GERMAN COUNCIL
of Economic Experts

ECONOMIC OUTLOOK 2021 AND 2022

17 March 2021

German Council of Economic Experts
Statistisches Bundesamt
65180 Wiesbaden
Tel.: 0049 611 / 75 - 2390
Fax: 0049 611 / 75 - 2538
E-Mail: info@svr-wirtschaft.de
Internet: www.sachverstaendigenrat-wirtschaft.de

Published on 17 March 2021
Completed on 12 March 2021, 4 p.m.

This is a translated version of the original German-language publication "Konjunkturprognose 2021 und 2022", which is the sole authoritative text. Please cite the original German-language publication if any reference is made to this text.

ECONOMIC OUTLOOK FOR 2021 AND 2022

KEY MESSAGES

- The recovery of the global economy varies considerably between sectors and regions. Economic activity in Europe is weak in the services sector as a result of increased infection rates, while industry remains on a growth path.
- With successful containment of the pandemic, for example through further progress on vaccinations, growth is likely to gain momentum in the course of 2021.
- The German Council of Economic Experts expects gross domestic product in Germany to rise by 3.1 % this year and 4.0 % next year.

The **performance of the global economy** during the second year of the coronavirus pandemic **varies** considerably **between sectors and regions. Industry** is increasingly recovering from its slump in the spring of 2020 due to rising demand for goods, while the **situation in consumer-related services** in particular **remains tense. Overall economic activity,** particularly in **China** and other Asian countries as well as the **United States, continues on an upward trajectory**. The **recovery in Europe**, on the other hand, **is pausing**. However, the higher infection rates and stricter containment measures are inflicting much less damage on the economy than during the first wave of infections in spring 2020. One reason for this is the positive trend both, in industry and in goods trade. So far there has been no massive disruption of international supply chains or widespread border closures. It is also likely that households and firms have adapted better to the pandemic-related restrictions.

Although economic output in Germany was still growing marginally at the end of 2020 a decline is expected for the first quarter of 2021. The **economic recovery** is likely **to resume over the coming months** as the pandemic is increasingly contained and restrictions are gradually eased. This recovery will be assisted by the growing availability of vaccines. If plans to accelerate the vaccination programme are successful, this should allow for more economic activity. The **value added** that cannot take place particularly in the services sector at present should then **return** gradually and generate strong growth throughout the remainder of 2021.

The German Council of Economic Experts (GCEE) expects **gross domestic product (GDP) in Germany to grow by 3.1 %** this year. The economic recovery is set to continue apace next year as demand rises worldwide and consumers run down the savings that they have accumulated. The GCEE expects GDP to grow by **4.0 %** in **2022**. Consumer price inflation is likely to rise temporarily this year especially as a result of higher energy prices and the expiry of the VAT cut. The GCEE is forecasting that the rate of inflation in Germany will average 2.1 % and 1.9 % in 2021 and 2022, respectively. It expects GDP in the **euro area** to grow by **4.1 %** and **4.2 %** in 2021 and 2022, respectively.

Germany and Europe are currently exposed to the **risk of a third wave of infections**, which is being exacerbated by the spread of mutations of the SARS-CoV-2 virus. A sharp rise in infection rates could delay economic recovery, especially if industry was severely affected by restrictions and plant closures. In contrast, swifter progress on vaccinations could contain the pandemic sooner, allow restrictions to be lifted and accelerate recovery.

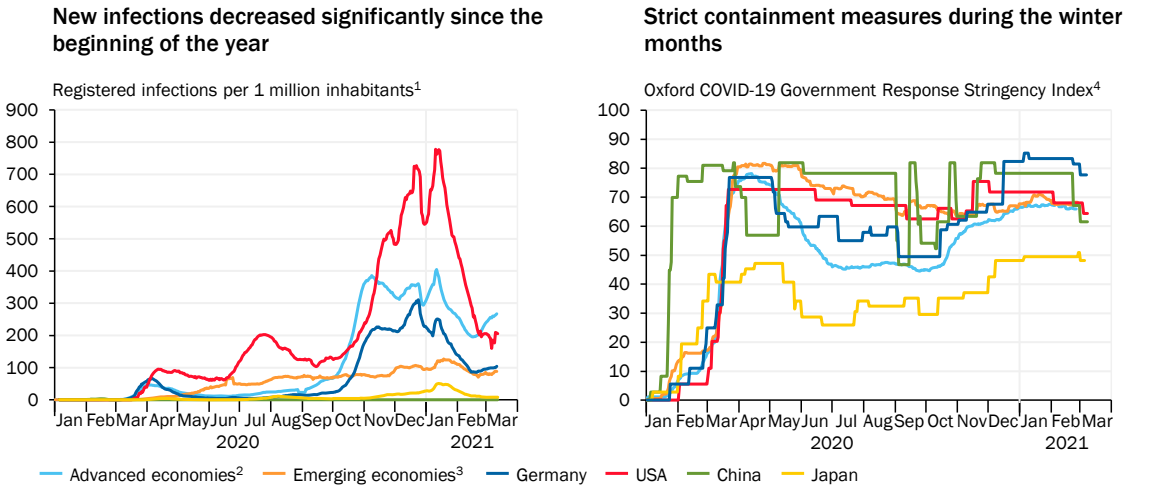
I. THE INTERNATIONAL ECONOMY

1. Recovery of the global economy continues

1. More than one year after the first infections with the SARS-CoV-2 virus were registered, many countries remain firmly in the grip of the **pandemic**. The number of new infections worldwide rose steadily last year. Although infection rates in Europe temporarily fell significantly in the summer of 2020, many European countries and the United States have seen **infections rebound** sharply since the late summer of last year. ↘ CHART 1 LEFT The daily numbers of global new infections and deaths related to the virus have been on a downward trend since the beginning of this year. On 12 March 2021 the numbers of daily new cases and deaths worldwide amounted to 458,159 and 9,302, respectively (WHO, 2021a). Regarding the interpretation of data for new cases, however, it is important to note that its comparability over time and across various countries is limited by differences in testing strategies and in definitions of cases (Middelburg and Rosendaal, 2020).

2. Along with the renewed surge in cases, the **measures taken to contain the pandemic** were tightened again from the autumn onwards, especially in Europe, after they had been eased over the summer. ↘ CHART 1 RIGHT These measures include contact restrictions and the obligation to wear masks as well as the closure of schools and childcare facilities, cultural and leisure facilities, the hospitality industry and large parts of the retail sector in addition to the prohibition of personal services. There is considerable **heterogeneity** between countries in some cases in terms of the **strictness of the measures** implemented and the timing of the easing and tightening of restrictions, such as with the closure of schools. Whereas

↘ CHART 1
Course of the Corona pandemic in selected economies

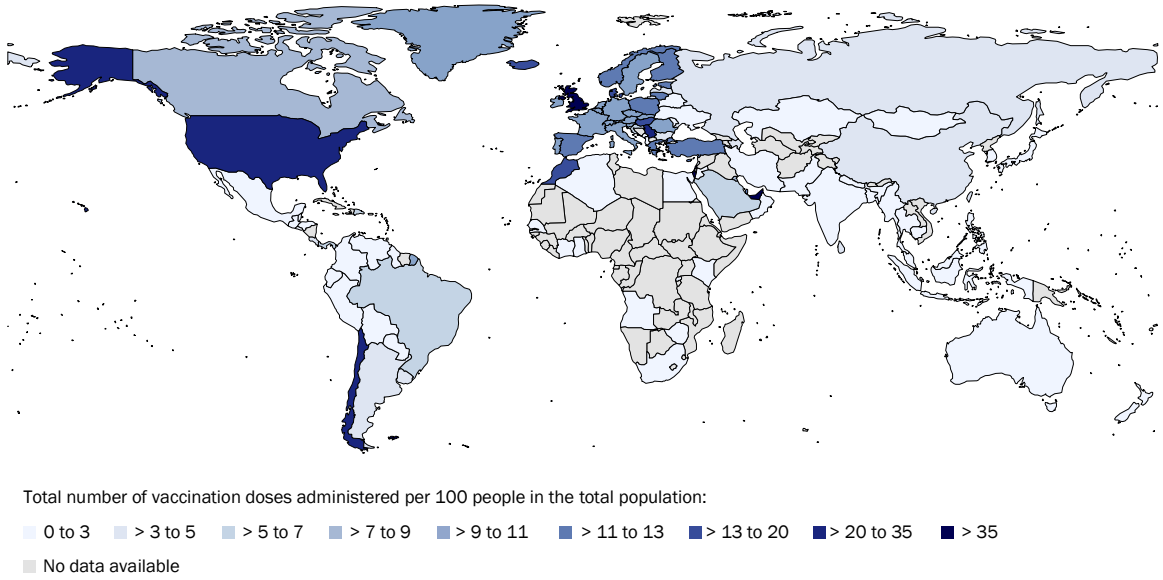


1 – Moving average of the past 7 days. 2 – Unweighted average of countries in the same definition as in footnote 10 in Table 1. For new infections excluding Hong Kong and Taiwan. 3 – Unweighted average of countries in the same definition as in footnote 11 in Table 1. 4 – The index records the number and stringency of government measures to contain the pandemic without evaluating their suitability. It can take on values between 0 and 100. Beside the closing of schools, production plants or public transport, the recorded measures contain the cancellation of public events and restrictions of the freedom of movement and assembly as well as of international travel.

Sources: Hale et al. (2020), WHO, World Bank, own calculations

↘ CHART 2

Number of vaccination doses administered per 100 people[1]



1 –Each vaccination is counted as a single dose and may not equal the total number of people vaccinated if, for example, they have already received multiple doses. Data as of 12 March 2021.

Sources: EuroGeographics for the administrative boundaries, Our World in Data

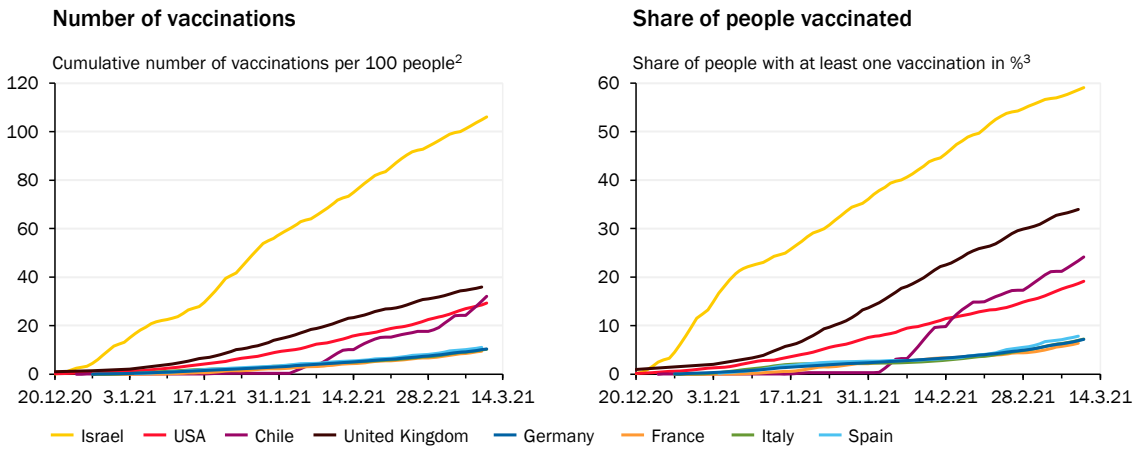
schools in France and Spain remained open during the second wave of infections in the winter of 2020/21, classroom teaching was not available to most pupils in Germany, the Netherlands and the United Kingdom.

The containment measures in **Germany** in the winter of 2020/21 are in some respects more severe than they were in the **spring of 2020**. For example, stricter workplace closures and a sharper reduction in public transport availability apply now than in the spring of last year. Nonetheless, the international travel restrictions introduced in spring 2020 were eased in summer 2020 and have not been tightened so far. However, the rules on self-isolation have been repeatedly updated, which is likely to have restricted travel.

3. Many advanced economies and some emerging economies have launched **vaccination campaigns** thanks to the swift development of several vaccines that have now been approved. However, these campaigns are **progressing at varying speed**. ↘ CHART 2 ↘ CHART 3 LEFT ↘ BOX 3 Whereas in the United Kingdom and the United States just under 35 % and almost 20 % of the population respectively had received at least one dose of vaccine by 12 March 2021, the corresponding proportion in the European Union (EU) was barely 8 % (Our World in Data, 2021). ↘ CHART 3 RIGHT

4. The **ongoing progress** of these **vaccination campaigns** offers the **hope** that **restrictions** can be gradually **eased** over the course of the year. While the vaccination programmes in some advanced economies are being swiftly implemented, there are wide variations among emerging economies and developing countries. Major emerging economies such as Russia, China and India have developed their own vaccines, which are mainly being supplied to Latin America and

↘ CHART 3
International comparison of the COVID-19 vaccinations carried out[1]



1 – Data as of 12 March 2021. 2 – Each vaccination is counted as a single dose and may not equal the total number of people vaccinated if, for example, they have already received multiple doses. 3 – Share of the total population. This may not equal the share that are fully vaccinated if the vaccine requires two doses.

Source: Our World in Data

some Eastern European countries. Most developing countries, however, still have no access to suitable medicines and vaccines. It will therefore be some time before the world's entire population can be immunised, which means that other containment measures are likely to remain necessary in many places.

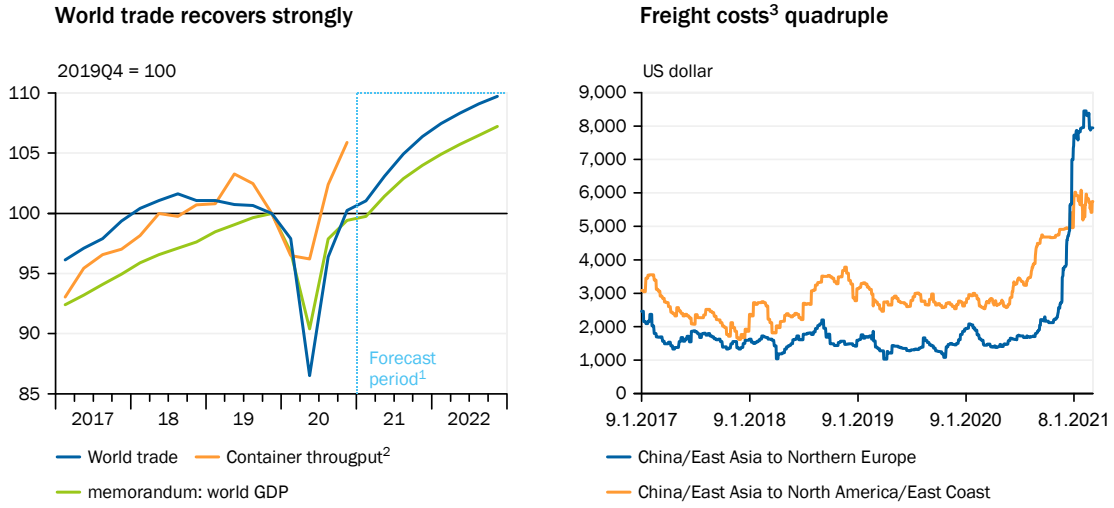
After strong growth in the summer, the recovery – especially in Europe – is on hold

5. The coronavirus pandemic plunged the **global economy** into a **deep recession** in **2020**. After economic activity had collapsed in the first half of the year, an equally strong recovery emerged as the number of new infections declined and the restrictions were eased primarily in the advanced economies. This compensated for much of the output loss suffered in the first half of the year. In the fourth quarter of 2020, however, global gross domestic product (GDP) was still more than 1.4 % below its pre-crisis level from the fourth quarter of 2019. Overall, 2020 saw **negative** global GDP **growth of 3.6 %**. ↘ CHART 4 LEFT The collapse in the global economy in 2020 was therefore much more severe than the one at the height of the global financial crisis in 2009.

6. **In the final quarter** of **2020** the **economic development varied significantly** across regions. Particularly in Europe, the recovery of the summer months came to an abrupt halt in the fourth quarter, whereas economic growth in the United States and the United Kingdom merely weakened despite sharply rising infection rates. China's economic output even comfortably surpassed its pre-crisis level as early as the third quarter. In the other emerging economies, by contrast, the recovery is progressing much more slowly.

7. **World trade grew significantly** as a result of the global recovery in aggregate demand. ↘ CHART 4 LEFT According to data from the Dutch Centraal Planbureau

↘ CHART 4
Development of world trade and freight costs



1 – Forecast by the German Council of Economic Experts. 2 – The RWI/ISL Container Throughput Index is based on data on container throughput in 91 international ports, which account for a good 60 % of global container throughput. 3 – Freight costs for containers on the spot market. China/East Asia to Northern Europe runs along the Suez Canal; China/East Asia to North America/East Coast runs through the Pacific Ocean.

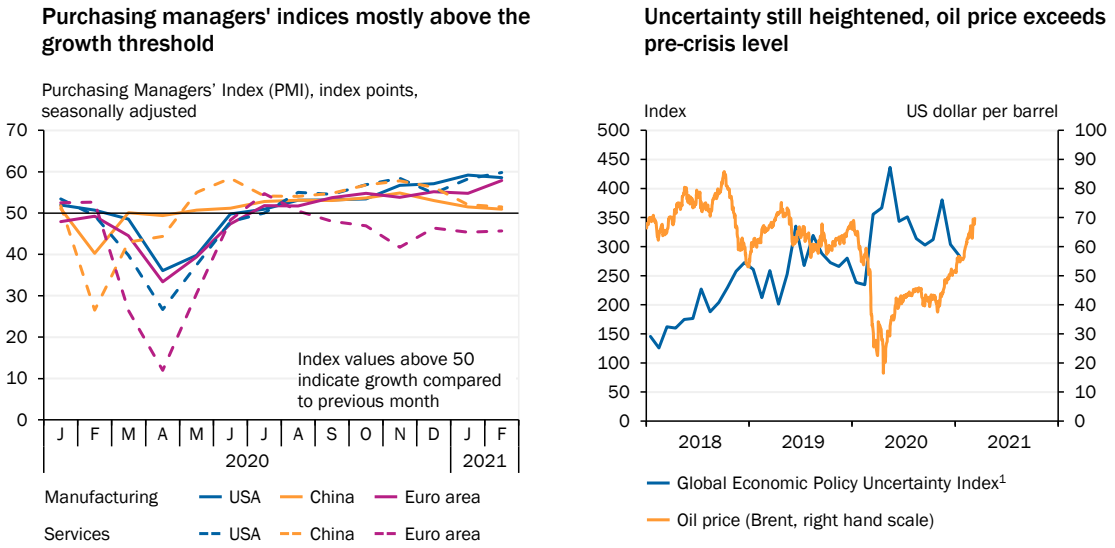
Sources: CPB, Freightos, RWI/ISL, own calculations

(CPB), the global goods trade had already exceeded its pre-crisis level by the end of 2020. This was also illustrated by a sharp rise in the RWI/ISL Container Throughput Index in the second half of 2020. ↘ CHART 4 LEFT The higher global demand for consumer goods and medical personal protective equipment was one of the main factors providing additional stimulus here (IMF, 2020; OECD, 2020). The stronger-than-expected rise in worldwide demand for goods and a shortage of available shipping containers resulting from the temporary disruption of supply chains have caused **sea freight costs** on some routes (European Commission, 2021a) – especially those between China and Europe – to **surge** in recent months. ↘ CHART 4 RIGHT In addition, companies surveyed at the end of 2020 indicated a significant increase in supply shortages and longer delivery periods – especially in Europe and North America. One of the main reasons for this appears to be delays in port clearance procedures in Asia in particular (Owen, 2020).

8. Various factors are currently affecting **producer and consumer prices**. Producer prices have jumped since the middle of 2020. Increasing freight costs and the sharp **rise in the oil price** are likely to be major reasons for this trend. ↘ ITEM 10 Industrial producer prices in the euro area have already risen by 1.4 % since December 2020. The pandemic has also caused **food prices** to **surge**, thereby pushing up consumer price inflation.

As the global economy recovered in the second half of 2020, the trade-weighted **exchange rates** for the United States and Japan fell, while the trade-weighted exchange rate for the euro area trended higher until the autumn but has since fallen back slightly. By contrast, the euro rose sharply against the US dollar in 2020. After the new US economic stimulus package had been announced at the beginning of March 2021, however, the US dollar rebounded against the euro.

↘ CHART 5
Purchasing Managers' Indices, uncertainty and oil price



1 – Index for 21 countries weighted by the purchasing power adjusted GDP. Average of the years 1997 to 2015 = 100.

Sources: Economic Policy Uncertainty, IHS Markit, Refinitiv Datastream, own calculations

9. Considerable differences are also evident with respect to the various sectors of the economy. ↘ CHART 5 LEFT The purchasing managers' indices for **manufacturing** recovered in the second half of the year. The recovery was especially swift in China, not least owing to the surge in global demand for consumer goods (OECD, 2020). ↘ ITEM 7 Although in China there are signs that growth in manufacturing has been slowing since the beginning of the year, the indicators of sentiment in the euro area and the United States in particular remain on a pronounced upward trajectory.

   The picture in the **services sector** is more differentiated. The euro area saw a further sharp downturn in personal services owing to the increase in new infections and the tighter containment restrictions imposed. The continued outright ban or severe restrictions placed on tourism is also acting as a drag on economic activity in some member states. ↘ BOX 2 Although the purchasing managers' index for China's services sector remains just above the expansion threshold of 50 index points, the current momentum indicates slowing growth. Only in the United States are the indicators of sentiment for the services sector well above the growth threshold.

10. The index of political and economic **uncertainty reflects the course of the pandemic**. ↘ CHART 5 RIGHT After rising sharply in the spring of 2020 and then falling rapidly in the summer, uncertainty ticked up again in the autumn before declining at the end of 2020. Over the course of 2020 the **oil price staged a steady recovery** from its collapse in the spring and is now back above its pre-crisis levels owing to the growth in the global economy and reduced oil delivery volumes. ↘ CHART 5 RIGHT In addition, the OPEC+ countries agreed at the beginning of March – contrary to market participants' expectations – to increase production only very

slightly in April, which caused oil prices to rise further. The ongoing global economic recovery and the continued slow expansion of oil supply is likely to bring about a significant decline in inventories and to push up prices further over the course of the year (IEA, 2021).

The price of oil reflects a **complex interaction between the supply of and demand for** crude oil. If a rise in oil prices is largely driven by demand-side factors, these are a sign of a strong global economy, which has a particularly positive impact on export-led countries such as Germany (GCEE Annual Report 2015 box 4). If, by contrast, a higher oil price is largely driven by supply-side factors, the negative effects of higher producer and consumer prices predominate. **Changes** in the price of oil **over the course of the coronavirus pandemic** are likely to have been affected by **both demand-side and supply-side factors** (Camp et al., 2020). Nonetheless, it is fair to assume that the stronger-than-expected recovery of the global economy is a key driver of the recent rise in oil prices. In addition, the International Energy Agency (IEA) expects that production volumes will be gradually increased over the course of the year (IEA, 2021). This is consistent with the prices of futures which, at the close of data collection, were trading at over US$ 60 per barrel for the end of the forecasting period.

11. Countries have taken **discretionary fiscal policy measures** in an attempt to **mitigate** the impact of the **sharp economic downturn** resulting from the coronavirus crisis (GCEE Annual Report 2020 items 258 f.). A database compiled by the International Monetary Fund (IMF) (2021a) contains the key discretionary fiscal measures that governments had either announced or implemented by the end of 2020. These suggest that the EU member states took less comprehensive measures on both the spending and revenue sides than, for example, Japan, the United Kingdom, the United States and Canada. Instead the EU countries focused more on providing loans and guarantees. ↘ CHART 6 **International comparisons of discretionary fiscal measures** such as those conducted by the IMF (2021a) and Bruegel (2020) should, however, according to the IMF (2021a), **be viewed with caution** because the specific circumstances in which such measures are taken vary from country to country.

International comparisons of discretionary measures often neglect the fact that the **take-up** of such measures is much lower than the sum total of the programmes launched (Anderson et al., 2020; Deutsche Bundesbank, 2020a; GCEE Annual Report 2020 items 118 ff.). In addition, the data used, for example, by the IMF (2021a) and Bruegel (2020) includes **intrastate transfers** which do not provide any direct fiscal stimulus. The Joint Economic Forecast (Gemeinschaftsdiagnose, 2020) also points out that the data does not take sufficient account of the fact that fiscal measures are **spread over a period of several years**. Furthermore, they criticise the occasionally incorrect classification of measures such as short-time working, which are insufficiently defined as automatic stabilisers and are too often classified as discretionary measures. **Automatic stabilisers** can, however, prove highly effective at remedying weaknesses in the economy. In the euro area especially they mitigate the adverse impact of income shocks to a far greater extent than they do, for example, in the United States (Dolls et al., 2012, 2014). Comparisons based solely on discretionary measures therefore neglect the important fiscal stabilising effect of automatic stabilisers. The Joint Economic Forecast concludes that the overall fiscal support given to the German

economy in 2020 was less than half of the size assumed by the IMF (2021a) and Bruegel (2020), and it is also critical of the estimates presented for other countries.

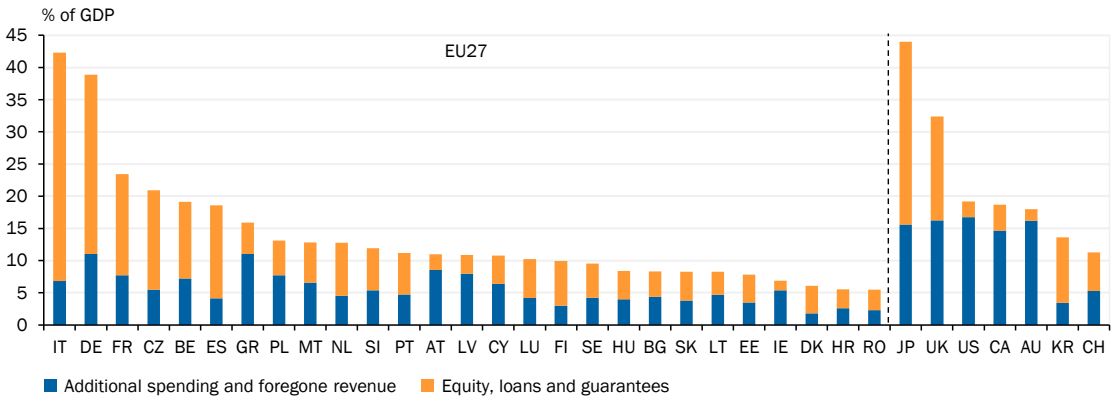
12. The expansionary monetary policies pursued by central banks are contributing to **favourable financing conditions** of states. Yields on ten-year government bonds in both the euro area and the United States initially declined at the beginning of the crisis. In the US, however, yields on long-dated bonds started to pick up again in the middle of 2020, although they remain low. ↘ CHART 7 TOP LEFT The latest increases are likely to be partly attributable to the fact that the recent comprehensive fiscal support measures, such as the economic stimulus package approved in March 2021, lead to higher expected government debt to GDP ratios. ↘ ITEM 18 Yields on European government bonds have more or less followed suit since the beginning of 2021.

    Expectations that these fiscal support measures will continue are also reflected in **heightened market-based medium-term inflation expectations**. ↘ CHART 7 TOP LEFT Given the enormous fiscal support measures taken by virtually all major economies, the level of **public-sector borrowing** and, hence, government debt has risen sharply. The longer-term trends towards higher public and private debt therefore continued last year. ↘ CHART 7 TOP RIGHT

13. Whereas the fiscal and monetary policies adopted at the beginning of the coronavirus crisis, among other things, probably ensured that lending conditions remained largely constant (GCEE Annual Report 2020 item 307), lending criteria have tightened significantly since the third quarter of last year. ↘ ITEM 30 **Banks in the euro area tightened** their **lending conditions** for companies even further in the fourth quarter of 2020 (ECB, 2021a). ↘ CHART 7 BOTTOM LEFT Lending conditions in the United States tightened substantially in the third quarter but only

↘ CHART 6

Discretionary fiscal policy measures adopted in the context of the coronavirus pandemic vary between selected countries (data as of end 2020)[1]



1 – The data represent a cumulative summary by IMF (2021a) of the main discretionary fiscal measures announced or implemented by governments in response to the coronavirus pandemic up to 31 December 2020. IT-Italy, DE-Germany, FR-France, CZ-Czechia, BE-Belgium, ES-Spain, GR-Greece, PL-Poland, MT-Malta, NL-Netherlands, SI-Slovenia, PT-Portugal, AT-Austria, LV-Latvia, CY-Cyprus, LU-Luxembourg, FI-Finland, SE-Sweden, HU-Hungary, BG-Bulgaria, SK-Slovakia, LT-Lithuania, EE-Estonia, IE-Ireland, DK-Denmark, HR-Croatia, RO-Romania, JP-Japan, UK-United Kingdom, US-USA, CA-Canada, AU-Australia, KR-Republic of Korea, CH-Switzerland.

Source: IMF

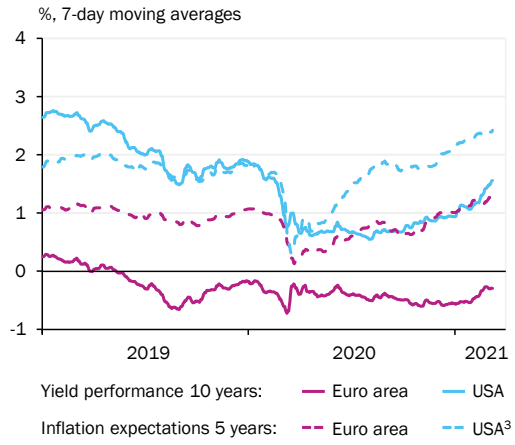
very slightly in the fourth quarter (Federal Reserve, 2021). ↘ CHART 7 BOTTOM LEFT These tighter conditions mean that **firms'** ability to **raise funding can deteriorate**, thereby reducing investment. Lending criteria over the next few quarters are likely to be largely determined by the numbers of business insolvencies, which are difficult for banks to predict at present.

14. In contrast to developments in the wake of the financial crisis, the comprehensive monetary and fiscal support measures implemented by the advanced economies since **2020** have been accompanied by a very sharp increase in the money created by the banking system, thereby **considerably expanding the money supply**. Although the empirical correlation between money supply growth and inflation

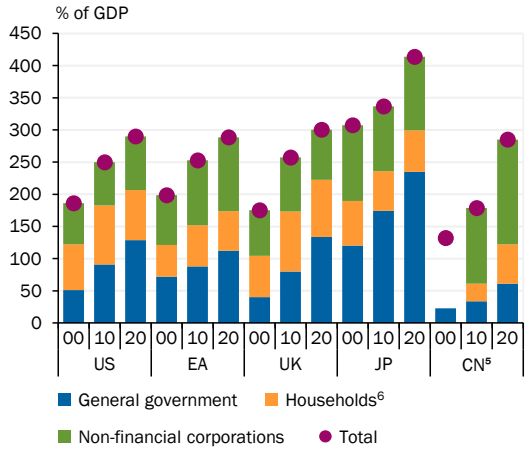
↘ CHART 7

Monetary developments in selected economies

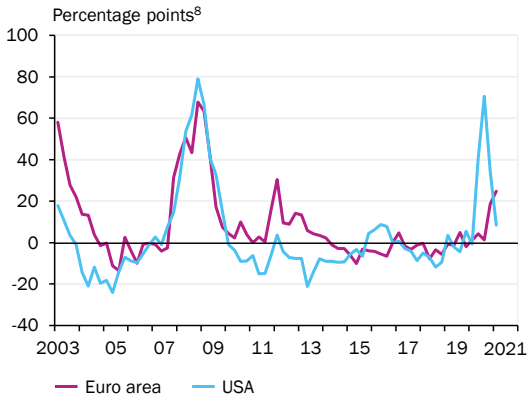
Yield performance[1] and inflation expectations[2]
Euro area and USA



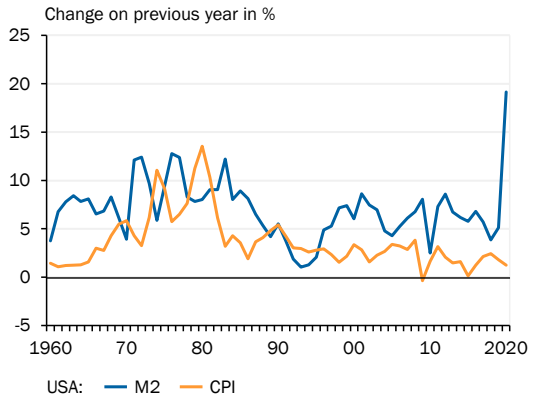
Development of loans in major economies in the years 2000, 2010 and 2020[4]



Tightening of lending conditions to companies in the third quarter of 2020[7]
Net percentage of banks reporting a tightening of credit standards



Sustained double-digit money supply growth has been associated with high inflation in the past



1 – AAA-rated government bonds. 2 – Inflation expectations of market participants over the next 5 years approximated by the 5-year inflation swaps. 3 – For the US, eight data points in 2019 and 3 data points in 2020 are treated as outliers like missing observations. 4 – Loans to the non-financial sector in relation to GDP. Reference dates: 31.12.2000, 31.12.2010 and 30.09.2020. US-USA, EA-euro area, UK-United Kingdom, JP-Japan, CN-China. 5 – Values for households and non-financial corporations only since 2006. 6 – Including non-profit institutions serving households. 7 – The lending terms and conditions refer to the previous three months. 8 – The net percentages are defined as the difference between the sum of the percentages of banks that responded 'tightened considerably' and 'tightened somewhat' and the sum of the percentages of banks that responded 'eased somewhat' and 'eased considerably'.

Sources: BIS, ECB, EZB, FED, FRED, Refinitiv Datastream, own calculations

has been less pronounced since the 1990s than it was in the 1970s (Teles et al., 2016), ↘ CHART 7 BOTTOM RIGHT now is the first time in a while that we are seeing clearly double-digit growth in the money supply. Sustained money supply growth of more than 10 % has in the past – as in the 1970s – led to surges in goods prices or, for example in the run-up to the financial crisis, high asset price inflation.

One problem is that the substantial increase in the money supply poses the risk of a temporary **rise in inflation** while private demand is **returning to normal** once the pandemic is over (Grauwe and Diessner, 2020). Another problem is that this money supply growth is linked to a sharp rise in public loans. And heightened government budget deficits, in turn, are historically correlated with inflation (Bordo and Levy, 2020). Finally, the strong growth in both the money supply and lending witnessed since the coronavirus crisis could, over the medium term, pose a risk to financial market stability, which – as the experience of the financial crisis has shown – would be difficult to contain using macro-prudential measures alone.

Economic outlook

15. The **declines in economic output for 2020 as a whole** have **generally** turned out to be **more modest** than forecast in the GCEE Annual Report published in the autumn of 2020. In many places, however, the economic recovery ground to a halt at the end of the year or continued at a slower pace. The heightened infection rates in many countries and the much tighter restrictions that they have imposed in order to contain the second wave of infections are likely to impair economic activity again in the first quarter of 2021 – especially in the euro area and the United Kingdom – thus delaying the recovery. However, we do not expect to see another sharp downturn similar to the one last spring, not least because there have not yet been any comparable disruptions to industry or the international trade in goods. Nonetheless, **capacity shortages affecting some raw materials and intermediate goods** such as semiconductors are acting as a drag on some parts of the manufacturing sector. Survey data collected by the European Union in January suggests that this could increasingly become a constraining factor on output.

16. As **gradual progress is made with** the **vaccination** of the populations of most advanced economies and – where necessary – carefully targeted restrictions remain in place, it is expected by the end of the forecasting period that the pandemic can be contained to such an extent that, in particular, there is no longer any risk of healthcare systems being overwhelmed. As infection rates then continue to fall and some restrictions can be eased, consumer spending especially is likely to increase sharply. The declining level of uncertainty about the development of the pandemic is also likely to have a positive impact on private investment.

17. After the pace of the recovery has slowed in the first quarter of 2021, the GCEE expects the global economy to bounce back as the pandemic is contained in the second half of the year. Further comprehensive economic stimulus packages in the United States will support this development. ↘ ITEM 18 Growth is then likely to

↘ TABLE 1

Gross domestic product and consumer prices of selected countries

Country/country group	Weight in %[1]	Gross domestic product[2]				Consumer price index			
		Change on previous year in %							
		2020	2021[3]		2022[3]	2020	2021[3]		2022[3]
			Update	Diff. to AR 2020/21[4]			Update	Diff. to AR 2020/21[4]	
Europe	**28.6**	**– 6.1**	**4.1**	**(– 0.3)**	**4.1**	**1.2**	**2.3**	**(0.5)**	**2.1**
Euro area	17.3	– 6.8	4.1	(– 0.8)	4.2	0.3	1.6	(0.5)	1.6
United Kingdom	3.7	– 9.9	4.7	(0.1)	6.0	0.9	1.6	(0.1)	2.1
Russia	2.2	– 3.2	2.8	(0.1)	2.9	3.4	4.4	(0.4)	3.3
Middle- and Eastern Europe[5]	1.8	– 4.0	4.3	(1.2)	3.9	3.0	2.4	(– 0.1)	2.4
Turkey	1.0	1.6	7.3	(2.7)	3.0	12.3	13.2	(2.3)	10.6
Other countries[6]	2.6	– 2.7	3.1	(0.1)	2.9	0.2	1.2	(0.3)	1.1
America	**35.4**	**– 4.1**	**6.0**	**(2.1)**	**3.8**	**2.1**	**3.3**	**(0.7)**	**2.8**
United States	27.8	– 3.5	6.3	(2.5)	4.0	1.2	2.6	(0.7)	2.3
Latin America[7]	3.0	– 8.5	5.2	(0.6)	2.8	10.7	10.1	(– 0.3)	8.6
Brazil	2.4	– 4.4	3.9	(0.3)	2.6	3.2	4.5	(1.6)	3.4
Canada	2.3	– 5.4	5.2	(0.6)	3.8	0.7	2.2	(0.9)	1.5
Asia	**36.0**	**– 1.0**	**7.1**	**(0.3)**	**4.1**	**2.1**	**1.8**	**(0.0)**	**2.3**
China	18.7	2.1	8.5	(– 0.4)	4.8	2.5	1.9	(– 0.1)	2.8
Japan	6.6	– 4.9	2.9	(0.0)	1.9	0.0	– 0.1	(– 0.3)	0.5
Asian advanced economies[8]	3.9	– 1.3	3.7	(0.6)	2.6	0.3	1.2	(0.5)	1.3
India	3.7	– 6.9	12.5	(4.2)	5.1	6.6	4.9	(0.0)	3.9
Southeast Asian emerging economies[9]	3.1	– 4.7	5.5	(0.2)	4.6	1.0	2.0	(0.0)	2.2
Total	**100.0**	**– 3.6**	**5.9**	**(0.8)**	**4.0**	**1.8**	**2.5**	**(0.4)**	**2.4**
Advanced economies[10]	65.9	– 4.8	4.9	(0.9)	3.8	0.8	1.9	(0.5)	1.8
Emerging economies[11]	34.1	– 1.2	7.7	(0.5)	4.3	3.9	3.6	(0.1)	3.7
memorandum:									
weighted by exports[12]	100.0	– 4.7	4.9	(0.0)	4.0	.	.	.	.
following IMF concept[13]	100.0	– 3.0	6.0	(0.9)	3.9	.	.	.	.
World trade[14]		– 5.3	9.0	(3.2)	4.6	.	.	.	.

1 – GDP (US dollar) of the named countries or country groups in 2019 as a percentage of total GDP of the named countries or country groups. 2 – Price-adjusted. 3 – Forecast by the GCEE. 4 – Difference in percentage points. 5 – Bulgaria, Croatia, Czech Republic, Hungary, Poland, Romania. 6 – Denmark, Norway, Sweden, Switzerland. 7 – Argentina, Chile, Colombia, Mexico. 8 – Hong Kong, Republic of Korea, Singapore, Taiwan. 9 – Indonesia, Malaysia, Philippines, Thailand. 10 – Asian advanced economies, euro area, Middle- and Eastern Europe, Canada, Denmark, Japan, Norway, Sweden, Switzerland, United Kingdom, United States. 11 – Latin America, Southeast Asian emerging economies, Brazil, China, India, Russia, Turkey. 12 – Total of all named countries, weighted by the respective shares of German exports in 2019. 13 – Weights according to purchasing power parities and extrapolated to the countries covered by the IMF. 14 – As measured by the Netherlands Bureau for Economic Policy Analysis (CPB).

Sources: CPB, IMF, national statistical offices, OECD, own calculations

slow slightly in 2022. Overall the GCEE has revised upwards the **forecast** for **global GDP** that it issued last autumn. The reasons for this view – despite the slowdown in the first quarter of 2021 – are the better-than-expected fourth quarter of 2020 and a more positive assessment of the second half of 2021. The GCEE is forecasting growth of **5.9 %** and **4.0 %** for **2021** and **2022,** respectively. ↘ TABLE 1 We would therefore see a return to pre-crisis levels in mid-2021, although this is unlikely to apply equally to all countries included in the forecast. ↘ CHART 4 LEFT As far as the **global trade in goods** – as measured by the Dutch Centraal Planbureau – is concerned, the GCEE expects to see growth of **9.0 %** and **4.6 %** for 2021 and 2022, respectively.

As the global economy bounces back as expected, the **pressure on prices in many advanced economies** in particular is likely to grow over the forecasting period but should remain **moderate** owing to the continuing underutilisation of capacities. By contrast, inflation in many emerging economies – especially those that import oil – is likely to be much higher.

18. The recovery in the **United States** continued at a somewhat muted pace in the fourth quarter of 2020, with GDP rising by just over 1 % compared with the third quarter. A **fiscal stimulus package** worth some **US$ 900 billion** (slightly more than 4 % of GDP in 2020) came into effect in the United States at the end of December 2020. The programme includes one-off transfer payments to households, an extension of the unemployment benefits increased during the crisis until March 2021, spending on education and healthcare and, above all, loans to small businesses.

Unemployment benefits play a particularly important role during the crisis. The United States – unlike many European countries, which have very comprehensive and generous short-time working schemes – saw unemployment rise sharply to almost 15 % last spring (GCEE Annual Report 2020 item 11). By February 2021 the **unemployment rate** had fallen back to 6.2 %, which was lower than in many European countries. However, it remained **2.7 percentage points higher than in February 2020**.

At the beginning of March the US Congress approved a further programme (American Rescue Plan) aimed at supporting and stimulating the US economy. This package's volume is roughly **US$ 1,900 billion**, i.e. around 9 % of GDP in 2020 (CBO, 2021a). This plan includes further one-off payments, an almost six-month extension of the previously increased unemployment benefits, and grants to states and municipalities.

19. According to **simulations** by the GCEE, this additional fiscal **stimulus** is likely to **accelerate** the **recovery in the United States**. ↘ BOX 1 However, the size of the fiscal multiplier largely depends on the monetary policy **response from the US central bank** (Federal Reserve or 'Fed'). In December 2020 the Fed reaffirmed its intention to leave the federal funds rate within its current target range of 0 % to 0.25 % until labour market conditions have reached a level consistent with the Fed's assessment of full employment. In addition, it wants inflation to have risen to 2 % and to be well on the way to being moderately above 2 % for some time (Fed, 2020). If interest rates remain at their currently low level

throughout the forecasting period, this is likely to significantly increase the impact of the stimulus.

Other estimates even suggest that economic output at the end of 2021 might exceed the growth path estimated by the Congressional Budget Office (CBO) prior to the pandemic (Edelberg and Sheiner, 2021). The GCEE has revised upwards the **forecast** for the **United States** that it issued last autumn and is now expecting to see GDP **growth rates of 6.3 % and 4.0 %** in **2021 and 2022** respectively.

↘ BOX 1

The economic impact of the latest fiscal stimulus in the United States

At the time the 2020 GCEE Annual Report was published there were already signs that **further fiscal support measures** were about to be taken in the United States to at least partly compensate for the income lost as a result of the pandemic. The timing, scale and design of such support were, however, still unclear then (GCEE Annual Report 2020 item 12). In the sections below we have therefore used a **structural macroeconomic model** to **estimate the impact** of the measures implemented at the end of December 2020 and of the economic stimulus package recently approved by the US Congress. The New Keynesian model used here is based on the ECB's New Area-Wide Model and has been calibrated for both the United States and the euro area (Christoffel et al., 2008; Coenen et al., 2008; Cogan et al., 2013; Lieberknecht and Wieland, 2019).

The simulation includes transfers paid to households. Most of these relate to **unemployment benefits** and the two **one-off payments** of US$ 600 and US$ 1,400 for each entitled individual (CBO, 2020, 2021b; Edelberg and Sheiner, 2021). The simulation also covers increased **government consumption** spending on things such as healthcare. Intrastate transfers and loans to firms, however, are not included. In the case of the former, in particular, it is unclear to what extent these payments actually constitute additional spending or whether they merely prevent or reduce states' indebtedness. The fiscal measures covered by the simulation in total account for 8.6 % of US GDP in 2020. In order to ensure that the simulation captures the existing pandemic-related restrictions, the timing of payments and the increase in government spending are extended into 2022. Specifically, it is assumed that two-thirds of the fiscal stimulus takes place this year and one-third next year. It is assumed that half of transfer payments benefit households who have no access to capital markets. They account for 25 % of households in the model. Transfer payments thus tend to be received by households who spend these payments immediately. The remaining 75 % of households, on the other hand, save the bulk of these payments.

The simulations cover three different scenarios. In the first scenario the Federal Reserve follows an **interest-rate rule** and responds to the increases in GDP an inflation by raising interest rates by up to 100 basis points over the course of 2021. **Economic output grows** by 2.9 % this year compared with the initial situation. Because these measures are merely temporary, however, the positive effect of the fiscal stimulus package is likely to wear off quickly. By 2022 economic output would only be around 0.8 % higher than in the counterfactual scenario without any stimulus. In subsequent years the impact on GDP would actually be slightly negative. The simulations show that **inflation** would be 0.8 percentage points higher in 2021 than in the counterfactual scenario. As with the effect on GDP, however, the additional positive impact on inflation is merely temporary, and by 2022 it is only 0.3 percentage points.

In a second scenario the Federal Reserve – following its current forward guidance – leaves **interest rates unchanged.** The fiscal stimulus package would increase GDP by around 3.9 % in 2021 compared with the initial situation. As in the previous scenario, these measures' impact on GDP would quickly wear off in subsequent years. The rate of inflation this year would be 1.5 percentage points higher than initially as a result of the continued loose monetary policy. However, underutilised production capacities

and persistently high unemployment might curb any rise in inflation. If the model is then simulated in a third scenario that assumes greater elasticity of labour supply and a highly variable use of capital, the rise in inflation this year would fall to around 0.6 percentage points. At the same time the impact on GDP would increase to 4.5 % in 2021.

The s**pillovers on the euro area** would be positive under all scenarios. GDP in the euro area would rise by between 0.4 % and 0.7 % in 2021 as a result of the stimulus. The impact on the rate of inflation would be negligible.

These findings are largely consistent with the **estimates of other institutions** (CBO, 2021c; Dullien et al., 2021; Edelberg and Sheiner, 2021; ECB, 2021b; Gopinath, 2021; OECD, 2021). Provided that the pandemic is successfully contained, the economic recovery is likely to materialise more quickly this year than was forecast in the autumn. At the same time, however, these three scenarios reveal the level of **uncertainty about the magnitude of these effects** and the extent to which they depend on the Federal Reserve's monetary policy response in particular. A further key influencing factor is how these economic stimulus packages are funded. The model assumes that higher lump-sum taxes are used to ensure that the government debt ratio returns to its initial level over the long run. But lump-sum taxes do not play much of a role in practice. If the model's analysis takes account of the fact that such stimulus packages are funded by higher taxes on earned income or investment income (GCEE Annual Report 2020 box 9), which in turn distort decisions on investment and labour market participation, these fiscal stimulus programmes have less of an impact on GDP and inflation.

20. The sharp rise in infections throughout much of the **United Kingdom** in the autumn of 2020 led to a further tightening of restrictions, which were not eased again until mid-December. The economy continued to stage a subdued recovery in the final quarter of the year, growing by 1 % compared with the third quarter of 2020. The rapid spread of COVID-19 variants in early January led to a further sharp rise in infections and a nationwide shutdown. In late February the UK government published a **timetable** for gradually **easing** these restrictions, which is based on the rapid progress of the vaccination campaign being rolled out across the United Kingdom. This timetable provides for the phased reopening of all sectors of the economy in stages by the end of June 2021 and the lifting of all existing contract restrictions, which is likely to boost economic activity significantly as already in the second quarter of the year.

    The EU and the UK signed a provisional **trade and cooperation agreement** at the end of the year. This essentially avoided quotas and tariffs on trade in goods. However, January saw the introduction of import and quality controls which are likely to make it more difficult to conduct friction-free trade in goods. Initial data confirms that there has already been a sharp decline in the volumes of international trade between the EU and the United Kingdom. The fact that the UK has now officially left the EU's single market and customs union is, overall, likely to act as a further drag on the economy in addition to the consequences of the pandemic. The GCEE is forecasting **GDP growth** of **4.7 %** and **6.0 %** for **2021** and **2022** respectively.

21. The **Chinese economy** continued on its growth trajectory at the end of the year, acting as a key driver of the global economic recovery. In the final quarter GDP grew by 2.6 % compared with the previous quarter. This growth is being driven by

industry, strong international demand and government investment, while services are growing much more slowly and domestic demand remains subdued. The GCEE is forecasting that GDP will grow by a substantial **8.5 %** in **2021**, significantly exceeding the Chinese government's growth target of at least 6 %. **Growth of 4.8 %** is expected for **2022**.

22. In **other emerging economies** the pace of further recovery is likely to vary significantly from country to country. In some Latin American countries, such as Brazil, a resurgence of infections is likely to slow the recovery at the start of the year. In Chile, by contrast, the fairly rapid progress of vaccinations at present should support the economic recovery. On the other hand, fiscal stimulus packages launched in Turkey and India in particular helped to fuel a stronger-than-expected recovery last year and have thus contributed to a substantial carry-over effect for 2021. The GCEE expects to see GDP growth rates of 3.9 % and 2.6 % in Brazil, 7.3 % and 3.0 % in Turkey, and 12.5 % and 5.1 % in India for 2021 and 2022 respectively.

2. Economic recovery in the euro area on hold

23. The economic situation in the euro area is also being largely determined by the development of the pandemic. Rising infection rates in the autumn caused many member states to impose new or tighter **restrictions**, although the second wave of infections hit the major member states at different times and to varying degrees. Whereas infection rates in France and Italy reached their highest levels to date as early as November, Spain did not see a surge until January. The number of infections in Germany also rose during the winter, albeit less dramatically than across the euro area as a whole. Although the numbers of new infections and hospitalisations are currently both below their all-time-highs, many places are seeing a growing incidence of **new, highly infectious variants of the virus**, which are resulting in a renewed rise in infection rates.

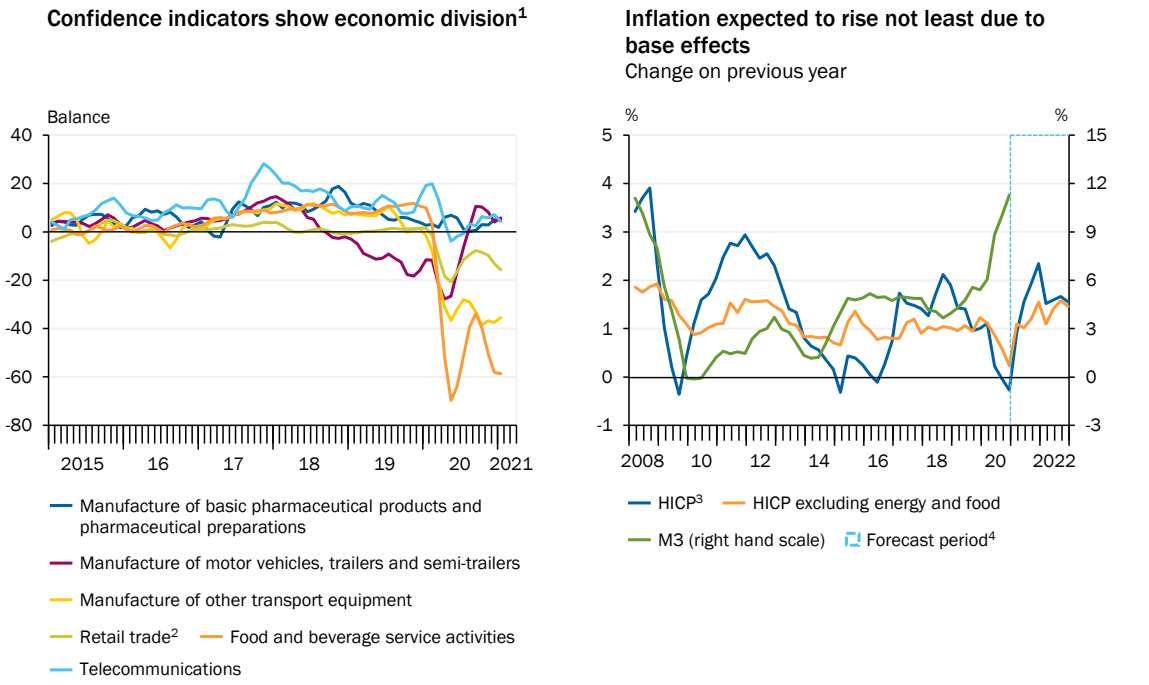
24. **Unlike in the spring** of 2020, the rising numbers of infections and the renewed **restrictions imposed at the end of the year were not followed by a sharp downturn** in economic activity. Economic output in the euro area declined by 0.7 % in the fourth quarter of 2020. There are probably several reasons for this relatively moderate decrease: many of the restrictions were targeted at contact-intensive services and parts of the retail sector, there were no widespread border closures, supply chains remained largely intact, and both firms and households are likely to have adjusted better to the pandemic and its restrictions.

    We are currently seeing a clear **dichotomy of the economy**. Whereas the performance of industry, for example, is benefiting from the swift recovery of the global economy, the indicators of sentiment in service sectors hit particularly hard by the restrictions are again approaching their all-time lows of spring 2020. ↘ CHART 8 LEFT

25. The year-on-year growth rates at the end of 2020 varied widely across member states. **Economic output** for the euro area as a whole at the end of the year was

↘ CHART 8

Confidence indicators, inflation and M3 growth in the euro area



1 – 3-month moving average. Seasonally adjusted. 2 – Excluding car sales. 3 – Harmonised index of consumer prices. 4 – Forecast by the GCEE.

Sources: ECB, European Commission, Eurostat, own calculations

5.0 % below its pre-crisis level from the fourth quarter of 2019 on a calendar-adjusted basis. While GDP in Germany was 3.9 % below its level from the fourth quarter of 2019, the difference in Spain was 9.1 %. This discrepancy is likely to be partly attributable to the varying economic significance of sectors – such as tourism – that have been hit especially hard by the pandemic. ↘ BOX 2

26. Consumer prices in the euro area rose more sharply again at the beginning of this year after the rate of inflation had actually been negative temporarily in 2020. ↘ CHART 8 RIGHT **In February 2021** the **Harmonised Index of Consumer Prices** (HICP) was **0.9 % higher than it had been in the corresponding month of last year**. The level of inflation is currently being determined by various factors. Energy prices especially are having an inflationary effect. This trend is partly driven by oil prices, which have now returned to their pre-crisis levels, and by the introduction of carbon pricing schemes in some member states. The rates of inflation in clothing and footwear were particularly high in January. The rescheduling of seasonal sales in some member states is likely to have played a role here (Deutsche Bundesbank, 2021). In Germany the reversal of the temporary cut in sales tax at the beginning of this year is causing further price pressure.

27. The regular adjustment of the HICP weighting pattern saw a **shift towards items within the basket of goods** that have been consumed more during the pandemic. The weights of goods such as restaurants, hotels, vehicle fuel, lubricants, transport services, package holidays, clothing and footwear fell sharply. On the other hand, the weights of items such as rents for housing, electricity, gas, other heating fuels and food increased significantly.

In Germany the adjustment of weights in conjunction with the seasonal pattern and the chaining of the index over the month December caused a one-off effect on package holidays (Deutsche Bundesbank, 2021). This effect almost fully explains the fact that the prior-year rate of the HICP has since January been a few tenths of a percentage point above the rate of the CPI, which is only adjusted once about every five years. ↘ ITEM 59 The consumption deflator, on the other hand, takes account of changes in consumer behaviour. In the fourth quarter of 2020 it was at the same level as in the corresponding quarter of the previous year.

28. In December 2020 the European Central Bank (**ECB**) decided to extend and expand its **monetary policy measures** (ECB, 2020). The size of its Pandemic Emergency Purchase Programme (**PEPP**) is being increased by a further €500 billion to a total of €1,850 billion. At the same time the ECB announced that it would **continue its net asset purchases until at least the end of March 2022**. Principal payments from maturing securities purchased under the PEPP are reinvested until at least the end of 2023. The period covered by the third series of targeted long-term refinancing operations (TLTRO III) has been extended until June 2022 on much better terms and conditions, and three additional operations will be conducted this year.

Furthermore, the collateral framework loosened in April 2020 will be retained until June 2022, and the ECB will offer four **additional Pandemic Emergency Longer-Term Refinancing Operations (PELTRO)** in 2021. Finally, the repo facility for non-euro-area central banks (Eurosystem Repo Facility for Central Banks -EUREP) and all temporary swap and repo lines with central banks outside the euro area were extended until March 2022. There were no changes to either the Asset Purchase Programme (APP) or to interest rates. The net asset purchases of €20 billion per month are being continued. The ECB Council did not make any further monetary policy adjustments at its meeting in March. At the same time, it announced that it would be purchasing assets under the PEPP in the next quarter at a much faster rate than it had done in the first few months of this year (ECB, 2021c).

29. **Funding conditions** in the euro area remain very **favourable**. For example, the credit spreads on bonds issued by fairly highly indebted member states and companies have continued to fall in recent months. The ECB's Composite Indicator of Systemic Stress (CISS), which combines 15 mainly financial-market-based stress indicators, is also at an extremely low level.

↘ BOX 2

The importance of and current trends within tourism in Europe

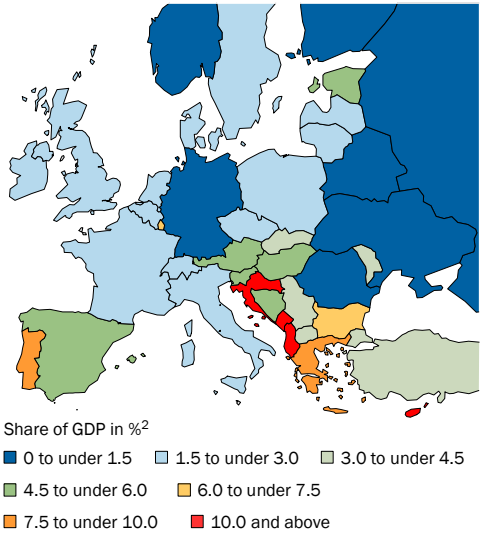
The recovery of the tourism sector is highly important to the future economic development in many euro area member states. Tourism is a significant economic factor in southern Europe especially. ↘ CHART 9 LEFT In Greece and Portugal, for example, exports of travel services amounted to around 9 % of total GDP in 2019. Last year, however, saw a massive decline in tourism in response to border closures, travel warnings and restrictions – such as mandatory quarantining when entering a country – and concerns about infection. The number of overnight stays by visitors from abroad across the EU in **2020 was around 70 % lower year on year** (European Commission, 2021a). Overnight stays by domestic guests were down by almost 30 %. The summer of 2020 saw a strong recovery in domestic travel,

with overnight stays by domestic tourists during the summer months almost returning to their pre-crisis levels. The numbers of visitors from abroad, on the other hand, fell by around two-thirds compared with the summer of 2019. As tighter restrictions and travel rules were imposed, the total numbers of overnight stays declined sharply throughout the autumn of 2020. By December they were once again roughly 70 % down on the corresponding month of the previous year.

↘ CHART 9

Cross-border travel services in Europe[1]

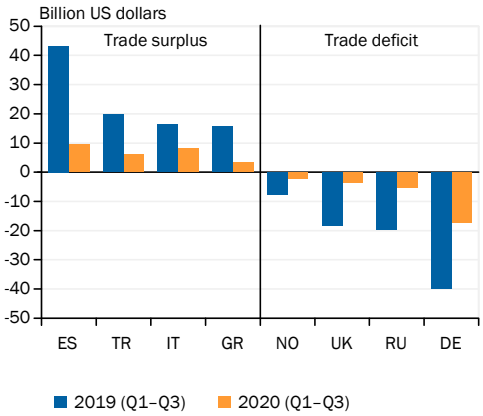
Foreign tourism is a major economic factor, especially in Southern Europe



Share of GDP in %[2]

0 to under 1.5 | 1.5 to under 3.0 | 3.0 to under 4.5 | 4.5 to under 6.0 | 6.0 to under 7.5 | 7.5 to under 10.0 | 10.0 and above

Decline in tourism 2020 reflected in balance of payments[3]



1 – Export and import of travel services according to balance of payments. It covers goods and services that travelers have acquired during a visit of less than a year to an economy. Travel does not include the international transport of travellers. 2 – In 2019. 3 – Trade in travel services. ES-Spain, TR-Turkey, IT-Italy, GR-Greece, NO-Norway, UK-United Kingdom, RU-Russia, DE-Germany.

Sources: EuroGeographics for the administrative boundaries, IMF, own calculations

Evaluations of customer reviews on travel reservation websites suggest that city tourism fell particularly sharply last year (European Commission, 2020a, 2021a). The decline was also relatively significant in countries – such as Spain – to which tourists predominantly fly. Consequently, Spain's surplus from trade in travel services in the first three quarters of 2020 amounted to just over one-fifth of its value in the first three quarters of 2019. ↘ CHART 9 RIGHT Passenger volumes **on international flights worldwide** – measured in revenue passenger kilometres – in December **2020 were approximately 85 % down on the corresponding month of the previous year** (IATA, 2021). The decline in domestic flights was roughly half as large. The European Organisation for the Safety of Air Navigation (EUROCONTROL) does not expect air travel in Europe to return to its 2019 pre-crisis level until at least 2024 (EUROCONTROL, 2020). Figures from the UNWTO World Tourism Barometer show that only 16 % of the experts surveyed worldwide expect international tourism to have returned to its pre-crisis levels by next year (UNWTO, 2021). The economic recovery during the forecasting period is therefore likely to be especially slow in euro-area member states that have a relatively large tourism sector.

30. The **growth in bank lending** in the euro area returned to **normalized somewhat** in the second half of 2020 after firms' crisis-related demand for liquidity in particular had helped to fuel a surge in lending in the first half of the year (GCEE Annual Report 2020 item 39). The year-on-year rate remains very high owing to the sharp increase in the spring of 2020. In January 2021 the year-on-year growth in lending to the private sector amounted to 5.1 % (ECB, 2021d). The growth rate of lending to the public sector over the same period was as high as 22.9 %.

According to the Bank Lending Survey (BLS) **banks** in the euro area further **tightened** their **lending criteria** – especially for corporate loans without government guarantees – in the fourth quarter of 2020 (ECB, 2021a). The main reason for this tightening was banks' heightened perception of risk. In addition to the general uncertainty about the economic recovery, banks claimed that they were concerned about loan defaults given the renewed restrictions. ↘ ITEM 34 Banks' cost of funding and the condition of their balance sheets, on the other hand, were not factors in this tightening. At the same time, banks reported declining demand for corporate loans. One reason for this might well be that the corporate sector in the aggregate has accumulated exceptionally large liquidity reserves since the start of the pandemic (Deutsche Bundesbank, 2021).

31. The member states of the euro area have been supporting the liquidity of firms and households as well as aggregate demand in the economy during the pandemic by introducing **wide-ranging fiscal measures** (GCEE Annual Report 2020 items 257 ff.). In addition to the various support packages available, many member states have provided easier access to short-time working, which has helped to prevent a more severe rise in unemployment, thereby stabilising household incomes. Despite the decline in GDP and contrary to the forecast in last autumn's GCEE Annual Report, the euro area did not see a renewed increase in unemployment at the end of 2020. Several member states have extended their temporary, more generous short-time working arrangements into the summer of 2021. The GCEE is forecasting that these supportive policies will continue for as long as infection levels and the necessary restrictions place constraints on economic activity.

In February 2021 the Council of the European Union and the European Parliament **adopted** a regulation establishing the **Recovery and Resilience Facility** (Council of the European Union, 2021). The member states are currently working on their own national recovery and resilience plans. Model simulations conducted by the European Commission suggest that this facility could increase GDP in the EU by up to 2 % until the middle of the decade (European Commission, 2020a).

Short-time working programmes cushioned the pandemic's impact on jobs and incomes in 2020. The member states' funding of these measures is being supported by the EU's **SURE programme** (Support to mitigate Unemployment Risks in an Emergency). 16 EU member states have already received a total of €62.5 billion under SURE (European Commission, 2021b). The Commission plans to raise a further €25 billion over the course of 2021 by issuing bonds. The Commission has suggested providing a total of €90.6 billion in financial support to 19 member states (European Commission, 2021c). Slightly more than half of this amount will be allocated to Italy (€27.4 billion) and Spain (€21.3 billion).

32. **Economic output** in the euro area **is likely to decline in the first quarter of 2021** before the recovery resumes during the second quarter. This is contingent, however, on the ability to gradually ease the restrictions currently in place while keeping infection rates under control. The member states of the euro area continue to lag behind the United States and the United Kingdom in terms of the

progress of their vaccination programmes. ↘ ITEM 3 If they manage, however, to vaccinate highly vulnerable individuals and a large proportion of the adult population over the coming months as planned, severe restrictions could be avoided in the future. Consumer demand is likely to grow significantly until the end of the forecasting period on the back of the favourable financial conditions and the personal savings accumulated during the pandemic.

33. Given the weak outlook for the first quarter, the **GCEE has revised its forecast for this year downwards** by 0.8 percentage points to 4.1 %. ↘ TABLE 2 GDP is likely to grow by 4.2 % next year. The euro-area-wide rate of inflation – as measured by the HICP – is expected to be 1.6 % both this year and next year. The upward revision of the inflation forecast for 2021 can be attributed to higher oil prices and to the unexpectedly high inflation rates at the beginning of this year. ↘ ITEM 26 Although the unemployment rate is set to rise slightly during the forecasting period, the extension of the short-time working arrangements means that the increase in 2021 is likely to be more modest than forecast last autumn. The GCEE expects to see unemployment rates of 8.3 % and 8.4 % in 2021 and 2022 respectively.

↘ TABLE 2

Gross domestic product, consumer prices and unemployment rates in the euro area

Country/ country group	Weight in %[1]	Gross domestic product[2] (calendar-adjusted)				Consumer prices (HICP)[3]				Unemployment rate[4]			
		Change on previous year in %								%			
		2020	2021[5]		2022[5]	2020	2021[5]		2022[5]	2020	2021[5]		2022[5]
			Update	Diff. to AR 2020/21[6]			Update	Diff. to AR 2020/21[6]			Update	Diff. to AR 2020/21[6]	
Euro area[7]	**100**	**– 6.8**	**4.1**	**(– 0.8)**	**4.2**	**0.3**	**1.6**	**(0.5)**	**1.6**	**8.0**	**8.3**	**(– 1.1)**	**8.4**
including:													
Germany	28.9	– 5.3	3.1	(– 0.6)	4.1	0.4	2.2	(0.5)	1.9	4.2	4.0	(– 0.2)	3.4
France	20.3	– 8.2	6.1	(– 0.7)	3.8	0.5	1.4	(0.5)	1.4	8.0	8.4	(– 1.4)	8.7
Italy	15.0	– 8.9	4.0	(– 1.5)	3.9	– 0.1	1.5	(1.1)	1.2	9.1	9.6	(– 1.8)	10.2
Spain	10.4	– 11.0	5.0	(– 0.9)	5.6	– 0.3	1.3	(0.5)	1.3	15.6	16.6	(– 2.0)	17.2
Netherlands	6.8	– 3.8	2.5	(– 1.5)	3.4	1.1	1.9	(1.0)	1.6	3.8	4.0	(– 1.9)	4.3
Belgium	4.0	– 6.3	4.4	(– 0.8)	3.9	0.4	1.7	(0.6)	1.9	5.6	5.8	(– 1.0)	5.7
Austria	3.3	– 6.7	3.1	(– 1.3)	4.9	1.4	1.8	(0.2)	1.9	5.4	5.4	(0.4)	5.1
Ireland	3.0	2.5	2.1	(– 0.9)	4.4	– 0.5	0.7	(0.6)	1.3	5.6	6.5	(0.3)	6.5
Finland	2.0	– 2.8	2.4	(– 0.1)	2.7	0.4	1.4	(0.2)	1.3	7.8	7.7	(– 0.9)	7.4
Portugal	1.8	– 7.6	3.8	(– 1.4)	4.9	– 0.1	1.0	(0.5)	1.5	7.0	7.6	(– 1.0)	7.7
Greece	1.6	– 8.0	2.8	(– 1.1)	4.1	– 1.3	0.0	(0.2)	1.2	16.6	17.4	(– 1.8)	17.8
memorandum:													
Euro area without Germany	**71.1**	**– 7.4**	**4.5**	**(– 1.0)**	**4.2**	**0.3**	**1.4**	**(0.6)**	**1.5**	**9.3**	**9.8**	**(– 1.4)**	**10.2**

1 – GDP in the year 2019 as a percentage of the GDP of the euro area. 2 – Price-adjusted. Values are based on seasonal and calendar-adjusted quarterly figures. 3 – Harmonised index of consumer prices. 4 – Standardised according to the ILO concept, weighted for the total euro area and euro area without Germany by the labour force of 2019. 5 – Forecast by the GCEE. 6 – Difference in percentage points. 7 – Weighted average of the 19 euro area member states.

Sources: Eurostat, own calculations

3. Opportunities and risks

34. The economic outlook is subject to **various opportunities and risks**, the occurrence of which would mean that the global economy would perform better or worse than expected in the GCEE's forecast.

35. The **most significant risk** to the forecast is the **further course of the coronavirus pandemic**. Setbacks in combatting the pandemic, such as the spread of virus variants or delays in the vaccination campaign, might make it necessary to impose further restrictions or extend existing shutdowns. **Many European countries**, including Germany, are **currently facing the threat of a sharp rise in infection rates** and hospitalisations because of the rapid spread of especially infectious virus variants. If this meant that the gradual easing of restrictions assumed in the forecast had to be either partially or fully reversed, we would expect to see much slower economic growth in 2021. ↘ ITEM 55

    The risk of a sharp decline in economic activity could arise from a further wave of infections if it required widespread restrictions either in industry or in services that have been less severely affected to date. Large-scale plant or border closures, for example, could cause **considerable disruption to supply chains and production within Europe**. Manufacturing firms are particularly closely interconnected via countries both inside and outside Europe and therefore rely on their supply chains functioning as smoothly as possible (Fries et al., 2020).

    Increased uncertainty about the course of the pandemic and the further performance of the economy might lead to a situation in which firms and households remain persistently reluctant to invest and consume. This could further dampen both inflation and inflation expectations.

36. Countries have launched comprehensive programmes to support businesses that have been affected by pandemic-related restrictions. Nonetheless, there might still be a sharp rise in **insolvencies** or **unemployment**. **Loan defaults** or increased risk provisions might make banks increasingly reluctant to lend. The worst-case scenario is that massive loan defaults could threaten the stability of banks and the financial system as a whole.

    And, finally, the measures needed to support firms and employees could **exceed the fiscal capacity of highly indebted countries**. If global funding conditions were to deteriorate, some emerging economies might also face the risk of sudden capital outflows or the depreciation of their national currency.

37. Given the expansionary fiscal policies being pursued by the United States in particular and the savings that households have accumulated during the pandemic, there is a further risk of an un**expectedly sharp rise in either inflation or inflation expectations**. A sudden surge in aggregate demand in parallel with the emergence of supply-side restrictions while the economic recovery is under way could create considerable price pressure. If households' and firms' longer-term inflation expectations were to increase, **central banks** would have to

tighten monetary policy earlier than expected. Implementing such monetary policies in an environment of high government debt levels and rising bond yields could pose considerable challenges for central banks. If a necessary tightening of monetary policy were to be postponed, inflation and financial stability risks would increase. If monetary policy were tightened after all, a potentially abrupt rise in real bond yields could raise doubts about the **debt sustainability of firms and governments** and, consequently, jeopardise the economic recovery.

38. The **opportunities** for the economy to perform better arise partly from the fact that the available **vaccines could be given** to large sections of the population **more quickly** than expected. In addition, existing restrictions could be permanently lifted over the coming months without the risk of overwhelming healthcare systems. This would require further **progress to be made on medical treatment methods** for COVID-19, new testing strategies to be adopted, **digital technology to be used to trace chains of transmission** more rapidly, and more targeted measures to be taken to protect vulnerable groups.

Further opportunities arise from the **consumption needs** that have accumulated during the coronavirus crisis. These could cause an unexpectedly sharp decline in the savings ratio and trigger a **significant catch-up effect** on personal services in particular. It is unclear, however, to what extent the capacity available here could be expanded if necessary. Furthermore, the favourable financing conditions in conjunction with success in combatting the pandemic might lead to a **dynamic upswing in the investment cycle** worldwide. And, finally, the many government investment projects planned could be implemented more swiftly than expected.

II. THE GERMAN ECONOMY

39. The **coronavirus pandemic** had a **massive impact** on the economy and society in Germany in 2020 and will continue to determine how economic activity develops over the course of 2021. The **economic recovery** in the winter half of the year is likely to **come to a halt**, as forecast in the last GCEE Annual Report (GCEE Annual Report 2020 items 55 ff.), owing to the **second wave of infections** and the further restrictions that became necessary from the autumn of 2020 onwards. The economy as a whole proved to be more resilient than expected in the fourth quarter of 2020, achieving GDP growth of 0.3 % compared with the previous quarter. However, the tightening and extension of restrictions are expected to cause economic activity to decrease in the first quarter of 2021 owing to the shortage of gross value added in the service sectors hit especially hard by the shutdown. Demand in the first quarter of 2021 is likely to be depressed by the fact that some spending was brought forward to the fourth quarter of 2020 in response to the temporary cut in the value added tax rate (VAT). These adverse effects will, however, be partially offset by the upturn in exports especially. ↘ ITEM 55

This **division of the economy** is expected to continue in the short term at least. The hospitality industry as well as cultural and leisure facilities, for example, have been affected by closures since the beginning of November. The closure of much of the retail sector since mid-December has seen increasing volumes of sales move online. By contrast, **manufacturing industry** has remained robust throughout the winter half of the year. Its **ongoing recovery** is largely being driven **by** growing **demand from abroad**. This division of the economy is likely to decrease over the course of the year as the pandemic situation improves and, at the same time, the existing restrictions are gradually eased.

40. The vaccination of high-risk groups, which started at the end of December 2020, and the prospect that the vaccination campaign will be accelerated as the year progresses mean that we can expect to see **strong growth during the second**

↘ TABLE 3

Key economic indicators for Germany

	Unit	2019	2020	Forecast[1]		
				2021		2022
				Update	Difference to AR 2020/21[2]	
Gross domestic product[3]	**Growth in %**	**0.6**	**– 4.9**	**3.1**	**(– 0.6)**	**4.0**
Final consumption expenditure	Growth in %	1.9	– 3.5	0.3	(– 2.7)	6.9
Private consumption[4]	Growth in %	1.6	– 6.1	– 0.3	(– 3.7)	9.6
Government consumption	Growth in %	2.7	3.3	1.7	(– 0.2)	1.0
Gross fixed capital formation	Growth in %	2.5	– 3.1	3.7	(– 0.4)	4.1
Investment in machinery & equipment[5]	Growth in %	0.5	– 12.1	7.3	(– 2.7)	6.3
Buildings	Growth in %	3.8	1.9	1.4	(– 0.1)	3.0
Other products	Growth in %	2.7	– 1.1	4.8	(2.0)	3.8
Domestic uses	Growth in %	1.2	– 4.2	1.1	(– 2.1)	6.3
Net exports	Growth contribution in percentage points	– 0.6	– 0.9	2.0	(1.3)	– 1.9
Exports of goods and services	Growth in %	1.0	– 9.4	10.7	(3.1)	4.0
Imports of goods and services	Growth in %	2.6	– 8.5	7.0	(0.1)	9.3
Current account balance[6]	**%**	**7.1**	**7.1**	**7.9**	**(0.8)**	**6.0**
Persons employed (domestic)	**1,000**	**45,269**	**44,782**	**44,744**	**(–134)**	**45,179**
Persons employed, covered by social security	**1,000**	**33,518**	**33,578**	**33,767**	**(–38)**	**34,245**
Registered unemployment, stocks	**1,000**	**2,267**	**2,695**	**2,682**	**(– 62)**	**2,429**
Unemployment rate[7]	**%**	**5.0**	**5.9**	**5.9**	**(– 0.1)**	**5.3**
Consumer prices[8]	**Growth in %**	**1.4**	**0.5**	**2.1**	**(0.4)**	**1.9**
General government balance[9]	**%**	**1.5**	**– 4.2**	**– 4.1**	**(– 0.6)**	**– 1.5**
Gross domestic product per capita[10, 11]	**Growth in %**	**0.3**	**– 5.0**	**3.0**	**(– 0.6)**	**3.9**
Gross domestic product, calendar-adjusted[11]	**Growth in %**	**0.6**	**– 5.3**	**3.1**	**(– 0.6)**	**4.1**

1 – Forecast by the GCEE. 2 – Difference in percentage points except for unit 1,000. 3 – Price-adjusted. Change on previous year. Also applies to all listed components of GDP. 4 – Including non-profit institutions serving households. 5 – Including military weapon systems. 6 – In relation to GDP. 7 – Registered unemployed in relation to civil labour force. 8 – Change on previous year. 9 – In relation to GDP; regional authorities and social security in according to national accounts. 10 – Population development according to medium-term projection of the GCEE. 11 – Price-Adjusted. Change on previous year.

Sources: Federal Employment Agency, Federal Statistical Office, own calculations

half of the year. Combined with the improvement of treatment methods and intensification of effective test-and-trace strategies, the vaccination of larger sections of the population – especially highly vulnerable groups – is likely to contain the numbers of infections at least to the extent that the risk of the healthcare system being overwhelmed is significantly reduced over the course of the year. This will enable restrictions to be gradually eased at a regional level and should permit more economic activity in personal services. At the same time, foreign environment is likely to continue to improve as further progress is made on vaccinations worldwide. This will provide additional growth stimulus for the German economy.

The GCEE expects **GDP** in Germany to **grow** by 3.1 % in **2021** (without any significant calendar effects). ↘ TABLE 3 This recovery is likely to continue in **2022** and should see **economic output increase by 4.0 %** (4.1 % after adjusting for calendar effects). Growth is forecast to return to its pre-crisis levels at the turn of the year 2021/2022. The further course of the pandemic poses a significant downside risk to economic activity going forward. However, there are also opportunities that could bring about a swifter recovery. ↘ ITEMS 34 FF.

The **currently growing spread of particularly infectious virus variants** such as B.1.1.7 could delay the potential easing of restrictions. According to the Robert Koch Institute (RKI, 2021a), these variants could also entail a greater probability of more severe illness. Specifically, they pose a risk that, in the absence of extensive preparations, it will not be possible to contain any newly emerging surge in infections – by using new test-and-trace strategies and by taking carefully targeted and regionally limited measures – until a sufficient level of immunisation has been reached as a result of the progress made on vaccinations. Thus, the risk remains that the economy will perform much worse if – in response to a renewed increase in infections – it becomes necessary to introduce widespread restrictions or closures, especially in those sectors that are currently seeing strong economic activity. ↘ ITEMS 55 F.

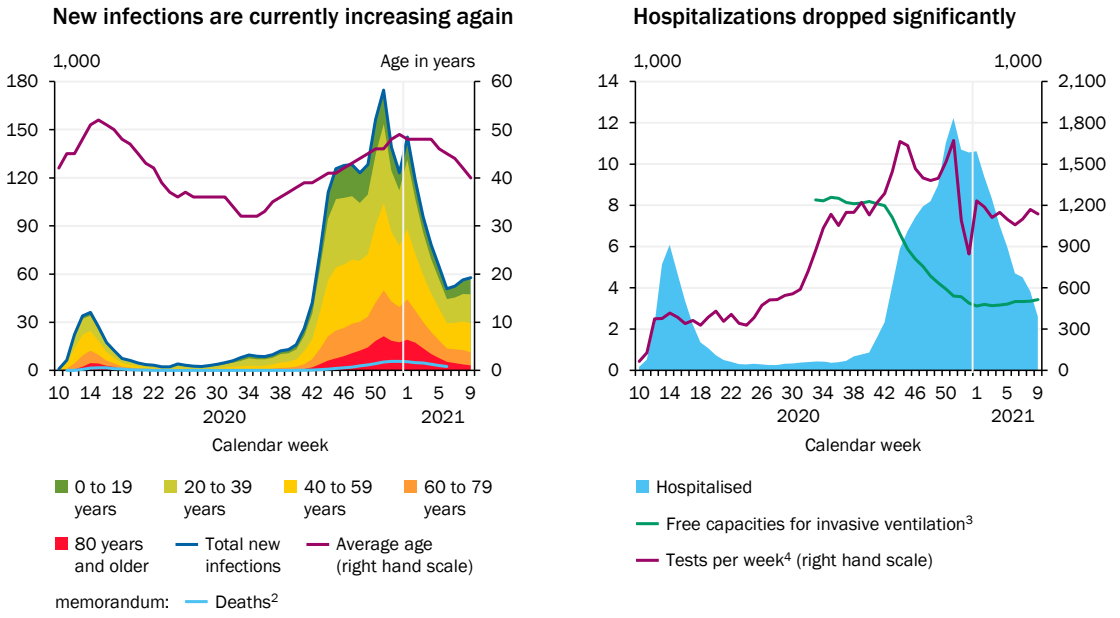
1. Recovery on hold during the winter half of the year

41. The **performance of the economy** in 2020 was to a very large extent **determined by the progress of the pandemic**. After GDP had fallen by an unprecedented 9.7 % in the second quarter of 2020, a decline in new infections and the easing of restrictions over the summer enabled economic output to rebound by a substantial 8.5 % in the third quarter. The emergence of an accelerated rise in the numbers of new coronavirus infections at the end of September ↘ CHART 10 LEFT made it necessary to impose renewed restrictions on public life and certain economic activities. The rising infection rates – especially among the older population groups – led to a sharp increase in hospitalisations and deaths. The growing wave of hospitalisations meant that the idle capacities for ventilation fell by more than half to around 3,000 units. ↘ CHART 10 RIGHT

42. The **numbers of new infections and newly registered deaths** in connection with COVID-19 **fell sharply between January and mid-February**. The

↘ CHART 10

Current development of the COVID-19 pandemic in Germany[1]



1 – COVID-19 cases reported to the RKI in Germany for the reporting weeks CW 10 2020 to CW 9 2021. As of 09.03.2021. 2 – As of 05.03.2021. The deaths are published by the RKI with a delay of 3 weeks to ensure relative completeness. For the cases up to week 6 there may still be late registrations. 3 – Average of the 7 daily values per calendar week. 4 – As of 10.03.2021.

Sources: DIVI-Intensivregister, RKI, own calculations

seven-day rolling average numbers of infections – especially among the older population groups – declined. The figure for over-89-year-olds during the reporting week from 1 to 7 March was 73.9 cases per 100,000 inhabitants of the same age group, which was the first time since October that it had dipped below 100 cases per 100,000 after having peaked at 726.3 cases per 100,000 at the end of December (RKI, 2021b).

Since the beginning of 2021, **however, mutations of the virus have accounted for a steadily growing proportion** of the new infections identified. The B.1.1.7 variant, which is more highly transmissible (Davies et al., 2021; Volz et al., 2021), had spread widely by the beginning of March and is now the most commonly identified variant in Germany (RKI, 2021a). The growing spread of this mutation is therefore likely to be driving the currently observable rise in new infections.

43. **Most of the hospitality, arts, entertainment and recreation sectors** have remained closed since the beginning of November. In addition, **non-essential retail** and **personal services** were **shut** in mid-December in response to the continued surge in the second wave of infections. Furthermore, compulsory school attendance remained suspended after the Christmas vacation. Schools and childcare facilities offered emergency provision only. The vaccination of high-risk groups began in parallel at the end of December. ↘ BOX 3

↘ BOX 3

The importance of COVID-19 vaccinations in the course of the pandemic

The availability of effective vaccines against COVID-19 and a swift progress on vaccinations are key factors in **combatting the SARS-CoV-2 virus** and for a **normalisation of economic and social life**. The European Union (EU) has so far approved the use of two mRNA vaccines produced by the pharmaceutical companies BioNTech/Pfizer and Moderna as well as the viral vector vaccines produced by AstraZeneca and Johnson & Johnson. In Germany, 6.0 million people (7.1 % of the population) have received at least one dose of vaccine to date, while worldwide it has been around 202.5 million people (2.6 % of the population) (data as of 12 March 2021). The country currently leading the world in this respect is Israel, where 59.1 % of the population have already received at least one dose of vaccine (data as of 12 March 2021). ↘ CHART 3 RIGHT Whereas the United Kingdom and the United States have also managed to carry out above-average numbers of COVID-19 vaccinations, the EU member states are currently lagging well behind in terms of both the daily number of people being vaccinated and the total number of those who have been vaccinated so far. Germany ranks roughly in the middle within the EU.

The EU is pursuing a **common European strategy** to develop, produce and provide vaccines against COVID-19 (European Commission, 2020b). Due to these coordinated efforts the variations in the levels of vaccination progress achieved within the EU are less pronounced than they are worldwide. Nonetheless, countries such as Finland and Portugal have currently carried out slightly more vaccinations per inhabitants than Germany, Austria, Italy and France (data as of 12 March 2021). There are likely to be various reasons for this. In Germany, for example, there are currently many mobile teams operating in retirement and nursing homes. This approach is time-consuming and is not being replicated in all states to the same extent. Although this implies that slower progress is being made on vaccinations, it can mean that a larger proportion of the high-risk groups is being vaccinated more quickly. It also appears to be the case that vaccination **registrations**, the **allocation of vaccination appointments** and the **logistics of vaccine distribution** throughout Germany's regions are being hampered by the lack of digital solutions.

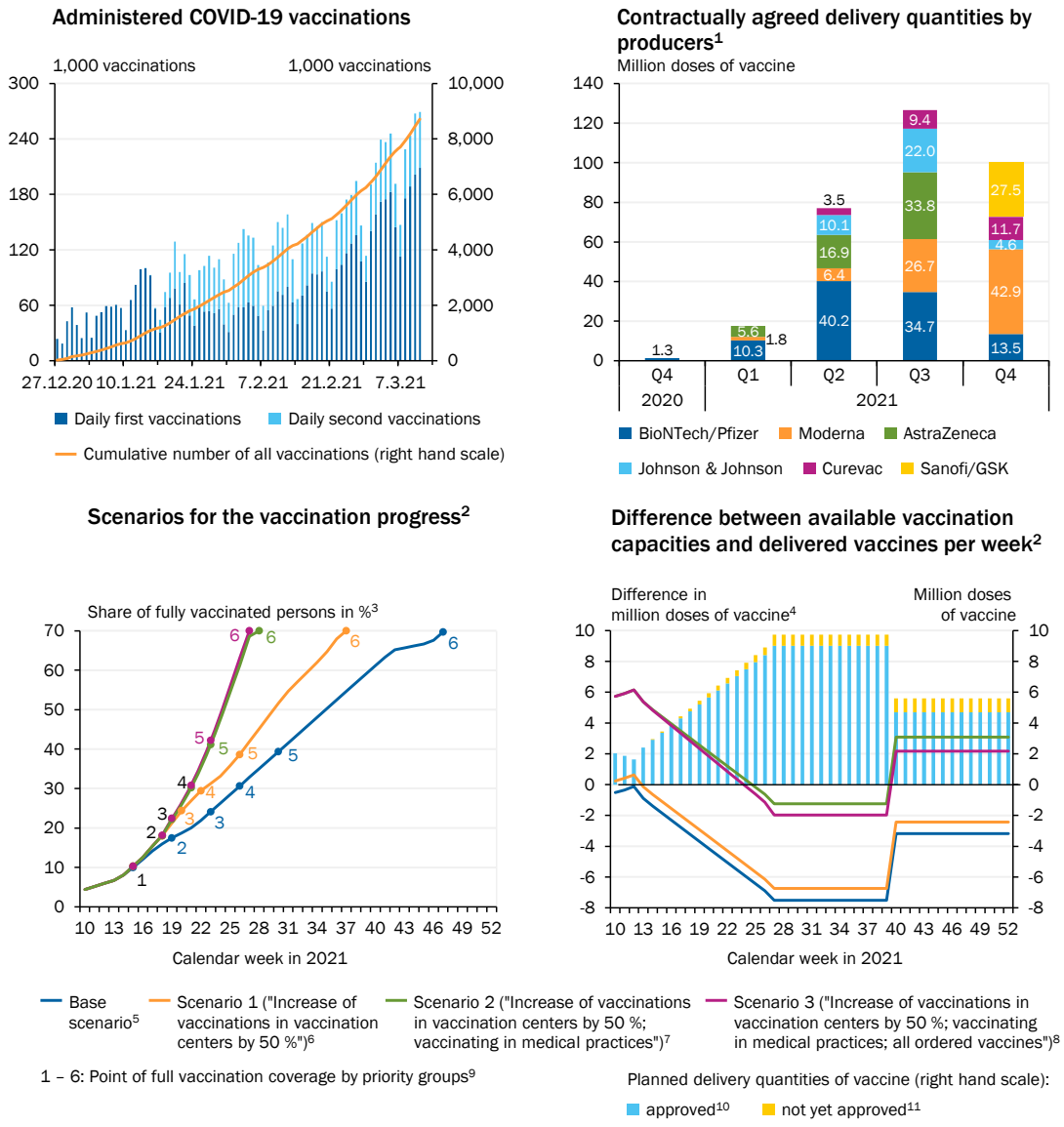
An increase in the daily numbers of second vaccinations carried out in February compared with the previous month means that roughly **3.3 % of the population in Germany has now been fully vaccinated** (data as of 12 March 2021). ↘ CHART 11 TOP LEFT However, there are often fluctuations in the numbers of vaccinations carried out over the course of a week because it has so far been the case that fewer vaccinations are carried out at weekends. The EU has set itself the target of **vaccinating at least 70 % of the adult population** of member states **by the end of summer 2021** (European Commission, 2021d). If this target is to be achieved, Germany, France, Spain and Italy in particular need to speed up their vaccination programmes significantly. Although the availability of vaccines at the beginning of the year was low owing to the limited quantities initially supplied, these amounts should increase as the year progresses. ↘ CHART 11 TOP RIGHT

Modelling performed by the Central Research Institute of Ambulatory Health Care in Germany (ZI) enables various **scenarios for the duration and scale of the vaccination campaign in Germany** to be constructed based on the information available at the time. The model calculations also allow comparisons to be made with the vaccination capacity available. According to the ZI, the maximum vaccination capacity reported is currently around 340,000 vaccinations per day. It is fair to assume, however, that this capacity cannot be fully utilised at present owing to a shortage of vaccine doses as well as inefficiencies. An average of more than 200,000 vaccinations per day has been carried out at vaccination centres in Germany since the beginning of March, and the trend is rising. ↘ CHART 11 TOP LEFT Under a baseline scenario which assumes that 216,500 vaccinations are carried out every single day, including at weekends (500 patients per day at 433 vaccination centres), 70 % of the adult population in Germany would be fully vaccinated by the end of November 2021 even if the vaccination campaign were not accelerated. ↘ CHART 11 BOTTOM LEFT This is likely to offer the prospect that the current public-health restrictions could be significantly eased in autumn, provided that the vaccination campaign manages to reduce infection levels and relieve some of the pressures on the healthcare system. However, the

scenario calculations contain some uncertainty as to whether the quantities of vaccine estimated by the ZI will actually be supplied by the manufacturers and can then be administered on a timely basis, as temporary supply shortages can arise.

↘ CHART 11

Progress of COVID-19 vaccinations in Germany



1 – As of 12.02.2021. 2 – As of 12.03.2021. 3 – Share of the population as of age 18. If a vaccination rate of 70 % was reached in summer 2021 the EU-goal would be achieved. 4 – Difference between vaccination capacities and delivered doses of vaccine per week. Vaccination capacities equate to the possibly feasible number of vaccinations per week. 5 – 433 vaccination centers, 500 patients per day and vaccination center, 7 work days per week; no medical practices; quantity delivered 100 %, reserves for second vaccinations (yes), interval between first and second vaccination according to the Standing Committee on Vaccination (STIKO), only approved vaccines, linear increase of production in Q2, willingness to get vaccinated 70 %. 6 – 750 patients per day and vaccination center. 7 – 750 patients per day and vaccination center; vaccinations at 55,000 medical practices on 5 work days per week; 20 patients per day. 8 – 750 patients per day and vaccination center; vaccinations at 55,000 medical practices on 5 work days per week; 20 patients per day; all ordered vaccines. 9 – Numbers 1 to 6 mark the point where the vaccination coverage of all those willing to get vaccinated is achieved in the particular priority group 1 to 6. Classification of the priority groups according to the Central Research Institute of Ambulatory Health Care (ZI) on recommendation of the STIKO. Priority group 1 according to the STIKO equals § 2 (highest priority) of the vaccination regulation; priority groups 2 and 3 according to the STIKO equal § 3 (high priority) of the vaccination regulation; priority group 4 and 5 according to the STIKO equal § 4 (increased priority) of the vaccination regulation of the Federal Ministry of Health. 10 – Vaccines from BioNTech/Pfizer, Moderna, AstraZeneca and Johnson & Johnson. 11 – Vaccine from CureVac.

Sources: Central Research Institute of Ambulatory Health Care in Germany (ZI), Federal Ministry of Health, RKI

Whereas the availability of vaccine was the constraining factor at the beginning of the vaccination campaign, progress on vaccinations going forward is likely to be determined by the optimal utilisation of capacity at vaccination centres and medical practices. The **expansion of production capacity** and **industrial collaborations**, such as the one between BioNTech/Pfizer and Sanofi, should ensure that much more vaccine is available in Germany from the second quarter of this year onwards. The vaccine supplies expected are then likely to exceed the maximum capacity reported at vaccination centres across Germany (difference < 0 under the baseline scenario). ↘ CHART 11 BOTTOM RIGHT It is also possible that further vaccines could be approved later this year. The timely use of resident doctors could then **considerably speed up the progress on vaccinations**. Vaccination capacity will also remain a relevant factor in future to enable potential booster vaccinations or even vaccinations protecting against new virus variants.

If the number of **daily doses administered at vaccination centres could be increased by 50 %** (scenario 1), 70 % of the adult population in Germany could be fully vaccinated even more quickly than assumed under the baseline scenario (September 2021). ↘ CHART 11 BOTTOM LEFT

In order to achieve such an increase, the maximum vaccination centre capacities currently reported to the ZI would have to be almost fully utilised (324,750 vaccinations per day in the model calculation, scenario 1). The capacity currently available at these centres should have significant potential to increase the daily numbers of vaccinations carried out. Offering more **vaccinations at weekends** could also considerably accelerate the vaccination rate. Nonetheless, the ability to speed up the vaccination programme using the capacity currently available at vaccination centres would not be sufficient to ensure that all expected vaccine supplies can be administered on a timely basis (difference < 0 under scenario 1). ↘ CHART 11 BOTTOM RIGHT

In order to ensure that existing capacity is utilised as effectively and swiftly as possible, **vaccination logistics** could be **reorganised** in such a way that, for example, several priority groups could be more efficiently integrated into the vaccination process as part of a digitally organised registration and appointment allocation system. This is of immediate relevance because, now that Germany's regional governments have decided to offer vaccinations to individuals in the second priority group, the numbers of vaccinations administered per day are likely to rise in the second quarter. This will affect, among others, those working in nursery schools and other childcare facilities as well as in primary and special-needs schools.

In order to **speed up the vaccination process**, mobilise as many people as possible and remove administrative barriers to registration and the coordination of appointments, it would be appropriate to **make use of the existing healthcare infrastructure** by including resident doctors' and medical specialists' practices as well as company doctors in the process. Assuming that Germany manages to increase the daily number of vaccinations given at its vaccination centres by 50 % and, in addition, integrates medical practices into the vaccination process (scenario 2), the country could hit the EU's 70 % target in July 2021. ↘ CHART 11 BOTTOM LEFT Only by including medical practices in the vaccination process as soon as possible (no later than mid-May, possibly with 20 patients per day at 55,000 medical practices) will sufficient capacity be made largely available over the course of the year so that all available doses of vaccine can be administered. ↘ CHART 11 BOTTOM RIGHT The AstraZeneca vaccine (and, from April, that of Johnson & Johnson) already provides Germany with a vaccine that can be stored and transported at normal refrigeration temperatures and, consequently, provides a low-threshold infrastructure that incorporates vaccination centres, mobile vaccination teams, resident doctors' practices and company doctors. In addition, **new vaccines** could offer the opportunity to **speed up the vaccination campaign**. Assuming that vaccines produced by CureVac and Sanofi/GSK, which have yet to be approved, are supplied later in the year (scenario 3), ↘ CHART 11 TOP RIGHT it might even be possible to hit the 70 % target at the beginning of July 2021. ↘ CHART 11 BOTTOM LEFT These additional vaccine doses might also compensate for potential supply shortages affecting other manufacturers. ↘ CHART 11 TOP RIGHT

According to the RKI, the latest data available suggests that all vaccines approved in the EU offer **good personal protection against becoming ill** as a result of COVID-19 (RKI, 2021c). The RKI stresses that it is still unclear how long the vaccine protection lasts, to what extent those who have already been vaccinated and then come into contact with the virus can still carry it temporarily and whether they can then infect others. Despite the availability of a vaccine there could therefore be repeated outbreaks for some time to come (Kissler et al., 2020). According to the latest information available, the best chance of being able to lift all public-health restrictions is likely to come from COVID-19 vaccination as a result of the fact that those who have already been vaccinated and then come into contact with the virus are less likely to become (seriously) ill, which in turn should reduce hospitalisation and death rates as the vaccination campaign progresses and relieve some of the pressures on the healthcare system (Dagan et al., 2021; Levine-Tiefenbrun et al., 2021).

A key factor likely to affect the further progress of the pandemic and the effectiveness of COVID-19 vaccinations are **mutations of the SARS-CoV-2 virus**. Mutations were expected to occur during the course of the pandemic because they are not unusual in the case of (corona)viruses (Deutsches Ärzteblatt, 2021). **New variants** of the SARS-CoV-2 virus (B.1.1.7, B.1.351 and P.1) are currently **spreading rapidly** in several countries. All three of these variants have already been identified in Germany (RKI, 2021a, 2021d). According to the RKI, the B.1.1.7 mutation makes the virus more transmissible, which might also be the case with other variants. The vaccines already available might have to be adapted to deal with the new variants (Davies et al., 2021; Tada et al., 2021; Volz et al., 2021). The latest studies suggest that the BioNTech/Pfizer and Moderna vaccines reduce the number of severe infections, including those caused by the B.1.1.7 and B.1.351 variants (Muik et al., 2021; Wang et al., 2021; Xie et al., 2021).

The current availability of vaccines is extremely **unequally distributed around the world**. 75 % of the doses that had been used by the end of January 2021 were administered in only ten countries (WHO, 2021b). If the virus continues to circulate freely in some parts of the world, there is a greater risk that the SARS-CoV-2 virus mutations will eventually develop further variants and that the currently available and, in some cases, already administered vaccines will no longer be effective (Kupferschmidt, 2021).

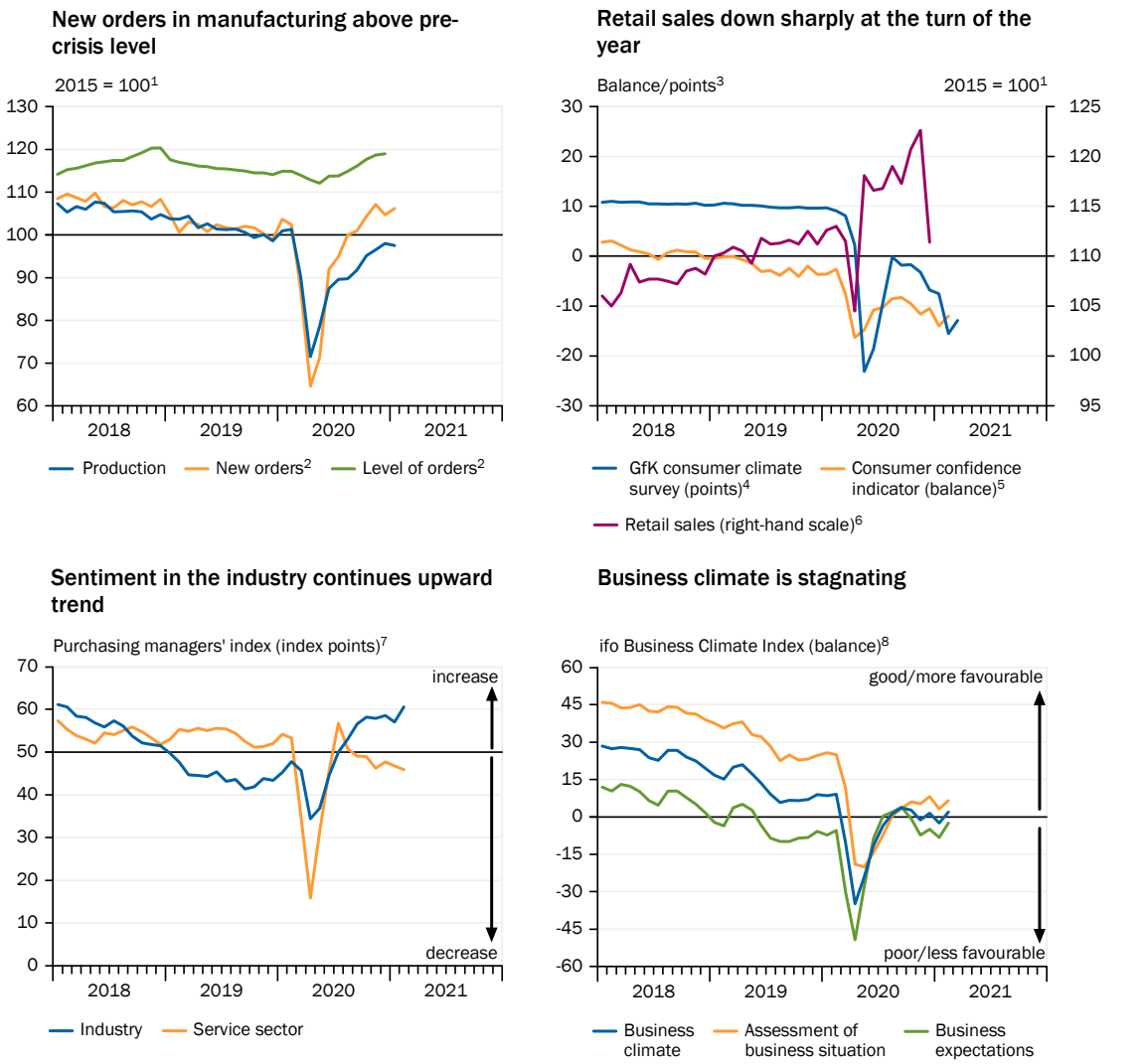
44. The public-health **restrictions slowed** the economic **recovery in the final quarter of 2020**. GDP grew by 0.3 % in the fourth quarter, which meant a contraction of 4.9 % (5.3 % after adjusting for calendar effects) for 2020 as a whole. Consumer spending in particular declined by 3.3 % on a price-, calendar- and seasonally adjusted basis compared with the previous quarter owing to the losses in the retail sector and in personal services. However, the temporary cut in VAT is likely to have prevented a sharper decrease because of its incentive effect (Federal Statistical Office, 2021a; GCEE Annual Report 2020 items 168 ff.). Construction investment and exports had a stabilising impact, growing by 1.8 % and 4.5 % respectively. As imports rose by only 3.7 % compared with the previous quarter, foreign trade statistically contributed a significant 0.6 % to growth. Government consumption spending fell by 0.5 % in the final quarter of the year.

45. **Industrial production** has remained **exceptionally robust** during the winter half of the year. Manufacturing production grew by 6.9 % in the fourth quarter. ↘ CHART 12 TOP LEFT Although production in January 2021 declined slightly compared with December 2020, this can largely be attributed to the collapse in the automotive industry, especially owing to shortages of intermediate products from the semiconductor sector (BMWi, 2021; VDA, 2021). ↘ ITEM 8 By contrast, production

in mechanical engineering grew seasonally and calendar-adjusted by 9.7 % in January compared with the previous month. **Driven by** the strong recovery in **international demand** outside the euro area, new orders in the manufacturing sector in January 2021 were already 2.5 percentage points higher than a year earlier. Purchasing managers' assessment of economic activity in the industry sector was correspondingly positive. ↘ CHART 12 BOTTOM LEFT

46. The **business outlook in the services sectors remains significantly worse** than the prospects for industry owing to the restrictions in place. The business climate index for the commercial sector as a whole stagnated accordingly. ↘ CHART 12 BOTTOM RIGHT Retail sales are likely to have fallen by 4.5 % in real terms on a seasonally and calendar-adjusted basis in January 2021 compared with December 2020 (Federal Statistical Office, 2021b). ↘ CHART 12 TOP RIGHT By contrast, mail-

↘ CHART 12
Selected indicators for the economic development



1 – Seasonally and calendar adjusted values. 2 – Volume index. 3 – Seasonally adjusted values. 4 – Based on about 2,000 consumer interviews per month. 5 – The Consumer Confidence Indicator is based on selected questions asked of consumers in accordance with the Joint Harmonised EU Programme of Business and Consumer Surveys. 6 – Real index excluding the sale of motor vehicles. 7 – The purchasing managers' index is based on a monthly survey among purchasing managers and managing directors. 8 – Manufacturing activity, service sector, trade and construction industry.

Sources: European Commission, Federal Statistical Office, GfK, ifo, IHS Markit

order and online sales rose by 4.3 % in January. Also, on the rise were sales of food, beverages and tobacco, which in January were 4.3 % higher in real terms year on year. In December the vehicle trade grew by an impressive 8.3 % year on year. One reason for the surge in sales at the end of the year could be the expiry of the temporary cut in VAT. Sales in the first quarter of 2021 are likely to be depressed by closures and also by the fact that many car purchases were brought forward to last year.

47. Transfer payments as well as a range of **fiscal policy measures** to **support** households' and firms' liquidity continue to be made available. While most fiscal measures consist of loans and guarantees, directly budget-related measures amount to only around **10 % of GDP** (IMF, 2021b). Although the measures contained in these packages are intended to last for several years, their actual take-up to date has fallen well short of the amounts available. ↘ ITEMS 31 AND 11 In addition to the demand-stimulating effect expected from the measures of the economic stimulus package scheduled for 2021, the Third Coronavirus Tax Assistance Act approved at the beginning of February should provide additional fiscal stimulus. The new child bonus should in particular support consumer spending by families on low and middle incomes. ↘ ITEM 70 Consequently, such government support measures are likely to stabilise disposable incomes in 2021. **Monetary policy** also remains highly **expansionary**. It contributes to extremely favourable financing conditions and long-term interest rates on government bonds that remain firmly in negative territory. This should stimulate private demand over the forecasting period. ↘ ITEMS 28 F.

48. On 3 March 2021 the German government and the governments of the Länder approved a **five-stage strategy for the easing of shutdown restrictions** (Bundeskanzlerin and Ministerpräsidentenkonferenz, 2021). In addition to the eased restrictions already applicable to schools, childcare facilities and hairdressing salons since 1 March 2021, further parts of the retail sector and personal services can be gradually opened at a regional level if they have appropriate COVID-secure hygiene measures in place. Personal contact restrictions can also be eased. The **key factor determining** whether the restrictions currently in place can be eased is the **regional and nationwide seven-day incidence rate**. If the number of infections stabilises at below 50 cases per 100,000 inhabitants, the restrictions can be eased further. Easing stages four and five enable sectors such as hospitality, the arts, entertainment and recreation to open provided that the numbers of infections have remained stable over the previous 14 days. If the number of infections remains above 100 cases per 100,000 inhabitants for three consecutive days then, from the second subsequent working day on, the government will have to reintroduce the tighter restrictions that applied until 7 March 2021. In the specific case of personal services where it is not possible to adhere to the generally applicable hygiene rules, both customers and staff are required to undergo same-day COVID-19 rapid testing or self-testing.

49. The seven-day incidence rates of 50 and 100 cases per 100,000 inhabitants respectively – which determine the individual stages for the easing of restrictions – had been met in 126 and 324 out of 401 districts respectively as at 12 March 2021. The corresponding figure for Germany as a whole was 72.4 cases (RKI, 2021a).

The **anticipated progress on vaccinations** resulting from an increase in vaccine supplies and the additional inclusion of resident doctors in the vaccination process as well as the widespread availability of rapid testing and self-testing **should improve** the ability to **contain the pandemic despite the easing of restrictions**. ↘ BOX 3 The progress made on vaccinating the elderly population groups in particular is likely to steadily reduce the burden on the healthcare system for a given number of infections (Dagan et al., 2021). Moreover, the widespread use of digital technology – such as the Luca app, which is already being used in the German federal state of Mecklenburg-Western Pomerania (Ministerium für Energie, Infrastruktur und Digitalisierung M-V, 2021) – offers the potential to considerably improve the ability to trace chains of infection.

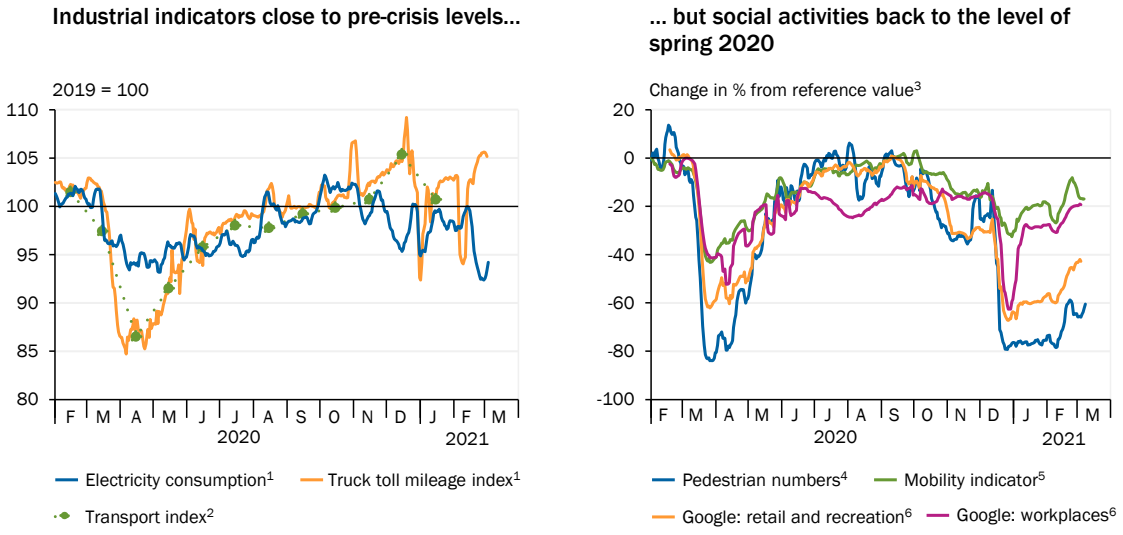
50. The GCEE's forecast is based on the **technical assumption** that the level of infections over the course of the year can be contained without a new tightening of restrictions throughout Germany. However, this will require a suitable test-and-trace strategy to contain the emergence of infection clusters at an early stage, especially given the possibility of a third wave of infections (Grimm et al., 2021a). It is therefore assumed that restrictions can be kept as small and regionally limited as possible (GCEE Annual Report 2020 items 168 ff.). If it is not possible to contain an emerging wave of infections – owing to the more highly infectious virus variants, for example – and, consequently, restrictions are tightened, this would postpone the economic recovery until even later in the year. ↘ ITEMS 55 F. If, unlike in the 2020/21 winter half of the year, further restrictions and closures affect industry, economic output could contract more sharply. This is because, for example, industrial production would no longer be able to meet the currently high levels of demand from Asia and the United States. ↘ ITEM 35

2. Outlook: recovery dependent on the further progress of the pandemic

51. The development of the **short-term indicators** currently **available point to a decline** in economic output **in the first quarter**. Deutsche Bundesbank's weekly activity index covering the 13-week period up to 7 March 2021 indicates that GDP contracted by 1.5 % (Eraslan and Götz, 2020). In particular the reduced amount of mobility in conjunction with the lower level of retail sales in January suggest that **consumer spending fell sharply**. ↘ CHART 13 RIGHT It is fair to assume, however, that consumers and firms have adjusted their behaviour in those areas hit particularly hard by restrictions since the first shutdown was imposed in the spring of 2020. Modified business models – such as restaurants offering a take-away service and online deliveries being made available in the retail sector – might limit the current loss of value added. ↘ ITEM 46

52. In addition, the continued **growth in industrial production** should significantly **curb** the **decline in GDP**. The truck toll mileage index and electricity consumption in January and February 2021 were approaching their pre-crisis levels. ↘ CHART 13 LEFT Recently, however, these two indicators have been diverging. Given the robust recovery outside Europe in particular, foreign trade is expected to provide substantial growth stimulus. Nonetheless, the border controls imposed

↘ CHART 13
Real-time indicators in Germany during the corona pandemic



1 – Seasonally and calendar-adjusted. 7-day moving average. 2 – Seasonally and calendar-adjusted monthly value. 3 – Not adjusted. 7-day moving average. The reference value corresponds to the median for the corresponding weekday from 03 Jan 2020 to 06 Feb 2020. 4 – Calculated from the mean value for Germany consisting of Berlin, Dortmund, Düsseldorf, Frankfurt a.M., Hamburg, Hanover, Munich, Stuttgart, Wiesbaden. 5 – Change in mobility based on anonymised and aggregated mobile data from the network of the telecommunications company Telefónica. Missing values for 04.12 to 07.12.2020 and 27.02. to 28.02.2021; averages calculated over existing values. 6 – Change in mobility based on anonymised and aggregated location history activity collected by Google compared to a reference value.

Sources: Deutsche Bundesbank, Federal Office for Freight Transport, Federal Statistical Office, Google Mobility Report, Hystreet, own calculations

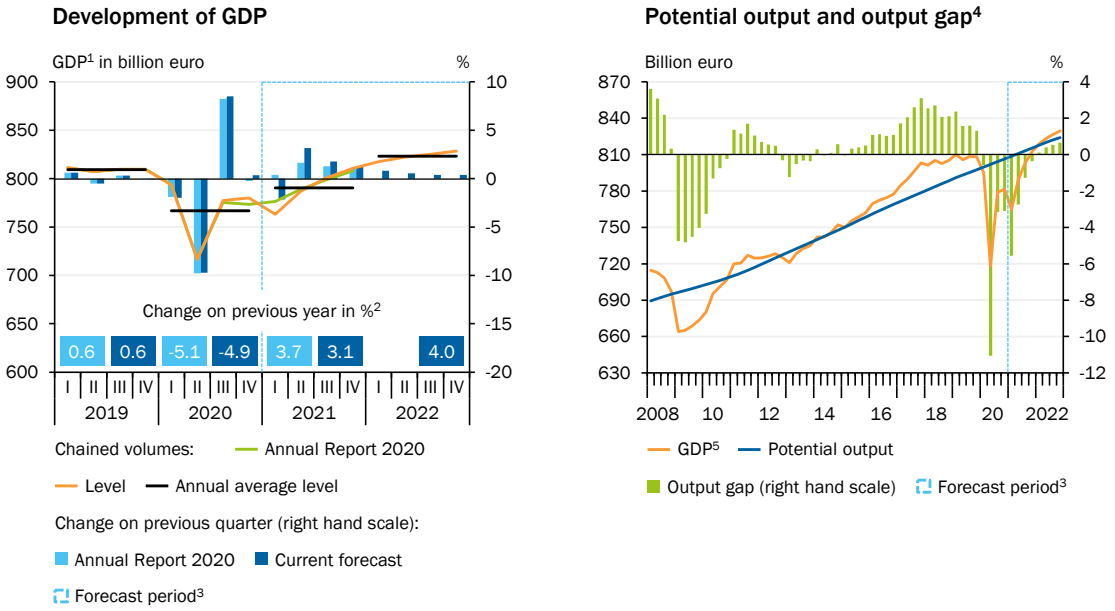
within the euro area in response to the recent rise in new infections could cause delays in supplies of intermediate goods in the manufacturing sector, for example (Obst and Puls, 2021).

53. The economy is likely to **return to** its **path of recovery over the further course of the year**. As progress on vaccinations is currently set to accelerate – in line with scenario 2 – the restrictions are expected to be lifted in the second half of the year in particular. ↘ BOX 3 In addition, the initial gradual easing of restrictions as part of the official reopening strategy is likely to cause consumer spending to rebound sharply as early as the second quarter of this year. ↘ ITEMS 48 F. The foreseeable containment of the pandemic over the further course of the year should also help to stabilise the economic outlook and, consequently, reduce economic uncertainty. Private demand is therefore expected to return to normal more quickly by the end of the year. However, this forecast is subject to especially high uncertainty owing to the risk of the pandemic intensifying further because, for example, of a renewed surge in infections or as a result of virus variants. ↘ ITEM 35

54. The GCEE expects GDP to grow by an **average of 3.1 % this year** (without any significant calendar effects). ↘ CHART 14 LEFT This equates to a year-on-year growth rate of 3.9 %. ↘ TABLE 6 APPENDIX This forecast means that although GDP will be lower in the first quarter of this year compared with the GCEE Annual Report 2020, the recovery will resume in the second quarter. The revision of the third quarter of 2020 and the better-than-expected performance of GDP in the final quarter mean that economic output at the beginning of 2021 is slightly closer to its pre-crisis

↘ CHART 14

Expected economic development in Germany



1 – Reference year 2015, seasonally and calendar-adjusted. 2 – Not adjusted. 3 – Forecast by the GCEE. 4 – Estimate by the GCEE. 5 – Real seasonally adjusted values; the calendar effect is taken into account, however.

Sources: Federal Statistical Office, own calculations

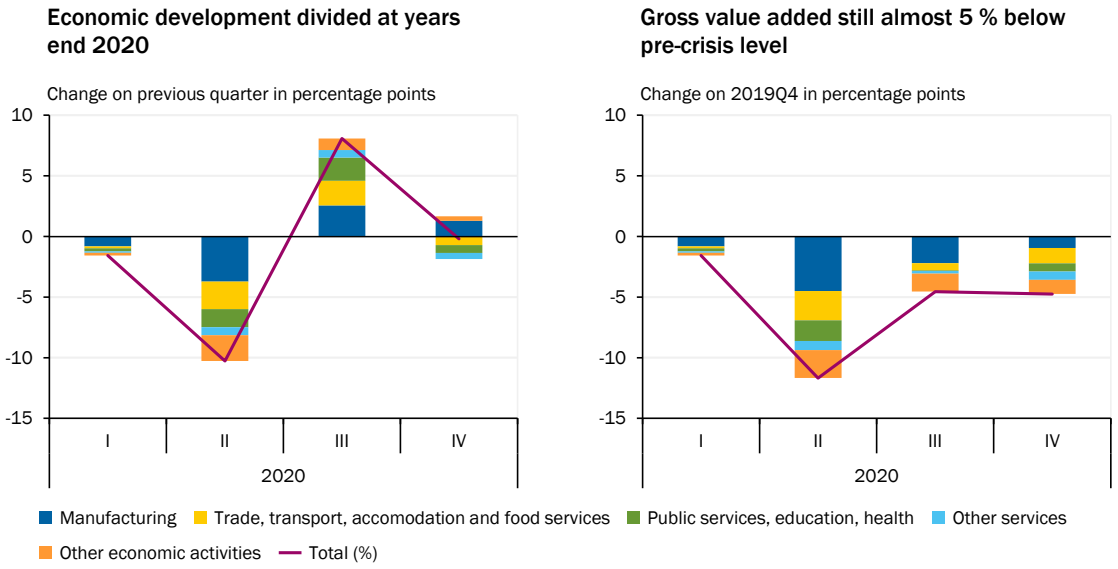
levels. The GCEE therefore expects that economic output will have more or less returned to its pre-crisis levels of the fourth quarter of 2019 at the turn of the year 2021/2022, provided that Germany can avoid having to impose further nationwide restrictions.

55. In order to estimate the **economic impact of restrictions in the first quarter of 2021**, the GCEE has used the figures available in the national accounts for the fourth quarter of 2020. Whereas industry had increased its production by the end of 2020 in contrast to the situation during the first shutdown last spring, gross value added in the **retail, wholesale, transport and hospitality** sectors fell by 4.4 % between the third and fourth quarters of 2020. **Other services** – including the arts, entertainment and recreation sectors – reported a drop of as much as 13.5 %. If the **public services, education and healthcare** sectors (down by 3.2 %) are factored in, the sectors affected reduced growth in total gross value added by 1.9 percentage points. ↘ CHART 15 LEFT

Whereas the hospitality, arts and recreation sectors were affected by restrictions and closures for almost the entire fourth quarter of 2020, the retail sector remained open until mid-December. If the **losses** of 1.9 % in the final quarter of 2020 are extrapolated to the first quarter of 2021, these losses could amount to **between 3 and 4 % of total gross value added**. This simple calculation suggests that growth in total gross value added will be reduced by between 1 and 2 percentage points in the first quarter of 2021. Based on company surveys, Wollmershäuser (2021) estimates that the **second wave of infections** is likely to reduce economic growth in the first quarter of 2021 by 0.9 percentage points. Owing to a lack of timely economic indicators, however, these calculations do not

↘ CHART 15

Contributions to growth of gross value added by economic sectors[1]



1 – Seasonally, calendar and price adjusted.

Sources: Federal Statistical Office, own calculations

factor in losses of value added in the public services, education and healthcare sectors.

56. The forecast assumes that gross value added in the aforementioned sectors, which were subject to restrictions during the winter half of the year, will at least have returned to the level of the third quarter of 2020 by the end of the second quarter of 2021. Even then, however, it would still be well below its pre-crisis level. ↘ CHART 15 RIGHT There is also the **risk of a further steep rise in the numbers of infections** caused, for example, by virus variants. If the recovery in the sectors affected is delayed by a further quarter, this is calculated to reduce GDP growth in 2021 by up to a percentage point. Because of the way in which they are constructed, however, calculations of this type are of limited predictive power and, consequently, cannot capture serious disruptions to supply chains – caused by widespread border closures, for example – or changes of behaviour by economic actors (GCEE Annual Report 2020 item 67).

57. The GCEE expects GDP to grow by an average rate of 4.0 % in 2022 (4.1 % **after adjusting for calendar effects**). The year-on-year growth rate for 2022 would be 2.2 %. ↘ TABLE 6 APPENDIX Growth is likely to be driven by all domestic expenditure aggregates. The potential output given by the medium-term projection from last autumn (GCEE Annual Report 2020 items 88 ff.) could be reached again at the beginning of 2022. Here, however, it is important to take account of the construction-related problems with calculations when estimating the impact of the pandemic (GCEE Annual Report 2020 item 59). Although the restrictions on economic activity and the changes of behaviour by economic agents will reduce potential output (Eichenbaum et al., 2020a, 2020b), this is not reflected in the trend growth rate. In addition, the nascent recovery forecast for the second half of the

year is likely to bring about higher potential output growth which, however, should only appear in the estimate with a time lag (Ademmer et al., 2019).

58. On the expenditure side the growth in GDP during the forecasting period is likely to be driven in particular by consumer spending. **While private consumption fell sharply** in 2020 owing to the restrictions in place and the risk of infection, households' **disposable income** is actually likely to have grown by 0.7 % (Federal Statistical Office, 2021c) on the back of government support for businesses and as a result of automatic stabilisers such as short-time working allowances and various discretionary measures. Consequently, households' savings ratio rose by 5.3 percentage points compared with 2019 to 16.2 %. In terms of the level of disposable income in 2020 this equates to an increase of around €105 billion in the amount saved. Although consumer spending is forecast to return to normal by the beginning of 2022, the total amount of forced saving is likely to continue to grow this year at least.

This **pent-up purchasing power** might **gradually be reduced from 2022 onwards** and thus provide growth stimulus beyond the forecasting period. **However**, there are several economic reasons why **a large proportion** of the saving forced by the restrictions will continue to be **saved over the longer term** (Bilbiie et al., 2021). Firstly, a significant proportion of these savings are likely to be attributable to households on higher incomes and, thus, with lower marginal consumption rates (GCEE Annual Report 2020 items 133 ff.). In addition, forced saving merely yields a one-off increase in wealth. Research on consumer behaviour shows, however, that households look to smooth their consumption path over time and, therefore, the marginal consumption rate from wealth is much lower than the consumption rate for permanent income. Furthermore, the stabilisation of disposable income can be particularly attributed to the expansion of government spending. Forward-looking households would consider the impact that higher taxes to balance government deficits would have on their disposable lifetime income and, accordingly, spend less of their savings. And, finally, it is unlikely that consumption of services – such as restaurant meals and tourism – which, as a result of the pandemic, has not taken place can be fully caught up on subsequently.

59. **Price levels in 2021** are especially being **determined by base effects and special effects**. The expiry of the temporary VAT cut is pushing up prices significantly in the first quarter of the year. If the cut in the VAT rate had been fully passed on to consumers in July 2020, this would have had a calculated effect of 1.6 % on the Consumer Price Index (CPI) for 2020 as a whole (Federal Statistical Office, 2020). If the subsequent rise in VAT had then been fully passed back to consumers, it would have increased the CPI by a similar amount in 2021. A significant and timely rise in prices after the expiry of such tax measures would be consistent with the experiences of the VAT hike at the beginning of 2007 (Deutsche Bundesbank, 2008) and the temporary VAT cut in the United Kingdom in the wake of the financial crisis (Pike et al., 2009; Crossley et al., 2014). As it turned out, however, last year's VAT cut was not fully passed on to consumers, and the way in which it was done varied considerably from one class of goods to another (Deutsche Bundesbank, 2020b). From July 2021, however, the base effect of last

year's temporary tax cut is likely to push the annual rates of change in the CPI well above 2.5 %.

In January the prices of energy products increased by 5.4 % compared with the previous month. The prices of fuel and heating oil rose particularly sharply. These prices have been pushed up by the reversal of the temporary cut in the rate of VAT and, above all, the introduction of carbon pricing in the transport and heating sectors. This reform could raise consumer prices by between 0.6 and 1.2 % in total over the course of the year (Nöh et al., 2020).

60. While energy prices at the beginning of this year were still below their level of the previous year, the **oil price, which is already above its pre-crisis level**, is an indication of the strengthening global economy. ↘ ITEM 10 The prices of **commodities** and intermediate products have risen recently as **demand around the world has picked up**. ↘ ITEM 8 The terms of trade should deteriorate over the course of the year as a result of the higher oil price and rising commodity prices. The GCEE is forecasting inflation rates of 2.1 % in 2021 and 1.9 % in 2022. The GDP deflator is expected to grow at rates of 2.0 % this year and 2.0 % next year.

Given the restrictions on personal services and in the retail sector, **imputations have again become increasingly necessary** when collecting prices for both the CPI and the HICP **since the beginning of the year** (Federal Statistical Office, 2021d; GCEE Annual Report 2020 item 75). In addition, **various effects** are currently responsible for the fact that the **annual growth rates of the German HICP** are well **above those of the CPI**. One factor is that the weighting scheme used in the HICP were adjusted for the pandemic-related changes in households' consumption behaviour at the beginning of this year. Services, for example, were weighted less in the relevant index calculations while food, alcohol and tobacco were weighted more heavily. A large proportion of the divergence between the trends revealed by the HICP and the CPI, however, can be attributed to the high intra-year volatility of package holidays in conjunction with the chained index construction of the HICP (Deutsche Bundesbank, 2021).

61. **Foreign trade** is likely to make a **positive contribution to growth this year** in particular. The swift recovery of major trading partners outside the euro area especially should boost demand for intermediate and capital goods. ↘ ITEM 17 Having grown significantly in the second half of the year, exports to China were only 0.1 % lower year on year at the end of 2020. By contrast, exports to the United Kingdom fell by 29 % between January 2020 and January 2021 because of this country's departure from the EU's single market and customs union (Federal Statistical Office, 2021e). The trade-weighted exchange rate, which has appreciated in recent months, is likely to have a slightly dampening effect on exports. Supply shortages and rising freight costs currently pose an additional risk to exports. ↘ ITEM 7 Imports are forecast to decline sharply in the first quarter of 2021 owing to limited levels of consumer demand, before they recover – in conjunction with consumer spending – over the further course of the year. **Imports** are likely to **grow more strongly than exports next year** owing to the continued growth

in domestic demand. Given the delayed recovery in imports especially, the current account balance is set to rise to 7.9 % in 2021 before falling to 6.0 % in 2022.

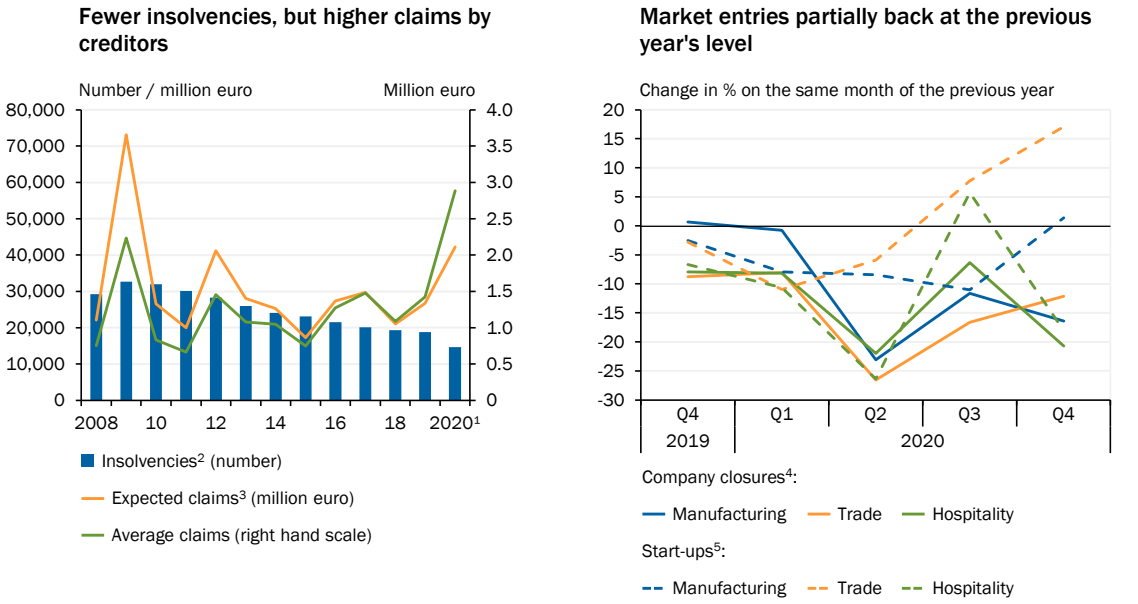
62. Having fallen sharply in the second quarter of 2020, **gross fixed capital formation in machinery and equipment in the final quarter of 2020 was still** seasonally and calendar-adjusted 8.6 % **below its pre-crisis level** of the end of 2019. The **recovery** is likely to **continue throughout this year**, although the latest data on domestic sales by capital goods manufacturers suggests that business at the start of the year will be subdued. However, fading economic uncertainty as the pandemic is gradually overcome and the strong performance of foreign trade should provide additional growth stimulus for companies' investments in machinery and equipment in the second half of the year in particular.

63. There are signs that **construction activity** is set to **dip slightly at a high level**. According to the ifo Institute, capacity utilisation and the volume of new orders received in the main construction industry and in civil engineering at the beginning of the year remain below their pre-crisis levels. Having grown significantly in December, moreover, construction output fell by a substantial 12.2 % in January. The expiry of the VAT cut is especially likely to have contributed to this decrease. Residential construction should remain on an upward trajectory during the forecasting period on the back of consistently favourable funding conditions and strong demand. However, gross fixed capital formation in commercial construction and public non-residential construction is likely to develop weaker initially. The implementation of government construction investment as part of the economic stimulus package might well be delayed compared with the original schedule as a result of various institutional obstacles (Grimm et al., 2021b). Given the high uncertainty about the future importance of working from home, growth in gross fixed capital formation in private non-residential construction is likely to remain weak.

64. **Business insolvencies fell sharply** by 15.9 % between January and November 2020 compared with the corresponding period of the previous year. ↘ CHART 16 LEFT This is probably mainly attributable to the temporary suspension of the obligation to file for insolvency and the comprehensive government support provided for businesses. The obligation to file for insolvency remains suspended until 30 April 2021 for those businesses that applied for government support during the period from 1 November 2020 to 28 February 2021 (Bundesregierung, 2021). Similarly to business insolvencies, the numbers of full business closures of head offices fell unusually sharply by 14.1 % in 2020 compared with the previous year, although they had actually been on a downward trend for some time. ↘ CHART 16 RIGHT The numbers of new business registrations varied widely from sector to sector. Whereas new business start-ups with their head office in the hospitality sector in December were 36.9 % lower year on year, the trade sector saw more new businesses set up in the second half of 2020 than in the corresponding period of 2019.

The sharp rise in average creditors' claims suggests that smaller insolvencies increasingly failed to materialise in 2020. ↘ CHART 16 LEFT This observation is backed up by the stronger decline in insolvencies of sole traders compared with those of corporations and partnerships (decrease of 29.0 % compared with decrease of

↘ CHART 16
Development of market entries and exits



1 – January to November. 2 – Business insolvencies opened. 3 – Expected claims of creditors from filed business insolvencies. 4 – Complete cessation of operations of the main establishment according to business registration statistics. 5 – New business start-up of a main establishment according to business registration statistics.

Sources: Federal Statistical Office, own calculations

8.6 % up to and including November). Once government support for businesses has expired and mandatory insolvency applications have been fully reintroduced, we might therefore see catch-up effects on these businesses, especially as their equity base is likely to have shrunk despite the bridging aid provided. Given the anticipated modest average size of these businesses and the comparatively small amount of gross value added in the sectors hit particularly hard by the restrictions, the **risk to the overall economy and financial stability during the forecasting period** is likely to be **limited** (Deutsche Bundesbank, 2020c). ↘ ITEM 36

3. Short-time work continues to support the labour market

65. After the level of employment had fallen sharply in the first half of 2020 as a result of the coronavirus pandemic, a modest upward trend was observed in the second half of the year. In light of the downturn in economic activity, **employment** declined by only 1.1 % overall in 2020 compared with the previous year. Seasonally adjusted **unemployment** rose sharply at the beginning of the second quarter of 2020 before declining steadily in the second half of the year. Initially, the shop closures started in November 2020 and then extended in December do not appear to have ended the positive trend in employment. Nonetheless, the number of unemployed ticked up slightly month on month on a seasonally adjusted basis in February 2021 for the first time since June 2020.

Short-time work is likely to have significantly helped to ensure that employment subject to social security contributions remained virtually unchanged year on year in 2020 (up 0.2 %). On the contrary, there was a considerable decrease in marginal employment (down 4.7 %) and in the number of self-employed individuals (down 3.7 %), who are not entitled to short-time working benefits. ↘ TABLE 4

66. Short-time work is likely to have been responsible for the fact that the **number of hours worked** in 2020 fell much more sharply than employment levels. In April 2020, 17.9 % of all those working in jobs subject to social security contributions were receiving short-time working benefits. Although this proportion has since decreased, the latest figures from the German Federal Employment Agency (BA) reveal that 7.1 % of all entitled employees were still on short-time work in December 2020. In addition, there are signs of a renewed increase in short-time work for January and February 2021 (Link and Sauer, 2021). The total volume of working hours in 2020 contracted by 4.7 % year on year owing to lower overall employment, short-time work and other measures to reduce working hours (such as additional leave or negative working-hours balances), thereby decreasing to a similar extent as economic output.

↘ TABLE 4

Labour market in Germany

1,000 persons

	2019	2020	Forecast[1]					
			2021		2022	2021		2022
			Update	Diff. to AR 2020/21		Update	Diff. to AR 2020/21	
	Annual averages					Change on previous year in %; (diff. in percentage points)		
Labour force[2]	46,497	46,522	46,387	(– 215)	46,549	– 0.3	(– 0.4)	0.3
Unemployed persons[3]	1,374	1,846	1,772	(– 94)	1,506	– 4.0	(– 8.0)	– 15.0
Commuter balance[4]	146	106	129	(– 12)	136	22.1	(– 17.9)	5.2
Employed persons[5]	45,269	44,782	44,744	(– 134)	45,179	– 0.1	(– 0.2)	1.0
Employees subject to social security contributions	33,518	33,578	33,767	(– 37)	34,245	0.6	(– 0.1)	1.4
Exclusively marginally employed[6]	4,579	4,288	4,098	(– 26)	4,068	– 4.4	(– 1.5)	– 0.7
Registered unemployed persons	2,267	2,695	2,682	(– 62)	2,429	– 0.5	(– 1.9)	– 9.5
Underemployment excluding short-time work[7]	3,200	3,519	3,516	(– 252)	3,185	– 0.1	(– 1.4)	– 9.4
Short-time workers (Employment equivalence)	48	1,218	547	(273)	46	– 55.1	(19.1)	– 91.5
Unemployment rate (FEA)[8,9]	5.0	5.9	5.9	(– 0.1)	5.3	– 0.0	(– 0.1)	– 0.6
Unemployment rate (ILO)[9,10]	3.2	4.2	4.0	(– 0.2)	3.4	– 0.1	(– 0.3)	– 0.6

1 – Forecast by the GCEE. 2 – Persons in their working age with residence in Germany (national concept); as defined by the national accounts systems. 3 – ILO concept. 4 – Difference of employed workers commuting from foreign countries to Germany and those commuting from Germany to foreign countries. 5 – Employed persons in Germany independent of their residence (domestic concept). 6 – Employed workers with a wage up to 450 euro. 7 – According to the concept of underemployment by the Federal Employment Agency. 8 – Registered unemployed persons in relation to civilian labour force. 9 – Yearly averages in %; change on previous year in percentage points. 10 – Unemployed persons in relation to the labour force, in each case persons in private households aged from 15 to 74 years.

Sources: Eurostat, Federal Employment Agency , Federal Statistical Office, own calculations

67. Labour demand in Germany is likely to grow only modestly over the next few months. Once the pandemic-related restrictions are eased further and businesses in the retail, hospitality, arts, entertainment and leisure sectors can **increase** their **activities**, the amount of short-time work in these areas will likely decline swiftly. To some extent, the marginal employment previously lost could then be built up again. The number of this employment in the hospitality sector fell by around 435,000 or 50.1 % between December 2019 and December 2020. In the arts, entertainment and leisure sectors marginal employment declined by approximately 86,000 individuals or 38.8 % (Minijob-Zentrale, 2021). Short-time work in the manufacturing sector, which also still had a relatively high short-time work ratio of 7.4 % in February 2021 (Link and Sauer, 2021), should steadily decrease over the next few months. Given the continuing uncertainty about the progress of the pandemic, however, firms overall are likely to remain cautious about recruiting new staff. This, at least, is suggested by the employment indicators published by the BA, the Institute for Employment Research (IAB) and the ifo Institute.

68. The **reduction of short-time work** is likely to be the key determining factor of labour market dynamics in **2021**. Whereas the average level of employment for the year is likely to remain virtually unchanged (down 0.1 %), the number of hours worked is forecast to increase by around 2.0 % year on year. However, the negative carry-over effects from last year partly conceal the upward dynamic that should appear by the end of 2021. Employment is likely to grow more significantly in 2022, increasing by 1.0 % compared with 2021. Unemployment in the first two months of 2021 rose less sharply than had been expected in last autumn's GCEE Annual Report. The GCEE has therefore slightly revised downwards its forecast for 2021. ↘ TABLE 4

Considerable uncertainty about this forecast arises from **business closures**, which could increase significantly as a result of the economic situation. ↘ ITEM 64 If there is a sharp rise in insolvency applications or business closures, individuals on short-time work are especially at risk to lose their jobs. Similarly, much of the marginal employment lost might then not be built up again for some time.

69. Effective wages rose relatively sharply by 3.4 % year on year last year owing to the significant decline in the volume of working hours. This year will see a countervailing trend for two reasons. Firstly, the volume of work performed is likely to return close to its pre-crisis levels. And, secondly, the economic situation will probably slow wage growth slightly. For these reasons, effective wages are likely to rise by only 1.3 % in 2021. ↘ TABLE 8 APPENDIX

4. Public finances

70. The **general government deficit** of €139.6 billion for **2020** (4.2 % of GDP) was **significantly lower** than forecast in the GCEE Annual Report 2020. ↘ TABLE 5 One reason for this is the smaller rise in public spending. Particularly worth mentioning here are subsidies, which include the government support provided for businesses during the coronavirus pandemic, which turned out to be lower than expected. A second reason is that government revenue from taxation and

social security contributions was higher than forecast in the GCEE Annual Report 2020.

71. The GCEE expects the **general government deficit** for **2021** to amount to €143.4 billion (4.1 % of GDP). ↘ TABLE 5 This deficit is projected to decline over the forecasting period as the economy bounces back in 2022 and some of the fiscal policy measures adopted under the economic stimulus package and as part of further measures taken in connection with the coronavirus pandemic are discontinued. The GCEE is forecasting a **general government deficit** of €54.6 billion (1.5 % of GDP) for **2022**. Having risen marginally in 2021, the **debt-to-GDP ratio** is likely to **fall** to 68.2 % of GDP by the end of **2022**. ↘ TABLE 5

↘ TABLE 5

General government revenues and expenditures and selected fiscal indicators[1]

	2020	Forecast[2] 2021 Update	Forecast[2] 2021 Diff. to AR 2020 /21	Forecast[2] 2022	Forecast[2] 2021 Update	Forecast[2] 2021 Diff. to AR 2020 /21	Forecast[2] 2022
	Billion euro				%[3]	Percentage points	%[3]
Total revenues	**1,563.0**	**1,623.7**	**(7.4)**	**1,708.1**	**3.9**	**(– 1.1)**	**5.2**
Taxes	773.4	807.2	(– 1.8)	857.3	4.4	(– 3.0)	6.2
Social contributions	607.9	633.5	(18.6)	662.0	4.2	(1.7)	4.5
Other revenues[4]	181.7	183.0	(– 9.4)	188.7	0.7	(– 2.5)	3.2
Total expenditures	**1,702.6**	**1,767.1**	**(27.4)**	**1,762.7**	**3.8**	**(2.9)**	**– 0.3**
Intermediate consumption	202.6	206.1	(0.7)	206.6	1.7	(3.4)	0.2
Compensation of employees	283.4	291.1	(0.1)	297.0	2.7	(– 0.5)	2.0
Property income (including interest) payable	21.8	18.7	(– 2.0)	16.5	– 14.2	(– 1.4)	– 11.9
Subsidies payable	69.8	74.5	(15.4)	42.7	6.7	(38.9)	– 42.7
Social benefits other than social transfers in kind	593.1	606.9	(9.7)	611.7	2.3	(1.3)	0.8
Social benefits in kind	311.8	330.8	(4.8)	341.5	6.1	(– 0.3)	3.2
Gross capital formation	92.5	94.5	(– 2.8)	99.4	2.2	(– 3.8)	5.2
Other expenditures[5]	127.6	144.4	(1.6)	147.4	13.2	(5.7)	2.1
Net borrowing/net lending	**- 139.6**	**- 143.4**	**(– 19.9)**	**- 54.6**	x	x	x
Fiscal indices (%)[6]							
Public spending ratio[7]	51.1	50.4	(0.8)	47.4	x	x	x
Tax ratio[8]	23.6	23.4	(– 0.1)	23.5	x	x	x
Tax and contribution ratio[9]	40.6	40.3	(0.5)	40.1	x	x	x
Net borrowing /net lending	- 4.2	- 4.1	(– 0.6)	- 1.5	x	x	x
Debt-to-GDP ratio[10]	70.6	70.8	(– 0.3)	68.2	x	x	x

1 – National accounts (nominal values). 2 – Forecast by the GCEE. 3 – Change on the previous year in %. 4 – Sales, other subsidies on production, property income, other current transfers, capital transfers. 5 – Other current transfers, capital transfers, other taxes on production, and net acquisition of non-financial non-produced assets. 6 – In relation to GDP. 7 – Total expenditures. 8 – Taxes including inheritance tax and taxes entitled to the EU. 9 – Taxes including inheritance tax and taxes entitled to the EU, and actual social contributions. 10 – Forecast by the GCEE for the general government gross debt as defined in the Maastricht Treaty.

Sources: Federal Statistical Office, own calculations

72. Overall the GCEE expects to see a **contractionary fiscal stimulus** amounting to 0.5 % of GDP in **2021**. Whereas discretionary fiscal policy measures unrelated to the coronavirus pandemic – such as the partial abolition of the solidarity surcharge, the reduction of the EEG surcharge, and the revenue received from carbon pricing – provide an expansionary stimulus overall, the discontinuation of economic policy measures introduced within the context of the coronavirus pandemic has a contractionary effect. The impact of the latter has, however, been mitigated by the expansion of temporary financial support instruments and by the recent decisions taken by Germany's governing coalition committee, which plans, among other things, to introduce a new Child Bonus.

The GCEE is forecasting a contractionary fiscal stimulus amounting to 0.4 % of GDP in **2022**. While this can again be largely attributed to the discontinuation of economic policy measures, **discretionary fiscal policy measures** unrelated to the coronavirus pandemic will make a modestly expansionary contribution here. These measures include reliefs granted under Germany's Second Family Relief Act, spending as part of the Energy and Climate Fund, and further investment measures.

REFERENCES

Ademmer, M. et al. (2019), Schätzung von Produktionspotenzial und -lücke: Eine Analyse des EU-Verfahrens und mögliche Verbesserungen, Kieler Beiträge zur Wirtschaftspolitik No. 19, Kiel Institute for the World Economy (IfW).

Anderson, J., F. Papadia and N. Véron (2020), Government-guaranteed bank lending in Europe: Beyond the headline numbers, https://www.piie.com/blogs/realtime-economic-issues-watch/government-guaranteed-bank-lending-europe-beyond-headline, retrieved 21 July 2020.

Bilbiie, F., G. Eggertsson and G. Primiceri (2021), US 'excess savings' are not excessive, https://voxeu.org/article/us-excess-savings-are-not-excessive, retrieved 1 March 2021.

BMWi (2021), Entwicklung der Produktion im Produzierenden Gewerbe im Berichtsmonat Januar 2021, Press release, Federal Ministry for Economic Affairs and Energy, Berlin, 8 March.

Bordo, M.D. and M.D. Levy (2020), Do enlarged fiscal deficits cause inflation? The historical record, NBER Working Paper 28195, National Bureau of Economic Research, Cambridge, MA.

Bruegel (2020), The fiscal response to the economic fallout from the coronavirus, https://www.bruegel.org/publications/datasets/covid-national-dataset/, retrieved 12 March 2021.

Bundeskanzlerin and Ministerpräsidentenkonferenz (2021), Videoschaltkonferenz der Bundeskanzlerin mit den Regierungschefinnen und Regierungschefs der Länder am 3. März 2021, Enactment, Berlin.

Bundesregierung (2021), Aussetzung der Insolvenzantragspflicht wird verlängert, https://www.bundesregierung.de/breg-de/themen/coronavirus/insolvenzaussetzungsgesetz-1781394, retrieved 22 February 2021.

Camp, K.M., D. Mead, S.B. Reed, C. Sitter and D. Wasilewski (2020), From the barrel to the pump: The impact of the COVID-19 pandemic on prices for petroleum products, Monthly Labour Review 10.2020, U.S. Bureau of Labor Statistics, Washington, DC.

CBO (2021a), Estimated budgetary effects of H.R. 1319, American Rescue Plan Act of 2021, Cost Estimate, Congressional Budget Office, Washington, DC.

CBO (2021b), H.R. 133, Estimate for Division N – Additional Coronavirus Response and Relief Consolidated Appropriations Act, 2021 Public Law 116-260, Cost Estimate, Congressional Budget Office, Washington, DC.

CBO (2021c), The budget and economic outlook: 2021 to 2031, February 2021, Congressional Budget Office, Washington, DC.

CBO (2020), Division M of H.R. 133, the Consolidated Appropriations Act, 2021, Cost Estimate, Congressional Budget Office, Washington, DC.

Christoffel, K., G. Coenen and A. Warne (2008), The new area-wide model of the euro area: A micro-founded open-economy model for forecasting and policy analysis, ECB Working Paper 944, European Central Bank, Frankfurt am Main.

Coenen, G., P. McAdam and R. Straub (2008), Tax reform and labour-market performance in the euro area: A simulation-based analysis using the New Area-Wide Model, Journal of Economic Dynamics and Control 32 (8), 2543–2583.

Cogan, J.F., J.B. Taylor, V. Wieland and M.H. Wolters (2013), Fiscal consolidation strategy, Journal of Economic Dynamics and Control 37 (2), 404–421.

Council of the European Union (2021), EU-Aufbaupaket: Rat nimmt Aufbau- und Resilienzfazilität an, Press release 88/21, Brussels, 11 February.

Crossley, T.F., H.W. Low and C. Sleeman (2014), Using a temporary indirect tax cut as a fiscal stimulus: Evidence from the UK, IFS Working Paper W14/16, Institute for Fiscal Studies, London.

Dagan, N. et al. (2021), BNT162b2 mRNA Covid-19 vaccine in a nationwide mass vaccination setting, New England Journal of Medicine, https://doi.org/10.1056/NEJMoa2101765.

Davies, N.G. et al. (2021), Estimated transmissibility and impact of SARS-CoV-2 lineage B.1.1.7 in England, Science, https://doi.org/10.1126/science.abg3055.

Deutsche Bundesbank (2021), Monatsbericht Februar 2021, Frankfurt am Main.

Deutsche Bundesbank (2020a), Monatsbericht August 2020, Frankfurt am Main.

Deutsche Bundesbank (2020b), Monatsbericht November 2020, Frankfurt am Main.

Deutsche Bundesbank (2020c), Finanzstabilitätsbericht 2020, Frankfurt am Main.

Deutsche Bundesbank (2008), Preis- und Mengenwirkungen der Mehrwertsteueranhebung zum 1. Januar 2007, Monatsbericht April 2008, Frankfurt am Main, 31–49.

Deutsches Ärzteblatt (2021), Corona: Mutanten werden genau beobachtet, https://www.aerzteblatt.de/nachrichten/120305/Corona-Mutanten-werden-genau-beobachtet, retrieved 19 January 2021.

Dolls, M., C. Fuest, J. Kock, A. Peichl, N. Wehrhöfer and C. Wittneben (2014), Automatic stabilizers in the Eurozone: Analysis of their effectiveness at the member state and euro area level and in international comparison, ZEW Gutachten, Abschlussbericht zu Forschungsvorhaben fe 5/14, Centre for European Economic Research, Mannheim.

Dolls, M., C. Fuest and A. Peichl (2012), Automatic stabilizers and economic crisis: US vs. Europe, Journal of Public Economics 96 (3–4), 279–294.

Dullien, S., S. Tober and S. Watzka (2021), Bidens „American Rescue Plan“: Positive Impulse auch für die deutsche Wirtschaft, IMK Kommentar 1, März 2021, Hans-Böckler-Foundation, Düsseldorf.

ECB (2021a), The euro area bank lending survey – Fourth quarter of 2020, European Central Bank, Frankfurt am Main.

ECB (2021b), ECB staff macroeconomic projections for the euro area, March 2021, European Central Bank, Frankfurt am Main.

ECB (2021c), Monetary policy decisions, Press release, European Central Bank, Frankfurt am Main, 11 March.

ECB (2021d), Monetary developments in the euro area: January 2021, Press release, European Central Bank, Frankfurt am Main, 25 February.

ECB (2020), Geldpolitische Beschlüsse, Press release, European Central Bank, Frankfurt am Main, 10 December.

Edelberg, W. and L. Sheiner (2021), The macroeconomic implications of Biden's $1.9 trillion fiscal package, https://www.brookings.edu/blog/up-front/2021/01/28/the-macroeconomic-implications-of-bidens-1-9-trillion-fiscal-package/, retrieved 28 January 2021.

Eichenbaum, M.S., S. Rebelo and M. Trabandt (2020a), Epidemics in the neoclassical and new Keynesian models, NBER Working Paper 27430, National Bureau of Economic Research, Cambridge, MA.

Eichenbaum, M.S., S. Rebelo and M. Trabandt (2020b), The macroeconomics of epidemics, NBER Working Paper 26882, National Bureau of Economic Research, Cambridge, MA.

Eraslan, S. and T. Götz (2020), An unconventional weekly economic activity index for Germany, Technical Paper 02/2020, Deutsche Bundesbank, Frankfurt am Main. Data retrievable under www.bundesbank.de/wai.

EUROCONTROL (2020), EUROCONTROL Five-year forecast 2020-2024, https://www.eurocontrol.int/publication/eurocontrol-five-year-forecast-2020-2024, retrieved 9 March 2021.

European Commission (2021a), Winter 2021 Economic Forecast, Press release IP/21/504, Brussels, 11 February.

European Commission (2021b), European Commission raises further €9 billion under SURE via second issuance in 2021, Press release IP/21/1063, European Commission, Brussels, 10 March.

European Commission (2021c), SURE – The European instrument for temporary Support to mitigate Unemployment Risks in an Emergency, https://ec.europa.eu/info/business-economy-euro/economic-and-fiscal-policy-coordination/financial-assistance-eu/funding-mechanisms-and-facilities/sure_en, retrieved 12 March 2021.

European Commission (2021d), Communication from the Commission to the European Parliament, the European Council and the Council – A united front to beat COVID-19, COM(2021) 35 final, Brussels, 19 January.

European Commission (2020a), European Economic Forecast – Autumn 2020, Institutional Paper 136, Brussels.

European Commission (2020b), Mitteilung der Kommission an das Europäische Parlament, den Europäischen Rat, den Rat und die Europäische Investitionsbank – EU-Strategie für COVID-19-Impfstoffe, COM(2020) 245 final, Brussels, 17 June.

Fed (2021), The January 2021 senior loan officer opinion survey on bank lending practices, Board of Governors of the Federal Reserve System, Washington, DC.

Fed (2020), Federal Reserve FOMC statement – December 2020, Press release, Board of Governors of the Federal Reserve System, Washington, DC, 16 December.

Federal Statistical Office (2021a), Mehrwertsteuersenkung: Bis zu einem Viertel der Haushalte mit zusätzlichen oder vorgezogenen Anschaffungen, Press release 114, Wiesbaden, 11 March.

Federal Statistical Office (2021b), Einzelhandelsumsatz im Januar 2021 um 4,5 % niedriger als im Vormonat, Press release 093, Wiesbaden, 2 March.

Federal Statistical Office (2021c), KORREKTUR: Bruttoinlandsprodukt: Ausführliche Ergebnisse zur Wirtschaftsleistung im 4. Quartal 2020, Press release 081, Wiesbaden, 24 February.

Federal Statistical Office (2021d), Zu den Auswirkungen der Corona-Krise auf die Preiserhebung für den Verbraucherpreisindex / Harmonisierten Verbraucherpreisindex, data state: 01 March 2021, Wiesbaden.

Federal Statistical Office (2021e), Exporte im Januar 2021: +1,4 % zum Dezember 2020, Press release 107, Wiesbaden, 9 March.

Federal Statistical Office (2020), Auswirkungen der Mehrwertsteuersenkung auf die Verbraucherpreise, Press release 215, Wiesbaden, 15 June.

Fries, J.L., N. Garnadt, V. Grimm and L. Nöh (2020), Europa in der Corona-Krise: Europäische Lieferketten müssen europäisch wiederbelebt werden, Wirtschaftsdienst 100 (6), 410–415.

Gemeinschaftsdiagnose (2020), Gemeinschaftsdiagnose Herbst 2020: Erholung verliert an Fahrt – Wirtschaft und Politik weiter im Zeichen der Pandemie, Gemeinschaftsdiagnose im Auftrag des Bundesministeriums für Wirtschaft und Energie, Kiel.

Gopinath, G. (2021), Transcript of the World Economic Outlook Update press briefing, International Monetary Fund, Washington, DC, 28 January.

Grauwe, P.D. and S. Diessner (2020), What price to pay for monetary financing of budget deficits in the euro area, https://voxeu.org/article/what-price-pay-monetary-financing-budget-deficits-euro-area, retrieved 10 March 2021.

Grimm, V., F. Mengel and M. Schmidt (2021a), Extensions of the SEIR model for the analysis of tailored social distancing and tracing approaches to cope with COVID-19, Scientific Reports 11 (1), 4214.

Grimm, V., L. Nöh and M. Schwarz (2021b), Investitionen für nachhaltiges Wachstum in Deutschland: Status quo und Perspektiven, Wirtschaftsdienst 101 (3), 162–167.

Hale, T. et al. (2020), Oxford COVID-19 Government Response Tracker, Blavatnik School of Government, University of Oxford.

IATA (2021), COVID-19 – Weak year-end for air travel and outlook is deteriorating, Präsentation, International Air Transport Association, Montreal, 3 February.

IEA (2021), Oil market report – February 2021, Internationale Energieagentur, Paris.

IMF (2021a), Fiscal monitor database of country fiscal measures in response to the COVID-19 pandemic, January 2021, International Monetary Fund, Fiscal Affairs Department, Washington, DC.

IMF (2021b), Fiscal monitor update, January 2021, International Monetary Fund, Washington, DC.

IMF (2020), World Economic Outlook, October 2020: A long and difficult ascent, International Monetary Fund, Washington, DC.

Kissler, S.M., C. Tedijanto, E. Goldstein, Y.H. Grad and M. Lipsitch (2020), Projecting the transmission dynamics of SARS-CoV-2 through the postpandemic period, Science 368 (6493), 860–868.

Kupferschmidt, K. (2021), New mutations raise specter of 'immune escape', Science 371 (6527), 329–330.

Levine-Tiefenbrun, M. et al. (2021), Decreased SARS-CoV-2 viral load following vaccination, medRxiv, https://doi.org/10.1101/2021.02.06.21251283.

Lieberknecht, P. and V. Wieland (2019), On the macroeconomic and fiscal effects of the Tax Cuts and Jobs Act, Working Paper 10/2018, German Council of Economic Experts, Wiesbaden.

Link, S. and S. Sauer (2021), Anhaltender Shutdown führt zu leichtem Anstieg der Kurzarbeit in Deutschland, ifo Schnelldienst digital 7/2021, ifo Institute, Munich.

Middelburg, R.A. and F.R. Rosendaal (2020), COVID-19: How to make between-country comparisons, International Journal of Infectious Diseases 96, 477–481.

Minijob-Zentrale (2021), Aktuelle Entwicklungen im Bereich der Minijobs, 4. Quartalsbericht 2020, Deutsche Rentenversicherung Knappschaft-Bahn-See, Essen.

Ministerium für Energie, Infrastruktur und Digitalisierung M-V (2021), Luca-App für M-V trägt zu Lockerungen im öffentlichen Leben bei, Government Portal of the State of Mecklenburg-Vorpommern, Schwerin, https://www.regierung-mv.de/Landesregierung/em/Service/Luca-App/, retrieved 12 March 2021.

Muik, A. et al. (2021), Neutralization of SARS-CoV-2 lineage B.1.1.7 pseudovirus by BNT162b2 vaccine-elicited human sera, Science 371 (6534), 1152–1153.

Nöh, L., F. Rutkowski and M. Schwarz (2020), Auswirkungen einer CO2-Bepreisung auf die Verbraucherpreisinflation, Working Paper 03/2020, German Council of Economic Experts, Wiesbaden.

Obst, T. and T. Puls (2021), Wiederholen sich die Fehler aus dem Frühjahr 2020?, IW-Kurzbericht 13/2021, German Economic Institute, Cologne.

OECD (2021), OECD Economic Outlook, Interim Report March 2021: Strengthening the recovery: The need for speed, OECD Publishing, Organisation for Economic Co-operation and Development, Paris.

OECD (2020), OECD Economic Outlook, December 2020: Turning hope into reality, 2020 (2), 108, OECD Publishing, Organisation for Economic Co-operation and Development, Paris.

Our World in Data (2021), What share of the population has received at least one dose of the COVID-19 vaccine?, https://ourworldindata.org/covid-vaccinations, retrieved 9 March 2021.

Owen, D. (2020), Global supply chains face heavy disruption amid freight slowdown and port gridlock, PMI Research & Analysis 11 December 2020, IHS Markit, London.

Pike, R., M. Lewis and D. Turner (2009), Impact of VAT reduction on the consumer price indices, Economic & Labour Market Review 3 (8), 17–21.

RKI (2021a), Täglicher Lagebericht des RKI zur Coronavirus-Krankheit-2019 (COVID-19), Aktualisierter Stand für Deutschland 12. März 2021, Robert Koch-Institute, Berlin.

RKI (2021b), Täglicher Lagebericht des RKI zur Coronavirus-Krankheit-2019 (COVID-19), Aktualisierter Stand für Deutschland 09. Märzn2021, Robert Koch-Institute, Berlin.

RKI (2021c), Fragen zur COVID-19-Impfempfehlung (Stand 12. März 2021), Robert Koch-Institute, Berlin, https://www.rki.de/SharedDocs/FAQ/COVID-Impfen/gesamt.html, retrieved 12 March 2021.

RKI (2021d), Aktualisierter Bericht zu Virusvarianten von SARS-CoV-2 in Deutschland, insbesondere zur Variant of Concern (VOC) B.1.1.7 (Stand 10. März 2021), Robert Koch-Institute, Berlin.

Tada, T. et al. (2021), Neutralization of viruses with European, South African, and United States SARS-CoV-2 variant spike proteins by convalescent sera and BNT162b2 mRNA vaccine-elicited antibodies, bioRxiv, https://doi.org/10.1101/2021.02.05.430003.

Teles, P., H. Uhlig and J. Valle e Azevedo (2016), Is quantity theory still alive?, Economic Journal 126 (591), 442–464.

UNWTO (2021), 2020: Worst year in tourism history with 1 billion fewer international arrivals, Press release, World Tourism Organization, Madrid, 28 January.

VDA (2021), Keine Erholung auf dem deutschen Pkw-Markt, Press release, German Association of the Automotive Industry, Berlin, 3 March.

Volz, E. et al. (2021), Transmission of SARS-CoV-2 Lineage B.1.1.7 in England: Insights from linking epidemiological and genetic data, medRxiv, https://doi.org/10.1101/2020.12.30.20249034.

Wang, Z. et al. (2021), mRNA vaccine-elicited antibodies to SARS-CoV-2 and circulating variants, Nature, https://doi.org/10.1038/s41586-021-03324-6.

WHO (2021a), WHO Coronavirus Disease (COVID-19) Dashboard, World Health Organization, https://covid19.who.int, retrieved 12 March 2021.

WHO (2021b), Debate on the report “COVID-19 vaccines: ethical, legal and practical considerations”, Speech, Parliamentary Assembly of the Council of Europe (PACE), Strasbourg, 27 January.

Wollmershäuser, T. (2021), Konjunkturelle Auswirkungen der zweiten Coronawelle auf ausgewählte Wirtschaftsbereiche, ifo Schnelldienst digital 5/2021, ifo Institute, Munich.

Xie, X. et al. (2021), Neutralization of SARS-CoV-2 spike 69/70 deletion, E484K and N501Y variants by BNT162b2 vaccine-elicited sera, Nature Medicine, https://doi.org/10.1038/s41591-021-01270-4.

APPENDIX

↘ TABLE 6

Components of the forecast for GDP[1] growth (in %)

	2016	2017	2018	2019	2020	2021[2]	2022[2]
Statistical overhang at the end of the previous year[3]	0.7	0.5	1.2	0.2	0.0	1.7	2.6
Growth rate over the course of the year[4]	1.9	3.6	0.3	0.4	– 3.6	3.9	2.2
Annual rate of change of GDP, calendar adjusted	2.1	2.9	1.3	0.6	– 5.3	3.1	4.1
Calendar effect (in percentage points)	0.1	– 0.3	0.0	0.0	0.4	0.0	– 0.1
Annual rate of change of GDP[5]	2.2	2.6	1.3	0.6	– 4.9	3.1	4.0

1 – Price adjusted. 2 – Forecast by the GCEE. 3 – Percentage difference between the level of GDP in the last quarter of year t and the average level of quarterly GDP in the total year t (Annual Report 2005 Box 5). 4 – Percentage change of the fourth quarter on the fourth quarter of the previous year. 5 – Deviations in sums due to rounding.

Sources: Federal Statistical Office, own calculations

↘ TABLE 7

Contributions to growth of gross domestic product by expenditure components[1]
Percentage points

	2016	2017	2018	2019	2020	Forecast[2]		
						2021		2022
						Update	Difference to AR 2020/21	
Domestic demand	**2.8**	**2.5**	**1.7**	**1.2**	**– 4.0**	**1.1**	**(– 2.0)**	**5.9**
Final consumption expenditure	2.1	1.1	1.0	1.4	– 2.5	0.2	(– 2.0)	5.0
Private consumption[3]	1.3	0.8	0.8	0.8	– 3.2	– 0.2	(– 2.0)	4.8
Government consumption	0.8	0.3	0.2	0.5	0.7	0.4	(0.0)	0.2
Gross fixed capital formation	0.8	0.5	0.7	0.5	– 0.7	0.8	(– 0.1)	0.9
Investment in machinery & equipment[4]	0.2	0.3	0.3	0.0	– 0.8	0.5	(– 0.1)	0.4
Construction investment	0.4	0.1	0.3	0.4	0.2	0.2	(0.0)	0.3
Other products	0.2	0.1	0.2	0.1	0.0	0.2	(0.1)	0.2
Changes in inventories	0.0	0.8	– 0.1	– 0.7	– 0.8	0.0	(0.0)	0.0
Net exports	**– 0.6**	**0.1**	**– 0.4**	**– 0.6**	**– 0.9**	**2.0**	**(1.3)**	**– 1.9**
Exports of goods and services	1.2	2.2	1.1	0.5	– 4.4	4.7	(1.4)	1.9
Imports of goods and services	– 1.8	– 2.1	– 1.5	– 1.1	3.5	– 2.6	(0.0)	– 3.7
Gross domestic product (%)	**2.2**	**2.6**	**1.3**	**0.6**	**– 4.9**	**3.1**	**(– 0.6)**	**4.0**

1 – Contributions to growth of price-adjusted GDP. Deviations in sums due to rounding. 2 – Forecast by the GCEE. 3 – Including non-profit institutions serving households. 4 – Including military weapon systems.

Sources: Federal Statistical Office, own calculations

↘ TABLE 8

Wage developments in Germany

Change on the previous year in %

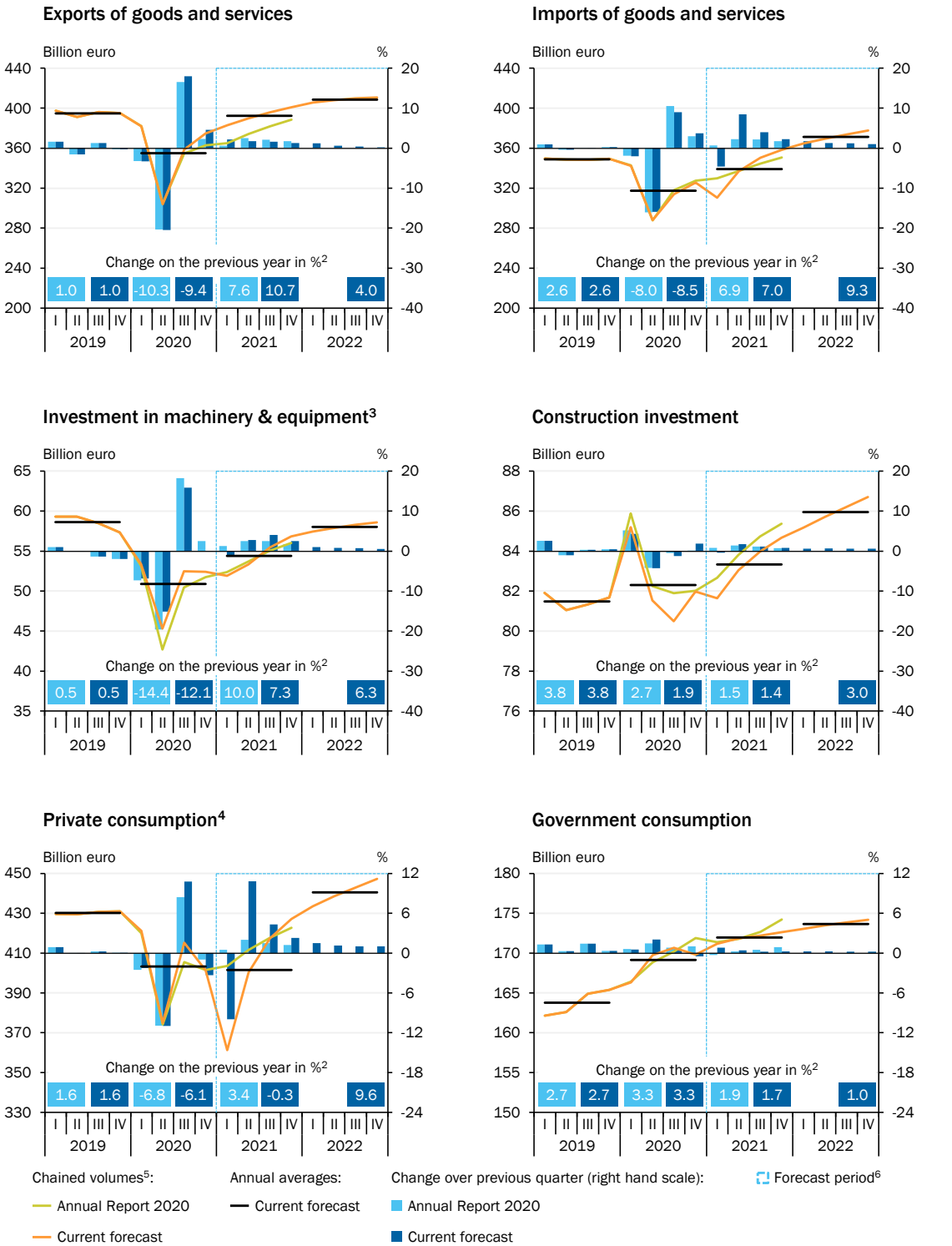
	Collectively agreed wages (hourly concept)	Effective wages[1]	Wage drift[2]	Compensation of employees per working hour	Labour productivity[3]	Unit labour costs (nominal)[4]	Unit labour costs (real)[5]
2017	2.5	2.8	0.3	2.8	1.7	1.1	– 0.2
2018	2.9	3.1	0.2	2.8	0.0	2.8	1.1
2019	3.2	3.1	– 0.1	3.1	0.0	3.2	1.0
2020	2.1	3.4	1.3	4.0	-0.2	4.2	2.5
2021[6]	1.8	1.3	– 0.6	1.4	1.2	0.2	– 1.7
2022[6]	2.3	2.3	0.0	2.3	1.7	0.6	– 1.4

1 – Gross wages and salaries (domestic concept) per employees hour worked. 2 – Difference between the increase in effective wages and the increase in collectively agreed wages in percentage points. 3 – Real GDP per working hour (employed person concept). 4 – Compensation of employees per working hour (employee concept) in relation to real GDP per working hour (employed person concept). 5 – Compensation of employees per working hour (employee concept) in relation to GDP per working hour (employed person concept). 6 – Forecast by the GCEE.

Sources: Deutsche Bundesbank, Federal Statistical Office, own calculations

↘ CHART 17

Components of the German GDP[1]



1 – All components of GDP reported price-adjusted. 2 – Not seasonally and calendar adjusted. 3 – Including military weapon systems. 4 – Including non-profit institutions serving households. 5 – Reference year 2015, seasonally and calendar-adjusted. 6 – Forecasts by the GCEE.

Sources: Federal Statistical Office, own calculations

↘ TABLE 9

Key figures of the national accounts

Absolute values

	Unit	2020	2021[1]	2022[1]	2021[1]		2022[1]	
					1. half-year	2. half-year	1. half-year	2. half-year
Use of domestic product								
at current prices								
Final consumption expenditure	billion euro	2,460.1	2,531.2	2,752.2	1,191.3	1,340.0	1,338.8	1,413.4
Private consumption[2]	billion euro	1,709.3	1,746.9	1,951.6	808.9	938.1	947.9	1,003.7
Government consumption	billion euro	750.8	784.3	800.6	382.4	401.9	390.9	409.7
Gross fixed capital formation	billion euro	735.5	783.8	835.8	368.1	415.6	400.4	435.4
Investment in machinery & equipment[3]	billion euro	213.9	232.2	248.9	106.5	125.7	118.3	130.7
Construction investment	billion euro	387.0	407.4	434.4	193.6	213.8	209.8	224.5
Other products	billion euro	134.6	144.2	152.5	68.1	76.1	72.3	80.2
Domestic demand	billion euro	3,138.3	3,259.6	3,532.3	1,536.1	1,723.4	1,716.1	1,816.2
Exports of goods and services	billion euro	1,460.1	1,640.6	1,721.5	800.1	840.5	856.9	864.5
Imports of goods and services	billion euro	1,266.1	1,394.6	1,532.9	650.0	744.5	751.2	781.7
Gross domestic product	**billion euro**	**3,332.2**	**3,505.6**	**3,720.9**	**1,686.2**	**1,819.4**	**1,821.8**	**1,899.0**
Chained volumes								
Final consumption expenditure	billion euro	2,292.1	2,299.0	2,458.7	1,093.2	1,205.9	1,205.8	1,253.0
Private consumption[2]	billion euro	1,614.7	1,609.6	1,764.6	751.0	858.6	861.5	903.0
Government consumption	billion euro	676.5	687.9	694.6	340.8	347.1	344.3	350.3
Gross fixed capital formation	billion euro	662.7	687.4	715.5	325.0	362.4	344.1	371.4
Investment in machinery & equipment[3]	billion euro	204.9	219.8	233.6	100.9	118.9	111.0	122.6
Construction investment	billion euro	330.7	335.3	345.3	161.0	174.3	167.8	177.4
Other products	billion euro	124.9	130.9	135.8	62.2	68.7	64.7	71.1
Domestic demand	billion euro	2,919.9	2,953.5	3,140.7	1,406.0	1,547.6	1,537.6	1,603.2
Exports of goods and services	billion euro	1,426.3	1,578.9	1,641.8	774.5	804.5	818.6	823.3
Imports of goods and services	billion euro	1,274.3	1,363.1	1,490.4	640.9	722.2	728.7	761.8
Gross domestic product	**billion euro**	**3,074.0**	**3,170.0**	**3,298.2**	**1,537.8**	**1,632.1**	**1,629.4**	**1,668.6**
Price Development (deflators)								
Final consumption expenditure	2015=100	107.3	110.1	111.9	109.0	111.1	111.0	112.8
Private consumption[2]	2015=100	105.9	108.5	110.6	107.7	109.3	110.0	111.2
Government consumption	2015=100	111.0	114.0	115.3	112.2	115.8	113.5	117.0
Gross fixed capital formation	2015=100	111.0	114.0	116.8	113.3	114.7	116.4	117.3
Investment in machinery & equipment[3]	2015=100	104.4	105.6	106.6	105.5	105.7	106.6	106.6
Construction investment	2015=100	117.0	121.5	125.8	120.3	122.6	125.0	126.5
Other products	2015=100	107.8	110.1	112.3	109.4	110.8	111.7	112.8
Domestic demand	2015=100	107.5	110.4	112.5	109.3	111.4	111.6	113.3
Terms of Trade	2015=100	103.0	101.6	101.9	101.9	101.3	101.5	102.3
Exports of goods and services	2015=100	102.4	103.9	104.8	103.3	104.5	104.7	105.0
Imports of goods and services	2015=100	99.4	102.3	102.9	101.4	103.1	103.1	102.6
Gross domestic product	**2015=100**	**108.4**	**110.6**	**112.8**	**109.7**	**111.5**	**111.8**	**113.8**
Production of domestic product								
Employed persons (domestic)	1,000	44,782	44,744	45,179	44,504	44,985	44,908	45,451
Labour volume	million hours	59,636	60,766	62,176	29,233	31,533	30,464	31,712
Labour productivity (per hour)	2015=100	102.9	104.2	105.9	105.0	103.3	106.8	105.0
Distribution of net national income								
Net national income	billion euro	2,492.7	2,621.4	2,742.6	1,250.4	1,371.0	1,333.7	1,409.0
Compensation of employees	billion euro	1,841.4	1,907.4	2,000.3	912.7	994.7	954.2	1,046.1
Gross wages and salaries	billion euro	1,509.4	1,561.4	1,638.5	744.2	817.2	778.3	860.2
among them: net wages and salaries[4]	billion euro	1 017.2	1 048.6	1 096.3	490.3	558.3	512.1	584.2
property and entrepreneurial income	billion euro	651.3	714.0	742.3	337.7	376.3	379.5	362.8
Disposable income of private households[2]	billion euro	1,983.0	2,036.2	2,099.9	1,002.6	1,033.6	1,040.4	1,059.5
Savings rate of private households[2,5]	%	16.2	16.6	9.6	21.5	11.8	11.3	7.9
For information purposes:								
Nominal unit labour costs[6]	2015=100	113.0	113.3	114.0	112.2	114.4	110.3	117.6
Real unit labour costs[7]	2015=100	104.2	102.4	101.0	102.3	102.6	98.7	103.3
Consumer prices	2015=100	105.8	108.1	110.2	107.4	108.7	109.7	110.6

1 – Forecast by the GCEE. 2 – Including non-profit institutions serving households. 3 – Including military weapon systems. 4 – Compensation of employees minus social contributions of employers and employees and income tax of employees. 5 – Savings relative to disposable income. 6 – Compensation of employees per working hour (employee concept) in relation to real GDP per working hour (employed person concept). 7 – Compensation of employees per working hour (employee concept) in relation to GDP per working hour (employed person concept).

Sources: Federal Employment Agency, Federal Statistical Office, own calculations

↘ TABLE 9 CONTINUED

Key figures of the national accounts

Change on the previous year in %

2020	2021[1]	2022[1]	2021[1]		2022[1]		
			1. half-year	2. half-year	1. half-year	2. half-year	
							Use of domestic product
							at current prices
– 2.0	2.9	8.7	– 0.5	6.1	12.4	5.5	Final consumption expenditure
– 5.4	2.2	11.7	– 3.0	7.2	17.2	7.0	Private consumption[2]
6.6	4.5	2.1	5.2	3.8	2.2	1.9	Government consumption
– 1.7	6.6	6.6	4.2	8.7	8.8	4.8	Gross fixed capital formation
– 10.9	8.6	7.2	8.7	8.5	11.1	3.9	Investment in machinery & equipment[3]
3.6	5.3	6.6	1.1	9.4	8.4	5.0	Construction investment
0.4	7.1	5.8	7.0	7.1	6.2	5.4	Other products
– 3.4	3.9	8.4	0.0	7.6	11.7	5.4	Domestic demand
– 9.7	12.4	4.9	13.8	11.1	7.1	2.9	Exports of goods and services
– 10.7	10.1	9.9	5.0	15.1	15.6	5.0	Imports of goods and services
– 3.4	**5.2**	**6.1**	**4.1**	**6.3**	**8.0**	**4.4**	**Gross domestic product**
							Chained volumes
– 3.5	0.3	6.9	– 2.4	2.9	10.3	3.9	Final consumption expenditure
– 6.1	– 0.3	9.6	– 4.4	3.6	14.7	5.2	Private consumption[2]
3.3	1.7	1.0	2.1	1.3	1.0	0.9	Government consumption
– 3.1	3.7	4.1	2.4	5.0	5.9	2.5	Gross fixed capital formation
– 12.1	7.3	6.3	7.3	7.2	10.0	3.1	Investment in machinery & equipment[3]
1.9	1.4	3.0	– 1.0	3.7	4.3	1.8	Construction investment
– 1.1	4.8	3.8	4.9	4.7	4.0	3.6	Other products
– 4.2	1.1	6.3	– 1.9	4.1	9.4	3.6	Domestic demand
– 9.4	10.7	4.0	12.8	8.7	5.7	2.3	Exports of goods and services
– 8.5	7.0	9.3	2.8	10.9	13.7	5.5	Imports of goods and services
– 4.9	**3.1**	**4.0**	**2.7**	**3.5**	**6.0**	**2.2**	**Gross domestic product**
							Price Development (deflators)
1.5	2.6	1.7	1.9	3.1	1.9	1.5	Final consumption expenditure
0.7	2.5	1.9	1.4	3.4	2.2	1.7	Private consumption[2]
3.2	2.7	1.1	3.0	2.5	1.2	1.0	Government consumption
1.5	2.7	2.5	1.8	3.6	2.7	2.2	Gross fixed capital formation
1.3	1.2	0.9	1.2	1.2	1.0	0.8	Investment in machinery & equipment[3]
1.7	3.8	3.5	2.0	5.5	4.0	3.2	Construction investment
1.4	2.2	2.0	2.0	2.4	2.1	1.8	Other products
0.9	2.7	1.9	1.9	3.4	2.2	1.7	Domestic demand
2.1	– 1.4	0.4	– 1.1	– 1.6	– 0.3	1.0	Terms of Trade
– 0.4	1.5	0.9	0.8	2.2	1.3	0.5	Exports of goods and services
– 2.4	3.0	0.5	2.1	3.8	1.7	– 0.5	Imports of goods and services
1.6	**2.0**	**2.0**	**1.3**	**2.6**	**2.0**	**2.1**	**Gross domestic product**
							Production of domestic product
– 1.1	– 0.1	1.0	– 0.8	0.6	0.9	1.0	Employed persons (domestic)
– 4.7	1.9	2.3	0.3	3.4	4.2	0.6	Labour volume
– 0.2	1.2	1.7	2.2	0.1	1.7	1.7	Labour productivity (per hour)
							Distribution of net national income
– 2.8	5.2	4.6	4.5	5.8	6.7	2.8	Net national income
– 0.2	3.6	4.9	3.5	3.7	4.5	5.2	Compensation of employees
– 0.8	3.4	4.9	3.3	3.6	4.6	5.3	Gross wages and salaries
							among them: net wages and
– 0.3	3.1	4.6	2.1	3.9	4.5	4.6	salaries[4]
							property and entrepreneurial
– 9.3	9.6	4.0	7.3	11.8	12.4	– 3.6	income
							Disposable income of private
0.7	2.7	3.1	1.3	4.0	3.8	2.5	households[2]
.	.	.	.	.	.	.	Savings rate of private households[2,5]
							For information purposes:
4.2	0.3	0.6	0.5	– 0.1	– 1.7	2.8	Nominal unit labour costs[6]
2.5	– 1.7	– 1.4	– 0.8	– 2.7	– 3.6	0.7	Real unit labour costs[7]
0.5	2.1	1.9	1.5	2.8	2.1	1.8	Consumer prices

1 – Forecast by the GCEE. 2 – Including non-profit institutions serving households. 3 – Including military weapon systems. 4 – Compensation of employees minus social contributions of employers and employees and income tax of employees. 5 – Savings relative to disposable income. 6 – Compensation of employees per working hour (employee concept) in relation to real GDP per working hour (employed person concept). 7 – Compensation of employees per working hour (employee concept) in relation to GDP per working hour (employed person concept).