3	3.0	1.7	9.6	9.4	8.9	8.6
France	-8.0	7.0	3.8	1.7	0.5	2.1	2.7	1.7	8.0	8.0	7.8	7.6
Italy	-9.0	6.5	3.8	1.9	-0.1	1.9	2.4	1.6	9.3	9.5	9.2	8.9
Spain	-10.8	5.0	5.8	3.0	-0.3	3.0	3.7	1.7	15.6	15.1	14.3	13.6
Netherlands	-3.8	4.6	3.4	1.6	1.1	2.8	3.7	2.1	3.9	3.2	3.4	3.4
United Kingdom	-9.4	7.5	4.3	2.6	1.0	2.3	4.0	2.4	4.5	4.6	4.2	4.0
USA	-3.4	5.7	3.6	2.7	1.2	4.7	4.6	2.1	8.1	5.4	3.7	3.4
Japan	-4.5	1.7	2.9	1.6	0.0	-0.2	1.0	1.3	2.8	2.8	2.7	2.5
South Korea	-0.9	4.0	2.9	2.6	0.5	2.4	2.5	1.7	4.0	3.6	3.2	3.1
Central and Eastern Europe	-3.6	5.3	4.3	3.9	3.1	4.8	4.7	3.2	3.8	4.0	3.7	3.5
Turkey	1.6	10.9	3.5	3.8	12.3	19.6	25.0	15.2	13.2	12.2	11.9	11.7
Russia	-2.3	3.6	2.4	2.2	3.4	6.4	5.2	4.6	5.8	4.9	4.7	4.5
China	2.3	8.1	4.9	5.0	2.5	0.8	2.4	3.0				
India	-6.9	7.2	7.6	5.6	6.6	5.1	5.6	4.4				
Brazil	-4.2	4.9	0.5	1.8	3.3	8.7	7.3	3.0	13.5	13.2	13.2	12.7
Mexico	-8.4	5.5	3.0	2.5	3.4	6.0	4.9	3.3	4.5	4.0	3.8	3.6
Advanced economies	-4.7	5.0	3.4	2.5	0.7	3.3	3.6	1.9	6.9	5.5	4.5	4.2
Emerging economies	-1.2	7.4	4.8	4.5	4.6	4.6	5.8	4.7	5.6	5.4	5.3	5.2
World	-2.5	6.4	4.2	3.6	2.8	4.0	4.9	3.5	6.2	5.4	4.9	4.8

Note: For the emerging economies (excluding China), the authors prepared their own estimates for 2021.

Sources: National statistical offices; authors' own calculations.

China: strict containment policy keeps trading partners nervous

Despite simmering debt problems in the real estate sector, the Chinese economy grew by 1.6 percent in the fourth quarter of 2021. Private consumption and exports were the main drivers of growth, while investment activity was subdued, which is unusual for China. The Chinese government continues to enact particularly strict measures to contain the pandemic, such as sealing off entire cities. Due to such measures, there have been repeated temporary closures of production sites or ports, which negatively affect international supply chains. Further economic growth is being hampered by pent-up debt, especially in the real estate sector. While the government seems to have succeeded in preventing a major crisis so far, the simmering problems will likely cause future growth rates to be significantly lower than they were in the decade before the pandemic—especially as further increases in the potential labor force are now unlikely.

Europe: pandemic affecting growth, but overall outlook is positive

Three factors are significantly impacting growth in Europe, especially in the euro area: the most recent waves of the pandemic, the international supply chain bottlenecks, and

the resulting growing inflation in the final quarter of 2021. Skyrocketing commodity prices are contributing to high inflation rates but also reflect uncertainties regarding the situation between Russia and Ukraine. The situation on the labor markets, however, is good in many places and consumer confidence has only moderately decreased despite Omicron. In addition, tourism will pick up noticeably again in the summer and have a positive financial impact on various European vacation destinations. Over the rest of the forecast period, recovery assistance under the European Recovery and Resilience Facility will have an increasingly stimulating effect, boosting investment across the board, especially in the medium term. Taking the high inflation rate into consideration, the European Central Bank (ECB) will gradually design its monetary policy to be less expansive; however, a rapid tightening of monetary policy is not expected. For example, the ECB will likely discontinue its net asset purchases under the Pandemic Emergency Purchase Programme (PEPP) in March 2022. The temporary increase to the general Asset Purchase Programme (APP) will likely continue to support economic recovery in the euro area. In the United Kingdom, economic recovery is likely to be somewhat hampered by various factors occurring in summer: delayed Brexit consequences are having an impact, for example, and UK-EU tensions due to unresolved issues regarding Northern Ireland's status are also weighing on developments.

Figure 1

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



1 So far, only the GDP values are available for 2021; the other quarterly figures have been estimated. These estimations used the monthly figures for special trade in particular, which show significantly lower imports.

Sources: Federal Statistical Office; authors' own calculations. Forecast from the first quarter of 2022.

Table 2

Use of GDP, quarter-on-quarter growth rates
Price, seasonally and working-day adjusted, in percent

	2021 ¹				2022				2023			
	I	II	III	IV	I	II	III	IV	I	II	III	IV
Private consumption	-5.3	3.8	6.2	-1.1	-1.2	2.9	3.0	1.1	0.6	0.3	0.3	0.2
Public consumption	-1.0	4.6	-1.7	0.5	0.2	0.0	-0.2	0.0	0.2	0.3	0.3	0.3
Gross fixed capital formation	-0.5	1.3	-2.2	-0.9	0.1	2.0	2.6	1.4	0.8	0.8	0.8	0.8
Investment in machinery and equipment	0.1	1.8	-2.3	-2.2	-0.2	1.5	2.2	1.3	0.8	0.7	0.7	0.7
Construction investment	-0.1	0.6	-3.7	0.4	0.5	3.7	4.5	2.1	1.0	1.0	1.0	1.0
Other investment	-2.6	1.1	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8
Change in inventories ²	1.1	-0.1	-0.7	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Domestic uses	-2.0	3.3	1.5	-0.6	-0.5	2.0	2.1	0.9	0.5	0.4	0.4	0.4
Net exports ²	0.2	-0.8	0.2	-0.2	0.2	-0.2	0.0	0.2	0.0	-0.1	-0.1	-0.1
Exports	2.7	0.7	0.1	1.2	1.0	2.7	3.5	2.1	1.0	0.8	0.6	0.6
Imports	2.7	2.9	-0.4	2.0	0.6	3.5	4.0	2.0	1.0	1.0	0.9	0.9
GDP	-1.7	2.2	1.7	-0.7	-0.3	1.7	2.0	1.0	0.5	0.3	0.2	0.2

1 So far, only the GDP values are available for 2021; the other quarterly figures have been estimated. These estimations used the monthly figures for special trade in particular, which show significantly lower imports.

2 Contribution to GDP growth in percentage points.

Sources: Federal Statistical Office; authors' own calculations. Forecast from Q1 of 2022.

Central and Eastern Europe: Russia/Ukraine tensions weighing on the area

Industry in Central and Eastern Europe is currently experiencing well-filled order books and production is likely to gain significant momentum in early summer as delivery issues gradually resolve. Fiscal stimuli from allocations from the EU's recovery fund should also contribute to growth.² The Russian economy, however, is currently being weighed down by uncertainties regarding the conflict with Ukraine; the ruble has weakened against the US dollar and the euro since the beginning of 2022. All the same, export revenue has increased due to increase in the price of oil and is relieving the federal budget.

Although DIW Berlin is lowering its forecast for the global economy overall, a strong growth rate of 4.3 percent is still expected for 2022. In 2033, it is likely to be 3.5 percent.

German economy:³ pandemic slowing economy, but industry is ready for a return to strong activity

The fourth and fifth coronavirus waves impacted the Germany economy in winter 2021/2022 more negatively than previously assumed. Although the downward trend of the industrial sector is likely to have ceased by the end of 2021, the German economy shrunk markedly in the fourth quarter (Figure 1). Many sectors in the service industry remain

unable to do business in an effort to contain the pandemic, both due to legal requirements and customers' increased reluctance and caution. The related significant loss of sales is likely to continue on into spring 2022 and lead to a further decrease in economic output, though less severe than in 2021. The forecast assumes that the pandemic will subside from spring onward and allow a return to normal. As in the past two years since the pandemic began, recovery will be rapid and likely accompanied by strong growth rates, for example in private consumption (Table 2). Global production linkages should also gradually pick up momentum as the pandemic subsides (Table 3). As the availability of intermediary goods normalizes, industry will also pick up speed and quickly process backlogged orders. All in all, the German economy is expected to grow by 3.0 percent in 2022 (Table 4). Due to the two quarters of negative growth in winter, this is much lower than previously expected. However, the economy should exceed its pre-crisis level by summer 2022 and will, on average, be almost at capacity this year (Figure 2). Primarily due to continued strong industrial activity, Germany is likely to experience a strong growth rate of 2.9 percent again in 2023 and will have then closed the output gap.⁴

Foreign trade likely to pick up speed in summer

Production obstacles over the past year resulted in German exports lagging behind strong foreign demand, i.e., export-weighted imports from trading partners (Figure 3). Despite a setback at the beginning of 2022 and a somewhat downward

2 So far, however, only the Czech Republic's and Romania's Recovery and Resilience Plans have been approved by the European Commission. Poland's transfer of a total of 24 billion euros in grants has been jeopardized due to the dispute over compliance with the rule of law.

3 This forecast was completed on February 10, 2022.

4 Capacity utilization is overestimated due to BioNtech's huge jump in profits and is likely to be nearly half a percentage point lower than determined and shown in the figure. Cf. Simon Junker et al., "DIW Economic Outlook Autumn 2021," *DIW Weekly Report* no. 37 (2021) (available online; accessed on February 10, 2022. This applies to all other online sources in this report unless stated otherwise).

Table 3

Real gross value added of GDP

Percent change over the respective previous quarter, seasonally and working-day adjusted

	2022				2023			
	I	II	III	IV	I	II	III	IV
Gross value added	-0.3	1.7	2.0	1.0	0.5	0.3	0.2	0.2
Manufacturing	1.3	2.5	4.0	2.4	1.1	0.5	0.4	0.4
Construction	-0.3	1.5	2.2	1.3	0.7	0.7	0.6	0.6
Trade, accomodation, transport	-0.6	3.6	2.2	0.7	0.5	0.3	0.1	0.1
Business and production services	-0.5	1.2	2.2	1.8	0.6	0.3	0.1	0.1
Public admin., community and social serv.	-1.2	1.0	0.8	0.2	0.1	0.1	0.1	0.1

Source: Authors' own calculations.

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Table 4

Key economic indicators for the German economy

	2020	2021	2022	2023
Real GDP ¹ (percent change over previous year)	-4.6	2.8	3.0	2.9
Domestic employment (1,000 persons)	44,898	44,920	45,287	45,566
Unemployed (ILO concept)	1,664	1,507	1,294	1,202
Unemployed (BA concept)	2,695	2,613	2,291	2,151
Unemployment rate ² (ILO concept)	3.8	3.5	3.0	2.8
Unemployment rate ² (BA concept)	5.9	5.7	5.0	4.7
Consumer prices ³	0.5	3.1	3.8	1.5
Unit labor costs ⁴	3.4	0.9	1.7	1.3
Current account balance, in percent of GDP	7.0	6.9	4.8	4.6

Note: As of February 10, 2022.

1 Price-adjusted, chain-linked.

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

3 Consumer price index.

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

Sources: National and international institutions; authors' own calculations. Forecast from 2022 onward.

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trend over the further course of the year, foreign demand is likely to continue on its strong growth path, increasing by just under six percent in 2022 and by a good four percent in 2023. German exports are likely to expand even more powerfully in the summer once industry has caught up on its order backlog⁵ and outstanding exports. In 2021, it became clear that international trade in services—including travel, with some restrictions—recovers rapidly from the pandemic-related slumps. Although this recovery is currently being interrupted, it will likely quickly approach the pre-crisis level from the summer onward. However, undisturbed imports are a prerequisite for buoyant exports: First, the currently missing intermediary goods must be imported and flow

⁵ The existing orders are over a quarter higher than before the pandemic. The average time frame for processing orders is up to 7.6 months; up until 2019, the average was 5.3 months.

into the production process before some of them leave the country again as part of the end products. Expenditure on services, a larger share of which is accounted for by vacation travel, is expected to increase even more strongly than revenue in 2022.

Overall, foreign trade will experience strong growth. In nominal terms, imports are increasing significantly more strongly than exports in 2022. Import prices are increasing almost in double digits and the terms of trade are worsening. As a result, the current account balance will fall to around five percent in 2022 and remain there in 2023.

Labor market recovery barely affected

The recent waves of infections have had limited effects on the labor market: In the second half of 2021, an average of a good 50,000 people found a job each month, with this momentum continuing until recently. This growth was largely due to the increase in employment subject to social security contributions. While the number of mini-jobbers rose slightly, it decreased somewhat again in the wake of the winter slump among personal service providers in November 2021. Following a dip at the beginning of 2022 that mainly affected mini-jobbers, employment growth is expected to pick up again more dynamically from early summer onward (Table 5). The number of employed persons is likely to rise by 370,000 in 2022 and by a further 280,000 in 2023, with the pre-crisis level achieved by the final quarter of 2022. Unemployment will fall accordingly significantly: in 2022 by 320,000 people and in 2023 by 140,000 people, with the participation rate rising back to pre-crisis levels. The unemployment rate will decrease significantly in 2022, from 5.7 percent to 5.0 percent, and again slightly in 2023, to 4.7 percent.

The slump in production in winter 2021/2022 will again be absorbed primarily through more extensive use of short-time work, especially at the beginning of 2022: With almost half a percentage point in the first quarter of 2022, its effect on the volume of labor is not as dramatic as at the beginning of the pandemic.⁶ In addition, due to the high incidence compared to previous waves, the pandemic-related labor shortage is more extensive than previously. Overall, however, working hours will expand in 2022. Following the brief interruption, short-time work will be further reduced to an annual average of around 380,000 in 2022 and likely no longer play a role in 2023.

The effective hourly wage is likely to increase by 2.3 percent, more strongly than previous figures. The minimum wage increases are having an impact here: An increase in the statutory minimum wage to 9.82 euros at the beginning of 2022 will be followed by two further increases, the first on July 1 to 10.45 euros and then on October 1, 2022, to the 12 euros agreed upon in the coalition agreement. Thus, the

⁶ For comparison: in the second quarter of 2020, around five percent of the decline in working hours over the course of the year was attributable to the extensive use of short-time work at the time.

minimum wage is 10.52 euros on average for 2022, which is roughly a ten-percent increase compared to 2021. With a consistent 12 euro minimum wage in 2023, there will be an annual average increase of 14 percent compared to 2022. In addition, wages should also increase across the board if the economy remains strong and labor market shortages increase. This is supported by the fact that employment is being built up more in the social security sector and, in turn, in sectors with relatively high wages, such as manufacturing. Overall, the effective hourly wage is likely to increase by three percent in 2023.

Inflation even higher in 2022

At 3.8 percent in 2022, inflation will surpass the high inflation rate of 2021. Despite the absence of the value-added tax effect (which is likely to make up almost one percentage point), consumer price inflation remained at 4.9 percent in January 2022, partially due to a steep rise in food prices. However, the primary drivers of the increase are energy prices, which are over a fifth higher than in 2021. The carbon pricing increase at the beginning of 2022 only contributed around two percentage points. Skyrocketing commodity prices are the decisive factor: Within just one month, crude oil prices shot up by a sixth, with gas and electricity prices also near record level. The only relief has come from the drop in the renewable energy (EEG) surcharge, which is to be abolished by the beginning of 2023 at the latest (as assumed here) and will provide new relief. However, hardly any further declines are expected: Oil futures, on which crude oil price assumptions are based, are only indicating cautiously falling prices. On average, oil prices in 2022 will be over a fourth higher than the 2021 average. In 2023, they will only fall by a little less than a tenth, which will dampen inflation that year. This is contrasted by the renewed CO₂ price increase, which is expected to contribute one-tenth to inflation.

The core inflation rate, which is often used to assess inflation and excludes the massive rise in energy prices, will climb to an unusually high 2.6 percent over the course of 2022. Companies are gradually passing the immense additional cost caused by the commodity price increases on to consumers. However, upward pressure on prices is expected to slowly subside as supply bottlenecks for intermediary goods ease gradually. On the other hand, the upcoming minimum wage increases will lead to further cost increases on the production side, which will also partially raise inflation. While core inflation will decrease a little in 2023, it will remain high at two percent. Nevertheless, it is expected to settle at 1.5 percent in 2023, with energy prices falling at the same time.

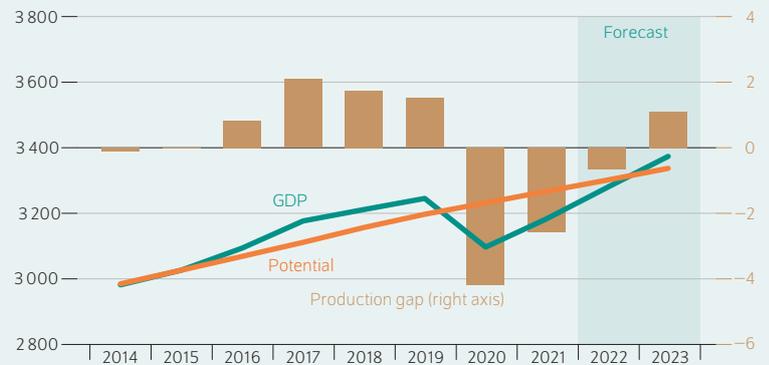
Consumption likely to recover rapidly in summer with help of stable incomes

The restrictions on personal services—such as legal requirements to provide a vaccination or recovery certificate or customers' voluntary avoidance out of caution—are reflected in a correspondingly lower level of private consumption. While consumers' unspent money can be used elsewhere,

Figure 2

GDP, potential output, and gap

In billion euro, gap in relation to potential



Sources: Authors' own calculations.

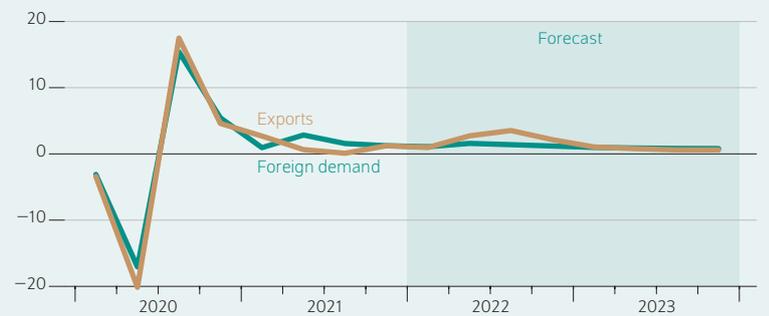
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The German economy will close the output gap in 2022.

Figure 3

Foreign demand and (real) German exports

Change compared to respective previous quarter in percent



Source: Authors' own calculations.

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While exports dragged behind demand in 2021, they are likely to experience a powerful catch up in 2022.

there are limited options for doing so, in part as a result of certain goods, such as electronics, being in short supply. Thus, as was the case during previous waves, consumption is likely to be significantly lower in winter, especially in the first quarter of 2022, compared to summer 2021. However, the slump will be nowhere near as severe as in the winter of 2020/2021, as the sharp increase in the share of the vaccinated population has allowed significantly more activity. In addition, companies have adapted more and more to operating under pandemic conditions. Ultimately, affected sectors, such as the hospitality industry, will suffer a substantial but comparatively modest drop in sales (Figure 4). From summer 2022 onward, assuming the pandemic situation subsides, private consumption is likely to revive rapidly, as

Box

Fiscal policy framework

The COVID-19 pandemic has dominated fiscal policy since 2020. As in 2021, the elimination of many measures will provide restrictive stimulus in 2022 (Table Box). Nevertheless, the pandemic is still creating significant burdens for public budgets. Much of the tax relief that was passed is having an impact and the investment programs will require additional expenditure in 2022 and 2023. Moreover, in response to the fifth wave of the coronavirus, some measures, such as fiscal support for the self-employed, were extended until the end of March 2022. Throughout 2022, grants to hospitals, additional expenditure for the vaccination campaign as well as for the purchase of medicines, and for other materials will continue to be necessary. In 2023, however, the additional expenditure related to the pandemic will likely be gone. The climate change mitigation program set up over the past years will also require significant additional expenditure over the forecast period.

The partial abolition of the solidarity surcharge is still impacting tax revenue in 2022. Moreover, the personal allowance will be raised and the income tax rate caps will be shifted. However, these changes will not be enough to offset the effects of cold progression in 2022. Greater consideration of this effect is assumed for 2023.

Changes to fiscal policy are also leading to greater expenses for social security. For example, the basic pension continues to require additional expenditure. At the beginning of 2022, a long-term care insurance reform came into effect, which is only partially financed by contributions. Although fiscal policy ensured that the cumulative contribution rate to social security remained below the 40 percent threshold during the pandemic, demographic trends will now gradually cause contribution rates to rise, especially from 2023 onward. From 2023, the contribution rate for unemployment insurance as well as for the pension insurance system will be significantly increased. The average additional contribution to health insurance is also likely to increase.

It is still difficult to assess the consequences of realigning fiscal policy as laid out in the coalition agreement. Only a few projects have been sufficiently specified as of publication, including an increase of the tax-exempt amount of savings, an extension of the working from home allowance, and "super deductions" for digital goods. It is also becoming apparent that employees' contributions to the statutory pension insurance scheme will likely be fully deductible from 2023 onward.

The mini-job threshold will increase to 520 euros per month and the minimum wage will be increased to 12 euros per hour on October 1, 2022. However, the related effects on public budgets will be minimal. Changes to the Participation Opportunity Act

(*Teilhabechancengesetz*), the abolition of *Arbeitslosengeld II* (a type of long-term welfare assistance), the introduction of a citizen's dividend, and improvements to BAföG (in terms of housing benefits or family support) have all been announced. These measures cannot be estimated at present, neither in terms of their form nor in terms of their timing. However, it is known and quantifiable that a *Pflegebonus* for health care workers will be paid out in 2022.

The realignment of climate policy is also likely to result in significant effects impacting the public budgets. Surprisingly and at short notice, the government subsidy for energy-efficient buildings was ended; a successor regulation has not yet been decided upon. It is also known that the EEG surcharge will be transferred to the federal budget from 2023 at the latest and financed from the Energy and Climate Fund. As a result, end consumer prices for electricity customers are likely to sink significantly and subsidies to the producers to increase. A climate change mitigation emergency program has been announced and should be elaborated on by the end of 2022. It is likely that additional measures, such as vehicle taxation or subsidies, will be adopted, although they cannot be estimated as of publication. The same applies to differentiating the truck toll according to CO₂ emissions, which is targeted for 2023. Many of the announced measures, such as those in the area of climate change mitigation—for the construction of new housing or the participation of the federal government in the financing of new social housing—will be accompanied by public investment. However, there are no concrete designs available yet.

With the measures mentioned in this forecast, fiscal policy will clearly be restrictive in both 2022 and 2023. However, the reported restrictive stimuli are likely to be significantly lower as early as 2022 as plans agreed upon in the coalition agreement are implemented. The first indications are likely to come from the decision on the key parameters for the 2022 budget and the draft budget for 2023, which will be approved by the cabinet on March 9.

it did in the previous two years, and then sustainably. From the middle of 2022, it is expected to exceed its pre-crisis level and to be accompanied by strong growth in the hospitality and travel sectors.

Private household income is continuing on its upward growth trend, in part due to government support measures. Over the past year, labor income has risen powerfully and is expected to increase by around 4.5 percent in 2022 and 2023

Tabelle

Fiscal policy measures¹

Burdens (–) and relief (+) on the general government budget in billions of euros compared to the previous year

	2022	2023		2022	2023
Revenue of regional and local authorities²			Social security expenditure		
Partial abolition of solidarity surcharge	–1.4	–0.4	Basic pension	–1.9	0.8
Old Age Income Act (<i>Alterseinkünftegesetz</i>)	–1.5	–1.6	Pension adjustment (east)	–0.5	–0.5
Additional revenue from increasing pension taxation	0.4	0.4	Long-term care insurance reform	–1.2	–0.7
Changes to tobacco tax	1.8	0.6	Reintroduction of the sustainability factor in 2022	1.2	0.0
Second Act on Family Benefits (<i>Zweites Familienleistungsgesetz</i>)	–4.5	–0.6	Other measures ⁵	–0.7	–0.2
Income tax rate shift in 2023 and 2024		–3.5	Coronavirus aid		
Full deductibility of statutory pension insurance contributions as of 1/1/2023		–1.4	Financial aid to companies	29.0	6.0
Increase of tax-exempt savings amount on 1/1/2023		–0.5	Reduction of VAT rates incl. reduced expenditure for government purchases	3.0	0.0
Extension of working from home allowance		–1.0	Stabilization of EEG surcharge	2.8	3.0
Tax incentives for R&D	–1.0	–1.0	Declining balance method of depreciation	–3.5	0.5
"Super deductions" for digital goods and extension of income tax loss offset rules until the end of 2023		–2.3	Research funding	–0.1	0.5
BMF communication on service life of computer hardware and software	–2.9	–2.4	Face masks, tests, vaccines	5.0	0.0
Other tax measures ³	–2.4	0.3	Financial aid for health care sector	5.0	9.0
CO ₂ price increase for heat and transport sectors (Climate Cabinet decision)	1.6	1.8	<i>Neustart Kultur</i> program	1.0	0.4
Additional measures (Climate Cabinet decision)	–0.5	–0.2	Catch-up program for children	–0.5	1.3
Social security revenue			Extraordinary economic aid November and December 2020	14.0	0.0
Reduction of insolvency payment contribution by 0.03 percentage points on 1/1/2022	–0.3	0.0	Child bonus II	2.4	0.0
Increase in statutory long-term care insurance contribution for childless persons by 0.1 percentage points as of 1/1/2022	0.4	0.0	Reduced VAT in gastronomy	–0.7	2.5
Increase in unemployment insurance contribute rate by 0.2 percentage points on 1/1/2023		2.5	Easier access to short-time allowance	5.0	2.5
Increase in the average additional contribution to statutory health insurance by 0.1 percentage points on 1/1/2021 and 1/1/2023		1.2	Other coronavirus measures	4.9	2.1
Increase in mini-job threshold to 520 euro/month on 10/1/2022	0.0	0.1	Coronavirus measures	67.3	27.8
Increase in statutory pension insurance contribution rate by 0.3 percentage points on 1/1/2023		3.5	Overall	108.0	69.3
Expenditure of local and regional authorities			Compared to nominal GDP	2.8	1.7
Decrease in EEG surcharge in accordance with the climate package and transfer of the EEG surcharge to the federal budget in mid-2022/as of 1/1/2023		12.6			
<i>Pflegebonus</i> in 2022	–1.0	1.0			
Law on Structural Improvements in Coal-Mining Regions (StStG)	–0.5	–1.3			
Funds for broadband expansion and the <i>Digitalpakt</i>	0.0	–0.3			
Act on Good Early Childhood Education and Care (<i>Gute-KiTa-Gesetz</i>)	–0.4	1.0			
One-time heating cost subsidy for housing allowance recipients	–0.2	0.2			
Additional Energy and Climate Fund expenditure (Climate Cabinet decision)	–6.3	2.1			
Defense	–3.0	3.0			
Recovery aid 2021 (federal and state)	–2.0	0.0			
Other measures ⁴	0.0	0.7			

As of February 2, 2022.

- Without macroeconomic repercussions.
- The effects of the tax law changes apply to the fiscal year.
- Fund Jurisdiction Act (*Fondsstandortgesetz*), corporate income tax modernization, amendment to the Race Betting and Lottery Act (*Rennwett- und Lotteriesteuergesetz*), First Act on Family Benefits (*Erstes Familienentlastungsgesetz*), Act to Prevent Tax Evasion in E-Commerce Concerning the Sale of Goods (*Gesetz zur Vermeidung von Umsatzsteuerausfällen beim Handel mit Waren im Internet*), increase in the disability lump sum and adjustment to other tax regulations, tax-incentivized housing development program, Annual Tax Act 2020 (*Jahressteuergesetz 2020*), Act on the Further Tax Promotion of Electric Mobility and the Amendment of Further Tax Regulations (*Gesetz zur steuerlichen Förderung der Elektromobilität und zur Änderung weiterer steuerlicher Vorschriften*), increase in the minimum wage to 12 euros/hour and in the minijob threshold from October 1, 2022.
- Expansion of full-day schools, March 2020 federal investment package, Work of Tomorrow Act (*Arbeit-von-morgen-Gesetz*), 13,500 new jobs in security and justice, Participation Opportunity Act (*TeilhabeChancengesetz*), changes to the housing allowance, the Strong Families Act (*Starke-Familien-Gesetz*), increasing BAföG, the Act to Improve Qualification Opportunities (*Qualifizierungschancengesetz*), Relief of the Fee Burden on Relatives Act (*Angehörigenentlastungsgesetz*), the Agricultural Investment Program, increase in development aid, *Baukindergeld* (grant to support purchase of owner-occupied housing for families with children).
- Work of Tomorrow Act (*Arbeit-von-morgen-Gesetz*), Nursing Staff Reinforcement Act (*Pflegepersonal-Stärkungsgesetz*), Schedule Service and Supply Act (*Terminservice- und Versorgungsgesetz*), increase in the supplementary period for those with reduced earning capacity, Act to Improve Health Care Provision and Old-Age Care (*Gesundheitsversorgungs- und Pflegeverbesserungsgesetz*).

Sources: The German Federal Government; authors' own calculations and estimations.

as short-time work is reduced and employment and hourly wages increase. Although higher progressive income taxes have a greater impact, the net increase in labor income is still noticeable. Various relief measures are also having an

effect, such as the Second Act on Family Benefits (*Zweites Familienleistungsgesetz*), the personal allowance increase, and the change to the basic income tax rates (see Box). However, the increase in monetary social benefits will end

Table 5

Labor market performance

In millions of people

	2018	2019	2020	2021	2022
Persons in employment (domestic concept)	45.27	44.90	44.92	45.29	45.57
Self-employed, family workers	4.15	4.04	3.93	3.86	3.80
Employees subject to social security contributions	33.54	33.58	33.92	34.36	34.57
Public officers, judges, military personnel	1.86	1.88	1.90	1.92	1.94
Mini-jobbers (without a second job)	4.57	4.27	3.76	3.76	3.88
Other	1.14	1.13	1.41	1.39	1.37
+/- commuters, employed persons in foreign state institutions in Germany or in foreign states	-0.14	-0.10	-0.12	-0.12	-0.12
Persons in employment (national concept)	45.13	44.80	44.80	45.17	45.45
Unemployed (ILO concept)	1.37	1.66	1.51	1.29	1.20
Active population	46.50	46.47	46.31	46.46	46.65
For information only:					
Unemployed	2.27	2.70	2.61	2.29	2.15
Unemployment rate (BA concept ¹) in percent	5.0	5.9	5.7	5.0	4.7
Unemployment rate (SGB concept ²) in percent	6.3	7.4	7.2	6.2	5.9
Unemployment (NSA concept ³) in percent	3.0	3.6	3.3	2.8	2.6
Unemployment rate (ILO concept) in percent	3.2	3.8	3.5	3.0	2.8
Employed persons (domestic concept - ILO)	42.2	41.8	41.4	41.7	42.0

1 Unemployed persons registered at the Federal Labor Office in relation to active civil population.
 2 Unemployed persons registered at the Federal Labor Office in relation to the sum of unemployed and employed persons subject to social insurance contribution.
 3 Unemployed persons (ILO concept) in relation to unemployed (ILO) and employed persons (national concept).

Sources: Federal Statistical Office; Federal Labor Office; authors' own calculations.

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and prices will lose speed. Real private consumption is likely to grow by almost six percent in 2022, reaching the pre-crisis level. In 2023, it will approach the pre-crisis trend with growth of just under four percent.

Shortages and skyrocketing prices weighing on investments

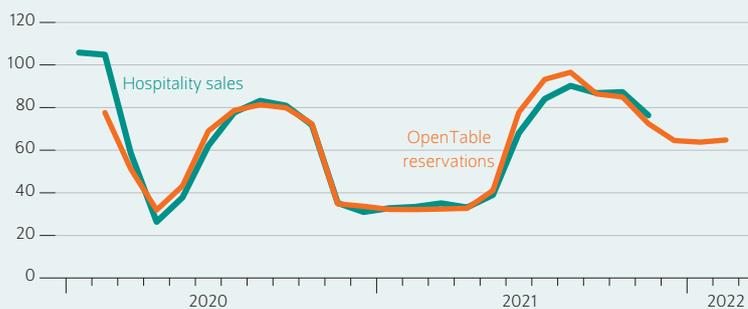
The sustained material and transport bottlenecks are continuing to weigh on equipment investment. Large parts of the well-filled order books could not be put into production at the end of 2021. However, there were signs of a slight easing in January 2022; the business climate among capital goods manufacturers increased significantly. Nevertheless, were Omicron to spread throughout China, it would lead to renewed restrictions in local production there as well as in international trade, reversing this trend. A new record high of eighty-five percent of capital goods producers surveyed by the ifo Institute indicated limitations due to material shortages. Therefore, only a slight increase is expected for the purchase of machines, equipment, and vehicles in the first quarter of 2022. Nonetheless, new domestic orders increased strongly again at the end of 2021. From summer onward as the pandemic subsides, supply bottlenecks gradually dissolve, and the high backlog of existing orders can begin to be processed, the catch-up effects are likely to be all the more pronounced. In the medium term, however, growth will be hampered by other factors. Increasing investment plans are being impeded in particular by high energy costs, which mean tighter budgets for many companies: In a survey conducted by the Association of German Chambers of Industry and Commerce (*Deutscher Industrie- und Handelskammertag*, DIHK) last fall, more than a quarter of the companies surveyed reported less financial leeway for investments due to electricity and gas expenses.⁷

In the second half of 2021, construction investments across all sectors declined, in some cases significantly, due to shortages and strong price increases for construction materials. Construction prices are likely to continue their upward growth trend over the course of 2022. High material costs are gradually being passed on to contractors and increasing staff shortages are likely to drive prices up further: Two-thirds of the contractors surveyed in a DIHK poll said they were unable to fill positions due to a shortage of skilled workers.⁸ These issues are primarily affecting residential construction, where a (still) high order backlog is already being offset by a decline in new orders. The renovation sector, where production recently slumped, has been especially affected. Many households are likely to postpone orders for work that is not urgently necessary in the hopes that prices will be lower in the future, and the short-term elimination of the energy-related renovation subsidy is further impeding renovation planning. A mixed picture is emerging over the course of the forecast:

Figure 4

Hospitality sales and table reservations¹

Real index



1 Table reservations were scaled using a regression.

Sources: OpenTable, Macrobond; authors' own calculations.

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The recent drop in table reservations is indicating a slump in the hospitality sector.

with the reduction of short-time work, as the related transfer payments will also expire. Overall, disposable income has remained remarkably stable and will roughly maintain its 2021 tempo throughout the forecast period.

Private consumption will increase by almost double digits in nominal terms in 2022, in large part due to the temporarily high inflation. In 2023, increases in nominal consumption

⁷ Cf. Deutscher Industrie- und Handelskammertag, *DIHK-Umfrage: Unternehmen leiden unter hohen Strom- und Gaspreisen* (2021) (in German; available online).

⁸ Cf. Deutscher Industrie- und Handelskammertag, *DIHK-Fachkräftereport 2021* (2021) (in German; available online).

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on the one hand, residential construction investments will pick up speed again as material shortages resolve. On the other hand, more powerful real increases will be prevented by high prices. Commercial construction is likely to compensate for the lower residential construction, at least in part. While it was also significantly impacted by material shortages and uncertainties due to the fourth wave in the second half of 2021, sentiment brightened at the beginning of 2022. Civil engineering in particular recorded an increase in orders

which, following a subdued start to 2022, should be reflected in strong investment momentum over the summer. Public construction experienced especially weak development in 2021. In particular, the funds invested in the future package, including for the expansion of daycare centers and broadband, have hardly been used. If these funds are accessed more in 2022 and if the ambitious construction plans laid out in the coalition agreement are made concrete and tackled, greater momentum can be expected here once more.

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ECONOMIC OUTLOOK

The Main National Accounts Data for the Federal Republic of Germany¹ Forecast for 2022 and 2023

	2021 ¹	2022	2023	2022		2023	
				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	1.0	0.6	0.7	0.5
Hours worked, per working day	2.2	1.6	1.5	2.2	1.0	1.6	1.5
Working days	0.1	-0.1	-0.8	0.8	-1.0	0.0	-1.6
Labor volume, calendar-monthly	2.3	2.2	1.3	4.1	0.5	2.3	0.4
Labor productivity ²	0.5	0.7	1.6	-1.3	2.7	2.3	0.8
Gross domestic product, price adjusted	2.8	3.0	2.9	2.8	3.2	4.6	1.3
2. Disposition of GDP in current prices							
a) Billion EUR							
Final consumption expenditure	2571.5	2763.4	2878.0	1331.6	1431.8	1410.9	1467.1
Private consumption expenditure ³	1767.2	1936.6	2038.1	927.2	1009.4	999.7	1038.4
Government consumption expenditure	804.3	826.8	840.0	404.4	422.4	411.2	428.7
Gross fixed capital formation (GFCF)	788.7	864.1	918.7	408.3	455.8	442.1	476.6
Construction	228.3	243.3	261.5	111.8	131.4	124.5	137.0
Machinery and equipment	419.1	472.5	502.1	226.2	246.4	244.0	258.0
GFCF in other products	141.3	148.3	155.1	70.3	77.9	73.6	81.5
Change in stocks ⁴	-8.8	25.7	34.9	11.6	14.1	17.8	17.2
Domestic uses	3351.4	3653.2	3831.7	1751.6	1901.6	1870.8	1960.8
Balance of exports and imports	215.6	155.1	154.2	88.9	66.2	94.6	59.6
Exports	1690.2	1902.5	2025.6	925.2	977.4	1009.9	1015.8
Imports	1474.6	1747.5	1871.4	836.3	911.2	915.3	956.2
GDP	3567.1	3808.3	3985.9	1840.4	1967.8	1965.4	2020.4
b) Percentage change over previous year							
Final consumption expenditure	4.4	7.5	4.1	9.4	5.7	6.0	2.5
Private consumption expenditure ³	3.5	9.6	5.2	11.7	7.7	7.8	2.9
Government consumption expenditure	6.6	2.8	1.6	4.4	1.3	1.7	1.5
Gross fixed capital formation (GFCF)	7.2	9.6	6.3	9.2	9.8	8.3	4.6
Construction	5.2	6.6	7.5	1.7	11.2	11.3	4.2
Machinery and equipment	10.3	12.7	6.2	14.9	10.8	7.9	4.7
GFCF in other products	1.7	4.9	4.6	5.0	4.9	4.6	4.6
Domestic uses	5.6	9.0	4.9	10.2	8.0	6.8	3.1
Exports	15.6	12.6	6.5	13.2	11.9	9.2	3.9
Imports	16.2	18.5	7.1	20.8	16.5	9.4	4.9
GDP	5.9	6.8	4.7	7.3	6.2	6.8	2.7
3. Disposition of GDP, adjusted for prices							
a) Chain-linked estimated in billion EUR							
Final consumption expenditure	2324.9	2424.8	2494.9	1177.2	1247.6	1230.1	1264.9
Private consumption expenditure ³	1621.7	1717.1	1783.9	825.8	891.3	878.8	905.0
Government consumption expenditure	701.4	707.1	711.0	350.7	356.4	351.2	359.8
Gross fixed capital formation (GFCF)	676.7	699.7	728.0	332.6	367.1	351.8	376.2
Construction	215.3	225.4	240.3	103.7	121.7	114.3	126.0
Machinery and equipment	328.8	337.6	347.7	163.2	174.4	170.1	177.6
GFCF in other products	131.1	135.8	140.0	64.7	71.1	66.8	73.3
Domestic uses	2983.5	3085.8	3184.1	1493.9	1591.9	1565.3	1618.9
Exports	1569.2	1668.6	1765.1	811.3	857.2	882.7	882.4
Imports	1370.9	1477.4	1576.1	704.6	772.8	773.6	802.6
GDP	3183.2	3279.1	3373.6	1601.1	1678.0	1674.3	1699.2
b) Percentage change over previous year							
Final consumption expenditure	1.3	4.3	2.9	5.5	3.2	4.5	1.4
Private consumption expenditure ³	0.4	5.9	3.9	7.4	4.5	6.4	1.5
Government consumption expenditure	3.4	0.8	0.6	1.3	0.3	0.1	1.0
Gross fixed capital formation (GFCF)	1.9	3.4	4.0	1.2	5.5	5.8	2.5
Construction	3.6	4.7	6.6	-0.4	9.4	10.2	3.5
Machinery and equipment	1.3	2.7	3.0	1.1	4.1	4.3	1.8
GFCF in other products	0.6	3.5	3.1	3.7	3.4	3.1	3.1
Domestic uses	1.4	3.4	3.2	3.3	3.6	4.8	1.7
Exports	9.6	6.3	5.8	4.1	8.5	8.8	2.9
Imports	7.2	7.8	6.7	5.6	9.9	9.8	3.8
GDP	2.8	3.0	2.9	2.8	3.2	4.6	1.3

1 So far, only the GDP values are available for 2021; the other quarterly figures have been estimated. These estimations used the monthly figures for special trade in particular, which show significantly lower imports.

2 GDP (price-adjusted) per man hour.

3 Including private organizations without pecuniary reward.

4 Including net increase in valuables.

Sources: Federal Statistical Office; authors' own calculations.