Outlook for the German economy for 2023 to 2025

While the German economy is likely to contract in the current winter half-year, it will not experience a severe downturn. Due to additional gas imports from other countries as well as reduced consumption, a gas shortage is unlikely to occur despite the cessation of deliveries from Russia. However, the energy crisis will boost inflation. As a result, real disposable income and household consumption will fall until mid-2023. High energy costs will weigh on production, especially in energy-intensive industry. This will dampen exports. In addition, foreign demand will wane. The elevated level of uncertainty and higher financing costs will depress investment amongst enterprises and in housing construction. Real government consumption will decline as pandemic-related spending comes to an end.

From the second half of 2023 onwards, the German economy will gradually recover. This is because foreign demand is expected to rise, uncertainty will abate, price pressures from energy commodities will diminish, and the rate of inflation will fall. As the labour market will remain robust and wages will see strong growth, real household income and private consumption will increase again.

In these circumstances, the German economy will contract by 0.5% in calendar-adjusted terms next year, after expanding by 1.8% this year. It will grow by 1.7% in 2024 and by 1.4% in 2025. Macroeconomic production capacity will not return to normal levels of utilisation until 2025. Compared with the June projection, the rate of change in gross domestic product (GDP) for 2023 has been revised considerably downwards. This is due to the massive deterioration in conditions regarding the supply of energy, weaker growth in foreign demand, and higher financing costs.

The rate of inflation as measured by the Harmonised Index of Consumer Prices (HICP) is expected to be 8.6% this year. It will fall to 7.2% next year, partly because of the government's electricity and gas price brake. Inflation rates will continue to decline in the following years. The headline rate will diminish to 2.8% by 2025. By contrast, the core rate (excluding energy and food) will first continue to rise slightly in 2023, climbing to 4.3%. It will subsequently decline to 2.6% by 2025. Price inflation, however, will remain high owing to the pressure from labour costs as well as to rebound effects after the electricity and gas price brake has expired. Compared with the June projection, both the headline and core rates have been revised markedly upwards again for every year.

The government will provide substantial support to enterprises and households during the energy crisis, especially in the form of broad-based subsidies and other transfers. At the same time, the measures related to the pandemic will come to an end. On balance, the deficit will rise from 2¾% of GDP this year to 4% next year. Thereafter, the support measures will be gradually phased out and the deficit will fall to around 1½% of GDP.

The risks to economic growth are tilted predominantly to the downside, mainly due to potential shortages in the supply of energy. With regard to inflation, upside risks predominate.

Economic outlook[1]

Despite the energy crisis, the German economy saw marked expansion in Q2-Q3 period

The German economy grew markedly over the 2022 summer half-year (April-September). Despite the crisis in the energy markets caused by Russia's war of aggression against Ukraine, GDP growth was only slightly lower in real terms than had been expected in the June projection.[2] Private consumption expenditure rose as anticipated, despite higher rates of inflation and rising consumer uncertainty. In this context, roles are likely to have been played by unexpectedly strong catch-up effects following the expiration of most of the pandemic containment measures as well as by additional government assistance measures. Investment, by contrast, was lacking. In particular, the housing sector was impeded to a larger extent by the very sharp increase in construction prices and higher interest rates.

Gas shortage likely to be avoided, even after cessation of gas deliveries from Russia

With the cessation of gas deliveries from Russia to Germany, the key downside risk of the June projection became a reality. As a result, the spot market prices for both gas as well as electricity initially rose extremely sharply before falling significantly again. Furthermore, the uncertainty surrounding the energy supply and its costs considerably depressed the sentiment amongst enterprises and households. However, the outlook for the supply of gas, even without deliveries from Russia, is now less critical than had been feared in June. This is due to additional deliveries from other countries, a significant reduction in gas consumption, and the fact that gas storage facilities are well stocked as a result. A gas shortage and an accompanying rationing of gas supplies have therefore become much less likely and are not assumed in the projection.[3] In order to mitigate the economic impact on households and enterprises resulting from the sharp rise in energy costs, the Federal Government also initiated extensive support measures, particularly the electricity and gas price brake (see pp. 23 f.).

December 2022 projection

Year-on-year percentage change

Item	2022	2023	2024	2025
Real GDP, calendar adjusted	1.8	– 0.5	1.7	1.4
Real GDP, unadjusted	1.7	– 0.7	1.7	1.3
Harmonised Index of Consumer Prices	8.6	7.2	4.1	2.8
Excluding energy and food	3.9	4.3	2.9	2.6

Source: Federal Statistical Office (up to Q3 2022). Annual figures for 2022 to 2025 are Bundesbank projections.
Deutsche Bundesbank

While the German economy is likely to contract in the current winter half-year, it is not experiencing a severe downturn

The German economy is likely to contract in the current winter half-year. However, it is not experiencing a severe economic downturn, which had been forecast by the adverse scenario in the June projection, for example.[4] Economic activity is likely to see a marked decline as early as the fourth quarter of 2022. According to the ifo Institute, enterprises' assessments of the business situation are deteriorating. The Bundesbank's weekly activity index (WAI) also shows a declining trend.[5] Although enterprises' business expectations as surveyed by the ifo Institute recently brightened somewhat, they remain highly pessimistic. This also holds true for

1 This projection for Germany was finalised on 30 November 2022. It was incorporated into the projections for the euro area published by the ECB on 15 December 2022.
2 See Deutsche Bundesbank (2022a).
3 The assumptions regarding gas consumption that underlie the baseline scenario of this projection are based on the reductions in gas consumption observed since the cessation of gas deliveries from Russia. It is assumed that this and next winter will experience averagely low temperatures. Furthermore, it is assumed that there will be additional imports of gas (for example in the form of liquefied natural gas). For an adverse risk scenario that includes less favourable assumptions regarding the gas supply, amongst other factors, see the box on pp. 39 ff.
4 The adverse scenario of the June projection incorporates other unfavourable assumptions alongside the cessation of gas deliveries from Russia. However, not all of these have fully materialised. For instance, there was no significant rise in the price of oil nor a slump in global economic activity. See Deutsche Bundesbank (2022b).
5 When this projection was finalised, the WAI included high-frequency indicators, such as the toll index and credit card payments, that were available up to the end of November 2022. Until recently, the GDP growth rate for the past 13 weeks implied by the WAI was distinctly in negative territory. See Deutsche Bundesbank (2022c).

the expectations surveyed by the Association of German Chambers of Commerce and Industry, which cover a slightly longer period of time. Overall, economic output is likely to continue to decline somewhat in the first quarter of 2023 and marginally in the second quarter.

Multiple factors lead to a broad-based decline in economic activity

The expected decline in economic activity will be broadly based and the result of multiple factors. Households will be confronted with a decline in the purchasing power of their incomes due to high inflation and will therefore reduce their consumption expenditure. This will affect retailers and other consumption-related service providers. Furthermore, as in many other sectors, these will themselves be burdened by the high costs of energy. Energy-intensive industry has already sharply cut back production and is likely to scale it back even further at first. On the whole, however, industry is likely to remain fairly unscathed through the winter. Although new orders have fallen sharply since the beginning of the year, order books are still well filled. In addition, some industrial sectors will benefit from easing tensions in global supply chains. This could mitigate the downward pressure on exports stemming from the reduced competitiveness and weakening foreign demand caused by high energy costs. Investment will also be dampened by elevated uncertainty and higher financing costs. The downturn in the construction sector will continue. Lastly, the end of coronavirus pandemic-related expenditure on vaccination and testing will lead to a distinct drop in government consumption.

From the second half of 2023, the German economy will gradually recover

The German economy is expected to gradually recover from the second half of 2023. Slightly before that time, exporters will receive their first boost to growth from foreign demand, which is assumed to rise (see pp. 22 f. for more information on the assumptions). This will also drive business investment, especially as uncertainty starts to abate. As a result of progress made in diversifying the energy supply, energy commodity price pressures will gradually diminish. As the labour market will remain robust and nominal wages will rise sharply, real wages will also rise again from the second half of 2023 as inflation rates fall. Consequently, households' real disposable income and consumption expenditure will also increase once again. The decline in housing investment is likely to continue for the longest time.

Business situation and expectations in the economy as a whole

Balances, seasonally and calendar adjusted

Source: ifo Institute.
Deutsche Bundesbank

Revisions since the June 2022 projection

Year-on-year percentage change

Item	2022	2023	2024
GDP (real, calendar adjusted)			
December 2022 projection	1.8	− 0.5	1.7
June 2022 projection	1.9	2.4	1.8
Difference (in percentage points)	− 0.1	− 2.9	− 0.1
Harmonised Index of Consumer Prices			
December 2022 projection	8.6	7.2	4.1
June 2022 projection	7.1	4.5	2.6
Difference (in percentage points)	1.5	2.7	1.5

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Significant downward revision for GDP growth rate in 2023

Overall, the German economy will contract by 0.5% in calendar-adjusted terms next year, after expanding by 1.8% this year. It will then grow by 1.7% in 2024 and by 1.4% in 2025. This means that, compared with the June projection, the expected growth rate for 2022 has been revised slightly downwards, the rate for 2023 has been revised significantly down-

Aggregate output and output gap

Price, seasonally and calendar adjusted

Sources: Federal Statistical Office and Bundesbank calculations. 2022 to 2025 Bundesbank projections. 1 Deviation of annual average GDP from estimated potential output.
Deutsche Bundesbank

Technical components of the GDP growth projection

% or percentage points

Item	2022	2023	2024	2025
Statistical carry-over at the end of the previous year[1]	0.8	− 0.2	0.3	0.8
Fourth-quarter rate[2]	0.7	0.1	2.2	0.9
Average annual GDP growth rate, calendar adjusted	1.8	− 0.5	1.7	1.4
Calendar effect[3]	− 0.1	− 0.2	0.0	− 0.1
Average annual GDP growth rate[4]	1.7	− 0.7	1.7	1.3

Source: Federal Statistical Office (up to Q3 2022). Annual figures for 2022 to 2025 are Bundesbank projections. 1 Seasonally and calendar-adjusted index level in the fourth quarter of the previous year in relation to the calendar-adjusted quarterly average of the previous year. 2 Annual rate of change in the fourth quarter, seasonally and calendar adjusted. 3 As a percentage of GDP. 4 Discrepancies in the totals are due to rounding.
Deutsche Bundesbank

wards, and the rate for 2024 has likewise been revised slightly downwards. The decisive factor for these downward revisions is primarily the massive deterioration in supply conditions, particularly with regard to the energy supply, following the Russian war of aggression against Ukraine. However, weaker growth in foreign demand and higher financing costs also play a role.

Economy will not reach potential output until 2025

At present, the German economy is operating considerably below its medium-term performance potential. Macroeconomic production capacity will not return to more or less normal levels of utilisation until 2025. Until that time, however, the output gap will not be due to any lack of demand, but will instead be primarily the result of supply disruptions, especially with regard to energy. To a certain extent, these disruptions may be considered temporary.[6] Nevertheless, it cannot be assumed that, in the long term, the costs of energy supply in Germany will return to their levels from before the current energy crisis. This will lead to losses in value added. For this reason, the estimate of the German economy's potential output was downgraded steeply (see the box on pp. 29 f.). The growth rate of potential output is now estimated at +0.8% for the current year, +0.6% for 2023, +0.4% for 2024, and +0.7% for 2025.

Economic activity in detail

Private consumption expenditure declines significantly at first …

Private consumption has risen sharply over the course of the year so far, despite the extraordinary uncertainty caused by the war in Ukraine and the high rates of inflation. This is chiefly due to catch-up effects following the rollback of virtually all coronavirus pandemic containment measures in the spring. These upward forces continued to dominate in the third quar-

6 The Bundesbank's estimate of potential output is based on a disaggregated production function. See Deutsche Bundesbank (2007, 2012). The estimation of potential output incorporates the trend allocation of production factors. By definition, the sustainable supply-side performance of a national economy is not directly affected by temporary or cyclical phenomena.

Underlying conditions for macroeconomic projections

This projection is based on assumptions made by Eurosystem experts about the global economy, exchange rates, commodity prices and interest rates. These were made on the basis of information available as at 23 November 2022. The assumptions regarding economic activity in the euro area are derived from projections from the national central banks of the euro area countries.[1] These projections incorporate those fiscal policy measures that have been either adopted or adequately specified and are deemed likely to be implemented.

With regard to the war in Ukraine and its ramifications, it is assumed that the conflict will gradually abate, but that sanctions will remain in force. This projection likewise presupposes that it is possible to avoid a situation in which a shortage of gas in the euro area would lead to rationing. In addition, it expects that more and more bottlenecks in the supply of intermediate inputs will be resolved.

Weakening global economic growth amid gradual easing of high price pressures

High inflation in many countries is weighing on global consumption. The considerable rise in energy prices and uncertainty about future energy supply are also taking their toll on business activities, especially in Europe. In China, strict restrictions imposed to combat the COVID-19 pandemic and turmoil in the real estate market are dampening demand. At the same time, the progressive tightening of monetary policy in many countries is having a negative impact on economic activity, too.

In the summer half-year (April-September) of 2022, the global economy expanded at a somewhat weaker pace than expected in the June projection. However, given the negative factors, the outlook for the current winter half-year (October 2022-March 2023) has deteriorated. Global economic growth in the next two years is now also expected to be lower than previously estimated.

Growth in the global economy excluding the euro area looks set to slow to 2½% in 2023, after rising by 3¼% in 2022. It is then expected to return to somewhat higher rates of 3% and 3¼% in 2024 and 2025. At 5½% this year, the uptick in international trade (excluding the euro area) is higher than the rise in global gross domestic product (GDP) and what had been projected in the June outlook. The projected growth rates of 2% in 2023 and 3¼% in 2024, however, will subsequently lag behind June expectations. A rise of 3¼% is anticipated for 2025.

Effects of Ukraine war weighing on economic activity in euro area; high inflation rates eroding purchasing power

Economic recovery in the euro area in the summer half-year was much better than expected, driven especially by the recovery in the services sector following the end of pandemic-related restrictions. However, the impact of burdens associated with the Ukraine war is likely to be stronger than expected in June – and this is set to continue well into next year. The deterioration in global economic activity is also holding back developments in exporters’ sales mar-

1 The projections made by the national central banks of the euro area countries were completed on 30 November 2022.

Major assumptions of the projection

Item	2022	2023	2024	2025
Exchange rates of the euro				
US dollar/euro	1.05	1.03	1.03	1.03
Effective[1]	116.5	117.5	117.5	117.5
Interest rates				
Three-month EURIBOR	0.4	2.9	2.7	2.5
Yield on government bonds outstanding[2]	1.2	2.0	2.0	2.0
Prices				
Crude oil[3]	104.6	86.4	79.7	76.0
Natural gas[4]	122.5	123.6	98.4	68.9
Electricity[4,5]	262.2	324.8	234.5	164.0
Other commodities[6,7]	6.4	− 10.8	0.7	1.4
Food[7,8]	40.7	6.1	− 1.7	− 1.2
German exporters' sales markets[7,9]	6.3	1.8	3.1	3.2

1 Compared with 42 currencies of major trading partners of the euro area (EER-42 group of currencies); Q1 1999 = 100. **2** Yield on German government bonds outstanding with a residual maturity of over nine and up to ten years. **3** US dollars per barrel of Brent crude oil. **4** Euro per MWh. **5** Wholesale prices in the euro area based on data from the European Central Bank. **6** In US dollars. **7** Year-on-year percentage change. **8** Producer prices for food in the euro area based on data from the European Commission. In euro. **9** Calendar adjusted.

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kets. In addition, with monetary policy normalisation now under way, the cost of credit-financed expenditure has risen. Overall, this will slightly depress economic activity in the winter half-year. The economy will be able to expand at a stronger pace again – towards the latter part of the projection horizon – only once uncertainty decreases, inflation rates go down, more supply bottlenecks are resolved and foreign demand rebounds. This year, a growth rate of 4.1% is expected for the euro area (excluding Germany). Next year, at an average rate of 0.8%, economic activity will expand at a much weaker pace than had been assumed in the June outlook. At 2.0%, the rate projected for 2024 will then be somewhat lower still. A rate of 1.9% is anticipated for 2025.

German exporters' sales markets are likely to see somewhat slower growth than world trade over the projection horizon. This is because the EU economies that have close ties with Germany are being more adversely affected by the Ukraine war and the energy crisis.

Technical assumptions of the projection

Following completion of the June projection, energy commodity prices initially rose further. With Russia first sharply cutting back its supply of natural gas to Europe through the Nord Stream 1 pipeline and then terminating it altogether at the beginning of September, European gas prices accelerated to new highs in this period. Thanks to other gas-producing countries expanding their supply, increased imports of liquefied natural gas (LNG), successful energy-saving efforts and the mild weather conditions, the EU's natural gas reservoirs are now just about replenished. Against this background, the European prices for gas and – due to their close relationship – electricity fell quite significantly in the months leading up to the projection cut-off date. In the meantime, both prices have already picked up again, and futures prices indicate that this trend will continue in the winter months. Market quotations suggest that the decline in prices for crude oil observed since the summer will continue in the coming year. Electricity and gas prices are also expected to fall in 2024 and 2025 but will remain significantly higher than the prices projected in June.[2] Given the gloomier global economic outlook, other commodity prices are expected to decline steeply on average in the coming year and to rise only marginally in the two years thereafter.

Agricultural producer prices in the euro area temporarily slipped slightly from the peak reached in the summer months – probably

2 For a historical comparison of the high prices of fossil fuels, see Deutsche Bundesbank (2022d).

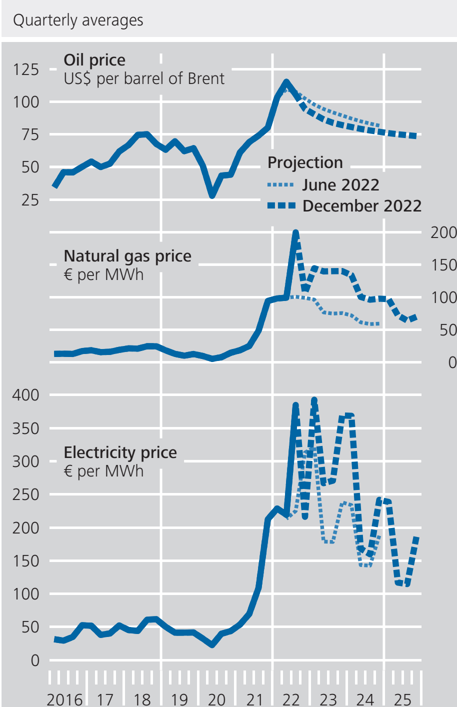
partly due to the resumption of grain exports from Ukrainian ports. However, they have risen again in recent months. The assumptions derived from futures quotations suggest that producer prices for food will remain high. In 2024 and 2025, they are set to weaken slightly, but will remain, on the whole, well above the June projection.

The Eurosystem discontinued its net asset purchases under the asset purchase programme (APP) as of 1 July 2022. Given the considerable rise in inflation, the prospect of the inflation rate remaining above the 2% target for an extended period of time and further upside risks, the ECB Governing Council decided to raise its key interest rates – by 50 basis points in July, 75 basis points in September and a further 75 basis points at its October meeting. The Governing Council expects policy rates to continue to increase. In the money market, interest rates have gone up significantly in recent months. In addition, EURIBOR futures are on a far steeper upward trajectory into the coming year than had been assumed in the June outlook. Against this backdrop, yields on ten-year Federal bonds (Bunds) also went up significantly. The yield trajectory derived from futures prices will remain more or less constant over the projection horizon – similar to what was assumed in the June outlook, but at a much higher level. Distinctly higher financing costs are also expected for bank loans.

The tightening of monetary policy in the United States, which foreign exchange markets perceive to be stronger than in the euro area, caused the euro to depreciate further after the June projection was completed. In the period underlying the exchange rate assumptions, the euro was trading at US$1.03, 2% lower than assumed in the June projection. However, increases in value against the pound sterling, yen and renminbi contributed to a 1¼% appreciation of the euro against 42 currencies of major trading partners.

Oil, natural gas and electricity prices

Quarterly averages



Sources: Bloomberg, European Energy Exchange and ECB staff. Projections derived from forward quotations.
Deutsche Bundesbank

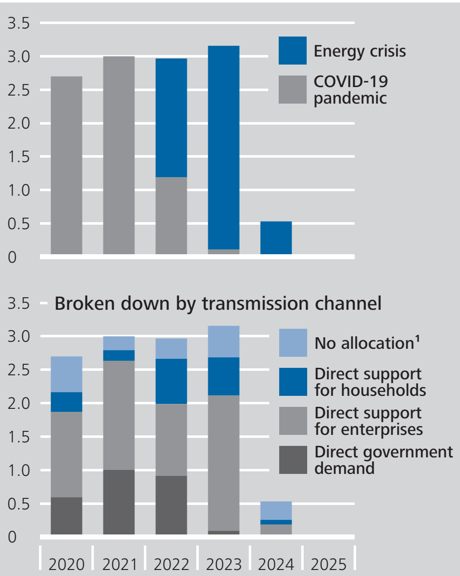
Fiscal policy shaped by energy crisis and high inflation

Temporary, crisis-related fiscal measures have a major impact on the outlook for public finances. This year, they will push up the government deficit by around 3% of GDP (see the chart on p. 24).[3] Coronavirus-related measures are still exerting pressure on the government budget, albeit to a lesser extent than in 2021. Transfers to enterprises and healthcare expenditure constitute the main strains. In addition, there are extensive new support measures in response to the energy crisis and high inflation. Payments to gas trading companies

3 This definition does not include longer-term fiscal expenditure plans, such as those for climate change mitigation and the military.

Temporary fiscal measures affecting the deficit that are directly linked to the COVID-19 pandemic and the energy crisis*

As a percentage of GDP



* Bundesbank estimate. **1** VAT rate and energy tax rate cuts, ticket price cut for local public transport, and revenue shortfalls due to employers' one-off payments being exempt from income tax and social contributions.

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(especially Uniper) and lump-sum transfers to households are particularly weighty in financial terms.

The coronavirus measures will largely expire in 2023. By contrast, new crisis assistance measures are increasing sharply. At around 2% of GDP, transfers to households and enterprises under the electricity and gas price brake are the largest of these measures. In addition, special assistance is being provided to enterprises that are severely affected by the energy crisis, in particular government capital injections to offset losses (capital transfers) and cost subsidies. Further measures have been implemented. For instance, employers' one-off payments of up to €3,000 are exempt from income tax and social contributions until the end of 2024. In addition, VAT on natural gas and district heating is being charged at a reduced rate up to the end of the first quarter of 2024.

In 2024, transfers under the electricity and gas price brake will fall significantly in annual terms. This is because, in the projection, they will expire at the end of April 2024. In addition, in 2024, the government budget is not to supply any of the funding for the electricity price brake. This measure is to be financed instead from profits made on the electricity market between December 2022 and June 2023. Furthermore, the government will no longer be effecting any capital transfers to gas trading companies in 2024.

The projection also includes fiscal policy measures that will affect the government budget in the longer term. On the revenue side, income tax cuts are beginning to take effect. In particular, the tax scale is being shifted in order to compensate for bracket creep. The projection assumes that legislation will be passed in order to continue this practice in 2025. In addition, revenue from the EU programme NextGenerationEU (NGEU) will decrease next year.[4] By contrast, contribution rates for the social security funds will be raised by just over 1 percentage point for 2023 and 2024 together. Health insurance scheme rates, in particular, will increase significantly. This will close the structural financing gap that is largely still being plugged by central government this year. On the expenditure side, investment in military machinery and equipment and spending on climate change mitigation are set to increase sharply based on projects under the Federal Armed Forces Special Fund and the Climate and Transformation Fund. Pension expenditure will be marked by the fact that pensions for persons with reduced earnings capacity will be extended from 2024 onwards.

4 In Germany, NGEU is primarily used to finance existing programmes, thus reducing the general government deficit resulting from this programme.

ter, but are now likely to have run their course. In the current winter half-year, households are likely to considerably reduce their consumption expenditure due to the high rates of inflation and the resulting decline in real disposable income. This will apply to more than just the consumption of electricity and heating energy. For instance, price-adjusted sales in retail trade and the accommodation and food service activities sector have been declining for several months now. Moreover, consumer sentiment is highly pessimistic. This likewise holds true for the business expectations among consumption-related service providers, such as retail trade and accommodation and food service activities, as surveyed by the ifo Institute. While the measures implemented by the Federal Government will mitigate the cost burden on consumers, they will not compensate for the losses in purchasing power. Some households will use some of their savings to smooth their consumption. However, given the expectation of rising energy costs and the uncertainty regarding the exact amounts of future energy bills, it is likely they will put money aside for future expenditure at the same time. On balance, the saving ratio will therefore fall only slightly in the current winter half-year.

… and increases again from mid-2023 as real disposable incomes rise

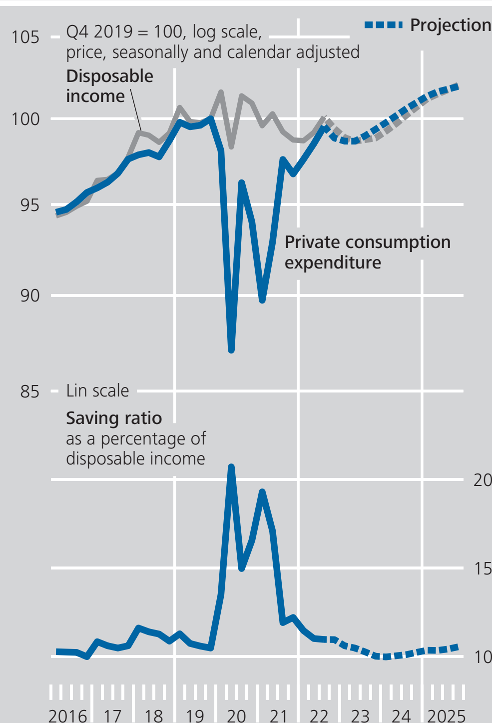
Real disposable incomes will increase again from the middle of next year as inflation eases and real wages subsequently rise as well. Consumers will then spend more on goods and services again. In addition, the saving ratio will initially decline somewhat more once uncertainty goes down and the reserves built up in the winter are used for energy back-payments. Some of the savings accumulated during the pandemic-related restrictions on consumption will be unwound. The saving ratio will therefore remain below the pre-pandemic level for a number of quarters. This will stabilise consumption. Overall, private consumption will grow markedly in 2024 and 2025 and the saving ratio will largely normalise by the end of the projection horizon.[7]

Consumer climate

Indicator points

Source: GfK.
Deutsche Bundesbank

Private consumption and saving ratio



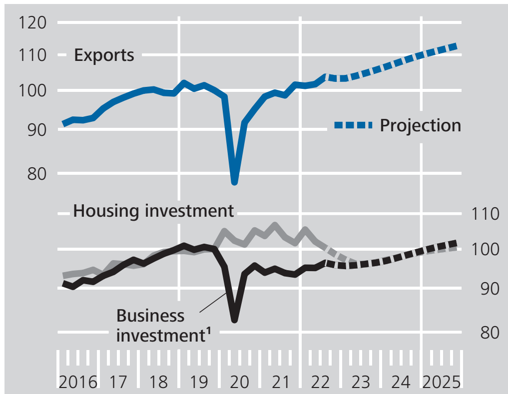
Sources: Federal Statistical Office, Bundesbank calculations and Bundesbank projections.
Deutsche Bundesbank

Exports are expected to fall below the level of the third quarter in the current winter half-year. This is indicated by the subdued ifo export ex-

7 The results of the Bundesbank Online Panel Households from March 2022 suggest that the saving ratio will more or less return to its pre-pandemic level over the long run. See Deutsche Bundesbank (2022a, 2022e).

Exports and investment

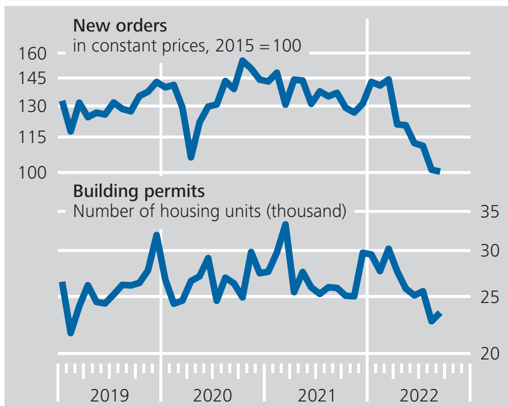
Q4 2019 = 100, log scale,
price, seasonally and calendar adjusted



Sources: Federal Statistical Office and Bundesbank projections. **1** Private non-residential fixed capital formation.
Deutsche Bundesbank

Demand indicators for housing construction

Seasonally and calendar adjusted, log scale



Source: Federal Statistical Office.
Deutsche Bundesbank

Exports initially dampened by energy costs and weak demand, but more buoyant again from Q2 2023

pectations and new orders from abroad, which have been trending downward for some time. Although the order books – which are still well filled due to the shortage of intermediate goods – are a buffer against the weakening of demand, the export-oriented industry is suffering as a result of the high energy prices. The comparatively sharp rise in labour costs is placing an additional burden on price competitiveness. However, exports are likely to pick up again from the second quarter of 2023. The headwinds caused by energy prices and supply chain pressures should then gradually diminish and demand for goods manufactured in Germany should rise again significantly. The accumulated order backlog is likely to temporarily provide a perceptible additional boost. Exports will, however, lose some momentum again towards the end of the projection horizon.

Business investment additionally affected by uncertainty and financing costs

The burdens on the export sector will also affect business investment. In particular, firms are likely to postpone or completely scrap investment projects given the high degree of uncertainty regarding the energy supply and its costs. Increased financing costs will represent an additional burden. Against this backdrop, business investment is likely to decline markedly in the current winter half-year. As uncertainty gradually eases and foreign demand rises, investment is expected to rebound from the second quarter of 2023, however. Investment in vehicles, in particular, could temporarily stimulate catch-up effects if supply bottlenecks are resolved. The requirements for Germany's transition to a low-carbon economy are likely to support investment. This could be intensified further by the high energy costs.

Recovery in housing investment only after strong and prolonged setback

Housing investment declined sharply in the summer half-year of 2022, much more strongly than expected in the June projection. The downturn is likely to continue well into the coming year, with several factors playing a role here. Alongside the sharp rise in construction costs that has persisted for some time now, the financing costs of housing loans, in particular, have climbed significantly of late. This has made credit-financed housing less affordable. Added to this are heightened uncertainty, particularly regarding income developments, and the limited scope for financing due to high inflation. This is likely to dampen demand for housing markedly. In line with this, the number of building permits has fallen sharply since the beginning of the year and new orders for residential housing projects have seen a sharp decline recently. In addition, construction companies are reporting a rising number of order cancellations, according to the ifo Institute. However, the fundamental conditions for housing construction remain favourable. There is a general need for additional housing and this

could increase even further as a result of the high level of migration. Furthermore, the housing stock needs to be adjusted to the changed conditions, especially with regard to heating. Consistent with the robust labour market and the renewed rise in real income, housing investment is therefore likely to veer back onto an expansionary path towards the end of next year. Growth will be relatively moderate, though.

Temporary halt in house price inflation

Very strong rates of increase in housing prices continued until mid-2022. Amid the sharp rise in financing costs, house price growth subsequently ground to a virtual halt. Depressed housing demand is likely to cause prices to initially continue to stagnate. But, a tighter supply – as is anticipated – and the extremely high and ever rising construction costs will gradually drive prices back up. The generally intact demand for housing will also contribute to this. Overall, house prices will rise again during the course of 2023 and over the remainder of the projection horizon, albeit at a much slower pace than before.

Absence of pandemic-related healthcare spending will reduce government consumption and dampen GDP next year

Government demand will significantly dampen economic activity next year. This is because pandemic-related healthcare spending is likely to largely tail off, which, taken in isolation, will reduce government consumption considerably. Higher government investment spending, particularly on military equipment, will not offset this. Real government demand will pick up again from 2024 and grow somewhat more strongly than real GDP.

Considerable rise in imports

Imports will rise considerably during the projection period. They are likely to initially decline in the current winter half-year. However, as exports and business investment rise from the second quarter onwards, imports will also rebound. High demand for imported intermediate inputs will arise via these two channels, in particular. This demand will be further strengthened by the uptick in private consumption that will take place later next year. Imports will then expand quite sharply in line with aggregate de-

Key figures of the macroeconomic projection

Year-on-year percentage change, calendar adjusted[1]

Item	2021	2022	2023	2024
GDP (real)	2.6	1.8	– 0.5	1.7
GDP (real, unadjusted)	2.6	1.7	– 0.7	1.7
Components of real GDP				
Private consumption	0.4	4.6	0.3	1.5
Memo item: Saving ratio	15.1	11.1	10.4	10.1
Government consumption	3.8	1.4	– 2.9	1.3
Gross fixed capital formation	1.0	0.4	– 0.7	2.6
Business investment[2]	2.4	1.7	0.4	2.1
Private housing construction investment	0.3	– 2.1	– 5.1	1.6
Exports	9.5	3.0	1.9	3.5
Imports	8.9	6.5	2.5	3.5
Memo item: Current account balance[3]	7.4	3.4	2.5	2.7
Contributions to GDP growth[4]				
Domestic final demand	1.3	2.7	– 0.6	1.7
Changes in inventories	0.5	0.4	0.4	0.1
Exports	4.1	1.4	1.0	1.8
Imports	– 3.3	– 2.7	– 1.2	– 1.8
Labour market				
Total number of hours worked[5]	1.6	1.6	– 0.2	0.8
Employed persons[5]	0.1	1.2	0.2	0.4
Unemployed persons[6]	2.6	2.4	2.6	2.4
Unemployment rate[7]	5.7	5.3	5.6	5.3
Memo item: ILO unemployment rate[8]	3.6	3.0	3.4	3.2
Wages and wage costs				
Negotiated pay rates[9]	1.6	2.6	3.9	4.2
Gross wages and salaries per employee	3.3	4.3	5.1	5.0
Compensation per employee	3.1	4.1	5.0	5.1
Real GDP per employed person	2.4	0.6	– 0.7	1.3
Unit labour costs[10]	0.7	3.5	5.7	3.8
Memo item: GDP deflator	3.1	5.1	4.6	3.7
Consumer prices[11]	3.2	8.6	7.2	4.1
Excluding energy	2.4	5.2	5.5	3.0
Energy component	10.1	33.9	17.0	10.4
Excluding energy and food	2.2	3.9	4.3	2.9
Food component	3.0	10.6	10.2	3.3
Residential real estate prices[12]	11.6	7.5	1.2	3.2

Sources: Federal Statistical Office (up to Q3 2022); Federal Employment Agency; Eurostat. 2022 to 2024, Bundesbank projections. **1** If calendar effects present. For unadjusted data, see the table on p. 26. **2** Private non-residential fixed capital formation. **3** As a percentage of nominal GDP. **4** In arithmetical terms, in percentage points. Discrepancies in the totals are due to rounding. **5** Domestic concept. **6** In millions of persons (Federal Employment Agency definition). **7** As a percentage of the civilian labour force. **8** Internationally standardised as per ILO definition, Eurostat differentiation. **9** Unadjusted figures, monthly basis. Pursuant to the Bundesbank's negotiated wage index. **10** Ratio of domestic compensation per employee to real GDP per employed person. **11** Harmonised Index of Consumer Prices (HICP), unadjusted figures. **12** Unadjusted figures.

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mand over the remainder of the projection horizon.

Current account balance will temporarily dip well below 3%

Germany's current account surplus will fall sharply this year. On an average for 2022, it could stand at just under 3½% of GDP, following as much as 7½% in 2021. The key factor is the considerable decline in the trade balance. This is reflected in the terms of trade, which hugely deteriorated as a result of the sharp increase in the prices of energy and other imported commodities. With regard to real trade flows, imports will also grow much more strongly than exports. The higher demand for imported goods and services this year is being supported, in particular, by private consumption, partly because of the normalisation in travel activity. The terms of trade will drop again significantly on average next year. They will only recover to some extent thereafter. The assumed decline in commodity prices and strong domestic inflation, which also affects export prices, will come into play here. All in all, the trade balance will continue to decline next year before subsequently rising somewhat. As a result, the current account surplus will fall to 2½% of GDP in 2023 and will rise again slightly in 2024. It could stand at around 3% of GDP in 2025.

Labour market

Labour market showing sideways movement in Q3

The previously favourable labour market developments have given way to a sideways movement in recent months. Employment barely rose from an already very high level in the third quarter. Unemployment increased only marginally from its low level – if the effect of recording Ukrainian refugees is disregarded.[8] A small proportion of the Ukrainian population in Germany were already able to take on jobs subject to social security contributions. Short-time work played only a minor role in the third quarter. Working hours per employee remained broadly stable at a comparatively low level.

Minimum wage increase likely had no major short-term impact

The general statutory minimum wage, which has been raised sharply in two stages over the past few months, probably had minimal impact on employment and unemployment in the short term. Given the persistently high labour shortages – which extend to some unskilled labour segments – the minimum wage increases are likely to have had comparatively little impact on labour demand. This may also have been due to the fact that enterprises are likely to be able to push through price increases more easily in the current environment than in previous years.[9]

Labour market largely withstanding economic headwinds; high demand for labour declining somewhat

The high demand for labour compared with the labour supply suggests that the labour market will largely withstand the economic headwinds in the next few quarters. Enterprises' employment plans have weakened in recent months, but remain slightly positive. Although the number of job vacancies and the time taken to fill vacant positions have declined somewhat recently, they are still very high by historical standards. The high demand for labour is likely to decline somewhat in the current winter half-year. As a result, the hitherto tight labour market would ease to some extent. However, there are no signs of a major employment adjustment. For people who lose their jobs, the prospects of finding a new job are very good. In this respect, unemployment is also likely to rise only to a relatively minor extent. This is mainly due to increased frictional unemployment.

Moderate labour market recovery from mid-2023

As the economic recovery begins in the second half of 2023, employment and the number of hours worked will also increase again, albeit at

8 See Statistics provided by the Federal Employment Agency (2022), "Auswirkungen der Fluchtmigration aus der Ukraine auf den deutschen Arbeitsmarkt und die Grundsicherung für Arbeitsuchende", p. 12.
9 For example, Bobeica et al. (2019) find that the relationship between wages and prices is narrower in times of high inflation, on the one hand, yet also more responsive to demand shocks than to supply shocks, on the other. As a result of the easing of measures to contain the coronavirus pandemic, demand is likely to have picked up in the services sector in particular, which is especially affected by the increase in the minimum wage.

Impact of permanently higher energy costs on German potential output

The decline in natural gas deliveries from Russia and heightened uncertainty about energy supply caused energy prices in Germany to rise sharply this year. Energy prices in Germany are likely to be higher than before the current crisis over the long term as well. This is due, among other things, to the higher transport and production costs associated with the substitution of Russian natural gas by liquefied natural gas (LNG).[1] Over the projection horizon, energy prices are likely to more than double compared with 2019 and to remain elevated.[2]

A production function approach can be used to determine the supply-side effects of permanent energy price hikes.[3] The aggregate production function is expanded to take into account energy consumption as a further factor of production alongside labour and capital. In this model framework, high energy prices mean that enterprises tend to reduce their energy use and – in the case of imperfect substitutes – their production. The calculations focus on the energy-intensive sectors industry and transport. By assumption, output in the rest of the enterprise sector is not directly affected in the calculations by high energy prices, yet spillover effects emanating from industry and transport have a supply-dampening impact in the model framework.

The scale of output losses depends on the extent to which production declines when energy prices rise. This energy price elasticity of output can be derived by assuming a production structure with energy as an input factor.[4] According to the model results, the projected sustained rise in energy prices dampens gross value added by around 4½% in industry and 3½% in transport. In addition, there is evidence of direct spillover effects from industry to the transport sector and the rest of the enterprise sector.[5] Overall, direct energy price and indirect spillover effects give rise to a negative supply effect of around 2% of gross value added.

Direct and indirect supply effects of energy price increases

%, Bundesbank calculations

Item	Industry	Transport	Rest of enterprise sector
Share of value added	22.1	9.1	34.8
Sectoral supply effect	– 4.4	– 5.8	– 1.7
Direct effect	– 4.4	– 3.6	–
Indirect effects	–	– 2.2	– 1.7
Sectoral total contribution (in percentage points)	– 1.0	– 0.5	– 0.6
Total effect			– 2.1

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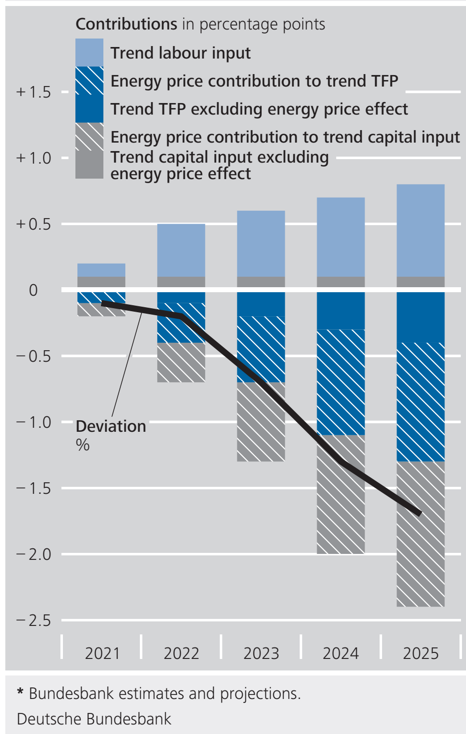
1 See German Council of Economic Experts (2022).
2 Energy price developments are modelled here on the energy imports deflator, which is largely dependent on the commodity prices for oil and gas assumed in the projection. A comparison with 2019 is more meaningful as energy prices fell briefly in 2020 as a result of the pandemic.
3 See Knetsch and Molzahn (2012). In the second step, the identified energy price effects are incorporated into the Bundesbank's estimate of potential output, which is based on a medium-term oriented production function with capital and labour as inputs as well as total factor productivity (see Deutsche Bundesbank (2007, 2012)).
4 See Knetsch and Molzahn (2012). According to the model results, the energy price elasticity of output depends on the (econometrically estimated) elasticity of substitution between energy and capital, the share of energy costs in production and the initial price of energy. The elasticity of substitution was estimated as a regression parameter using the ordinary least squares (OLS) method based on the energy demand function from the production model.
5 They are based on cumulative impulse-response functions from vector autoregressions for the value added of industry, the transport sector and the rest of the enterprise sector. These spillover effects can arise, for example, through the interconnectedness of the economic sectors' value chains.

Potential output compared to the June 2022 projection*



* Bundesbank estimates and projections.
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These results are subject to high uncertainty, the estimation uncertainty surrounding the model parameters playing a role here. Moreover, the results are heavily dependent on the assumption that energy price increases are permanent. They are therefore prone to revision with regard to possible future changes in energy supply and policy that impact energy prices, for example.

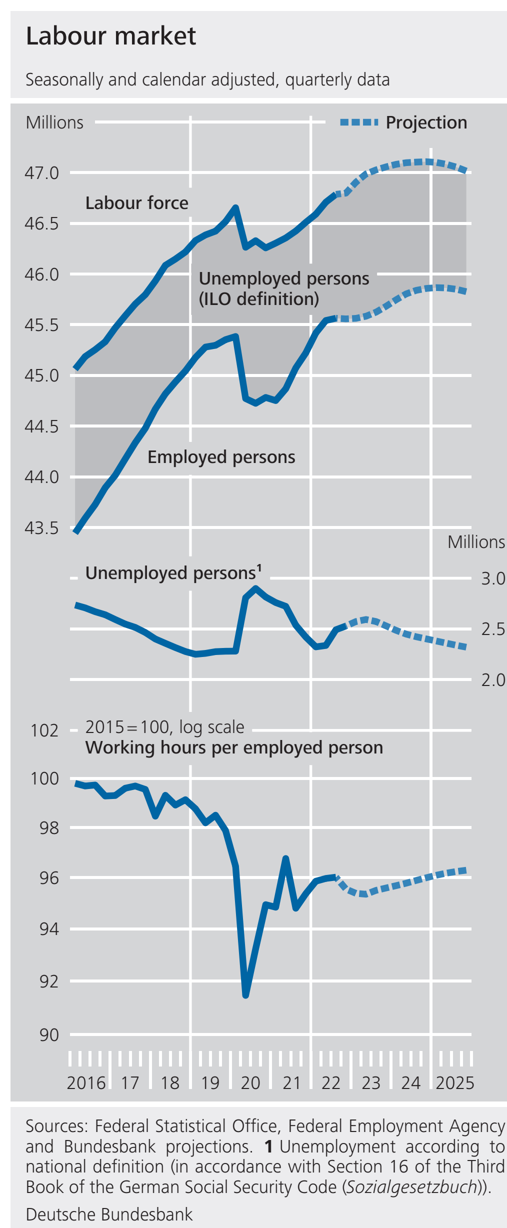
In this projection, potential output will be around 1¾% lower in 2025 than reported in the June projection.[6] In addition to the identified energy price effects, there is also still the remaining impact, with a smaller contribution, of Russia's ongoing war against Ukraine. The downward revision is based in roughly equal measure on the contributions made by total factor productivity (TFP) and the capital stock. In particular, the higher cost of energy inputs will significantly weaken trend TFP. Disruptions to supply chains and the use of less tailored inputs in order to save costs are also likely to be reflected in the depressed trend TFP. Furthermore, parts of the capital stock will be rendered obsolete if energy-intensive investments are no longer profitable due to high energy costs. From today's perspective, the potential labour supply is barely affected by the rise in energy costs. It will benefit from the high influx of refugees from Ukraine in 2022 and 2023, however.

6 Overall, the impact of the Ukraine war could cut German potential output by 2¼% up to 2025 – if it is also taken into account that potential output was already revised downwards in the June projection. This assessment is based on a comparison of the current estimate of potential output with that in the December 2021 forecast.

a comparatively moderate pace. On an annual average, the improvement will be particularly evident in 2024. Employment with full social security coverage will gain greatly in importance here – as in previous years. By contrast, the number of self-employed persons and persons exclusively in low-paid part-time employment will continue to go down. Labour shortages will gradually intensify again.

Immigration buoys labour supply over the projection horizon

The current high degree of labour market tightness is primarily a consequence of demographic shifts in the German population. Labour-related immigration will help to reduce this tension. In 2022 to date, immigration to Germany has been very high, mainly on account of refugees, especially from Ukraine. For the period from February to August alone, data from the Federal Statistical Office show that 874,000 people migrated from Ukraine in net terms. This figure is higher than that expected for 2022 as a whole in the June projection. However, as refugees from Ukraine are disproportionately women with children, many of these people are unavailable to the labour market, or are only available to a limited extent or not available immediately (due to integration measures, for example). This projection reckons with a net total of 1.3 million immigrants to Germany this year. Net immigration of 350,000 is assumed for 2023 and of 300,000 per year from 2024. Despite new immigrants' relatively low labour force participation for the time being, the labour force is growing more strongly in absolute terms than assumed in the previous projection. However, medium-term immigration is not high enough to prevent the demographic decline in the labour supply, even over the longer term.



Labour market

Seasonally and calendar adjusted, quarterly data

Sources: Federal Statistical Office, Federal Employment Agency and Bundesbank projections. **1** Unemployment according to national definition (in accordance with Section 16 of the Third Book of the German Social Security Code (*Sozialgesetzbuch*)).
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Employment will still rise marginally until 2025; unemployment will fall almost to its pre-pandemic level

Based on these assumptions, the labour force will decline from 2025 – one year later than expected in the June projection. Meanwhile, employment will continue to rise slightly due to underemployment falling. Amid rising demand for labour, the volume of work will also increase in the medium term as the result of an increase in the number of hours worked per employee. This is corroborated, in particular, by the fairly low number of hours worked by part-time employees by international standards. Unemployment will fall nearly all the way back to its pre-pandemic level over the projection horizon.

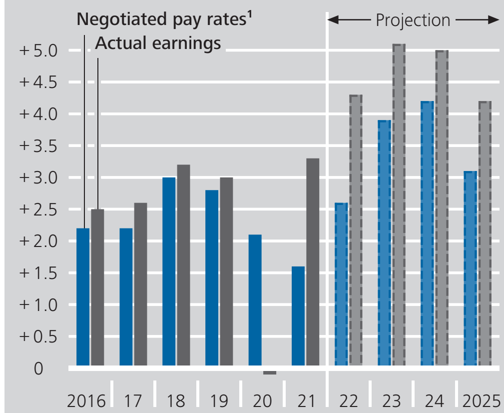
Labour costs and prices

Recent wage agreements set out significantly larger wage increases

Since the second quarter of 2022, wage agreements have been markedly higher than in previous years. Trade unions in the chemical and metal industries recently achieved unusually high wage increases of between 5% and 6% in

Negotiated pay rates and actual earnings

Year-on-year percentage change, monthly basis



Sources: Federal Statistical Office and Bundesbank projections. **1** According to the Bundesbank's negotiated wage index.
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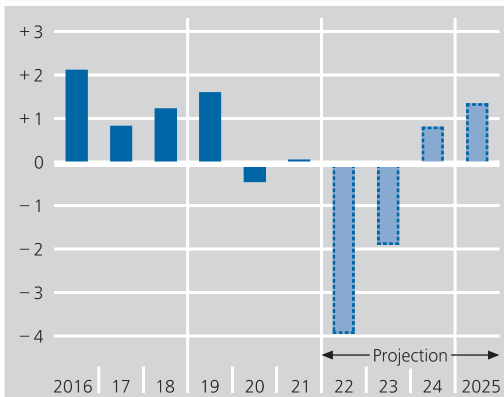
Real actual earnings per employee*

Year-on-year percentage change



Sources: Federal Statistical Office, Bundesbank calculations and Bundesbank projections. * Deflated by the Harmonised Index of Consumer Prices.
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annualised terms. The high inflation played an important role in the pay negotiations and is also likely to be a major factor in upcoming wage negotiations. This is already reflected in the current, exceptionally high wage demands being posed by trade unions.

Combination of permanent wage increases and special tax-free and social contribution-exempt bonuses

The most recent wage agreements are characterised by the fact that the rise in earnings is only partly based on permanent increases in scheduled rates of pay. In addition, tax-free and social contribution-exempt "inflation compensation bonuses" are being paid out. This will remain possible up to the end of 2024 as a measure to mitigate the high inflation.[10] This wage component structure is likely to serve as a template for upcoming wage negotiations in many sectors.

Strong wage increases over projection horizon

The major pay round in 2023 for approximately 10 million employed persons will likely remain caught between opposing forces: high inflation and labour market tightness, on the one hand, and depressed economic activity and uncertainty, on the other. Wage increases will probably be strong but insufficient to fully compensate for high inflation. This, coupled with the low wage settlements of the pandemic-shaped years of 2020 and 2021, will create a certain pressure to attain higher wage settlements in future. Together with the improved economic situation and the further increase in labour market tightness, pent-up wage demands in 2024 and 2025 will contribute to further sharp increases in negotiated rates of pay. Against this backdrop, in 2025 it will be possible to compensate in part for the inflation compensation bonuses that will have expired at the end of 2024. Nevertheless, the increase in negotiated rates of pay will then be a great deal lower once more, albeit still higher than during the pre-pandemic economic boom.[11]

Actual earnings rise even more sharply than negotiated rates of pay

Actual earnings are rising considerably more steeply than negotiated wages this year. The main reasons for this are the decline in short-time work and the increase in working hours. The increase in the general statutory minimum wage to €12 per hour in the fourth quarter of

10 The Act on the Temporary Reduction of the Valued Added Tax Rate on Gas Deliveries via the Natural Gas Network (*Gesetz zur temporären Senkung des Umsatzsteuersatzes auf Gaslieferungen über das Erdgasnetz*), which was promulgated in the Federal Gazette on 25 October 2022, allows employers to grant their employees up to €3,000 tax-free and exempt from social contributions as an additional payment at any time between 26 October 2022 and the end of December 2024 to compensate for high inflation. This relief measure, referred to as the inflation compensation bonus, can be paid out in a lump sum or alternatively in multiple instalments.
11 All past pay agreements included in the Bundesbank's negotiated pay rate statistics (around 500 collective wage agreements and provisions governing civil servant pay) are factored into the projections of negotiated wage increases. They are extrapolated beyond their contractual term, taking into account the overall economic situation and industry-specific idiosyncrasies.

2022 will trigger a robust boost to wages, though this will not fully come to bear until 2023.[12] Added to this is the fact that, following a cyclical setback next year, the number of hours worked will climb significantly once more in the years thereafter. Furthermore, more paid overtime will accrue as a result of increasing labour market tightness. Wage drift is therefore set to be firmly in positive territory for the duration of the projection horizon. Actual wages will rise by around 5% in both 2023 and 2024 accordingly. These are the highest rates since German reunification. In 2025, wage growth could then fall considerably but remain very strong at slightly over 4%.

Unit labour costs rise sharply; domestic inflation remains high overall

Compensation per employee will rise at similarly high rates as actual earnings over the projection horizon. In combination with declining economic activity and stable employment, this means a strong boost for unit labour costs next year. Labour productivity will increase further in 2024, with the result that unit labour costs will still rise steeply, but with decreasing momentum. This trend is set to continue in 2025. The price pressure exerted by wage costs will therefore be consistently high over the projection horizon. Domestic inflation as measured by the GDP deflator is set to reach a rate of just over 5% in the current year. It will stand at a similar level next year, putting it well below the rise in unit labour costs, however. This is because profit margins and government subsidies will partly cushion the cost surge. Over the remainder of the projection horizon, the GDP deflator rate will remain high overall, though it will gradually decline somewhat.

Inflation rate in double digits since September

At the consumer level, the underlying trend for price inflation in the summer half-year remained extremely strong, although measures to ease the rise in energy prices came into force. The inflation rate as measured by the HICP reached a new high of 8.7% in May, but then declined slightly with the introduction of the €9 public transport ticket and the fuel rebate in June. Both measures were in place until the end of August, and, in addition, the levy imposed by the German Renewable Energy Act (*Erneuerbare-Energien-Gesetz* – EEG) was abolished in July. Nevertheless, the inflation rate in August was even slightly above its previous peak in May. With the €9 public transport ticket and the fuel rebate coming to an end in September, inflation entered double-digit territory for the first time in more than 70 years, expanding further to 11.3% by November. Back at the time of the June projection, by contrast, a rate of 7% had been expected for November. Price inflation was higher than expected across the board.

Not only energy prices rose more strongly than expected …

Energy inflation rose surprisingly strongly, despite the fact that relief in the form of the fuel rebate and the EEG levy was passed through to consumers more or less in full, as expected. This is probably also true of the recent reduction in the VAT rate on gas and district heating from 19% to 7%, which has been in force since October. However, consumer rates for electricity and gas were raised much more strongly than expected. This was presumably partly due to purchase prices having risen significantly more steeply than anticipated in the meantime. Another factor here is that higher supplier costs were probably passed on to a greater extent and/or more rapidly than was usual in the past. Furthermore, the prices of heating oil and diesel rose sharply despite the decline in the price of crude oil.[13]

… but also the prices of food, industrial goods (excluding energy) and services

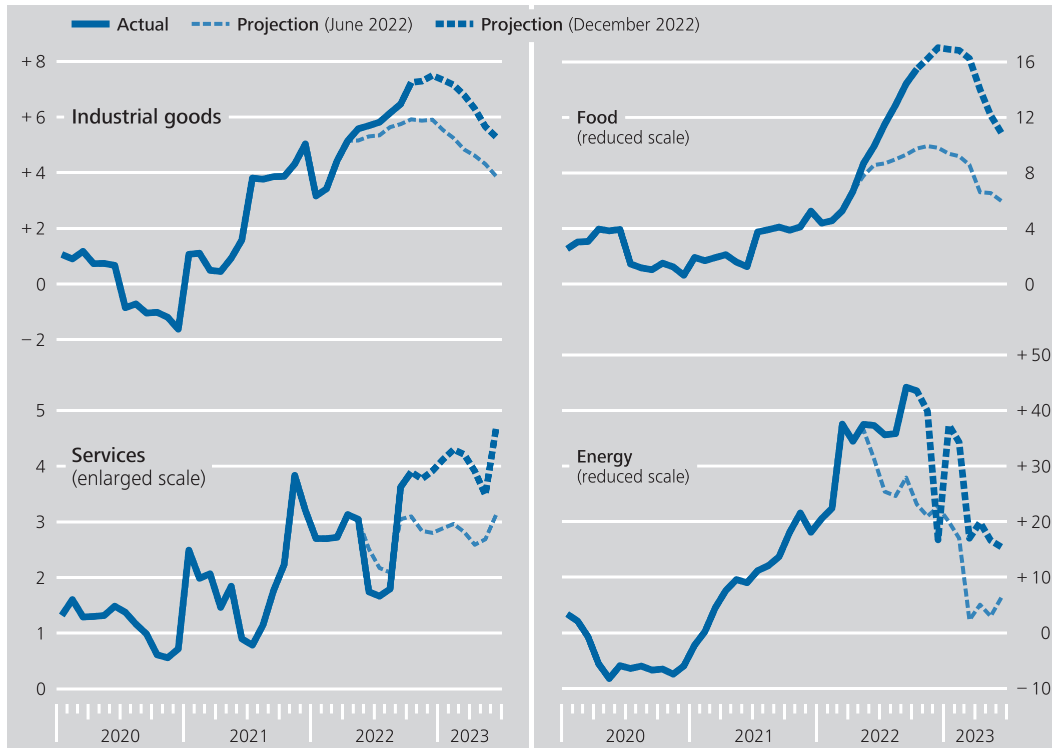
Although European agricultural producer prices roughly matched expectations in the fourth quarter, consumer food prices were also well above the June projection. Cost increases in production and transport as well as the pro-

12 The higher minimum wage is expected to push up actual earnings by around 0.8 percentage point. See Deutsche Bundesbank (2022f). The general statutory minimum wage had already been raised on 1 January 2022 and 1 July 2022. In macroeconomic terms, these rises had a stronger impact on actual wages than on negotiated wages, even if the latter are being strongly affected in some low-wage sectors, such as accommodation and food service activities.

13 This was due to a supply shortage caused by several factors, including a decline in imports from Russia and reduced refining capacity. For more information, see International Energy Agency (2022a).

Latest upward revisions to projections for selected HICP components in Germany

Year-on-year percentage change



Sources: Federal Statistical Office and Bundesbank projections.
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tracted drought are likely to have contributed to this.[14] Core inflation (the headline inflation rate excluding energy and food) rose surprisingly steeply, too. The fact that the euro depreciated unexpectedly against the US dollar and that price pressures were higher at the earlier input stages probably also caused the prices of industrial goods excluding energy to climb more substantially. Services inflation slightly exceeded the level anticipated in the projection as well. A stronger than expected widening of profit margins is likely to have played a role in this, particularly in sectors that were previously heavily affected by pandemic containment measures.

Inflation rate to remain very high for the time being …

The inflation rate is likely to remain very high for the time being. The government's assumption of the advance payment for gas, which is envisaged in the Act on Emergency Aid for Natural Gas Heating for End Consumers (*Erdgas-Wärme-Soforthilfegesetz*), will probably markedly dampen the HICP in December. The HICP rate could then temporarily fall below 10%. However, it is likely to return in January 2023 to a double-digit figure similar to that of November 2022. This is because consumer prices for electricity and gas are rising sharply – according to the reference dataset used, they are, on average, still currently below the level that the electricity and gas price brake will reach by then.[15] Non-subsidised consumption

14 Although the prolonged drought is also likely to have contributed to the rise in agricultural producer prices, this is difficult to substantiate, as relevant assumptions about agricultural producer prices are not available for all of the food products recorded in the HICP – for fruit and vegetables, for instance. However, these products were probably hit particularly hard by the drought.
15 The impact of the electricity and gas brake was determined on the basis of the average prices for electricity and natural gas as calculated by the Federal Statistical Office for households in the first half of 2022. See Federal Statistical Office (2022). Here, the prices for the first half of the year are extrapolated using the Bundesbank's projection for the HICP for electricity and gas up to the end of 2022.

Estimated direct effects of selected government relief measures on consumer prices

Effects in percentage points

Measure	Time frame	HICP component concerned	Effect on headline HICP rate				
			Month of implementation[1]	Annual average			
				2022	2023	2024	2025
Reduction in fuel tax	June 2022 to August 2022	Energy	− 0.4	− 0.1	+ 0.1	.	.
€9 public transport ticket	June 2022 to August 2022	Services	− 0.7	− 0.2	+ 0.2	.	.
Abolition of the renewable energy (EEG) levy	From July 2022	Energy	− 0.4	− 0.2	− 0.2	.	.
Reduced VAT rate on natural gas and district heating	October 2022 to March 2024	Energy	− 0.4	− 0.1	− 0.2	+ 0.2	+ 0.1
Suspension of carbon price increase	From January 2023	Energy	− 0.1	.	− 0.1	.	.
Gas price brake[2]	January 2023 to April 2024	Energy	[3] − 0.6	.	− 1.0	+ 0.6	+ 0.4
Electricity price brake	January 2023 to April 2024	Energy	[3] − 0.4	.	− 0.5	+ 0.2	+ 0.2
€49 public transport ticket[4]	From May 2023	Services	− 0.3		− 0.2	− 0.1	.
Total	–	–	–	− 0.6	− 1.9	+ 0.9	+ 0.7

Source: Bundesbank calculations. **1** For temporary measures, a countereffect occurs of roughly the same size as in the month following expiry of the measure. **2** The one-off Act on Emergency Aid for Natural Gas Heating for End Consumers (*Erdgas-Wärme-Soforthilfegesetz*) in December 2022 is likely to dampen the HICP rate markedly in this month. **3** The effect in the month of implementation is weaker than on an annual average, because relief is still expected for subsequent months. As gas and electricity tariffs without price brakes continue to rise after January 2023 according to the projection, the effect of the brakes will intensify over the months that follow. **4** Implementation date according to assumption.

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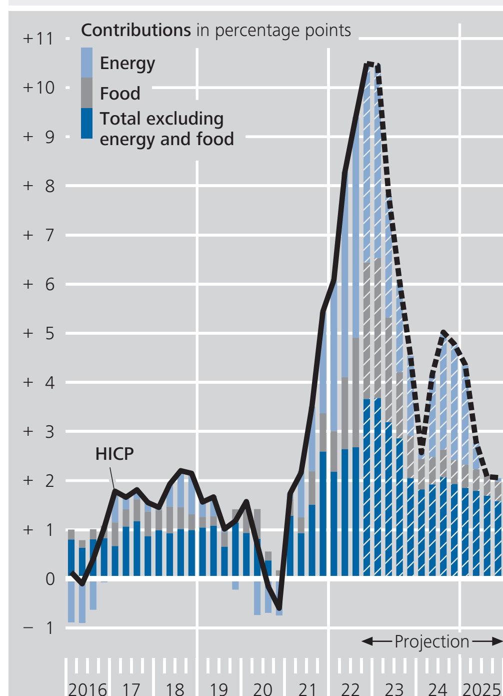
is likely to become particularly expensive.[16] In addition, for other goods and services, the heightened cost pressure from energy will increasingly compound other cost pressures.

... but will decline significantly over the course of next year

However, after the beginning of 2023, the inflation rate could then fall short of its peak levels and decrease substantially in due course. On the one hand, the electricity and gas price brake will significantly dampen further increases in these energy components.[17] In add-

Contributions to headline HICP inflation by component

Quarterly, year-on-year percentage change



Sources: Federal Statistical Office, Bundesbank calculations and Bundesbank projections.

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16 The subsidisation of energy prices in the context of the electricity and gas price brake will only begin in March for the lion's share of consumption, but will also be paid out retroactively for January and February. This means that the price brake will probably already have a dampening effect on the HICP at the beginning of the year. However, it will only mitigate the underlying rise in electricity and gas prices.
17 Consumers pay, at maximum, the respective highest price for a specified basic consumption, which is dependent on the consumption of the previous year (40 cent per kWh for electricity and 12 cent per kWh for gas). The remaining difference from the non-subsidised price is credited to them in the form of government transfers via suppliers – irrespective of whether they have actually met the basic consumption level. In this respect, no price cap has been set from an economic point of view.

ition, it is assumed that the oil price will decline, and the base effect of the sharp rise in energy prices in March 2022 will stop impacting on inflation. Furthermore, the introduction of the €49 "Deutschland-Ticket" public transport ticket, taken in isolation, is likely to have a dampening effect from the spring onwards. The core rate, by contrast, will remain high. It could rise to just over 4% next year and thus be slightly higher than in the current year. Overall, the inflation rate will fall to around 7% on an annual average in 2023, starting out at just over 8½% this year. The various government measures to cushion the rise in energy prices are estimated to reduce the rates considerably in 2022 and even more so in 2023 (see the table on p. 35).

Inflation rate substantially lower in 2024 and 2025, but still far above average

The gradual easing of consumer prices is expected to continue into 2024 and 2025. However, price inflation will remain high. The projected inflation rate will fall to just over 4% in 2024, but will still stand at around 2¾% in 2025. The core rate is set to decrease to approximately 3% in 2024 and 2½% in 2025.

Energy price inflation set to decline markedly, but expiry of electricity and gas price brake after April 2024 will lead to rebound effects

There are various factors behind this expectation. For one thing, energy and food commodity prices are assumed to be falling. Although energy price inflation will likely decline distinctly on account of this, it will remain substantial. As electricity and gas suppliers sometimes buy energy on the stock exchanges far in advance, consumer prices will initially still have to be adjusted to previously increased market prices. Because of this, consumer prices will also not fall as sharply later, as the assumed decline in commodity prices might suggest. In addition, the cost increases will be passed through to many tenants only with a significant delay in any case, as the settlement payments are based on the previous heating period. For this reason, the levels of the end consumer rates, which will be decisive after the electricity and gas price brake expires in May 2024, are still likely to considerably surpass the limits of the price brake. This will then trigger strong rebound effects in electricity and gas prices (see the table on p. 35).

Inflation excluding energy will also recede slightly, but will remain above average

Further upward pressure on prices will come from the surge in wage costs, which will only ease off slightly in 2025. This is a major reason why inflation excluding energy will be markedly above its longer-term average in 2024 and 2025. In addition, the sharp rise in import prices will also drive prices over a prolonged period. However, price pressures will gradually diminish on this front, too, in part due to the subsiding of strains in global supply chains over the projection horizon. Lastly, Germany's transition to a low-carbon economy will create additional cost pressures.

Public finances

Deficit down significantly in 2022 due to economic recovery and inflation

According to this projection, the general government deficit ratio stands at 2¾% for 2022. This is a significant year-on-year decrease (2021: 3.7%). The economic recovery and the high inflation are providing budgetary relief, with inflation initially causing revenue to rise considerably faster than expenditure after factoring out new fiscal measures. Moreover, profit-related taxes are recording strong growth. This growth is significantly stronger than would have been expected on the basis of nominal macroeconomic variables and changes in tax law. There is barely any change in the volume of temporary support measures compared with 2021: pandemic-related budget burdens are decreasing, while financial assistance in response to the energy crisis is now being provided (for more on fiscal policy measures, see pp. 23 f.).

In 2023, burdens associated with energy crisis and high inflation will predominate, while deficit will see another significant rise

The deficit ratio will rise considerably in 2023, to 4%. The deficit will grow in size for a number of reasons. The volume of temporary support measures will increase, with transfers as part of the electricity and gas price brake, in particular, exceeding the coronavirus assistance ending in 2022. Moreover, the fact that high inflation will increasingly push up government

expenditure, such as on tangible goods purchases, will have a detrimental impact. Military expenditure will rise sharply as more funds are channelled out of the Armed Forces Fund. Lastly, the high level of profit-related taxes in 2022 will not be carried over in full to 2023. Meanwhile, the cyclical weakness of the real economy will not play a major role in the trajectory of the government budget, as inflation will be high at the same time and the labour market will remain robust. For example, nominal gross wages and salaries will rise sharply, which is especially relevant for revenue from direct taxes and social contributions – and thus for government finances as a whole.

Deficit to fall significantly from 2024 as support measures come to an end

The deficit ratio will then fall sharply in 2024, hitting 1¾%, and dip slightly further still to 1½% in 2025. The main reason for this is that the support measures temporarily put in place will have already largely come to an end in 2024 and will have been completely phased out by 2025. Rising shortfalls in central government's off-budget entities for climate change mitigation and the armed forces will somewhat lessen the extent to which the deficit will shrink. Moreover, pension expenditure will go up significantly: aggregate wage increases will be reflected in large pension adjustments, and more and more baby boomers will reach retirement age.

Deterioration in structural balance as a result of higher expenditure

The temporary measures are obscuring the general government structural balance. At the end of the projection horizon, the structural deficit will be around 1% of GDP.[18] Prior to the COVID-19 crisis, structural surplus of ½% of GDP was still recorded in 2019. The reason for the deterioration can be attributed to expenditure: in particular, spending on pensions, climate change mitigation and the military, respectively, is rising considerably. By contrast, interest expenditure is playing a limited role: whilst interest rates have risen sharply and expenditure on inflation-indexed government securities is seeing a temporary sharp rise, the associated burdens remain rather small. This is due to the longer maturities of debt instruments and the small share of inflation-linked bonds.

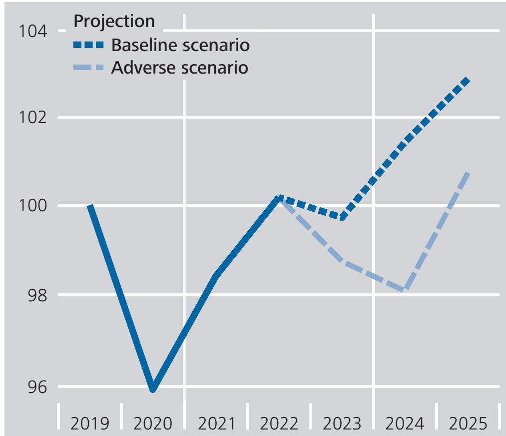
Debt ratio will temporarily go back up in 2023

According to this projection, the debt ratio will shrink this year (2021: 68.6%). This is attributable mainly to the strong growth in nominal GDP in the denominator of the ratio. Moreover, due to the use of cash reserves accumulated during the COVID-19 pandemic, the deficit will not cause the debt level to go up as sharply. Government liquidity and capital measures resulting from the energy crisis that are not included in the deficit will increase the ratio only slightly. The debt ratio will then edge back upwards slightly next year. The general government deficit will rise significantly and nominal GDP will grow at a slower pace than in the current year. In addition, loans granted to build up capital stock for a funded pension and transfers to the IMF trust funds for low-income countries will push up the debt ratio. The increase will be dampened considerably due to non-recurring effects further diminishing. For instance, additional cash reserves from the COVID-19 pandemic will be used to finance the budget, and a growing number of assistance loans will be repaid. Furthermore, the scaling-back of government-owned bad banks' portfolios from the financial crisis of just over a decade ago will continue. In 2024 and 2025, the debt ratio will then fall markedly: according to this projection, it will amount to around 65% at the end of the projection horizon.

Risk assessment

The macroeconomic projections described here are subject to an unusually high level of uncertainty in the current environment. The greatest unknowns include further developments in the war in Ukraine and the energy crisis triggered as a result, the consequences of government

18 Cyclical factors and non-recurring temporary measures have been stripped out of the structural variables. In the period under review, the temporary measures that have been stripped out are identical to the temporary crisis response measures (see the chart on p. 24).



Sources: Federal Statistical Office and Bundesbank projections.
Deutsche Bundesbank

All in all, risks to economic growth tilted overwhelmingly to the downside, but risks to outlook for inflation rate tilted to the upside

countermeasures, and the impact of the high inflation. From today's perspective, the risks to economic growth appear to be tilted overwhelmingly to the downside in overall terms, due largely to the possibility of energy supply bottlenecks. With regard to inflation, upside risks predominate throughout the projection horizon.

Risks related to energy supply and Ukraine war

In the baseline scenario of this projection, it is assumed that, despite halted Russian gas deliveries from September onwards, there will be no gap in the gas supply. However, the additional gas deliveries or gas savings required could also be smaller than expected, e.g. due to unusually cold weather. This could lead to gas being rationed, which would go hand in hand with a sharp decline in economic output and further price increases. Escalating geopolitical tensions in connection with the war in Ukraine also pose a risk. For example, sanctions could be expanded and supply chains affected by the war – those for grain, for instance – could be disrupted more severely or interrupted altogether, with potentially severe consequences for global and German economic activity. As a result, price pressures would probably be further intensified. For information on an adverse risk scenario of this nature, see the box on pp. 39 ff.

Unknowns in context of government measures

There are also unknowns relating to the government measures implemented to mitigate the energy crisis. If, for example, consumer electricity or gas prices are still well above the levels at which the price brake applies when the brake is due to end – as is envisaged in the projection – this measure could potentially be extended by law. This could cause inflation in 2024 and 2025 to be lower than expected, provided that the rebound effect contained in the projection would then be eliminated.[19] The projected inflation rate could also be lower if electricity and gas prices were to fall faster than assumed. Economic output would be supported in both cases, because the longer-term lower cost burden for firms and households would stimulate investment and consumption. However, where this is associated with higher energy consumption, this would cause the risks arising from energy bottlenecks to increase.

Risks to global economy, particularly due to China, with consequences for economic activity and inflation in Germany

Irrespective of any further possible disruptions that could result from the Ukraine war, there are other risks to the global economy. For example, despite China recently signalling some relaxation of its zero-COVID policy, the trajectory of the pandemic in the country could cause a global economic slowdown that is greater than anticipated. In this context, global supply chain problems could also temporarily worsen again, with corresponding pressure being put on world trade. Lastly, further geopolitical tensions would also entail downside risks for both the global economy and the German economy. Inflation in Germany could then be stronger if, for example, commodity prices were to increase or price pressures at the earlier input stages continued to go up. However, it is also conceivable that commodity prices could fall faster than assumed, e.g. if the global economy cools to a greater extent as a result of weaker demand. As consumer prices for energy and food, in particular, are already at very high levels, enterprises could then even pass

19 Compared with a scenario excluding an electricity and gas price brake, the inflation rates are, other things being equal, lower during the period when the brake is in place and higher once it ceases to apply.

An adverse risk scenario for the German economy

The macroeconomic projection (hereinafter referred to as the "baseline scenario") remains heavily influenced by the fallout from the Russian war of aggression against Ukraine and its global economic impact. An adverse risk scenario was created on the basis of various less favourable assumptions about this situation than in the baseline scenario. One assumption, for example, is that the conflict with Russia will be more severe and that geopolitical tensions will be greater than in the baseline.[1] Regarding energy supply and consumption, it is assumed that additional gas deliveries from other countries will be smaller, that temperatures will be significantly lower than average in the coming and subsequent winter and that cuts in gas consumption will be less substantial. Furthermore, the adverse risk scenario includes additional disruptions to foreign trade and heightened supply chain problems, whilst exports of food from Ukraine are assumed to decline steeply. In this scenario, prices for energy and food commodities are assumed to rise again and remain higher than in the baseline scenario over the projection horizon. All of these factors contribute to a significant increase in macroeconomic uncertainty and financial market volatility compared with the baseline scenario.[2]

Looking at the supply of gas in Germany, from December 2022 onwards the combination of unfavourable developments on the supply and demand sides leads to a more tense supply situation than in the baseline scenario. By mid-2023, cuts in gas consumption will be only half the size of those in the baseline scenario.[3] Furthermore, for the months from December 2022 to March 2023 as well as from December 2023 to March 2024, temperature-related additional consumption is assumed to be 8% compared with the previous winter periods. In the adverse risk scenario, the expansion of supply through deliveries of liquefied natural gas (LNG) in 2023 is two-fifths smaller than in the baseline scenario – for example, owing to delays in expanding Germany's

Major assumptions in the adverse scenario

Percentage deviations from baseline scenario[1]

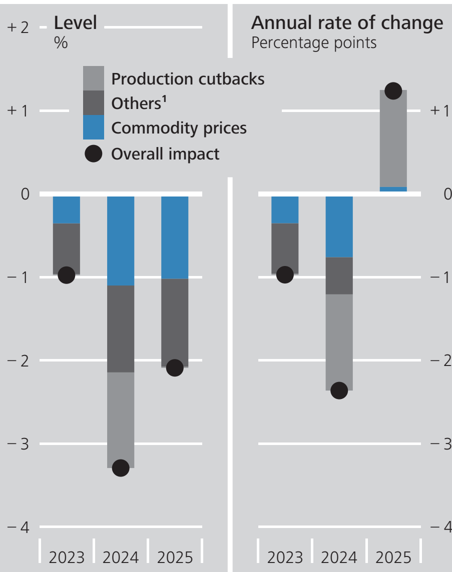
Item	2023	2024	2025
Commodity prices			
Crude oil	41.9	15.4	1.1
Natural gas	99.4	104.3	85.3
Food	12.4	11.2	6.0
German exporters' sales markets	– 1.3	– 2.7	– 2.6

Source: ECB staff. 1 For information on the assumptions made in the baseline scenario, see the table on p. 22.
Deutsche Bundesbank

1 The adverse risk scenario applies assumptions based on those employed by ECB staff in a euro area downside scenario; see European Central Bank (2022). In addition, however, it also takes account of developments specific to Germany, including in relation to natural gas supply and demand. For the euro area aggregate, the macroeconomic impact for the euro area was calculated directly by ECB staff. The results for Germany presented in this box are derived from Bundesbank estimates. They were not incorporated into the ECB staff's results for the euro area and therefore did not form part of the Eurosystem's Broad Macroeconomic Projection Exercise.
2 The adverse risk scenario is based on monetary and fiscal policy that is unchanged from the baseline scenario. With regard to fiscal policy in Germany, this means that no additional fiscal measures that go beyond the scope of the automatic stabilisers endogenous to the model are included. The electricity and gas price brake is implemented in the same way as in the baseline scenario.
3 Up to and including the second quarter of 2023, the baseline scenario assumes savings of 20% compared with average consumption in the 2018-21 period. After that, they are set at 10% on account of decreasing efforts to reduce consumption. The German gas exports assumed in both the baseline scenario and the adverse risk scenario roughly correspond to the average monthly outflows since the start of the Russian war of aggression against Ukraine. A possible European gas supply compensation mechanism is not explicitly incorporated into the adverse risk scenario.

Potential impact on real GDP in Germany in the adverse risk scenario

Deviations from the baseline scenario



Source: Bundesbank calculations using BbkM-DE, building on the ECB staff's assumptions regarding the international environment and including information from SVAR model and analysis of rationing effects. **1** Encompasses foreign demand and foreign competitors' prices, uncertainty, lending rates and the equity market.

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LNG capacity or to underutilisation of LNG terminals.[4] It is also assumed that gas storage facilities will be filled to a minimum of 15%, e.g. as an emergency reserve to ensure a continuous supply of gas to critical infrastructures, or because of technical and geological restrictions. Natural gas is thus rationed if the storage level falls below this limit. Given these assumptions, a gas gap of 12 terawatt hours (TWh) is calculated for 2023. As gas storage facilities are not entirely full again in the summer of 2023, the gas gap expands to 121 TWh in 2024. This corresponds to around 1% and 13%, respectively, of the assumed demand for gas in 2023 and 2024.[5] By contrast, there is no further shortage of gas in 2025, particularly given the assumed increase in imports and higher utilisation of LNG capacity from the summer of 2024 onwards.

Comparison of baseline and adverse scenarios – December 2022 projection

Year-on-year percentage change

Item	2023	2024	2025
Real GDP, calendar adjusted			
Baseline scenario	− 0.5	1.7	1.4
Adverse scenario	− 1.4	− 0.7	2.7
HICP			
Baseline scenario	7.2	4.1	2.8
Adverse scenario	8.5	5.4	3.1

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The impact of the gas shortages on the real economy in 2023 and 2024 is estimated on the basis of a production function with constant elasticity of substitution.[6] This approach allows a certain degree of substitution between gas and the other input factors of the production function, thus taking account of the experience that enterprises will have gained in dealing with a gas shortage. A negligible effect on gross domestic product (GDP) is identified for 2023 owing

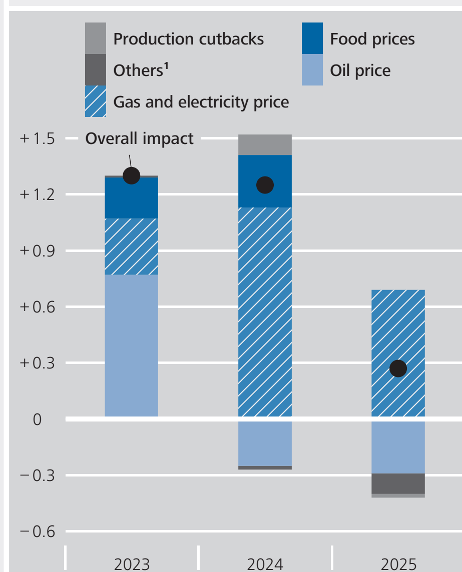
4 The supply increases in the baseline scenario of around 8% in 2023 and 23% in 2024 compared with the average imports since 31 August are based on the data in Federal Network Agency (2022), Deutscher Bundestag (2022) and Tagesschau (2022). For information on possible bottlenecks in the global market for LNG next year, see International Energy Agency (2022b).
5 By contrast, in the adverse risk scenario developed for the June 2022 macroeconomic projection, the gas gap was particularly pronounced in 2023; see Deutsche Bundesbank (2022b). This was due to the assumption that Russian gas deliveries would come to a complete halt as early as July of this year and that additional imports from other countries would be very limited. In actual fact, however, Russia continued to supply Germany with gas up to the end of August, and imports from other countries were expanded much more strongly than assumed in the June adverse risk scenario. In addition, German gas exports to neighbouring countries have declined steeply in recent months and consumption has been much lower than in previous years, partly because of favourable weather conditions. As a result, gas storage facilities were completely full by November of this year.
6 This follows the ECB staff's approach to scenario calculations for the euro area. In addition to the elasticity of substitution, the size of the gas gap and the share of natural gas in Germany's gross national expenditure are key variables. For a similar approach, see also Bachmann et al. (2022). Cascade effects along the value chain are not considered. However, given that the gas gap arises with a significant time lag, these effects should play a more minor role anyway: by the first quarter of 2024, many enterprises are likely to have taken steps to dampen the effects of gas rationing along value chains.

to the fairly small gas gap. However, the rationing effect, taken in isolation, will dampen GDP considerably more strongly in 2024, by just over 1%.

If the assumptions about the international setting of the German economy are incorporated into the simulation calculations, the overall year-on-year decline in real GDP in 2023, at around 1½%, is significantly larger than in the baseline scenario.[7] This is due primarily to the slump in German exporters' sales markets and, in part, to heightened uncertainty. Moreover, economic growth is also held back by higher commodity prices, although this effect is significantly dampened by the electricity and gas price brake. The same is true of the impact on the inflation rate. Nevertheless, the rise in consumer prices in 2023, at around 8½%, is more than 1 percentage point higher than in the baseline scenario.

Potential impact on the HICP rate in Germany in the adverse risk scenario

Deviations from the baseline scenario in percentage points



Source: Bundesbank calculations using BbkM-DE, building on the ECB staff's assumptions regarding the international environment and including information from SVAR model and analysis of rationing effects. **1** Encompasses foreign demand and foreign competitors' prices, uncertainty, lending rates and the equity market.
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The negative impact of the adverse risk scenario is most pronounced in 2024. Instead of growing significantly again as it does in the baseline scenario, the German economy then shrinks for the second year in a row – by ¾% on the year. As the electricity and gas price brake comes to an end in the course of 2024, there is a rebound effect which more than offsets the dampening impact of falling crude oil prices on inflation. This rebound effect is markedly stronger still than in the baseline scenario (see the table on p. 35). The inflation rate in 2024, at close to 5½%, is therefore well above the figure in the baseline scenario.

It is not until 2025 that the German economy recovers in the adverse risk scenario, too – thanks to the absence of rationing in the winter of 2024-25 and easing commodity price pressures. Real GDP grows by 2¾% on the year, and thus much more strongly than in the baseline scenario. Nevertheless, real GDP is thus only slightly above its starting level in the third quarter of 2022. The inflation rate, at just above 3%, still exceeds the baseline projection for 2025 by three-tenths of a percentage point.

7 As in this year's June projection, the Bundesbank's macroeconometric model (BbkM-DE) is used for the simulation calculations; see Deutsche Bundesbank (2022b). For details on BbkM-DE, see Haertel et al. (2022).

Key figures of the macroeconomic projection – non-calendar adjusted

Year-on-year percentage change

Item	2021	2022	2023	2024
GDP (real)	2.6	1.7	– 0.7	1.7
GDP (real, calendar adjusted)	2.6	1.8	– 0.5	1.7
Components of real GDP				
Private consumption	0.4	4.6	0.2	1.5
Memo item: Saving ratio	15.1	11.1	10.3	10.0
Government consumption	3.8	1.4	– 2.9	1.3
Gross fixed capital formation	1.2	0.4	– 0.2	3.0
Business investment[1]	2.5	0.1	3.4	3.1
Private housing construction investment	0.5	– 2.2	– 5.5	1.4
Exports	9.7	2.9	1.4	3.3
Imports	9.0	6.4	2.1	3.4
Memo item: Current account balance[2]	7.4	3.5	2.5	2.7
Contributions to GDP growth[3]				
Domestic final demand	1.3	2.7	– 0.6	1.8
Changes in inventories	0.5	0.3	0.3	– 0.1
Exports	4.2	1.3	0.7	1.7
Imports	– 3.4	– 2.7	– 1.0	– 1.7
Labour market				
Total number of hours worked[4]	1.7	1.4	– 0.5	0.9
Employed persons[4]	0.1	1.2	0.2	0.4
Unemployed persons[5]	2.6	2.4	2.6	2.4
Unemployment rate[6]	5.7	5.3	5.6	5.3
Memo item: ILO unemployment rate[7]	3.6	3.0	3.4	3.2
Wages and wage costs				
Negotiated pay rates[8]	1.6	2.6	3.9	4.2
Gross wages and salaries per employee	3.3	4.3	5.1	5.0
Compensation per employee	3.1	4.1	5.0	5.1
Real GDP per employed person	2.5	0.5	– 0.9	1.2
Unit labour costs[9]	0.6	3.6	5.9	3.9
Memo item: GDP deflator	3.1	5.1	4.6	3.8
Consumer prices[10]	3.2	8.6	7.2	4.1
Excluding energy	2.4	5.2	5.5	3.0
Energy component	10.1	33.9	17.0	10.4
Excluding energy and food	2.2	3.9	4.3	2.9
Food component	3.0	10.6	10.2	3.3
Residential real estate prices	11.6	7.5	1.2	3.2

Sources: Federal Statistical Office (up to Q3 2022); Federal Employment Agency; Eurostat. 2022 to 2024, Bundesbank projections. **1** Private non-residential fixed capital formation. **2** As a percentage of nominal GDP. **3** In arithmetical terms, in percentage points. Discrepancies in the totals are due to rounding. **4** Domestic concept. **5** In millions of persons (Federal Employment Agency definition). **6** As a percentage of the civilian labour force. **7** Internationally standardised as per ILO definition, Eurostat differentiation. **8** Monthly basis. Pursuant to the Bundesbank's negotiated wage index. **9** Ratio of domestic compensation per employee to real GDP per employed person. **10** Harmonised Index of Consumer Prices (HICP).

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through a larger portion of any price decreases to their end customers. Inflation rates would then fall much more quickly.

Falling real estate prices pose a downside risk in Germany

There are further downside risks in Germany with regard to the housing market. Should residential real estate prices fall to a greater extent, construction activity is likely to slow down even more quickly and housing investment could decline more sharply than previously assumed. In addition, there would be risks to the financial system, which could, in a worst-case scenario, have feedback effects on the real economy. One consequence would be that the value of collateral used to secure real estate loans would fall, meaning that, in the event of future credit defaults, lenders would suffer higher losses.[20]

Chance of more favourable developments in Germany with a greater impact from the buffers coming from industrial order backlog and coronavirus savings

There is also uncertainty in Germany as to the degree to which the "demand buffers" formed since the outbreak of the pandemic will stabilise. These exist for households in the form of savings built up involuntarily during the pandemic, and for industrial enterprises in the form of an order backlog owing to supply bottlenecks. In the projection, both factors will counteract, to a certain extent, the headwinds from the high inflation and weakening foreign demand. If households' saving ratio were to fall more sharply than expected, private consumption would decline to a lesser degree. Moreover, the temporary boost expected in the export projection from reducing the order backlog could be even stronger. Both would bolster economic activity.[21] At least in the case of the former, however, price pressures would also continue to increase at the same time.

Looking at the inflation forecast, there are uncertainties arising from the high inflation dynamics themselves. For example, strong wage growth, which is partly attributable to second-

20 See Deutsche Bundesbank (2022g).
21 These factors could play a role even in the short term. Specifically, some economic indicators not published until after the projection was finalised suggest that the decline in GDP in the current quarter may be somewhat weaker than projected.

Looking at inflation forecast, uncertainties arise from high inflation dynamics themselves – with risks tilted to the upside

round effects of the high inflation, has already been baked into the projection. However, inflation compensation bonuses have become a relatively important part of recent wage settlements and will reduce the permanent component of wage growth. The wage forecast assumes that, once the period in which the one-off payments subsidised by the government comes to an end, the wage increases agreed will be so large that there will be no major setback to the wage level in the sectors concerned. Should such a setback occur nevertheless, wage growth and the resulting price pressure would be noticeably lower in 2025. However, given the persistently high inflation rates and rising inflation expectations, wages could also go up even more than projected. This would then lead to stronger price increases. As things currently stand, this upside risk is likely to predominate. In such an environment, enterprises could also increasingly try to expand their profit margins. This would drive prices up even further. Overall, inflation rates could then remain at high levels for an extended period of time.

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