

KIEL INSTITUTE ECONOMIC OUTLOOK

German Economy Summer 2020

Finalized June 17, 2020

No. 68 (2020|Q2)

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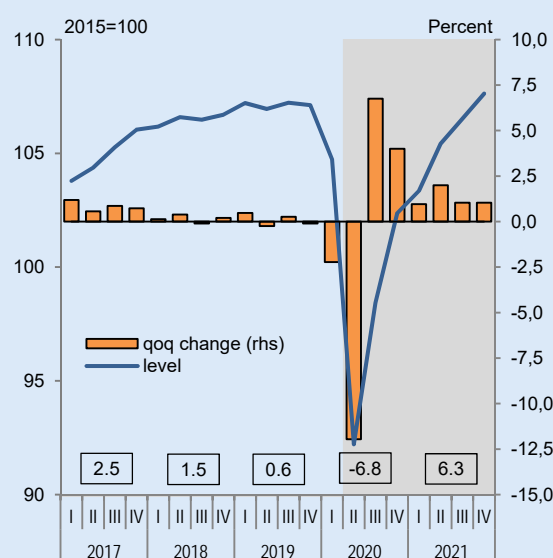
GERMAN ECONOMY FACES SLUGGISH RECOVERY

Jens Boysen-Hogrefe, Salomon Fiedler, Dominik Groll, Nils Jannsen, Stefan Kooths, and Saskia Möhle

The German economy is only gradually regaining momentum after the Covid-19-induced crash. Although production bottomed out in April and should quickly make up some of the losses thanks to the easing of the lockdown beginning in May, full recovery from the crisis will take time. One reason is that some important export destinations are economically more affected by the Covid-19 pandemic than Germany, so that exports are only gradually picking up again. Moreover, companies will remain reluctant to invest for some time to come, as uncertainty will remain high and the equity basis of many companies has been negatively affected by the slump in sales. Private consumer spending is likely to recover somewhat faster, partly because the savings rate, which rose sharply during the lockdown, is likely to decline again with restrictions being eased. As a result, the pent-up purchasing power will stimulate demand. However, the recovery in private consumption is also exposed to headwinds, as some households have been suffering income losses and larger purchases are being postponed in view of elevated job insecurity. All in all, we expect GDP to decline by 6.8 percent in the current year, followed by an increase of 6.3 percent in the coming year. On the labor market, the decline in production is cushioned by short-time work and a fall in productivity. Nevertheless, total employment is falling sharply, and the unemployment rate will rise from 5 percent in 2019 to 6.1 percent in 2021. The budget deficit will increase to about 6 percent of GDP in the current year, and will remain at around 3 percent next year, when revenues will have stabilized and many of the stimulus packages will have expired. The debt-to-GDP ratio remains above 70 percent in both years, after 60 percent in 2019.

The Corona crisis marks the sharpest slump in economic activity since the Federal Republic of Germany was founded. Never before has economic activity in Germany fallen faster and more drastically than in the spring of the current year. The economic consequences of the Covid-19 pandemic – and in particular the policy measures taken in Germany and in the rest of the world in order to contain it – were massively felt from mid-March onwards, as shown by activity indicators such as electricity consumption, truck mileage and pedestrian frequency in city centers. While industrial production had been on an upward trend since the beginning of the year, the slump in the second half of March pushed the quarterly figure well into negative territory (-2.5 percent). The service sectors were also suddenly confronted with considerable restrictions as a result of official measures and changes in consumer behavior. Overall, gross domestic product fell by 2.2 percent in the first quarter (Figure 1). A large part of the shutdown measures remained in force throughout April, which

Figure 1:
Gross domestic product, 2017–2021



Quarterly data, price, seasonally and calendar adjusted, qoqchange. Annual data: price adjusted, annual rate (boxes).

Source: Federal Statistical Office, *Fachserie 18, Series 1.2 and 1.3*; shaded: Kiel Institute forecast.

further paralyzed the service sectors, in particular those geared to social consumption. There were also drastic losses in the export business. In April, exports lost almost a quarter of their volume in the previous month. At the same time, the sentiment in companies deteriorated considerably: according to the ifo Business Climate the assessment of the situation dropped to the level of the Great Recession within a few weeks, and business expectations reached an all-time low in April. Since then, sentiment and activity indicators have been pointing upwards again, so that the low point of the crisis should now be overcome. However, the recovery is progressing much more slowly than the preceding crash. In the second quarter, GDP is likely to have shrunk drastically by 12 percent. Thus, in just a few months economic output has fallen twice as sharply as during the Great Recession in the course of four quarters.

Gross domestic product shrinks by 6.8 percent this year and increases by 6.3 percent next year. Although the crisis probably bottomed out in April, the slump in production was so severe that the recovery process will continue beyond the forecast horizon, even though catch-up rates are initially quite strong. While we estimate that the pre-crisis level of GDP will be reached towards the end of the coming year, economic activity will then probably still be more than two percent below the level that would have been achieved without the Corona crisis. Compared with our interim forecast from May, we expect the slump to be somewhat deeper in the second quarter, but we expect production to recover somewhat faster in the second half of the year, also due to the impulse provided by the latest fiscal stimulus package. However, some measures merely lead to advanced purchases – especially of durable consumer goods – so that the stimulating effects this year are followed by dampening effects next year. We estimate the fiscal stimulus of the package at 2.3 percent relative to GDP this year and 1.4 percent next year. Simulations with the GEAR model (an estimated large-scale DSGE model for Germany) indicate that (two-third of) the measures will have a stimulating effect on GDP of 0.8 percent in the current year and 0.4 percent in the coming year, but of course these estimates are subject to a high degree of uncertainty. All in all, the Covid-19 pandemic is tearing bigger holes in public budgets than any other crisis in the post-war period. The general government deficit amounts to 192 billion euros (5.9 percent relative to GDP) in the current year and 111 billion euros (3.2 percent relative to GDP) in the coming year.

German foreign trade plummets and will recover only gradually. In the first quarter, exports and imports fell more sharply than at any time since the Global Financial Crisis due to lockdown-induced shortfalls in production and demand, and disruptions in cross-border supply chains. The contraction was concentrated in the month of March, with deliveries of motor vehicles and parts being hit particularly hard; they were a quarter lower than in February. Imports fell less than exports, reflecting relatively robust demand for intermediate and consumer goods. A special feature of the current crisis is that trade in services is also affected substantially due to travel restrictions, which in March caused trade in services to fall even more sharply than trade in goods. In the current quarter, exports continue to slump, as signaled by leading indicators. In April, real exports of goods were almost 30 percent below the average of the previous quarter. Nevertheless, this probably marked the low point. Lockdown measures in important sales markets have since been eased gradually and there are first signs of a slight recovery. Export expectations in the manufacturing sector and economic sentiment in German export markets also improved somewhat in May, after having fallen even more sharply than during the Global Financial Crisis. However, global investment is projected to remain weak for some time to come, weighing on German exports going forward. Therefore, despite a gradual recovery as the global economy and world trade pick up again, exports will remain below their pre-crisis level throughout the forecast horizon. We expect them to fall by 12.5 percent this year and to rise by 8.7 percent in 2021. Merchandise imports are likely to get through the crisis somewhat better than exports, reflecting the fact that many important trading partners are more heavily affected by the

pandemic than Germany. However, due to the larger share of travel, imports are more affected than exports when it comes to trade in services. In line with the dynamics of investment, private consumption, demand for intermediate goods from exporters, and travel restrictions being gradually lifted, imports are expected to recover from the second half of the year onwards after reaching their low point this quarter. All in all, we expect a decline in imports by 7.2 percent in 2020, followed by an increase by 8.2 percent in 2021. As a result of the sharp drop in oil prices, the terms of trade improve significantly this year but will deteriorate in the course of the economic recovery and the associated rise in oil prices.

Private consumption is set to recover after the slump in the first half of the year. The huge impact of Covid-19 on private consumption became noticeable already in the numbers for the first quarter, when consumption shrank by 3.2 percent, even though indicators suggest solid increases in January and February. For the second quarter, we expect a historical decline by 13 percent due to the lockdown measures and changes in the behavior of private households to avoid infections. With the gradual easing of the measures in May and declining infection rates, private consumption is set to pick up again leading to high growth rates in the second half of the year. The recovery is fueled by pent-up purchasing power from the first half of the year (illustrated by an increase of the savings rate to the record level of above 20 percent in the second quarter) that will stimulate demand. The increase in the savings rate is the result of relatively stable disposable incomes, which will remain largely unchanged as a strong increase in social benefits (e.g., due to short-time working allowance) will compensate for the decline in wages and salaries and entrepreneurial income of private households. Moreover, the temporary decline in the value-added tax by three percentage points in the second half of the year will stimulate private consumption. In addition to the increase in purchasing power due to the tax decline, we expect private households to shift purchases equivalent to about 0.5 percent of annual private consumption from June and the first half of 2021 into the second half of this year. Against this backdrop, private consumption will decline by 7.8 percent in this year and increase by 6.8 in 2021.

Business investment will recover only gradually. In the second quarter, business investment is set to decline by more than 15 percent. Leading indicators point to a slump by about 25 percent in investment in machinery and equipment. Usually, other components of business investment are less volatile (e.g., because companies tend to plan their research and development expenditures over the longer term). The recovery in business investment, which is expected to start in the third quarter, will take time, as uncertainty will remain high for the time being and the equity basis of many companies is being negatively affected by the slump in sales. A sluggish recovery in business investment is also in line with historical experiences following recessions and financial crises. Construction investment – despite investment in structures – will remain robust. Residential investment will be dampened somewhat due to lower growth in disposable income and higher income uncertainty but will be fueled by the still stimulating environment with favorable financing conditions and high demand for new living space. Public investments will continue to increase with high growth rates. Overall, Gross Fixed Capital Formation is expected to shrink by 7 percent in this year and increase by 5.7 percent in 2021.

Both energy prices as well as the value-added tax (VAT) adjustment lead to lower consumer price inflation this year, but to higher inflation next year. Recently, inflation slowed noticeably, such that in May the Consumer Price Index (CPI) stood only 0.6 percent above its level of one year before. The main reason for this was the drastic fall in energy prices, which came in 8.5 percent below the previous year's level. In contrast, the core inflation rate excluding the volatile energy component has now stood at a constant 1.6 percent for months and thus even slightly above the previous year's average. The underlying price dynamics are therefore still intact and could even pick up a little over the remainder of the year if production disruptions persist and currently pent-up demand is released. The downward slide in energy prices is also likely to come to an end for the time being, as oil prices

have started to recover from their dramatic fall in March and April. However, in the second half of the year the temporary VAT cut will come into force and should reduce inflation markedly, since we believe that it will be passed through to a large extent. Overall, we expect consumer prices to increase by only 0.7 percent in 2020. In 2021, inflation should be significantly higher at 2.7 percent. Not only will the VAT cut be reversed, but also energy prices are set to rise sharply at the beginning of next year, when the climate package comes into force. The price increase here is likely to be even higher than the one estimated in our analysis in the spring forecast, since the costs for renewable energies are rising very sharply. Thus, despite the recently introduced cap on the renewable energy surcharge on electricity prices financed through a federal grant, the originally planned compensation for the introduction of the CO₂ levy will now be noticeably smaller. One should note that due to the restrictions on the sale of certain goods and services during the pandemic the CPI statistics should be treated with special caution because of unusual distortions introduced by measurement problems.

Wages and Salaries per employee are expected to fall this year for the first time in reunified Germany. Negotiated wages and salaries will probably rise at a rate of only 1.9 percent this year, after 3.0 percent last year. Symptomatic of this is the agreement reached in the important metal and electrical industry in March, in which the expired collective agreement was extended until the end of the year without an increase in pay in view of the already foreseeable crisis. As the deep recession is likely to dominate also the coming negotiations in other sectors of the economy, we expect only a relatively small increase in pay of 1.6 percent next year as well. Effectively-paid gross wages and salaries per employee are expected to fall in the current year (-1.2 percent), primarily due to the massive expansion of short-time work, but also due to reduced payments above the agreed pay scale and lower payments in companies without collective agreements. Since labor productivity will fall significantly, real unit labor costs will rise particularly sharply in the current year, after already above-average increases in the previous two years. It should be noted that firms will be fully reimbursed by the Federal Employment Agency for the social security contributions they have to pay for their employees in short-time work. However, this only slightly reduces the actual burden caused by increased unit labor costs. In the coming year, earnings per employee will rise significantly in the course of the recovery, and unit labor costs will fall again as labor productivity rises quickly.

Although a large part of the slump in output is being absorbed by short-time work and falling labor productivity, employment is declining noticeably. For March, the Federal Employment Agency estimates that 2 million employees were already under the short-time working scheme, a record figure since German reunification. The figure is also astonishing because firms announced short-time work for 2.6 million employees in March. Thus, about three quarters of previously announced short-time work was realized. In the past, this figure was on average one-third, even during the Great Recession in 2009. By the end of May, firms announced short-time work for a total of 11.7 million employees. Based on company surveys, the ifo Institute estimates that 7.3 million employees were actually on short-time work in May. Despite the enormous expansion of short-time work, total employment fell by 275,000 between March and April (seasonally adjusted), the largest fall since German reunification. At the same time, the number of registered unemployed rose by 372,000 in April and by 238,000 in May, although it should be noted that in both months around half of the "new" unemployed were already *de facto* unemployed. They participated in labor market policy measures by the Federal Employment Agency and were therefore not counted as unemployed. These measures were greatly reduced as a result of the contact restrictions introduced in response to the pandemic. But even without this special effect, the increase in unemployment is one of the highest in the past 30 years. Employment will probably fall further in the coming months. According to the ifo Employment Barometer, the willingness to hire recovered somewhat in May, but after the sharp declines in the two previous months, it remains only a short distance from the all-time low reached in

April. We expect total employment in 2020 to fall by 550,000 people year-on-year. Taking into account that employment would have continued to rise without the outbreak of the pandemic (by 235,000 people according to our December forecast), we estimate that the pandemic will result in a loss of 800,000 jobs for the time being. The decline in employment is likely to be disproportionately high for the exclusively marginally employed (so-called minijobs) and self-employed, because they are not covered by social security and thus do not benefit from the short-time working scheme. Moreover, they are not entitled to regular unemployment benefits (*Arbeitslosengeld*) and in many cases are not entitled to basic income support (*Grundsicherung*), as they do not pass the means test. For this reason, the effect on registered unemployment is likely to be less than 800,000 persons; we expect an increase of just under 500,000 persons. As a result, the unemployment rate will rise from 5 percent on average last year to 6 percent this year; the peak will be reached in the third quarter at 6.5 percent.

The central government sets up a substantial fiscal stimulus program. In June 2020 the central government proposed a fiscal stimulus program worth 160 billion euros. In the years 2020 and 2021 more than 130 billion euros shall be spend. However, some of these measures are transfers within the government sector and will not translate into fiscal stimulus by the same amount. We estimate a stimulus of 80.7 billion euros for 2020 and 48.6 billion euros for 2021 (relative to 2019). In addition, previously announced measures have to be taken into account. Thus, the overall stimulus for 2020 is about 130 billion euros and also somewhat higher in 2021 as the solidarity surcharge will be abolished for many tax payers.

The general government budget shows a record-high deficit in 2020. Tax revenues plunge due to the crisis and additional policy measures. At the same time, social security contributions increase slightly despite lower wages and salaries. This is due to the contributions of retired persons and those for short-time workers, which are reimbursed to firms by means of subsidies. In sum, revenues decrease substantially, while expenditures for subsidies and monetary transfers to private households increase dramatically. In sum, the budget deficit this year will be the highest in the history of reunified Germany. In 2021, the budget deficit declines somewhat since tax revenues recover. However, expenditures will remain strong also due to the stimulus program.

Table 1:
Key indicators, 2018–2021

	2018	2019	2020	2021
Gross domestic product (GDP), price-adjusted	1.5	0.6	-6.8	6.3
Gross domestic product, deflator	1.5	2.1	1.9	1.7
Consumer prices	1.7	1.4	0.7	2.7
Labor productivity (per hour worked)	0.3	-0.0	-2.7	3.0
Employment (1,000 persons)	44,854	45,236	44,686	44,533
Unemployment rate (percent)	5.2	5.0	6.0	6.1
<i>in relation to nominal GDP</i>				
Public sector net lending	1.9	1.5	-5.9	-3.2
Gross public debt	61.7	60.0	73.1	70.2
Current account balance	7.4	7.1	4.9	4.7

GDP, consumer prices, labor productivity: percentage change on previous year; unemployment rate: as defined by the Federal Employment Agency.

Source: Federal Statistical Office, *Fachserie 18, Series 1.2*; Federal Employment Agency, *Monthly Bulletin*; Federal Employment Agency, *Employment Statistics*; shaded: Kiel Institute forecast.

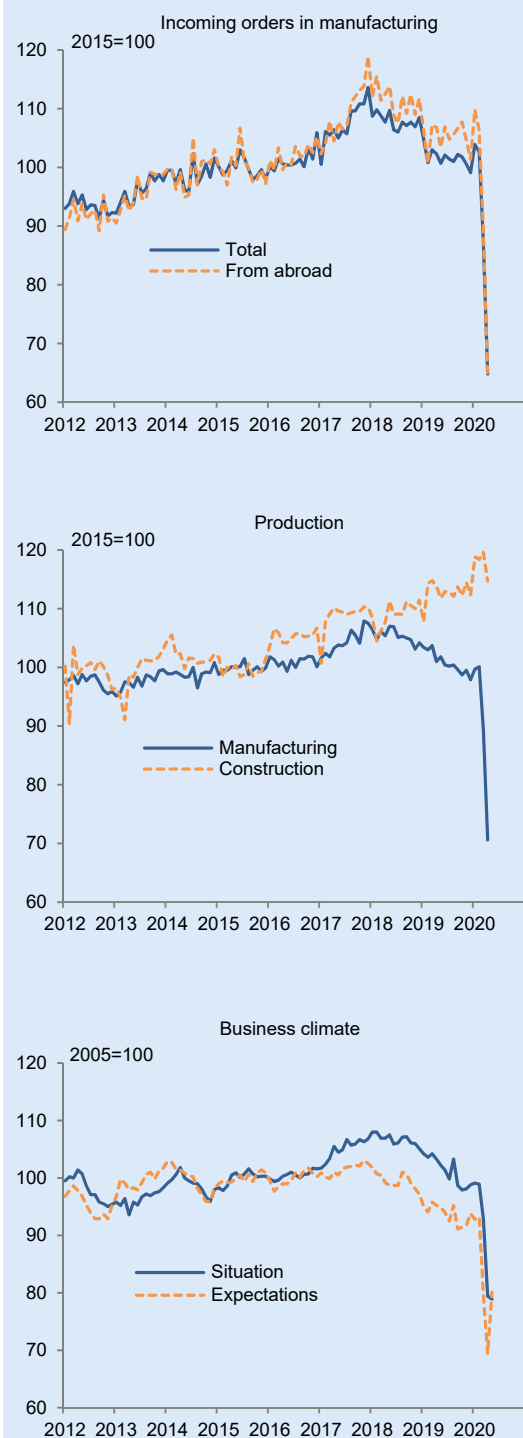
Data annex

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1. Leading indicators

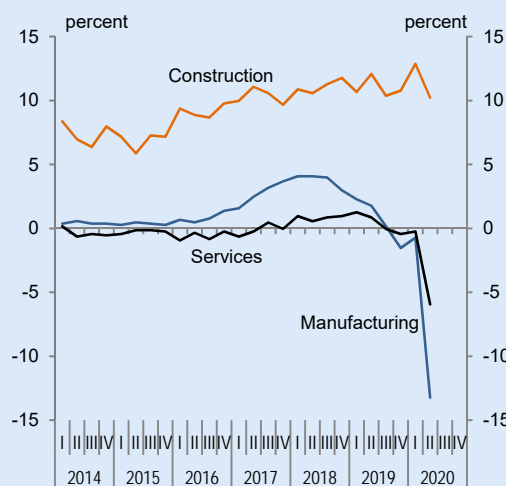
Figure 1.1:
Leading indicators, 2012–2020



Monthly data, seasonally adjusted.

Source: Deutsche Bundesbank, *Saisonbereinigte Wirtschaftszahlen*; ifo, *Konjunkturperspektiven*; Kiel Institute calculations.

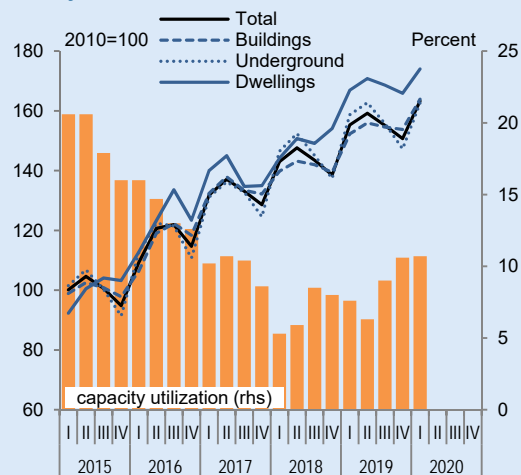
Figure 1.2:
Capacity utilization, 2014–2020



Quarterly data, seasonally adjusted. Capacity utilization: Deviations from the historic mean.

Source: ifo Institut, *Konjunkturtest*; Deutsche Bundesbank, *Monatsbericht*.

Figure 1.3:
Order stocks and capacity utilization in construction industry, 2015–2020

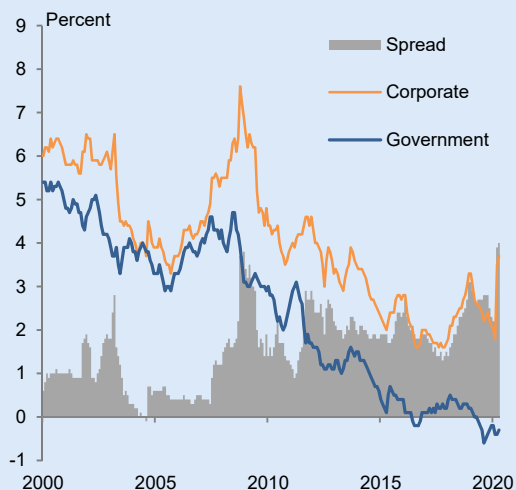


Quarterly data. Capacity utilization (deviation from normal level): seasonally adjusted; order stocks: price, seasonally and working-day adjusted.

Source: Federal Statistical Office, *GENESIS database*; ifo, *Konjunkturperspektiven*.

2. Monetary conditions and prices

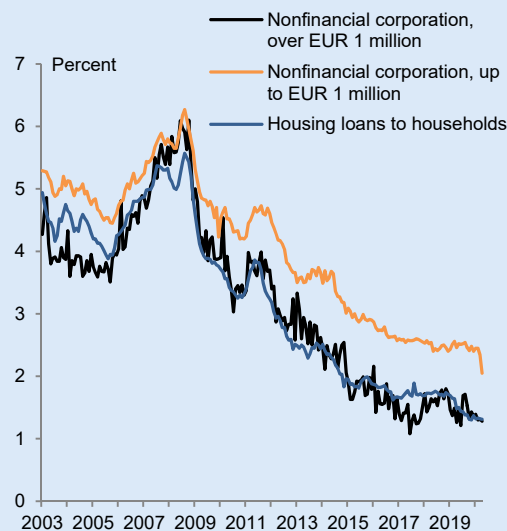
Figure 2.1:
Bond yields, 2000–2020



Monthly data, average maturities above three years.

Source: Deutsche Bundesbank, *Monthly Reports*; Kiel Institute calculations.

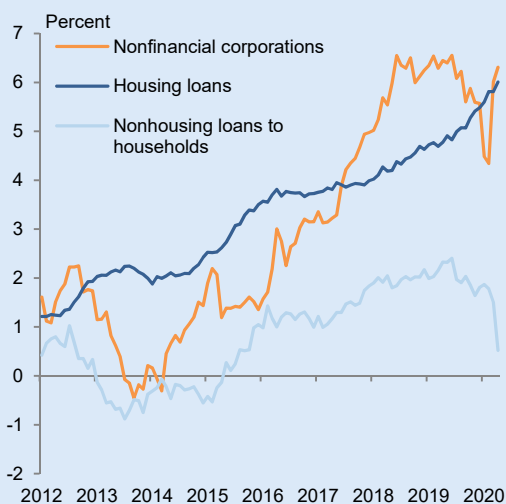
Figure 2.2:
Loan interest, 2003–2020



Monthly data; new business, 1–5 years, fixed.

Source: Deutsche Bundesbank, *MFI interest rate statistics*.

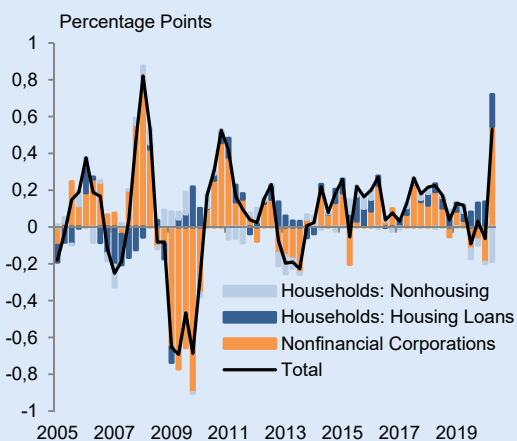
Figure 2.3:
Credit growth, 2012–2020



Change compared to one year ago; Monthly data.

Source: Deutsche Bundesbank, *Seasonally Adjusted Business Statistics*; Kiel Institute calculations.

Figure 2.4:
Credit impulse, 2005–2020

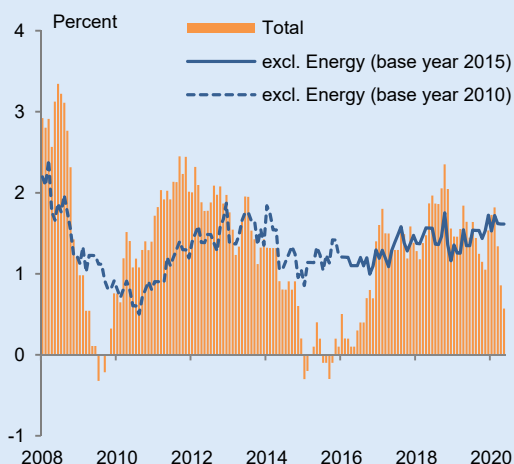


Quarterly data, most recent quarter based on first month; calculations follow Biggs et al. (2009), *Credit and economic recovery*, DNB Working Paper 218, De Nederlandsche Bank, Amsterdam.

The credit impulse is the change of the credit growth relative to the growth in GDP.

Source: Deutsche Bundesbank, *Seasonally Adjusted Business Statistics*; Kiel Institute calculations.

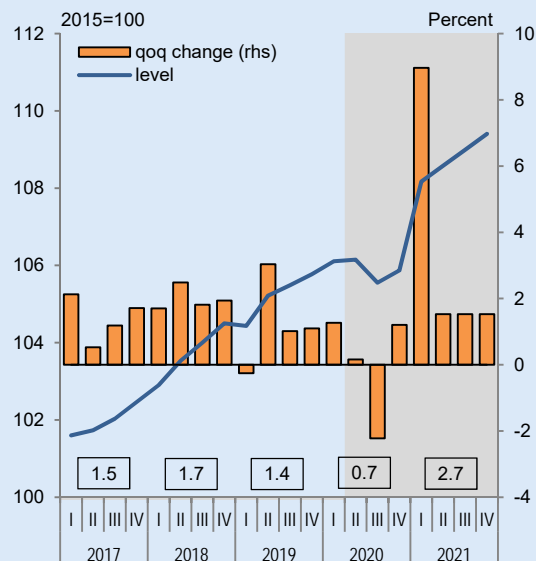
Figure 2.6:
Consumer prices, 2008–2020



Monthly data; year-on-year change.
After the introduction of the new base year 2015, the Statistisches Bundesamt has not yet published all new time series for the period before 2015. We therefore fall back on the old data for that period of time.

Source: Deutsche Bundesbank, *Time series databases*; Kiel Institute calculations.

Figure 2.7:
Consumer price index, 2017–2021



Quarterly data: Price, seasonally and calendar adjusted, qoq change. Annual data (boxes): Price adjusted, change in percent.

Source: Federal Statistical Office, *Fachserie 17, Reihe 7*; German Federal Bank, seasonally adjusted economic data; shaded: Kiel Institute forecast.

Table 2.1:
Projections and assumptions on the international environment, 2018–2021

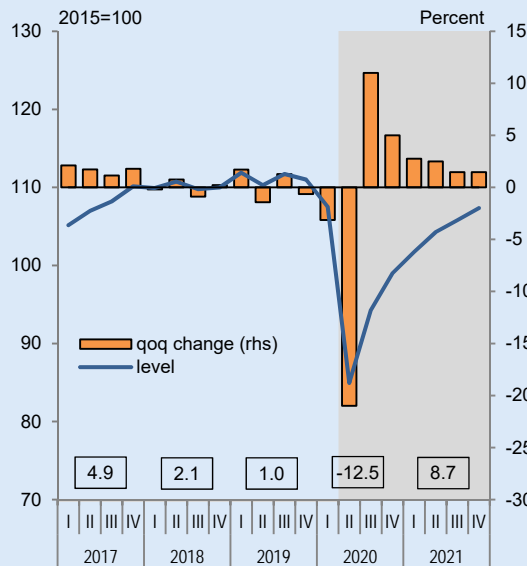
	2018				2019				2020				2021			
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
ECB key interest rate	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Long-term interest rate	0.60	0.50	0.40	0.40	0.10	-0.10	-0.50	-0.40	-0.40	-0.40	-0.30	-0.30	-0.20	-0.20	-0.20	-0.20
USD/EUR exchange rate	1.23	1.19	1.16	1.14	1.14	1.12	1.11	1.11	1.10	1.10	1.14	1.14	1.14	1.14	1.14	1.14
Price competitiveness	90.2	90.0	90.8	90.4	89.3	89.4	89.2	88.6	88.6	89.4	89.8	89.8	89.8	89.6	89.4	89.2
Export markets	0.7	0.7	0.5	0.5	0.6	0.5	0.5	0.4	-2.9	-9.5	5.9	3.0	1.8	1.3	0.9	0.7
Oil price	66.9	74.5	75.1	68.8	63.2	68.9	61.9	63.4	50.5	29.0	40.1	41.8	43.6	45.4	47.4	49.4

ECB key interest rate: main refinancing operations; long-term interest rate on 9–10 year bonds; price competitiveness: against 56 trading partners, based on the deflators of total sales, index: 1991:1 = 100, increasing values indicate deterioration of price competitiveness; export markets: GDP growth in 41 countries, weighted with shares in German exports, change over previous quarter. Oil Price: US-Dollar per barrel North Sea Brent.

Source: ECB, *Monthly Bulletin*; Deutsche Bundesbank, *Monthly Bulletin*; IMF, *International Financial Statistics*; own calculations; shaded: Ifw forecast or assumption.

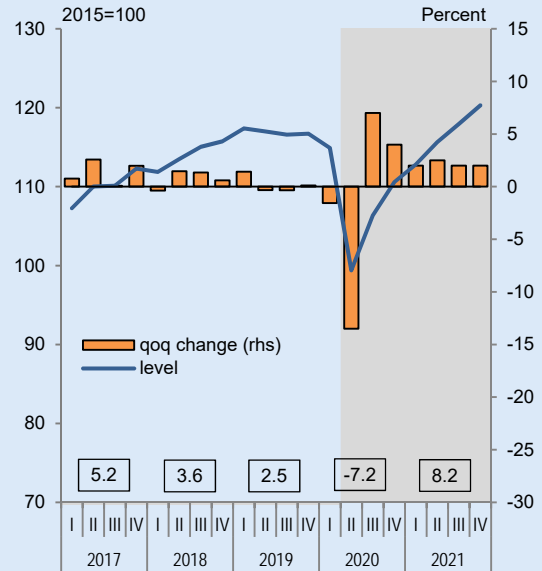
3. External trade

Figure 3.1:
Exports, 2017–2021



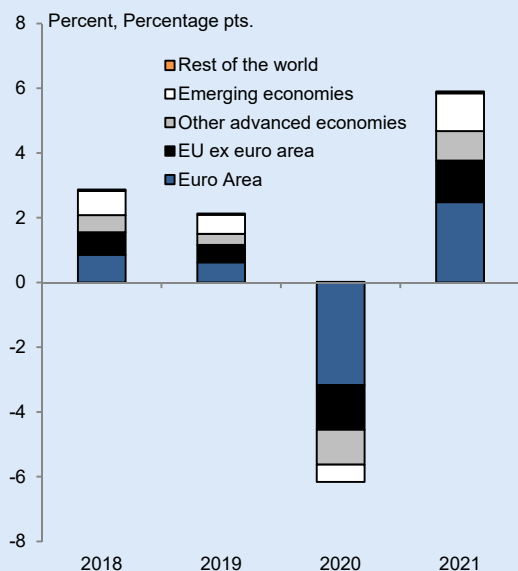
Quarterly data; price, seasonally and calendar adjusted, qoq change (rhs). Annual data: price adjusted, annual rate (boxes).
Source: Federal Statistical Office, *Fachserie 18, Series 1.2 and 1.3*; shaded: Kiel Institute forecast.

Figure 3.2:
Imports, 2017–2021



Quarterly data: price, seasonally and calendar adjusted, qoq change (rhs). Annual data: price adjusted, yoy change in percent (boxes).
Source: Federal Statistical Office, *Fachserie 18, Series 1.2 and 1.3*; shaded: Kiel Institute forecast.

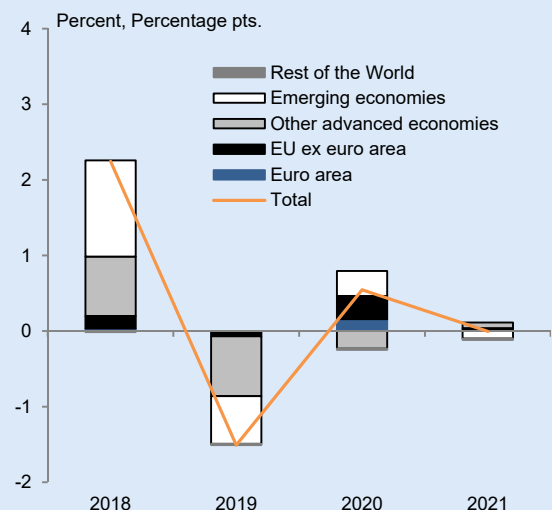
Figure 3.3:
German export markets, 2018–2021



Annual data, volumes; GDP growth in 59 countries, weighted with shares in German exports.

Source: Federal Statistical Office, *Fachserie 7 Series 1*; national sources; Kiel Institute calculations and forecast.

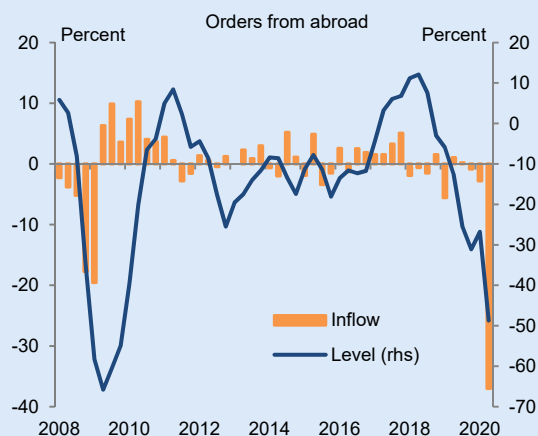
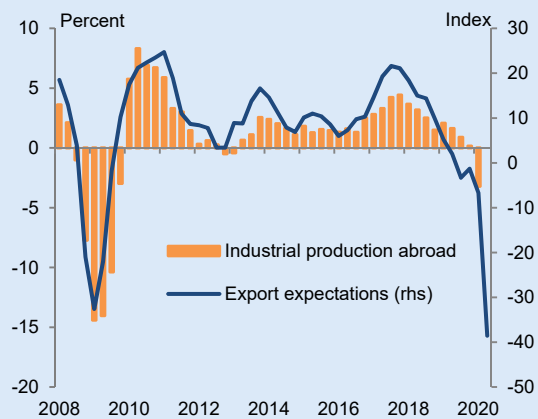
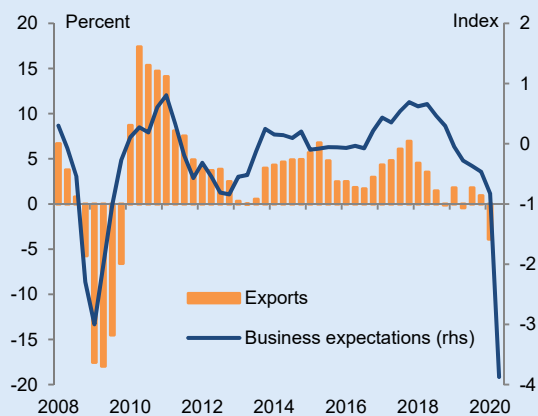
Figure 3.4:
Germany's price competitiveness, 2018–2021



Annual data; vis-à-vis 51 countries based on consumer prices; weights according to Germany's price competitiveness indicator vis-à-vis 56 trading partners based on consumer price indices from the Deutsche Bundesbank. Increase reflects worsening of price competitiveness.

Source: Bundesbank, *Monthly Report 8.2017*; national sources; Kiel institute calculations and forecast.

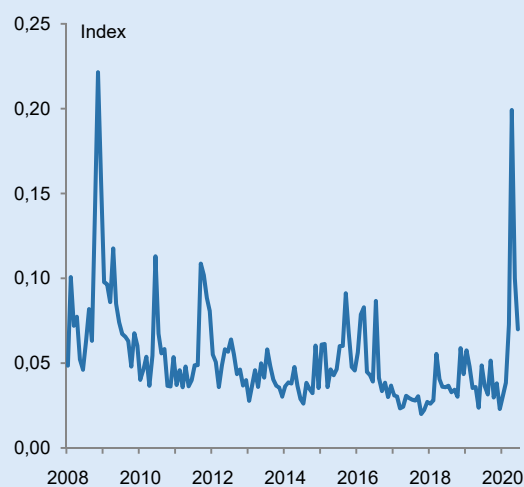
Figure 3.5:
Export indicators, 2008–2020



Quarterly data; exports, industrial production, volumes, change on previous year; order inflow: volumes, change on previous quarter; export expectations, foreign orders on hand: volumes; business expectations, industrial production: based on 42 countries weighted by shares of German exports.

Source: Deutsche Bundesbank, Saisonbereinigte Wirtschaftszahlen; Thomson Reuters Datastream; ifo, Konjunkturperspektiven; Kiel Institute calculations.

Figure 3.6:
Uncertainty in German export markets, 2008–2020

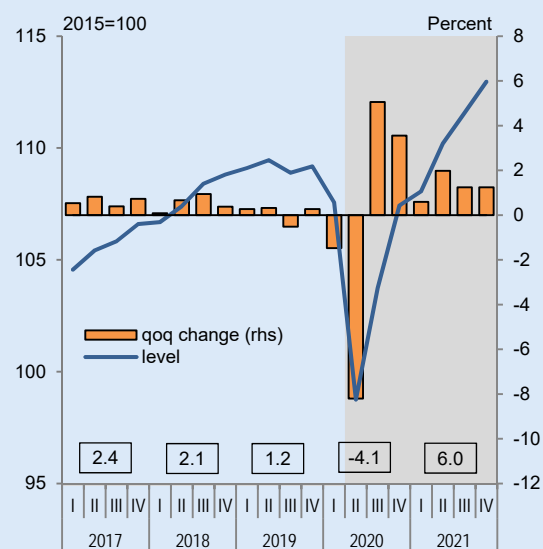


Monthly data; realized stock market volatilities based on daily stock price indices in 46 countries, weighted by shares of German exports. Last value: 15.06.2020

Source: National sources; Kiel Institute calculations.

4. Domestic expenditure

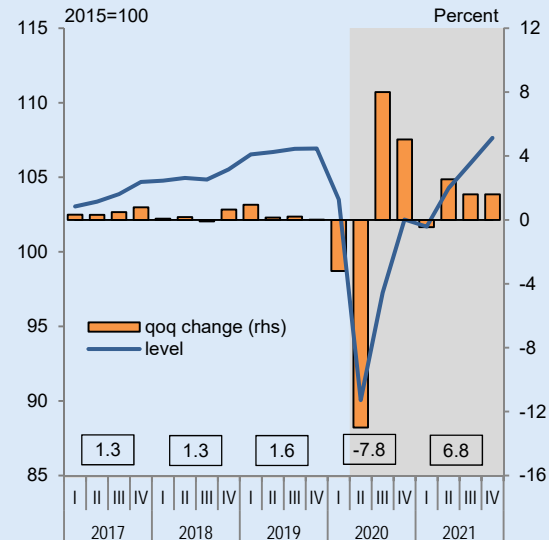
Figure 4.1:
Domestic expenditure, 2017–2021



Quarterly data, price, seasonally and calendar adjusted, qoqchange. Annual data: price adjusted, annual rate (boxes).

Source: Federal Statistical Office, *Fachserie 18, Series 1.2 and 1.3*; shaded: Kiel Institute forecast.

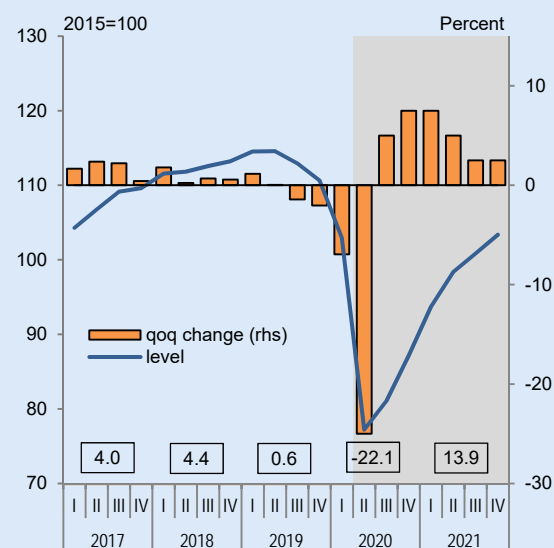
Figure 4.2:
Private consumption, 2017–2021



Quarterly data, price, seasonally and calendar adjusted, qoqchange. Annual data: price adjusted, annual rate (boxes).

Source: Federal Statistical Office, *Fachserie 18, Series 1.2 and 1.3*; shaded: Kiel Institute forecast.

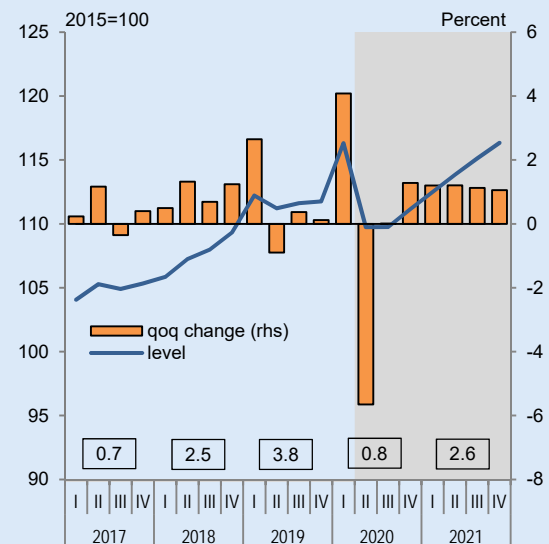
Figure 4.3:
M&E investments, 2017–2021



Quarterly data: Price, seasonally and calendar adjusted, qoq change. Annual data (boxes): Price adjusted, change in percent.

Source: Federal Statistical Office, *Fachserie 18, Series 1.2 and 1.3*; shaded: Kiel Institute forecast.

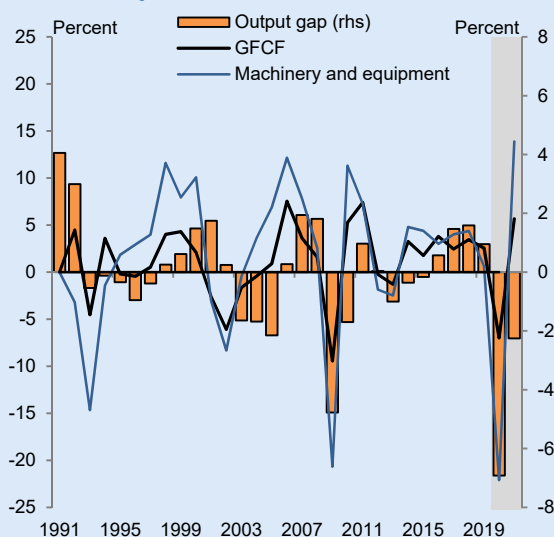
Figure 4.4:
Construction, 2017–2021



Quarterly data: Price, seasonally and calendar adjusted, qoq change. Annual data (boxes): Price adjusted, change in percent.

Source: Federal Statistical Office, *Fachserie 18, Series 1.2 and 1.3*; shaded: Kiel Institute forecast.

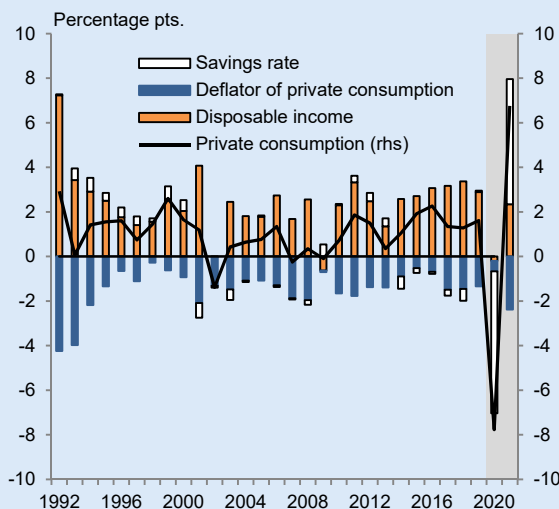
Figure 4.5:
Investment cycles, 1991–2021



Annual data; GFCF, machinery and equipment: volumes, change on previous year; output gap: in percent of potential output, estimation taken from medium-run projection.

Source: Federal Statistical Office, *Fachserie 18, Series 1.2*; own calculations; shaded: Kiel Institute forecast.

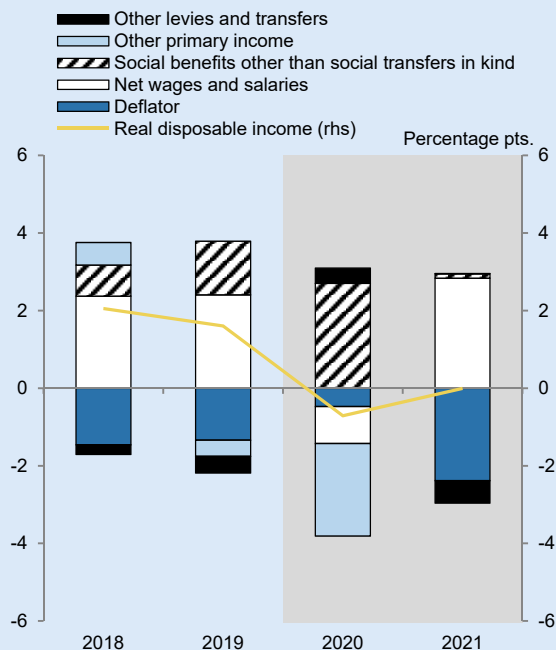
Figure 4.6:
Contributions to change in private consumption, 1992–2021



Annual data; disposable income including adjustment for the change in pension entitlements.

Source: Federal Statistical Office, *Fachserie 18, Series 1.2*; Kiel Institute calculations, shaded: Kiel Institute forecast.

Figure 4.7:
Contributions to changes in real disposable income, 2018–2021



Annual data. Other levies and transfers: Levies on social benefits, taxes on consumption and other transfers received (net); Deflator: Deflator of private consumption.

Quelle: Federal Statistical Office, *Fachserie 18, Series 1.2*; Kiel Institute calculations; shaded: Kiel Institute forecast.

Table 4.1:
Gross fixed capital formation, 2018–2021

	2018	2019	2020	2021
Total	3.5	2.5	-7.0	5.7
Corporate investment	3.6	1.5	-12.2	7.3
Machinery and equipment	4.4	0.6	-22.1	13.9
Construction				
(nondwellings)	0.6	2.2	-2.5	0.5
Other	4.3	2.7	-1.7	3.0
Dwellings	3.0	4.0	1.3	2.0
Public (nondwellings)	4.3	6.5	6.0	9.3
Memorandum item:				
Construction	2.5	3.8	0.8	2.6

Volumes; change over previous year in percent.

Source: Federal Statistical Office, *Fachserie 18, Series 1.2*; shaded: Kiel Institute forecast.

5. Industries

Table 5.1:
Gross value added for industries, 2019–2021

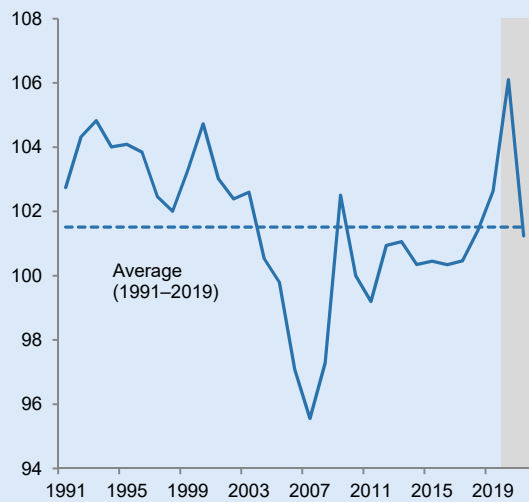
	2019		2020			2021
	IV	I	II	III	IV	I
	<i>Seasonally and calendar adjusted, quarter-on-quarter change in percent</i>					
Gross domestic product	-0.1	-2.2	-12.0	6.7	4.0	1.0
Gross value added	0.0	-2.1	-12.0	6.7	4.0	1.0
Industry excluding construction	-0.4	-4.3	-18.5	10.5	6.5	1.8
Manufacturing	-0.8	-4.4	-19.5	11.5	6.6	1.8
Construction	-0.1	2.1	-2.2	1.5	0.9	0.7
Trade, transport, accommodation, and food services	-0.1	-3.4	-18.5	9.0	6.0	0.6
Information and communication	-0.7	-0.4	-7.9	4.6	3.8	1.5
Financial and insurance services	-0.1	0.1	-1.3	1.1	0.7	0.2
Real estate activities	0.3	-0.9	-1.3	1.2	0.9	0.0
Business services	0.3	-1.8	-13.0	6.0	5.0	1.5
Public services, education, health	0.3	-0.8	-6.0	5.8	1.0	0.2
Other services	-0.2	-3.1	-26.5	10.0	7.0	2.0

Quarterly data, volumes.

Source: Federal Statistical Office, *Fachserie 18, Series 1.2 and 1.3*; shaded: Kiel Institute forecast.

6. Wages

Figure 6.1:
Real unit labor costs, 1991–2021



Yearly data; compensation of employees per hour (nominal) in relation to gross value added per hour (nominal).

Source: Federal Statistical Office, *Fachserie 18, Series 1.2*; shaded: Kiel Institute forecast.

Table 6.1:
Wages and productivity, 2018–2021

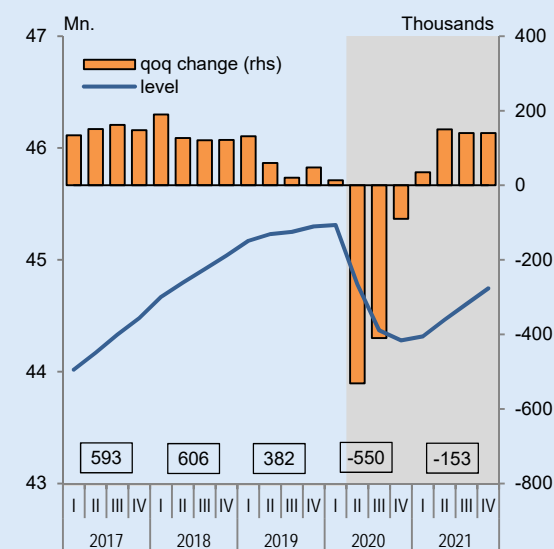
	2018	2019	2020	2021
<i>Per hour</i>				
Negotiated wages	2.8	3.0	1.9	1.6
Gross wages and salaries	3.0	3.2	1.9	0.3
Wage drift	0.2	0.2	0.0	-1.3
Compensation of employees	2.7	3.4	2.5	-0.1
Labor productivity	0.3	0.0	-2.7	3.0
Unit labor costs	2.4	3.4	5.3	-3.0
Unit labor costs (real)	0.9	1.2	3.4	-4.6
<i>Per capita</i>				
Negotiated wages	2.9	3.0	1.9	1.6
Gross wages and salaries	3.2	3.0	-1.2	4.3
Wage drift	0.3	0.0	-3.0	2.7
Compensation of employees	2.9	3.2	-0.4	3.8
Labor productivity	0.2	-0.3	-5.7	6.7
Unit labor costs	2.7	3.5	5.6	-2.8
Unit labor costs (real)	1.2	1.3	3.6	-4.3

Change over previous year in percent; wage drift: difference between change of negotiated wages and change of gross wages and salaries in percentage points; labor productivity: real GDP per hour or per capita; unit labor costs: compensation of employees (per hour or per capita) in relation to labor productivity; unit labor costs (real): unit labor costs deflated by GDP deflator.

Source: Federal Statistical Office, *Fachserie 18, Series 1.2*; Deutsche Bundesbank, *Negotiated Pay Rate Statistics*; shaded: Kiel Institute forecast.

7. Employment

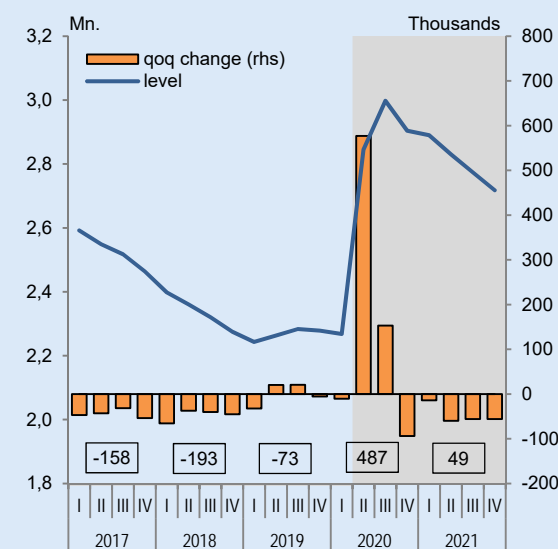
Figure 7.1:
Employment, 2017–2021



Quarterly data, seasonally adjusted, qoq change. Annual data: annual rate (boxes).

Source: Federal Statistical Office, *Fachserie 18*, 1.3; shaded: Kiel Institute forecast.

Figure 7.2:
Unemployment, 2017–2021



Quarterly data, seasonally adjusted, qoq change. Annual data: annual rate (boxes).

Source: Federal Employment Agency, *Monthly Bulletin*; shaded: Kiel Institute forecast.

Table 7.1:
Employment, 2017–2021 (1,000 persons)

	2017	2018	2019	2020	2021
Hours worked (domestic concept, million hours)	61,564	62,344	62,706	60,061	62,026
Persons in employment (domestic concept)	44,248	44,854	45,236	44,686	44,533
Self-employed	4,273	4,224	4,149	3,906	3,735
Employees (domestic concept)	39,976	40,631	41,087	40,780	40,799
Employees subject to social security contributions	32,266	32,992	33,536	33,475	33,649
Minijobs	4,739	4,668	4,574	4,308	4,154
Net commuting	121	144	151	152	152
Persons in employment (national concept)	44,127	44,710	45,085	44,534	44,381
Employees (national concept)	39,855	40,486	40,936	40,628	40,647
Unemployed persons (registered)	2,533	2,340	2,267	2,754	2,803
Unemployment rate (registered; percent)	5.7	5.2	5.0	6.0	6.1
Unemployment rate (ILO; percent)	3.5	3.2	3.0	4.3	4.7

Self-employed: including family workers; unemployed persons (registered): definition of the Federal Employment Agency (BA).

Source: Federal Statistical Office, *Fachserie 18*, *Series 1.2*; Federal Employment Agency, *Monthly Bulletin*; Federal Employment Agency, *Employment Statistics*; shaded: Kiel Institute forecast.

8. Public finances

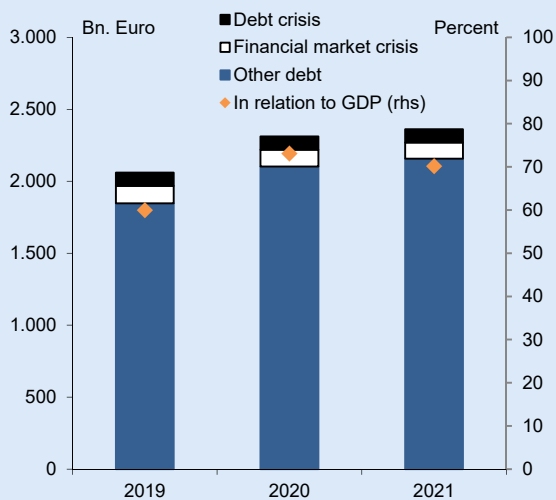
Table 8.1:
Revenues and expenditures of the general government, 2017–2021 (€ bn)

	2017	2018	2019	2020	2021
Revenues	1,481.7	1,552.9	1,608.5	1,546.1	1,639.0
➤ relative to GDP	45.7	46.4	46.8	47.4	46.5
Taxes	766.6	800.9	826.6	757.8	828.3
➤ relative to GDP	23.6	23.9	24.1	23.2	23.5
Social contributions	549.5	572.5	597.6	603.6	622.4
➤ relative to GDP	16.9	17.1	17.4	18.5	17.6
Other revenues	165.7	179.5	184.3	184.7	188.3
➤ relative to GDP	5.1	5.4	5.4	5.7	5.3
Expenditures	1,441.4	1,490.5	1,558.1	1,738.5	1,750.2
➤ relative to GDP	44.4	44.6	45.4	53.3	49.6
Compensation of employees	250.0	259.3	271.4	286.5	296.3
Intermediate consumption	162.9	169.4	178.9	187.9	199.3
Social transfers in kind	278.3	285.9	299.9	309.4	328.4
Gross capital formation	71.9	78.4	85.5	88.9	100.2
Capital transfers	34.3	31.7	27.6	24.9	22.1
Social benefits	506.6	520.2	545.7	598.0	599.7
Subsidies	27.9	29.6	30.9	100.9	47.3
Other current transfers	67.0	74.9	78.6	89.8	98.1
Other capital transfers and investment grants	44.0	42.2	40.3	53.3	59.7
Other expenditures	-1.6	-1.3	-1.2	-1.2	-1.2
Net lending/net borrowing	40.3	62.4	50.4	-192.4	-111.2
➤ relative to GDP	1.2	1.9	1.5	-5.9	-3.2
Revenues of central, state, and local governments	961.2	1,010.5	1,042.5	975.1	1,049.9
Net of transfers from social security funds	960.1	1,009.3	1,041.3	973.9	1,048.8
Transfers from social security funds	1.1	1.1	1.1	1.1	1.2
Expenditures of central, state, and local governments	931.9	963.9	1,001.3	1,124.2	1,132.7
Net of transfers to social security funds	816.7	845.6	878.5	998.5	1,000.0
Transfers to social security funds	115.2	118.3	122.8	125.7	132.7
Net lending/net borrowing central, state, and local government	29.3	46.6	41.2	-149.2	-82.7
Revenues of social security funds	636.9	661.9	690.0	698.0	723.0
Net of transfers from central, state, and local governments	521.6	543.6	567.3	572.3	590.2
Expenditures of social security funds	625.9	646.1	680.8	741.2	751.4
Net of transfers to central, state, and local governments	624.8	644.9	679.6	740.1	750.2
Net lending/net borrowing social security funds	11.0	15.9	9.2	-43.2	-28.4

Sums may deviate due to rounding. Relative to GDP in percent.

Source: Federal Statistical Office, *internal worksheet*; shaded: Kiel Institute forecast.

Figure 8.1:
Government gross debt, 2019–2021

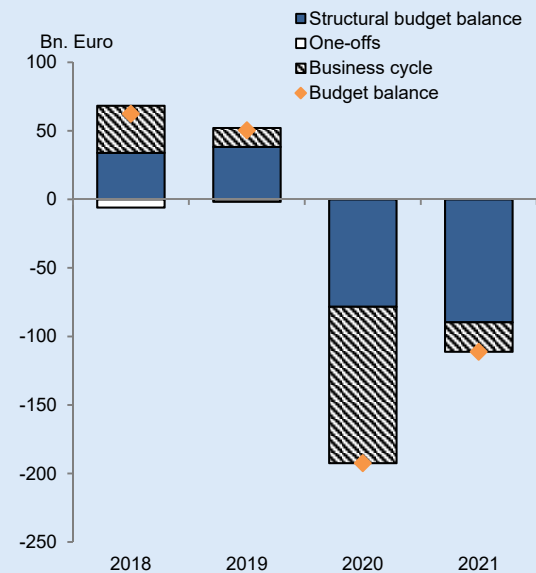


Debt crisis: Liabilities due to first Greece adjustment programme, deposits at the ESM, guarantees for EFSF credits.

Financial market crisis: Liabilities due to bank rescue packages.

Source: Deutsche Bundesbank, *Monatsbericht*; BMF, *Monatsbericht*; Kiel Institute calculations and forecasts.

Figure 8.2:
Structural budget balance, 2018–2021



Source: Europäische Kommission, AMECO; Kiel Institute calculations and forecast.

9. GDP and its components

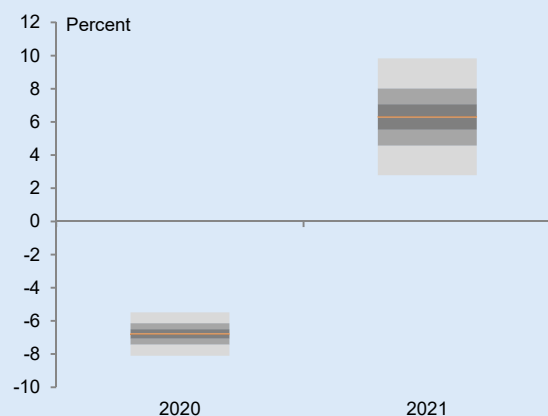
Table 9.1:
Quarterly data, 2019–2021

	2019				2020				2021			
	I	II	III	IV	I	II	III	IV	I	II	III	IV
Gross domestic product	0.5	-0.2	0.3	-0.1	-2.2	-12.0	6.7	4.0	1.0	2.0	1.0	1.0
Private consumption	0.9	0.2	0.2	0.0	-3.2	-13.0	8.0	5.0	-0.5	2.5	1.6	1.6
Government consumption	1.1	0.5	1.4	0.1	0.2	1.0	1.6	0.6	0.6	0.5	0.5	0.3
Machinery and equipment	1.2	0.0	-1.4	-2.0	-6.9	-25.0	5.0	7.5	7.5	5.0	2.5	2.5
Constructions	2.6	-0.9	0.4	0.1	4.1	-5.7	0.0	1.3	1.2	1.2	1.1	1.1
Other investment	-0.5	0.9	1.0	1.1	-0.3	-5.0	1.0	1.5	1.5	1.0	0.5	0.5
Change in inventories	-0.8	0.2	-0.9	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Domestic expenditure	0.3	0.3	-0.5	0.3	-1.5	-8.2	5.1	3.6	0.6	2.0	1.2	1.2
Exports	1.7	-1.4	1.3	-0.6	-3.1	-21.0	11.0	5.0	2.8	2.5	1.5	1.5
Imports	1.4	-0.3	-0.3	0.1	-1.6	-13.5	7.0	4.0	2.0	2.5	2.0	2.0
Net exports	0.2	-0.5	0.8	-0.4	-0.8	-3.8	1.8	0.6	0.4	0.1	-0.2	-0.2
Employment (domestic)	45,170	45,230	45,250	45,298	45,311	44,780	44,370	44,280	44,315	44,465	44,605	44,745
Unemployment (registered)	2,243	2,263	2,284	2,278	2,268	2,845	2,998	2,904	2,890	2,830	2,774	2,718

Volumes, seasonally and working-day adjusted. Change on previous quarter in percent; change in inventories, net exports: Lundberg component (contribution to GDP growth); employment, unemployment: seasonally adjusted, 1,000 persons; unemployment: as defined by the Federal Employment Agency (BA).

Source: Federal Statistical Office, *Fachserie 18, Series 1.3*; Federal Employment Agency, *Monthly Bulletin*; shaded: Kiel Institute forecast.

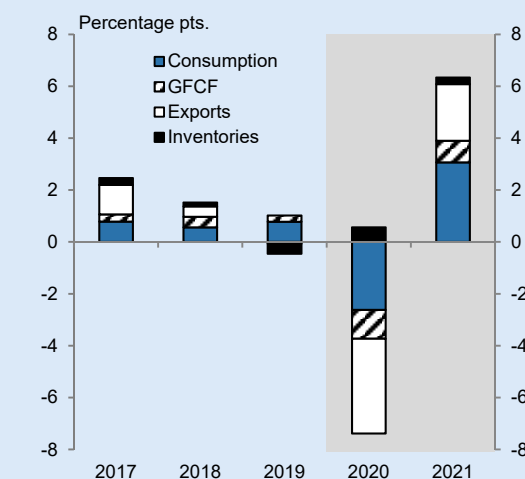
Figure 9.1:
Forecast intervals for GDP growth, 2020–2021



GDP: volumes, change over previous year. Point forecasts: orange lines. Forecast intervals grey shaded areas with confidence levels of 33, 66, and 95 percent. Confidence levels calculated based on historical forecast errors of the Kiel Institute in the second quarter 1994–2019.

Source: Kiel Institute calculations.

Figure 9.2:
Import adjusted expenditure-side contributions to GDP growth, 2017–2021



Annual data; price-adjusted, growth contribution of each expenditure component adjusted by import content; import content is estimated based on input/output tables; see Kooths and Stolzenburg (2018).

Source: OECD, Input Output Database; Federal Statistical Office, *Fachserie 18, Series 1.2*; shaded: Kiel Institute forecast.

10. The German economy, 2018–2021

	2018	2018	2019	2020	2021
	Bn. Euro	Change over previous year in percent			
GDP (constant prices)		1.5	0.6	-6.8	6.3
Private consumption expenditure		1.3	1.6	-7.8	6.8
Public consumption expenditure		1.4	2.7	2.8	2.9
Total fixed investment		3.5	2.5	-7.0	5.7
Machinery and equipment		4.4	0.6	-22.1	13.9
Construction		2.5	3.8	0.8	2.6
Other equipment		4.3	2.7	-1.7	3.0
Changes in stocks		0.3	-0.8	1.1	0.5
Domestic Demand		2.1	1.2	-4.1	6.0
Exports		2.1	1.0	-12.5	8.7
Imports		3.6	2.5	-7.2	8.2
Net exports		-0.4	-0.6	-2.9	0.5
GDP (current prices)	3,344.4	3.1	2.7	-5.1	8.1
Private consumption expenditure	1,743.7	2.8	3.0	-7.3	9.3
Public consumption expenditure	665.6	3.3	5.0	5.1	5.3
Total fixed investment	707.7	6.3	5.5	-5.8	6.9
Machinery and equipment	235.3	4.9	1.9	-21.7	14.2
Construction	344.3	7.3	8.3	2.9	4.6
Other equipment	128.1	5.9	4.4	-1.2	3.4
Changes in stocks (€ bn)		21.3	-6.2	34.8	51.8
Domestic Demand	3,138.3	4.1	3.1	-3.0	8.3
Exports	1,585.8	3.1	1.7	-13.7	8.8
Imports	1,379.7	5.5	2.4	-10.3	9.2
Net exports (€ bn)		206.1	200.5	124.7	131.2
Gross national income	3,437.9	3.3	2.8	-5.5	8.0
Deflator of GDP		1.5	2.1	1.9	1.7
Private consumption expenditure		1.5	1.3	0.5	2.4
Public consumption expenditure		1.8	2.3	2.2	2.4
Investment in machinery and equipment		0.5	1.3	0.5	0.3
Investment in construction		4.7	4.4	2.0	2.0
Investment in other equipment		1.6	1.6	0.5	0.4
Exports		0.9	0.7	-1.4	0.1
Imports		1.8	-0.1	-3.4	0.9
<i>Addendum: Consumer prices</i>		1.7	1.4	0.7	2.7
Income distribution					
National income	2,503.1	3.0	2.3	-4.3	5.6
Employment income	1,771.3	4.5	4.4	-1.1	3.7
in percent of national income		70.8	72.2	74.6	73.3
Entrepreneurial and property income	731.8	-0.5	-2.7	-12.7	11.2
Disposable income of private households	1,898.5	3.5	2.9	-0.2	2.4
Savings rate		11.0	10.9	17.3	11.6
Wages and salaries	1,460.9	4.8	4.2	-1.8	4.2
Wage per hour		3.0	3.2	1.9	0.3
Unit labor costs		2.4	3.4	5.3	-3.0
Productivity per hour		0.3	0.0	-2.7	3.0
Unemployment (1,000)		2,340	2,267	2,754	2,803
Rate of unemployment (percent)		5.2	5.0	6.0	6.1
Total employment (1,000)		44,854	45,236	44,686	44,533
Public sector budget balance (€ bn)		62.4	50.4	-192.4	-111.2
Public sector budget balance (in percent of GDP)		1.9	1.5	-5.9	-3.2
Public debts (in percent)		61.7	60.0	73.1	70.2

Change in stocks, net exports: Lundberg-component (contribution to GDP growth); employment, unemployment: as defined by the Federal Employment Agency (BA); public debts: in relation to GDP.

Source: Federal Statistical Office, Fachserie 18, Series 1.2; shaded: Kiel Institute forecast.

11. National accounts

National Accounts

Forecast period: 2020 to 2021

	2019	2020	2021	2020		2021	
				H1	H2	H1	H2

1. Production

Change over the same period of the preceding year in %

Persons in employment	0.9	-1.2	-0.3	-0.3	-2.1	-1.5	0.8
Hours worked	0.6	-4.2	3.3	-3.6	-4.8	1.3	5.2
Hours worked by person in employment	-0.3	-3.0	3.6	-3.3	-2.8	2.8	4.4
Labor productivity ¹	0.0	-2.7	3.0	-4.4	-1.1	4.7	1.3
Gross domestic product, price-adjusted	0.6	-6.8	6.3	-7.8	-5.8	6.0	6.6

2. Use of gross domestic product at current prices

a) EUR bn.

Consumption expenditure	2 494.3	2 398.4	2 592.0	1 162.5	1 235.9	1 249.1	1 342.9
Private households ²	1 795.4	1 663.7	1 818.3	808.4	855.3	873.4	944.9
Government	698.9	734.7	773.7	354.0	380.6	375.7	398.0
Gross fixed capital formation	746.5	703.4	752.0	344.6	358.8	355.4	396.6
Machinery and equipment	239.8	187.7	214.4	92.3	95.4	98.7	115.6
Construction	372.9	383.6	401.1	188.5	195.1	191.7	209.4
Other products	133.7	132.1	136.5	63.9	68.2	64.9	71.6
Changes in inventories ³	-6.2	34.8	49.9	17.1	17.7	31.5	18.4
Domestic expenditure	3 234.7	3 136.6	3 394.0	1 524.2	1 612.3	1 636.0	1 758.0
Net exports	200.5	124.7	131.2	70.1	54.6	77.2	54.0
Exports	1 613.5	1 392.0	1 515.0	696.6	695.4	736.6	778.4
Imports	1 412.9	1 267.3	1 383.8	626.5	640.8	659.5	724.4
Gross domestic product	3 435.2	3 261.3	3 525.1	1 594.3	1 667.0	1 713.2	1 812.0

b) Change over the same period of the preceding year in %

Consumption expenditure	3.5	-3.8	8.1	-4.4	-3.3	7.5	8.7
Private households ²	3.0	-7.3	9.3	-7.9	-6.8	8.0	10.5
Government	5.0	5.1	5.3	4.8	5.4	6.1	4.6
Gross fixed capital formation	5.5	-5.8	6.9	-4.2	-7.3	3.1	10.6
Machinery and equipment	1.9	-21.7	14.2	-20.3	-23.1	7.0	21.2
Construction	8.3	2.9	4.6	4.4	1.4	1.7	7.3
Other products	4.4	-1.2	3.4	0.8	-3.1	1.7	5.0
Domestic expenditure	3.1	-3.0	8.2	-3.9	-2.2	7.3	9.0
Exports	1.7	-13.7	8.8	-13.3	-14.1	5.8	11.9
Imports	2.4	-10.3	9.2	-10.6	-10.0	5.3	13.0
Gross domestic product	2.7	-5.1	8.1	-5.6	-4.5	7.5	8.7

3. Use of gross domestic product, price-adjusted (chain-linked, 2010=100)

a) EUR bn.

Consumption expenditure	2 366.7	2 253.0	2 378.4	1 096.9	1 156.1	1 156.8	1 221.6
Private households ²	1 708.8	1 576.1	1 682.5	764.2	811.8	812.1	870.4
Government	657.9	676.3	695.8	332.4	344.0	344.4	351.3
Gross fixed capital formation	683.6	635.8	671.8	310.8	325.0	318.4	353.4
Machinery and equipment	232.9	181.4	206.6	88.8	92.6	95.1	111.5
Construction	324.0	326.8	335.1	160.3	166.5	160.9	174.2
Other products	126.5	124.3	128.1	60.0	64.3	61.2	66.9
Domestic expenditure	3 054.2	2 928.5	3 105.5	1 424.7	1 503.8	1 506.6	1 599.0
Exports	1 572.6	1 375.5	1 495.3	682.8	692.6	731.2	764.1
Imports	1 387.6	1 288.2	1 394.2	629.7	658.6	670.5	723.7
Gross domestic product	3 240.5	3 019.6	3 210.9	1 479.5	1 540.1	1 568.5	1 642.4

b) Change over the same period of the preceding year in %

Consumption expenditure	1.9	-4.8	5.6	-5.8	-3.8	5.5	5.7
Private households ²	1.6	-7.8	6.8	-9.0	-6.5	6.3	7.2
Government	2.7	2.8	2.9	2.4	3.2	3.6	2.1
Gross fixed capital formation	2.5	-7.0	5.7	-6.1	-7.9	2.4	8.7
Machinery and equipment	0.6	-22.1	13.9	-21.2	-23.0	7.1	20.4
Construction	3.8	0.8	2.6	1.6	0.2	0.4	4.7
Other products	2.7	-1.7	3.0	-0.3	-3.0	1.9	4.0
Domestic expenditure	1.2	-4.1	6.0	-5.4	-2.9	5.7	6.3
Exports	1.0	-12.5	8.7	-13.1	-12.0	7.1	10.3
Imports	2.5	-7.2	8.2	-8.3	-6.0	6.5	9.9
Gross domestic product	0.6	-6.8	6.3	-7.8	-5.8	6.0	6.6

National Accounts (cont.)

Forecast period: 2020 to 2021

	2019	2020	2021	2020		2021	
				H1	H2	H1	H2

4. Deflators (2010=100)

Change on the same period of the preceding year in %

Private consumption ²	1.3	0.5	2.4	1.2	-0.2	1.7	3.1
Government consumption	2.3	2.2	2.4	2.3	2.2	2.4	2.4
Gross fixed capital formation	2.9	1.3	1.2	2.0	0.6	0.7	1.7
Machinery and equipment	1.3	0.5	0.3	1.2	-0.2	-0.1	0.6
Construction	4.4	2.0	2.0	2.8	1.2	1.3	2.5
Exports	0.7	-1.4	0.1	-0.3	-2.4	-1.2	1.5
Imports	-0.1	-3.4	0.9	-2.5	-4.2	-1.1	2.9
Gross domestic product	2.1	1.9	1.6	2.4	1.4	1.4	1.9

5. National income

a) EUR bn.

Primary income of private households ²	2 407.9	2 339.4	2 409.1	1 176.2	1 163.1	1 177.2	1 231.8
Employers social contributions	326.2	333.1	337.3	164.5	168.5	163.4	173.9
Gross wages and salaries	1 522.2	1 493.4	1 558.8	727.9	765.5	743.0	815.8
Other primary income ⁴	559.5	512.9	513.0	283.8	229.2	270.9	242.1
Primary income of other sectors	489.9	342.9	517.4	124.6	218.3	229.5	287.9
Net national income	2 897.8	2 682.2	2 926.5	1 300.8	1 381.4	1 406.8	1 519.7
Consumption of fixed capital	637.0	658.4	680.6	327.9	330.5	338.5	342.1
Gross national income	3 534.8	3 340.6	3 607.1	1 628.7	1 712.0	1 745.3	1 861.8
memorandum item:							
Net national income (factor costs)	2 560.2	2 451.5	2 586.2	1 178.4	1 273.1	1 238.0	1 348.2
Property and entrepreneurial income	711.8	625.1	690.1	286.0	339.1	331.7	358.5
Compensation of employees	1 848.4	1 826.4	1 896.1	892.4	934.0	906.3	989.7

b) Change over the same period of the preceding year in %

Primary income of private households ²	3.0	-2.8	3.0	-1.2	-4.5	0.1	5.9
Employers social contributions	5.1	2.1	1.3	4.1	0.3	-0.7	3.2
Gross wages and salaries	4.2	-1.9	4.4	0.1	-3.7	2.1	6.6
... per employee	3.0	-1.2	4.3	0.1	-2.2	3.1	5.5
Other primary income ⁴	-1.4	-8.3	0.0	-6.9	-10.0	-4.5	5.6
Primary income of other sectors	-0.1	-30.0	50.9	-43.5	-18.9	84.2	31.9
Net national income	2.4	-7.4	9.1	-7.8	-7.1	8.1	10.0
Consumption of fixed capital	4.6	3.4	3.4	3.7	3.0	3.3	3.5
Gross national income	2.8	-5.5	8.0	-5.7	-5.3	7.2	8.8
memorandum item:							
Net national income (factor costs)	2.3	-4.2	5.5	-5.2	-3.4	5.1	5.9
Property and entrepreneurial income	-2.7	-12.2	10.4	-19.9	-4.4	16.0	5.7
Compensation of employees	4.4	-1.2	3.8	0.8	-3.0	1.6	6.0

6. Disposable income of private households ²

a) EUR bn.

Mass income	1 491.6	1 520.5	1 573.2	742.0	778.5	758.7	814.5
Net wages and salaries	1 021.2	1 002.5	1 057.8	486.5	516.0	499.0	558.8
Social benefits other than social transfers in kind	605.6	658.5	660.7	325.3	333.2	332.7	328.1
less: Levies on social benefits, taxes on consumption	135.2	140.5	145.4	69.8	70.7	73.0	72.4
Other primary income ⁴	559.5	512.9	513.0	283.8	229.2	270.9	242.1
Other transfers received (net) ⁵	-96.8	-83.8	-90.2	-45.1	-38.7	-46.6	-43.6
Disposable income	1 954.3	1 949.7	1 996.0	980.7	969.0	983.0	1 013.0
Change in pension entitlements	60.4	61.1	61.7	29.7	31.3	30.1	31.7
Consumption expenditure	1 795.4	1 663.7	1 818.3	808.4	855.3	873.4	944.9
Saving	219.3	347.0	239.4	202.0	145.0	139.7	99.7
Saving ratio (%) ⁶	10.9	17.3	11.6	20.0	14.5	13.8	9.5

b) Change over the same period of the preceding year in %

Mass income	4.5	1.9	3.5	3.5	0.5	2.3	4.6
Net wages and salaries	4.7	-1.8	5.5	0.7	-4.1	2.6	8.3
Social benefits other than social transfers in kind	4.5	8.7	0.3	8.2	9.3	2.3	-1.5
less: Levies on social benefits, taxes on consumption	6.0	3.9	3.5	4.6	3.3	4.6	2.3
Other primary income ⁴	-1.4	-8.3	0.0	-6.9	-10.0	-4.5	5.6
Other transfers received (net) ⁵	2.9	-0.2	2.4	0.8	-1.3	0.2	4.5
Disposable income	2.9	-0.2	2.4	0.8	-1.3	0.2	4.5
Consumption expenditure	3.0	-7.3	9.3	-7.9	-6.8	8.0	10.5
Saving	2.3	58.2	-31.0	63.0	52.0	-30.8	-31.2

National Accounts (cont.)

Forecast period: 2020 to 2021

	2019	2020	2021	2020		2021	
				H1	H2	H1	H2

7. Revenue and expenditure by general government ¹

a) EUR bn.

Revenue							
Taxes	826.6	757.8	828.3	390.8	367.0	416.8	411.5
Social contributions	597.6	603.6	622.4	298.4	305.2	302.7	319.7
Property income	21.3	21.9	17.7	14.0	7.8	10.1	7.5
Other current transfers	24.7	24.6	25.0	11.6	13.0	11.8	13.3
Capital transfers	12.3	12.7	13.0	5.6	7.1	5.8	7.2
Sales	125.9	125.4	132.5	57.8	67.6	61.8	70.7
Other subsidies	0.2	0.2	0.2	0.1	0.1	0.1	0.1
Total	1 608.5	1 546.1	1 639.0	778.3	767.9	809.0	830.0
Expenditure							
Intermediate consumption ²	479.2	497.5	527.9	236.6	261.0	253.2	274.7
Compensation of employees	271.4	286.5	296.3	137.5	149.1	143.3	153.0
Property income (interest)	27.6	24.9	22.1	13.1	11.7	11.7	10.3
Subsidies	30.9	100.9	47.3	47.0	53.9	22.5	24.9
Social benefits	545.7	598.0	599.7	295.1	302.9	302.2	297.5
Other current transfers	78.6	89.8	98.1	42.9	46.9	49.0	49.1
Capital transfers	40.3	53.3	59.7	19.0	34.3	22.8	37.0
Gross capital formation	85.5	88.9	100.2	37.6	51.3	42.5	57.8
Net acquisitions of non-produced non-financial assets	-1.2	-1.2	-1.2	-0.5	-0.7	-0.5	-0.7
Total	1 558.1	1 738.5	1 750.2	828.1	910.4	846.6	903.6
Net lending	50.4	-192.4	-111.2	-49.9	-142.5	-37.6	-73.6

b) Change over the same period of the preceding year in %

Revenue							
Taxes	3.2	-8.3	9.3	-6.0	-10.7	6.7	12.1
Social contributions	4.4	1.0	3.1	2.9	-0.8	1.4	4.8
Property income	0.2	2.6	-19.2	6.8	-4.2	-27.7	-4.0
Other current transfers	0.0	-0.5	1.7	4.0	-4.2	1.7	1.7
Capital transfers	-6.5	3.7	2.4	5.9	2.1	2.6	2.1
Sales	4.7	-0.4	5.7	-2.5	1.5	7.0	4.5
Other subsidies	-5.6	0.6	0.0	1.6	0.0	0.0	0.0
Total	3.6	-3.9	6.0	-2.0	-5.7	4.0	8.1
Expenditure							
Intermediate consumption ²	5.2	3.8	6.1	3.0	4.6	7.0	5.3
Compensation of employees	4.7	5.6	3.4	5.4	5.7	4.2	2.6
Property income (interest)	-13.0	-9.9	-11.3	-9.1	-10.7	-10.7	-11.9
Subsidies	4.6	226.1	-53.1	226.5	225.7	-52.3	-53.8
Social benefits	4.9	9.6	0.3	8.9	10.2	2.4	-1.8
Other current transfers	5.0	14.2	9.2	10.4	17.8	14.3	4.6
Capital transfers	-4.6	32.2	12.1	39.3	28.5	20.0	7.8
Gross capital formation	9.2	3.9	12.7	0.1	6.9	12.9	12.6
Net acquisitions of non-produced non-financial assets	-8.1	0.1	0.0	0.2	0.0	0.0	0.0
Total	4.5	11.6	0.7	10.5	12.5	2.2	-0.7

¹ Price-adjusted gross domestic product per hour worked.

² Incl. nonprofit institutions serving households.

³ Incl. acquisitions less disposals of valuables.

⁴ Operating surplus/mixed income, net property income

⁵ Received less paid other current transfers.

⁶ Savings in percent of disposable income (incl. change in pension entitlements).

⁷ Central, regional, local and social security funds.

⁸ Incl. social transfers in kind and other production taxes.

Source: Federal Statistical Office, *Fachserie 18: National Accounts*; Kiel Institute calculations and forecasts.