

KIEL INSTITUTE **ECONOMIC OUTLOOK**

German Economy
Spring 2021

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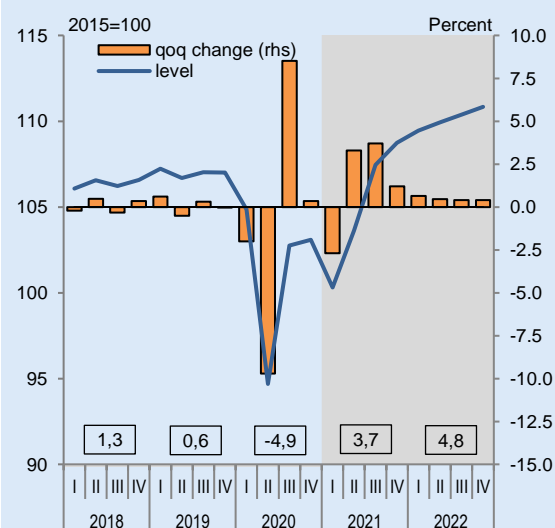
RECOVERY READY FOR SECOND TAKE OFF

*Martin Ademmer, Jens Boysen-Hogrefe, Salomon Fiedler,
Dominik Groll, Nils Jannsen, Stefan Kooths und Saskia Meuchelböck*

The second wave of the Covid-19 pandemic has interrupted the recovery in Germany. GDP is set to decline in the first quarter of this year, after stagnating in the previous quarter. However, with the vaccination campaign progressing, the economic burden of the pandemic will ease and the recovery will continue at a rapid pace. Unlike last year, the economic losses are currently much more concentrated on consumer-related service industries and retail trade. Even though the negative impact on private consumer spending is currently even more severe than at the beginning of the pandemic, the overall economic impact will be much smaller. The main reason is that the export business continues to recover. Moreover, with sustained relief in sight for many companies due to the availability of effective vaccines, there will be no major decline in investment. Overall, GDP is expected to pick up strongly with growth rates of 3.7 percent this year and 4.8 percent next year, following the decline of 4.9 percent in 2020. The recovery at the labor market will take more time. On average, employment is not yet expected to be higher in 2021 than in 2020; it will only pick up noticeably in 2022. Inflation is expected to rise significantly above 2 percent this year. However, temporary factors will contribute significantly to this increase and therefore the inflation rate is expected to decline again in 2022. Finally, the pandemic is also leaving its mark on public budgets. Due to the pandemic-related additional expenditures and revenue shortfalls, the budget deficit this year will once again be well above 4 percent relative to GDP. In 2022, the deficit will probably decline significantly to 1.3 percent. The debt level will then be just under 70 percent again.

The second wave of the Covid-19 pandemic has interrupted the recovery in Germany. We expect GDP to decline in the first quarter, mainly because the shutdown measures are a larger drag on economic activity than in the previous quarter when GDP stagnated. Even though leading indicators point to an ongoing recovery of the manufacturing industry mainly due to robust export activity, the second shutdown (in particular the closing of large parts of the retail and hospitality industry) heavily weighs on private consumption. Given that the shutdown measures have been in place nearly for the complete first quarter but only for a much shorter period of time in the previous quarter, we expect a plunge in private consumption. The impact on GDP will be partly offset by a strong increase in exports in the first quarter. Overall, we expect GDP to decline by 2.7 percent (Figure 1). With the vaccination campaign progressing, the economic burden of the pandemic will ease and the recovery will continue at a rapid pace, similar to last summer. We expect that the shutdown measures will gradually be eased and will reach in July the level of October 2020 when firms of the retail and hospitality industry were mostly open under mild restrictions. Moreover, we assume the fourth quarter of this year to be the first quarter

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.

with no direct negative impact of Covid-19 on economic activity since the beginning of the pandemic. A downside risk to our short-term forecast is a slower than expected easing of the shutdown measures. An upside risk is that firms may keep on producing goods as they anticipate a strong catch-up in demand when the shutdown ends. This could lead to a strong built-up in inventories in the first quarter and in turn to a smaller decline in GDP than we expect. However, in this case GDP would be dampened by a similar amount in the following quarters when inventories normalize.

Momentum in foreign trade remains high in the wake of the recovery of the global economy.

Following their rebound in the third quarter, exports continued to recover at the end of last year. However, subdued investment activity in German sales markets still weighed on the export business and impeded an even stronger increase. Overall, the decline in exports in 2020 amounts to 9.4 percent and was thus less pronounced than during the Global Financial Crisis. While the decline in 2009 (-14.3 percent) was almost entirely due to goods exports, service exports also fell massively in 2020 due to the travel restrictions imposed to contain the pandemic. In the first quarter of 2021, leading indicators point to robust growth of exports due to the ongoing recovery in global manufacturing despite new measures to contain rising infections in some regions, particularly in Europe. We expect the catch-up process to continue through the course of the year and project exports to rise by 12.8 percent in 2021. Following this recovery, exports will expand at a more moderate pace; the growth rate for 2022 is projected at 5.6 percent. Imports also rose significantly in the final quarter of 2020, although the momentum slowed compared with the third quarter. Imports of services even declined again due to a renewed tightening of travel restrictions. Overall, the 8.5 percent decline in imports in 2020 was somewhat weaker than the decline in exports and of a similar magnitude as seen during the Global Financial Crisis (2009: -9.7 percent). As a result of the higher share of services in imports than in exports, the slump in international services trade contributed even more to the fall in imports. Following a shutdown-related temporary setback at the beginning of the year, in 2021 imports are expected to expand at strong rates as pandemic response measures are lifted and the domestic economy and international tourism pick up. All in all, the recovery process is pushing imports up by 8.7 percent in 2021 and 9.2 percent in 2022, the highest rates in a decade, with next year's rate largely driven by a substantial positive carry-over effect.

Private consumption is set to plunge below the level of the second quarter of 2020. The shutdown measures that were implemented in the first wave of the pandemic last year are similar to the current measures with regard to their impact on private consumption: In particular non-essential retail sales and hospitality services are restricted. However, in the second quarter of 2020 most of these measures were only in place in April, followed by a strong recovery in May. Now most measures have been in place for the complete first quarter. Monthly data for January show that retail sales have approached their low levels of April 2020. Against this backdrop, spending in the most impacted categories, such as "Hotels and restaurant services", "Clothing and footwear", "Transport and communication", and "Recreation and culture" is set to decline far below the levels of the second quarter 2020. Moreover, monthly retail sales data point to a plunge of consumption in "Furnishings, household equipment", which was remarkably robust during the first Covid-19 wave. Overall, these categories had a share of about 40 percent in total private consumption in the fourth quarter of 2020. Even if consumption in the other spending categories (such as "Food, beverages and tobacco" or "Housing, water, electricity, gas and other fuels") will moderately increase, private consumption is set to decline by about 10 percent in the first quarter. A further drag on consumption in the first quarter is the increase in the value-added tax at the beginning of the year, even though it is quantitatively less important. With the containment of the pandemic and the easing of the shutdown measures, we expect a strong rebound in private consumption, similar to that observed last summer. Overall, private consumption will only increase by 0.2 percent this year after a decline of 6.3 percent in 2020. The recovery will then appear in the growth rate of 10

percent next year. As disposable income is expected to increase by 3.1 percent this year, the savings rate will remain on its extraordinarily high level of above 16 percent; before the pandemic it was about 11 percent of disposable income. As a consequence, the purchasing power accumulated during the pandemic by private households amounts to more 200 bn euros or about 10 percent of disposable income in 2019 (Figure 2). It is uncertain what will happen with this pent-up purchasing power after the pandemic. For our forecast, we assume that only a small share is used for consumption in 2022 so that the savings rate will decline somewhat below its pre-crisis level. However, if a larger share will be spent on consumer goods and services in the short-run the recovery would be stronger than projected, putting upward pressure on prices.

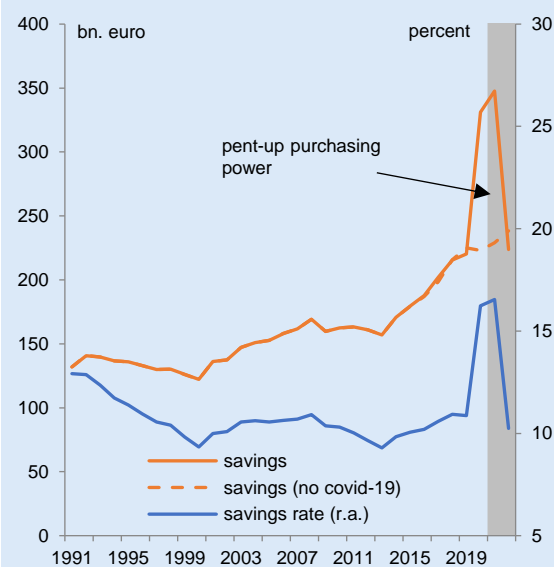
Gross fixed capital formation remains robust.

Even though declining domestic orders of and turnover with capital goods in the previous months point to lower investment in machinery and equipment, the overall decline in investment in the first quarter is expected to be moderate. In particular, firms in industries not directly affected by the pandemic (i.e. manufacturing) are likely not cutting back their investments by large amounts again, as

there is now a clear prospect that the pandemic can be pushed back sustainably this year. Therefore, the impact of the second Covid-19 wave on business investment will be relatively moderate compared with the first wave in spring 2020. Over the course of the year the recovery in business investment will gain momentum again. Construction investment has been hardly affected by the pandemic and grew by about 2 percent in 2020. Leading indicators, such as monthly production numbers and business surveys, point to a decline in construction investment in the first quarter. Unfavorable weather conditions and pull-forward effects due to the value added tax increase at the beginning of the year contribute to this decline. After the first quarter, we expect construction investment to increase at a similar pace as before the pandemic. In particular, the general environment for residential investment (low interest rates, high demand for residential real estate, and a large amount of pent-up purchasing power) will remain very stimulating. However, next year public investment will lose momentum due to the worsening of public finances during to the pandemic. Overall, we expect gross fixed capital formation to increase by 2.9 percent this year and by 4.3 percent in 2022, after a decline by 3.1 percent in 2020.

High inflation rates are currently driven by one-off effects. In December the consumer price index (CPI) still showed a moderate increase of 0.2 percent compared with the previous month. It then surged by 1.3 percent in January, the highest rate in almost 30 years, primarily due to one-off factors that in particular materialized in this month. Inflation as measured by the Harmonized Index of Consumer Prices (HICP) increased even more: its month-on-month growth rate jumped from 0.1 to 1.7 percent over the turn of the year. The main reason for the divergence between the two measures of inflation is the reweighting of the HICP's goods basket, which resulted from the sharp change in expenditure patterns during the pandemic. However, this effect is temporary and will reverse in the later course of the year. In February, consumer prices continued to rise markedly, such that they were 1.2 percent higher than one year ago (compared to 0.3 percent year-on-year inflation in December). The main reasons for the soaring inflation rates at the beginning of the year were the end of the temporary VAT cut and the introduction of a new CO₂ tax, which we estimate to be responsible for period-on-period price increases of 1.2 and 0.4 percent, respectively. In the course of the year, base effects from the recovery of the oil price should also become visible. Overall, we expect CPI inflation of 2.3 percent for 2021, and in some months year-on-year inflation rates are likely to exceed 3 percent. In 2022, for which we see only minor one-off effects, inflation is expected to decrease to 1.8 percent. To the extent that

Figure 2:
Savings



Annual data.

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

households spend a large share of their excess savings they accumulated during the shutdowns once restrictions are lifted, additional short-term pressure on prices could arise.

The renewed rise in short-time work is delaying the recovery in effective earnings. After falling by 4.6 percent on a seasonally and calendar-adjusted basis in the second quarter of 2020, gross wages and salaries per employee rose strongly by 4.2 percent in the third quarter. This pattern is almost entirely due to fluctuations in short-time work. In the final quarter of 2020, effective earnings rose comparatively little, as the renewed introduction of shutdown measures brought the reduction in short-time work to a halt; from month to month, there was even a renewed increase in short-time work from November onward. For 2020 as a whole, effective earnings stagnated compared to the previous year (-0.1 percent). In the course of the first quarter, short-time work is likely to have been expanded further. First, companies reported more short-time work to the employment agencies in January than in December, and second according to the monthly business survey by the ifo Institute, both the number of short-time workers and the average reduction in working time per short-time worker increased in January and February, although the expansion is smaller compared with the first wave in spring 2020. Accordingly, effective earnings are likely to have fallen slightly in the first quarter of this year. As the economic recovery resumes from the second quarter onward, short-time work is likely to fall again rapidly and effective earnings will increase dynamically. All in all, we expect earnings per employee to rise by 3.3 percent (2021) and 3.7 percent (2022).

Employment will recover only slowly for the time being. After collapsing between March and May of last year, the number of people in employment rose only modestly. Considering that employment would have continued to rise without the crisis, there has so far been no recovery in employment at all. In January, the number of employed persons was an estimated one million (2.2 percent) below the level that could have been expected without the crisis. Working hours per employee were recently dampened in particular by pandemic-related absences from work. Average working time per employee declined quite significantly by 2.2 percent from the third to the fourth quarter, although the volume of short-time work was roughly the same. Reasons behind this decline were increased sick leave as well as lost working time as a result of quarantine, school and daycare closures. While sickness and quarantine-related work absences are likely to have become less significant in the first quarter due to lower infection rates, school and daycare closures are likely to have led to further work absences. In conjunction with an increase in short-time work, we therefore expect a further decline in working time in the first quarter. In addition, we expect a slight decline in the number of people employed. The economic recovery resuming in the second quarter will initially be realized via an increase in working hours, since short-time work and pandemic-related absences from work will fall. Towards the end of the year, the recovery in employment is also expected to gain momentum. As employment recovers, the reduction in unemployment will continue over the rest of the year. The unemployment rate in 2021 is expected to average 5.9 percent, the same level as in the previous year. It will then fall to 5.3 percent in 2022.

The budget deficit in 2020 was substantial, but lower than expected. Expenditures for short-time work, for public health care, and grants for companies increased rapidly, while tax revenues plunged mainly due to the severe drop of economic activity but also because of temporary tax code changes. However, social security contributions did not decrease since the short-time work scheme includes payments from the employment agency to the other social insurance institutions, and various intended expenditures were not made. In sum, the budget deficit was 140 bn Euros (4.2 percent relative to GDP). *The second Covid-19 wave weighs heavily on budget in 2021 – mainly via additional company grants and health care expenditures.* Since the upswing pauses due to high infections and the accompanying shutdown measures, government revenues do not recover very quickly. Various government expenditures will remain elevated especially in the first and the second quarter of the year. Expenditures for company grants and for vaccinations and tests will even increase. Overall, we expect that the public deficit to be about 163 bn Euros (4.6 percent relative to GDP). *The public budget will still be in deficit in 2022.* The business cycle upswing will be accompanied by increasing revenues. Expenditure for short-time work and especially company grants will drop sharply. However, several measures of the stimulus packages will lead to additional expenditures also in 2022. Further, the upswing will be insufficient to reach the former growth path. There will continue to be substantial deficits of 49 bn Euros (1.3 percent relative to GDP).

Tabelle 1:

Key indicators 2019–2022

	2019	2020	2021	2022
Gross domestic product (GDP), price-adjusted	0.6	-4.9	3.7	4.8
Gross domestic product, deflator	2.2	1.6	1.4	1.6
Consumer prices	1.4	0.5	2.3	1.8
Labor productivity (per hour worked)	-0.0	-0.2	2.2	0.6
Employment (1000 persons)	45,268	44,782	44,731	45,486
Unemployment rate (percent)	5.0	5.9	5.9	5.3
<i>in relation to nominal GDP</i>				
Public sector net lending	1.5	-4.2	-4.6	-1.3
Gross public debt	59.5	71.7	72.4	68.8
Current account balance	7.1	7.1	8.3	6.8

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.

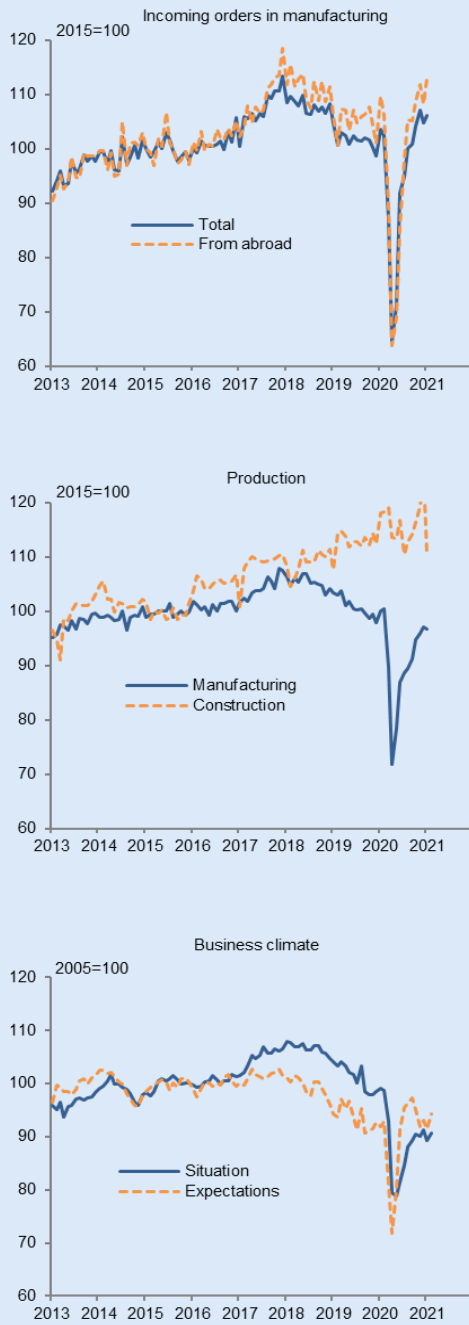
Data annex

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1. Leading indicators

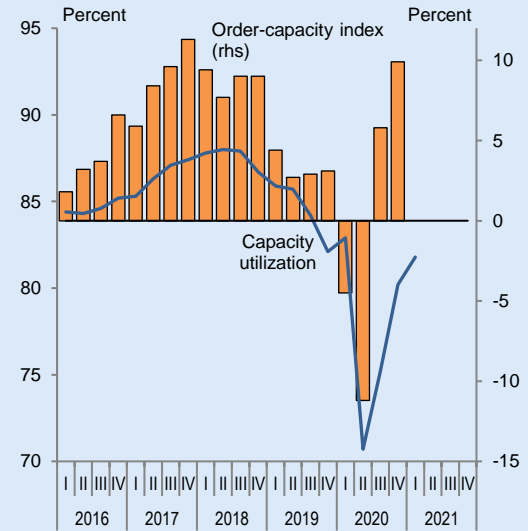
Figure 1.1:
Leading indicators



Monthly data, seasonally adjusted.

Source: Deutsche Bundesbank, *Saisonbereinigte Wirtschafts-zahlen*; ifo, *Konjunkturperspektiven*; Kiel Institute calculations.

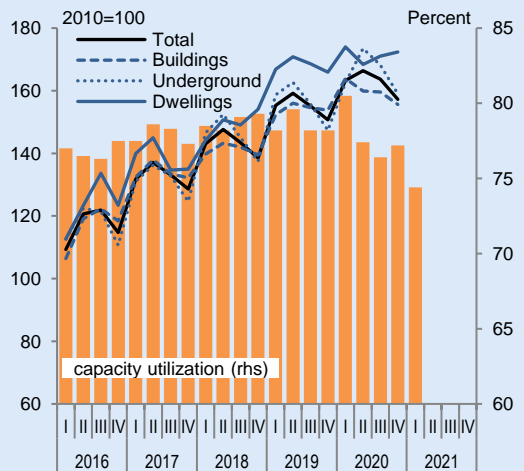
Figure 1.2:
Capacity utilization



Quarterly data, seasonally adjusted; capacity utilization in manufacturing (axes cross at normal capacity utilization).

Source: EU Commission, *Business Survey*; Deutsche Bundesbank, *Monthly Report*.

Figure 1.3:
Order stocks and capacity utilization in construction industry

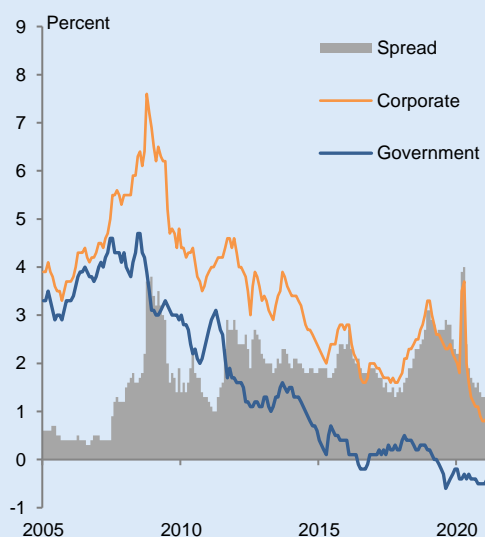


Quarterly data. Capacity utilization (deviation from normal level): seasonally adjusted; order stocks: price, seasonally and working-day adjusted.

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

2. Monetary conditions and prices

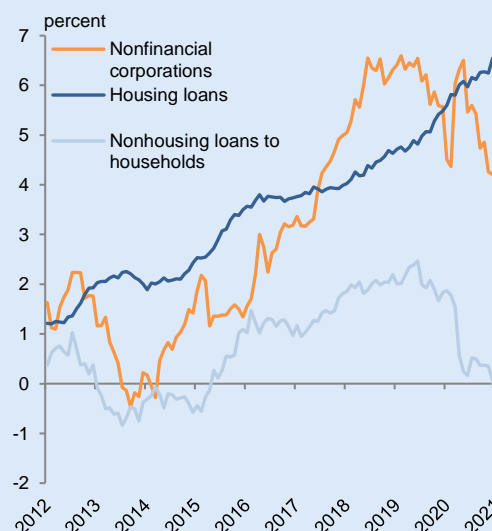
Figure 2.1:
Bond yields



Monthly data, average maturities above three years.

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

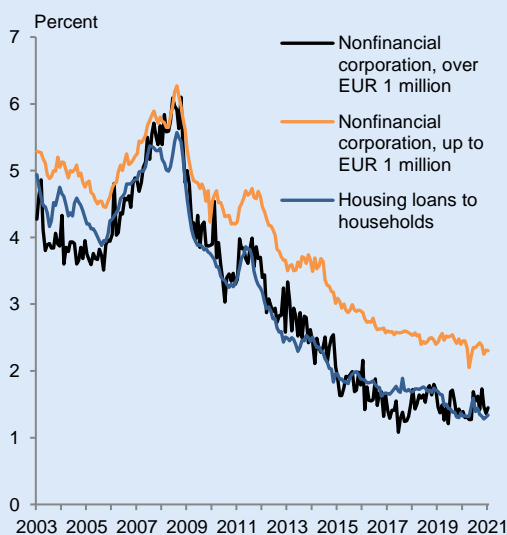
Figure 2.3:
Credit growth



Change compared to one year ago; Monthly data.

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

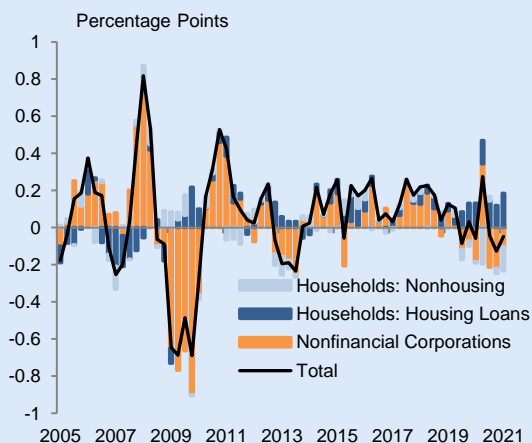
Figure 2.2:
Loan interest



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

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

Figure 2.4:
Credit impulse

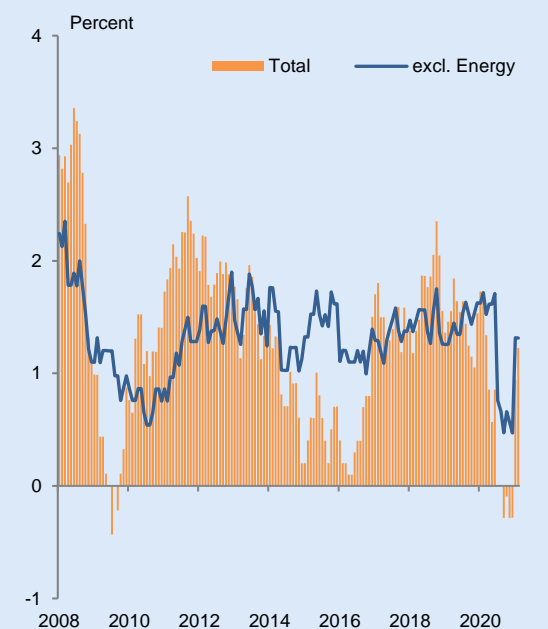


Quarterly data, most recent quarter based on first month; calculations follow Biggs et al. (2009), *Credit and economic recovery*, DNB Working Paper 218, De Nederlandsche Bank, Amsterdam.

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

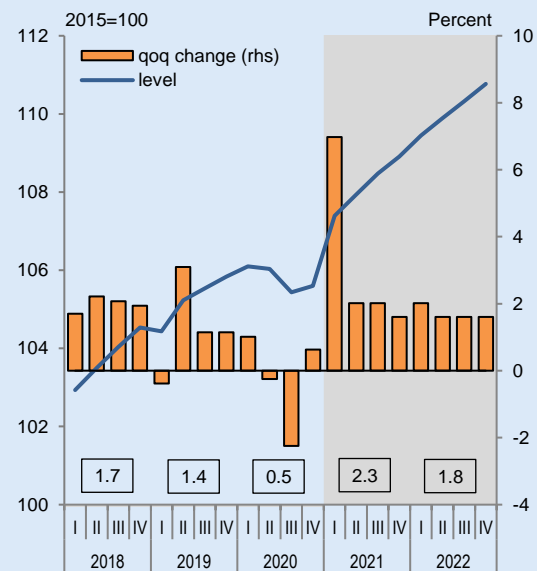
Source: Deutsche Bundesbank, *Seasonally Adjusted Business Statistics*; Kiel Institute calculations.

Figure 2.5:
Consumer price



Monthly data; year-on-year change.
Source: Deutsche Bundesbank, *Time series databases*; Kiel Institute calculations.

Figure 2.6:
Consumer price index



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 environment¹

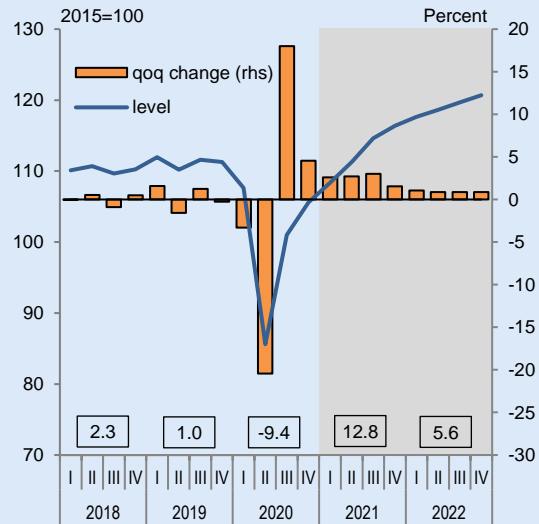
	2019				2020				2021				2022			
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
ECB key interest rate	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Long-term interest rate	0.10	-0.10	-0.50	-0.40	-0.40	-0.40	-0.50	-0.60	-0.40	-0.30	-0.30	-0.30	-0.20	-0.20	-0.20	-0.80
US-dollar/euro exchange rate	1.14	1.12	1.11	1.11	1.10	1.10	1.17	1.19	1.21	1.20	1.20	1.20	1.20	1.20	1.20	1.14
Price competitiveness	89.7	89.7	89.5	88.9	88.9	90.4	90.9	90.9	90.8	91.0	91.1	91.1	91.0	90.8	90.6	87.4
Export markets	0.7	0.5	0.4	0.3	-3.0	-9.2	9.9	0.0	0.2	1.8	2.1	1.2	0.8	0.6	0.6	0.5
Oil price	63.2	68.9	61.9	63.4	50.5	29.4	43.0	44.3	62.0	69.2	69.6	69.9	70.3	70.6	71.0	61.20

ECB key interest rate: main refinancing operations; long-term interest rate on 9–10 year bonds; price competitiveness: against 60 trading partners, based on consumer price inflation; index: 1991:I = 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*; Kiel Institute calculations; shaded: Kiel Institute forecast or assumption.

3. External trade

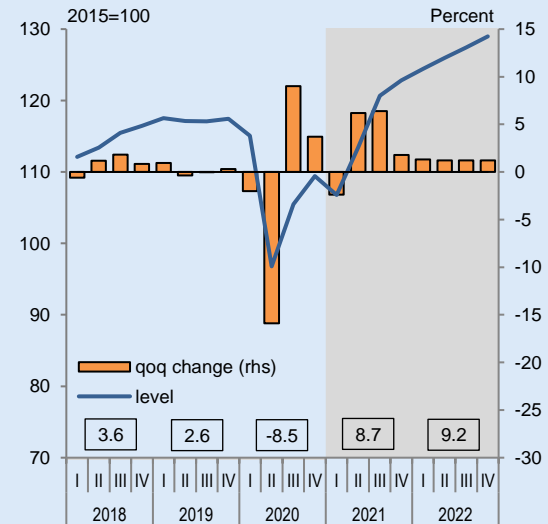
Figure 3.1:
Exports



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

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

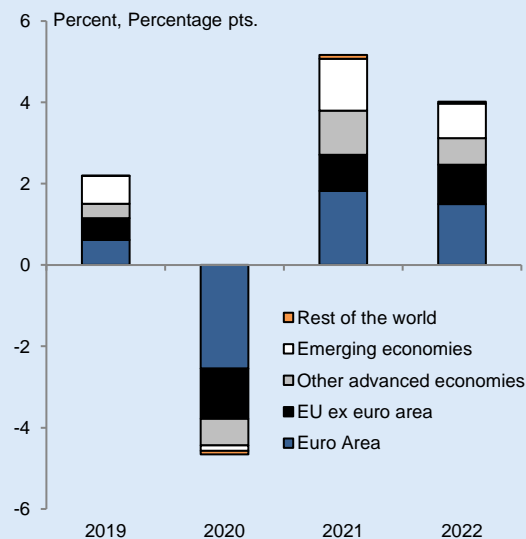
Figure 3.2:
Imports



Quarterly data: price, seasonally and calendar adjusted, qoqchange (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.

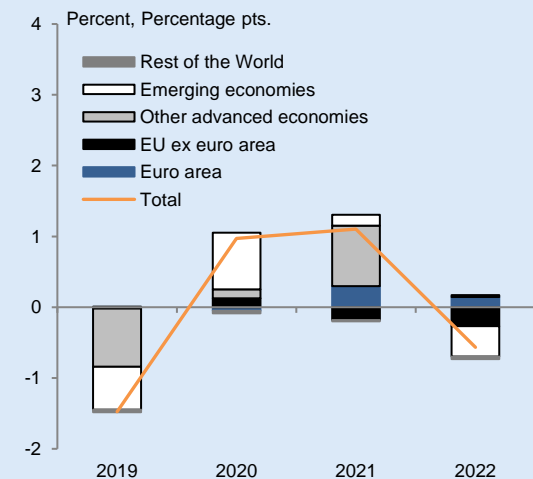
Figure 3.3:
German export markets



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.

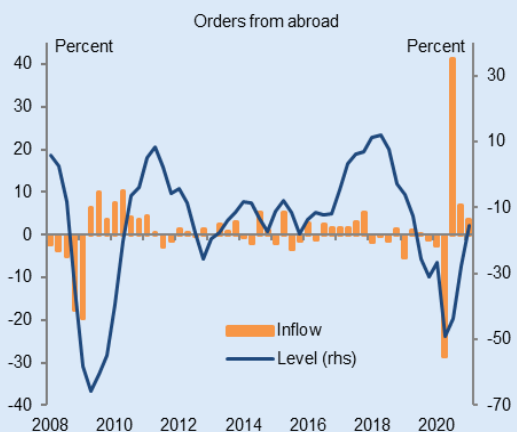
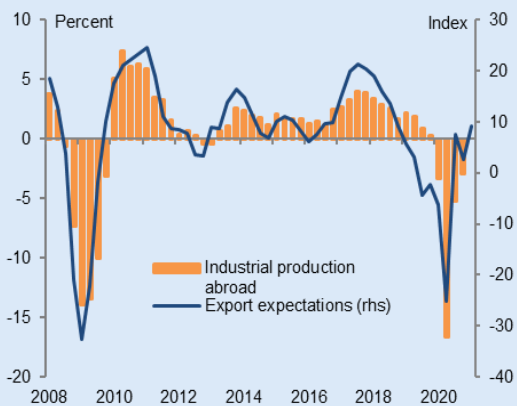
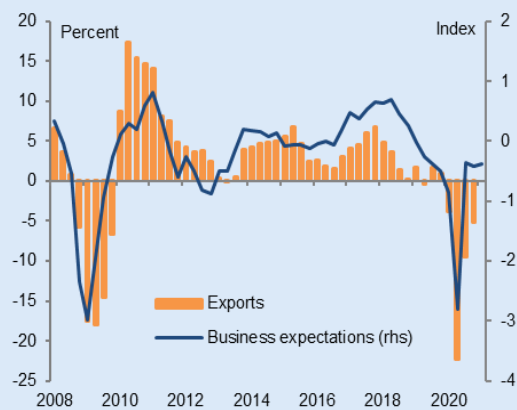
Figure 3.4:
Germany's price competitiveness



Annual data; vis-à-vis 55 countries based on consumer prices; weights according to Germany's price competitiveness indicator vis-à-vis 61 trading partners based on consumer price indices from the Deutsche Bundesbank. Increase reflects worsening of price competitiveness.

Source: Bundesbank, *Monthly Report 8.2020*; national sources; Kiel institute calculations and forecast.

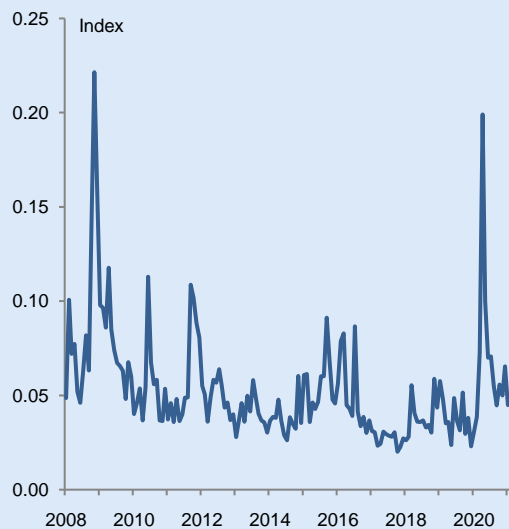
Figure 3.5:
Export indicators



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; Thomson Reuters Datastream; ifo, *Konjunkturperspektiven*; Kiel Institute calculations.

Figure 3.6:
Uncertainty in German export markets

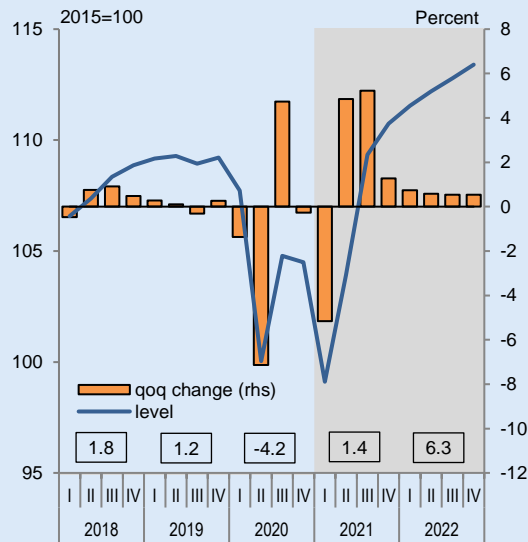


Monthly data; realized stock market volatilities based on daily stock price indices in 46 countries, weighted by shares of German exports. Last value: 10.03.2020

Source: National sources; Kiel Institute calculations.

4. Domestic expenditure

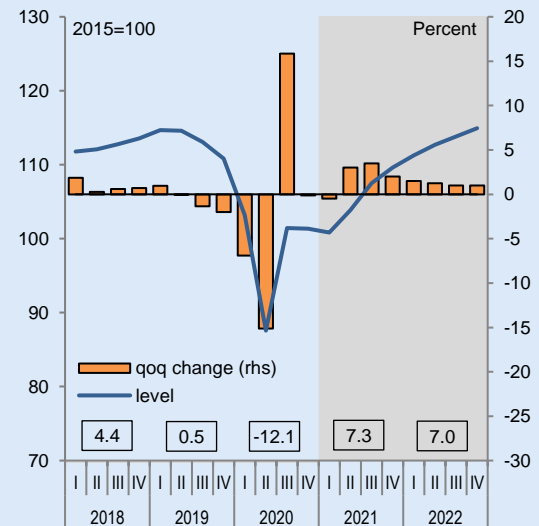
Figure 4.1:
Domestic expenditure



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.

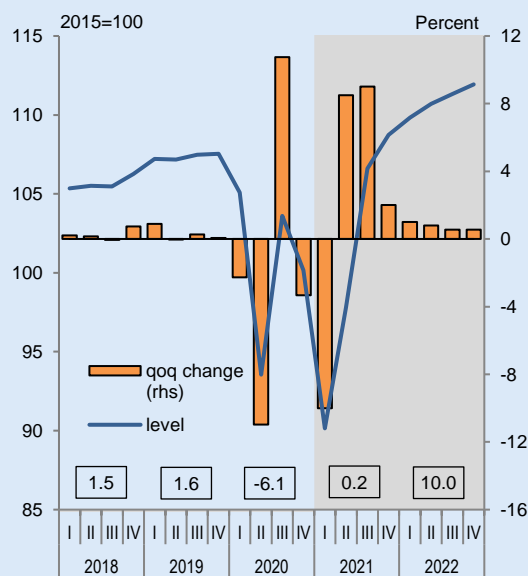
Figure 4.3:
M&E investments



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.

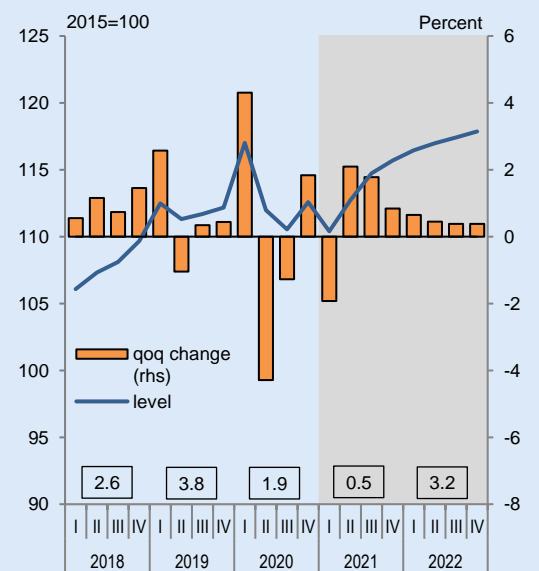
Figure 4.2:
Private consumption



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.

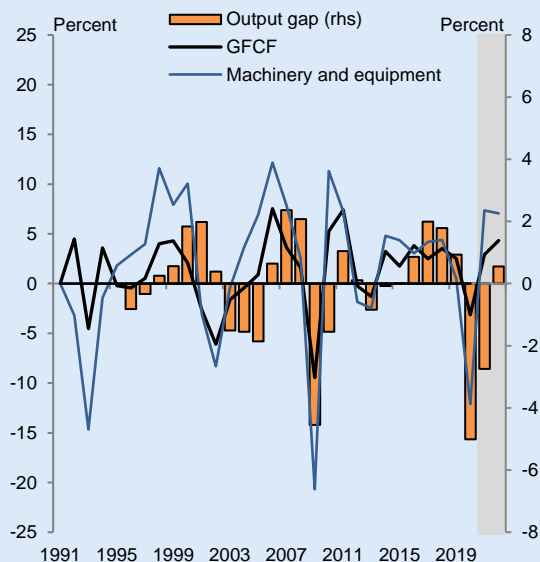
Figure 4.4:
Construction



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.

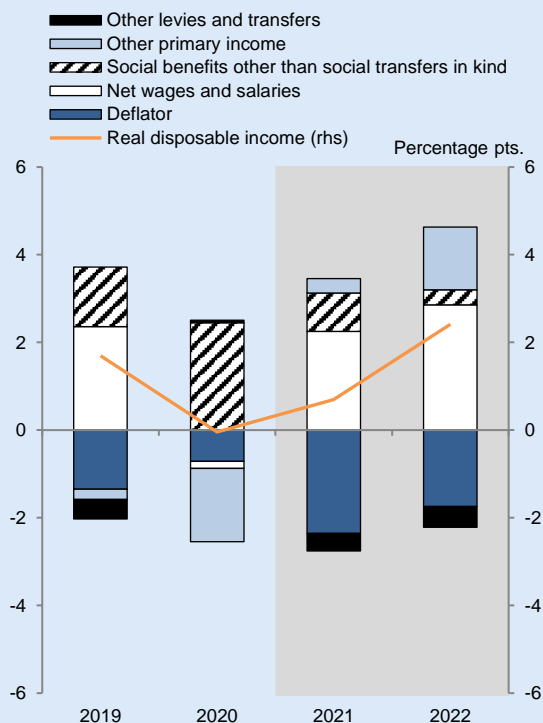
Figure 4.5:
Investment cycles



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.

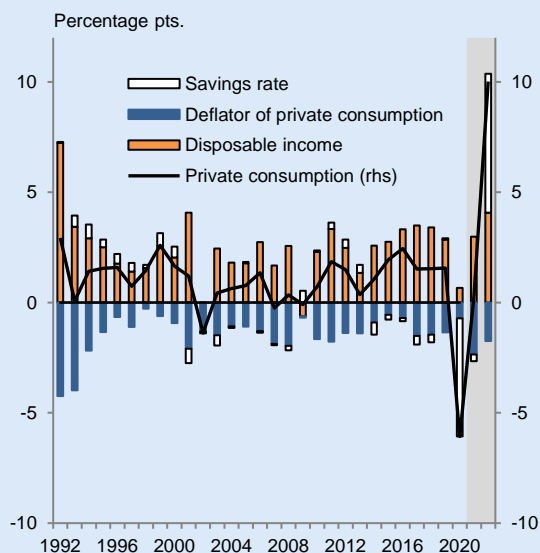
Figure 4.7:
Contributions to changes in real disposable income



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.

Figure 4.6:
Contributions to change in private consumption



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.

Tabelle 4:
Gross fixed capital formation

	2019	2020	2021	2022
Total	2.5	-3.1	2.9	4.3
Corporate investment	1.5	-6.6	4.2	5.0
Machinery and equipment	0.5	-12.1	7.3	7.0
Construction (nondwellings)	2.4	-0.8	-0.8	2.8
Other	2.7	-1.1	3.0	3.1
Dwellings	4.0	2.8	1.0	3.5
Public (nondwellings)	6.0	3.2	0.7	2.2
<i>Memorandum item:</i>				
Construction	3.8	1.9	0.5	3.2

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 2020-2021

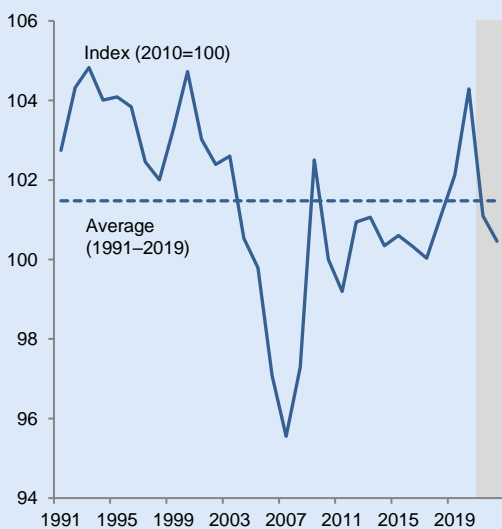
	2020		2021			
	III	IV	I	II	III	IV
	Seasonally and calendar-adjusted, q-o-q change in percent					
Gross domestic product	8.5	0.3	-2.7	3.3	3.7	1.2
Gross value added	8.5	-0.1	-2.7	3.3	3.7	1.2
Industry excl. construction	12.8	6.4	1.5	1.6	1.8	0.7
Manufacturing	13.9	6.7	1.6	1.7	1.9	0.8
Construction	-3.2	5.2	-3.1	0.6	0.5	0.5
Trade, transport, accomodation, food services	13.3	-4.4	-11.9	8.6	9.8	2.8
Information and communication	3.4	0.3	-0.5	0.7	0.9	0.6
Financial and insurance services	0.4	-0.5	-0.3	0.3	0.4	0.1
Real estate activities	1.5	-0.2	-0.6	0.5	0.6	0.3
Business services	4.9	-0.5	1.2	2.8	3.6	1.4
Public services, education, health	9.6	-3.2	-4.4	3.6	4.0	0.9
Other services	17.4	-13.5	-5.2	10.6	9.7	4.2

Quarterly data, volumes.

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

6. Wages

Figure 6.1:
Real unit labor costs



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 4:
Wages and Productivity

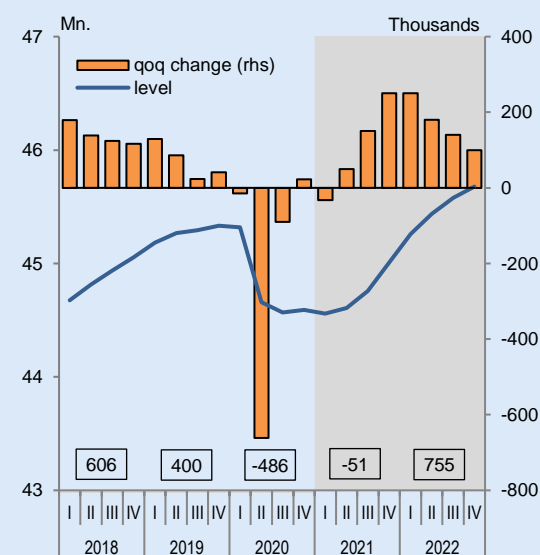
	2018	2019	2020	2021	2022
<i>Per hour</i>					
Negotiated wages	2.8	2.9	2.2	1.7	2.1
Gross wages and salaries	3.0	3.2	3.5	1.4	1.2
Wage drift	0.2	0.3	1.4	-0.3	-0.9
Compensation of employees	2.8	3.3	4.1	0.8	1.2
Labor productivity	0.1	0.0	-0.2	2.2	0.6
Unit labor costs	2.7	3.3	4.3	-1.3	0.6
Unit labor costs (real)	1.0	1.1	2.7	-2.7	-1.0
<i>Per capita</i>					
Negotiated wages	2.8	2.9	2.1	1.7	2.1
Gross wages and salaries	3.2	2.9	-0.1	3.3	3.7
Wage drift	0.4	0.0	-2.2	1.6	1.6
Compensation of employees	2.9	3.0	0.5	2.8	3.8
Labor productivity	-0.1	-0.3	-3.9	3.8	3.0
Unit labor costs	3.0	3.4	4.6	-1.0	0.6
Unit labor costs (real)	1.3	1.1	2.9	-2.3	-0.9

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

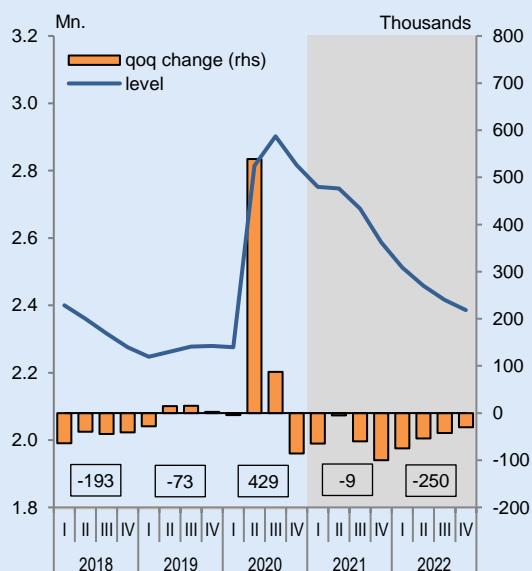
Figure 7.1:
Employment



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



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 (1,000 persons)

	2018	2019	2020	2021	2022
Hours worked (domestic concept, mn. hours)	62,229	62,596	59,636	60,479	63,007
Persons in employment (domestic concept)	44,868	45,268	44,782	44,731	45,486
Self-employed	4,224	4,152	3,998	3,832	3,865
Employees (domestic concept)	40,645	41,117	40,784	40,899	41,621
Employees subject to social security contributions	32,992	33,537	33,576	33,876	34,408
Minijobs	4,668	4,575	4,271	4,157	4,346
Net commuting	142	146	106	119	145
Persons in employment (national concept)	44,727	45,123	44,677	44,612	45,341
Employees (national concept)	40,503	40,971	40,679	40,780	41,476
Unemployed persons (registered)	2,340	2,267	2,695	2,687	2,436
Unemployment rate (registered; percent)	5.2	5.0	5.9	5.9	5.3
Unemployment rate (ILO; percent)	3.2	2.9	4.0	4.2	3.5

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 Institut forecast.

8. Public finances

Tabelle 8.1:

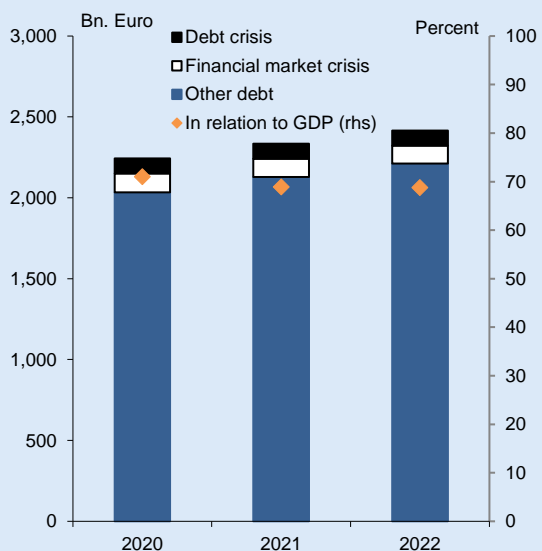
Revenues and expenditures of the general government (bn. Euro)

	2018	2019	2020	2021	2022
Revenues	1,553.8	1,610.6	1,563.0	1,630.7	1,736.7
→relative to GDP	46.3	46.7	46.9	46.4	46.5
Taxes	801.2	827.1	773.4	814.4	869.1
→relative to GDP	23.9	24.0	23.2	23.2	23.3
Social contributions	572.6	597.5	607.9	627.6	664.0
→relative to GDP	17.1	17.3	18.2	17.9	17.8
Other revenues	180.1	186.0	181.7	188.8	203.6
→relative to GDP	5.4	5.4	5.5	5.4	5.4
Expenditures	1,492.2	1,558.1	1,702.6	1,793.4	1,785.6
→relative to GDP	44.5	45.2	51.1	51.0	47.8
Compensation of employees	259.6	271.5	283.4	294.3	302.3
Intermediate consumption	173.4	181.9	202.6	209.9	204.5
Social transfers in kind	285.7	300.4	311.8	332.3	343.3
Gross capital formation	78.7	86.2	92.5	93.0	98.5
Capital transfers	31.1	27.5	21.8	19.2	17.6
Social benefits	520.3	545.4	593.1	609.9	616.5
Subsidies	29.5	30.8	69.8	85.2	45.8
Other current transfers	70.8	74.2	83.0	92.6	94.7
Other capital transfers and investment grants	44.1	41.0	45.4	57.8	63.2
Other expenditures	-1.3	-1.2	-1.2	-1.2	-1.2
Net lending/ net borrowing	61.6	52.5	-139.6	-162.7	-48.8
→relative to GDP	1.8	1.5	-4.2	-4.6	-1.3
Revenues of central, state, and local governments	1,011.4	1,044.5	998.0	1,046.4	1,117.1
Net of transfers from social security funds	1,010.3	1,043.4	996.8	1,045.3	1,115.9
Transfers from social security funds	1.1	1.1	1.1	1.2	1.2
Expenditures of central, state, and local governments	965.8	1,000.7	1,103.8	1,177.6	1,157.1
Net of transfers to social security funds	847.5	878.0	962.5	1,024.5	1,010.5
Transfers to social security funds	118.3	122.7	141.3	153.1	146.5
Net lending/ net borrowing central, state, and local governments	45.6	43.8	-105.9	-131.2	-40.0
Revenues of social security funds	661.9	690.0	717.6	748.0	776.8
Net of transfers from central, state, and local governments	543.6	567.2	576.3	594.9	630.2
Expenditures of social security funds	645.9	681.3	751.3	779.5	785.6
Net of transfers to central, state, and local governments	644.7	680.2	750.2	778.4	784.5
Net lending/ net borrowing social security funds	16.0	8.7	-33.7	-31.5	-8.8

Sums may deviate due to rounding. Relative to GDP in per cent.

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

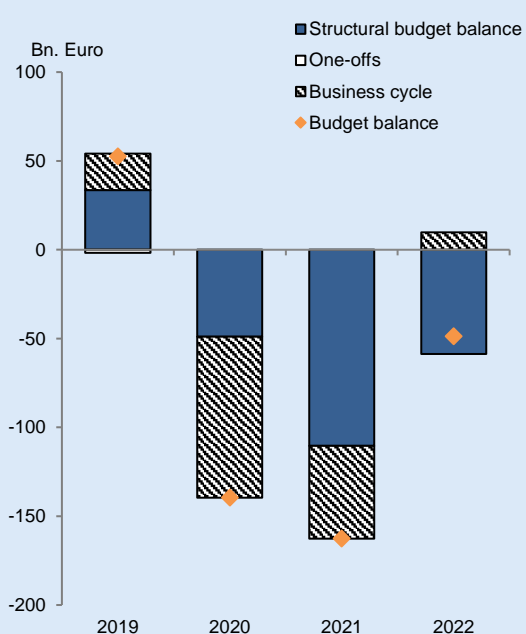
Figure 8.1:
Government gross debt



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.

Figure 8.2:
Structural budget balance



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

9. GDP and its components

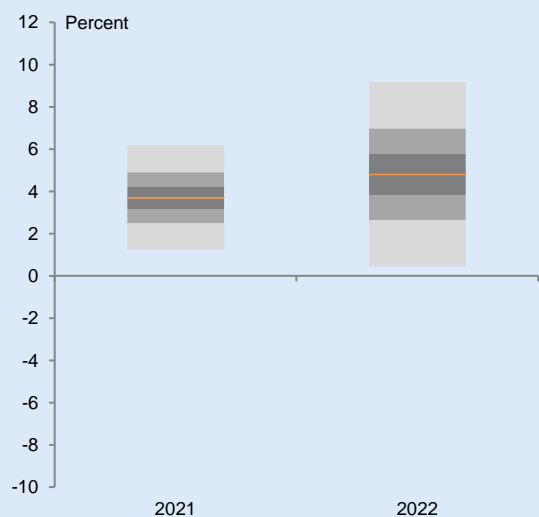
Tabelle 9.1:
Quarterly data

	2020				2021				2022			
	I	II	III	IV	I	II	III	IV	I	II	III	IV
Gross domestic product	-2.0	-9.7	8.5	0.3	-2.7	3.3	3.7	1.2	0.6	0.5	0.4	0.4
Private consumption	-2.3	-11.0	10.8	-3.3	-10.0	8.5	9.0	2.0	1.0	0.8	0.6	0.6
Government consumption	0.6	2.1	0.6	-0.5	2.2	-0.1	-0.2	-0.4	-0.2	-0.2	0.4	0.6
Machinery and equipment	-6.9	-15.1	15.9	-0.1	-0.5	3.0	3.5	2.0	1.5	1.3	1.0	1.0
Constructions	4.3	-4.3	-1.3	1.8	-1.9	2.1	1.8	0.8	0.6	0.5	0.4	0.4
Other investment	-4.1	0.6	1.9	0.6	0.5	0.5	0.7	0.7	0.9	0.9	0.7	0.7
Change in inventories	0.0	0.0	-2.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Domestic expenditure	-1.4	-7.1	4.7	-0.3	-5.2	4.8	5.2	1.3	0.7	0.6	0.5	0.5
Exports	-3.3	-20.4	18.0	4.5	2.6	2.7	3.0	1.6	1.1	0.9	0.9	0.9
Imports	-2.0	-15.9	9.0	3.7	-2.4	6.2	6.4	1.8	1.3	1.2	1.2	1.2
Net exports	-0.7	-2.9	3.9	0.6	2.1	-1.1	-1.1	0.0	-0.1	-0.1	-0.1	-0.1
Employment (domestic)	45,319	44,658	44,568	44,590	44,558	44,608	44,758	45,008	45,258	45,438	45,578	45,678
Unemployment (registered)	2,275	2,814	2,902	2,816	2,752	2,747	2,687	2,587	2,512	2,458	2,416	2,386

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.

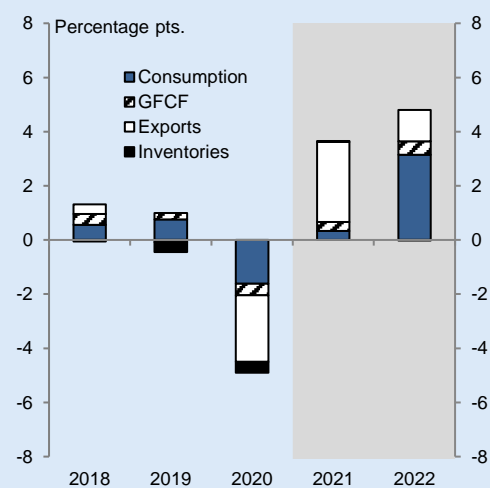
Figure 9.1:
Forecast intervals for GDP growth



GDP: volumes, change over previous year. Point forecasts: orange lines. Forecast intervals gray 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 first quarter 1994–2020.

Source: Own calculations.

Figure 9.2:
Import adjusted expenditure-side contributions to GDP growth



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

Tabelle 9:
The German economy –

	2019	2019	2020	2021	2022
	Bn. Euro	Change over previous year in percent			
Use of gross domestic product, price-adjusted					
GDP		0.6	-4.9	3.7	4.8
Private consumption expenditure		1.6	-6.1	0.2	10.0
Public consumption expenditure		2.7	3.3	2.3	-0.4
Total fixed investment		2.5	-3.1	2.9	4.3
Machinery and equipment		0.5	-12.1	7.3	7.0
Construction		3.8	1.9	0.5	3.2
Other equipment		2.7	-1.1	3.0	3.1
Changes in stocks		-0.7	-0.8	0.1	0.0
Domestic Demand		1.2	-4.2	1.4	6.3
Exports		1.0	-9.4	12.8	5.6
Imports		2.6	-8.5	8.7	9.2
Net exports		-0.6	-0.9	2.3	-1.1
Use of gross domestic product at current prices					
GDP	3,449.1	2.8	-3.4	5.1	6.5
Private consumption expenditure	1,806.9	2.9	-5.4	2.6	11.9
Public consumption expenditure	704.5	5.1	6.6	5.0	0.8
Total fixed investment	748.0	5.5	-1.7	5.1	6.7
Machinery and equipment	240.1	1.9	-10.9	8.4	8.1
Construction	373.7	8.4	3.6	3.5	6.6
Other equipment	134.2	4.2	0.4	4.5	5.0
Changes in stocks (€ bn.)		-10.3	-57.4	-55.7	-58.0
Domestic Demand	3,249.1	3.1	-3.4	3.8	8.1
Exports	1,617.4	1.7	-9.7	14.2	6.8
Imports	1,417.4	2.4	-10.7	12.5	10.8
Net exports (€ bn.)		199.9	194.0	243.4	203.8
Gross national income	3,542.8	2.8	-3.3	4.9	6.4
Deflators					
GDP		2.2	1.6	1.4	1.6
Private consumption expenditure		1.4	0.7	2.4	1.7
Public consumption expenditure		2.3	3.2	2.6	1.3
Investment in machinery and equipment		1.4	1.3	0.9	1.0
Investment in construction		4.4	1.7	3.0	3.3
Investment in other equipment		1.4	1.4	1.5	1.8
Exports		0.8	-0.4	1.3	1.1
Imports		-0.1	-2.4	3.5	1.5
<i>Addendum: Consumer prices</i>		1.4	0.5	2.3	1.8
Income distribution					
Net national income (factor costs)	2,564.1	2.2	-2.8	5.0	5.3
Compensation of employees	1,845.9	4.2	-0.2	3.1	5.6
in percent of national income		72.0	73.9	72.5	72.7
Property and entrepreneurial income	718.2	-2.7	-9.3	10.4	4.6
Disposable income	1,969.8	3.0	0.7	3.1	4.2
Savings rate		10.9	16.2	16.5	10.2
Wages and salaries	1,521.6	4.1	-0.8	3.6	5.5
Wage per hour		3.2	3.5	1.4	1.2
Unit labor costs		3.3	4.3	-1.3	0.6
Productivity per hour		0.0	-0.2	2.2	0.6
Unemployment (1,000)	2,266.7	2,695.4	2,686.7	2,436.4	
Rate of unemployment (percent)	5.0	5.9	5.9	5.3	
Total employment (1,000)	45,268.3	44,782.0	44,731.3	45,486.3	
Public sector budget balance		52.5	-139.6	-162.7	-48.8
Public sector budget balance (€ bn.)		1.5	-4.2	-4.6	-1.3
Public sector budget balance (in percent of GDP)		59.5	71.7	72.4	68.8

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: 2021 to 2022

	2020	2021	2022	2021		2022	
				H1	H2	H1	H2

1. Production

Change over the same period of the preceding year in %

Persons in employment	- 1.1	- 0.1	1.7	- 0.9	0.7	1.7	1.7
Hours worked	- 4.7	1.4	4.2	- 0.8	3.5	6.7	1.9
Hours worked by person in employment	- 3.7	1.5	2.5	0.1	2.8	4.9	0.3
Labor productivity ¹	- 0.2	2.2	0.6	3.0	1.4	1.1	0.1
Gross domestic product, price-adjusted	- 4.9	3.7	4.8	2.2	5.0	7.8	2.0

2. Use of gross domestic product at current prices

a) EUR bn.

Consumption expenditure	2 460.1	2 541.5	2 757.2	1 185.9	1 355.6	1 344.4	1 412.8
Private households ²	1 709.3	1 753.5	1 962.8	799.2	954.3	957.4	1 005.4
Government	750.8	788.0	794.4	386.7	401.3	387.0	407.4
Gross fixed capital formation	735.5	772.9	825.0	363.8	409.1	394.8	430.3
Machinery and equipment	213.9	231.7	250.5	106.7	125.0	118.5	132.1
Construction	387.0	400.5	426.7	190.3	210.2	206.3	220.5
Other products	134.6	140.7	147.8	66.8	73.8	70.0	77.7
Changes in inventories ³	- 57.4	- 55.7	- 58.0	- 23.6	- 32.1	- 25.0	- 33.0
Domestic expenditure	3 138.3	3 258.7	3 524.2	1 526.1	1 732.6	1 714.2	1 810.0
Net exports	194.0	243.4	203.8	145.4	98.0	113.2	90.6
Exports	1 460.1	1 667.5	1 781.3	806.2	861.3	881.1	900.1
Imports	1 266.1	1 424.1	1 577.5	660.8	763.3	767.9	809.5
Gross domestic product	3 332.2	3 502.1	3 728.1	1 671.6	1 830.6	1 827.4	1 900.7

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

Consumption expenditure	- 2.0	3.3	8.5	- 1.0	7.4	13.4	4.2
Private households ²	- 5.4	2.6	11.9	- 4.2	9.0	19.8	5.4
Government	6.6	5.0	0.8	6.4	3.6	0.1	1.5
Gross fixed capital formation	- 1.7	5.1	6.7	3.0	7.0	8.5	5.2
Machinery and equipment	- 10.9	8.4	8.1	8.9	7.9	11.0	5.6
Construction	3.6	3.5	6.6	- 0.7	7.6	8.4	4.9
Other products	0.4	4.5	5.0	5.1	4.0	4.8	5.3
Domestic expenditure	- 3.4	3.8	8.1	- 0.6	8.1	12.3	4.5
Exports	- 9.7	14.2	6.8	14.6	13.8	9.3	4.5
Imports	- 10.7	12.5	10.8	6.7	18.0	16.2	6.1
Gross domestic product	- 3.4	5.1	6.5	3.2	6.9	9.3	3.8

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

a) EUR bn.

Consumption expenditure	2 292.2	2 312.1	2 468.8	1 088.2	1 224.0	1 214.0	1 254.7
Private households ²	1 614.6	1 618.3	1 780.4	741.9	876.4	873.0	907.4
Government	676.5	692.3	689.3	344.7	347.7	341.4	347.9
Gross fixed capital formation	662.7	682.0	711.5	322.3	359.7	342.1	369.4
Machinery and equipment	204.9	220.0	235.5	101.3	118.6	111.4	124.1
Construction	330.7	332.2	342.7	158.7	173.5	166.9	175.8
Other products	124.9	128.6	132.6	61.4	67.2	63.2	69.4
Domestic expenditure	2 920.0	2 962.0	3 147.9	1 397.9	1 564.1	1 543.7	1 604.1
Exports	1 426.4	1 608.4	1 698.8	781.1	827.3	843.1	855.8
Imports	1 274.4	1 385.0	1 512.0	647.4	737.5	738.3	773.7
Gross domestic product	3 073.8	3 186.1	3 338.5	1 530.1	1 655.9	1 649.6	1 688.9

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

Consumption expenditure	- 3.4	0.9	6.8	- 2.8	4.4	11.6	2.5
Private households ²	- 6.1	0.2	10.0	- 5.6	5.7	17.7	3.5
Government	3.3	2.3	- 0.4	3.2	1.5	- 1.0	0.1
Gross fixed capital formation	- 3.1	2.9	4.3	1.5	4.2	6.2	2.7
Machinery and equipment	- 12.1	7.3	7.0	7.8	7.0	10.0	4.6
Construction	1.9	0.5	3.2	- 2.4	3.2	5.1	1.4
Other products	- 1.1	3.0	3.1	3.5	2.4	3.0	3.3
Domestic expenditure	- 4.2	1.4	6.3	- 2.4	5.2	10.4	2.6
Exports	- 9.4	12.8	5.6	13.8	11.8	7.9	3.4
Imports	- 8.5	8.7	9.2	3.9	13.3	14.0	4.9
Gross domestic product	- 4.9	3.7	4.8	2.2	5.0	7.8	2.0

National Accounts (cont.)

Forecast period: 2021 to 2022

	2020	2021	2022	2021		2022	
				H1	H2	H1	H2
4. Deflators (2010=100)							
Change on the same period of the preceding year in %							
Private consumption ²	0.7	2.4	1.7	1.5	3.1	1.8	1.8
Government consumption	3.2	2.6	1.3	3.0	2.1	1.0	1.4
Gross fixed capital formation	1.5	2.1	2.3	1.5	2.7	2.2	2.4
Machinery and equipment	1.3	0.9	1.0	1.1	0.9	1.0	1.0
Construction	1.7	3.0	3.3	1.7	4.2	3.1	3.5
Exports	-0.4	1.3	1.1	0.7	1.8	1.3	1.0
Imports	-2.4	3.5	1.5	2.7	4.2	1.9	1.1
Gross domestic product	1.6	1.4	1.6	1.0	1.8	1.4	1.8

5. National income

a) EUR bn.

Primary income of private households ²	2 386.8	2 449.5	2 584.5	1 191.9	1 257.7	1 268.3	1 316.2
Employers social contributions	331.9	334.4	354.1	160.6	173.8	172.0	182.1
Gross wages and salaries	1 509.4	1 563.2	1 649.3	737.4	825.8	786.2	863.1
Other primary income ⁴	545.4	551.9	581.1	293.8	258.1	310.1	271.0
Primary income of other sectors	382.6	468.0	535.9	180.7	287.3	246.8	289.2
Net national income	2 769.4	2 917.6	3 120.4	1 372.6	1 544.9	1 515.1	1 605.4
Consumption of fixed capital	657.8	676.3	703.4	336.2	340.1	349.7	353.7
Gross national income	3 427.1	3 593.9	3 823.8	1 708.8	1 885.1	1 864.7	1 959.1
memorandum item:							
Net national income (factor costs)	2 492.7	2 616.6	2 755.4	1 246.2	1 370.4	1 344.2	1 411.2
Property and entrepreneurial income	651.3	719.0	751.9	348.1	370.8	385.9	366.0
Compensation of employees	1 841.4	1 897.6	2 003.4	898.1	999.5	958.2	1 045.2

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

Primary income of private households ²	-1.6	2.6	5.5	0.6	4.6	6.4	4.7
Employers social contributions	2.4	0.7	5.9	-0.6	2.1	7.1	4.8
Gross wages and salaries	-0.8	3.6	5.5	2.3	4.7	6.6	4.5
... per employee	-0.1	3.3	3.7	2.9	3.7	4.7	2.8
Other primary income ⁴	-5.7	1.2	5.3	-2.8	6.2	5.5	5.0
Primary income of other sectors	-20.1	22.3	14.5	23.5	21.6	36.5	0.7
Net national income	-4.6	5.4	7.0	3.1	7.4	10.4	3.9
Consumption of fixed capital	2.8	2.8	4.0	2.2	3.5	4.0	4.0
Gross national income	-3.3	4.9	6.4	2.9	6.7	9.1	3.9
memorandum item:							
Net national income (factor costs)	-2.8	5.0	5.3	4.1	5.8	7.9	3.0
Property and entrepreneurial income	-9.3	10.4	4.6	10.7	10.1	10.9	-1.3
Compensation of employees	-0.2	3.1	5.6	1.8	4.2	6.7	4.6

6. Disposable income of private households ²

a) EUR bn.

Mass income	1 530.2	1 585.5	1 647.4	761.7	823.9	792.4	854.9
Net wages and salaries	1 017.2	1 061.8	1 120.3	496.8	565.0	530.9	589.3
Social benefits other than social transfers in kind	654.5	671.8	678.8	338.4	333.4	336.2	342.7
less: Levies on social benefits, taxes on consumption	141.5	148.1	151.7	73.5	74.6	74.6	77.1
Other primary income ⁴	545.4	551.9	581.1	293.8	258.1	310.1	271.0
Other transfers received (net) ⁵	-92.5	-93.9	-100.0	-46.4	-47.5	-49.5	-50.5
Disposable income	1 983.0	2 043.6	2 128.5	1 009.1	1 034.5	1 053.0	1 075.5
Change in pension entitlements	57.4	57.6	58.1	28.0	29.6	28.3	29.9
Consumption expenditure	1 709.3	1 753.5	1 962.8	799.2	954.3	957.4	1 005.4
Saving	331.1	347.6	223.8	237.9	109.7	123.9	99.9
Saving ratio (%) ⁶	16.2	16.5	10.2	22.9	10.3	11.5	9.0

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

Mass income	2.6	3.6	3.9	3.8	3.4	4.0	3.8
Net wages and salaries	-0.3	4.4	5.5	3.5	5.2	6.9	4.3
Social benefits other than social transfers in kind	8.0	2.7	1.0	4.8	0.5	-0.7	2.8
less: Levies on social benefits, taxes on consumption	4.5	4.7	2.4	6.2	3.3	1.5	3.3
Other primary income ⁴	-5.7	1.2	5.3	-2.8	6.2	5.5	5.0
Disposable income	0.7	3.1	4.2	2.0	4.1	4.4	4.0
Consumption expenditure	-5.4	2.6	11.9	-4.2	9.0	19.8	5.4
Saving	50.3	5.0	-35.6	29.6	-25.7	-47.9	-8.9

National Accounts (cont.)

Forecast period: 2021 to 2022

	2020	2021	2022	2021		2022	
				H1	H2	H1	H2
7. Revenue and expenditure by general government ⁷							
a) EUR bn.							
Revenue							
Taxes	773.4	814.4	869.1	390.3	424.1	416.5	452.6
Social contributions	607.9	627.6	664.0	302.3	325.2	322.3	341.7
Property income	19.1	16.1	15.7	8.7	7.3	8.5	7.1
Other current transfers	23.8	27.1	28.6	12.9	14.3	13.6	15.0
Capital transfers	15.2	17.7	22.0	7.3	10.4	9.4	12.6
Sales	123.5	127.7	137.2	58.3	69.4	63.3	73.9
Other subsidies	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total	1 563.0	1 630.7	1 736.7	780.0	850.8	833.7	903.0
Expenditure							
Intermediate consumption ⁸	514.8	542.6	548.2	264.4	278.2	264.2	283.9
Compensation of employees	283.4	294.3	302.3	141.5	152.8	145.6	156.7
Property income (interest)	21.8	19.2	17.6	10.1	9.1	9.3	8.3
Subsidies	69.8	85.2	45.8	54.6	30.6	21.3	24.5
Social benefits	593.1	609.9	616.5	307.5	302.4	305.1	311.4
Other current transfers	83.0	92.6	94.7	45.4	47.2	46.3	48.5
Capital transfers	45.4	57.8	63.2	23.6	34.2	26.0	37.2
Gross capital formation	92.5	93.0	98.5	40.4	52.6	42.0	56.5
Net acquisitions of non-produced non-financial assets	- 1.2	- 1.2	- 1.2	- 0.5	- 0.7	- 0.5	- 0.7
Total	1 702.6	1 793.4	1 785.6	887.0	906.4	859.4	926.2
Net lending	- 139.6	- 162.7	- 48.8	- 107.0	- 55.7	- 25.7	- 23.2

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

Revenue							
Taxes	- 6.5	5.3	6.7	0.6	10.0	6.7	6.7
Social contributions	1.7	3.2	5.8	2.4	4.0	6.6	5.1
Property income	- 13.1	- 15.8	- 2.5	- 24.4	- 2.8	- 2.3	- 2.8
Other current transfers	- 5.3	13.8	5.5	14.5	13.1	5.7	5.3
Capital transfers	10.4	16.5	24.3	4.3	27.1	29.0	21.0
Sales	- 1.1	3.4	7.4	0.7	5.9	8.6	6.5
Other subsidies	- 15.1	0.0	0.0	0.0	0.0	0.0	0.0
Total	- 3.0	4.3	6.5	1.2	7.4	6.9	6.1
Expenditure							
Intermediate consumption ⁸	6.6	5.4	1.0	6.8	4.1	- 0.1	2.1
Compensation of employees	4.4	3.9	2.7	3.9	3.9	2.9	2.5
Property income (interest)	- 20.7	- 11.9	- 8.3	- 13.0	- 10.8	- 7.9	- 8.8
Subsidies	126.6	22.0	- 46.2	37.7	1.4	- 60.9	- 20.0
Social benefits	8.7	2.8	1.1	5.2	0.5	- 0.8	3.0
Other current transfers	12.0	11.6	2.3	12.8	10.4	1.9	2.6
Capital transfers	10.7	27.4	9.3	36.1	22.1	10.2	8.7
Gross capital formation	7.4	0.5	5.9	- 1.5	2.1	3.9	7.4
Net acquisitions of non-produced non-financial assets	0.8	0.0	0.0	0.0	0.0	0.0	0.0
Total	9.3	5.3	- 0.4	7.5	3.3	- 3.1	2.2

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.