

KIEL INSTITUTE **ECONOMIC OUTLOOK**

German Economy Winter 2023

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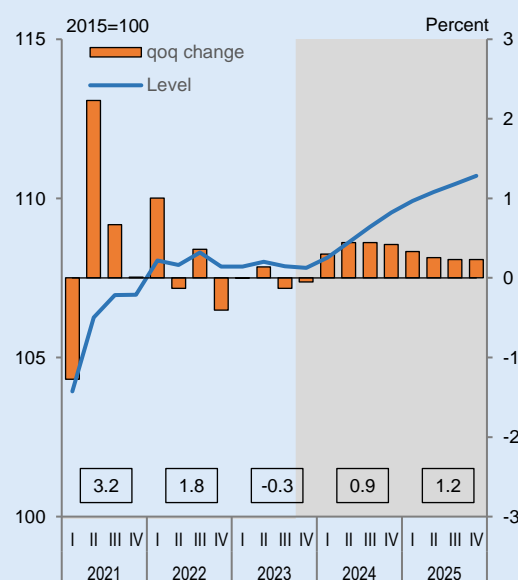
PUBLIC BUDGET UNDER STRESS – RECOVERY FACES HEADWINDS

Jens Boysen-Hogrefe, Dominik Groll, Timo Hoffmann, Nils Jannsen, Stefan Kooths, Nils Sonnenberg und Vincent Stamer

The German economy is struggling to emerge from stagnation. GDP is likely to increase again in 2024, but the economic momentum will remain low. The strong growth in real disposable income will boost private consumption. However, the increases in interest rates continue to weigh on construction investment and there are no signs of large impulses from the world economy ahead. Moreover, the fiscal consolidation in response to the Federal Constitutional Court's judgement on the supplementary budget for 2021 will slow economic expansion. There is uncertainty regarding the exact structuring of the reductions in expenditure as well as their economic impact. In the forecast, the budget cuts will reduce growth in GDP by around 0.3 percentage points in 2024. Overall, we now expect GDP to increase by 0.9 percent in the coming year and thus at a slower pace than in our autumn forecast (1.3 percent). In 2025, economic output is likely to increase by 1.2 percent (autumn forecast: 1.5 percent). The decline in the current year of 0.3 percent will be slightly lower than expected in the autumn forecast (-0.5 percent). Inflation has fallen significantly. For the next two years, we expect rates of 2.3 percent (2024) and 1.8 percent (2025), after 5.9 percent in the current year. The low economic momentum is leaving its mark on the labor market. However, demographic change and the associated shortage of skilled labor are counteracting this to some extent. The government's financing deficit is expected to fall from 2.5 percent relative to GDP in 2022 to 0.7 percent in 2025. The debt level will fall from 66.1 percent to 62.4 percent in the same period.

Economic momentum will remain weak in the fourth quarter. For the third quarter, leading indicators had pointed to a significant decline in GDP. In particular, companies' assessment of their business situation, one of the most informative leading indicators, collapsed in the third quarter and fell as sharply as previously only during the Global Financial Crisis and at the beginning of the pandemic. In view of this, the decline in GDP in the third quarter of 0.1 percent was moderate. This discrepancy may have been due to the decreasing room for companies to increase prices in view of the weak economy and the continued sharp rise in labor costs, implying that the business situation of companies has deteriorated despite the stable development of the real economy. In addition, the recent high level of economic policy uncertainty - as measured by newspaper articles - may have clouded companies' assessments, although this uncertainty has not yet materialized to the same extent in the real economy. GDP is likely to fall again slightly in the fourth quarter. The business situation of companies has stabilized at the low level of the third quarter.

Figure 1:
Gross domestic product



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

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

However, industrial production has made a rather weak start to the fourth quarter. Forecast models point to a decline of 0.1 percent (Figure 1). Over the course of the coming year, GDP is expected to gradually pick up again as private consumption will gain momentum. The recent increase in companies' business expectations point to GDP increases in the next year, as well.

Fiscal consolidation will dampen GDP growth in 2024. The Federal Constitutional Court's ruling on the supplementary budget for 2021 limits the room for government expenditures in the next year. At the current juncture it is still unclear to what extent planned expenditures have to be cut and how these cuts will be structured. For this forecast, we assume that—compared with our forecast from autumn—as a consequence of the court's ruling government expenditures in 2024 will be cut by 28 bn. euros (0.7 percent relative to GDP). According to our assumption, the cuts will take place on a variety of expenditure items including public consumption, public investment, or investment grants. The literature provides a wide range of possible multipliers with respect to GDP. One factor of uncertainty is the extent to which the cut of investment grants will affect private investment. On the one hand, investment grants can trigger investments on a much larger scale, as usually only part of the investment volume is subsidized. On the other hand, such grants also subsidize investment projects that would have been carried out anyway. In addition, subsidized projects are likely to crowd out other investments especially considering the high labor shortages. For our forecast, we assume that the fiscal multiplier will be around 0.5 implying a dampening impact on GDP growth in 2024 by more than 0.3 percentage points. In the year 2025 additional expenditure cuts will probably be small so that we expect only a small negative impact on GDP growth.

In the third quarter, German exports, both goods and services, decreased yet again. Goods exports have fallen for the fourth consecutive quarter. Notably, exports of investment goods, whose financing becomes more costly in a rising interest rate environment, showed weak performance. Industrial production in partner countries has been declining since 2022, leading to reduced capacity utilization and demand for German capital goods. Despite China's economic expansion, German exports to the People's Republic dropped significantly, a trend observed for three years (Stamer 2023). Trade with the Eurozone, the key partner region for Germany, appears weak. German service providers faced losses in foreign business in the third quarter, as well. Overall, German exports decreased by 0.8 percent. The business climate among German exporters and companies in customer countries remains negative. Although the downward trend has paused, the negative indicators suggest a continued export decline. This is partly due to persistently weak economic dynamics in the Eurozone. In the fourth quarter 2023 and the subsequent quarter, economic performance in the Eurozone is unlikely to expand significantly, providing no positive impetus for German exports (Gern et al. 2023). The monthly development of special trade exports underscores the declining trend. German exports fell significantly in September and only moved sideways in October. Due to the resulting statistical carryover, a decline in goods exports is likely in the fourth quarter. Furthermore, foreign order backlogs have recently decreased, and companies assess their order situation as worsened significantly. Thus, the buffer that could cushion the currently low demand is perceived as smaller. From mid-2024 onward, the global economy is expected to pick up more significantly, supporting German exports. Overall, exports are projected to decline by 2 percent this year, experience a slight further decline in 2024, and only show a more pronounced increase in 2025.

Imports declined noticeably in the third quarter, with consumer and investment goods seeing a significant drop. Weak consumer climate led to decreased travel and service imports, contributing to a 1.3 percent total decline in the third quarter. Early indicators suggest a substantial fourth quarter decline, projecting a 3.2 percent decrease for the year. Domestic consumption is expected to support imports initially, followed by increased demand for intermediate goods. Due to statistical carryover, imports are projected to fall by 0.9 percent next year, then rise by 4.3 percent in 2025.

In the previous quarters, the terms of trade have normalized following supply shortages and price increases. Import prices fell more sharply than export prices, improving the terms of trade to pre-crisis levels. Monthly trends suggest a slight fourth quarter increase in both export and import prices, including services like transportation. Foreseeable price changes for imports and exports are minimal, with a slight change of 0.7 percent in 2024 and -0.3 percent in 2025 due to the current level of terms of trade.

Real disposable income will increase and so will private consumption. With the looming decline in this year, real disposable income of private households will have fallen three consecutive years. In the last year and in this year nominal disposable income has risen with very high rates of about 6 percent. However, consumer prices have increased even faster so that the purchasing power of disposable incomes have declined. In the next two years, real disposable income is set to increase. Consumer price will increase at a much lower pace of about 2 percent. At the same time nominal disposable income still will increase with relatively high rates, in particular in the next year. One reason is that wages and salaries react with some delay to high inflation. Overall, we expect real disposable income to increase by 1.8 percent in 2024 and 1 percent in 2025. The saving rate approached its pre-pandemic level of about 11 percent at the beginning of the year, after private households have accumulated large amounts of extra-savings during the pandemic. In the second quarter the saving rate increased to 12 percent and remained elevated in the third quarter. One reason could be that uncertainty of consumers is still high as reflected in low consumer confidence. We assume that the saving rate will decline only sluggishly and remain above its pre-pandemic level until 2025. For the fourth quarter, monthly retail sales indicate that private consumption will increase somewhat. Overall, we expect private consumption to increase by 1.7 percent in 2024 and by 1.4 percent in 2025.

Construction investment and prices likely to decline in the next year. Construction investment, which has been trending downwards for two years, rose slightly by 0.4 percent in the third quarter. The high level of construction prices and significantly higher financing costs are weighing heavily on construction activity. The volume of new construction loans fell by half until the beginning of the year. The strong upward trend in prices for construction investment, which was triggered by rising material costs, high demand and high capacity utilization in the construction industry, stopped in the third quarter. Leading indicators point to a decline of construction investment in the fourth quarter. We expect further declines in construction investment in 2024. New orders recently rose significantly compared to the previous quarter – driven by new orders for non-residential buildings. Building permits, which have been declining since mid-2022, are still trending downwards. As a result, business expectations among construction companies are worse than ever before in reunified Germany. In addition, a growing number of construction companies are complaining about a lack of demand. However, the relatively high order backlog should continue to provide some support. Overall, construction investment will fall by 1.6 percent in 2023. For 2024, we expect a decline of 2.5 percent. Fiscal consolidation triggered by the Federal Constitutional Court's judgement, for example via lower investment grants, will have a dampening effect. Over the course of the next year, construction investment is likely to gradually increase again, as stimulating factors, such as the relatively high demand for housing, rising real incomes and lower construction prices are likely to have an increasingly stimulating impact. For 2025, we expect an increase of construction investment by 1.8 percent.

The high order backlog is stabilizing investment in machinery, equipment, and vehicles. Investment in machinery, equipment, and vehicles rose by 1.1 percent in the third quarter. The gradual reduction in the high domestic order backlogs of capital goods manufacturers, which had built up due to supply bottlenecks during the pandemic, is continuing to offset the negative impact of the weak economic environment that is dampening investment and that was usually associated with declines in investment in the past. The order backlog has been falling since the end of 2022 but is still around a third above its

long-term average from before the pandemic. However, leading indicators point to a decline in investment in machinery, equipment, and vehicles in the fourth quarter. In the next two years, investment in equipment will increase only moderately. The high financing costs are likely to continue to have a dampening effect. Domestic orders received by capital goods manufacturers have been falling since mid-2021 and recently reached the level of the early 2000s. However, the high order backlog is expected to have a stabilizing effect for the time being. While public investment in machinery, equipment and vehicles is being supported by the Bundeswehr special fund, the fiscal consolidation measures are dampening investment in machinery, equipment, and vehicles. All in all, investment in machinery, equipment, and vehicles will increase by 3.4 percent in 2023. For 2024 and 2025, we expect increases by 1.3 percent and 3.4 percent.

The rise in consumer prices has slowed noticeably. In November, the inflation rate was 3.2 percent, after 3.8 percent in October. We expect the inflation rate to rise again to 3.9 percent in December. The main factor behind this renewed increase is the energy component, which will increase again year-on-year due to a base effect related to the price brake for gas prices, which was introduced in December 2022. In 2022, consumer prices rose by 6.9 percent compared to the previous year. For 2023, we expect an increase by 5.9 percent. However, the strong increase in 2023 will mainly be driven by the high price increases at the beginning of the year. In the first half of 2023, consumer prices still rose by 6.4 percent (annualized rate) compared to the second half of 2022, adjusted for seasonal and calendar effects. In the second half of 2023, the increase compared to the first half of 2023 is likely to be only around 2.7 percent (annualized rate). Energy prices have passed their peak and the upward price pressure for non-energy goods is easing. Over the forecasting horizon, we assume crude oil prices of around 75 US-Dollar/Barrel and wholesale electricity and gas prices of 105 Euro/MWh and 43 Euro/MWh. Based on these assumptions, we expect consumer energy prices to fall by 2.1 and 3.9 percent in 2024 and 2025, following an increase by 5.5 percent in 2023. The forecast includes an increase of CO2 prices by 10 Euro/t in 2024 and 2025, which impacts fuel, heating oil and gas prices. Inflation for non-energy goods (core rate) slowed to 4 percent in November 2023 after 4.5 percent in October. At 6.7 percent (annualized rate), the price increase was particularly pronounced in the first half of 2023. In the second half of the year, prices have only increased by an annualized rate of around 2.9 percent compared to the first half of the year. In particular the rise in food prices has slowed in the second half of 2023 and is expected to be just 1.6 percent. The decline is less pronounced for goods and services (excluding rents) which are expected to increase by 3.2 and 3.6 percent respectively in the second half of 2023 compared to the first half of the year. In the coming year we expect the core rate to accelerate again to 3.4 percent (annualized rate) in the first quarter of 2024, but then weaken over the course of the year. For 2024, the core rate is forecasted to be 2.8 percent (0.2 percentage points lower than in the autumn forecast). For 2025, our projection for the core rate is 2.4 percent (autumn forecast: 2.6 percent). Considering a negative contribution of energy prices in 2024 and 2025 we expect overall consumer prices to increase by 2.3 percent in 2024 and 1.8 percent in 2025.

Negotiated wages and salaries continue to accelerate. Between January and September of this year, negotiated wages and salaries were on average 4.2 percent higher compared to the same period of the previous year (according to the negotiated pay rate statistics of the Deutsche Bundesbank). The payment of tax-free inflation compensation premiums had a significant influence on this. Earnings excluding such one-off payments only increased by 2.8 percent. High one-off payments were also agreed recently in the public sector of the federal states, very similar to the agreement for the federal and local governments from the spring. In the retail sector as well as the wholesale and foreign trade sector, however, no new wage agreements have been reached yet. Negotiations have been dragging on since the spring and an agreement is still not in sight. At 4.8 percent over the entire year 2023, the overall increase in negotiated wages and salaries will therefore be lower than we had previously expected

(autumn forecast: 5.4 percent). Conversely, wage growth in 2024 is likely to be higher at 5.7 percent (autumn forecast: 5.1 percent). For 2025, wage growth is projected to be substantially lower. Due to the slowdown in inflation over the forecast horizon, regular pay increases are likely to fall and, once the tax exemption of the inflation compensation premium has expired at the end of 2024, potential one-off payments are likely to be noticeably smaller as well. Effective earnings (gross wages and salaries per employee) rose by an average of 6.2 percent between January and September of this year, much more strongly than collectively agreed earnings. This indicates that earnings in sectors not covered by collective agreements are currently rising much more strongly than in sectors covered by collective agreements. Notwithstanding, part of the difference is due to the exceptionally strong minimum wage hike to 12 euros in October of last year. In 2023, effective earnings per employee are likely to increase by 6 percent compared to the previous year. For 2024 and 2025, we expect increases of 5.6 percent and 3.8 percent respectively.

Unemployment initially rises some more before recovering. Employment growth came to a standstill in the summer and the number of employed has stagnated since then. At the same time, the rise in unemployment that began around a year ago has continued. In November, the number of registered unemployed stood at a seasonally adjusted 2.7 million people (rate: 5.9 percent), around 175,000 more than twelve months ago. The highest percentage increases in unemployment to date have been recorded in Hamburg, Bavaria, Baden-Wuerttemberg and Hesse, which are the states with the highest general earnings levels in Germany. This suggests that the sharp increase in the statutory minimum wage to 12 euros (October 1, 2022) and in the standard rates for basic income support/citizen's benefit (January 1, 2023) were not primarily responsible for the observed rise in unemployment since the end of last year. According to the ifo Employment Barometer, companies' willingness to hire has decreased further in recent months and has now reached a low level by long-term standards. We expect that employment will soon reach its peak and then trend downward over the remainder of the forecast horizon. The potential labor force will begin to shrink in the near future due to aging and despite robust levels of immigration. The economic recovery in the next two years will counteract this to some extent. Unemployment will initially continue to rise before declining again as economic activity picks up in the next year and in view of labor shortages. The gradual integration of Ukrainian refugees into the labor market is also contributing to the decline. All in all, the annual unemployment rate is likely to be 5.8 percent in the next year, compared to 5.7 percent in the current year. We expect the rate to fall to 5.6 percent in 2025. Although the sickness rate fell in the first two quarters of this year (seasonally adjusted), it rose again slightly in the third quarter. For 2023 on average, a similarly high level is expected as in the record year of 2022. The normalization of the sickness rate will therefore take longer than we previously assumed. We now assume that the sickness rate will normalize by 2025. The resulting increase in working time per employee will counteract the decline in employment, meaning that the total volume of work in the economy is likely to increase for the time being.

The federal government is compelled to streamline its budget in response to a ruling by the Federal Constitutional Court. We expect that austerity measures for the year 2024 will amount to 0.7 percent of GDP, compared to the initial plans. The federal consolidation is imperative to comply with the court's decision, which prohibits the use of off-budget funds in the way previously employed. Furthermore, some consolidation had already been planned in light of the resolution of the energy crisis. Consequently, subsidies for energy consumers and certain tax reductions will cease at the conclusion of the current year. Overall, there will be a substantial improvement in the budget for 2024. For 2025, only a few additional consolidation measures are expected. The marginal enhancement of the budget balance is primarily attributed to the economic upswing.

Table 1:
Key indicators

	2022	2023	2024	2025
Gross domestic product (GDP), price-adjusted	1.8	-0.3	0.9	1.2
Gross domestic product, deflator	5.3	6.7	1.7	1.5
Consumer prices	6.9	5.9	2.3	1.8
Labor productivity (per hour worked)	0.5	-1.0	0.3	1.0
Employment (1000 persons)	45,596	45,950	45,963	45,900
Unemployment rate (percent)	5.3	5.7	5.8	5.6
<i>in relation to nominal GDP</i>				
Public sector net lending	-2.5	-1.9	-0.9	-0.7
Gross public debt	66.1	63.8	63.3	62.4
Current account balance	4.4	7.2	7.7	7.8

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

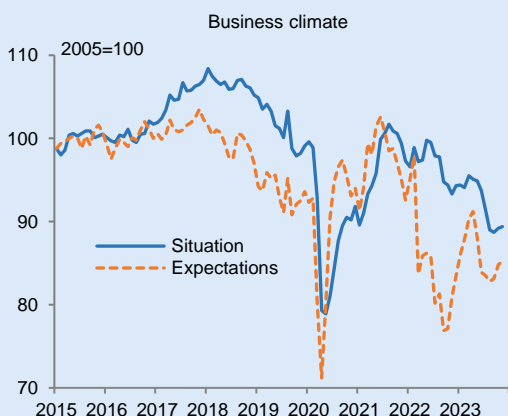
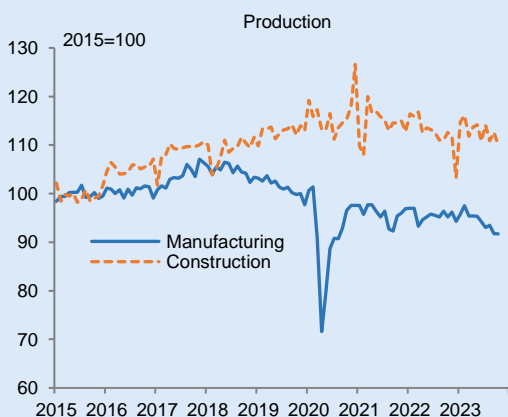
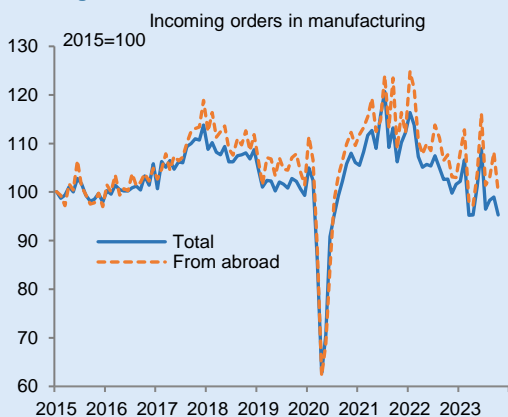
Source: Federal Statistical Office, *Fachserie 18, Series 1.2*; Federal Employment Agency, *Monthly Bulletin*; Federal Employment Agency, *Employment Statistics*; shaded: Kiel Institute forecast.

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1. Leading indicators

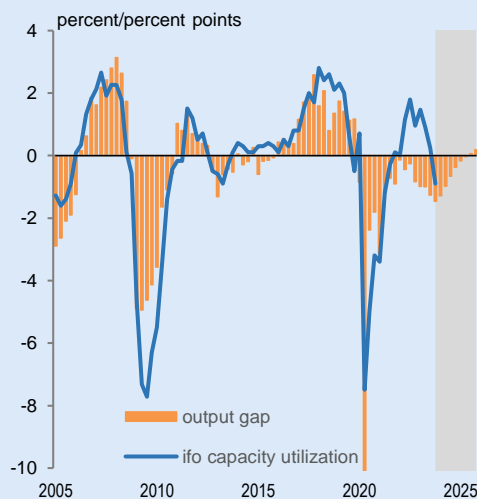
Figure 1.1:
Leading indicators



Monthly data, seasonally adjusted.

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

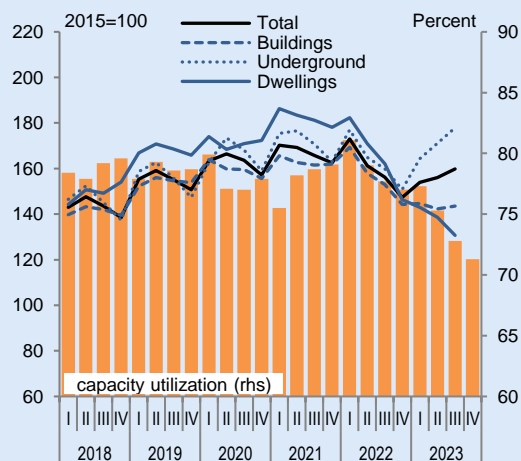
Figure 1.2:
Capacity utilization



Quarterly data; output gap: GDP deviation from potential output, estimation of potential output from the medium-term projection autumn 2023 (Boysen-Hogrefe et al. 2023); deviation of ifo capacity utilization indicator from the mean (2005 bis 2019).

Source: Federal Statistical Office, ifo institue - Leipzig Institute for Economic Research, Kiel Institute forecast.

Figure 1.3:
Order stocks and capacity utilization in construction industry

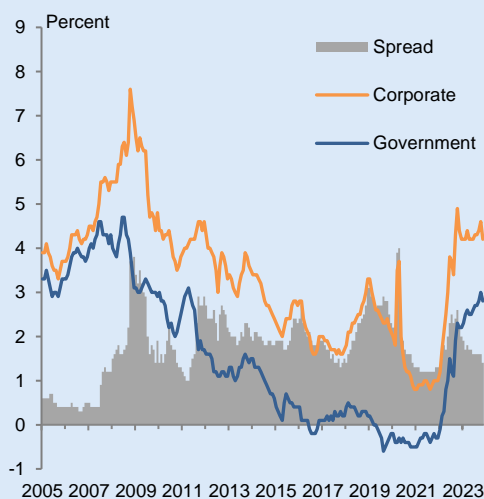


Quarterly data. Capacity utilization (deviation from normal level): seasonally adjusted; order stocks: price, seasonally and working-day adjusted.

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

2. Monetary conditions and prices

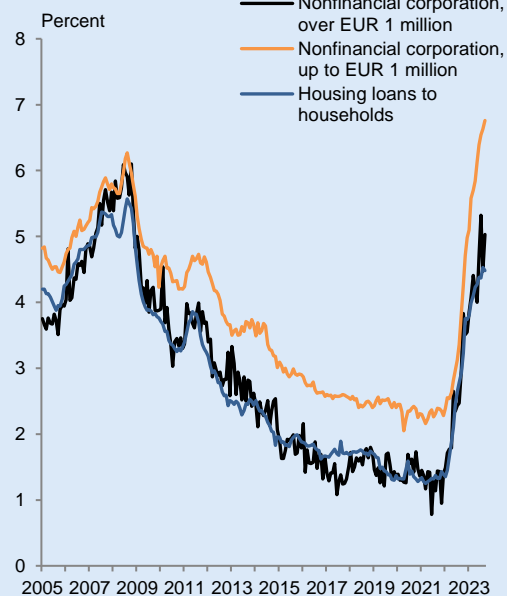
Figure 2.1:
Bond yields



Monthly data, average maturities above three years.

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

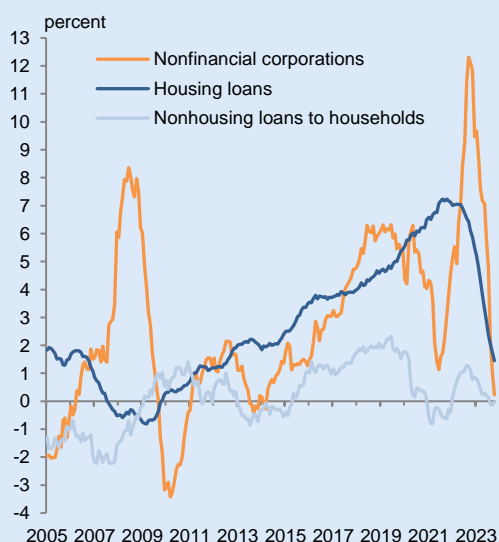
Figure 2.2:
Loan interest rates



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

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

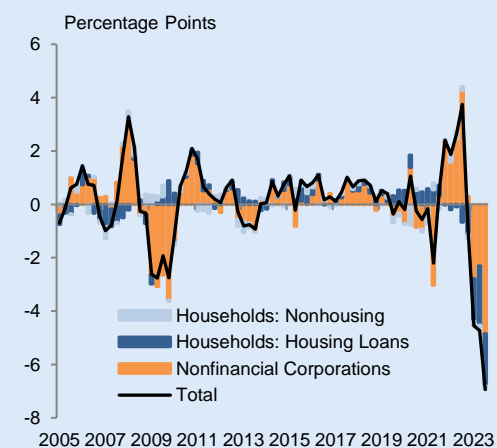
Figure 2.3:
Credit growth



Change compared to one year ago; Monthly data.

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

Figure 2.4:
Credit impulse

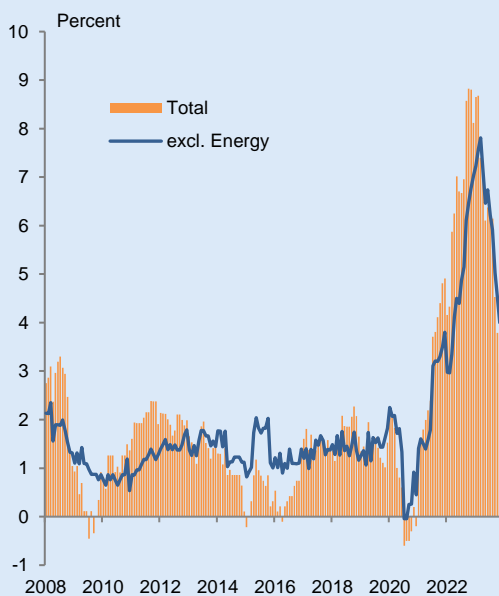


Quarterly data, most recent quarter based on first month; calculations follow Biggs et al. (2009), *Credit and economic recovery*, DNB Working Paper 218, De Nederlandsche Bank, Amsterdam.

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

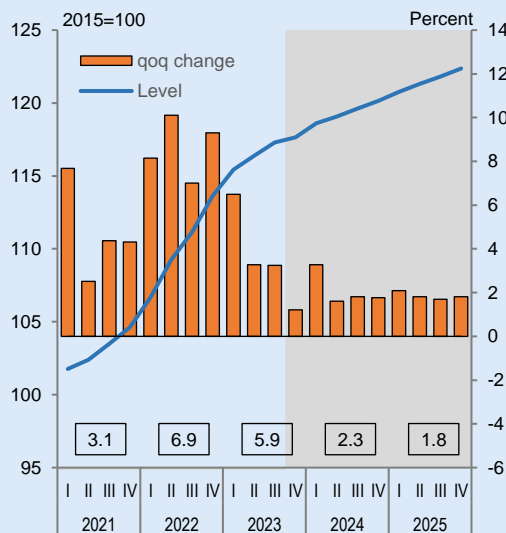
Source: Deutsche Bundesbank, *Seasonally Adjusted Business Statistics*; Kiel Institute calculations.

Figure 2.6:
Consumer prices



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

Figure 2.7:
Consumer price index



Quarterly data: seasonally adjusted; qoq change: annualized.
Annual data (boxes): Volumes, change in percent.

Source: Federal Statistical Office, *Fachserie 17, Series 7*; shaded: Kiel Institute forecast.

Table 2.1:
Projections and assumptions on the international environment 2023–2025

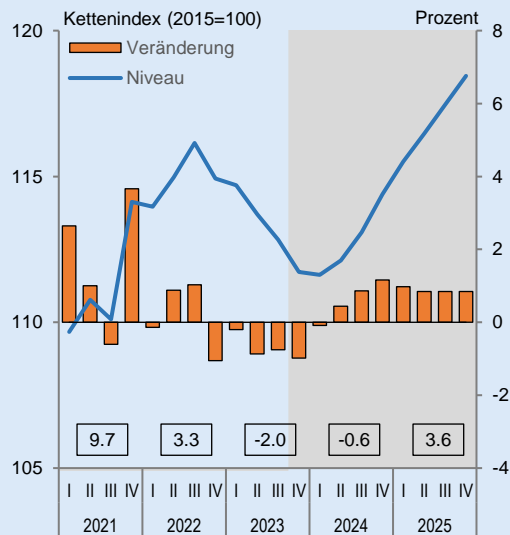
	2023				2024				2025			
	I	II	III	IV	I	II	III	IV	I	II	III	IV
ECB key interest rate	3.00	3.50	4.00	4.00	4.00	3.75	3.25	2.75	2.25	2.25	2.25	2.25
Long-term interest rate	2.31	2.36	2.56	2.55	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30
US-dollar/euro exchange rate	1.07	1.09	1.09	1.07	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Price competitiveness	90.5	91.3	91.8	91.1	90.7	90.4	89.9	89.5	89.2	88.9	89.0	89.2
Export markets	0.3	0.5	0.3	0.3	0.4	0.5	0.5	0.5	0.6	0.6	0.6	0.6
Oil price	81.1	78.2	86.6	83.9	78.1	77.8	77.1	76.3	75.5	74.7	73.9	73.3
Gas price	53.4	35.2	33.9	42.5	43.7	42.7	42.7	46.0	41.8	41.8	41.8	41.8
Electricity price	122.9	99.5	98.3	90.8	104.3	94.2	105.3	120.3	104.3	104.3	104.3	104.3

ECB key interest rate: deposit facility rate (end of quarter); 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. Gas price: Euro per MWh (TTF). Electricity price (Phelix, Baseload).

Source: ECB, *Monthly Bulletin*; Deutsche Bundesbank, *Monthly Bulletin*; IMF, *International Financial Statistics*, Refinitiv, EEX, ENDEX; Kiel Institute calculations; shaded: Kiel Institute forecast or assumption.

3. External trade

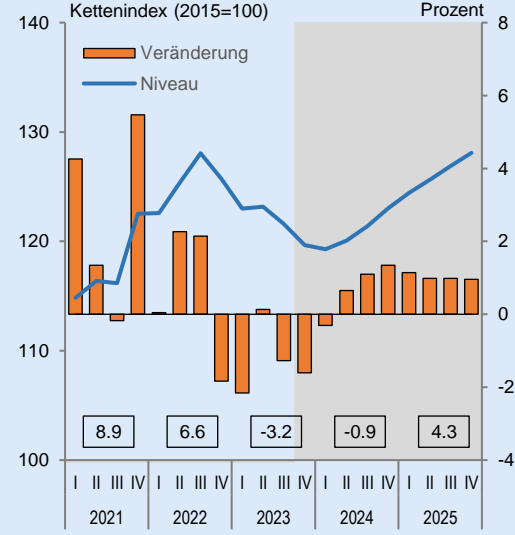
Figure 3.1:
Exports



Quartalsdaten: preis-, kalender- und saisonbereinigt; Veränderung gegenüber dem Vorquartal (rechte Skala).
Jahresdaten: preisbereinigt, Veränderung gegenüber dem Vorjahr in Prozent (gerahmt).

Quelle: Statistisches Bundesamt, Fachserie 18, Reihe 1.2 und 1.3; grau hinterlegt: Prognose des IfW Kiel.

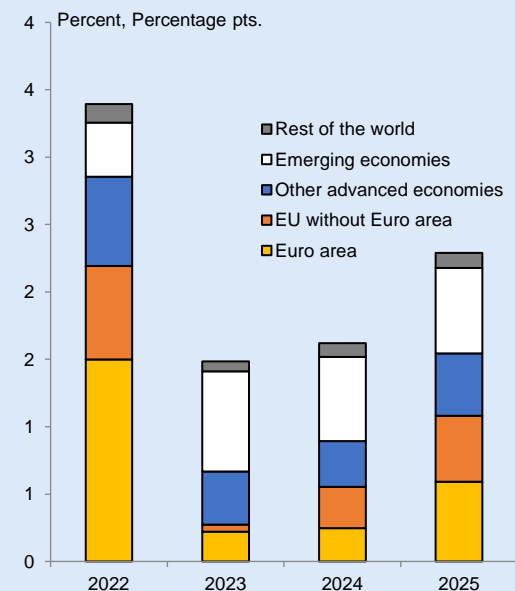
Figure 3.2:
Imports



Quartalsdaten: preis-, kalender- und saisonbereinigt; Veränderung gegenüber dem Vorquartal (rechte Skala).
Jahresdaten: preisbereinigt, Veränderung gegenüber dem Vorjahr in Prozent (gerahmt).

Quelle: Statistisches Bundesamt, Fachserie 18, Reihe 1.2 und 1.3; grau hinterlegt: Prognose des IfW Kiel.

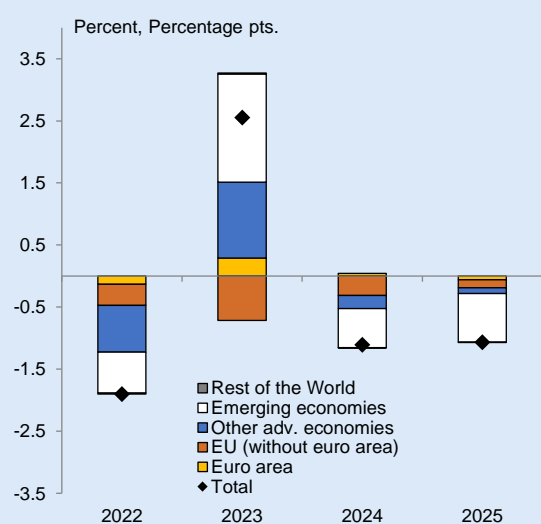
Figure 3.3:
German export markets



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.

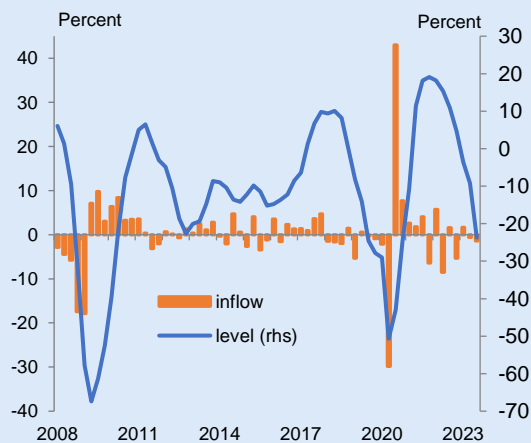
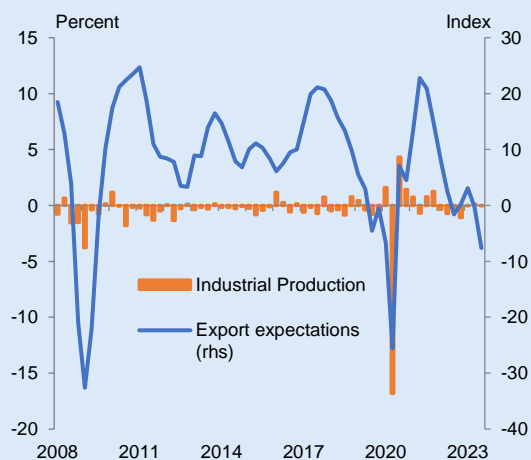
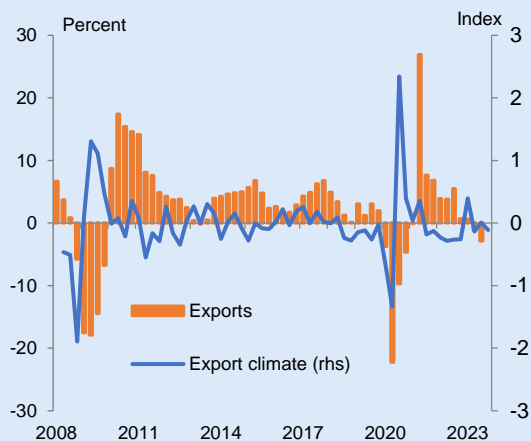
Figure 3.4:
Germany's price competitiveness



Annual data; vis-à-vis 55 countries based on consumer prices and exchange rates; 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

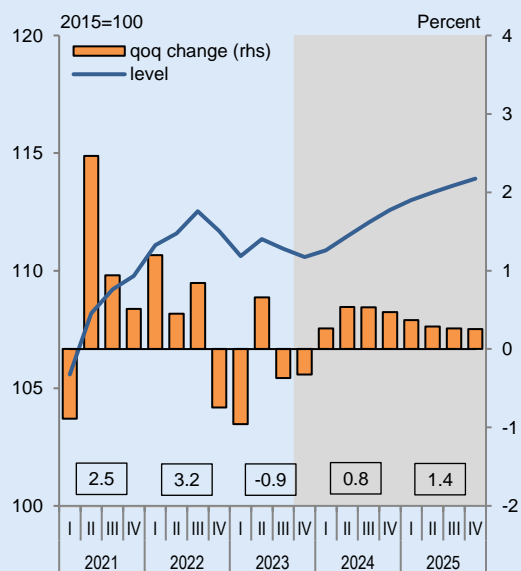


Quarterly data; exports, industrial production, volumes, change on previous year; order inflow: volumes, change on previous quarter; export expectations, foreign orders on hand: volumes; business expectations, industrial production: based on 42 countries weighted by shares of German exports.

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

4. Domestic expenditure

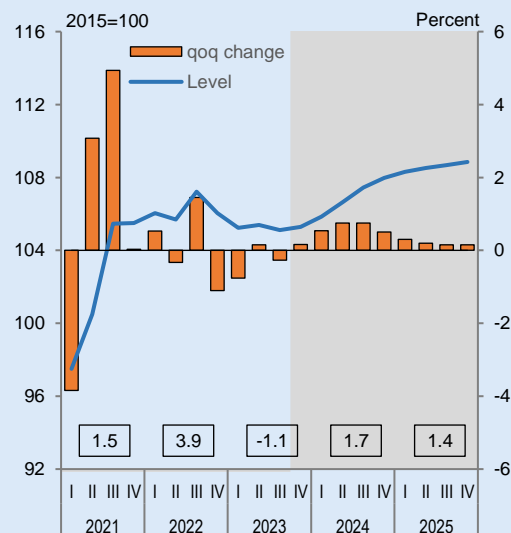
Figure 4.1:
Domestic expenditure



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.

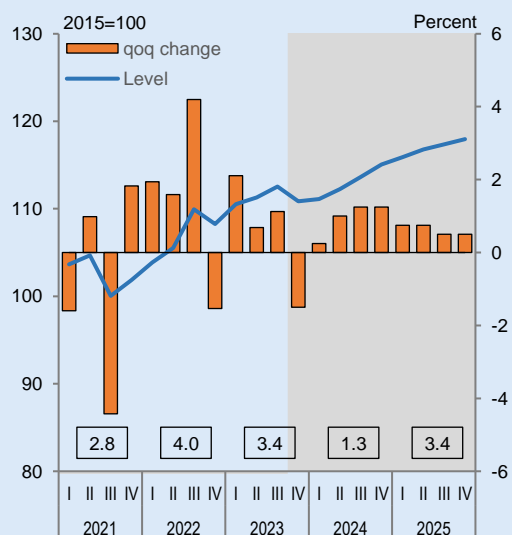
Figure 4.2:
Private consumption



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

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

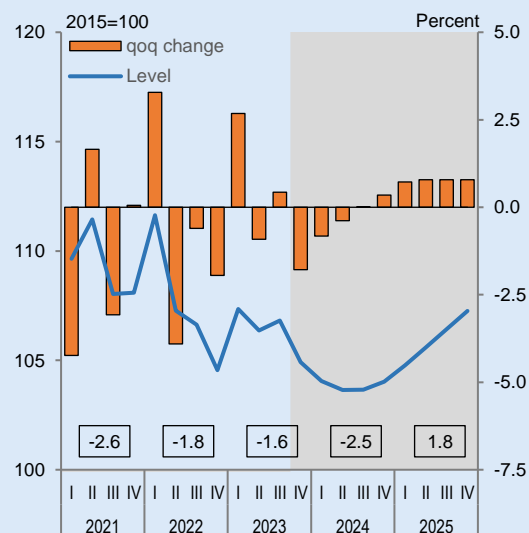
Figure 4.3:
M&E investments



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

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

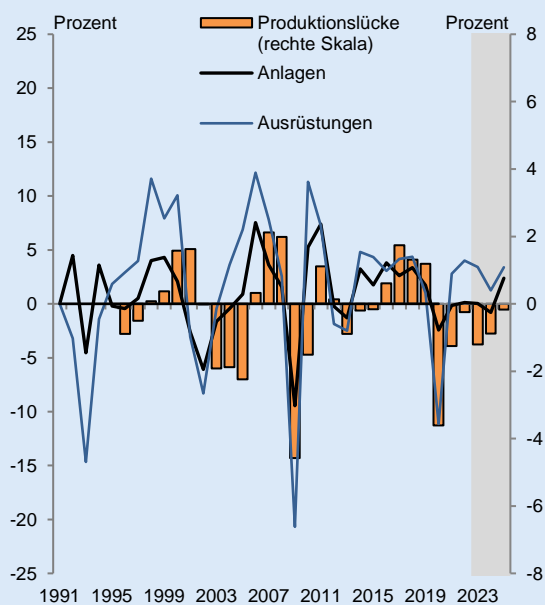
Figure 4.4:
Construction



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

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

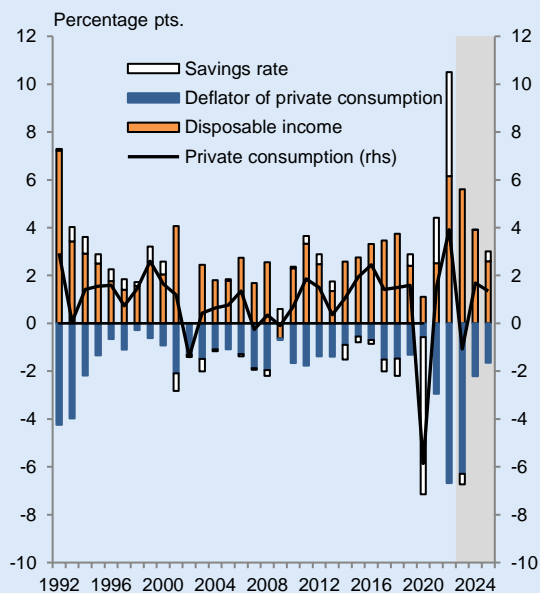
Figure 4.5:
Investment cycles



Jahresdaten; Anlagen, Ausrüstungen: preisbereinigt, Veränderung gegenüber Vorjahr.

Quelle: Statistisches Bundesamt, *Fachserie 18, Reihe 1.2*; Berechnungen des IfW Kiel; grau hinterlegt: Prognose des IfW Kiel.

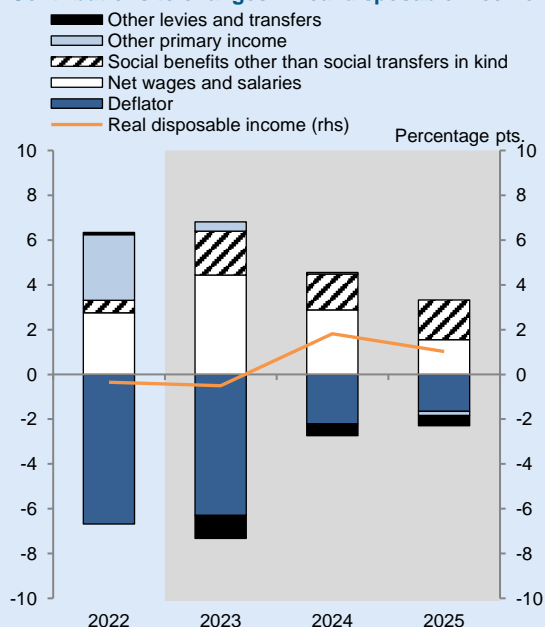
Figure 4.6:
Decomposition of growth in private consumption



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.

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.

Table 4.1:
Gross fixed capital formation

	2022	2023	2024	2025
Total	0.1	0.0	-0.8	2.4
Corporate investment	1.3	1.1	0.5	2.4
Machinery and equipment	4.0	3.4	1.3	3.4
Construction (nondwellings)	-1.6	-1.5	-1.6	0.5
Other	-0.7	-0.8	1.1	2.2
Dwellings	-2.2	-2.4	-4.0	2.5
Public (nondwellings)	-0.1	2.4	3.1	1.7
<i>Memorandum item:</i>				
Construction	-1.8	-1.6	-2.5	1.8

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

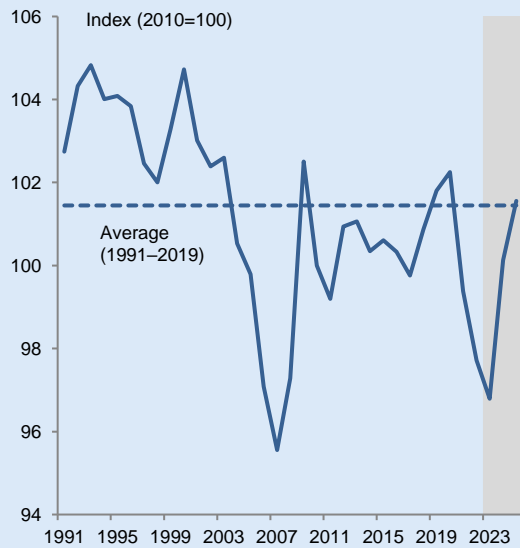
	2023				2024				2025			
	I	II	III	IV	I	II	III	IV	I	II	III	IV
	Seasonally and calendar-adjusted, q-o-q change in percent											
Gross domestic product	0.0	0.1	-0.1	-0.1	0.3	0.4	0.4	0.4	0.3	0.3	0.2	0.2
Gross value added	0.3	-0.2	0.1	-0.1	0.3	0.4	0.4	0.4	0.3	0.3	0.2	0.2
Industry excl. construction	-0.5	-0.5	-1.3	0.3	0.2	0.4	0.4	0.4	0.3	0.2	0.2	0.2
Manufacturing	-0.1	0.2	-0.9	-0.8	0.3	0.5	0.5	0.4	0.3	0.2	0.2	0.2
Energy, Water etc.	-2.5	-5.0	-4.0	3.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3
Construction	5.2	-0.7	0.4	-2.0	-1.0	-0.5	0.0	0.5	0.5	0.5	0.5	0.5
Trade, transport, accomodation, food services	-0.4	0.1	1.7	0.2	0.6	0.8	0.8	0.6	0.4	0.2	0.2	0.2
Information and communication	-0.2	1.8	0.9	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Financial and insurance services	-2.0	-1.5	1.1	0.3	0.3	0.4	0.4	0.4	0.3	0.2	0.1	0.1
Real estate activities	0.8	0.3	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Business services	-0.2	0.4	0.1	0.3	0.4	0.5	0.5	0.5	0.4	0.3	0.2	0.2
Public services, education, health	0.9	-0.7	-0.2	0.0	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2
Other services	2.2	0.2	1.3	0.3	0.7	0.8	0.8	0.7	0.5	0.2	0.2	0.2

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 6.1:
Wages and productivity

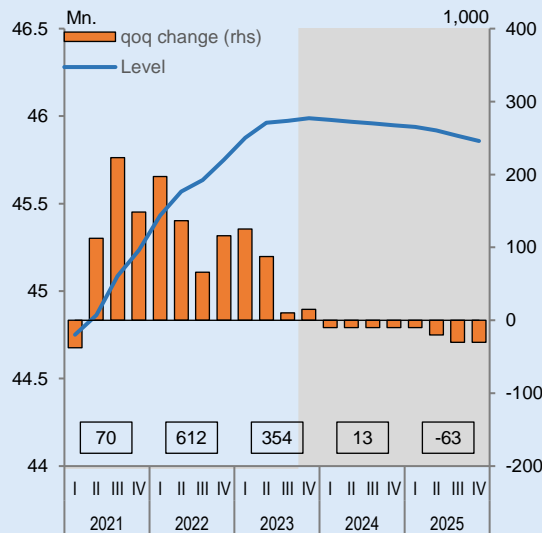
	2022	2023	2024	2025
<i>Per hour</i>				
Negotiated wages	2.7	4.8	5.7	3.8
Gross wages and salaries	4.4	5.9	5.1	3.3
Wage drift	1.7	1.1	-0.6	-0.5
Compensation of employees	4.1	5.5	5.0	3.6
Labor productivity	0.5	-1.0	0.3	1.0
Unit labor costs	3.5	6.7	4.6	2.6
Unit labor costs (real)	-1.7	0.0	2.9	1.0
<i>Per capita</i>				
Negotiated wages	2.6	4.8	5.7	3.8
Gross wages and salaries	4.1	6.0	5.6	3.8
Wage drift	1.5	1.3	-0.1	-0.1
Compensation of employees	3.9	5.7	5.5	4.0
Labor productivity	0.4	-1.1	0.8	1.4
Unit labor costs	3.4	6.9	4.6	2.6
Unit labor costs (real)	-1.8	0.2	2.9	1.1

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: IfW forecast.

7. Employment

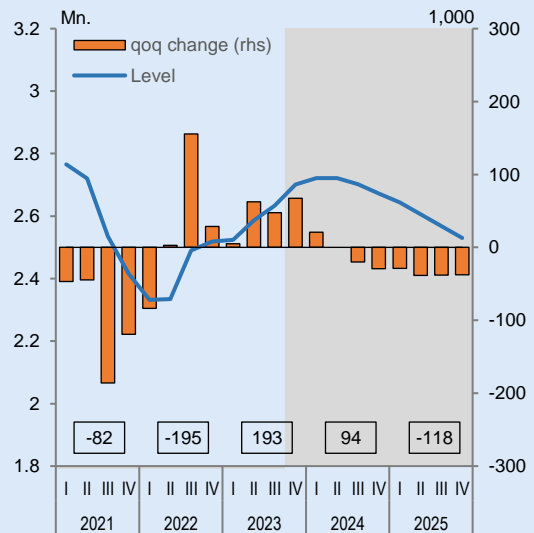
Figure 7.1:
Employment



Quarterly data: seasonally adjusted.
Annual data (boxes): yoy change in 1,000.

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

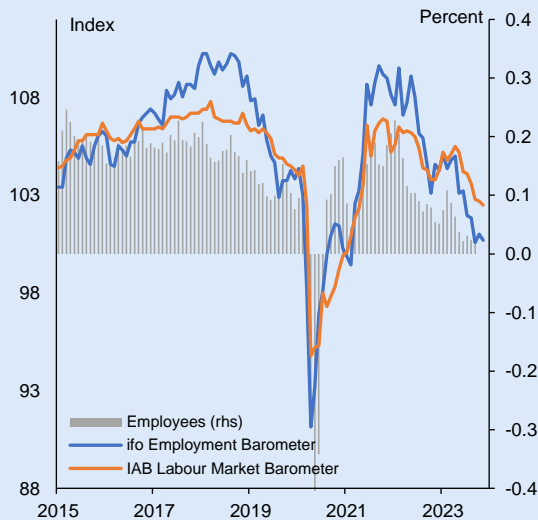
Figure 7.2:
Unemployment



Quarterly data: seasonally adjusted.
Annual data (boxes): yoy change in 1,000.

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

Abbildung 7.3:
Labor market indicators



Monthly data; employees subject to social security: m-o-m change (three-months average), seasonally adjusted. ifo Employment Barometer: rebased to 2015=105. IAB Labour Market Barometer: 90=very bad outlook, 110=very good outlook.

Source: Federal Employment Agency, *Seasonally-Adjusted Time Series*; ifo Institute; Institute for Employment Research (IAB); Kiel Institute calculations.

Table 7.1:

Employment (1.000 persons)

	2021	2022	2023	2024	2025
Hours worked (domestic concept. mn. hours)	60,623	61,410	61,856	62,183	62,347
Persons in employment (domestic concept)	44,984	45,596	45,950	45,963	45,900
Self-employed	3,958	3,910	3,901	3,901	3,895
Employees (domestic concept)	41,027	41,687	42,049	42,062	42,005
Employees subject to social security contributions	33,922	34,525	34,790	34,876	34,939
Minijobs	4,100	4,127	4,202	4,133	4,013
Net commuting	116	140	146	140	140
Persons in employment (national concept)	44,869	45,457	45,804	45,823	45,761
Employees (national concept)	40,911	41,547	41,903	41,923	41,866
Unemployed persons (registered)	2,613	2,418	2,611	2,705	2,587
Unemployment rate (registered; percent)	5.7	5.3	5.7	5.8	5.6
Unemployment rate (ILO; percent)	3.3	2.9	2.8	2.9	2.8

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

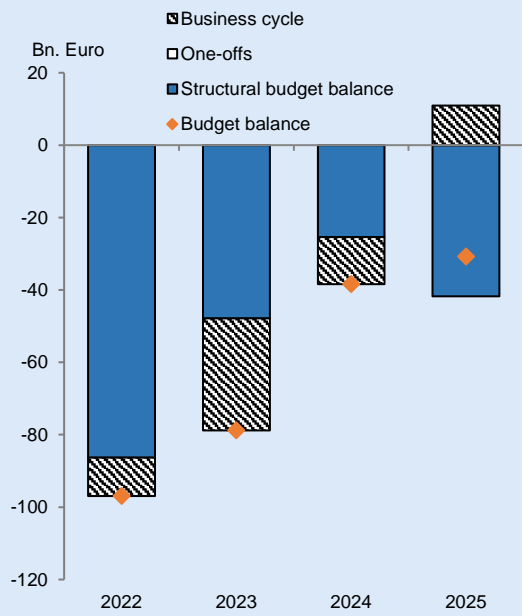
Revenues and expenditures of the general government (bn. Euro)

	2020	2021	2022	2023	2024
Revenues	1,569.1	1,711.7	1,826.4	1,907.0	1,997.9
→relative to GDP	46.1	47.5	47.6	48.1	48.2
Taxes	774.5	877.8	952.6	980.7	1,023.9
→relative to GDP	22.7	24.4	24.8	24.7	24.7
Social contributions	608.1	633.7	665.9	707.6	745.6
→relative to GDP	17.9	17.6	17.3	17.8	18.0
Other revenues	186.5	200.3	207.9	218.7	228.5
→relative to GDP	5.5	5.6	5.4	5.5	5.5
Expenditures	1,716.6	1,846.0	1,892.4	2,067.5	2,090.4
→relative to GDP	50.4	51.3	49.3	52.2	50.5
Compensation of employees	284.3	294.4	306.3	318.3	335.0
Intermediate consumption	209.4	227.2	235.0	242.4	253.3
Social transfers in kind	304.9	330.0	359.5	375.2	389.3
Gross capital formation	93.2	93.4	103.5	117.7	133.1
Capital transfers	21.5	20.8	25.0	31.0	37.0
Social benefits	600.0	610.9	622.0	664.6	701.1
Subsidies	73.4	111.6	66.9	149.1	74.4
Other current transfers	82.6	90.4	108.0	96.0	95.4
Other capital transfers and investment grants	48.1	68.1	67.2	74.0	72.7
Other expenditures	-1.2	-1.2	-1.3	-1.3	-1.3
Net lending/ net borrowing	-147.6	-134.3	-66.0	-160.4	-92.5
→relative to GDP	-4.3	-3.7	-1.7	-4.0	-2.2
Revenues of central, state, and local governments	1,003.8	1,116.4	1,204.6	1,234.5	1,288.5
Net of transfers from social security funds	993.2	1,109.8	1,193.2	1,233.3	1,287.3
Transfers from social security funds	10.6	6.6	11.3	1.2	1.2
Expenditures of central, state, and local governments	1,116.5	1,255.0	1,274.5	1,394.3	1,372.3
Net of transfers to social security funds	975.2	1,097.3	1,101.0	1,239.5	1,225.1
Transfers to social security funds	141.4	157.7	173.5	154.8	147.2
Net lending/ net borrowing central, state, and local governments	-112.7	-138.5	-69.9	-159.8	-83.8
Revenues of social security funds	717.9	783.5	806.7	828.6	857.8
Net of transfers from central, state, and local governments	576.6	625.8	633.2	673.7	710.6
Expenditures of social security funds	752.7	779.2	802.8	829.2	866.5
Net of transfers to central, state, and local governments	742.1	772.6	791.4	828.0	865.3
Net lending/ net borrowing social security funds	-34.8	4.3	3.9	-0.7	-8.7

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:
Structural budget balance



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

9. GDP and its components

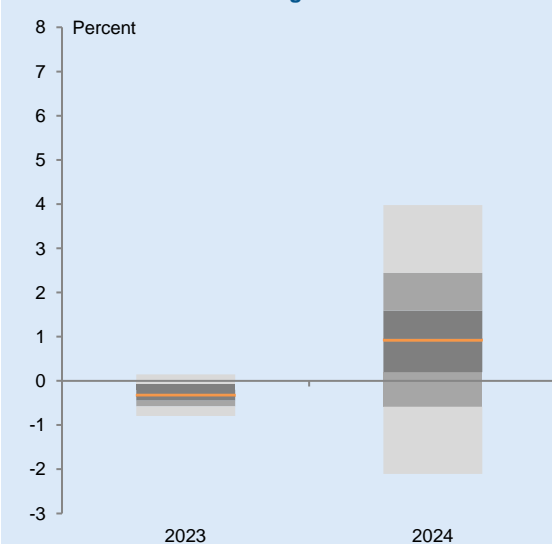
Table 9.1:
Quarterly data

	2023				2024				2025			
	I	II	III	IV	I	II	III	IV	I	II	III	IV
Gross domestic product	0.0	0.1	-0.1	-0.1	0.3	0.4	0.4	0.4	0.3	0.3	0.2	0.2
Private consumption	-0.8	0.2	-0.3	0.2	0.5	0.7	0.7	0.5	0.3	0.2	0.2	0.2
Government consumption	-1.4	-0.4	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.3	0.2
Machinery and equipment	2.1	0.7	1.1	-1.5	0.3	1.0	1.2	1.3	0.8	0.7	0.5	0.5
Constructions	2.7	-0.9	0.4	-1.8	-0.8	-0.4	0.0	0.3	0.7	0.8	0.8	0.8
Other investment	-1.6	0.0	0.3	0.1	0.2	0.3	0.4	0.5	0.6	0.6	0.6	0.6
Change in inventories	-0.7	0.7	-0.4	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Domestic expenditure	-1.0	0.7	-0.4	-0.3	0.3	0.5	0.5	0.5	0.4	0.3	0.3	0.3
Exports	-0.2	-0.9	-0.8	-1.0	-0.1	0.4	0.9	1.2	1.0	0.8	0.8	0.8
Imports	-2.2	0.1	-1.3	-1.6	-0.3	0.7	1.1	1.3	1.1	1.0	1.0	1.0
Net exports	0.9	-0.5	0.2	0.3	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
Employment (domestic)	45,876	45,963	45,973	45,988	45,978	45,968	45,958	45,948	45,938	45,918	45,888	45,858
Unemployment (registered)	2,524	2,586	2,634	2,701	2,722	2,722	2,702	2,673	2,644	2,605	2,567	2,530

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.

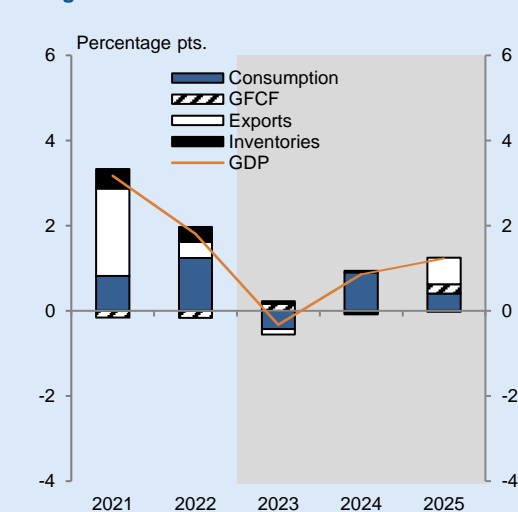
Figure 9.1:
Forecast intervals for GDP growth



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 fourth quarter 1994–2022.

Source: Kiel Institute 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

Tabelle 10.1:
The german economy

	2022	2022	2023	2024	2025
	Bn. Euro	Change over previous year in percent			
Use of gross domestic product, price-adjusted					
GDP		1.8	-0.3	0.9	1.2
Private consumption expenditure		3.9	-1.1	1.7	1.4
Public consumption expenditure		1.6	-2.1	0.7	1.0
Total fixed investment		0.1	0.0	-0.8	2.4
Machinery and equipment		4.0	3.4	1.3	3.4
Construction		-1.8	-1.6	-2.5	1.8
Other equipment		-0.7	-0.8	1.1	2.2
Changes in stocks		0.7	0.1	-0.1	0.0
Domestic Demand		3.2	-0.9	0.8	1.4
Exports		3.3	-2.0	-0.6	3.6
Imports		6.6	-3.2	-0.9	4.3
Net exports		-1.2	0.6	0.1	-0.1
Use of gross domestic product at current prices					
GDP	3,876.8	7.2	6.4	2.6	2.8
Private consumption expenditure	1,979.3	10.9	5.1	3.9	3.0
Public consumption expenditure	850.9	6.8	3.8	2.9	3.7
Total fixed investment	856.2	11.1	6.3	-2.0	3.3
Machinery and equipment	253.4	11.4	9.3	2.1	4.9
Construction	463.5	14.0	5.8	-5.7	2.0
Other equipment	139.3	2.1	2.4	3.1	4.2
Changes in stocks (€ bn.)		114.1	74.5	72.3	69.6
Domestic Demand	3,800.5	11.1	3.9	2.2	3.1
Exports	1,974.2	15.4	-1.7	0.1	5.3
Imports	1,897.9	25.3	-7.0	-0.9	6.3
Net exports (€ bn.)		76.3	174.9	193.2	185.0
Gross national income	4,027.6	7.2	6.6	2.7	3.0
Deflators					
GDP		5.3	6.7	1.7	1.5
Private consumption expenditure		6.7	6.3	2.2	1.6
Public consumption expenditure		5.1	6.1	2.1	2.7
Investment in machinery and equipment		7.1	5.7	0.8	1.4
Investment in construction		16.1	7.5	-3.3	0.2
Investment in other equipment		2.9	3.2	2.1	2.0
Exports		11.7	0.3	0.7	1.6
Imports		17.5	-3.9	-0.1	1.9
<i>Addendum: Consumer prices</i>		6.9	5.9	2.3	1.8
Income distribution					
Net national income (factor costs)	2,890.9	4.4	6.9	2.4	2.9
Compensation of employees	2,023.6	5.5	6.6	5.5	3.9
in percent of national income		70.0	69.8	71.9	72.6
Property and entrepreneurial income	867.4	1.9	7.6	-4.8	0.4
Disposable income	2,164.5	6.3	5.8	4.0	2.7
Saving rate		11.1	11.5	11.5	11.2
Wages and salaries	1,661.8	5.8	6.9	5.6	3.6
Wage per hour		4.4	5.9	5.1	3.3
Unit labor costs		3.5	6.7	4.6	2.6
Productivity per hour		0.5	-1.0	0.3	1.0
Unemployment (1,000)		2,418.1	2,611.0	2,704.6	2,586.6
Rate of unemployment (percent)		5.3	5.7	5.8	5.6
Total employment (1,000)		45,596.2	45,949.8	45,962.9	45,900.4
Public sector budget balance					
Public sector budget balance (€ bn.)		-96.9	-78.8	-38.4	-30.8
Public sector budget balance (in percent of GDP)		-2.5	-1.9	-0.9	-0.7
Public debts (in percent)		66.1	63.8	63.3	62.4

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: 2023 to 2025									
	2023	2024	2025	2023		2024		2025	
				H1	H2	H1	H2	H1	H2
1. Production									
Change over the same period of the preceding year in %									
Persons in employment	0.8	0.0	-0.1	0.9	0.6	0.1	-0.1	-0.1	-0.2
Hours worked	0.7	0.5	0.3	0.9	0.6	0.3	0.8	0.2	0.3
Hours worked by person in employment	-0.1	0.5	0.4	0.0	-0.1	0.1	0.8	0.3	0.5
Labor productivity ¹	-1.0	0.3	1.0	-1.0	-1.1	0.0	0.7	1.0	0.9
Gross domestic product, price-adjusted	-0.3	0.9	1.2	-0.1	-0.5	0.2	1.5	1.2	1.2
2. Use of gross domestic product at current prices									
a) EUR bn.									
Consumption expenditure	2 964.4	3 071.5	3 170.7	1 446.5	1 517.9	1 498.3	1 573.2	1 549.0	1 621.6
Private households ²	2 081.1	2 162.8	2 228.2	1 019.6	1 061.6	1 054.7	1 108.2	1 090.6	1 137.6
Government	883.2	908.6	942.5	426.9	456.3	443.6	465.0	458.5	484.0
Gross fixed capital formation	909.7	891.8	921.1	444.4	465.3	434.4	457.4	441.6	479.4
Machinery and equipment	276.8	282.6	296.4	132.6	144.3	134.2	148.4	140.6	155.8
Construction	490.3	462.1	471.4	244.7	245.5	231.2	230.9	229.4	242.0
Other products	142.6	147.1	153.3	67.1	75.5	69.0	78.1	71.7	81.6
Changes in inventories ³	74.5	72.3	69.6	36.3	38.2	39.8	32.5	39.1	30.5
Domestic expenditure	3 948.6	4 035.6	4 161.3	1 927.1	2 021.4	1 972.4	2 063.1	2 029.7	2 131.6
Net exports	174.9	193.2	185.0	89.3	85.6	107.9	85.3	103.1	81.9
Exports	1 940.0	1 942.1	2 044.1	979.7	960.3	955.9	986.2	1 002.0	1 042.1
Imports	1 765.1	1 748.9	1 859.1	890.4	874.7	848.0	900.9	899.0	960.2
Gross domestic product	4 123.5	4 228.7	4 346.3	2 016.5	2 107.1	2 080.4	2 148.4	2 132.8	2 213.4
b) Change over the same period of the preceding year in %									
Consumption expenditure	4.7	3.6	3.2	5.7	3.8	3.6	3.6	3.4	3.1
Private households ²	5.1	3.9	3.0	7.0	3.5	3.4	4.4	3.4	2.7
Government	3.8	2.9	3.7	2.9	4.6	3.9	1.9	3.4	4.1
Gross fixed capital formation	6.3	-2.0	3.3	8.6	4.1	-2.3	-1.7	1.7	4.8
Machinery and equipment	9.3	2.1	4.9	13.1	5.9	1.2	2.9	4.8	5.0
Construction	5.8	-5.7	2.0	8.2	3.5	-5.5	-6.0	-0.8	4.8
Other products	2.4	3.1	4.2	1.7	3.0	2.8	3.5	3.9	4.5
Domestic expenditure	3.9	2.2	3.1	5.0	2.9	2.4	2.1	2.9	3.3
Exports	-1.7	0.1	5.3	2.1	-5.4	-2.4	2.7	4.8	5.7
Imports	-7.0	-0.9	6.3	-1.2	-12.2	-4.8	3.0	6.0	6.6
Gross domestic product	6.4	2.6	2.8	6.5	6.2	3.2	2.0	2.5	3.0
3. Use of gross domestic product, price-adjusted (chain-linked, 2010=100)									
a) EUR bn.									
Consumption expenditure	2 383.7	2 417.0	2 447.2	1 179.0	1 204.7	1 187.7	1 229.4	1 205.5	1 241.7
Private households ²	1 686.7	1 715.1	1 738.3	832.9	853.8	839.9	875.1	854.5	883.8
Government	695.9	701.1	708.1	345.5	350.5	347.2	353.9	350.6	357.5
Gross fixed capital formation	661.8	656.6	672.3	323.7	338.1	318.6	338.0	323.8	348.5
Machinery and equipment	230.1	233.1	240.9	110.5	119.7	110.5	122.6	114.3	126.6
Construction	309.6	301.9	307.5	154.5	155.1	149.7	152.2	150.6	156.9
Other products	123.7	125.0	127.7	58.6	65.1	58.9	66.1	60.0	67.7
Domestic expenditure	3 099.0	3 123.4	3 168.4	1 532.9	1 566.1	1 533.6	1 589.9	1 556.5	1 611.8
Exports	1 607.2	1 598.1	1 655.1	810.1	797.1	790.5	807.5	815.0	840.1
Imports	1 449.1	1 436.6	1 498.4	723.2	725.9	700.4	736.2	728.2	770.2
Gross domestic product	3 264.1	3 292.1	3 332.6	1 623.1	1 641.0	1 626.8	1 665.3	1 646.5	1 686.0
b) Change over the same period of the preceding year in %									
Consumption expenditure	-1.4	1.4	1.3	-1.2	-1.6	0.7	2.0	1.5	1.0
Private households ²	-1.1	1.7	1.4	-0.5	-1.6	0.8	2.5	1.7	1.0
Government	-2.1	0.7	1.0	-2.8	-1.5	0.5	1.0	1.0	1.0
Gross fixed capital formation	0.0	-0.8	2.4	0.3	-0.2	-1.6	0.0	1.6	3.1
Machinery and equipment	3.4	1.3	3.4	5.8	1.3	0.0	2.4	3.4	3.3
Construction	-1.6	-2.5	1.8	-2.5	-0.6	-3.1	-1.9	0.6	3.1
Other products	-0.8	1.1	2.2	-0.8	-0.8	0.6	1.4	1.9	2.4
Domestic expenditure	-0.9	0.8	1.4	-0.4	-1.4	0.0	1.5	1.5	1.4
Exports	-2.0	-0.6	3.6	-0.4	-3.6	-2.4	1.3	3.1	4.0
Imports	-3.2	-0.9	4.3	-0.9	-5.5	-3.2	1.4	4.0	4.6
Gross domestic product	-0.3	0.9	1.2	-0.1	-0.5	0.2	1.5	1.2	1.2

National Accounts (cont.)									
Forecast period: 2023 to 2025									
	2023	2024	2025	2023		2024		2025	
				H1	H2	H1	H2	H1	H2
4. Deflators (2010=100)									
Change on the same period of the preceding year in %									
Private consumption ²	6.3	2.2	1.6	7.5	5.1	2.6	1.8	1.6	1.6
Government consumption	6.1	2.1	2.7	5.9	6.2	3.4	0.9	2.4	3.0
Gross fixed capital formation	6.2	-1.2	0.9	8.3	4.4	-0.7	-1.7	0.0	1.7
Machinery and equipment	5.7	0.8	1.4	6.9	4.6	1.2	0.5	1.3	1.6
Construction	7.5	-3.3	0.2	11.0	4.1	-2.5	-4.2	-1.4	1.7
Exports	0.3	0.7	1.6	2.6	-1.9	0.0	1.4	1.7	1.6
Imports	-3.9	0.0	1.9	-0.4	-7.1	-1.7	1.6	2.0	1.9
Gross domestic product	6.7	1.7	1.5	6.6	6.8	2.9	0.5	1.3	1.8
5. National income									
a) EUR bn.									
Primary income of private households ²	2 778.4	2 899.3	2 982.9	1 359.4	1 419.0	1 415.2	1 484.1	1 462.9	1 520.0
Employers social contributions	379.2	398.8	419.0	183.2	196.0	191.4	207.4	203.2	215.8
Gross wages and salaries	1 777.2	1 876.7	1 944.7	846.3	930.9	889.9	986.8	931.3	1 013.3
Other primary income ⁴	622.0	623.8	619.2	330.0	292.0	333.8	290.0	328.4	290.8
Primary income of other sectors	671.7	666.4	693.6	303.0	368.7	313.6	352.8	318.0	375.6
Net national income	3 450.1	3 565.7	3 676.4	1 662.4	1 787.7	1 728.8	1 836.9	1 780.9	1 895.5
Consumption of fixed capital	845.2	847.3	867.4	421.3	423.8	424.5	422.8	430.8	436.5
Gross national income	4 295.3	4 413.0	4 543.8	2 083.8	2 211.5	2 153.3	2 259.7	2 211.7	2 332.0
memorandum item:									
Net national income (factor costs)	3 090.1	3 164.0	3 255.9	1 493.5	1 596.6	1 528.8	1 635.2	1 571.9	1 684.0
Property and entrepreneurial income	933.7	888.5	892.2	464.1	469.6	447.5	441.0	437.4	454.9
Compensation of employees	2 156.4	2 275.5	2 363.7	1 029.4	1 127.0	1 081.4	1 194.2	1 134.5	1 229.2
b) Change over the same period of the preceding year in %									
Primary income of private households ²	5.4	4.4	2.9	5.4	5.3	4.1	4.6	3.4	2.4
Employers social contributions	4.8	5.2	5.1	4.9	4.7	4.5	5.8	6.1	4.1
Gross wages and salaries	6.9	5.6	3.6	7.3	6.6	5.2	6.0	4.7	2.7
... per employee	6.0	5.6	3.8	6.2	5.9	5.1	6.1	4.8	2.9
Other primary income ⁴	1.5	0.3	-0.7	1.2	1.8	1.2	-0.7	-1.6	0.3
Primary income of other sectors	11.5	-0.8	4.1	8.1	14.5	3.5	-4.3	1.4	6.5
Net national income	6.5	3.4	3.1	5.9	7.1	4.0	2.8	3.0	3.2
Consumption of fixed capital	7.1	0.2	2.4	9.1	5.3	0.7	-0.3	1.5	3.3
Gross national income	6.6	2.7	3.0	6.5	6.7	3.3	2.2	2.7	3.2
memorandum item:									
Net national income (factor costs)	6.9	2.4	2.9	7.4	6.4	2.4	2.4	2.8	3.0
Property and entrepreneurial income	7.6	-4.8	0.4	8.6	6.7	-3.6	-6.1	-2.3	3.1
Compensation of employees	6.6	5.5	3.9	6.9	6.3	5.0	6.0	4.9	2.9
6. Disposable income of private households ²									
a) EUR bn.									
Mass income	1 789.9	1 884.8	1 954.8	858.3	931.6	901.7	983.2	942.6	1 012.2
Net wages and salaries	1 214.8	1 280.7	1 317.6	573.6	641.2	602.2	678.5	626.9	690.7
Social benefits other than social transfers in kind	731.1	767.7	809.9	361.0	370.1	379.8	387.9	400.7	409.2
less: Levies on social benefits, taxes on consumption	155.9	163.5	172.7	76.2	79.7	80.4	83.2	85.0	87.7
Other primary income ⁴	622.0	623.8	619.2	330.0	292.0	333.8	290.0	328.4	290.8
Other transfers received (net) ⁵	-122.2	-126.8	-128.6	-55.9	-66.4	-59.4	-67.4	-60.3	-68.3
Disposable income	2 289.7	2 381.8	2 445.3	1 132.4	1 157.2	1 176.0	1 205.8	1 210.7	1 234.6
Change in pension entitlements	62.6	62.5	62.7	30.3	32.3	30.2	32.4	30.2	32.4
Consumption expenditure	2 081.1	2 162.8	2 228.2	1 019.6	1 061.6	1 054.7	1 108.2	1 090.6	1 137.6
Saving	271.1	281.5	279.8	143.1	128.0	151.5	129.9	150.3	129.5
Saving ratio (%) ⁶	11.5	11.5	11.2	12.3	10.8	12.6	10.5	12.1	10.2
b) Change over the same period of the preceding year in %									
Mass income	7.8	5.3	3.7	8.5	7.1	5.0	5.5	4.5	2.9
Net wages and salaries	8.6	5.4	2.9	9.4	7.8	5.0	5.8	4.1	1.8
Social benefits other than social transfers in kind	6.2	5.0	5.5	6.6	5.8	5.2	4.8	5.5	5.5
less: Levies on social benefits, taxes on consumption	6.2	4.9	5.6	5.9	6.5	5.5	4.3	5.7	5.5
Other primary income ⁴	1.5	0.3	-0.7	1.2	1.8	1.2	-0.7	-1.6	0.3
Disposable income	5.8	4.0	2.7	7.2	4.4	3.9	4.2	2.9	2.4
Consumption expenditure	5.1	3.9	3.0	7.0	3.5	3.4	4.4	3.4	2.7
Saving	9.2	3.8	-0.6	7.3	11.5	5.9	1.5	-0.8	-0.3

National Accounts (cont.)									
Forecast period: 2023 to 2025									
	2023	2024	2025	2023		2024		2025	
				H1	H2	H1	H2	H1	H2
7. Revenue and expenditure by general government ⁷									
a) EUR bn.									
Revenue									
Taxes	954.4	994.4	1 029.8	466.4	488.0	489.5	504.9	506.9	522.9
Social contributions	707.9	749.4	791.9	341.9	366.0	360.7	388.6	384.9	407.1
Property income	27.4	31.6	33.0	14.6	12.8	16.7	14.9	17.4	15.6
Other current transfers	31.0	33.2	34.6	13.7	17.4	14.7	18.5	15.4	19.2
Capital transfers	19.3	20.4	20.4	8.7	10.6	9.3	11.1	9.3	11.1
Sales	157.7	171.4	178.8	73.4	84.3	80.2	91.1	83.9	94.9
Other subsidies	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1
Total	1 897.9	2 000.5	2 088.7	918.8	979.1	971.3	1 029.3	1 017.8	1 070.9
Expenditure									
Intermediate consumption ⁸	609.6	635.8	655.1	294.0	315.6	308.4	327.4	316.0	339.1
Compensation of employees	328.8	337.6	355.8	155.5	173.3	162.4	175.2	171.5	184.3
Property income (interest)	35.9	42.9	46.9	16.7	19.2	20.3	22.6	22.3	24.6
Subsidies	62.2	43.6	41.1	38.3	23.9	21.2	22.4	20.3	20.8
Social benefits	659.7	694.1	726.0	325.5	334.2	343.2	350.9	358.5	367.5
Other current transfers	93.2	89.1	92.2	44.2	49.1	41.6	47.4	43.1	49.1
Capital transfers	78.9	78.3	80.6	31.6	47.3	31.2	47.1	32.0	48.6
Gross capital formation	109.1	118.5	122.8	46.0	63.1	50.5	68.1	52.7	70.1
Net acquisitions of non-produced non-financial assets	-0.7	-0.8	-0.8	-0.2	-0.5	-0.3	-0.5	-0.3	-0.5
Total	1 976.7	2 038.9	2 119.5	951.7	1 025.0	978.4	1 060.5	1 016.0	1 103.5
Net lending	-78.8	-38.4	-30.8	-32.9	-45.9	-7.2	-31.2	1.8	-32.6
b) Change over the same period of the preceding year in %									
Revenue									
Taxes	0.8	4.2	3.6	-0.3	1.9	5.0	3.5	3.5	3.6
Social contributions	6.2	5.9	5.7	6.3	6.0	5.5	6.2	6.7	4.7
Property income	55.5	15.3	4.3	59.6	51.1	14.5	16.1	4.1	4.6
Other current transfers	10.8	6.9	4.5	13.2	8.9	7.4	6.5	4.9	4.1
Capital transfers	2.4	6.0	-0.1	-2.5	6.8	6.7	5.4	0.0	-0.2
Sales	10.1	8.7	4.3	10.0	10.3	9.3	8.1	4.5	4.1
Other subsidies	-10.1	0.0	0.0	-2.4	-15.9	0.0	0.0	0.0	0.0
Total	4.2	5.4	4.4	3.7	4.7	5.7	5.1	4.8	4.0
Expenditure									
Intermediate consumption ⁸	2.7	4.3	3.0	2.3	3.1	4.9	3.8	2.5	3.6
Compensation of employees	6.8	2.7	5.4	4.5	8.9	4.4	1.1	5.6	5.2
Property income (interest)	35.2	19.5	9.3	31.9	38.3	21.6	17.7	9.9	8.8
Subsidies	-11.1	-29.9	-5.7	34.0	-42.3	-44.7	-6.2	-4.2	-7.1
Social benefits	6.6	5.2	4.6	7.0	6.1	5.5	5.0	4.4	4.7
Other current transfers	-16.3	-4.5	3.5	1.1	-27.6	-5.8	-3.4	3.5	3.5
Capital transfers	-12.1	-0.8	2.9	35.2	-28.7	-1.3	-0.5	2.5	3.2
Gross capital formation	8.2	8.6	3.6	7.8	8.4	9.6	7.9	4.4	3.0
Net acquisitions of non-produced non-financial assets	-26.3	13.4	0.0	-63.3	23.6	46.7	0.0	0.0	0.0
Total	3.1	3.1	3.9	6.8	-0.2	2.8	3.5	3.8	4.1
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, <i>Fachserie 18: National Accounts</i> ; Kiel Institute calculations and forecasts.									