02

ECONOMIC SITUATION: RECOVERY DEPENDS ON THE COURSE OF THE PANDEMIC

KEY MESSAGES

↘ The global economy began a strong recovery following the major slump in spring. However, there has recently been a sharp increase in the number of infections in many places.

↘ In light of the renewed restrictions, the economic recovery in the affected countries is likely to regain momentum only after the second wave of infection subsides.

↘ The German Council of Economic Experts (GCEE) expects economic output to decline in Germany by 5.1 % this year, and to increase by 3.7 % in 2021.

SUMMARY

The coronavirus pandemic **plunged the global economy into a deep recession in the first half of 2020**. Countries all over the world reacted to the spread of the virus with a wide range of containment measures. These included, for example, restrictions on social contacts, travel restrictions, business closures and bans on large-scale events. Governments and central banks are acting to counter the economic slump with **extensive monetary and fiscal policy measures**. In many countries, including Germany, short-time work is an important element for stabilising incomes. Furthermore, fiscal policy is supporting the economic recovery with discretionary **demand side stimuli**.

Over the summer, the **economy recovered rapidly** in many places in the wake of relaxed restrictions and lower infection rates. Now, in view of **rapidly rising infection figures**, restrictions are being tightened up again in many countries. Although the available economic indicators point to a **continuation of the recovery** over the autumn, particularly in **industry**, the pace of growth is likely to slow down compared to the summer. The **hospitality industry** (catering and hotels) **and other consumer-related services sectors** in particular are still far from any normalisation. Renewed restrictions and fear of infection are likely to cause **activity** in these areas to **decline again** in the winter months. In Europe especially, recovery currently seems to be on hold. In some countries particularly affected by the second wave of infections there are even signs of a decline in economic activity. Significantly positive growth rates cannot be expected until there is a fall in the number of infections and a relaxation of restrictions. However, massive restrictions on global supply chains like those seen early in the year are currently not expected.

For the **year 2020**, the GCEE expects a **GDP growth rate in Germany of –5.1 %. In 2021, economic output** is expected to grow strongly **at a rate of 3.7 %**. However, the pre-crisis level is not likely to be reached before early 2022. The GCEE expects consumer prices in Germany to rise by 0.6 % in 2020 and by 1.7 % in 2021. For the **euro area**, the GCEE expects GDP growth rates of **–7.0 %** this year and **4.9 %** next year.

Subsequent developments are subject to considerable uncertainty and will **depend essentially on the further course of the pandemic**. If comprehensive restrictions comparable to those enacted in spring 2020 are imposed, this could mean a sharp slump in economic output. On the other hand, there are opportunities for a better development if a suitable vaccine or effective drugs against coronavirus are developed, made available and distributed unexpectedly quickly.

I. INTERNATIONAL ECONOMY

1. The coronavirus pandemic plunged the global economy into a **deep recession** in the first half of 2020. However, economic activity already bottomed out in the second quarter. Following the initial rapid **rebound in economic activity** after containment measures were eased and infection rates fell, however, the pace of recovery is likely to slow down again in the autumn. For example, many countries are now showing signs of a renewed acceleration of the pandemic, leading to stricter containment measures and adjustments of behaviour by the population. In Europe in particular, economic recovery is likely to come to a temporary stand-still during the winter months. A stronger increase in economic activity cannot be expected there until the **second wave of infections has subsided** and the restrictions have been eased.

    The course of the pandemic is a crucial factor for further economic development. There is a **risk** that **a further increase in the incidence of infection and an associated comprehensive lockdown** could have a considerable impact on economic activity, as it did in early 2020. Yet, significant progress with a treatment or the rapid introduction of an effective vaccine could improve the prospects for economic recovery.

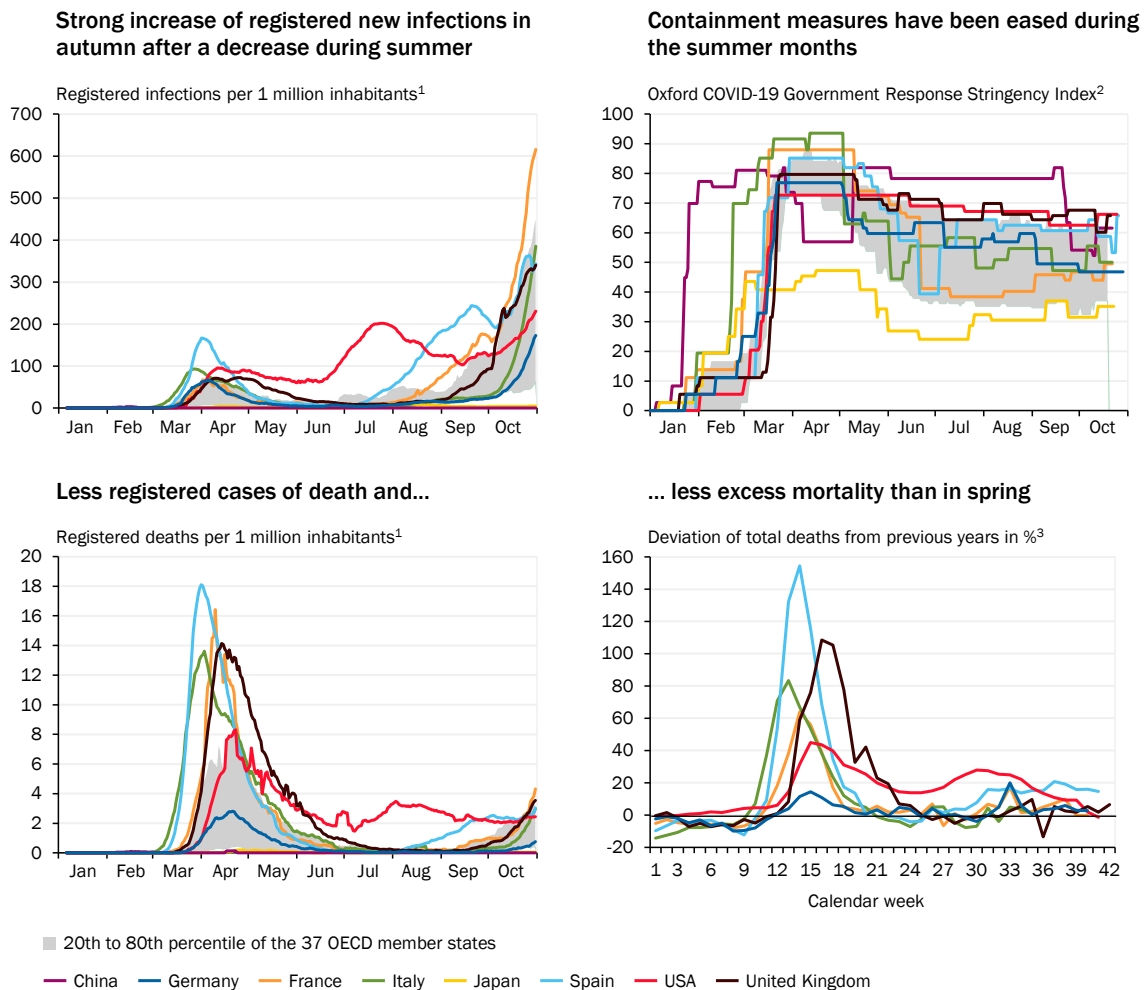## 1. The development of the global economy in the pandemic

2. The **coronavirus** (SARS-CoV-2) **has spread globally** in the course of the year. The number of registered infections now totals over 45 million according to the World Health Organisation (WHO, 2020; as of 1 November 2020). When interpreting the infection and death figures, it should be noted that **comparability** between countries and different time periods is very **limited**. In particular, the number of tests carried out and the testing strategy employed can greatly influence the number of **registered infections**. Furthermore, when it comes to fatality figures, the decisive definition is the one used to link a death to the coronavirus in statistics, e.g. those of the WHO. To date, the WHO has already recorded 1.2 million deaths (WHO, 2020; as of 1 November 2020). The total number of registered deaths – i.e. irrespective of the classification of the cause of death – indicates a marked **increase in mortality in early 2020** in some countries severely affected by the pandemic as compared to previous years. ↘ CHART 1 BOTTOM RIGHT

3. In China, the number of infections remained at a comparatively low level after the first outbreak early in the year. While the European countries particularly affected by the pandemic succeeded in significantly reducing the number of infections by the summer, the number of cases in the United States rose again significantly and did not fall until August. ↘ CHART 1 TOP LEFT Recently, the number of **new infections in Europe and the United States** has again risen sharply and is now above the

level reached early in the year in some cases. Although the number of newly registered deaths related to COVID-19 is below the level recorded in the spring, there has also been a noticeable increase in some countries recently. ↘ CHART 1 BOTTOM LEFT The reasons for the lower mortality rate than early in the year despite high infection figures could include changes in the age structure of the infected people and the expansion of testing, which means that more cases of infection are being registered in people who are less severely ill. However, there has recently been an increase in hospitalisations in the heavily affected countries.

4. In response to the spread of the pandemic, countries around the world have put a variety of **containment measures** in place. In addition to sometimes strict restrictions on social contacts and travel restrictions, these have included bans on major events and, not least, closures of shops and production facilities. After the

↘ CHART 1
Course of the coronavirus-pandemic in 2020 in selected economies

Strong increase of registered new infections in autumn after a decrease during summer

Registered infections per 1 million inhabitants[1]

Containment measures have been eased during the summer months

Oxford COVID-19 Government Response Stringency Index[2]

Less registered cases of death and…

Registered deaths per 1 million inhabitants[1]

… less excess mortality than in spring

Deviation of total deaths from previous years in %[3]

Calendar week

■ 20th to 80th percentile of the 37 OECD member states

— China — Germany — France — Italy — Japan — Spain — USA — United Kingdom

1 – Moving average of the past 7 days. 2 – 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.
3 – Change of the calendar week to the average of the respective calendar week of the years 2015 to 2019. Germany: average of the years 2016 to 2019. The actual number of deaths may be higher than indicated for the last weeks due to reporting delays.

Sources: Centers for Disease Control and Prevention, Eurostat, Oxford COVID-19 Government Response Tracker, Blavatnik School of Government, Weltbank, WHO, World Bank, own calculations

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official **restrictions** on public life had reached their peak in April in many countries, they tended to be **relaxed** over the summer. ↘ CHART 1 TOP RIGHT The remaining measures seemed to be becoming increasingly heterogeneous across countries. As the number of infections has again been rising, official restrictions have recently been tightened up again in many countries.

In addition to government requirements, people's actual behaviour plays an important role when it comes to the impact of the pandemic. Differences and changes in this dimension should be taken into account in comparisons between countries and over time. **Mobility data**, for example, sometimes indicate a much **lower implementation of containment measures** than the index quantifying the measures suggests (Al-Haschimi et al., 2020; Levy Yeyati and Sartorio, 2020). On the other hand, the population might, as a precaution, reduce their contact activities to a far greater extent than prescribed by governmental containment measures, especially when case figures are higher.

5. In some developing countries, different containment measures may prove beneficial if their welfare state is comparatively underdeveloped or their economic and social structures are different (Alon et al., 2020). For example, the proportion of people who are able to **work from home** is significantly **lower in developing countries** than in industrialised countries (Hevia and Neumeyer, 2020). People working in the informal sector do not have access to short-time work or unemployment benefits. In some countries, they make up more than 70 % of all non-agricultural workers.

In the pandemic, **developing countries and many emerging economies face particular challenges**. Although their populations tend to be younger and thus possibly less likely to fall severely ill with COVID-19, they are also likely to experience a marked decline in economic activity in 2020 (Hevia and Neumeyer, 2020). For example, the fall in the price of crude oil could have a negative impact on oil-exporting emerging economies in the Near and Middle East. The resulting lower remittances sent home by people living in oil-exporting countries, and declining development aid and tourism expenditure from those countries, can also affect oil-importing countries (Arezki et al., 2020). Furthermore, developing countries dependent on international tourism may show a marked decline in gross domestic product (GDP) even without an increase in their own infection and death rates (Djankov and Panizza, 2020; Mooney and Zegarra, 2020). In Latin America, some countries such as Argentina, Brazil and Mexico have limited or no possibility of financing fiscal policy measures via private capital market investors to combat the effects of the pandemic (Levy Yeyati and Valdes, 2020). This is also likely to be the case in other emerging economies (Hevia and Neumeyer, 2020).

The development of the global economy up to autumn 2020

6. As a result of the spread of the pandemic and the associated restrictions, there was a deep **slump in economic activity** worldwide in the first half of 2020. ↘ CHART 2 TOP LEFT In China, where the virus first spread, there was already a sharp drop in real GDP at the beginning of the year; the economy then recovered mark-
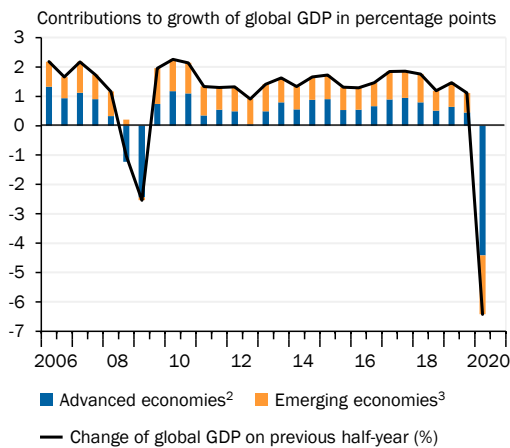
edly in the second and third quarters. GDP fell in the other major economies, especially in the second quarter. For example, some major European economies recorded double-digit negative quarterly GDP growth rates. ↘ CHART 2 TOP RIGHT

7. This development was accompanied by a sharp **decline in confidence indicators** for businesses and consumers. ↘ CHART 2 BOTTOM LEFT While the assessments of the former have already recovered considerably, measured consumer confidence has only risen slightly and remains at a relatively low level. At the same time, global uncertainty about future economic policy measures and economic development remains extremely high. ↘ CHART 2 BOTTOM RIGHT
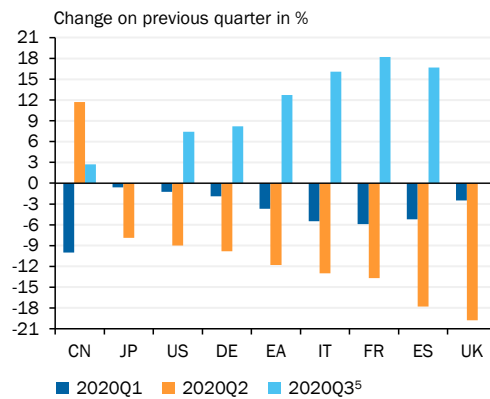
↘ CHART 2

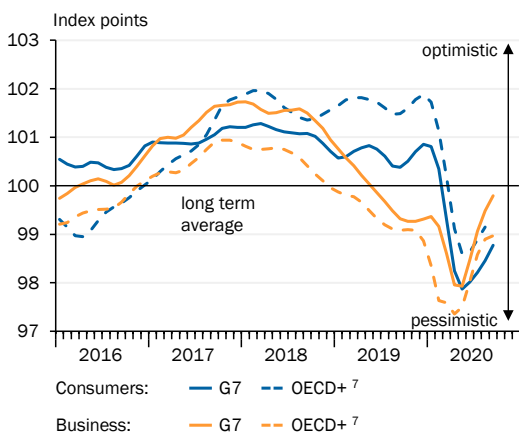**Development of GDP, confidence indices, crude oil price and uncertainty**

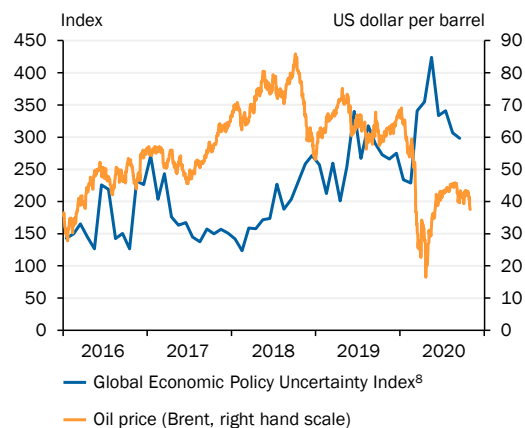**Strong slump of global GDP in the first half-year 2020[1]**

Contributions to growth of global GDP in percentage points

- Advanced economies[2]
- Emerging economies[3]
— Change of global GDP on previous half-year (%)

Significant differences in the decrease of GDP in the large economies[4]

Change on previous quarter in %

- 2020Q1
- 2020Q2
- 2020Q3[5]

Confidence indicators recover[6]

Index points

Consumers: — G7   - - OECD+ [7]
Business: — G7   - - OECD+ [7]

High uncertainty, low oil price

Index   US dollar per barrel

— Global Economic Policy Uncertainty Index[8]
— Oil price (Brent, right hand scale)

1 – Change on previous half-year, half-year averages of seasonally and price-adjusted quarterly figures. Global GDP corresponds to the sum of the countries in Table 1 (Total). 2 – Definitions as in footnote 9 in Table 1. 3 – Definitions as in footnote 10 in Table 1. 4 – CN-China, JP-Japan, US-USA, DE-Germany, EA-Euro area, IT-Italy, FR-France, ES-Spain, UK-United Kingdom. 5 – No data available yet for Japan und the United Kingdom. 6 – Standardized OECD confidence indicators. The business confidence index represents the manufacturing sector. 7 – The aggregate "OECD+" includes the member states of the OECD as well as the non-member states Brazil, China, India, Indonesia, Russia and South Africa (Major Six NME). 8 – Index for 21 countries weighted by the purchasing power adjusted GDP. Average of the years 1997 to 2015 = 100.

Sources: CPB, Economic Policy Uncertainty, Eurostat, IMF, National Statistical Offices, OECD, Refinitiv Datastream, own calculations

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After a sharp increase in volatility in early 2020, global **financial markets** calmed down over the summer. ↘ BOX 1 Systemic stress indicators fell in advanced and emerging economies, capital outflows from emerging economies slowed (IMF, 2020a) and risk premiums on corporate bonds were down. The **oil price** rose again after a low in April. ↘ CHART 2 BOTTOM RIGHT

↘ BOX 1

Impact of current real economic developments on the financial sector

At the beginning of the coronavirus pandemic, systemic **stress indicators** in the financial markets rose to levels not seen since the global financial crisis. ↘ CHART 3 LEFT In principle, empirical studies suggest a negative correlation between such financial market developments and economic activity. This relationship varies over time and often only becomes apparent above a certain stress level (Hollo et al., 2012; Hubrich and Tetlow, 2014; Caldara et al., 2016; Prieto et al., 2016). However, the expansionary monetary and fiscal policy measures contributed to a relatively rapid calming of financial markets and a decline in stress indicators. The current focus is thus on the **effects** of the real economy **on the financial sector**.

An analysis by the European Banking Authority (EBA, 2020) shows that EU banks could see a relatively sharp **increase in credit risk**. According to this analysis, loans to non-financial corporations accounted for an average of 36 % of the loan portfolios of the major European banks at the end of 2019. Of this, 57 % was in turn accounted for by **economic sectors that were particularly affected by the crisis** (EBA, 2020). In Cyprus, Croatia and Greece, accommodation and food services accounted for more than 10 % of loans to non-financial corporations. In Germany, these areas accounted for approximately 2 % of the credit volume granted by German banks to domestic companies in Q2 2020 (Deutsche Bundesbank, 2020). Some particularly affected areas already had a high loan-loss ratio at the end of 2019: While non-performing loans accounted for an average of 3.1 % of the total lending volume of major European banks, their share was 9 % on average in accommodation and food services and 7 % in manufacturing, wholesale and retail trade, and transport (EBA, 2020). This is possibly an indication of profitability problems that already existed before the coronavirus pandemic and which could increase the probability of future credit defaults through lower equity capitalisation.

On the financial markets, there is an **increase in the costs of default insurance for corporate bonds** ↘ CHART 3 RIGHT and bank bonds, especially in the high-yield segment (BIS, 2020; Deutsche Bundesbank, 2020). Changes in credit default costs can be attributed at least in part to a change in expected default probabilities (Choi et al., 2020; Faquiryan et al., 2020). In addition, against the backdrop of rising or already higher unemployment rates, banks are exposed to a greater risk of loss on consumer credit and, to a lesser extent, on mortgages (BoE, 2020a; Deutsche Bundesbank, 2020; Fed, 2020a).

Although volumes of non-performing loans in the euro area have fallen sharply in recent years ↘ ITEM 308, the share of non-performing loans, at around 3 % of total lending in the fourth quarter of 2019, was above the level of about 2 % recorded before the global financial crisis (ECB, 2015; EBA, 2020). An **increase in non-performing loans** is expected in the coming years (ECB, 2020a), which could have a negative impact on lending activity and thus on the speed of recovery after the economic crisis.

↘ CHART 3

Developments on the financial markets

Stress indicators declined after a strong increase early in the year

CISS index[1]

China ── Euro area ── USA
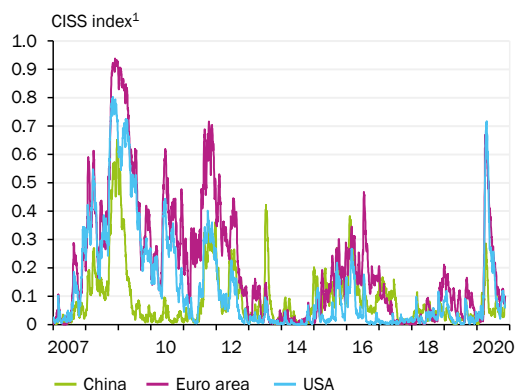
Credit default insurance costs in the USA and Europe are rising[2]

Basis points

iTraxx Europe ── iTraxx Asia excluding Japan
iTraxx Japan ── CDX North America

1 – Composite Indicator of Systemic Stress (CISS) of the ECB. The (New) CISS Index summarises the development of 15 mainly financial market-based stress indicators, taking into account the correlation between the underlying time series. The indices can take values between 0 and 1. The CISS index for China is based on 16 indicators. 2 – The chart shows the development of option premiums of selected credit default swaps. The iTraxx Europe (S32 V1) contains corporate bonds with investment grades. The iTraxx Japan (S32 V1) also includes un-rated corporate bonds and corporate bonds below investment grade. The CDX North America (S33 V1) and the iTraxx Asia ex-Japan (S32 V1) also include unrated corporate bonds.

Sources: ECB, Refinitiv Eikon

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A study by Allianz Research (2020a), for example, suggests that the number of corporate insolvencies worldwide will increase by a total of 35 % in the next two years (2008/09: 46 %). An increase of 57 % (2008/09: 114 %) is expected for the United States, 32 % (2008/09: 85 %) for the euro area, 12 % for Germany (2008/09: 12 %), and 40 % (2008/09: 3 %) for China. This forecast assumes a global GDP decline of 4.7 % in 2020 and 4.8 % growth in 2021 (Allianz Research, 2020b). The Deutsche Bundesbank (2020) estimates that the increase could exceed 35 % by the first quarter of 2021. Insolvencies in manufacturing would rise to a level which, although comparable to that of the global financial crisis, is regarded as typical of a recession. However, the latter estimate is based on historical data that do not capture the exceptional nature of the pandemic nor the scale of the support measures. State guarantees could **significantly reduce the losses** expected for banks (ECB, 2020a). The stress tests conducted by the banking supervisory authorities in the euro area and the United States suggest that the respective **banking systems** are **sufficiently capitalised** to cope with the pandemic-related economic slump. For example, in the baseline simulation of the effects of the pandemic conducted by ECB Banking Supervision, the equity ratio (CET1) will fall from 14.5 % at the end of 2019 to 12.6 % in 2022 (ECB, 2020b), among other things due to an expected rise in loan defaults. In the V-scenario of the Federal Reserve (Fed), the ratio will fall from 12 % in the fourth quarter of 2019 to 9.9 % at the beginning of 2022 (Fed, 2020b). Individual banks could be more exposed. If the equity ratio falls too far, the banks affected could restrict their lending.

In the coronavirus pandemic, the balance sheets of European and US banks have hitherto developed similarly. For example, the balance sheet total of banks within the scope of the Single Supervisory Mechanism (SSM) rose by 7.9 % in the second quarter (compared to the same quarter of the previous year), while it was up 13.1 % in the United States. This reflects not least an **increase in borrowing by companies** that have to bridge liquidity bottlenecks caused by pandemic-related falls in revenues. Since such bridging loans are not linked to profitability-enhancing measures such as investments, the rise in debt increases the risk of over-indebtedness, in which case the higher debt levels cannot be repaid, or investments are cancelled.
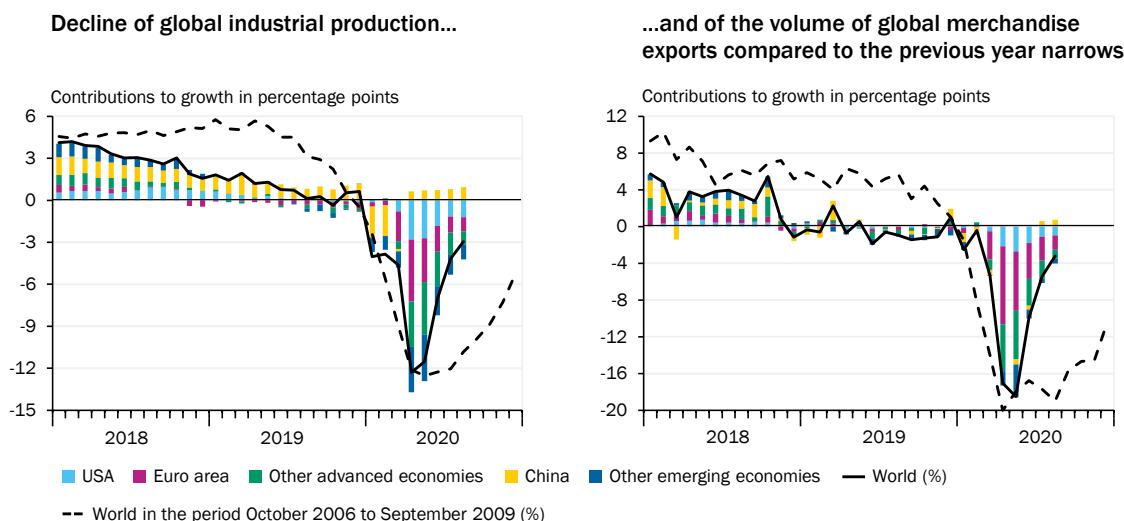
The risk-weighted equity ratio (CET1) rose at European and US banks compared to the same quarter of the previous year and the previous quarter; the (unweighted) leverage ratio decreased. **Differences** arise when it comes to the **extent of the decline in profitability**. For example, the return on banks' equity within the scope of the SSM fell from 6.01 % (Q2 2019) to 0.01 % (Q2 2020); in the United States it fell from 10.8 % (Q2 2019) to 5.0 % (Q2 2020). Much of the decline in banks in the SSM is due to an **increase in impairments and provisions** (ECB, 2020c); US banks also increased their loan-loss provisions. The already low profitability of European banks before the pandemic reduces their resilience to future crises and may slow down the necessary digitalisation of business models. A **consolidation in the banking sector** could address these problems (ECB, 2020d). The share of non-performing loans as a percentage of all loans rose in the second quarter in the case of US banks, whereas in the SSM area it declined compared to the prior-year quarter and the previous quarter.

8. According to data from the Dutch Centraal Planbureau (CPB), **global trade in goods** collapsed by over 15 % between February and May 2020. However, as in the case of industrial production, its subsequent recovery has so far been faster than after the slump during the global financial crisis. ↘ CHART 4 The global volume of trade in goods already rose strongly in June compared to the previous month, and in August was only 3 % to 4 % below the pre-coronavirus level. In August, daily cargo capacity on the world's oceans was back in the range that would have been expected based on historical data before the pandemic (IfW, 2020a). According to data from the World Trade Organisation (WTO), **global trade in services** slumped by 30 % in the second quarter compared to the same quarter of the previous year (Q2 2009: −17 %). The fall in spending by international travellers was particularly marked at 81 %. Spending on transport decreased by 31 %; only exports of IT services showed an increase (WTO, 2020a). Compared to goods exports, some large economic areas such as the EU, the United States and Japan

↘ CHART 4

Regional contributions to global growth of industrial production and merchandise exports[1]

Decline of global industrial production…

Contributions to growth in percentage points

…and of the volume of global merchandise exports compared to the previous year narrows

Contributions to growth in percentage points

■ USA ■ Euro area ■ Other advanced economies ■ China ■ Other emerging economies — World (%)

-- World in the period October 2006 to September 2009 (%)

1 – Change on same month of the previous year, seasonally adjusted. Data and country definitions of the Dutch Centraal Planbureau (CPB).

Sources: CPB, own calculations
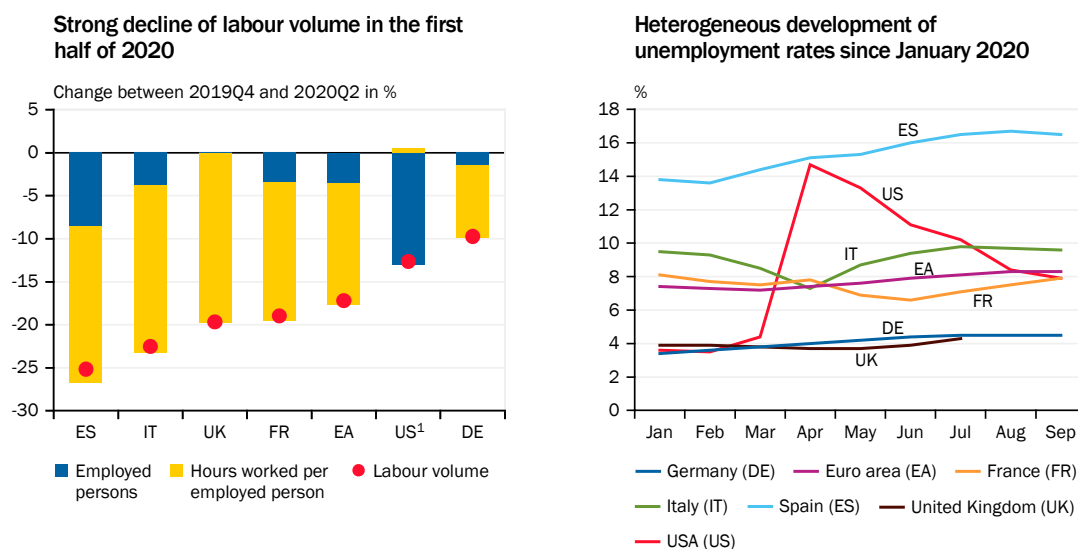
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showed a weaker counter-movement in services exports up to August (WTO, 2020b).

The major economies in detail

9. **China** was the first country affected by the pandemic. After the Chinese government had taken very strict containment measures, the first quarter of 2020 saw a sharp, seasonally adjusted 10 % fall in GDP compared to the previous quarter. Against the background of low infection rates and a relaxation of measures, the **Chinese economy rebounded strongly** in the second and third quarters, with seasonally adjusted GDP rising by 11.7 % and 2.7 %, respectively. It thus exceeded the pre-crisis level by 3.2 %. Monthly available indicators such as industrial production or retail trade also point to a strong recovery. The same applies to Chinese foreign trade. In August, for example, Chinese exports rose by 9.5 % compared to the same month in 2019. In February, by contrast, they were 17.2 % down on the previous year. While consumer price inflation rates had been around 4 % to 5 % between November 2019 and February 2020, inflation dynamics weakened from March 2020 onwards. The inflation rate is currently 1.7 %.

10. To stabilise the economy, the Chinese government has announced **discretionary fiscal policy measures** amounting to about 4.5 % of GDP and has already implemented some of them (IMF, 2020b). The measures include reductions in social insurance contributions and tax payments, expansions of state unemployment benefits and state investments in healthcare. Furthermore, monetary policy measures were taken to increase liquidity in the banking sector, interest rates were cut and lending to companies was promoted.

11. In the second quarter of 2020, seasonally adjusted GDP in the **United States** fell by **9.0** % compared to the previous quarter. While the major European economies saw above all a decline in the number of hours worked per worker, ↘ CHART 5 LEFT the United States experienced a sharp rise in the unemployment rate. This could be due to the fact that many economies in Europe have used short-time working schemes to mitigate the impact of the pandemic on employees and businesses, whereas the United States has used high unemployment benefits. After peaking at 14.7 % in April, the unemployment rate fell to 7.9 % in September. ↘ CHART 5 RIGHT Before the outbreak of the pandemic, it was only 3.5 %. The participation rate – defined as the relation between employed and unemployed persons on the one hand and the number of people over the age of 15 on the other – fell by 3.2 percentage points between February and April, of which 1.2 percentage points had been recovered by September.

12. **Numerous monetary and fiscal policy measures** were adopted to counteract the economic slump (GCEE Special Report item 79). ↘ ITEMS 99 FF. By October, the discretionary fiscal policy measures amounted to around 12 % of GDP. As a result, net borrowing is expected to widen to approximately −18.7 % in relation to GDP this year, and the government debt ratio is likely to rise from 109 % of GDP at the end of 2019 to 131 % (IMF, 2020b). A further economic stimulus package is currently the subject of political negotiations, so that the timing, scope and design of the programme are difficult to assess at present.

↘ CHART 5

Development of labour volume and unemployment rates in international comparison

Strong decline of labour volume in the first half of 2020

Change between 2019Q4 and 2020Q2 in %

Heterogeneous development of unemployment rates since January 2020

■ Employed persons   ■ Hours worked per employed person   ● Labour volume

— Germany (DE)   — Euro area (EA)   — France (FR)
— Italy (IT)   — Spain (ES)   — United Kingdom (UK)
— USA (US)

1 – Calculations for the USA based on average weekly working time.

Sources: BLS, Eurostat, own calculations

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At its September meeting, the **Federal Reserve** (Fed) announced its expectation that the currently targeted range for the federal funds rate of 0 % to 0.25 % will prove appropriate until full employment is reached, the inflation rate has risen to 2 %, and it is clear that this level will be slightly exceeded for some time. The Fed significantly revised upwards its expectations for economic growth compared to its June meeting. Between 11 March and 21 October 2020, holdings of US government bonds increased by around 2 trillion US dollars (around 9 % of GDP) and holdings of mortgage-backed securities by 675 billion US dollars (around 3 % of GDP). The Fed decided to continue expanding its holdings of government bonds and securities in the coming months at least at the current rate of 80 billion US dollars (around 0.37 % of GDP) and 40 billion US dollars (around 0.19 % of GDP) per month, respectively (Fed, 2020c; New York Fed, 2020), in order to ensure the functioning of markets and the effective transmission of monetary policy, as adopted in March (Fed, 2020d). No upper limit on the expansion of the bond and securities holdings was announced.

13. An agreement was reached in the **trade conflict** between the United States and China at the beginning of the year, according to which China undertakes to expand imports of certain United States goods. The United States partly reduced the punitive tariffs on Chinese goods introduced during the conflict or suspended the introduction of new tariffs. Although the agreement only sets annual targets, there are indications that China will fall far short of the promised additional import volumes up to August. Overall, the United States trade deficit has widened compared to February.

14. In Europe, the **United Kingdom** recorded the largest decline in GDP (−19.8 %, seasonally adjusted) in the second quarter on the previous quarter. The deep slump can be partly explained by the fact that **containment measures** were introduced **comparatively late** and therefore had to remain in force for longer

to bring the pandemic under control. As a result, their impact on the second quarter was stronger than in other economies. Unemployment rose only slightly to 4.5 % by August. The Coronavirus Job Retention Scheme (a short-time working allowance), which was introduced in March and remains in force until the end of October, prevented a sharp increase. As from November, it will be replaced by a less generous variant (Job Support Scheme), which will run for six months.

Fiscal policy measures taken in the United Kingdom to tackle the economic crisis amounted to about 9 % of GDP in September (IMF, 2020b). In addition, extensive **support measures** for companies were taken in the form of loans and guarantees. The Bank of England (BoE) lowered the key interest rate (Bank Rate) from 0.75 % to 0.1 % and announced a £300bn (13.8 % of GDP) expansion of its programmes for purchasing government and corporate bonds (Bank of England, 2020b, 2020c, 2020d). The latter should be fully implemented by the end of the year (BoE, 2020e). In total, government bond purchases of £241.1 billion (11.1 % of GDP) and corporate bond purchases of £9.4 billion (0.4 % of GDP) were made in the second and third quarters (BoE, 2020f, 2020g). Due to the stable liquidity conditions, the BoE stated in September that the purchases could be continued at a slower pace (BoE, 2020e).

15. In **Japan**, the second-quarter slump in GDP was comparatively small at −7.9 %. Despite a population of over 120 million, confirmed coronavirus infections are less than a quarter of the cases recorded in Germany. Officially registered deaths related to coronavirus were about 1,700, compared to approximately 10,000 in Germany. The containment measures imposed by the Japanese government were relatively moderate by international standards. ↘ CHART 1 TOP RIGHT Production slumped somewhat later than in other major economies. ↘ CHART 1 TOP LEFT Unemployment rose from 2.4 % in February to 3.0 % in August.

2. Outlook

16. In the meantime, many indicators show that an **economic recovery** already **began** in the course of the second quarter of 2020 and that a number of economies are set to experience a strong rebound effect in the third quarter. For example, global industrial production in April was down by more than 12 % on the same month in 2019. In August, the decline was only around 3 %. ↘ CHART 4 LEFT World trade also recovered markedly over the summer months. ↘ ITEM 8 Nevertheless, the available indicators suggest that the pace of recovery has slowed recently in many places. ↘ CHART 6

17. The current **sharp rise in the number of infections** in many advanced economies is now likely to lead to renewed uncertainty and concern about contagion. This and the renewed tightening of infection control restrictions are **likely to further curb the recovery** and could lead to another decline in GDP in the fourth quarter in some severely affected countries. In China and other Asian countries, by contrast, no sharp rise in infection numbers has been recorded to date. Unlike in the early part of the year, massive disruptions to global supply chains, which would put a lot of pressure on production in the manufacturing sector, are
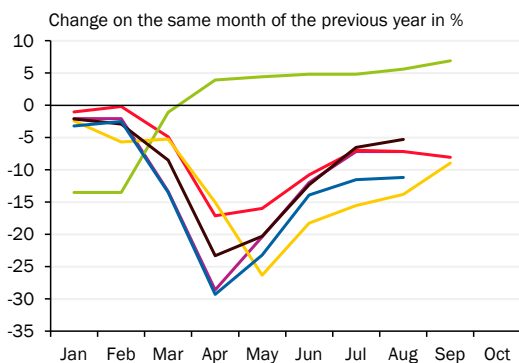
therefore not expected at present. However, in the services sector especially, many countries affected by a second wave of infection are likely to experience a further significant decline in activity.

18. In **China**, industrial production and retail sales have recovered strongly. ↘ CHART 6 TOP Third quarter GDP was 4.9 % up on the prior-year quarter; this growth rate had been –6.8 % in the first quarter. The Purchasing Managers' Indices continued to indicate a clearly **positive prevailing mood** in September. If China can continue to keep new infections under control, its economy should continue to grow strongly. However, should the recovery in other major economies slow significantly, this could have a negative impact on the speed of China's recovery due to falling demand for exports. Unlike China, **Japan** has so far shown **less of a recovery trend**, at least in terms of industrial production. This could be due to the fact that the slump in production occurred somewhat later than in other major economies. In October, the Purchasing Managers' Indices in manufacturing and services remain below the growth threshold of 50, indicating a prolonged period of weakness. ↘ CHART 6 BOTTOM

↘ CHART 6
Monthly indicators of economic development in selected large economies in 2020

Shortfall of industrial production compared with the same month of the previous year has decreased

Change on the same month of the previous year in %

Fast recovery of retail sales[2]

Change on the same month of the previous year in %
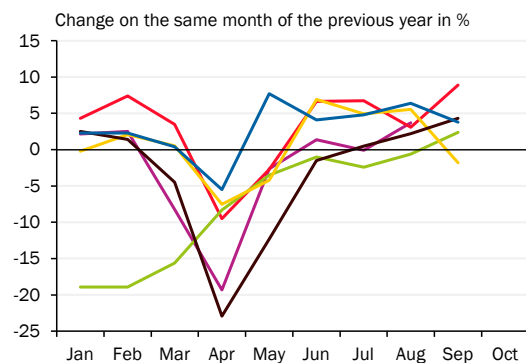
Higher business activity in the manufacturing sector

PMI[3], index points, seasonally adjusted

Index values above 50 indicate growth compared to previous month
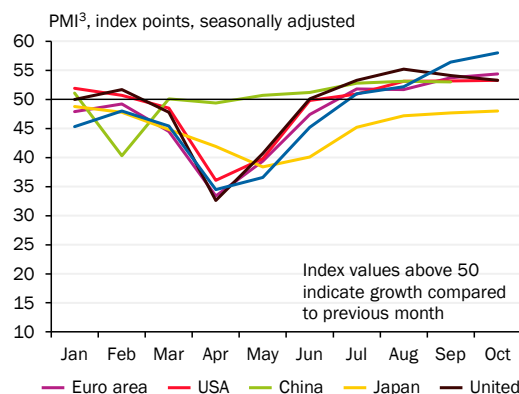
Weaker prospects in the service sector after an interim recovery

PMI[3], index points, seasonally adjusted

Index values above 50 indicate growth compared to previous month
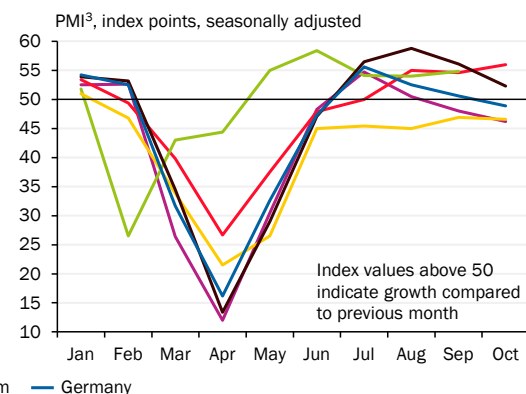
— Euro area — USA — China — Japan — United Kingdom — Germany

1 – Data for January and February are consolidated and published together in China. 2 – Except of motor vehicles and motorcycles. 3 – Purchasing Managers' Index.

Sources: Eurostat, national statistical offices, Refinitiv Datastream, own calculations

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↘ TABLE 1

Gross domestic product and consumer prices of selected countries

Country/country group	Weight in %[1]	Gross domestic product[2]			Consumer prices		
		Change on previous year in %					
		2019	2020[3]	2021[3]	2019	2020[3]	2021[3]
Europe	**28.4**	**1.5**	**– 6.9**	**4.4**	**2.1**	**1.2**	**1.8**
Euro area	17.3	1.3	– 7.0	4.9	1.2	0.3	1.1
United Kingdom	3.7	1.3	– 11.5	4.6	1.8	0.9	1.5
Russia	2.2	1.3	– 4.4	2.7	4.5	3.4	4.0
Central and Eastern Europe[4]	1.8	3.8	– 5.0	3.1	2.6	3.1	2.5
Turkey	1.0	1.0	– 3.0	4.6	15.2	11.6	10.9
Other countries[5]	2.6	1.5	– 3.9	3.0	1.2	0.3	0.9
America	**35.3**	**1.9**	**– 4.3**	**3.9**	**2.8**	**2.1**	**2.6**
United States	27.7	2.2	– 3.7	3.8	1.8	1.3	1.9
Latin America[6]	3.0	0.0	– 8.9	4.6	12.2	10.5	10.4
Brazil	2.4	1.1	– 5.3	3.6	3.7	2.8	2.9
Canada	2.2	1.7	– 5.7	4.6	1.9	0.5	1.3
Asia	**36.3**	**4.4**	**– 1.4**	**6.8**	**2.2**	**2.1**	**1.8**
China	19.0	6.1	1.8	8.9	2.9	2.5	2.0
Japan	6.6	0.7	– 5.4	2.9	0.5	0.2	0.2
Asian advanced economies[7]	3.9	1.6	– 2.0	3.1	0.7	0.2	0.7
India	3.7	4.7	– 8.0	8.3	3.7	6.3	4.9
Southeast Asian emerging economies[8]	3.1	4.4	– 4.3	5.3	2.0	1.0	2.0
Total	**100**	**2.7**	**– 4.0**	**5.1**	**2.4**	**1.8**	**2.1**
Advanced economies[9]	65.6	1.7	– 5.2	4.0	1.5	0.8	1.4
Emerging economies[10]	34.4	4.5	– 1.8	7.2	4.2	3.8	3.5
memorandum:							
weighted by exports[11]	100	2.2	– 5.3	4.9	.	.	.
following IMF concept[12]	100	2.8	– 3.3	5.1	.	.	.
World trade[13]		– 0.4	– 6.2	5.8	.	.	.

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

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

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19. According to the first official estimate, GDP in the **United States** grew strongly in the third quarter at 7.4 % compared to the previous quarter. At the same time, the situation on the labour market has recovered markedly since April, although it is still far from pre-crisis levels. Most recently, the **decline in unemployment** and the increase in employment have slowed down noticeably. The Purchasing Managers' Index for manufacturing and the corresponding index for services remain well above the growth threshold of 50 points in October, indicating a positive development. However, the recent sharp rise in new infections is likely to

dampen development again in the fourth quarter. Furthermore, it remains unclear at present whether a further fiscal stimulus package will be adopted in the near future.

20. Industrial production and retail sales have recovered significantly in the **United Kingdom**. ↘ CHART 6 TOP The Purchasing Managers' Indices for manufacturing and services, however, point to a weakening of recovery dynamics in September. ↘ CHART 6 BOTTOM As the number of new infections increased again, the government tightened its contact restrictions. Moreover, negotiations on future trade relations with the EU are proving difficult and their outcome is uncertain at this stage. ↘ ITEMS 333 F. Overviews of the economic literature show that the vast majority of studies anticipate negative long-term consequences of **Brexit** for the British economy (ECB, 2020e; GCEE Annual Report 2016 items 306 ff.; GCEE Annual Report 2018 items 38 f.). The forecast is based on the assumption that short-term distortions, triggered for example by interrupted supply chains and turbulence on the financial markets, can be largely avoided. However, the looming restrictions on trade relations with the EU are likely to burden the growth of the British economy in the coming year.

21. Overall, the GCEE expects **global GDP to fall** by 4.0 % in 2020. ↘ TABLE 1 In 2021, the global economy is then expected to grow again significantly by 5.1 %. This development applies to advanced economies and emerging economies. Of the major economies, only China is likely to record positive growth in 2020, although, at 1.8 %, it remains well below the rates achieved in previous years. The expected strong Chinese growth in the coming year will make a significant contribution to the then higher growth rate of the emerging economies.

    Using the measurement concept of the CPB, the GCEE expects a 6.2 % decline in the volume of world trade for the current year as a whole. As the economic recovery continues, particularly in industry, world trade should then also record strong growth of 5.8 % in 2021.

3. Opportunities and risks

22. The further **course of the pandemic** poses a **major risk** to the further economic development. The forecast assumes that, especially in the large economies, renewed massive declines in total economic activity like those that occurred in spring 2020 can be prevented. Such declines could be caused by drastic, comprehensive governmental containment measures or voluntary changes in behaviour due to a **sharp increase in the number of cases** and concerns about the risk of infection. As long as the virus continues to spread strongly in some parts of the world, even a regional dynamic infection event could restrict supply chains and reduce export demand for less affected regions because of global economic interdependence.

    Comprehensive lockdowns on a larger scale or a rapid, **unchecked increase in the number of cases would considerably reduce economic activity**.

⬂ BOX 2 The longer-lasting restrictions would make it increasingly difficult for companies and households – as well as some states – to get through the pandemic. This could greatly reduce the momentum of recovery. In a model-based scenario analysis, the IMF (2020c) illustrates that, in the short and medium term, global economic output is likely to lag significantly behind the baseline scenario if stronger containment measures have to be taken and a lack of progress in disease control continues to restrict contact-relevant economic activities. According to the simulation, global growth in 2021 would be almost 3 percentage points lower in this scenario.

⬂ BOX 2

Economic impact of the coronavirus pandemic and containment measures

Various studies have now empirically investigated the economic effects of the coronavirus pandemic and health policy containment measures (IMF, 2020d).

Fernandes (2020) uses a scenario calculation to estimate the impact of the coronavirus pandemic on GDP for 30 countries. According to his calculations, the effects on GDP of a shutdown lasting one and a half months in the middle scenario over 2020 as a whole would be between –3.5 % and –6 %: the figure in Germany would be –4.8 %. The effects are most severe in countries with a strong services orientation and intensive trade relations. Barrot et al. (2020), using a general equilibrium model, estimate the effects of a shutdown on GDP, also lasting one and a half months, to be even more severe, namely –6.6 %. Similarly, Dorn et al. (2020) in scenario calculations from the spring come up with stronger **effects of a** two-month **shutdown** in Germany, namely a reduction in the growth rate of GDP of between 7 and 11 percentage points; each additional week leads to an additional decline of 0.7 to 1.2 percentage points.

Overall, the outbreak of the coronavirus pandemic has led to a significant decline in consumption, particularly in the retail and hospitality sectors, although stockpiling initially led to an increase in the consumption of individual goods (Baker et al., 2020, for the United States; Chronopoulos et al., 2020, for the United Kingdom). Germany also saw exceptionally high demand for selected everyday items in February and March (Federal Statistical Office, 2020a). For example, Baker et al. (2020) have examined transaction data for the United States and found that household spending initially increased by about 50 % between 26 February and 11 March. As the number of infections increased further, however, consumer spending fell overall. Average spending on restaurant visits, for example, fell by more than 20 % in the last week of March compared to pre-crisis levels; spending on public transport fell by more than a third and air travel by more than 50 %. The studies by Carvalho et al. (2020) for Spain and by Coibion et al. (2020) and Baker et al. (2020) for the United States show on the basis of transaction and survey data that health policy **containment measures** are responsible for part of the decline in consumption. Baker et al. (2020), for example, find that reductions in expenditure in states with curfews were about twice as large as in states without such restrictions.

The coronavirus crisis also led to a rise in **unemployment** (Béland et al., 2020; Chetty et al., 2020). Several studies for the United States based on surveys show that local **shutdowns** and curfews contributed significantly to this increase (Béland et al., 2020; Coibion et al., 2020). Other studies, however, analysing high-frequency regional data, find that a greater proportion of the increase is due to the **tense overall situation**, e.g. increased uncertainty and worsening expectations, and **not to political containment measures** (Baek et al., 2020; Chetty et al., 2020; Forsythe et al., 2020). Aum et al. (2020) investigate the impact of a local increase in infection rates on job losses in the Republic of Korea, where intensive testing and tracing has been used instead of a shutdown. They

conclude that an **increase in infection rates of 1 per 1 000 inhabitants** has led to a **decline in local employment of 2 % to 3 %**, which is **about half the effect in the United States and the United Kingdom.** This would mean that only about half of the decrease in employment in the United States and the United Kingdom is due to the shutdowns there (Aum et al., 2020).

The Joint Economic Forecast Project Group (2020) finds a correlation between the degree of government containment measures (Stringency Index) ↘ CHART 1 TOP RIGHT and the extent of the **economic slump** in a country. Many studies highlight the role of **voluntary distancing and restraint** in the decline of economic activity (Maloney et al., 2020, for different countries; Chetty et al., 2020, Goolsbee et al., 2020, for the United States; Chen et al., 2020, for the United States and some European countries; Andersen et al., 2020, for a comparison between Denmark and Sweden). Various real-time data were examined in these studies: mobility data, mobile-phone data, corporate data, data on electricity consumption and financial transactions. Demirgüç-Kunt et al. (2020) compare the **economic impact of containment measures** in several European and Central Asian countries and conclude that the negative economic impact **was weaker** in those countries that **introduced** containment measures relatively **early on in the course of the pandemic** than in countries that responded relatively late. On average, economic activity – as measured using real-time indicators such as electricity consumption, nitrogen dioxide emissions and mobility data – decreased by **10 %** in the countries studied. Bricco et al. (2020) discuss the fact that although less stringent measures may cause less economic damage in **the short term**, they may subsequently lead to a longer duration of the pandemic and worse economic problems. Proxies for economic activity are data on financial transactions that are available in real time, as well as information on job applications and short-time work. The authors also emphasise that the economic impact of containment measures depends, among other things, on the behaviour of the population, demographics, the degree of export orientation, dependence on supply chains and the possibilities of working from home.

Acemoglu et al. (2020) investigate the containment measures that are optimal from the angle of a **SIR** (susceptible-infected-recovered) **model** with heterogeneous groups of people, and recommend differentiated steps. Various studies estimate the economic impact of the coronavirus pandemic using structural macroeconomic models. In their baseline specification for the United States, Baqaee and Farhi (2020) estimate an effect of –9 % on GDP growth, –1 percentage point on inflation, and up to 7 % on unemployment compared to the reference scenario. Bonadio et al. (2020) examine the role of global supply chains in the impact of the coronavirus pandemic on economic growth for 64 countries and find that about a quarter of the GDP decline is due to foreign shocks.

23. The economic impact of the pandemic carries the **risk of feedback effects** which could markedly slow down economic recovery. A sharp increase in the number of job seekers could prolong the length of time people remain **unemployed**, delay catch-up effects and thus risk a weaker recovery. Long-term behaviour adjustments could call the business models of individual companies and sectors into question and trigger a sharp increase in insolvencies.

24. Should a major wave of **corporate insolvencies** occur, this could **endanger the stability of banks or other creditors**. ↘ ITEMS 304 FF. ↘ BOX 1 Excessive delays in filing for bankruptcy by companies that have no prospect of generating sufficient revenues to meet their payment obligations after the end of the pandemic may make it impossible for creditors to distinguish between healthy and insolvent companies. This could lead to a **general reluctance** on the part of

banks **to lend**. Furthermore, postponing insolvency applications can result in higher losses than if applications are filed early, as soon as the credit default actually occurs, since companies may be enabled to incur higher debts. Increasing risk provisions by banks, a higher proportion of non-performing loans and an equity ratio reduced by value adjustments could lead to a decline in lending. If this is the case, second-round effects may be triggered and **investment activity** further **weakened**.

25. The rise in the corporate debt ratio associated with the currently observed increase in lending activity could also have a negative impact on economic activity in the medium term via reduced investment activity (Gebauer et al., 2018; Revoltella et al., 2020). Not least because of the greater interdependence between states and banks, ↘ ITEMS 309 FF. the **risk of pessimistic risk assessments of states** could increase on financial markets and have consequences for corporate financing costs and financing volumes.

26. **Risks independent of the pandemic** continue to exist. Even before the coronavirus crisis there were already signs of a marked slowdown in global economic development, which was primarily due to weak industrial production. The volume of world trade also declined. These developments can be explained, at least in part, by continuing uncertainty in the wake of unresolved trade conflicts. For example, it is not clear whether a trade agreement between the United Kingdom and the EU will be concluded in time before the end of the year. Although companies and banks have been able to prepare for a **no-deal scenario**, there could still potentially be supply chain disruptions or distortions in financial markets, which would have a negative impact on economic activity, particularly in the United Kingdom and its European trading partners. In addition, the burden of managing structural change continues to weigh on individual sectors of the economy and could entail higher adjustment costs in some places.

27. On the other hand, there are **opportunities** for a better development if a suitable **vaccine** or effective drugs against coronavirus can be developed, made available and distributed soon, or if households and companies **adjust their behaviour** more quickly. This could result in opportunities for **new business models** if the pandemic does not lead to a reduced willingness to take entrepreneurial risk. ↘ ITEMS 518 FF. Reduced uncertainty over the course of the pandemic could help ensure that household savings, which have risen sharply during the containment measures, are released more quickly, so that additional stimuli come from consumption. The extensive **monetary and fiscal policy measures** could also have a stronger impact than assumed in the forecast. ↘ ITEMS 93 FF.

4. Economic development in the euro area

28. The coronavirus pandemic and the associated containment measures plunged the euro area into a **deep recession** in the first half of 2020, at times bringing activity in parts of the economy to a virtual standstill in the early part of the year. The decline in GDP varied considerably among the member states. In addition to the

varying severity of infection incidence, a major role was played by the relative importance of the economic sectors severely affected by the crisis, such as the hospitality industry, and the extent to which the respective national economies are integrated into global value chains.

With declining infection figures and the gradual easing of containment measures, an **economic recovery** set in during the summer, resulting in a marked increase in GDP in the third quarter. However, the very dynamic infection situation in many member states in the meantime and the associated additional restrictions imposed under containment measures are now likely to put the recovery on hold.
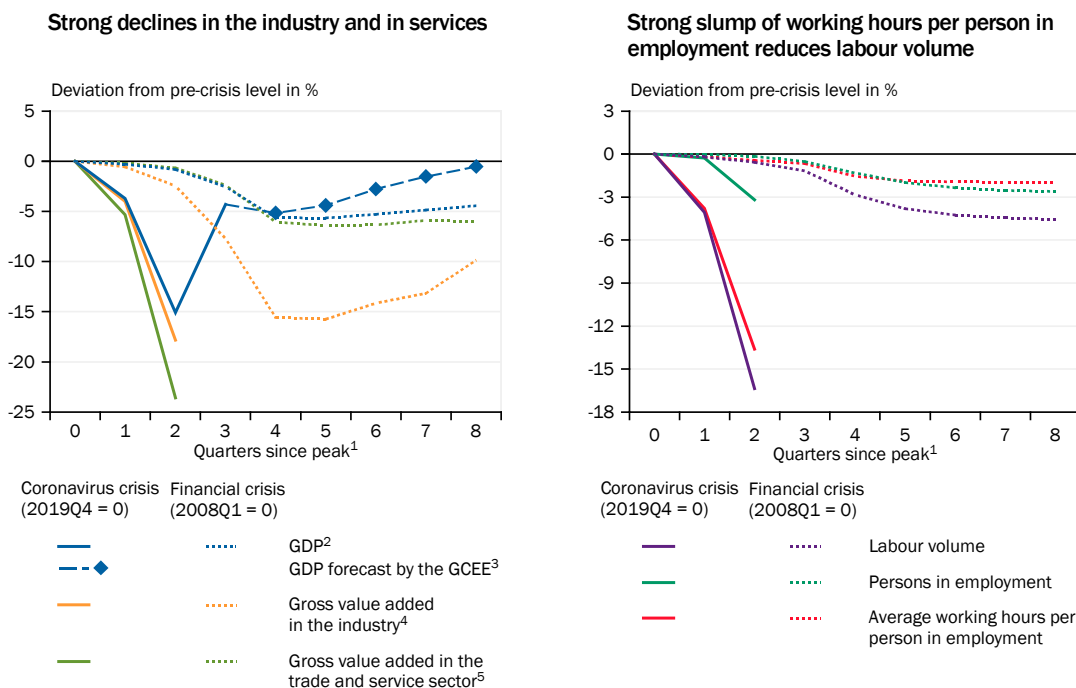
Economic situation

29. **GDP in the euro area suffered a severe slump in the first half of 2020**. At 11.8 %, the decline in the second quarter was even greater than in the first quarter, when GDP had already fallen by 3.7 % on the previous quarter. The **decline** in economic output was much faster than during the 2008 financial crisis and **affected both industry and the services sector**. ↘ CHART 7 LEFT In the field of services, most hard hit were consumer-related sectors such as hospitality, the cultural sphere and transport services. By contrast, other sectors of the economy, such as agriculture and forestry or the provision of financial and insurance services, recorded much smaller declines. The decline in industrial production was

↘ CHART 7

Development of economic activity and labour volume in the euro area in the Coronavirus crisis

Strong declines in the industry and in services

Deviation from pre-crisis level in %

Quarters since peak[1]

Coronavirus crisis (2019Q4 = 0)   Financial crisis (2008Q1 = 0)

GDP[2]
GDP forecast by the GCEE[3]

Gross value added in the industry[4]

Gross value added in the trade and service sector[5]

Strong slump of working hours per person in employment reduces labour volume

Deviation from pre-crisis level in %

Quarters since peak[1]

Coronavirus crisis (2019Q4 = 0)   Financial crisis (2008Q1 = 0)

Labour volume

Persons in employment

Average working hours per person in employment

1 – Dating corresponds to that of the CEPR Euro Area Business Cycle Dating Committee. 2 – For the 3rd quarter: preliminary flash estimate from Eurostat. 3 – Starting with the 4th quarter: forecast by the GCEE. 4 – Industry except construction. 5 – The following sectors are taken into account: trade; repair of motor vehicles; transportation; accommodation and food service activities; professional, scientific and technical activities; administrative and support service activities; arts, entertainment and recreation; other service activities; activities of households as employers; activities of extraterritorial organisations and bodies.

Sources: Eurostat, own calculations

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probably partly due to the temporary interruption of global supply chains, which play a major role for the European economy (Fries et al., 2020b). ↘ BOX 13
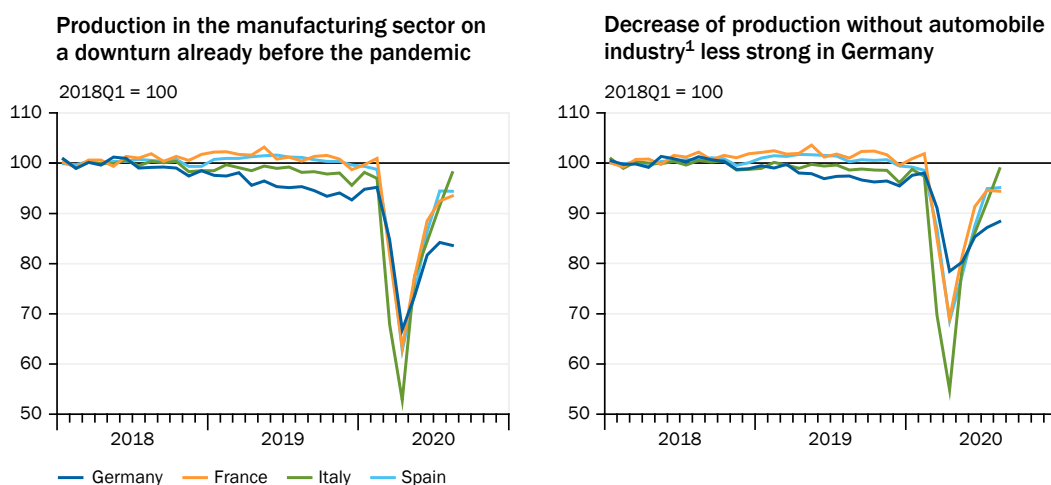
The slump in **consumer-related services**, however, was primarily caused by the restriction of social contacts, closures by authorities and travel restrictions. On the expenditure side, the largest negative contributions to growth came from private consumer spending and gross fixed capital formation. By contrast, foreign trade's negative statistical contribution to growth was comparatively small, since the slump in exports was offset by an almost equally sharp decline in imports. According to Eurostat's preliminary flash estimate, GDP in the euro area grew strongly by 12.7 % in the third quarter compared to the previous quarter.

30. **Industry was already in a downturn before the coronavirus pandemic** (GCEE Annual Report 2019 items 7 ff.). This was particularly pronounced among manufacturers of intermediate and capital goods. In Germany and Italy, where these sectors account for a relatively high share of industrial value added, manufacturing production fell relatively sharply in 2018 and 2019. ↘ CHART 8 LEFT **In spring 2020**, the euro area as a whole experienced substantial declines. In addition to disruptions to global supply chains, production shutdowns ordered by the authorities led to a temporary **drop in production** of almost half in Italy, for example. In Germany, a large proportion of the decline was attributable to the manufacture of motor vehicles and motor-vehicle components. ↘ CHART 8 RIGHT The large automobile manufacturers closed their production facilities for several weeks for lack of intermediate goods and sales opportunities. Production fell less sharply in other areas, however. ↘ BOX 3

In the wake of eased restrictions and global recovery, **industrial production expanded strongly** over the summer. Although it is still well below the level of early 2018 in many places, the significantly **brighter business prospects** for

↘ CHART 8

Development of the manufacturing sector in selected member states of the euro area since 2018

Production in the manufacturing sector on a downturn already before the pandemic

2018Q1 = 100

Decrease of production without automobile industry[1] less strong in Germany

2018Q1 = 100

— Germany — France — Italy — Spain

1 – Manufacture of motor vehicles, trailers, semi-trailers and of other transport equipment.

Sources: Eurostat, own calculations

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companies and the improved order situation indicate that the upward trend in industry will continue in the second half of 2020.

31. Following the sharp declines in **retail and service turnover** in March and April, these have shown a clear upward trend since May. Thus, the crisis already bottomed out in the second quarter. Retail sales in particular recovered quickly and by June had already returned to their pre-crisis level from February. By contrast, many consumer-related services such as the hospitality industry are still affected by restrictions, so that the recovery in these areas is progressing much more slowly and is being temporarily interrupted by the renewed restrictions.
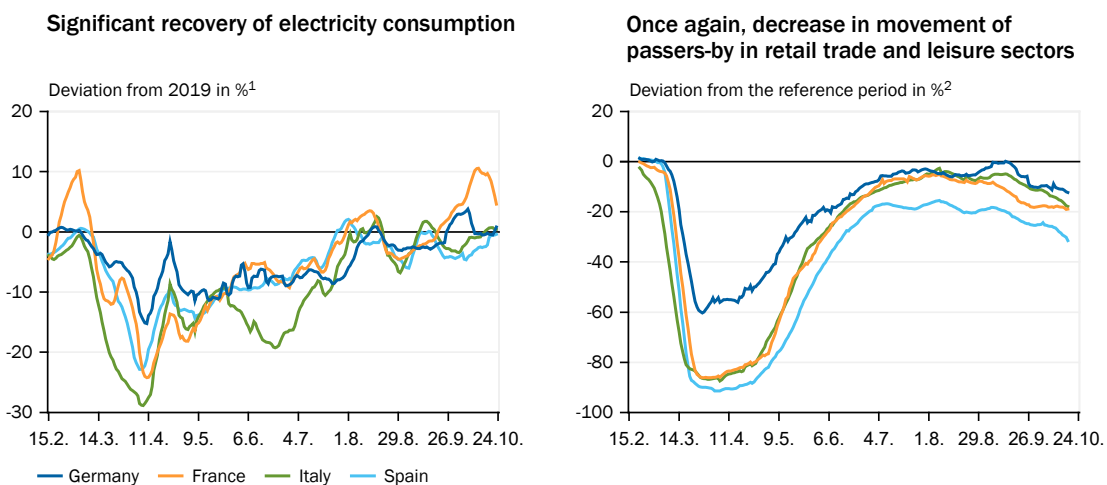
A marked recovery over the summer can also be seen in the sentiment indicators. The **purchasing managers' indices** fell sharply in manufacturing and services sectors in March and April, with the services sector hit much harder than during the financial crisis. While the manufacturing index continues to show strong growth, albeit at a somewhat slower pace than in the summer, the recovery in the services sector is likely to be much slower in autumn; it might even come to a complete halt for the time being due to the resurgence of infections. ↘ CHART 6

32. **Real-time indicators** also suggest that the recovery continued over the summer but is slowing down in autumn. For example, electricity consumption in the four largest member states, Germany, France, Italy and Spain, has already returned to February levels. ↘ CHART 9 LEFT Electricity consumption should provide an early indication of the level of activity and capacity utilisation in industrial production in particular before the official data on industrial production are published by the statistical offices (IfW, 2020b).

The mobility indicator in the retail and leisure sector, which is determined on the basis of mobile phone data, also shows a normalisation. ↘ CHART 9 RIGHT Although **mobility data** collected in real time do not allow direct conclusions to be drawn

↘ CHART 9

Real-time indicators in selected member states of the euro area during the pandemic 2020

Significant recovery of electricity consumption

Deviation from 2019 in %[1]

Once again, decrease in movement of passers-by in retail trade and leisure sectors

Deviation from the reference period in %[2]

Germany — France — Italy — Spain

1 – 14-day moving averages. Percentage deviation from the respective period in 2019. 2 – 14-day moving averages. Deviation from the median of the respective weekday in the reference period from 3 January to 6 February.

Sources: ENTSO-E, Google, own calculations

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on the level of sales in the stationary retail trade, they do provide a daily updated picture of pedestrian movements in city centres and other consumer-related areas and should thus provide indications of the recovery and development of sales (IfW, 2020b). The number of pedestrians recently decreased again somewhat. This is probably related to the increasing number of infections and tightened restrictions.

33. The pace of **recovery is not the same in all economic sectors**. In particular, the hospitality industry, the tourism sector and other consumer-related services sectors have been affected by considerable restrictions throughout, since the beginning of the crisis. ↘ ITEM 49 In some member states these sectors account for significant proportions of value added and are of particular importance for the labour market (Federal Statistical Office, 2020b; GCEE Special Report 2020 item 91). For example, the slump in international tourism has contributed to the particularly sharp decline in exports in Spain, Italy and France.

   Against the backdrop of their greater dependency on **tourism**, the increasingly dynamic development of infections, not least in Spain and France, is likely to slow down further recovery considerably. On the one hand, the increase in infections leads to renewed travel restrictions for other countries. On the other hand, the domestic restrictions aimed at containing the pandemic are hitting the **hospitality industry** particularly hard. Should the restrictions be significantly extended again over the winter, this is likely to jeopardise the recovery, especially in member states that are particularly dependent on hotels, restaurants and tourism, such as Spain, Portugal and Greece (GCEE Special Report 2020 item 91).

34. There is some discrepancy between the **development of the unemployment rate** and various labour market indicators. While employment expectations for the manufacturing and services sectors have slumped, the rise in the unemployment rate has been quite modest up to now. For example, the unemployment rate in the euro area has risen continuously since the coronavirus crisis began; it stood at 8.3 % in September 2020, 1.1 percentage points higher than in March. However, this means that unemployment **in the euro area** as a whole has so far risen only **moderately** relative to the slump in GDP or compared to the United States, for example. ↘ CHART 5 ↘ ITEM 11

   However, unemployment is developing differently in the individual euro area member states. While Spain and the Netherlands, for example, have been recording rising unemployment rates since the beginning of the crisis, figures initially fell in Italy and France, but rose over the summer. The decline in Italy is probably partly due to a **general ban on dismissals** until the end of October. Furthermore, the number of people actively seeking a new job fell sharply at times, so that these people were temporarily not included in the unemployment statistics (Colussi, 2020). In Spain, by contrast, a similar ban on dismissals did not lead to a temporary decline in the unemployment rate, probably partly due to the high number of fixed-term contracts compared to other European countries (Ramos, 2020).

35. The hitherto moderate increase in the unemployment rate in the euro area stands in contrast to a sharp **decline in the volume of work**, i.e. in the total number

of hours worked by all those in employment, which has been much larger than during the 2008 financial crisis. ↘ CHART 7 RIGHT Apart from a decline in the number of people in employment, the slump in the volume of work is currently due in particular to a drastic reduction in the average number of hours worked per employee. One reason for this development is the widespread **use of short-time work** in many euro area member states. This support is particularly extensive in France and Italy. Estimates show that 47 % and 42 % of the workforce, respectively, were registered for short-time work in May (Botelho et al., 2020). In Germany, the share was 26 % over the same period. Short-time work in the euro area probably peaked in early summer. At least internet searches on the subject of short-time work currently do not indicate a renewed increase in the four largest member states. The immediate use of short-time work at the beginning of the crisis may have prevented companies from having to lay off employees in large numbers (Schwellnus et al., 2020). However, the gradual phasing out of short-time-working schemes could lead to higher unemployment in the euro area in the future.

36. The **decline in consumer price inflation** in the euro area continued in the course of the year. ↘ CHART 10 TOP LEFT In October, the Harmonised Index of Consumer Prices (HICP) was 0.3 % lower than in the same month of the previous year. The core rate, measured as the change in the HICP excluding energy and food, also declined noticeably recently following the dampening effect of the fall in oil prices on the inflation rate. The effective **appreciation of the euro** via a decline in import prices and the temporary cut in the rate of value added tax in Germany are also likely to have a dampening effect on consumer prices in the further course of the year. ↘ ITEM 43

The **HICP differs** from the **German Consumer Price Index (CPI)**, inter alia, in that the HICP **does not include expenditure** incurred in connection with the **purchase and ownership of owner-occupied housing** (Brunssen and Diehl-Wolf, 2018). The German **CPI** calculates the costs of **owner-occupied housing** according to the **rent equivalence concept**. This involves estimating an equivalent rent for owner-occupied housing, using the development of the price index for net cold rents (Federal Statistical Office, 2018). While this concept provides an appropriate approximation of the costs of owner-occupied housing for Germany, uniform European application to determine the HICP fails because it does not provide enough information on other countries with significantly lower tenant ratios (Brunssen and Diehl-Wolf, 2018). The **Owner-Occupied Housing (OOH)** price index developed by Eurostat **is determined according to the net acquisition approach** (European Commission, 2018). This method records **all expenditure incurred** in connection with the **purchase of housing and of goods and services relating to home ownership**. There are conceptual concerns in the case of the OOH index relating to the inclusion of **assets** in the measurement of inflation (European Commission, 2018). Since the HICP is intended to cover consumption, and the National Accounts treat the **residential structure** and the **land** as assets, this inclusion would imply an extension of the current coverage of the HICP. Practical problems arise with the **OOH price index** because it is **only published quarterly and 100 days after the end of the quarter in question**. Furthermore, there have been frequent major revisions of the OOH price index in the past (Brunssen and Diehl-Wolf, 2018).

37. On the other hand, the **growth in the GDP deflator**, measured in terms of year-on-year rates, has recently **accelerated** further. ↘ CHART 10 TOP RIGHT The GDP deflator measures the price development of all goods and services produced in an

economy. It is thus a broader measure of inflation and, unlike the consumer price index, it also takes into account the prices of capital goods, for example. Significant contributions to the development of the GDP deflator in the first half of the year were made by the deflator of government consumption expenditure and the steeper decline in import goods prices relative to export goods prices. ↘ CHART 10 TOP RIGHT The terms of trade, i.e. the ratio of export goods prices to import goods prices, have thus improved. The clearly positive contribution of government consumption expenditure to the rise in the deflator is partly due to developments in France. Here, price-adjusted government consumption fell massively in the second quarter, while the associated deflator rose sharply at the same time.

+

In individual European **countries**, there were **sharp declines in price-adjusted government consumption** in the second quarter of 2020. For example, price-adjusted government consumption expenditure in France fell by about 10 % overall. In the United Kingdom, the slump reached almost 15 %. However, since nominal expenditure remained fairly stable at the same time, in particular because wages continued to be paid, the deflator for government consumption expenditure shot up accordingly. The closure of **educational institutions** and the postponement of planned **medical interventions** had a particularly large impact among non-market services (ONS, 2020). In France, for example, in the case of collective non-market services, official statistics have made significant deductions to cover the closure of parts of the **public administration** (INSEE, 2020). When hours worked are used as an indicator of labour input, Eurostat's guidelines (2020a) stipulate that reduced working hours should be reflected in volume changes in the production of non-market services. The fact that there has only been a sharp decline in price-adjusted government consumption in a few countries cannot be attributed solely to the respective approach of the national statistical offices. Differences between countries in the extent of pandemic restrictions and closures may have played a role. Differences in statistical classification or in the actual organisation of the healthcare system, for example, must also be taken into account. Services provided by the National Health Service (NHS) in the United Kingdom are part of general-government consumption, while healthcare services in Germany, for example, are allocated to the private sector.

38. In view of the economic slump and the decline in consumer price inflation, the **European Central Bank (ECB)** has adopted and implemented far-reaching measures to ensure price stability, stabilise the financial markets and support economic recovery in the euro area. The main component of **monetary stabilisation policy** is the **Pandemic Emergency Purchase Programme** (**PEPP**), which was extended to a total of €1,350 billion at the June meeting of the Governing Council. ↘ ITEMS 110 F.

39. In the first half of the year, the monetary aggregate M3 expanded strongly as a result of **increased lending** to the private and public sectors. ↘ CHART 10 BOTTOM LEFT In the case of the private sector, government aid programmes to support companies probably played a role, with credit growth recently falling sharply again. ↘ CHART 10 BOTTOM RIGHT A fall in the crisis-related demand for liquidity is also confirmed by the results of the Bank Lending Survey for the third quarter (ECB, 2020f). While lending standards, supported by fiscal policy measures, were still largely unchanged in the second quarter (ECB, 2020g), the survey results now show a marked tightening in the third quarter, which is attributed to an increase

↘ CHART 10

Development of inflation, monetary aggregates and loans in the euro area

Marked decline in consumer price inflation during the coronavirus crisis

Change on previous year in %

HICP[1] — HICP excluding energy — HICP excluding energy and food — GDP deflator
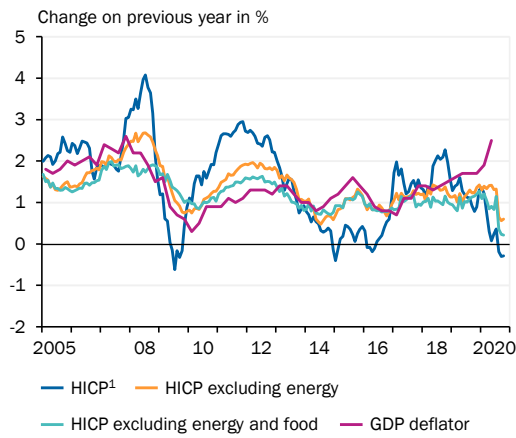
Government consumption and terms of trade contribute much to the rise in the GDP deflator

Contributions to growth in percentage points
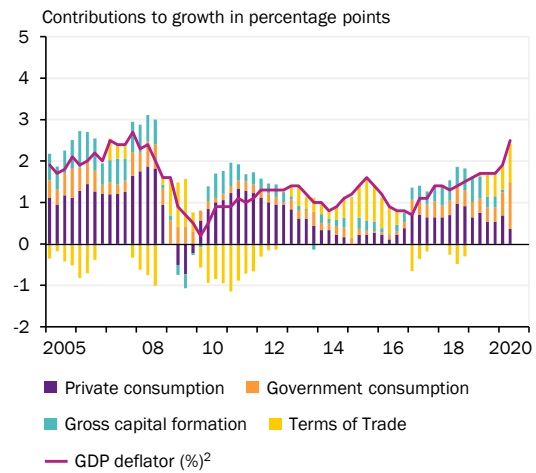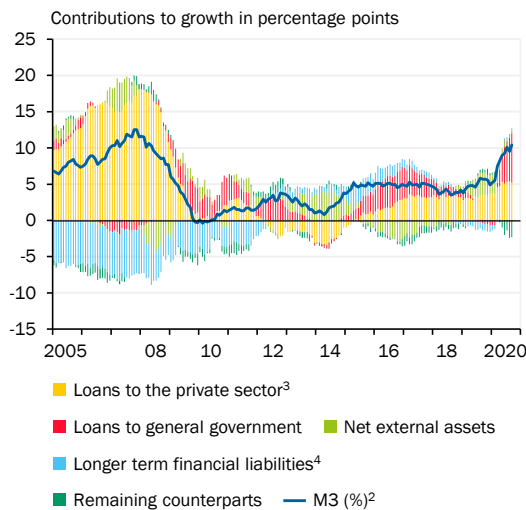

Private consumption — Government consumption — Gross capital formation — Terms of Trade — GDP deflator (%)[2]

Public-sector loans accelerate M3 growth in the euro area

Contributions to growth in percentage points

Loans to the private sector[3] — Loans to general government — Net external assets — Longer term financial liabilities[4] — Remaining counterparts — M3 (%)[2]

Liquidity requirements temporarily lead to a sharp increase in corporate loans[5]

Contributions to growth in percentage points

Germany — France — Italy — Spain — Other Member States — Euro area (%)[6]
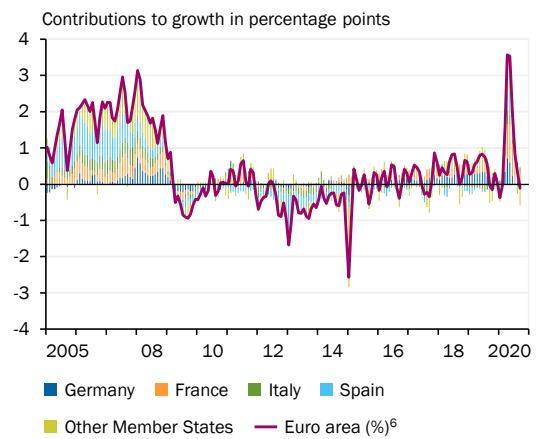
1 – Harmonized Index of Consumer Prices. 2 – Change on previous year. 3 – Loans to non-financial corporations and households (including non-profit institutions serving households), seasonally and calendar adjusted. 4 – With a negative sign, as an increase in itself damps M3 growth. 5 – Loans to non-financial corporations, seasonally and calendar adjusted. 6 – Change of the 2-month-moving averages.

Sources: ECB, Eurostat, own calculations

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in company-specific risks and a general deterioration in the economic situation. ↘ ITEM 307

40. In order to counteract the economic effects of the coronavirus crisis, **far-reaching fiscal measures** have been taken at the member state and the EU levels. The European Commission already established the use of the general escape clause in March, allowing member states to temporarily deviate from the requirements of the Stability and Growth Pact (European Council, 2020a). Furthermore, €87.4 billion was made available via the SURE programme (Support to Mitigate Unemployment Risks in an Emergency) to finance short-time-working programmes (European Council, 2020b). ↘ ITEMS 260 FF.

At the **national level**, both discretionary stimulus measures and **liquidity guarantees and sureties** have been adopted. The scope of the measures and the extent to which they are used varies, in some cases significantly, among the member states. ↘ ITEM 259 For example, the total scope of all measures announced in Germany and Italy, each at just under 40 % of GDP in 2019, is comparatively high compared to Spain at just under 18 %. However, the proportion of funds used is lower in Germany and Italy than in Spain.

Outlook

41. The increasing dynamics of infection in the autumn has led many governments to reintroduce or further tighten **restrictions on public life**. The **consumer-related services sectors**, such as the hospitality industry, cultural and event industries and all other services where social distancing is difficult, are particularly affected by these measures. In these areas, **value added in the coming months** is likely to be **much lower** than it was in the summer. As a result, GDP will probably fall again in the winter half-year depending on the share of total value added accounted for by the sectors that are particularly affected.

42. In its forecast, the GCEE does not expect a repeat of such comprehensive and long-lasting restrictions of economic activity as in early 2020. At that time, widespread border closures led to a temporary disruption of international supply chains, which severely impaired intra-European trade. Nevertheless, the renewed measures show that there is still a **heightened risk that**, as in the early part of the year, **broad sections of the economy will have to temporarily cease business activities altogether**. ↘ ITEMS 50 FF. Even so, since the trend in industry is currently still upward, from today's perspective GDP in the euro area looks likely to decline much less severely over the winter half-year than it did in the spring. However, this probably means that the summer recovery has been temporarily interrupted. As the second wave of infection subsides, restrictions are eased again and weather conditions improve, the **recovery** should **continue in the early part of next year**.

For the **current year**, the GCEE expects GDP in the euro area to **fall by 7.0 %**. ↘ TABLE 2 The decline in economic output is likely to be particularly severe in France, Italy and Spain. In the **coming year**, **GDP** should then **grow** again markedly **at a rate of 4.9 %**. While GDP would thus again be approaching its pre-crisis level, this would not yet be achieved by the end of the forecast period.

43. At 0.3 %, **consumer prices** in the euro area are likely to rise only slowly in the current year. In 2021, the inflation rate should then rise again slightly to around 1.1 %. The expiry of the temporary cut in value-added tax and the introduction of carbon pricing in Germany as well as the gradual rise in the price of oil should contribute to this. ↘ ITEM 75 Against the backdrop of weak demand from private households and the temporary reduction in value-added tax in Germany, **core inflation** is likely to amount to 0.7 % in the current year and rise to 1.1 % in 2021. Not least because of the extensive use of short-time work, the **unemployment rate** is unlikely to react much to the coronavirus crisis until after a certain time lag. An annual figure of approximately 8.0 % is expected in 2020 as a whole. In

the coming year, the unemployment rate is initially likely to rise further against the background of expiring short-time-working programmes and is expected to amount to 9.4 % for the year.

↘ TABLE 2

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

Country/ country group	Weight in %[1]	Gross domestic product (calendar-adjusted)[2]			Consumer prices (HICP)[3]			Unemployment rate[4]		
		Change on previous year in %						%		
		2019	2020[5]	2021[5]	2019	2020[5]	2021[5]	2019	2020[5]	2021[5]
Euro area[6]	100	1.3	– 7.0	4.9	1.2	0.3	1.1	7.5	8.0	9.4
including:										
Germany	28.9	0.6	– 5.5	3.7	1.4	0.5	1.7	3.1	4.1	4.2
France	20.3	1.5	– 8.7	6.8	1.3	0.5	0.9	8.5	7.7	9.8
Italy	15.0	0.3	– 8.7	5.5	0.6	– 0.1	0.4	10.0	9.6	11.4
Spain	10.4	2.0	– 11.1	5.9	0.8	– 0.3	0.8	14.1	15.8	18.6
Netherlands	6.8	1.6	– 3.8	4.0	2.7	1.0	0.9	3.4	4.1	5.9
Belgium	4.0	1.7	– 6.7	5.2	1.2	0.5	1.1	5.4	5.2	6.8
Austria	3.3	1.4	– 6.9	4.4	1.5	1.5	1.6	4.5	5.2	5.0
Ireland	3.0	5.9	– 1.0	3.0	0.9	– 0.5	0.1	5.0	5.2	6.2
Finland	2.0	1.1	– 3.1	2.5	1.1	0.5	1.2	6.7	7.9	8.6
Portugal	1.8	2.2	– 7.7	5.2	0.3	– 0.1	0.5	6.5	7.4	8.6
Greece	1.6	1.9	– 7.5	3.9	0.5	– 1.4	– 0.2	17.3	17.0	19.2
memorandum:										
Euro area without Germany	71.1	1.6	– 7.7	5.5	1.2	0.3	0.8	9.1	9.4	11.2

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 (International Labour Organization). For the total euro area and euro area without Germany weighted by the labour force of 2019. 5 – Forecast by the German Council of Economic Experts. 6 – Weighted average of the 19 euro area member states.

Sources: Eurostat, own calculations

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II. THE GERMAN ECONOMY

44. In the first half of 2020, the coronavirus pandemic caused a historic drop in GDP in Germany of just under 12 %. A **strong recovery set in over the summer** in many economic sectors. However, after the economy grew extraordinarily strongly in the third quarter at a rate of 8.2 %, the available indicators for the autumn now show a slower pace of recovery. While there is still positive momentum in industry, economic activity in various services sectors is likely to decline again as a result of **the strong resurgence in infection rates** and the **restrictions adopted at the end of October.** This applies in particular to the hospitality industry, transport and travel services, as well as the cultural, entertainment and recreation sector. At the same time, the incidence of infections in other countries, which in some cases has become much more acute, is likely to have a negative impact on the foreign environment for the German economy in the coming months.

45. The GCEE expects economic output to decline by **5.1 %** in **2020**. ↘ TABLE 1 After adjusting for calendar effects, growth is −5.5 %. In view of the second wave of infections and the various restrictions associated with it, the economy is likely to stagnate in the winter half-year of 2020/21. Assuming that the second wave dies down, recovery should continue at the beginning of spring, but without reaching the extraordinarily high growth rate of the third quarter of 2020. GDP is likely to grow at a rate of **3.7 %** in **2021**. The pre-crisis level is not expected to be reached until the beginning of 2022 at the earliest. Normalisation cannot be expected in several economic sectors until the pandemic has been overcome.

The GCEE's forecast assumes that the incidence of infections can be kept largely under control by the adopted restrictions. If there are massive **restrictions** on economic activity **similar to those in spring, a sharper decline in economic output can be expected**. GDP could be much lower next year than expected in the forecast.

1. Development to date

46. **Economic development** this year has been **dominated by the coronavirus**. The outbreak of the pandemic here in Germany meant that many economic activities have no longer taken place. In addition to behaviour adjustments and the general increase in uncertainty, the various restrictions introduced to protect against infection, even including a ban on some activities, have played an important role. As the virus spread worldwide and more extensive restrictions applied in some other countries, the external environment for the German economy also deteriorated considerably in the first half of the year.

Key economic indicators for Germany

	Unit	2018	2019	2020[1]	2021[1]
Gross domestic product[2]	Growth in %	**1.3**	**0.6**	**– 5.1**	**3.7**
Final consumption expenditure	Growth in %	1.4	1.9	– 3.9	3.0
Private consumption[3]	Growth in %	1.5	1.6	– 6.8	3.4
Government consumption	Growth in %	1.2	2.7	3.4	1.9
Gross fixed capital formation	Growth in %	3.5	2.5	– 3.6	4.1
Investment in machinery & equipment[4]	Growth in %	4.4	0.5	– 14.4	10.0
Construction investment	Growth in %	2.6	3.8	2.7	1.5
Other products	Growth in %	4.5	2.7	– 1.6	2.8
Domestic demand	Growth in %	1.8	1.2	– 3.8	3.2
Net exports	Growth contribution in percentage points	– 0.4	– 0.6	– 1.5	0.7
Exports of goods and services	Growth in %	2.3	1.0	– 10.3	7.6
Imports of goods and services	Growth in %	3.6	2.6	– 8.0	6.9
Current account balance[5]	%	**7.4**	**7.1**	**6.8**	**7.1**
Persons employed (domestic)	1,000	**44,868**	**45,269**	**44,848**	**44,878**
Persons employed, covered by social security	1,000	**32,964**	**33,518**	**33,586**	**33,805**
Registered unemployment, stocks	1,000	**2,340**	**2,267**	**2,706**	**2,744**
Unemployment rate[6]	%	**5.2**	**5.0**	**5.9**	**6.0**
Consumer prices[7]	Growth in %	**1.8**	**1.4**	**0.6**	**1.7**
General government budget balance[8]	%	**1.8**	**1.5**	**– 5.6**	**– 3.5**
Gross domestic product per capita[9,10]	Growth in %	**1.0**	**0.3**	**– 5.2**	**3.6**
Gross domestic product, calendar-adjusted[10]	Growth in %	**1.3**	**0.6**	**– 5.5**	**3.7**

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

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

Economy under the shadow of the pandemic

47. The virus was contained in the course of spring and the number of new infections had fallen sharply by the summer. **Since August**, however, there has been a **marked increase in the number of infections**. ↘ CHART 11 LEFT The **increase in the number of infections** has accelerated further since mid-October. The 7-day incidence rate in the period from 24 to 31 October was 100.9 cases per 100,000 inhabitants in Germany as a whole (RKI, 2020a). More than 50 cases per 100,000 inhabitants were registered in 341 administrative districts. Only 7 districts still had a 7-day incidence of less than 25. In some districts the increasingly **diffuse spread** of the virus has recently made tracking virtually impossible (RKI, 2020a).

When interpreting these figures, it should be borne in mind that the number of **tests** has **increased considerably** in the last few months. However, the proportion of positive tests has recently been rising significantly again and stood at

↘ CHART 11
Current development of new COVID-19 infections in Germany[1]

Recently again stronger increase of infections with elderly people

Hospitalisation is increasing again, while testing has been greatly expanded
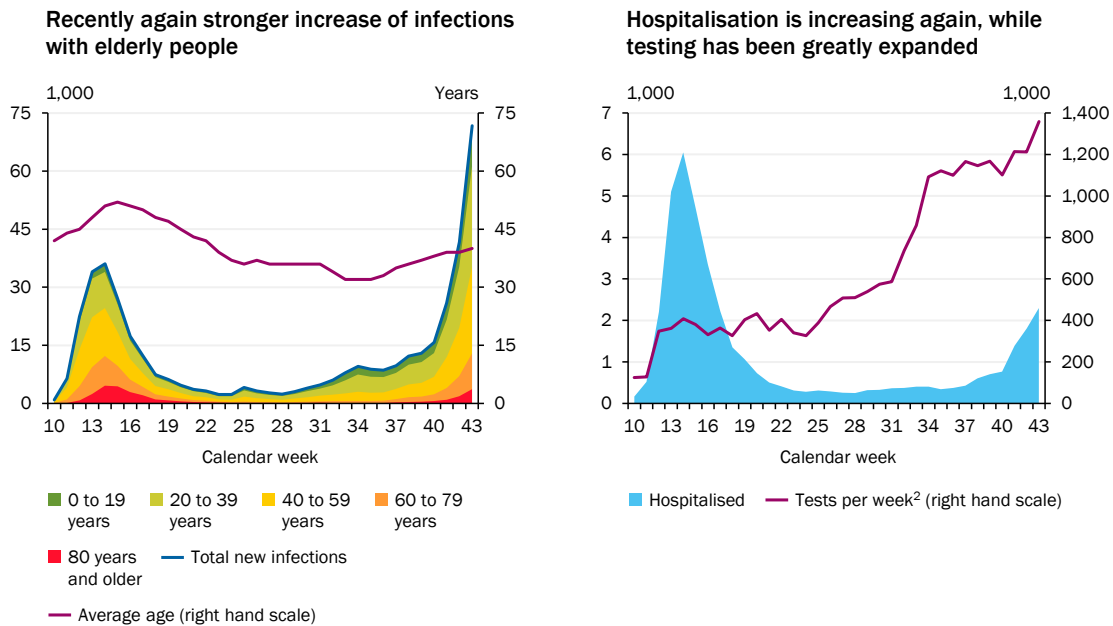
1 – COVID-19 cases reported to the RKI in Germany for the reporting weeks CW 10 to 43. As of 27.10.2020, 12:00 AM. 2 – As of 28.10.2020, 12:00 AM.

Source: RKI

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5.62 % at the end of October (RKI, 2020b). In the meantime, the percentage of positive tests has fallen from around 9 % in the spring to below 1 % in August.

48. At the end of October, the **number of** newly registered **deaths** in connection with COVID-19 **was significantly lower than in spring**. One of the main reasons for this is probably the fact that many of the newly infected people are young, and they are less likely to fall seriously ill and die from the effects of the virus. In addition, the increased number of tests also means that a larger number of mild cases is being recorded compared to spring (RKI, 2020c). However, infections in the older age groups have also been increasing fast since September. ↘ CHART 11 LEFT

At the beginning of the pandemic, many older and particularly vulnerable population groups were infected with the virus. This led to a much higher hospitalisation rate. At that time, however, Germany succeeded in avoiding an overload of hospital capacity. At the end of October, the **number of people hospitalised was still low compared to spring**. ↘ ITEM 11 RIGHT The same applied to the hospitalisation rate, which at times had been just over 20 % earlier in the year, but was recently as low as 5 % (RKI, 2020c). Even so, the number of hospitalised patients has risen in recent weeks. According to the DIVI Intensive Care Register, the number of COVID-19 cases being treated in intensive care rose sharply in October. In the second half of October, the number of COVID-19 patients in intensive care more than doubled from 730 to 1,944.

49. From mid-April onwards, the far-reaching **restrictions** introduced in March were **gradually eased** thanks to the decline in the number of infections (Economic forecast 2020). Furthermore, **distancing and hygiene rules** remain mandatory in public spaces and travel returnees from risk areas must go into

Measures to contain the pandemic since August: Agreements between the Federal Government and the Länder[1]

Contact restrictions	Distance and hygiene rules in public spaces[2]	Additional mandatory use of face masks[3] (14 Oct) — Restrictions of contacts in public from 02 Nov (28 Oct)
	Regional restrictions if the 7-day incidence of 50 is exceeded	Further restrictions of contacts[4] (29 Sep)
Retail trade	Open under certain conditions	Access restrictions from 02 Nov.[6] (28 Oct)
Other services	Open under certain conditions	Business in the body care sector closed from 02 Nov[7] (28 Oct)
Hospitality/ tourism	Open under certain conditions	Closing time in catering[8] (14 Oct) — Closing of hospitality businesses from 02. Nov.[9] (28 Oct)
	Mandatory quarantine (14 days) for travellers from risk areas abroad	Quarantine period shortened to 10 days from 08 Nov.[10] (14. Oct)
	No quarantine on submission of a recent negative test result	Earliest end of quarantine 5 days after arrival as from 08 Nov[10] (14. Oct)
Education system	Schools operating regularly under hygiene rules after the summer holidays (18 Jun)[11]	
Culture/leisure	Major events prohibited[12]	
	Audience admitted to nationwide sporting events (15 Sep)	Exclusion of audience (28 Oct)
	Limitation of participants at events[13] (14 Oct)	Prohibition of events[14] (28 Oct)
		Closing of facilities for leisure activities from 02 Nov[15] (28 Oct)

01 Aug — 01 Sep — 01 Oct — 01 Nov

Legend: ☐ Existing measure ■ Nationwide tightening ▦ Regional tightening ■ Easing

1 – The dates in brackets represent the date of the relevant decision. 2 – Minimum distancing of 1.5 metres. Mouth and nose covering must be worn if the minimum distance is not guaranteed. People are requested to keep the number of contacts low and the circle of people constant. 3 – Above a 7-day incidence of 35, at the latest, where people meet more closely and/or for longer in public spaces. 4 – Above a 7-day incidence of 35, number of participants at private parties is limited. From 14 Oct: Above a 7-day incidence of 50, contacts are restricted to 10 persons in public. 5 – Public gatherings are restricted to members of two households and a maximum of 10 persons. The new measures are limited until the end of November. 6 – No more than one customer per 10 sqm in stores. 7 – Medically necessary treatments are still possible. Hairdresser's shops remain open under the existing hygiene rules. 8 – Above a 7-day incidence of 35, at the latest. 9 – Catering businesses, bars, clubs, discotheques, pubs and similar facilities are closed. Delivery and takeaway as well as the operating of canteens are still allowed. Accommodation only for necessary, non-touristic purposes. 10 – From 08 Nov, according to the quarantine regulation from 14 Oct travellers without a good reason for travel, who are returning from risk areas abroad, have to quarantine themselves for 10 days with the possibility to end quarantine after day 5 by presenting a negative test result. The obligation for travellers entering from risk areas to get tested, which was established on 08 Aug, now only applies to returning travellers who show symptoms of COVID-19 within 10 days after their return. 11 – Closing of single school classes and schools possible depending on the state of infections. 12 – Major events where contact tracing and compliance with hygiene regulations is not possible remain prohibited at least until 31 Dec 2020. 13 – Above a 7-day incidence of 35, at the latest. Above a 7-day incidence of 50, the number of participants in events is limited to 100. 14 – Events that serve as entertainment are prohibited. 15 – Institutions and facilities that relate to leisure activities are closed, among them theatres, cinemas, trade fairs, gyms and the recreational and non-professional sports except for individual exercise.

Sources: Federal Government and Länder, own illustration

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quarantine. Although the blanket, worldwide travel warning was abolished on 1 October, differentiated travel warnings have since been in force, e.g. for countries that have been designated as risk areas (Federal Government, 2020b). The **ban on major events was** extended until the end of December 2020. In May 2020, **regional restrictions** were introduced that were staggered according to the 7-day incidence rate. From October onwards, these were further tightened with restrictions on contacts in public places, a curfew in restaurants and bars, and a limit on the number of people permitted to attend private parties (Federal Government, 2020b). ↘ CHART 12

50. In view of the sharp increase in new infections, **additional restrictions** (partial shutdown) were adopted on 28 October. The aim is to contain the dynamics of infections in order to make full contact tracing possible again and prevent the healthcare system becoming overwhelmed (Federal Government, 2020c). The measures are **initially time-limited** until the end of November. After two weeks, they are to be reassessed in terms of target achievement and, if necessary, adjusted. The following, among other measures, applies from 2 November onwards:

- A maximum of 10 people from two households are allowed to gather in public places.

- Entertainment events are prohibited, with the exception of professional sports.

- Leisure institutions and facilities are closed.

- Hotel accommodation may not be provided for tourists.

- Cafés and restaurants are closed. However, takeaway food may be sold.

- Personal hygiene services are closed, although hairdressing salons may remain open if they follow the existing regulations.

In other areas, the new measures are less far-reaching than the restrictions introduced in March. In particular, **schools and kindergartens** as well as the entire **retail trade** remain **open**, albeit subject to strict conditions.

Strong recovery over the summer

51. **In the second quarter, GDP fell by 9.7 %** on the previous quarter after adjustments for prices, season and calendar variations (Federal Statistical Office, 2020c). Economic output had already fallen by 2.0 % in the first quarter. In the Statistical Office's flash report of 30 October, the growth rates were revised slightly to −9.8 % and −1.9 % respectively. **On the expenditure side,** the **slump** in the second quarter was **particularly severe in investments in machinery and equipment and in exports**, which fell by 19.6 % and 20.3 % respectively. Since imports did not fall quite as sharply (−16.0 %), the statistical contribution to growth from foreign trade was clearly negative at −2.8 percentage points.

Private consumer spending also **fell sharply** (−10.9 %). Such a slump is unprecedented since the introduction of quarterly national accounts in 1970. Another unusual feature was that private consumption fell more sharply than GDP,
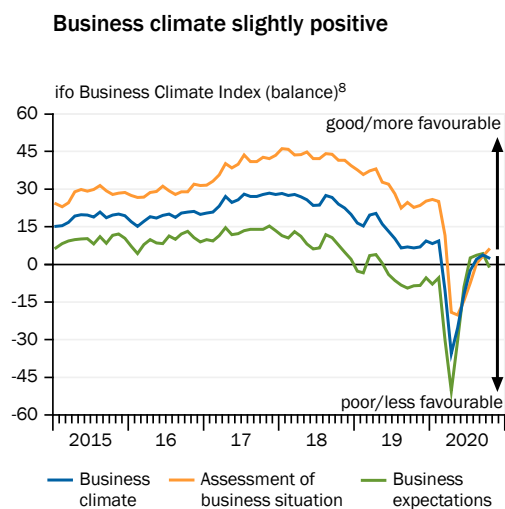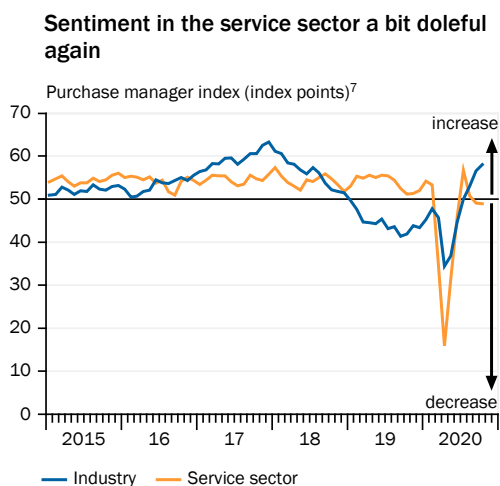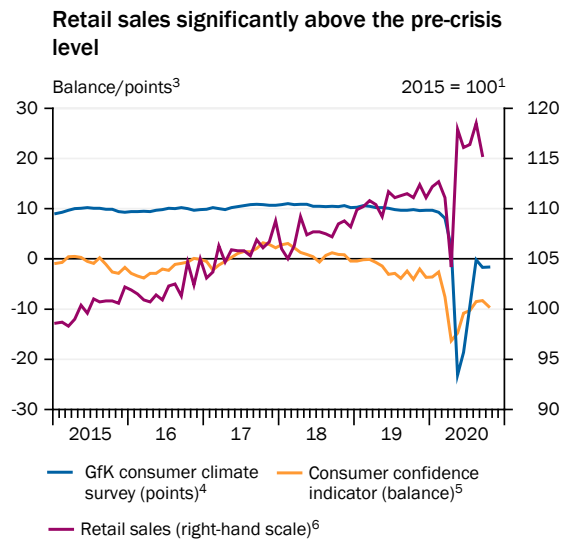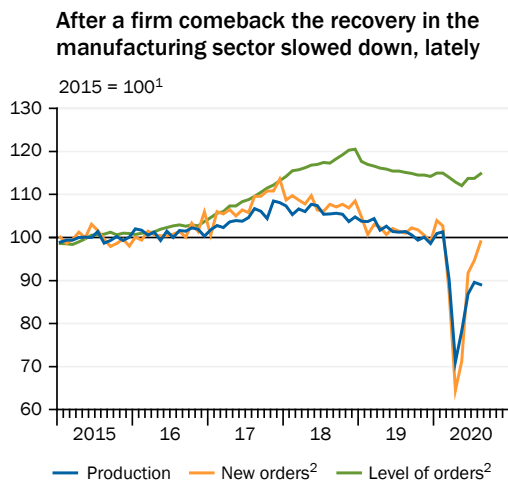
as it is generally the latter that is subject to stronger cyclical fluctuations. By contrast, government consumption expenditure rose by 1.5 % in the second quarter. Construction investments fell 4.2 % on the previous quarter, having risen by 5.1 % in the first quarter.

52. **Industrial production fell by over a quarter between January and April**. ↘ CHART 13 TOP LEFT A strong recovery began in May. One likely reason was that industry had a certain amount of orders on hand when the coronavirus crisis began. As there were no exceptionally large order cancellations in the early part of the year (Federal Statistical Office, 2020d), many of the remaining orders were probably processed in the following months. Although the upward momentum weakened somewhat in July and August, the monthly trend still shows a high statistical overhang for the third quarter.

↘ CHART 13
Selected indicators for the economic development

After a firm comeback the recovery in the manufacturing sector slowed down, lately

2015 = 100[1]

Production — New orders[2] — Level of orders[2]

Retail sales significantly above the pre-crisis level

Balance/points[3]   2015 = 100[1]

GfK consumer climate survey (points)[4] — Consumer confidence indicator (balance)[5] — Retail sales (right-hand scale)[6]

Sentiment in the service sector a bit doleful again

Purchase manager index (index points)[7]

increase

decrease

Industry — Service sector

Business climate slightly positive

ifo Business Climate Index (balance)[8]

good/more favourable

poor/less favourable

Business climate — Assessment of business situation — Business expectations

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, GfK, Federal Statistical Office, ifo, IHS Markit   © Sachverständigenrat | 20-316

Incoming orders rose sharply in August (Federal Statistical Office, 2020e). **Corporate business expectations** are correspondingly **positive**. ↘ CHART 13 BOTTOM RIGHT The same applies to the assessment of the business situation. While the assessments of purchasing managers in industry were clearly positive in October, the mood in the services sector deteriorated again. ↘ CHART 13 BOTTOM LEFT

53. **Retail turnover** in the second quarter **fell less sharply** than industrial production, for example. ↘ CHART 13 TOP RIGHT However, there is a **considerable heterogeneity** among the individual sectors. ↘ BOX 3 While sales fell in the stationary retail trade, turnover in the internet and mail-order business rose sharply in spring. ↘ ITEM 557

After the shops opened, sales rose very strongly in May and even clearly exceeded the pre-crisis level. Although turnover was slightly down in June and July, this probably largely represents a normalisation after the strong previous month. In August, retail sales rose again more strongly. **New car registrations** slumped by about 60 % in April compared to the same month of the previous year (Kraftfahrt-Bundesamt, 2020a). There was a **V-shaped recovery** until July, before a slight, seasonally adjusted decline in August and a sideways movement in September (Kraftfahrt-Bundesamt, 2020b).

↘ BOX 3

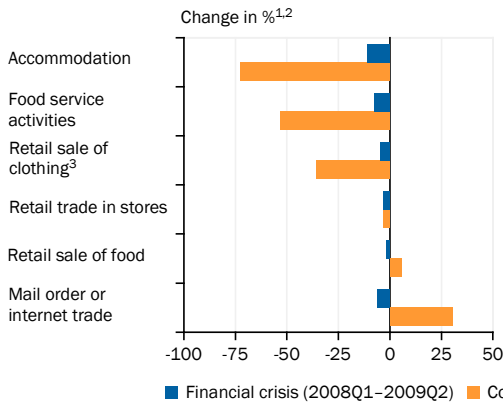**On the different degrees to which economic sectors were affected by the coronavirus crisis**

The **coronavirus crisis** is very different from previous economic crises and recessions. This applies both to the adjustments in consumer behaviour and to the reactions of policy-makers. Increased economic uncertainty, individual worries about infections, and pandemic-containment measures to control infection rates significantly curtailed economic activity in the first half of the year. Unlike in the 2008/09 recession, some **sectors** were **much more seriously affected by the economic slump** this time. ↘ CHART 14 In addition to the severity of restrictions required for many economic activities because of the short social distances involved (Leibovici et al., 2020), the extent to which individual sectors were affected by disruptions in global supply chains probably played a role, particularly in spring (Fries et al., 2020b). When infection rates peaked in March, parts of the retail trade were closed nationwide and many activities in the services sector were prohibited, although there were several exceptions. Excluded from the ban on opening were, for example, food retailers and pharmacies. In addition, many service providers and tradespeople were allowed to continue working (Fries et al., 2020a).

Between January and April 2020, **retail sales** (excluding cars) fell by almost 9 %. There was a lot of heterogeneity within the retail trade. ↘ CHART 15 LEFT While internet and mail-order business as well as the food trade in particular showed strong increases in turnover in some cases, other parts of the retail trade – such as clothing, shoes and leather goods – experienced historic declines. The **hospitality industry** was severely affected such that economic activity came temporarily to an almost complete standstill. Between January and April, turnover fell by 75 %. The other **services sectors** show a high degree of heterogeneity. Turnover by travel agencies and tour operators,

↘ CHART 14

Turnover development in selected service sectors
Comparison between financial crisis and coronvirus crisis

Sales slump in the hospitality and hetero-geneous development in retail trade

Change in %[1,2]

Turnover declines of up to 90 % in individual service sectors in the first half-year

Change in %[1]

■ Financial crisis (2008Q1–2009Q2)   ■ Coronavirus crisis (2019Q4–2020Q2)
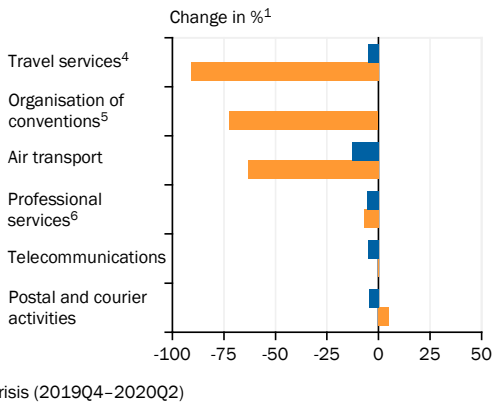
1 – Seasonally and calendar adjusted. 2 – Price-adjusted. 3 – Including textiles, footwear and leather goods. 4 – Travel agency activities, tour operator activities and other reservation services and related activities. 5 – Including trade shows; data only available from 2009 onwards. 6 – Including scientific and technical services.

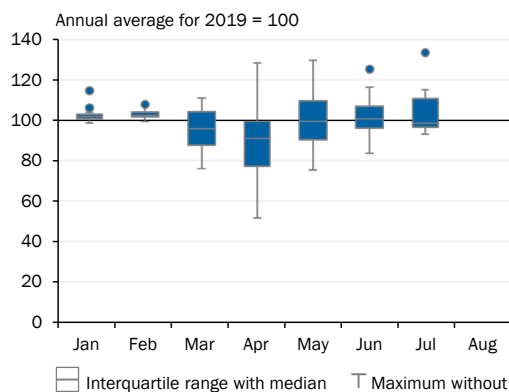Sources: Federal Statistical Office, own calculations

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trade-fair, exhibition and congress organisers as well as the aviation industry suffered a severe slump. In the second quarter of 2020, their turnover was in some cases as much as 90 % below the level of the fourth quarter of 2019. The telecommunications sector, however, did not suffer a decline in turnover. **Manufacturing**, too, shows considerable differences between the sectors. ↘ CHART 15 RIGHT For example, production of motor vehicles fell by around 75 % in April. Many car manufacturers had temporarily shut down their production in mid/end of March (GCEE Special Report 2020 item 46). Production also fell sharply in mechanical engineering and the metal industry. By contrast, manufacturers of pharmaceutical products, for example, even recorded increases in production at times.
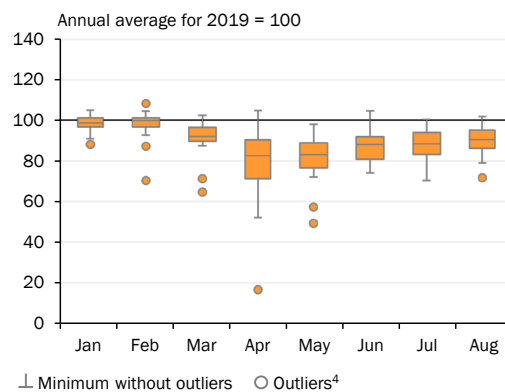
↘ CHART 15

Economic development by economic sector in 2020[1]

Heterogeneous development of turnover in wholesale and retail trade[2]...

Annual average for 2019 = 100

... and of industrial production during the coronavirus crisis[3]

Annual average for 2019 = 100

⊟ Interquartile range with median   ⊤ Maximum without outliers   ⊥ Minimum without outliers   ○ Outliers[4]

1 – According to the classifiaction of economomic sectors, 2008 edition (WZ 2008). Seasonally and calendar-adjusted. 2 – Turnover in wholesale and retail trade (including motor vehicles) by 21 economic groups (3 digits), at constant prices. 3 – Production index for manufacturing industry by 28 economic divisions (2 digits). Excluding ore mining and provision of services for mining and quarrying stone and rare earths. 4 – A point is considered as an outlier if it is smaller than the difference between the first quartile and 1.5 times the interquartile distance or larger than the sum between the third quartile and 1.5 times the interquartile distance. The interquartile distance is the distance between the first and the third quartile.

Sources: Federal Statistical Office, own calculations

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Like the slump from January to April, the **recovery** that began in May was **heterogeneous**. In July, turnover in the hospitality sector was almost 30 % down on the pre-crisis level (Federal Statistical Office, 2020f). The number of overnight stays in hotels in August was still much lower than in August 2019 despite the easing of the regulations (Federal Statistical Office, 2020g). In particular, fewer guests came from abroad. By contrast, total retail sales have recently even exceeded pre-crisis levels. The differences between the retail sectors have narrowed somewhat, although turn-over is still lower than in the previous year in some cases. In manufacturing, there has generally been a strong recovery in production over the summer. However, the development here has also been quite heterogeneous: the pre-crisis level has only been achieved in a few areas. In some sectors of the economy, normalisation is unlikely until the coronavirus is successfully contained. This applies in particular to **major events** like sports, concerts and trade fairs.

2. Outlook

54. According to the Federal Statistical Office's flash report published on 30 October 2020, GDP grew extraordinarily strongly **in the third quarter** at a rate of 8.2 %. From May to July in particular, there was a **very strong increase in economic activity**. For example, almost half of the decline in industrial production was made up over the summer. Other indicators such as the truck toll mileage index or electricity consumption are already approaching pre-crisis levels again. ⭲ CHART 16 LEFT

Stagnation in the winter half-year

55. **Since August**, however, **the pace of growth has slowed**. The positive business outlook and the recent sharp rise in incoming orders in the last quarter of the year lead us to expect a sustained expansion of production in industry. However, in the services sector the decline in the purchasing managers' index since August and various real-time indicators point to a weaker economic development. ⭲ CHART 16 RIGHT

56. In particular, the **increase in infection rates**, combined with renewed **restrictions** and seasonally less favourable weather conditions, are likely to put pressure on business activity in many services sectors. An analysis of mobile phone data for the period from mid-September to mid-October, for example, shows that mobility fell comparatively steeply in regions with a critical 7-day incidence rate (Federal Statistical Office, 2020h).

Value added is likely to be considerably lower in the winter months than in the summer, especially in the **hospitality** industry, in **travel and transport services**, and in culture, entertainment and recreation. In the retail trade, the expected **expiry of the temporary cut in value-added tax** at the end of the year could drive positive development. However, fear of infection and additional regulatory restrictions could noticeably dampen the positive impulse in the fourth quarter. In its forecast, the GCEE expects overall economic output to stagnate over the winter.
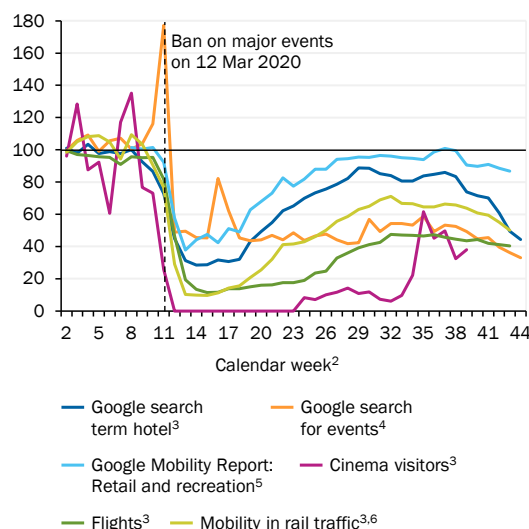
Real-time indicators of economic development in Germany in 2020

Electricity consumption and truck mileage index almost back to pre-crisis levels[1]
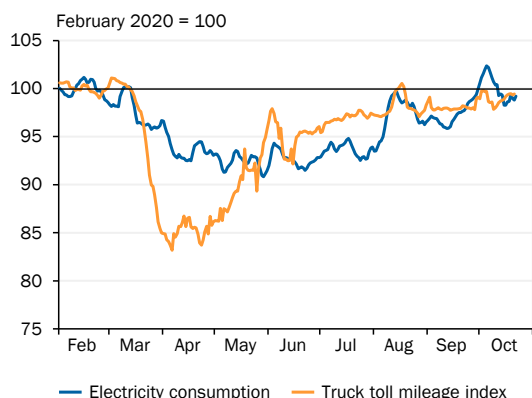
Normalisation in some economic sectors not yet in sight

1 – Seasonally and calendar-adjusted. 7-day moving average. 2 – Calendar week begins on Sundays for search queries, on Mondays for flights and Google Mobility Reports, and on Thursdays for visits to the cinema. 3 – Corresponding calendar week in the previous year = 100. 4 – Average of the search terms theatre, concert and opera. Corresponding calendar week in the previous year = 100 for the individual search terms. 5 – Change from Google reference value, converted to calendar weeks. The reference value corresponds to the median for the corresponding weekday from 03 Jan 2020 to 06 Feb 2020. 6 – The mobility of the population is measured using mobile-phone data. Information about the course of road and rail routes as well as patterns of synchronous connections of several cell phones are used for the identification of the means of transport.

Sources: InsideKino.com, Deutsche Bundesbank, Deutsche Flugsicherung, Federal Office for Goods Transport, Federal Statistical Office, Google, Teralytics, own calculations

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57. For **2020**, the GCEE expects a **GDP growth rate of −5.1 %**. ↘ CHART 17 LEFT On average over the year, therefore, economic output is shrinking less sharply than in 2009. At that time, the annual average growth rate was −5.7 %. The slump in the first half of 2020 was much deeper than the one at the beginning of 2009. However, since recovery has so far been faster than during the financial crisis and due to the large negative statistical overhang in 2009, the decline in GDP will be somewhat less pronounced in 2020. At the end of 2008, economic output was 1.6 % below the annual average of 2008. For 2020, by contrast, there was neither an overhang nor an underhang from the previous year. After adjusting for calendar effects, the decline of 5.5 % this year would also be minimally lower than in 2009.

In its forecast from June of this year, the GCEE was still assuming that economic output would decline by 6.5 %. ↘ BOX 4 The **recovery** of both the global and the domestic economy has **hitherto** been **stronger than** was **foreseen at the beginning of the summer**. Although the increased incidence of infections is likely to slow growth considerably in the fourth quarter, this will not have a particularly big impact on the change in average annual GDP in 2020.

58. In **2021**, **economic output** is expected to increase by **3.7 %**. The V-shaped curve up to autumn 2020 ensures a fairly large statistical overhang. This will contribute 1.1 percentage points to growth in the coming year. ↘ TABLE 9 APPENDIX Growth is currently expected to remain very weak due to the rising number of

↘ CHART 17
Expected economic development in Germany

Development of GDP

GDP[1] in billion euro   %

Change on previous year in %[2]

| 1.3 | 0.6 | -5.1 | 3.7 |

I II III IV   I II III IV   I II III IV   I II III IV
2018   2019   2020   2021

—— Level   —— Annual average level

■ Change on previous quarter (right hand scale)

⌐⌐ Forecast period[3]

Potential output and output gap[4]

€ billion   %

2003 05 07 09 11 13 15 17 19 2021

—— GDP[5]   —— Potential output

■ Output gap (right-hand scale)   ⌐⌐ Forecast period[3]
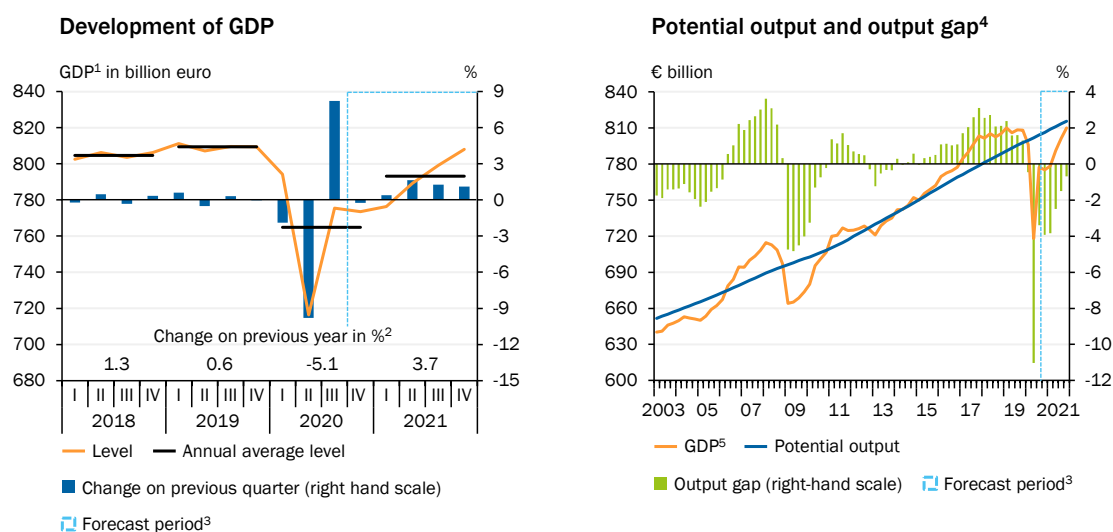
1 – Chained volumes, reference year 2015. Seasonally and calendar-adjusted. 2 – Not adjusted. 3 – Forecast by the GCEE. 4 – Estimate by the GCEE. 5 – Real seasonally adjusted values; the calendar effect is taken into account, however.

Sources: Federal Statistical Office, own calculations

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infections and renewed restrictions at the beginning of the year. However, as the second wave of infection subsides, economic **recovery** should **continue at a somewhat faster pace early next year.** The forecast year-on-year growth rate of GDP, i.e. the rate of change in GDP in the fourth quarter of a year relative to the fourth quarter of the previous year, will be 4.5 % in 2021. Economic output at the end of the forecast period would be minimally below the pre-crisis level in the fourth quarter of 2019.

59.   The **output gap**, which is expected to be **strongly negative this year** at −4.7 % on average, would gradually close in the course of 2021. ↘ CHART 17 RIGHT However, a complete return to the long-term growth path is not expected by the end of the forecast period. One important reason is that economic activity in individual sectors is likely to remain restricted for as long as, for example, social distancing is necessary. In 2021, the estimated output gap will average −2.1 %.

When interpreting the output gap, it should be borne in mind that many **economic activities were hardly or not at all possible in the first half of 2020** due to restrictions and closures. Potential output is thus probably temporarily lower than indicated by the estimates made using the usual methods. ↘ ITEM 88 With the easing and lifting of many restrictions, a substantial part of this capacity was available again in summer. The usual estimation techniques, which assume a smooth and steady potential curve, are unable to depict this unsteady development during the year due to their design.

Effects of the second wave of infection considered in the forecast

60.   The sharp **rise in the number of infections** is likely to put **considerable strain on economic development** in the coming weeks and months. Various

indicators suggest that economic activity in the consumer-related services sectors probably already declined in October. ⬐ ITEM 55 Germany's Chancellor and the Minister-Presidents of the Länder adopted a range of additional restrictions on 28 October. The aim is to slow down the dynamic infection rate and cut the number of new infections by reducing the number of contacts (Federal Government, 2020c). The **restrictions and closures, which will initially apply until the end of November**, mean an immediate loss of value added in the affected sectors. In addition, rising worries about contagion are likely to inhibit demand for certain services.

61. The **hospitality industry** is directly affected by the partial shutdown. It accounted for 1.6 % of total gross value added in 2018. Economic activity in this sector was probably well below pre-crisis levels even before the closures. Although an economic recovery began in the hospitality sector over the summer, price-adjusted turnover in August 2020 was approximately 22 % down on the same month in 2019. Turnover figures are not yet available for October. In view of higher infection figures, however, it seems plausible that activity in the hospitality industry had already declined before the closures began in November.

   The forecast for October therefore assumes a value added level of 70 % of the pre-crisis level. The figure for November is expected to be 65 % down on October. Less than **25 % of the pre-crisis level of value added** would thus be generated. This is consistent with the level of turnover observed during the first closure phase in April. As in spring, takeaway and delivery services as well as non-tourist overnight stays are still possible.

62. **Aviation** and **travel services** are indirectly affected by the restrictions. For example, citizens are called upon to reduce contacts and refrain from private travel. It is probably not uncommon for this to be already happening voluntarily for fear of contagion. Economic activity in these areas is likely to have fallen even before the recent restrictions. In the week from 19 to 25 October, German air traffic control recorded almost 60 % fewer flight movements than in the corresponding calendar week of the previous year. In mid-April, the decline was even slightly above 88 %. Passenger traffic came to almost a complete standstill at that time. Turnover in the aviation sector was about 63 % lower in the second quarter of 2020 than in the fourth quarter of 2019. In the case of travel services, the slump was more than 90 %.

   The forecast assumes that in October 2020 the **level of activity** in transport and travel services reached only 40 % of pre-crisis levels. In November, by contrast, there will be a 65 % decline. Less than **15 % of the pre-crisis level of value added** would then be generated. However, with 0.5 %, aviation and travel service providers together account for only a relatively small share of total gross value added.

63. The retail trade has not been hit by closures to date. However, regulations apply, in particular in the field of hygiene. In addition, contact avoidance could reduce customer frequency, especially in city centres. In wholesale trade, the closure of food and beverage services is likely to result in a drop in sales. The forecast thus assumes that activity in **wholesale and retail trade, including car sales**, will

fall by 5 % in November compared to October. This figure aims to cover possible indirect effects of the partial shutdown on the retail trade. For the retail sector as a whole, it is assumed that value added in October was roughly at the pre-crisis level. In 2018, the retail trade accounted for 10 % of total gross value added.

64. Also affected by the restrictions in November is the **arts, entertainment and recreation** sector, which in 2018 accounted for just under 1.4 % of total gross value added. Here, economic activity was most likely well below pre-crisis levels even before the renewed closures. For example, according to a survey conducted by the Federation of German Independent Professionals (BFB, 2020), three out of four people working in artistic professions stated in June that they were strongly or very strongly affected by the crisis.

65. In accordance with the decision of 28 October, **the forecast assumes a one-month partial shutdown** in November. **Economic activity** in consumer-related services is likely to remain **subdued** throughout the **winter** because of restrictions that are likely to remain in place after November. As a result, value added in the affected areas is unlikely to reach the starting level of the third quarter of 2020 again until April 2021.

Effects depending on the extent and duration of the restrictions

66. In order to estimate the impact of the rising infection figures and the restrictions adopted at the end of October on the forecast, the latter is compared in the following with a counterfactual situation. In a **situation without** the renewed **increase in the number of infections and without tightened restrictions**, GDP in the fourth quarter of 2020 would be arithmetically 0.9 % higher. In the first quarter of 2021, the difference in value added would still be 0.6 %. In the years 2020 and 2021, the annual average economic output would be 0.2 % higher respectively.

This **counterfactual situation** assumes that value added in the areas examined will remain at the October level during the winter half-year. Since no official turnover statistics are available for the arts, entertainment and recreation sector during the year, this is not taken into account in the calculation. Similarly, losses made by closed-down personal hygiene establishments are not included either.

67. By their very nature, such **calculations** are **incomplete and only cover some of the** macroeconomic **effects**. They cannot take account either of the interdependencies between the economic sectors or of the various **adjustments in the behaviour of companies and households**. For example, petrol stations stayed open during the shutdown in spring. However, since the volume of traffic declined sharply, e.g. because many employees worked from home or did not take business trips, their turnover also fell significantly. Conversely, during the normally high-turnover Christmas business, there could be a stronger shift in consumption away from stationary retail to internet and mail-order trading.

68. One risk to the forecast is that of a longer and more comprehensive shutdown. A further **calculation** therefore considers an **extension of** the shutdown **to two**

months. It is also assumed that **parts of retail trade**, including vehicle trade, will be **closed** in December. As a result, economic activity for the entire trade sector is assumed to decline by 20 % in December compared to October. Such a fall is consistent with the losses during the first shutdown in spring. In this scenario, GDP in the fourth quarter of 2020 would be 0.6 % lower than in the situation assumed in the forecast. Economic output in the first quarter of 2021 would be down 0.6 %. Annual average GDP would be 0.2 % lower in 2020 and 0.1 % down in 2021.

69. A decline in **industrial production** was not previously assumed in either the forecast or the calculation above. The possible **impact** of a second wave of infections is particularly **difficult to assess**. In Germany, unlike in Italy and Spain, for example, no temporary factory closures were ordered by the authorities in spring. Nevertheless, industrial production in Germany collapsed due to the **massive disruption to international supply chains** and the **fall in demand**.

    It is still unclear to what extent such a development could occur again in the winter half-year. The more countries go into a second shutdown, the more likely it is that there will again be supply chain disruptions and fewer orders. This applies above all to the European countries with which Germany has close economic ties. Renewed **border closures and restrictions on the movement of people** within the EU could affect the German economy in a similar way. However, such extensive disruptions to global supply chains like those seen in spring are not to be expected at present, not least because, at least in the far-eastern Asia, there has hitherto not been a comparable increase in the number of infections and related restrictions.

    Industry's share of total gross value added amounted to about 25 % in 2018. The macroeconomic impact would be correspondingly large if industry were to unexpectedly experience major disruptions in production, let alone temporary production shutdowns. Industrial production in Germany fell by almost 30 % between February and April 2020. Therefore, in a further calculation it is assumed that there is an equally large decline in value added in industry between October and December. According to this, the activity level of the third quarter of 2020 will be reached in April of next year. Most recently, value added in industry has probably been about 10 % below the pre-crisis level. Together with the above-estimated value-added losses in the services sector, this would result in a 3.1 % lower calculated GDP in the fourth quarter of 2020 compared to the forecast. In the first quarter, GDP would then be 2.9 % lower overall. Average GDP would be 0.8 % lower in 2020 and 0.7 % down in 2021.

70. If schools and childcare facilities were to close nationwide again, a limited **labour supply** could lead to falls in economic activity even in areas not directly affected by the shutdown. However, companies and households will probably have adapted better to the restrictions and, for example, built up the necessary infrastructure and organisation for working from home.

    The renewed shutdown affects economic sectors that are especially hard hit and find themselves in a weaker position than in spring 2020. Some companies might not be able to compensate for further losses in turnover. The **economic-policy**

support measures are likely to play an important role here. Many measures, such as interim support or loan programmes are already in place, and some of them have been adapted to the new situation. ⬂ ITEMS 118 FF. Overall, however, **estimates** of the impact that a second shutdown would have on economic recovery in 2021 and beyond are **subject to great uncertainty**.

⬂ BOX 4

On adjusting the forecast for 2020

In its forecast, the GCEE expects a GDP growth rate of –5.1 % in 2020. This represents an **upward revision of 1.4 percentage points** compared to its June 2020 forecast. ⬂ TABLE 4 The reason for this is the much stronger recovery over the summer. According to the Federal Statistical Office's flash estimate of 30 October 2020, the seasonally and calendar-adjusted GDP growth rate in the third quarter of 2020 was 8.2 % compared to the previous quarter. The June forecast had assumed an increase in economic output of only 4.3 %. Although growth in the fourth quarter is likely to be very weak, this will have only a comparatively small impact on the annual average rate of change in 2020.

⬂ TABLE 4

Comparison of the summer and the autumn forecasts for the year 2020

	Forcast by the German Council of Economic Experts					
	June 2020		Annual Report 2020		Difference	
	Year-on-Year change[1]	Growth contri- butions[2]	Year-on-Year change[1]	Growth contri- butions[2]	Year-on-Year change[1]	Growth contri- butions[2]
Gross domestic product	**– 6.5**	x	**– 5.1**	x	**1.4**	x
Domestic demand	– 3.6	– 3.4	– 3.8	– 3.6	– 0.3	– 0.3
Final consumption expenditure	– 3.3	– 2.4	– 3.9	– 2.8	– 0.6	– 0.5
Private consumption[3]	– 5.5	– 2.9	– 6.8	– 3.5	– 1.2	– 0.7
Government consumption	2.6	0.5	3.4	0.7	0.8	0.2
Gross fixed capital formation	– 5.2	– 1.1	– 3.6	– 0.8	1.7	0.4
Investment in machinery & equipment[4]	–19.3	– 1.4	–14.4	– 1.0	4.9	0.3
Construction investment	1.8	0.2	2.7	0.3	1.0	0.1
Other products	0.5	0.0	– 1.6	– 0.1	– 2.1	– 0.1
Changes in inventories	x	0.1	x	0.0	x	– 0.1
Net exports	x	– 3.1	x	– 1.5	x	1.6
Exports of goods and services	–14.5	– 6.8	–10.3	– 4.8	4.2	2.0
Imports of goods and services	– 8.9	3.7	– 8.0	3.3	0.8	– 0.3

1 – Price-adjusted. In %. 2 – Contributions to growth of price-adjusted GDP. In percentage points; Deviations in the differences due to rounding.
3 – Including non-profit institutions serving households. 4 – Including military weapon systems.

Source: own calculations

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On the expenditure side, the upward revision for this year is mainly **due to investment in machinery and equipment and to exports**. These are likely to grow much more strongly in the second half of the year than was expected in June. As there is only a small positive need for adjustment in imports, the contribution to growth from foreign trade is 1.6 percentage points less negative than in June. Slightly positive changes compared to the June forecast can be found in government consumption spending and in construction investment. However, contrary to what was expected in June, investment in other assets is likely to decline significantly this year. The reason for this is the strong downward revision of the first quarter of 2020 by official statistics. A weaker develop-
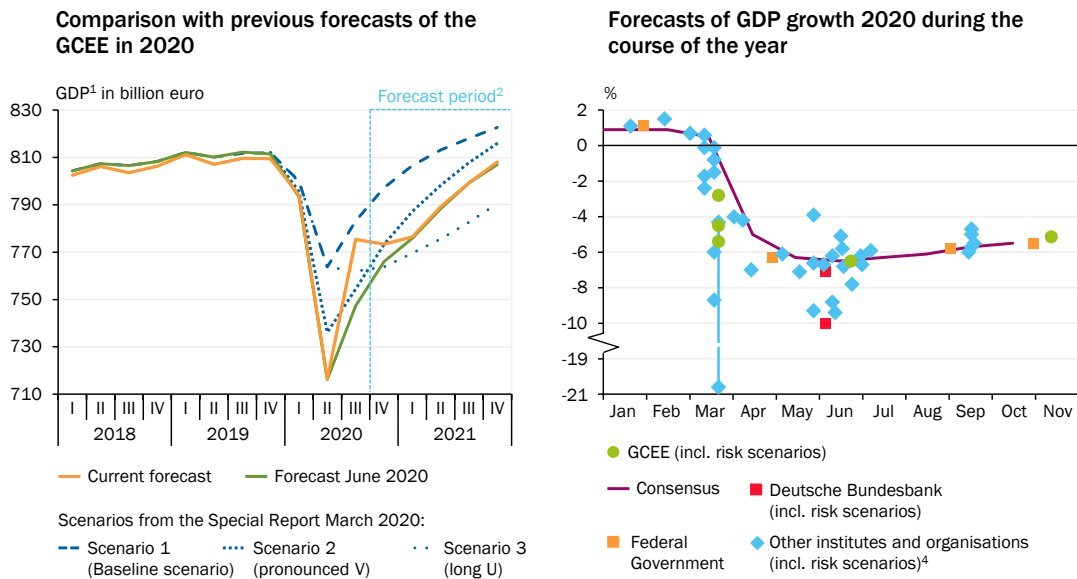
ment than expected in June is emerging in private consumer spending. In addition to the some-what stronger-than-expected slump in the second quarter, this reflects the recent increase in the incidence of infections. Fear of infection and official restrictions are likely to have a negative impact on private consumption in the final quarter of the year. For 2020 as a whole, the growth rate of private consumer spending is likely to be 1.2 percentage points lower than expected in June. The contribution to GDP growth is correspondingly lower at 0.7 percentage points.

The growth rate of –5.1 % now expected for 2020 corresponds approximately to the rate of the **'pronounced V' risk scenario** from the GCEE's special report of March this year. Although the slump in the second quarter was almost 2 percentage points more severe than assumed in the risk scenario, ↘ CHART 18 LEFT the annual average rate of change in GDP is actually less negative, since the recovery was extremely strong, at least in the third quarter. Due to a longer-than-expected shutdown in the spring and a more dynamic spread of the virus worldwide, the actual development in the first half of the year proved to be much weaker than outlined in the baseline scenario. However, as expected in March, a U-shaped curve did not occur. After several institutions and institutes had revised their forecasts downwards in the spring, the bottom of the curve as regards expected GDP growth in 2020 was reached in the summer. ↘ CHART 18 RIGHT At present, most forecasts assume a decline in GDP of between –5 % and –6 %.

The GCEE regularly evaluates its forecasts, most recently in its last annual report (GCEE Annual Report 2019 Box 4). With regard to the quality of past forecasts, differences compared to other institutions are mainly due to the different forecast dates.

↘ CHART 18

GDP forecasts of the GCEE and other institutions for Germany

Comparison with previous forecasts of the GCEE in 2020

GDP[1] in billion euro

Forecasts of GDP growth 2020 during the course of the year

%

— Current forecast   — Forecast June 2020

Scenarios from the Special Report March 2020:

-- Scenario 1 (Baseline scenario)   ···· Scenario 2 (pronounced V)   ·· Scenario 3 (long U)

● GCEE (incl. risk scenarios)

— Consensus

■ Federal Government

■ Deutsche Bundesbank (incl. risk scenarios)

◆ Other institutes and organisations (incl. risk scenarios)[4]

1 – Chained volumes (reference year 2015), seasonally and calendar-adjusted. 2 – Forecast by the GCEE. 3 – The time of the publications of the particular forecasts and scenarios are indicated on the x-axes. 4 – The 18 scenarios for 2020 of the ifo Institute from 22 March 2020 are illustrated as a bandwidth.

Sources: Consensus, Deutsche Bundesbank, Federal Government, Federal Statistical Office, Institutes and organisations, own calculations

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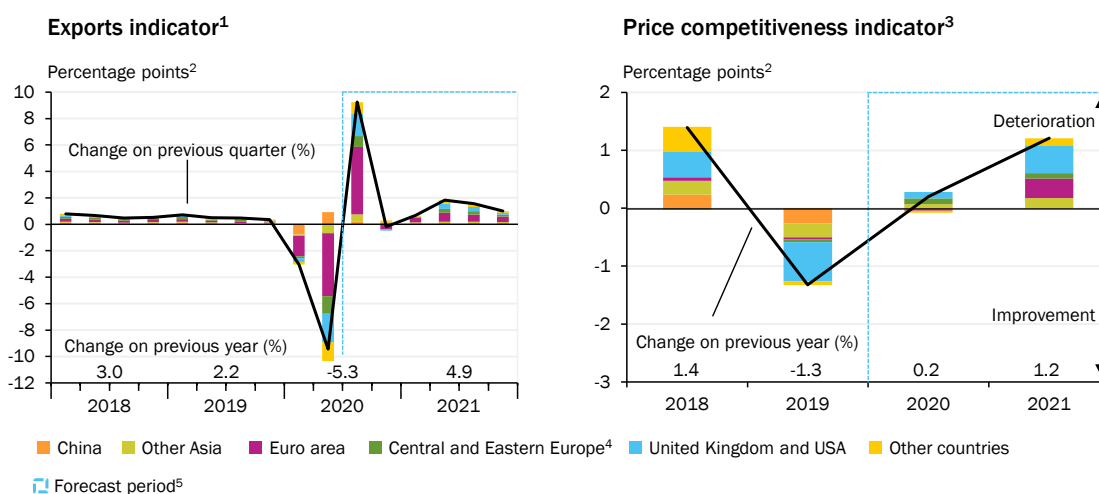## Policy-makers stabilise and strengthen incomes

71. The rapid economic recovery in the **third quarter of 2020** was most likely driven mainly by the positive development of **foreign trade**. After exports had fallen more sharply than imports in the second quarter, a major rebound effect, especially on exports, is expected in the third quarter. This is indicated both by the available import and export figures and by the much improved corporate export expectations. The GCEE's **export indicator**, which maps the economic development of 49 trading partners, is expected to rise by **9.2 % in the third quarter** compared to the previous quarter, following a 9.4 % slump in the second quarter. ↘ CHART 19 LEFT There are also signs of a marked recovery in world trade in the third quarter. ↘ ITEM 8

    However, the current development of the pandemic is clouding the prospects for a further rapid recovery. While the export indicator shows a continuous improvement in the external economic environment, the expected slowing of the recovery in neighbouring European countries in the fourth quarter of this year and the first quarter of next year is **likely to burden foreign trade.** Price competitiveness can be expected to lend slightly negative momentum to exports both this and next year. ↘ CHART 19 RIGHT This is mainly due to the relatively **strong rise in the value of the euro against the US dollar** in the course of the year to date.

72. After **gross fixed capital formation in machinery and equipment** slumped by more than 25 % in the first half of the year, a **strong rebound** can be expected **in the third quarter,** with some companies catching up on investments postponed during the shutdown. However, this momentum is likely to weaken in the further course of 2020 and in 2021. While the growing global econ-

↘ CHART 19

Expected development of the external environment

Exports indicator[1]

Percentage points[2]

Change on previous quarter (%)

Change on previous year (%)
3.0 2.2 -5.3 4.9
2018 2019 2020 2021

Price competitiveness indicator[3]

Percentage points[2]

Deterioration

Improvement

Change on previous year (%)
1.4 -1.3 0.2 1.2
2018 2019 2020 2021

China Other Asia Euro area Central and Eastern Europe[4] United Kingdom and USA Other countries

Forecast period[5]

1 – The indicator is based on the GDP development of 49 trading partners. The weighting of each country corresponds to its share of German exports. Country definitions as in Table 1. 2 – Growth contributions of the respective regions. 3 – Against 37 selected countries; an increase shows a deterioration in price competitiveness of German products. Calculation and country definitions based on the approach of the Deutsche Bundesbank. 4 – Bulgaria, Croatia, Czech Republic, Hungary, Poland, Romania. 5 – Forecast by the GCEE.

Sources: Deutsche Bundesbank, national statistical offices, own calculations

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omy is likely to generate positive stimuli, a rapid normalisation of investment activity seems unlikely given that production capacities are still not fully utilised and the incidence of infections is becoming more dynamic again. The **high level of uncertainty**, particularly with regard to the further course of the pandemic, is likely to dampen the recovery in investment in machinery and equipment in the coming quarters.

In **residential construction**, the renewed increase in new orders over the summer points to a **positive trend in the final quarter of the year**, after investments probably fell slightly in the third quarter. However, commercial construction investment is expected to continue to decline due to increased economic uncertainty. A strong increase in public construction investment is expected next year. However, the continuing high capacity utilisation in the construction industry could make it difficult to implement these projects quickly.
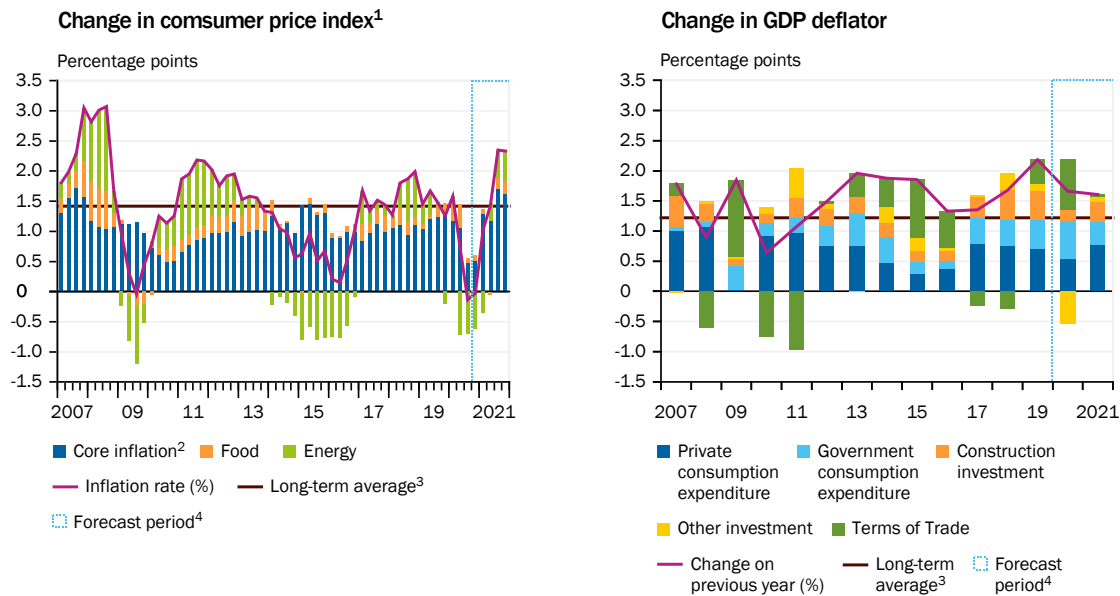
73. Supported by the **extensive monetary and fiscal policy measures**, private consumption in the third quarter of the year is likely to have recovered well from the spring slump. In addition to the at least partial **resolution of the consumption backlog** caused by the restrictions in the first half of the year ↘ ITEM 133, fiscal policy is contributing to the recovery of macroeconomic demand. The **economic stimulus package** adopted by the German government at the beginning of June is intended to address in particular the reluctance of consumers and investors to spend due to the high level of uncertainty. Estimates by the GCEE suggest a **positive growth impulse** from the stimulus package of between 0.7 and 1.3 percentage points in 2020. ↘ ITEMS 163 FF.

   Short-time work was an important element in **stabilising incomes, especially in the first half of the year**. The widespread use of short-time work is likely to have prevented major job losses, as companies were able to make necessary adjustments to employment by reducing working hours. ↘ ITEM 76 Compared to the slump in GDP, only a moderate increase in unemployment is expected for 2020. However, the development of the labour market in the coming year is highly dependent on the further course of the pandemic. The persistent cyclical underutilisation of capacity is likely to noticeably curb wage increases in 2021. **Labour-market** developments are probably closely linked to the low number of company closures. However, the picture could be distorted by the temporary suspension of the obligation to file for insolvency.

74. An **increase in corporate insolvencies** can be expected **at the beginning of next year**. ↘ BOX 5 Experience from past crisis episodes suggests that insolvencies do not increase until after a delay. The suspension during the pandemic of the obligation to file for insolvency and the extensive liquidity support provided may have bought a certain amount of time for threatened companies. **After the restrictions end**, there could be **catch-up effects**. The rising number of insolvencies is likely to **put a strain on banks' balance sheets** next year. However, the reforms in the financial system implemented since the global financial crisis have probably increased resilience considerably. The higher capital base of banks and the improved macroprudential supervision aimed to help cushion the effects of increased loan defaults and value adjustments (Deutsche Bundesbank, 2020).

Measures of inflation and their components

Change in comsumer price index[1]

Percentage points

Change in GDP deflator

Percentage points

Left chart legend:
■ Core inflation[2] ■ Food ■ Energy
— Inflation rate (%) — Long-term average[3]
⬚ Forecast period[4]

Right chart legend:
■ Private consumption expenditure ■ Government consumption expenditure ■ Construction investment
■ Other investment ■ Terms of Trade
— Change on previous year (%) — Long-term average[3] ⬚ Forecast period[4]

1 – Based on seasonally and calendar adjusted data. 2 – Overall index excluding food and energy. 3 – Average over the period from 1999 to 2019.
4 – Forecast of the GCEE.

Sources: Deutsche Bundesbank, Federal Statistical Office, own calculations   © Sachverständigenrat | 20-179

Furthermore, the still expansive monetary policy is helping banks to maintain lending.

However, if economic recovery is delayed for a long time due to a further deterioration in the course of the pandemic, there is a **risk** that the **financial system might have a procyclical effect** on the real economy. Impending losses could cause banks to restrict lending to solvent companies, and this would have a negative impact on economic recovery.

75. Price dynamics this year and next year will be influenced by the **development of energy prices and the temporary reduction in the rate of VAT**. ↘ CHART 20 LEFT Although the oil price has partially recovered in the second half of the year from its spring slump, it is likely to continue to dampen the annual rate of change in the **consumer price index** (CPI) until the beginning of 2021. While the reduced rate of VAT since July 2020 has cut inflation, the expiry of the measure in January 2021 is likely to contribute to a noticeable increase in prices. This would be in line with the experience made in early 2007 when there was an increase in the rate of VAT (Deutsche Bundesbank, 2008). ↘ ITEM 172 In addition, the introduction of a carbon pricing in the transport and heating sectors will probably increase consumer prices by 0.5 % to 1 % next year (Nöh et al., 2020). Accordingly, the GCEE expects the CPI to rise by **0.6 % in 2020** and **1.7 % in 2021**. The GDP deflator is expected to grow by 1.7 % in 2020 and 1.6 % in 2021. ↘ CHART 20 RIGHT

The **coronavirus pandemic poses major challenges for official price statistics**. Every month, more than 300,000 unit prices of goods and services are collected manually throughout Germany by the Federal Statistical Office (May and Kretzschmar, 2020). Together with the centrally compiled internet prices, they form the basis for determining the national CPI and the HICP. However, especially in spring, the containment measures meant that many **retail shops were closed, services were not available, and the work of statistical offices** in the Länder and the Federal Government was **restricted**. For this reason, alternative price determination methods have increasingly been used since the spring whenever it has not been possible to collect prices locally (Federal Statistical Office, 2020i). Wherever possible, prices are determined digitally using scanner data, automated web scraping and surveys by email or telephone. Otherwise, the unit prices must be determined by mathematical methods **(imputations)**. For example, prices that are not observed are extrapolated with the help of price developments among similar products or left unchanged (Mai and Kretzschmar, 2020). Overall, the **imputation rate for Germany in April** was **22.4 %** of unit prices in the CPI and about 27 % in the HICP. The HICP imputation rate for the euro area also reached its peak of 32 % in April (Eurostat, 2020b). Since then, the share of imputation has steadily decreased; by August it had normalised for the German CPI at **1.5 %** (Federal Statistical Office, 2020i).

↘ BOX 5

Development of insolvencies during the coronavirus pandemic

Despite the economic slump, the number of **corporate insolvencies filed between January and July of this year fell by around 10 %** compared to the same period last year (**Federal Statistical Office, 2020j**). The **suspension of the obligation to file for insolvency** since March probably played an important role in this. This measure was initially limited until the end of September 2020 and applied to companies threatened with an inability to pay or over-indebtedness due to the pandemic. In August, the Federal Government decided to **extend** the suspension of the obligation to file for insolvency **until 31 December 2020** for cases where the reason was over-indebtedness. However, the vast majority of corporate insolvencies are due to an inability to pay, which is why an increase in insolvency filings can be expected as early as October (Deutsche Bundesbank, 2020). By contrast, the **expected claims** of creditors **rose** from around €10 billion in the first half of 2019 to almost €17 billion in the first half of 2020 (Federal Statistical Office, 2020k). This indicates an increased number of impending insolvencies among larger companies. According to calculations of the IWH (2020), three times more jobs in larger companies were under threat from insolvencies, especially in July, than in January 2020.

Ongoing government support measures and the **suspension of the obligation to file for insolvency could lead** to an increase in the number of **low-profit companies**, known in the literature as zombie companies (Creditreform, 2020; VID, 2020), which will still not have a viable business model after the pandemic has subsided. In studies, they are often identified as companies that have an interest coverage ratio of below one in several consecutive years and a minimum age of ten or more years (Schwartz et al., 2018). The interest coverage ratio is defined as the ratio of income to interest service costs. These companies **can weaken** an economy's **productivity growth** if the resources tied up in them could be used more efficiently elsewhere (Caballero et al., 2008; Andrews et al., 2017; Banerjee and Hofmann, 2018). Their share has been increasing in advanced economies since the 1980s (Banerjee and Hofmann, 2020). Since 2000, they have increasingly been able to stay in the market for longer without either filing for bankruptcy or improving their profitability (Banerjee and Hofmann, 2018). Even if the affected companies recover to the point where they no longer fall under the definition of a low-profit company, they will subsequently still exhibit below-average profitability compared to other companies and are more likely to become a low-

profit company again (Banerjee and Hofmann, 2020).

Low-profit companies can remain in the market if they can continue to finance themselves cheaply. Less profitable banks may be willing to renew loans to these companies. While Banerjee and Hofmann (2018) find a **correlation between low bank profitability and the share of low-profit companies** for 14 advanced economies only periodically – during recessions or periods of stress in the financial markets – Andrews and Petroulakis (2019) find a significant negative correlation for the euro area. Storz et al. (2017) find for the euro area member states strongly affected by the sovereign-debt crisis that an **increase in stress in the banking sector**, measured by a deterioration in banks' balance sheet ratios, **leads to an increase in the debt ratio of low-profit companies**, after controlling for company- and bank-specific characteristics and demand side effects. While low interest rates could reduce the financial pressure on low-profit companies and thus make it easier for them to stay in the market, empirical evidence on the relationship between low interest rates and the share of low-profit companies is not clear. In a panel study of 14 advanced economies, Banerjee and Hofmann (2018) find a statistically significant negative correlation; however, Cella (2020) for Sweden, the Danish National Bank (2019) for Denmark and the Deutsche Bundesbank (2017) for Germany, do not.

Before the coronavirus crisis, **low-profit companies** were probably of little importance for **productivity development in Germany**. For example, the Deutsche Bundesbank (2017) found that low-profit companies made up less than 5 % of all non-financial corporations in 2015, their investment activity was below average, but their influence on the productivity of German enterprises as a whole was likely to be low due to a low share of fixed assets and turnover. In the case of medium-sized enterprises, the proportion of low-profit companies was around 5 % in 2016 (Schwartz et al., 2018); however, the study did not find evidence of lower investment activity or labour productivity.

3. Labour market proves its resilience

76. Despite the economic downturn, **employment** fell between the first and second quarter 2020 only moderately by 1.4 %. Apparently, the adjustment on the labour market with respect to working hours was more important. According to recent projections by the Federal Employment Agency (BA), an **average of 5.4 million people received short-time work allowance (Kurzarbeitergeld) in the second quarter**. The monthly reduction in working hours was equivalent to the working time of about 2.3 million employees. Furthermore, many companies appear to have taken additional measures to avoid job losses, such as using the credit of working-time accounts or granting special leave (Bellmann et al., 2020). Overall, the number of **hours worked** in the second quarter of 2020 fell by around 8.0 % compared to the previous quarter.

77. The number of **unemployed** rose by approximately 670,000 between March and June 2020. However, the increase was not only the result of job losses. Numerous labour-market measures of the BA that would otherwise have reduced the number of people registered as unemployed could not take place due to the coronavirus (Groll, 2020). In the third quarter of 2020, unemployment stagnated at around **2.9 million people**, with low inflows into and outflows from unemployment

compared to the same quarter of the previous year. From this perspective, the labour market appears to be relatively undynamic.

Job losses did not only lead to an increase in unemployment. In some cases, laid-off workers may not have registered as jobseekers and withdrawn from the labour market (Fuchs et al., 2020). In particular, many marginally employed who lost their jobs are likely to have joined the **hidden reserve**.

78. **The manufacturing** and **hospitality sectors** are currently particularly hard hit by job losses and short-time work (Link and Sauer, 2020). However, the starting positions of these sectors differ. Before the coronavirus pandemic, a positive employment trend was observed in the services sector; this ended with the coronavirus pandemic. Infection control measures continue to restrict the activities of the hospitality industry, thus reducing labour demand. The manufacturing industry, by contrast, had already recorded an employment decline before the coronavirus crisis (GCEE Special Report 2020, item 112). The economic downturn caused by the pandemic will probably have accelerated this development.

   The extent to which the current short-time work could turn into unemployment is likely to be determined on the one hand by **corporate insolvencies or closures** and on the other hand by how much **restructuring** takes place. While the hospitality sector is mainly threatened by the former, structural change in the manufacturing sector could lead to redundancies even if the companies continue to exist.

79. In the foreseeable future, **demographic change** will reduce labour supply in Germany. ⌄ ITEM 602 Today, almost 21 % of all employees subject to social insurance contributions are already older than 55 years. **Immigration** is likely to play a key role in meeting future labour demand. ⌄ ITEM 445 In the past, people without German citizenship were already making a considerable contribution to meeting the growing demand for labour (GCEE Annual Report 2018 items 285 ff.). However, the coronavirus pandemic is likely to have restricted immigration and emigration, at least temporarily: while net immigration was recorded at around 167,000 persons in the first half of 2019, the figure for the first six months of 2020 was only 74,000 (Federal Statistical Office, 2020).

80. Not least because of the unexpectedly favourable economic recovery in the summer of 2020, the **prospects** on the labour market have steadily **improved**. For example, the number of implemented short-time-working schemes declined faster and resulted in less unemployment than was forecast in the GCEE's Economic Forecast of June 2020. The employment indicators of the ifo Institute, the Institute for Employment Research (IAB) and the BA have been rising steadily after bottoming out in April 2020. Although the number of **job vacancies** fell by almost 20 % between March and July 2020, vacancies are still much higher than during the economic downturn of 2009. ⌄ ITEMS 442 AND 512 However, the time lag involved means that these indicators do not yet take into account the rising infection figures in October 2020 and the containment measures adopted for November 2020. It is therefore very uncertain to what extent employment will change in the coming months.

Containment measures that are extended or added during the forecast period because of the incidence of infection lead to a **high degree of uncertainty** in the labour market forecast. However, many companies have gained **experience in dealing with COVID-19** and the necessary hygiene measures. This could possibly cushion the reactions of the labour market, which might be less severe than at the beginning of the coronavirus pandemic. ↘ ITEMS 60 FF.

81. If the containment measures planned for November 2020 do not need to be prolonged substantially, the GCEE expects **further improvements on the labour market** in 2021. In 2020, employment is likely to fall by about 420,000 compared to 2019. In 2021, however, employment is expected to rise again. But, the increase of about 30,000 is strongly influenced by the negative statistical overhang. This is also the reason why unemployment is likely to remain unchanged at an annual average of approximately 2.7 million in 2020 and 2021. However, a

↘ TABLE 5

Labour market in Germany
1,000 persons

	2018	2019	2020[1]	2021[1]	2020[1]	2021[1]
	Yearly averages				Change on previous year in %	
Labour force potential	47,399	47,623	47,526	47,479	– 0.2	– 0.1
Labour force[2]	46,195	46,497	46,541	46,602	0.1	0.1
Unemployed persons[3]	1,468	1,374	1,794	1,866	30.6	4.0
Commuter balance[4]	141	146	101	142	– 30.7	40.1
Employed persons[5]	44,868	45,269	44,848	44,878	– 0.9	0.1
Self employed persons	4,223	4,152	4,002	3,924	– 3.6	– 1.9
Employees	40,645	41,117	40,851	40,954	– 0.6	0.3
Employees subject to social security contributions	32,964	33,518	33,586	33,805	0.2	0.7
Marginally employed persons (ILO concept)[6]	5,292	5,201	4,912	4,623	– 5.6	– 5.9
Marginally employed persons (FEA concept)[7]	7,498	7,526	7,155	7,037	– 4.9	– 1.6
Exclusively marginally employed	4,671	4,579	4,249	4,124	– 7.2	– 2.9
Marginally employed in second job	2,826	2,947	2,906	2,913	– 1.4	0.2
Registered unemployed persons	2,340	2,267	2,706	2,744	19.4	1.4
Underemployment excluding short-time work[8]	3,285	3,200	3,718	3,769	16.2	1.3
Short-time workers (Employment equivalence)	43	47	1,063	274	2,159.9	– 74.2
Labour volume (million hours)[9]	62,229	62,596	59,410	61,359	– 5.1	3.3
Unemployment rate (FEA)[10,11]	5.2	5.0	5.9	6.0	0.9	0.1
Unemployment rate (ILO)[11,12]	3.4	3.2	4.1	4.2	0.9	0.1

1 – Forecast by the GCEE except labour force potential (Source: IAB). 2 – Persons in their working age with residence in Germany (national concept); as defined by the national accounts systems. 3 – ILO concept (International Labour Organization). 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 – Employees not fully subject to social security contributions but who are employed according to the ILO labour force concept, especially exclusively marginally employed workers and persons with employment opportunities („1-Euro-Jobs"). 7 – Employed workers with a wage up to 450 Euro (§ 8 Absatz 1 Nr. 1 SGB IV). 8 – According to the concept of underemployment by the FEA. 9 – Working hours of employed persons working in Germany. 10 – Registered unemployed persons in relation to civilian labour force. 11 – Yearly averages in %; change on previous year in percentage points. 12 – 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 (FEA), Federal Statistical Office, Institute for Employment Research (IAB), own calculations

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steady fall in unemployment is to be expected in the course of 2021. ↘ TABLE 5 In addition to the unemployed, a catch-up effect in immigration and people in the hidden reserve are likely to contribute to the increase in employment.

The **development within employment** is likely to be **very heterogeneous**. While employment subject to social security contributions is likely to remain almost unchanged on average in 2020 compared to the previous year (+0.2 %), marginal employment is expected to decline by 4.9 % compared to 2019. The number of people in these jobs is also unlikely to grow in 2021. ↘ TABLE 8 APPENDIX

82. **Gross wages and salaries** are expected to fall by about 1.8 % this year. However, in the national accounts short-time work allowances are included in the category social benefits other than social transfers in kind. As a result, household incomes will decline less sharply than the changes in gross wages and salaries suggest. Since the hours worked by employees are expected to fall more than gross wages and salaries in 2020, **actual earnings** will increase strongly this year. Next year, when wages, salaries and hours worked will probably rise again, actual earnings can be expected to rise only marginally. The coronavirus pandemic will probably already have reduced the level of **collectively agreed wage settlements** this year. Wage drift, i.e. the difference between the growth in actual earnings and the growth in collectively agreed wages, is therefore likely to be high in 2020 but negative next year. ↘ TABLE 8 APPENDIX

4. High budget deficit in view of the crisis

83. As a result of the substantial burden on public budgets caused by the coronavirus pandemic, the **general government budget balance** is expected to show a large deficit of €184.7 billion (5.6 % of GDP) in 2020. ↘ TABLE 6 The deficit is likely to decline with the expected economic upturn in the course of 2021 and the expiry of some of the fiscal measures taken as part of the stimulus package. The GCEE expects a general government budget balance of minus €123.5 billion (−3.5 % of GDP) for 2021.

84. Taking into account the public loan programmes as well as public holdings in the context of the coronavirus pandemic, which are included in gross public debt but not in the general government budget balance, the **debt ratio** is expected to increase to 72.1 % of GDP in 2020. However, it is likely to fall slightly to 71.1 % of GDP in 2021.

85. In **2020**, these developments are based, inter alia, on a sharp **decline in tax revenues** due to the coronavirus pandemic and a substantial **increase in public spending**. ↘ TABLE 6 For example, the temporary reduction in the VAT rate will entail revenue shortfalls. In addition, there is also a cyclically induced reduction in income tax and social security contributions. Additional expenditure results, among other things, from the extensive immediate assistance programme and temporary aid scheme for companies, the short-time-working allowance, the child bonus and the expenditure in the health sector during the coronavirus pandemic.

↘ TABLE 6

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

	2019	2020[2]	2021[2]	2020[2]	2021[2]
	Billion euro			Change on previous year in %	
Total revenues	**1,610.6**	**1,539.6**	**1,616.3**	**– 4.4**	**5.0**
Taxes	827.1	753.5	809.0	– 8.9	7.4
Social contributions	597.5	599.7	614.9	0.4	2.5
Other revenues[3]	186.0	186.4	192.3	0.2	3.2
Total expenditures	**1,558.1**	**1,724.3**	**1,739.7**	**10.7**	**0.9**
Intermediate consumption	181.9	209.0	205.4	14.9	– 1.7
Compensation of employees	271.5	282.0	291.1	3.9	3.2
Property income (including interest) payable	27.5	23.8	20.7	– 13.5	– 12.8
Subsidies payable	30.8	87.1	59.1	182.9	– 32.2
Social benefits other than social transfers in kind	545.4	591.1	597.3	8.4	1.0
Social benefits in kind	300.4	306.6	326.0	2.0	6.4
Gross capital formation	86.2	91.9	97.3	6.6	5.9
Other expenditures[4]	114.3	132.8	142.8	16.2	7.5
Net borrowing/net lending	**52.5**	**– 184.7**	**– 123.5**	**x**	**x**
Fiscal indices (%)[5]					
Public spending ratio[6]	45.2	51.8	49.6	x	x
Government consumption ratio	20.4	22.5	22.2	x	x
Social contributions ratio[7]	16.2	16.8	16.3	x	x
Tax ratio[8]	24.3	23.1	23.5	x	x
Tax and contribution ratio[9]	40.5	39.8	39.8	x	x
Net lending/net borrowing	1.5	– 5.6	– 3.5	x	x
Structural balance[10]	0.4	– 3.4	– 1.9	x	x
Debt-to-GDP ratio[11]	58.7	72.1	71.1	x	x
Interest-to-tax ratio[12]	3.3	3.1	2.5	x	x

1 – National accounts (nominal values). 2 – Forecast by the GCEE. 3 – Sales, other subsidies on production, property income, other current transfers, capital transfers. 4 – Other current transfers, capital transfers, other taxes on production, and net acquisition of non-financial non-produced assets. 5 – In relation to GDP. 6 - Total expenditures. 7 – Social contributions without imputed social contributions. 8 – Taxes including inheritance tax and taxes to the EU. 9 - Taxes including inheritance tax and taxes to the EU, and actual social contributions. 10 – Cyclically adjusted budget balance net of temporary measures. 11 – Forecast by the GCEE for the general government gross debt as defined in the Maastricht Treaty. 12 – Interest payable in relation to taxes including inheritance tax.

Sources: Deutsche Bundesbank, Federal Statistical Office, own calculations

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Moreover, discretionary fiscal policy measures have also been taken independently of the coronavirus pandemic. These are likely to provide an additional expansionary fiscal stimulus of 0.9 % of GDP in 2020.

86. Part of the economic policy measures taken in response to the coronavirus pandemic will also have an impact on public budgets in **2021**. ↘ ITEMS 160 FF. This includes, for example, the extension of the period for which the short-time-working allowance is paid. In addition, independent of the coronavirus pandemic, public budgets will be **burdened** by, among other things, the partial abolition of the solidarity surcharge, the adjustment of income tax benchmarks, the introduction of the basic pension and the increase in the child allowance. However, revenue

from the pricing of carbon emissions, among other things, will provide some **relief**. These fiscal policy measures are expected to provide an expansionary fiscal impulse of around 0.7 % of GDP in 2021. However, considering the expiring measures in connection with the coronavirus pandemic, the overall **fiscal stimulus** is likely to be **contractionary**.

87. Over the forecast period, cyclical effects are having a significant impact on the general government budget balance. If the latter is adjusted for these influences and for one-off effects, the GCEE expects a **structural general government budget balance** of −3.4 % of GDP in 2020. In 2021, this structural deficit is likely to decline. For 2021, the GCEE expects a structural general government budget balance of −1.9 % of GDP.

5. Medium term: demographic trends adversely affecting growth

88. The coronavirus pandemic is having a major impact on the short-term economic development. The GCEE does not expect economic output to reach pre-crisis levels before early 2022. ↘ ITEMS 57 F. At the same time, the question arises as to what **medium- and long-term consequences** the coronavirus pandemic might have **on an economy's potential output**. Reduced investment activity could slow down the build-up of the capital stock; parts of the existing capital stock could become obsolete; and expertise could be lost as a result of layoffs. Potential growth would be correspondingly lower. By contrast, increased digitalisation could possibly improve growth prospects in the medium term. ↘ ITEMS 481 FF.

89. The GCEE prepares a **medium-term projection** every year. This serves to assess the economic outlook beyond the horizon of the economic forecast. It takes into account developments such as ongoing and accelerating demographic change ↘ ITEM 600 or productivity growth, which has been declining for decades (GCEE Annual Report 2019 items 132 ff.). The GCEE uses the production function method to **determine potential output**. The method is strongly oriented towards the EU method (Havik et al., 2014), which is mandatory for all member states under the Stability and Growth Pact and the European Semester. Based on a Cobb-Douglas production function, the development of potential output is attributed to the factors labour and capital as well as total factor productivity (TFP) (Breuer and Elstner, 2020).

An important challenge lies in distinguishing between structural and cyclical developments. Various economic indicators, such as capacity utilisation, are considered for this trend-cycle decomposition. The **methodology has been continuously developed** further in recent years (GCEE Annual Report 2014 items 202 ff.; GCEE Annual Report 2017 item 320). This Annual Report includes new approaches to the trend-cycle decomposition of TFP in the medium-term projection. ↘ BOX 6

↘ BOX 6

Methodological adaptation of the trend-cycle decomposition of total factor productivity

Total factor productivity (TFP) is one of the key measures of potential output and thus of an economy's long-term prosperity level (GCEE Annual Report 2019 items 145 ff.). The starting point for estimating TFP is the production function. The TFP is determined on the basis of GDP (Y_t), capital stock (K_t) and labour input (N_t)

$$\ln(A_t) = \ln(Y_t) - \alpha \ln(K_t) - (1 - \alpha) \ln(N_t), \qquad \alpha = 0{,}34.$$

The production elasticity of the factor labour $(1 - \alpha)$ is determined as the ratio of employee compensation – adjusted by the hypothetical earned income of the self-employed – and gross value added (Breuer and Elstner, 2020). The TFP is therefore a residual (Solow residual). In order to **estimate the trend TFP**, it must be adjusted for cyclical fluctuations that can arise, for example, as a result of the variable use of production factors (GCEE Annual Report 2019 items 152 ff.). Estimates of the cyclical TFP component, and hence of the output gap, are subject to revisions over time (Ademmer et al., 2019). For example, as early as 2019, in the wake of the growth slow-down, there were subsequent **revisions** of the estimated output gap, especially **for the years 2016 to 2018**. The output gap for these years proved to be significantly more positive in 2019 than was posted in real time. Calculations by the GCEE show that the majority of these revisions are due to the trend-cycle decomposition of TFP.

Up to now, the GCEE has used a **state-space model** to adjust the TFP for cyclical factors (Breuer and Elstner, 2020). The level of TFP depends on the unobserved trend and cycle components and on an error term. The growth of the trend component is modelled as a random-walk process. Unlike the simple **Hodrick-Prescott filter**, different economic indicators, such as capacity utilisation in manufacturing, are used to determine the cyclical component. A total of seven specifications are estimated and the results averaged. This Annual Report **extends** the **methodology of TFP adjustment** by including two additional models. On the one hand, the aim is to increase the reliability of the results. On the other hand, the previous eclectic approach, i.e. the consideration of different model specifications, is further expanded.
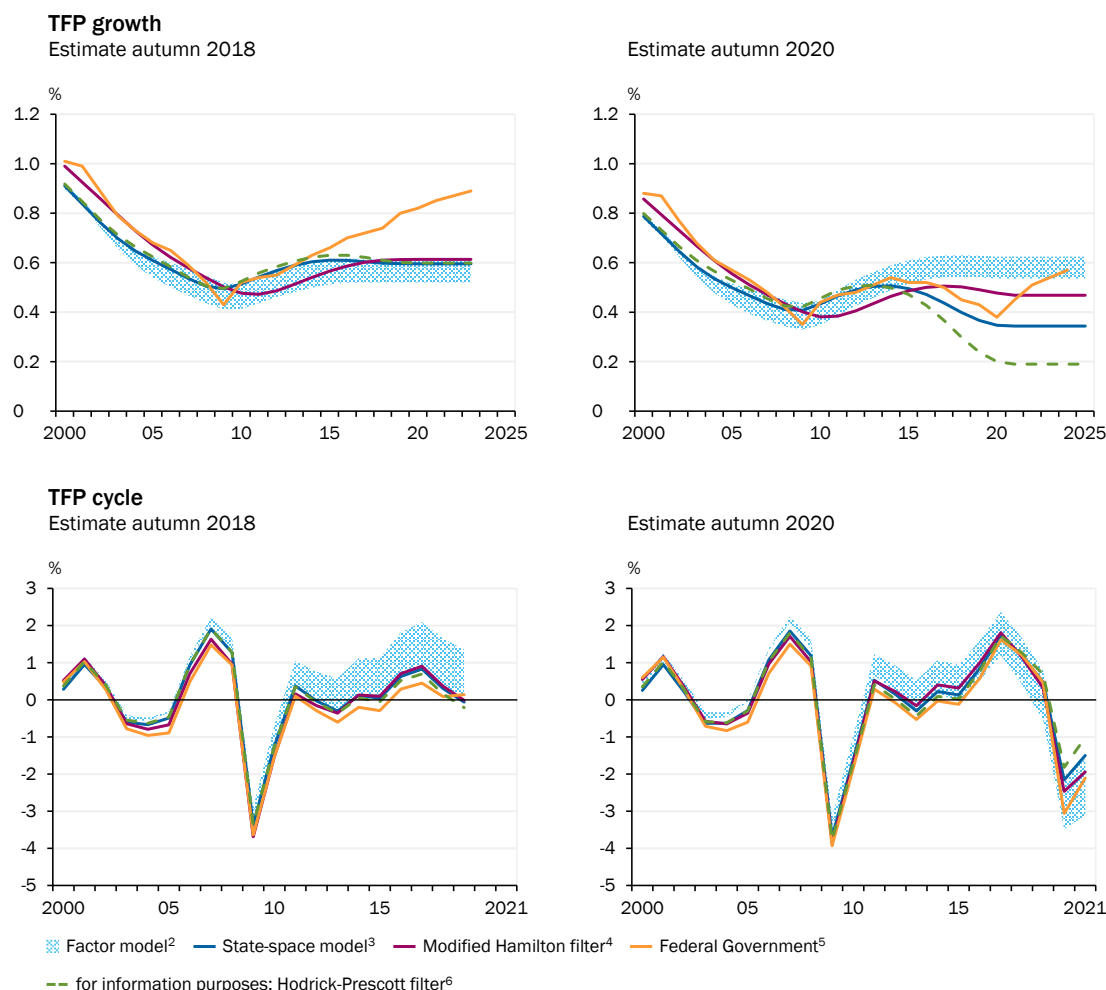
In the first new model, the cyclical component of the TFP is determined using a **static factor model**. Various economic indicators are included in the principal component analysis, including the growth of industrial production, capacity utilisation in the manufacturing sector, the ifo Business Climate Index, the rate of change of the DAX and various measures of inflation. The selection of indicators is based on Ademmer et al. (2019). Four specifications resulting from different combinations of the indicators are considered. The second approach uses the **modified Hamilton filter** (Hamilton, 2018; Quast and Wolters, 2020) to determine the trend TFP. Using a simple autoregressive model, the cyclical component is determined as the difference between the actual Solow residual and the model forecast. Both approaches prove to be less prone to revisions compared to simple filter procedures and the estimates of various institutions (Weiske, 2018; Quast and Wolters, 2020). However, the **estimated potential growth** is highly **volatile**. This problem appears with the factor model as well as with the modified Hamilton filter. Since changes in TFP trend growth of sometimes more than one percentage point between two years appear implausible, an **additional smoothing** of the trend component may be unavoidable (Weiske, 2018). In this case, this is done using the Hodrick-Prescott filter. The estimates of the three approaches (state-space model, factor model, modified Hamilton filter) are finally merged into one estimate using an unweighted average.

Estimates based on the two new approaches show only minor effects of the coronavirus crisis on TFP trend growth. At present, the estimated growth rate is between 0.5 % and 0.6 % and is thus only minimally lower than in previous years. ↘ CHART 21 TOP RIGHT However, trend growth decreases in the estimates of the state-space model, albeit by less than in the case of a simple filtering of

TFP. If one compares the current estimates with those from autumn 2018, ⊾ CHART 21 TOP LEFT there are clear downward revisions in trend growth with the exception of the factor model and the modified Hamilton filter. For the two new approaches, the estimates were made on the data vintage of the 2018 Annual Report. The downward revisions of the trend growth are reflected in upward revisions in the TFP business cycle. ⊾ CHART 21 BOTTOM For the years 2016 to 2018, the retrospective values are clearly positive. By contrast, the different methods come to strongly negative values for 2020 and 2021. The factor model in particular shows a large underutilisation this year and next year.

⊾ CHART 21

Trend-cycle adjustment of TFP[1]

TFP growth

Estimate autumn 2018

Estimate autumn 2020

TFP cycle

Estimate autumn 2018

Estimate autumn 2020

▦ Factor model[2] — State-space model[3] — Modified Hamilton filter[4] — Federal Government[5]

- - for information purposes: Hodrick-Prescott filter[6]

1 – Calculation of the Solow residual according to the GCEE methodology. 2 – Bandwith of a total of four specifications; for methodology see e.g. Weiske (2018). 3 – Mean value from seven specifications; for methodology see Breuer and Elstner (2020). 4 – For methodology see Hamilton (2018) and Quast and Wolters (2020). 5 – Left: autumn projection of October 2018. Right: interim projection of September 2020. 6 – Smoothing parameter = 100.

Sources: Federal Government, own calculations

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90. For the years **2019 to 2025**, the GCEE expects an **average** annual potential growth of **1.0 %**. Compared to the average between 1995 and 2019, this represents a fall of 0.3 percentage points. Above all, the labour volume is likely to lead to declining potential growth in the coming years. ⊾ CHART 22 LEFT Significantly negative contributions from the labour volume can be expected in the middle of the

decade. This development reflects **demographic change**. ↘ ITEMS 592 FF. A decline in the labour force and a distinctly muted increase in the participation rate can be expected from 2023 onwards. ↘ CHART 22 RIGHT No significant contributions to growth are expected from the non-accelerating inflation rate of unemployment (NAIRU) in the coming years. A further slight decline in hours worked per employee is expected.

91. The trend components of capital input and TFP are each likely to make average contributions to potential growth of 0.5 percentage points in the period from 2019 to 2025. These thus turned out to be slightly lower than in the past two and a half decades. **Compared to the previous year's projection, annual potential growth is about 0.2 percentage points lower** for the years 2019 to 2024. In addition to the estimate of the TFP trend component, the difference is mainly due to the labour volume.

92. The years-long downward trend in unemployment rates ended with the coronavirus pandemic. Next year the unemployment rate is expected to be one percentage point higher than in 2019. ↘ ITEM 81 This is reflected in the estimated **NAIRU** which, contrary to the 2019 projection, is unlikely to decline further in the coming years. Furthermore, actual **net immigration** to Germany in **2020** is likely to be **significantly lower** ↘ ITEM 79 than had been assumed in the 14th coordinated population projection (variant 2), not least as a result of the temporary border closures. In line with the Joint Economic Forecast Project Group (2020), the GCEE assumes that half of the migration that did not take place in 2020 will be made up by the end of the projection period.

↘ CHART 22

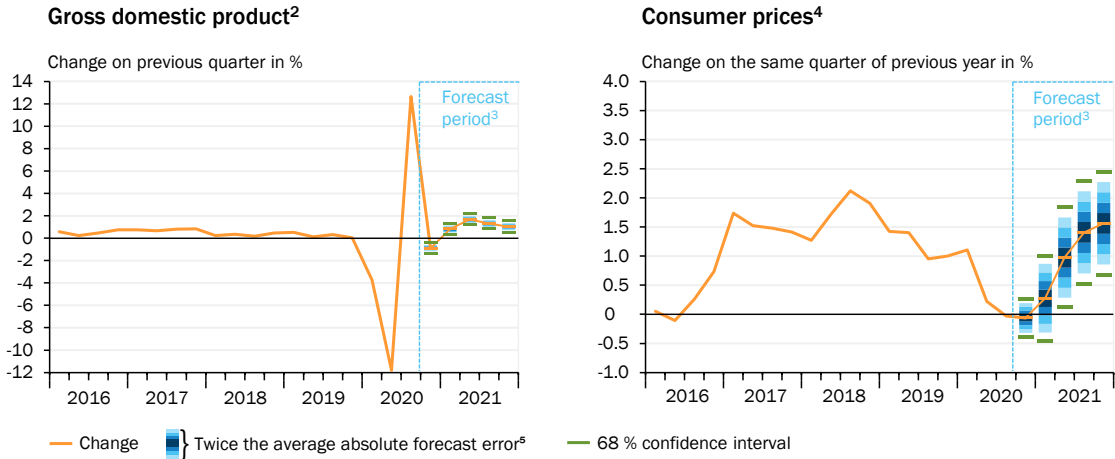**Growth contributions of components to potential GDP[1]**

Potential output

Labour volume
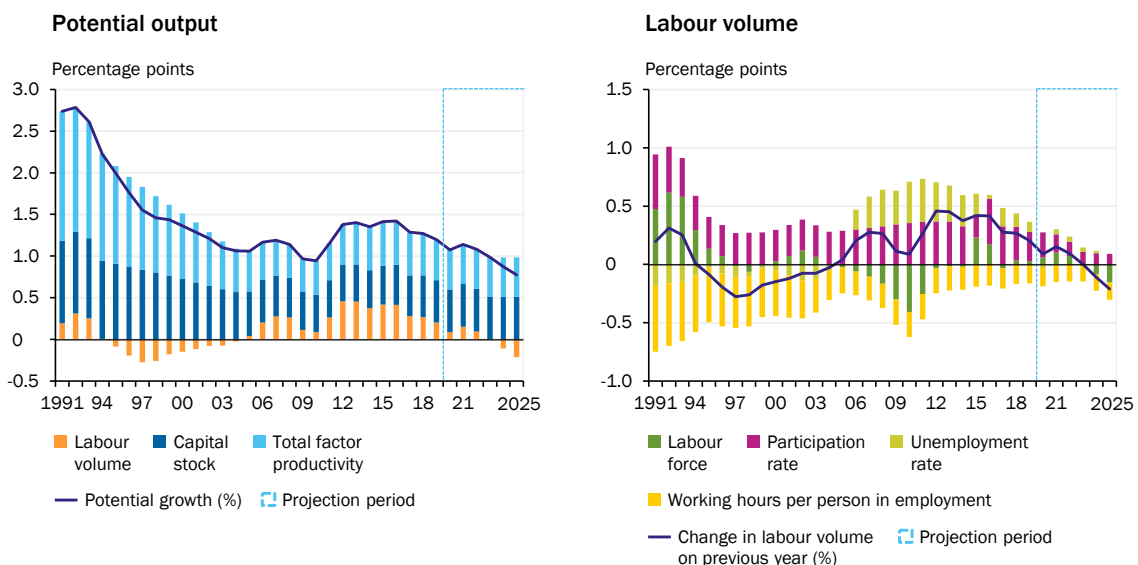
1 – Calculations by the GCEE.

Sources: Federal Statistical Office, own calculations

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APPENDIX

Forecast intervals for gross domestic product and consumer price growth in the euro area[1]

Gross domestic product[2]

Change on previous quarter in %

Consumer prices[4]

Change on the same quarter of previous year in %

— Change   ▐} Twice the average absolute forecast error[5]   — 68 % confidence interval

1 – Uncertainty margins calculated on base of the mean absolute forecast error in the period 1999 to 2019. 2 – Price-, seasonally and calendar-adjusted. 3 – Forecast by the GCEE. 4 – Harmonised index of consumer prices. 5 – The width of the confidence band, which is symmetric around the most likely value, is twice the average absolute forecast error.

Sources: Eurostat, own calculations

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Forecast intervals for gross domestic product and consumer price growth in Germany[1]

Gross domestic product[2]

Change on previous quarter in %

Consumer prices

Change on the same quarter of previous year in %

— Change   ▐} Twice the average absolute forecast error[4]   — 68 % confidence interval

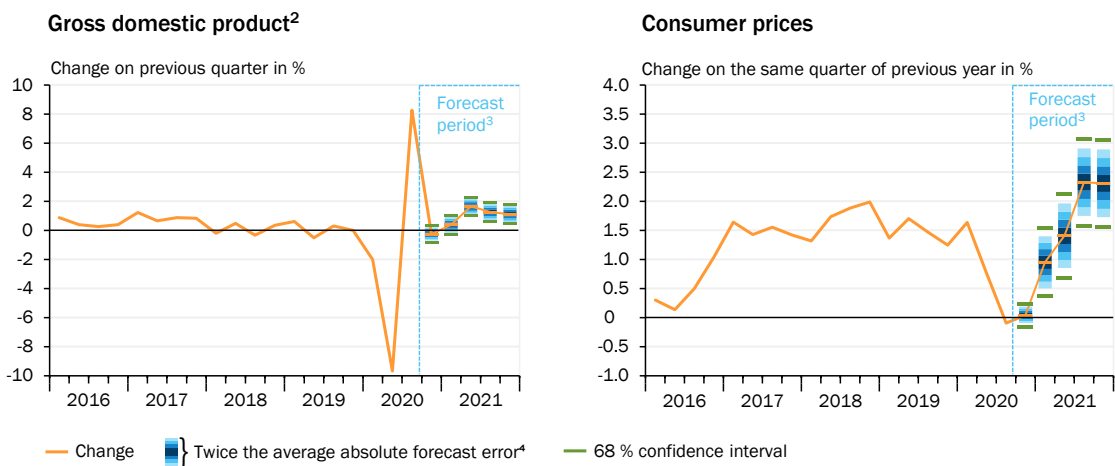1 – Uncertainty margins calculated on base of the mean absolute forecast error in the period 1999 to 2019. 2 – Price-, seasonally and calendar-adjusted. 3 – Forecast by the GCEE. 4 – The width of the confidence band, which is symmetric around the most likely value, is twice the average absolute forecast error.

Sources: Federal Statistical Office, own calculations

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↘ TABLE 7

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

	2015	2016	2017	2018	2019	2020[2]	2021[2]
Domestic demand	**1.3**	**2.8**	**2.5**	**1.7**	**1.2**	**– 3.6**	**3.1**
Final consumption expenditure	1.6	2.1	1.1	1.0	1.4	– 2.8	2.2
Private consumption[3]	1.0	1.3	0.8	0.8	0.8	– 3.5	1.8
Government consumption	0.6	0.8	0.3	0.2	0.5	0.7	0.4
Gross fixed capital formation	0.4	0.8	0.5	0.7	0.5	– 0.8	0.9
Investment in machinery & equipment[4]	0.3	0.2	0.3	0.3	0.0	– 1.0	0.6
Construction investment	– 0.1	0.4	0.1	0.3	0.4	0.3	0.2
Other products	0.2	0.2	0.1	0.2	0.1	– 0.1	0.1
Changes in inventories	– 0.7	0.0	0.8	– 0.1	– 0.7	0.0	0.0
Net exports	**0.2**	**– 0.6**	**0.1**	**– 0.4**	**– 0.6**	**– 1.5**	**0.7**
Exports of goods and services	2.5	1.2	2.2	1.1	0.5	– 4.8	3.3
Imports of goods and services	– 2.3	– 1.8	– 2.1	– 1.5	– 1.1	3.3	– 2.6
Gross domestic product (%)	**1.5**	**2.2**	**2.6**	**1.3**	**0.6**	**– 5.1**	**3.7**

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

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↘ TABLE 8

Wage developments in Germany
Change on the previous year in %

	Collectively agreed wages (hourly concept)[1]	Effective wages[2]	Wage drift[3]	Compensation of employees per working hour	Labour productivity[4]	Unit labour costs (nominal)[5]	Unit labour costs (real)[6]
2016	2.1	2.7	0.6	2.5	1.4	1.1	– 0.2
2017	2.5	2.8	0.2	2.8	1.7	1.1	– 0.2
2018	2.9	3.1	0.3	2.8	0.0	2.8	1.1
2019	3.2	3.1	0.0	3.1	0.0	3.2	1.0
2020[6]	2.0	3.2	1.2	3.7	– 0.1	3.8	2.1
2021[6]	1.6	0.7	– 0.9	0.5	0.4	0.0	– 1.5

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: Federal Statistical Office, own calculations

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↘ TABLE 9

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

	2015	2016	2017	2018	2019	2020[2]	2021[2]
Statistical overhang at the end of the previous year[3]	0.9	0.7	0.5	1.2	0.2	0.0	1.1
Growth rate over the course of the year[4]	1.1	1.9	3.6	0.3	0.4	– 4.5	4.5
Annual rate of change of GDP, calendar adjusted	1.2	2.1	2.9	1.3	0.6	– 5.5	3.7
Calendar effect (in percentage points)	0.3	0.1	– 0.3	0.0	0.0	0.4	0.0
Annual rate of change of GDP[5]	1.5	2.2	2.6	1.3	0.6	– 5.1	3.7

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

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↘ TABLE 10

Potential output and its determining factors[1]

Average annual change in %[2]

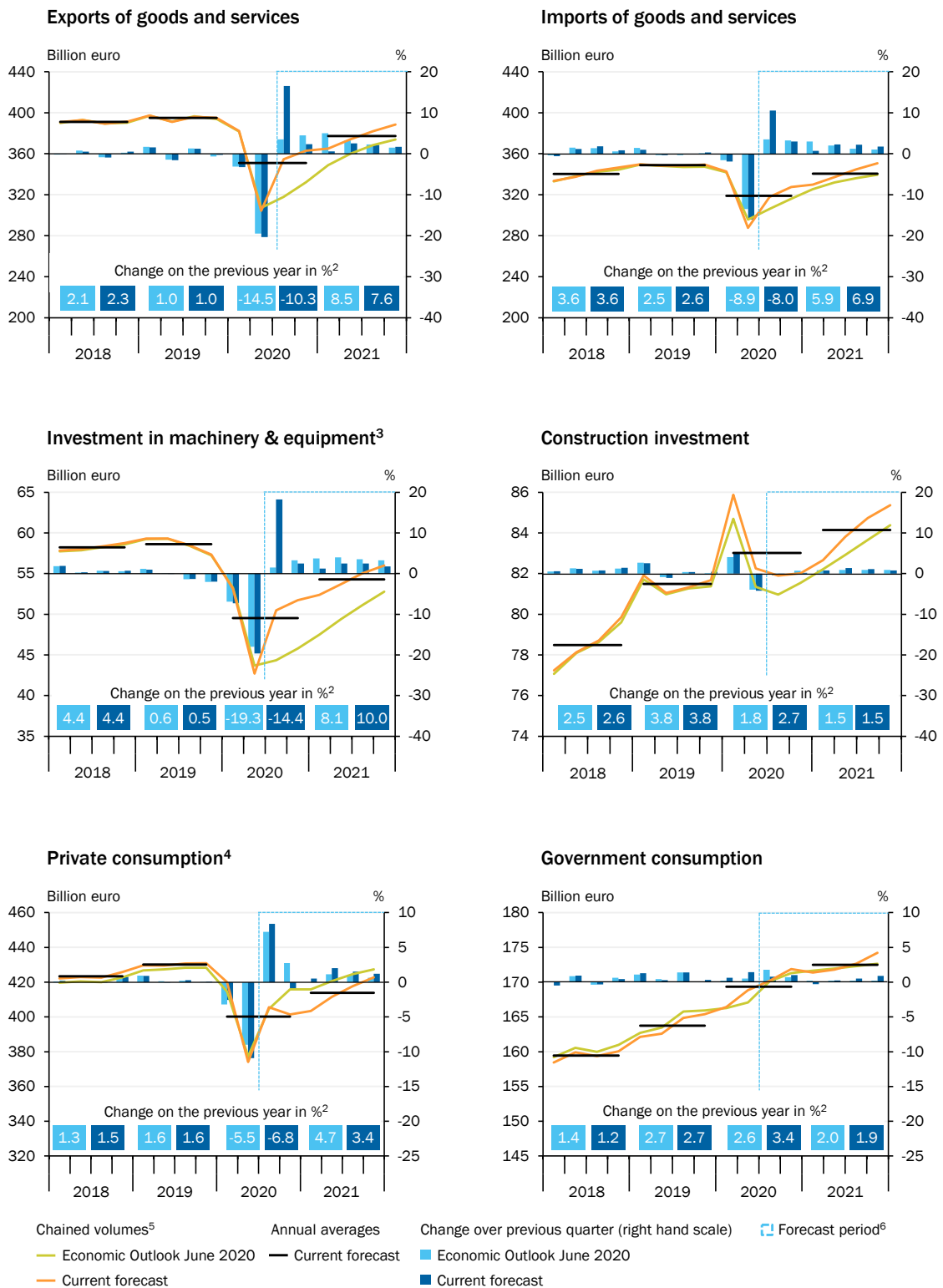|	1995 to 2019				2019 to 2025	
	actual		potential			
Gross domestic product (GDP)[3]	**1.4**		**1.3**		**1.0**	
Capital stock	**1.7**	**(0.6)**	**1.7**	**(0.6)**	**1.5**	**(0.5)**
Solow-residual	**0.6**	**(0.6)**	**0.6**	**(0.6)**	**0.5**	**(0.5)**
Volume of labour	**0.3**	**(0.2)**	**0.2**	**(0.1)**	**0.0**	**(0.0)**
Working age population	0.0	(0.0)	0.0	(0.0)	0.0	(0.0)
Participation rate	0.6	(0.4)	0.5	(0.3)	0.2	(0.1)
Unemployment rate[4]	0.2	(0.1)	0.2	(0.1)	0.0	(0.0)
Average working time	– 0.4	(– 0.3)	– 0.4	(– 0.3)	– 0.2	(– 0.1)
For information purposes: GDP per capita[3]	1.3		1.2		0.9	

1 – Calculations by the GCEE. Differences in sums are due to rounding. 2 – In brackets: growth contributions in percentage points. 3 – Price-adjusted. 4 – One minus unemployment rate.

Sources: Federal Statistical Office, own calculations

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↘ CHART 25

Components of the German GDP[1]

Exports of goods and services

Billion euro / %

Change on the previous year in %[2]

| 2.1 | 2.3 | 1.0 | 1.0 | -14.5 | -10.3 | 8.5 | 7.6 |

2018   2019   2020   2021

Imports of goods and services

Billion euro / %

Change on the previous year in %[2]

| 3.6 | 3.6 | 2.5 | 2.6 | -8.9 | -8.0 | 5.9 | 6.9 |

2018   2019   2020   2021

Investment in machinery & equipment[3]

Billion euro / %

Change on the previous year in %[2]

| 4.4 | 4.4 | 0.6 | 0.5 | -19.3 | -14.4 | 8.1 | 10.0 |

2018   2019   2020   2021

Construction investment

Billion euro / %

Change on the previous year in %[2]

| 2.5 | 2.6 | 3.8 | 3.8 | 1.8 | 2.7 | 1.5 | 1.5 |

2018   2019   2020   2021

Private consumption[4]

Billion euro / %

Change on the previous year in %[2]

| 1.3 | 1.5 | 1.6 | 1.6 | -5.5 | -6.8 | 4.7 | 3.4 |

2018   2019   2020   2021

Government consumption

Billion euro / %

Change on the previous year in %[2]

| 1.4 | 1.2 | 2.7 | 2.7 | 2.6 | 3.4 | 2.0 | 1.9 |

2018   2019   2020   2021

Chained volumes[5]   Annual averages   Change over previous quarter (right hand scale)   Forecast period[6]

— Economic Outlook June 2020   — Current forecast   Economic Outlook June 2020

— Current forecast   Current forecast

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

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↘ TABLE 11
Key figures of the national accounts
Absolute values

	Unit	2019	2020[1]	2021[1]	2020		2021[1]	
					1st half-year[1]	2nd half-year	1st half-year	2nd half-year
Use of domestic product								
at current prices								
Final consumption expenditure	billion euro	2,511.4	2,451.3	2,563.6	1,193.9	1,257.4	1,238.7	1,324.9
Private consumption[2]	billion euro	1,806.9	1,702.6	1,787.8	831.9	870.7	862.1	925.7
Government consumption	billion euro	704.5	748.7	775.8	362.0	386.7	376.6	399.2
Gross fixed capital formation	billion euro	748.0	732.3	778.6	352.0	380.3	368.2	410.4
Investment in machinery & equipment[3]	billion euro	240.1	207.9	230.8	95.1	112.8	107.0	123.8
Construction investment	billion euro	373.7	390.6	408.1	193.2	197.4	194.9	213.3
Other products	billion euro	134.2	133.8	139.7	63.6	70.2	66.3	73.4
Domestic demand	billion euro	3,249.1	3,150.9	3,306.2	1,535.3	1,615.6	1,594.2	1,712.0
Exports of goods and services	billion euro	1,617.4	1,436.4	1,549.3	703.9	732.5	751.6	797.6
Imports of goods and services	billion euro	1,417.4	1,260.7	1,349.6	618.6	642.2	647.9	701.7
Gross domestic product	**billion euro**	**3,449.1**	**3,326.6**	**3,505.9**	**1,620.6**	**1,706.0**	**1,698.0**	**1,807.9**
Chained volumes								
Final consumption expenditure	billion euro	2,374.1	2,281.5	2,349.0	1,117.3	1,164.1	1,145.1	1,203.8
Private consumption[2]	billion euro	1,719.0	1,602.9	1,657.9	783.7	819.2	803.5	854.4
Government consumption	billion euro	655.0	677.4	690.1	333.1	344.3	340.9	349.1
Gross fixed capital formation	billion euro	684.2	659.9	687.2	316.3	343.6	326.5	360.8
Investment in machinery & equipment[3]	billion euro	233.2	199.6	219.4	91.3	108.3	101.8	117.6
Construction investment	billion euro	324.6	333.5	338.5	164.0	169.5	162.7	175.8
Other products	billion euro	126.3	124.2	127.7	59.3	64.9	60.9	66.8
Domestic demand	billion euro	3,049.1	2,932.9	3,027.1	1,433.1	1,499.8	1,471.7	1,555.4
Exports of goods and services	billion euro	1,573.7	1,411.0	1,518.1	686.8	724.2	739.8	778.3
Imports of goods and services	billion euro	1,392.0	1,280.0	1,367.7	623.0	657.1	659.3	708.5
Gross domestic product	**billion euro**	**3,232.3**	**3,066.4**	**3,180.6**	**1,498.2**	**1,568.3**	**1,553.1**	**1,627.5**
Price Development (deflators)								
Final consumption expenditure	2015=100	105.8	107.4	109.1	106.9	108.0	108.2	110.1
Private consumption[2]	2015=100	105.1	106.2	107.8	106.2	106.3	107.3	108.4
Government consumption	2015=100	107.6	110.5	112.4	108.7	112.3	110.5	114.3
Gross fixed capital formation	2015=100	109.3	111.0	113.3	111.3	110.7	112.8	113.8
Investment in machinery & equipment[3]	2015=100	103.0	104.2	105.2	104.2	104.2	105.1	105.2
Construction investment	2015=100	115.1	117.1	120.5	117.8	116.4	119.7	121.3
Other products	2015=100	106.3	107.7	109.5	107.2	108.2	108.9	109.9
Domestic demand	2015=100	106.6	107.4	109.2	107.1	107.7	108.3	110.1
Terms of Trade	2015=100	100.9	103.4	103.4	103.4	103.5	103.4	103.5
Exports of goods and services	2015=100	102.8	101.8	102.1	102.5	101.2	101.6	102.5
Imports of goods and services	2015=100	101.8	98.5	98.7	99.2	97.7	98.3	99.1
Gross domestic product	**2015=100**	**106.7**	**108.5**	**110.2**	**108.2**	**108.8**	**109.3**	**111.1**
Production of domestic product								
Employed persons (domestic)	1000	45,269	44,848	44,878	44,865	44,832	44,653	45,103
Labour volume	million hours	62,596	59,410	61,359	28,951	30,393	29,915	31,315
Labour productivity (per hour)	2015=100	103.1	103.0	103.5	103.5	102.8	103.7	103.4
Distribution of net national income								
Net national income	billion euro	2,564.1	2,505.0	2,602.4	1,201.7	1,303.2	1,237.6	1,364.8
Compensation of employees	billion euro	1,845.9	1,820.8	1,886.2	880.3	940.6	902.4	983.8
Gross wages and salaries	billion euro	1,521.6	1,494.8	1,552.2	719.3	775.5	740.2	812.0
among them: net wages and salaries[4]	billion euro	1,020.3	1,005.8	1,051.3	479.6	525.9	497.1	552.0
Property and entrepreneurial income	billion euro	718.2	684.1	716.2	321.5	362.7	335.3	381.0
Disposable income of private households[2]	billion euro	1,969.8	1,977.7	1,988.4	989.7	988.0	986.2	1,002.2
Savings rate of private households[2,5]	%	10.9	16.4	12.7	18.3	14.5	15.0	10.3
For information purposes:								
nominal unit labour costs[6]	2015=100	108.5	112.5	112.6	111.8	113.5	111.3	114.1
real unit labour costs[7]	2015=100	101.6	103.8	102.2	103.3	104.3	101.7	102.7
Consumer prices	2015=100	105.3	105.9	107.8	105.9	105.6	107.3	108.1

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

Key figures of the national accounts

Change on the previous year in %

2019	2020[1]	2021[1]	2020		2021[1]		
			1st half-year[1]	2nd half-year	1st half-year	2nd half-year	
							Use of domestic product
							at current prices
3.5	– 2.4	4.6	– 2.5	– 2.3	3.8	5.4	Final consumption expenditure
2.9	– 5.8	5.0	– 6.0	– 5.6	3.6	6.3	Private consumption[2]
5.1	6.3	3.6	6.3	6.2	4.0	3.2	Government consumption
5.5	– 2.1	6.3	– 2.3	– 1.9	4.6	7.9	Gross fixed capital formation
1.9	– 13.4	11.0	– 17.9	– 9.2	12.5	9.8	Investment in machinery & equipment[3]
8.4	4.5	4.5	6.8	2.4	0.8	8.1	Construction investment
4.2	– 0.3	4.4	0.1	– 0.6	4.3	4.5	Other products
3.1	– 3.0	4.9	– 3.4	– 2.7	3.8	6.0	Domestic demand
1.7	– 11.2	7.9	– 12.6	– 9.8	6.8	8.9	Exports of goods and services
2.4	– 11.1	7.0	– 11.9	– 10.3	4.7	9.3	Imports of goods and services
2.8	**– 3.6**	**5.4**	**– 4.3**	**– 2.9**	**4.8**	**6.0**	**Gross domestic product**
							Chained volumes
1.9	– 3.9	3.0	– 4.4	– 3.4	2.5	3.4	Final consumption expenditure
1.6	– 6.8	3.4	– 7.4	– 6.2	2.5	4.3	Private consumption[2]
2.7	3.4	1.9	3.2	3.6	2.4	1.4	Government consumption
2.5	– 3.6	4.1	– 4.5	– 2.7	3.2	5.0	Gross fixed capital formation
0.5	– 14.4	10.0	– 19.1	– 10.1	11.5	8.6	Investment in machinery & equipment[3]
3.8	2.7	1.5	3.6	1.9	– 0.8	3.7	Construction investment
2.7	– 1.6	2.8	– 1.2	– 2.0	2.7	2.9	Other products
1.2	– 3.8	3.2	– 4.6	– 3.0	2.7	3.7	Domestic demand
1.0	– 10.3	7.6	– 12.6	– 8.1	7.7	7.5	Exports of goods and services
2.6	– 8.0	6.9	– 9.4	– 6.7	5.8	7.8	Imports of goods and services
0.6	**– 5.1**	**3.7**	**– 6.5**	**– 3.8**	**3.7**	**3.8**	**Gross domestic product**
							Price Development (deflators)
1.6	1.6	1.6	2.0	1.2	1.2	**1.9**	Final consumption expenditure
1.3	1.1	1.5	1.6	0.6	1.0	1.9	Private consumption[2]
2.3	2.8	1.7	3.0	2.5	1.6	1.8	Government consumption
2.9	1.5	2.1	2.3	0.8	1.4	2.8	Gross fixed capital formation
1.4	1.2	1.0	1.5	0.9	0.8	1.0	Investment in machinery & equipment[3]
4.4	1.7	2.9	3.0	0.5	1.6	4.2	Construction investment
1.4	1.4	1.6	1.4	1.4	1.6	1.6	Other products
1.9	0.8	1.7	1.3	0.3	1.1	2.2	Domestic demand
0.9	2.4	0.1	2.9	2.1	0.0	0.0	Terms of Trade
0.8	– 0.9	0.2	0.0	– 1.8	– 0.8	1.3	Exports of goods and services
– 0.1	– 3.3	0.2	– 2.8	– 3.8	– 0.9	1.3	Imports of goods and services
2.2	**1.7**	**1.6**	**2.4**	**1.0**	**1.0**	**2.1**	**Gross domestic product**
							Production of domestic product
0.9	– 0.9	0.1	– 0.5	– 1.4	– 0.5	0.6	Employed persons (domestic)
0.6	– 5.1	3.3	– 5.8	– 4.6	3.3	3.0	Labour volume
0.0	– 0.1	0.4	– 0.7	0.6	0.2	0.6	Labour productivity (per hour)
							Distribution of net national income
2.2	– 2.3	3.9	– 3.3	– 1.3	3.0	4.7	Net national income
4.2	– 1.4	3.6	– 0.4	– 2.2	2.5	4.6	Compensation of employees
4.1	– 1.8	3.8	– 1.0	– 2.4	2.9	4.7	Gross wages and salaries
4.6	– 1.4	4.5	– 0.6	– 2.2	3.6	5.0	among them: net wages and salaries[4]
– 2.7	– 4.7	4.7	– 10.5	1.0	4.3	5.1	property and entrepreneurial income
3.0	0.4	0.5	0.9	– 0.1	– 0.3	1.4	Disposable income of private households[2]
.	.	.	.	.	.	.	Savings rate of private households[2,5]
							For information purposes:
3.2	3.8	0.0	6.6	1.4	– 0.5	0.5	nominal unit labour costs[6]
1.0	2.1	– 1.5	4.1	0.5	– 1.6	– 1.6	real unit labour costs[7]
1.4	0.6	1.7	1.2	– 0.2	1.4	2.3	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).

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