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ECONOMIC RECOVERY DELAYED

This is a translated version of the original German-language chapter "Konjunkturerholung verzögert sich", which is the sole authoritative text. Please cite the original German-language chapter if any reference is made to this text.

KEY MESSAGES

↘ In 2023, the decline of final consumption expenditure by private households and the state slows down German economic growth. In 2024, declining inflation and rising real income will lead to a modest recovery.

↘ The GCEE expects real gross domestic product (GDP) in Germany to decline by 0.4 % this year and to rise by 0.7 % in 2024. Consumer price inflation is expected to be 6.1 % and 2.6 % respectively.

↘ The outlook is subject to significant downside risks given the uncertainty about private spending behaviour and the global economy as well as the uncertain effect of monetary policy.

SUMMARY

High inflation rates and monetary policy tightening are **weighing on the global economy.** On the one hand, the USA has shown robust growth until recently, driven by private consumption and most recently also corporate investment. In China, on the other hand, growth fell short of expectations even though the zero-covid strategy was given up last winter. Economic activity in the other advanced economies and in the emerging markets is heterogeneous, but overall also subdued. **The GCEE expects global GDP growth rates of 2.7 % and 2.2 % for 2023 and 2024, respectively.** The economy in the Euro area is also weak and may not reach higher growth rates until 2024. **GDP growth in the euro area is expected to be 0.6 % and 1.1 % in 2023 and 2024**, **respectively.**

Compared to the rest of Europe, **the German economy has cooled down particularly strongly.** Private households and the government have reduced their final consumption expenditure. Although the industry sector and the construction sector are still drawing on a comparatively high stock of orders, this stock as well as new orders are declining significantly. In addition, there are bottlenecks due to a lack of labour. **The GCEE expects that the German economy will only gradually recover in the course of 2024.** The external environment is likely to improve only slowly and monetary policy will continue to curb lending. However, the decline in inflation in combination with high wage settlements should lead to increases in real income. This should stimulate private consumption. **The GCEE expects German GDP to grow by –0.4 % and 0.7 % in 2023 and 2024, respectively. The forecast is subject to considerable downside risks.** For example, a lack of recovery in China, a worsening of the global political situation, a renewed rise in energy prices, a stronger than expected dampening of demand by monetary policy or restrained consumer spending could put the brakes on growth.

Inflation in Germany and the euro area is on the way to normalisation. However, strongly delayed cost pass-through and new pressure from wage increases are expected to keep core inflation in the euro area high until 2025. **In the euro area, the GCEE expects inflation rates of 5.6 % and 2.9 % in 2023 and 2024, respectively. In Germany, inflation is expected to reach 6.1 % this year. Next year it is expected to fall to 2.6 %.** Core inflation in Germany is expected to reach rates of 5.2 % in 2023 and 3.2 % in 2024. The **risk of a renewed rise in inflation cannot be** neglected if the restrictive monetary policy stance is not maintained for a sufficiently long time.

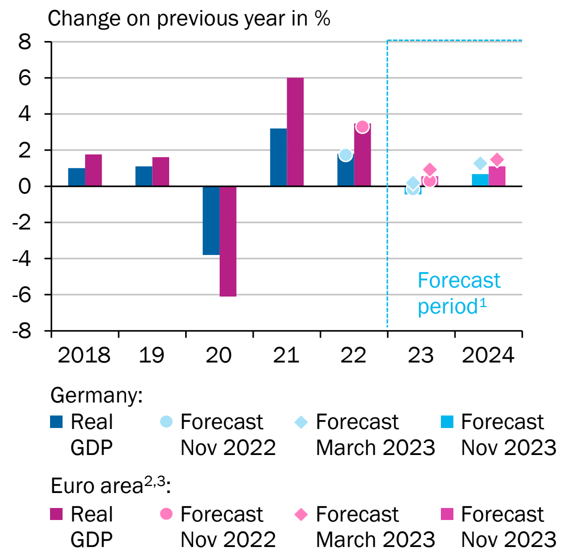
I. OVERVIEW

1. **The GCEE expects Germany's gross domestic product (GDP) to decline by 0.4 % in 2023.** The council is thus revising its forecast downwards by 0.6 percentage points compared to spring 2023. ↘ CHART 1 Comparatively strong **special effects** such as a decline in government consumption expenditure after the Covid-19 pandemic subsides are responsible for the downward revision. ↘ CHART 50 A slight expansion in private consumption is expected **in 2024**, leading to a subdued **economic recovery.** ↘ CHART 49 **GDP growth** is expected to be **0.7 %**. The weakness of foreign trade is likely to have a negative impact. The forecast for 2024 is revised downward by 0.6 percentage points against the spring forecast. ↘ CHART 1

2. **Inflation in Germany**, as measured by the year-on-year change in the consumer price index (CPI), **was 4.5 % in September 2023**. Hence, it has substantially declined from this year's peak at 8.7 % in January 2023. The decline is due to lower price increases in all components. ↘ ITEMS 56 F. Core inflation, i.e. inflation of all goods excluding energy and food, stood at 4.5 % in September 2023 and has now become the main driver of inflation. The **overall rate is expected to be 6.1 % in 2023 and fall to 2.6 % next year.** ↘ CHART 1 This represents a downward revision of 0.5 and 0.4 percentage points, respectively, against the spring forecast. The downward revision is explained by lower than expected core inflation. Nevertheless, rising unit labour costs and increasing private

↘ CHART 1
Economic outlook for Germany and Europe

GDP in Germany and the euro area



Key economic indicators (in %)

	2022	2023[1]	2024[1]
Germany			
GDP growth[4]	1.8	– 0.4	0.7
Inflation rate	6.9	6.1	2.6
Unemployment rate[5]	5.3	5.6	5.5
Wage growth[6]	4.3	5.9	5.1
Budget balance[7]	– 2.5	– 2.2	– 1.5
Euro area			
GDP growth[2,4]	3.5	0.6	1.1
Inflation rate[8]	8.4	5.6	2.9
Global economy			
GDP growth[2,4]	2.9	2.7	2.2
Inflation rate	7.7	5.3	3.8

1 – Forecast by the GCEE. 2 – Values are based on seasonal and calendar-adjusted quarterly figures. 3 – November 2022 forecast without Croatia. 4 – Constant prices. 5 – Registered unemployed in relation to civil labour force. 6 – Change of gross wages and salaries (domestic concept) per employees' hour worked. 7 – In relation to nominal GDP; territorial authorities and social security according to national accounts. 8 – Change of the Harmonised Index of Consumer Prices.

Sources: Eurostat, Federal Statistical Office, national statistical offices, own calculations consumption expenditure are expected to lift core inflation above the headline rate in 2024. ↘ BOX 7 Core inflation is expected to be 3.2 %, down from 5.2 % in 2023.

3. In view of the **continued increase in inflation in the euro area,** the European Central Bank (ECB) has **raised key policy rates** for the tenth time in a row in September 2023, by a total of 4.5 percentage points. As a result, market interest rates have risen sharply since July 2022 and lending to companies and private households has cooled down. This has led to a decline in demand for gross fixed capital formation in construction, which is particularly sensitive to interest rates. ↘ CHART 51 In view of the weak economy and declining inflation in the euro area, markets do not expect any further increases in key policy rates. Even in this case, however, monetary policy is still likely to have a dampening effect on domestic demand next year. ↘ ITEM 39 ↘ BOX 4

4. **Central banks** worldwide have **tightened monetary policy**, which has contributed to **dampening Germany's external environment**. ↘ CHART 2 ↘ ITEMS 10 FF. Global industrial production and trade in goods, which is particularly important for the German economy, have developed only weakly since spring. The US economy has provided positive impulses for Germany throughout. ↘ BOX 1 However, the euro area economy grew only slightly. ↘ ITEMS 27 FF. China's economic growth was historically low until mid-2023. ↘ BOX 1 External stimulus for Germany is expected to remain weak in 2024, brightening only slightly compared to 2023. Global GDP is expected to grow by 2.7 % and 2.2 % in 2023 and 2024, respectively. ↘ ITEM 16

5. In addition to subdued global demand, domestic **production costs and price competitiveness in Germany deteriorated** in 2023. The price increase in Germany in 2023 was significantly higher than in other major economies,

↘ CHART 2
Determining factors for the forecast

	Current situation	Assumptions for the outlook	Opportunities and risks
Real income	Weak consumption due to real income losses	Real incomes recover, which strengthens consumer demand	Risk: Restrained spending and weak private consumption
Global economy	Decline in imports, remaining order backlogs in the German manufacturing sector	Weak export demand and lower competitiveness	Risk: Economic situation in China and tense global political situation
Monetary policy	Strong monetary tightening	Tightening phases out, but delayed effects	Opportunity/risk: Impact of monetary policy

Source: own representation

especially in the US and China. Germany's energy-intensive industries are suffering particularly from high production costs following the energy price crisis caused by the Russian war of aggression against Ukraine. Their production could hardly recover after the sharp decline of 2022, which can be explained by a continued elevated energy price level, but also high uncertainty about energy prices. ↘ ITEMS 42 AND 45

6. **Domestic demand** fell sharply in the first quarter of 2023 in the face of inflation-related losses in purchasing power. It **made up for part of the decline** in **the second quarter of 2023** and **rose by 0.6 %**. In particular, falling inflation rates and the strong rise in incomes are likely to have supported this development. In the forecast horizon, **a rise in private consumption expenditure** is **to be expected.** Consumer-related service sectors are likely to benefit particularly. One reason for this is service prices, which have risen less strongly relative to goods prices. ↘ CHART 26 TOP RIGHT In Germany, no economic stimulus will come from the government as support measures related to the energy crisis expire.

7. The recovering domestic demand meets a **low supply of skilled labour and increased capacity utilisation in the service sector**. The economic slowdown and a decline in sick leave have only slightly eased the shortage of skilled workers. ↘ CHART 63 **Potential** output growth is expected to **reach an all-time low**, averaging 0.4 % annually from 2023 to 2028, due to a declining volume of labour and low contributions to growth from total factor productivity. ↘ ITEMS 71 AND 99 FF.

8. **Downside risks dominate** the short-term forecast. For example, the development of the global economy is uncertain, especially due to **China**. ↘ CHART 24 An unexpected deterioration could particularly affect the German export economy. In addition, **geopolitical risks** such as an escalation of the conflict in the Middle East following the terrorist attacks by the Hamas on Israel or a further tightening of energy supply related to the Russian war of aggression on Ukraine could lead to new energy price surges. Further downside risks are the **effect of monetary policy** in the euro area and in Germany. ↘ CHART 42 The impact of monetary policy tightening has so far mainly been seen in weaker lending to the construction sector. However, the overall economy could be more affected than assumed in this forecast, for example through **higher savings by private households**. ↘ ITEM 60

II. GLOBAL ECONOMY

9. The **momentum of** the **global economy slowed down after the first quarter 2023**. Supportive impulses for the global economy came only from strong domestic demand in the USA. In many other regions of the world, such as the euro area, Japan and the United Kingdom, high inflation rates weighed on final consumption expenditure. Weak domestic demand and the fragile real estate sector in China are dampening growth in the group of emerging and developing countries. ↘ GLOSSARY With inflation rates declining globally, monetary tightening by central banks in the US, the euro area and the UK is likely to have almost reached its peak. Nevertheless, the outlook for private consumption expenditures in many advanced economies is improving only gradually. Overall, the global economic outlook remains weak. For the current year, the GCEE expects global GDP to grow by 2.7 %. In 2024, it is expected to rise by 2.2 %.

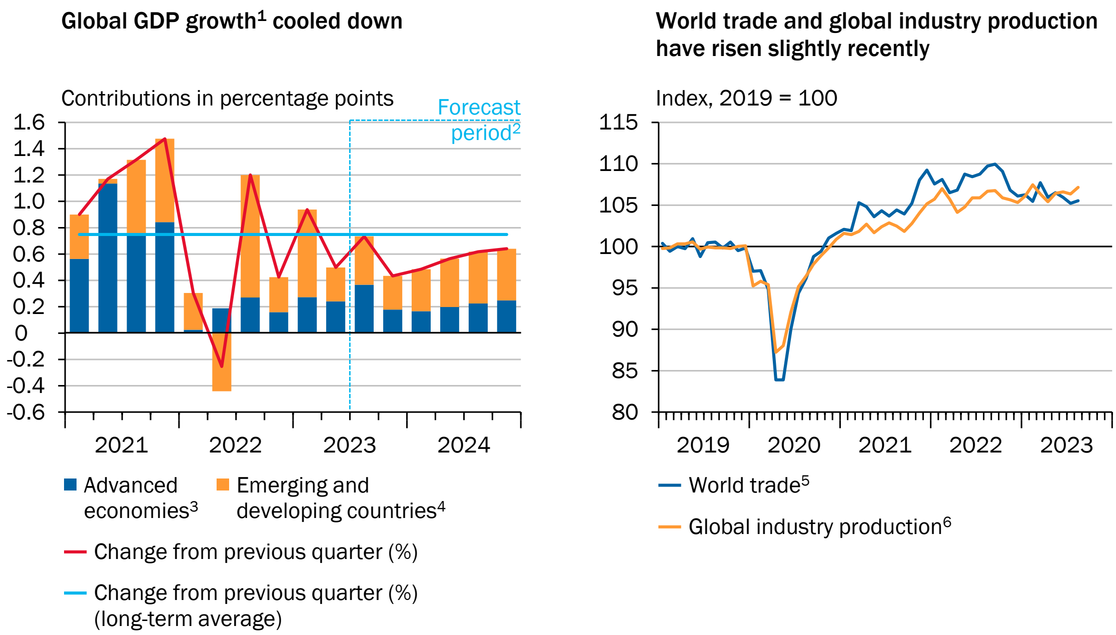
1. Weak global economy

10. The **growth rates of** the **global economy in Q1 and Q2 2023** were **0.9 % and 0.5 %**, respectively, when compared to the previous quarter. The remain close to the average growth rate of 0.7 % from 2010 to 2019.↘ CHART 3 LEFT The global economy thus proved resilient in Q1 2023 despite high inflation rates and global monetary policy tightening. However, the pace of expansion declined in Q2 2023. Global industrial production stagnated in the first half-year 2023, signalling a slight slowdown in the global economy. Currently, world industrial production is slightly increasing again. ↘ CHART 3 RIGHT

11. **Global trade in goods declined by 1.9 % in the first half-year 2023 compared to the second half-year 2022.** Currently, global trade increases only slightly. ↘ CHART 3 RIGHT The weak merchandise trade volume is likely to be largely due to a post-pandemic catch-up effect, which led to temporarily higher services consumption and is currently declining. ↘ BOX 7 In addition, global demand for goods was dampened by the economic slowdown, especially in Europe and Asia. ↘ ITEMS 13 AND 27

12. **Gross domestic product (GDP) expanded quite strongly in** some advanced economies ↘ GLOSSARY such as **the US and Japan.** The US economy grew by 0.6 % and 0.5 % quarter-on-quarter in the first two quarters of 2023 respectively, adjusted for price and seasonal effects. According to the flash estimate for Q3 2023, GDP growth is 1.2 % on a quarter-on-quarter basis. ↘ BOX 1 Japan's GDP recorded a 0.8 % increase in Q1 2023 and a 1.2 % increase in Q2 2023, both from a previous quarter perspective. The growth figures in the first half of the year were largely driven by higher exports and lower imports, boosted by the loose monetary policy of the Bank of Japan and the depreciation of the yen. **Growth in the euro area** ↘ CHART 27 **and the United Kingdom** was **much weaker**. Compared to the USA, consumer price inflation in Europe is even higher and weighed on private consumption demand, as real disposable income has fallen sharply. Private households in the US have depleted their savings from the Corona pandemic

↘ CHART 3
Global growth, world trade and industry production



1 – Averages of seasonally-adjusted quarterly values. Global GDP is approximated by the sum of the countries in Table 1 (total). 2 – Forecast of the GCEE. 3 – Definition as in footnote 9 in Table 1. 4 – Definition as in footnote 10 in Table 1. 5 – Coverage of seasonally-adjusted trade volumes in 81 countries and about 99 % of global trade balances. 6 – Coverage of industry production in 85 countries and about 97 % of global industry production.

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

much more than in many other advanced economies. ↘ BOX 1 In addition the lagged effects of monetary policy on gross fixed capital formation, especially in the construction sector, are evident in both Europe and the US. ↘ ITEMS 51 F.

13. Emerging and developing countries also developed heterogeneously. The **Chinese economy grew by 2.3 % in Q1 and just 0.5 % in Q2 2023** compared to the previous quarter. In Q3 2023, China's GDP grew by 1.3 % on a quarter on quarter basis. The (economic) upturn following the termination of the zero-covid policy was thus significantly lower than expected at the beginning of the year (Economic Forecast 2023 Box 1). In particular, the pandemic-related income losses had a stronger effect on retail sales than expected, which indicates a restraint in private consumption. Together with the fragile real estate market, weak private consumption expenditures are dampening the domestic economy. In addition, foreign trade has been declining since the beginning of the year. ↘ BOX 1 Many Southeast Asian emerging markets, for example Indonesia, Thailand and Vietnam, are also affected by a weak foreign trade, but their domestic demand continues to be a strong pillar of the overall economy. **India displayed strong economic performance in the group of Asian countries, with** quarter-on-quarter **GDP growth of 2.1 % and 1.9 % in the first two quarters of 2023**. The Latin American economies, on the other hand, performed weakly.

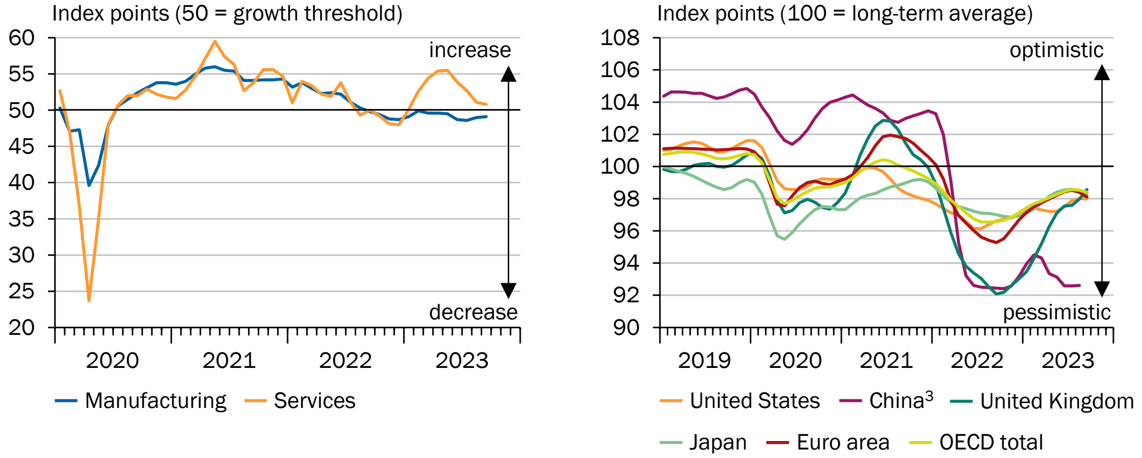
14. In general, the **service sector** had a supportive effect in many economies and compensated for the decline in production in the manufacturing sector. The Purchasing Managers' Index for the global services sector has been **above the**

↘ CHART 4

Purchasing managers' indices and consumer confidence[2]

Purchasing managers' index in the service sector deteriorates

Consumer confidence[2] has recovered wordwide with the exception of China



1 – Based on a monthly survey of purchasing managers and managing directors. 2 – Standardised OECD confidence indicator.

Sources: National Bureau of Statistics of China, OECD, S&P Global, own calculations

growth threshold of 50 index points since the beginning of the year, but has fallen sharply in recent months. The Purchasing Managers' Index in the global **manufacturing sector has** stagnated **just below the growth threshold** since the second half of 2022. ↘ CHART 4 LEFT

15. Due to falling inflation rates in the advanced economies, **consumer confidence** indicators have recovered since their low point in the second half of 2022. ↘ CHART 4 RIGHT Nevertheless, consumer sentiment remains more pessimistic than the long-term average in all countries and country groups considered. Currently, consumer confidence even declined slightly again in Japan, the euro area and OECD countries, while in China it returned close to the historical low of October 2022 in the wake of weak domestic demand. ↘ BOX 1

Overall, the **private consumption outlook** remains **cloudy worldwide**. However, based on nominal wage increases in 2023 and 2024, declining inflation rates should lead to slight real wage increases. Accordingly, private consumption should provide a slight stimulus to the global economy. ↘ ITEMS 30 AND 65

16. **Global GDP is expected to grow by 2.7 % and 2.2 % in 2023 and 2024, respectively.** The stagnation of the Purchasing Managers' Index for global manufacturing suggests continued weak industrial production worldwide. Among other factors, global monetary policy tightening is dampening investment activity. The services sector and final private consumption expenditure are likely to grow only moderately. **Global trade is expected to decline by 1.4 % in 2023**. This is indicated both by the decline in trade in goods in recent months and the weak domestic economy in the euro area and China. **Global trade in goods is expected** to **increase by 1.5 % in 2024.**

The forecast of global GDP is derived from the individual GDP forecasts for 50 countries. ↘ TABLE 1 An **evaluation of the forecasts** since 2015 **shows** that they were **not systematically biased** and that the **forecast errors** are **similar** to the forecast errors of **other major institutions**. ↘ BOX 2

↘ TABLE 1

Gross domestic product and consumer prices of selected countries

Country/country group	Weight in %[1]	Gross domestic product[2]			Consumer prices		
		Change on previous year in %					
		2022	2023[3]	2024[3]	2022	2023[3]	2024[3]
Europe	**27.7**	**3.2**	**0.8**	**1.1**	**11.4**	**7.8**	**4.7**
Euro area	16.0	3.5	0.6	1.1	8.4	5.6	2.9
United Kingdom	3.5	4.3	0.5	0.5	9.1	7.4	3.0
Russia	2.6	– 1.3	1.6	1.2	13.7	5.4	5.3
Central and Eastern Europe[4]	1.8	4.6	0.3	2.5	13.5	11.5	5.0
Türkiye	1.0	5.3	4.0	1.9	72.4	52.3	43.4
Other countries[5]	2.7	2.9	0.7	1.0	5.8	4.1	2.3
America	**36.7**	**2.3**	**2.3**	**1.5**	**9.3**	**6.6**	**4.3**
United States	28.9	1.9	2.4	1.6	8.0	4.1	2.5
Latin America[6]	3.1	4.4	1.3	1.4	23.4	32.9	22.5
Brazil	2.2	3.0	3.0	1.5	9.3	4.7	3.9
Canada	2.4	3.4	1.1	0.7	6.8	3.9	2.6
Asia	**35.7**	**3.2**	**4.5**	**3.8**	**3.0**	**2.0**	**2.5**
China	20.3	3.0	5.4	4.3	2.0	0.5	2.2
Japan	4.8	1.0	1.8	0.8	2.5	3.2	2.1
Asian advanced economies[7]	3.7	2.0	1.2	2.3	4.4	3.3	2.4
India	3.9	6.6	7.0	6.2	6.7	6.1	5.3
Southeast Asian emerging economies	3.0	5.7	3.8	3.9	4.7	3.4	2.4
Total	**100**	**2.9**	**2.7**	**2.2**	**7.7**	**5.3**	**3.8**
Advanced economies[9]	64.0	2.6	1.5	1.4	7.6	4.7	2.6
Emerging economies[10]	36.0	3.5	4.7	3.7	7.8	6.2	5.8
memorandum:							
weighted by exports[11]	100	3.6	1.4	1.7	.	.	.
following IMF concept[12]	100	3.4	3.1	2.7	.	.	.
World trade[13]		3.2	– 1.4	1.5	.	.	.

1 – GDP (US dollar) of the named countries or country groups in 2022 as a percentage of total GDP of the named countries or country groups, corresponding to 88 % of the IMF country group weighted by US dollars and 84 % of the IMF country group weighted by purchasing power parities. 2 – Price-adjusted. Values are based on seasonal and calendar-adjusted quarterly figures. 3 – Forecast by the German Council of Economic Experts. 4 – Bulgaria, Czechia, Hungary, Poland, Romania. 5– Denmark, Norway, Sweden, Switzerland. 6 – Argentina, Chile, Colombia, Mexico. 7 – Hong Kong, Republic of Korea, Singapore, Taiwan. 8 – Indonesia, Malaysia, Philippines, Thailand. 9 – Asian advanced economies, euro area, Central and Eastern Europe, Canada, Denmark, Japan, Norway, Sweden, Switzerland, United Kingdom, United States. 10 – Latin America, Southeast Asian emerging economies, Brazil, China, India, Russia, Türkiye. 11 – Total of all listed countries. Weighted by the respective shares of German exports in 2022. 12 – Weights according to purchasing power parities and extrapolated to the countries covered by the IMF. 13 – As measured by the Dutch Centraal Planbureau (CPB).

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

↘ BOX 1

Large economies: USA and China

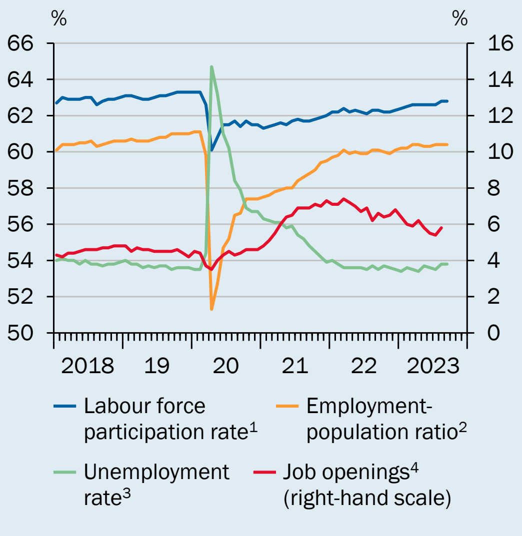
The US economy remained strong in the first half-year 2023. Growth was driven by gross fixed capital formation in private construction, especially in the US semiconductor industry (Deutsche Bundesbank, 2023a), which rose by 54.3 % compared to H2 2022, as well as private consumption expenditure, which increased by 1.2 %. **Monthly indicators are currently on an upward trend.** Retail sales and employment, for example, rose significantly. Industrial production grew by 0.3 % month-on-month in September 2023, but was affected by the strike in the unionised automotive sector, which started on 15 September and continued until the end of October 2023. The advance estimate for Q3 2023 also shows a positive picture at the current margin, with a growth figure of 1.2 % compared to the previous quarter (BEA, 2023). The rise in unemployment from 3.5 % in July to 3.8 % in August 2023 was mainly caused by a higher labour force participation rate, which should increase the US economy's potential output in the medium term. Unemployment remained unchanged in September. ↘ CHART 5 LEFT Consumer price inflation was 3.7 % in September, having already risen from 3.2 % to 3.7 % from July to August 2023 due to higher oil and gasoline prices. Core inflation was 4.1 % in September, down from 4.3 % year-on-year in August.

There are signs that growth in the US economy is slowing. For example, strong employment growth has levelled off in the last four months. Since June 2023, payrolls have increased by an average of only 0.1 %, below the average growth of 0.3 % in 2021 and 2022. The number of job vacancies last rose in August, but has been trending downwards since the beginning of the year. In addition, higher interest rates are likely to dampen growth in private consumption.

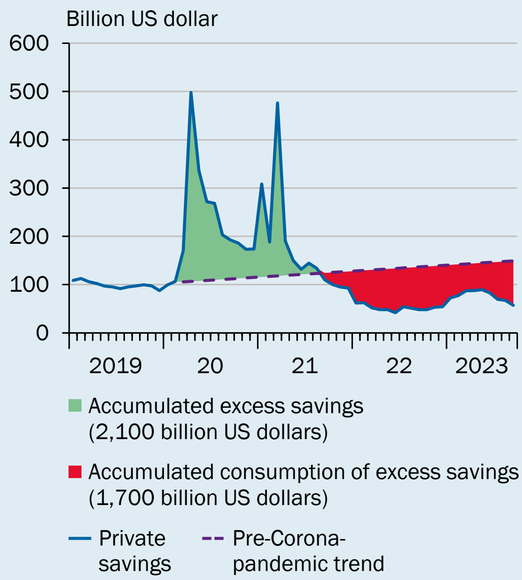
↘ CHART 5

Labour market and savings of private households in the USA

Robust development on the labour market



Savings of private households[5]



1 – Share of labour force in the civilian population aged 16 and over. 2 – Share of employed persons in the civilian population aged 16 and over. 3 – Unemployed persons as a share of the labour force. 4 – Job vacancies as a share of total employment and job vacancies. 5 – Seasonally adjusted and de-annualised flows; gross savings of private households.

Sources: BLS, Fed

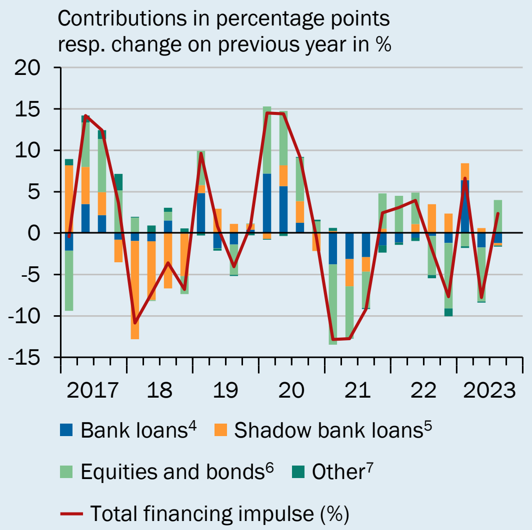
Moreover, private excess savings that built up during the Corona pandemic have been largely depleted. ↘ CHART 5 RIGHT Low- and middle-income private households have recently reported increasing financial stress (Ricketts, 2023). For example, defaults on credit card payments and consumer loans have risen rapidly (Sanchez and Wilkinson, 2023). In addition, student loan repayments due again from October 2023 onwards should probably weigh on the spending of many private households (U.S. Department of Education, 2023). The ongoing budget dispute and the strike in the automotive industry will also likely affect growth. Taken together, the last three listed impediments to private consumption and industrial production could dampen US economic growth by 0.3 percentage points in Q4 2023 (Walker and Phillips, 2023). Overall, the GCEE expects the US economy to grow by 2.4 % and 1.6 % in 2023 and 2024, respectively. Inflation in the US is expected to be 4.1 % and 2.5 % in 2023 and 2024, respectively.

The **Chinese economy expanded strongly** by 2.3 % in **Q1 2023** compared to the previous quarter**. In Q2 2023**, however, GDP growth was **significantly weaker than expected** at 0.5 %**. In Q3 2023**, growth picked up slightly to 1.3 %. Private consumption expenditures expanded, but pandemic-related income losses nevertheless had a dampening impact on consumer confidence. Gross fixed capital formation, the previous growth engine of the Chinese economy, rose by 3.1 % in the first nine months of 2023 compared to the same period last year. The growth rate thus remains well below the 2016-2019 average of 7.3 %. Gross fixed capital formation in construction even declined by 9.1 % in the first nine months of 2023 compared to the same period of the previous year. Furthermore, foreign trade has been declining since the beginning of the year.

↘ CHART 6
Chinese real estate sector and financing impulse for the real economy

Decline in property sales and new construction projects continues

Financing impulse slightly increased recently[3]



1 – Area acquired for new residential buildings measured in square meters. 2 – Residential sales by floor area measured in square meters. 3 – Financing impulse equals the sum of loan, equity and bond financing in relation to GDP minus financing in relation to GDP one year ago. 4 – In renminbi and foreign currency. 5 – Trust loans, entrust loans, bankers' acceptance bills. 6 – Net balance of new issues less redemptions of maturing corporate and government bonds and repurchases of shares in non-financial companies. 7 – Difference between components and total loans.

Sources: IMF, NBS, PBC, Refinitiv Datastream, own calculations

The **Chinese government** has been **supporting** the economy **with extensive fiscal and monetary policy measures** since the summer of 2023. For example, the central bank lowered various key interest rates in several rounds in the summer of 2023, including the interest rate for 5-year loans relevant for real estate loans and investment projects. In addition, in September the central bank extended medium-term loans to the banking system that were soon to mature and lowered the minimum reserve ratio for banks to increase their liquidity. In addition, there were government support measures for private and state-owned construction companies, mainly through the state banks.

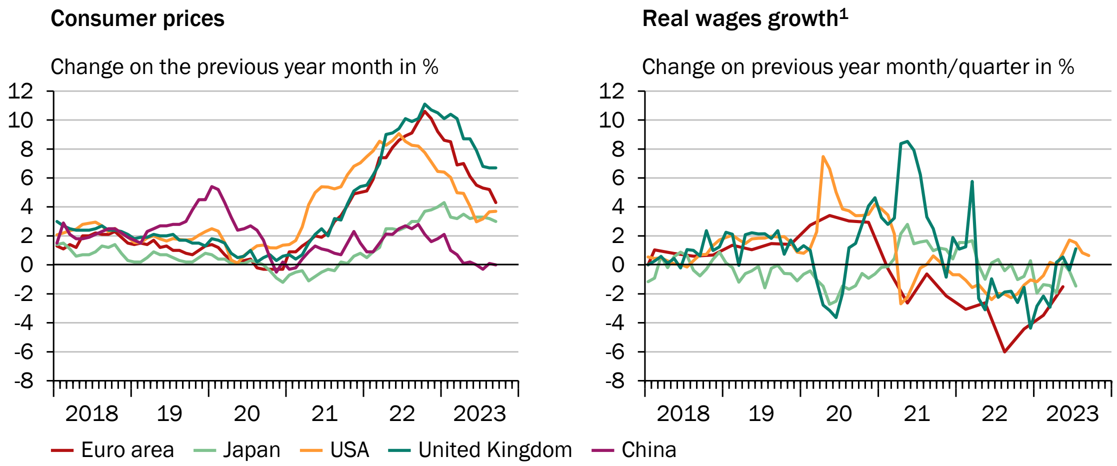
These measures seem to be having a positive effect, as the industrial production and retail trade charts published for September 2023 have risen again compared to the previous month. The financial impulse, which shows the change in credit, equity and bond financing for the real economy compared to the same period last year (Gern et al., 2022), is slightly positive overall in Q3 2023, after the financing figures had already jumped in August in response to the various support measures. ↘ CHART 6 RIGHT **However**, the **real estate sector appears to respond slowly to the support measures** and weak property sales and construction output continue to weigh on the construction industry. ↘ CHART 6 LEFT Weak construction activity is also reflected in declining real estate prices. Overall, weak construction activity continues to dampen domestic economic activity significantly. Inflation was almost stagnant in August and, together with very high urban youth unemployment of 21 % in June 2023, currently underlines China's economic weakness.

Given the many domestic economic problems, **monetary and fiscal policies in China are** likely to remain **supportive.** However, it is unclear whether the measures will be sufficient to support the economy beyond 2023, especially due to the problems in the real estate sector. Gross fixed capital formation in the construction sector is likely to continue to dampen overall economy growth. In addition, the construction sector plays an important role for employment. Moreover, 70 % of private household wealth in China is held in the form of real estate. A weak real estate market thus weighs heavily on consumer confidence. ↘ ITEM 15 The GCEE expects the **Chinese economy to** grow by **5.4 % in 2023** and thus to achieve the growth target of 5 % set by the Chinese central government. **In 2024**, the GCEE expects **economic growth of 4.3 %.** Inflation is expected to be 0.5 % and 2.2 % in 2023 and 2024, respectively.

2. Commodity prices and monetary policy bring inflation down

17. **Consumer price inflation** continues to fall in most economies. ↘ CHART 7 LEFT While inflation in the UK continues to fall rapidly from a higher level, declines have slowed down in the euro area and Japan. ↘ CHART 34 In the US, higher oil and gasoline prices have even led to a slight increase in inflation in July and August 2023. **Core inflation** is proving **persistent** across the board and is likely to remain **above** central banks' **inflation targets** over the forecast horizon as service prices continue to rise significantly. ↘ ITEM 34 Service prices not only account for a large share of core inflation. They are also less volatile than goods prices and more dependent on wage costs, a reason why inflation in the service sector comes with a lag in the form of second-round effects and is more persistent than goods inflation (Nakamura and Steinsson, 2013; Ferrante et al., 2023). Due to the sluggish development of core inflation, overall inflation is likely to decline only slowly. ↘ BOX 7

↘ CHART 7
Inflation and real wages



1 – Hourly wages are deflated by the consumer price index. Both series are seasonally adjusted. Only quarterly figures are available for the euro area. No hourly wages available for China.

Sources: National statistical offices, OECD, own calculations

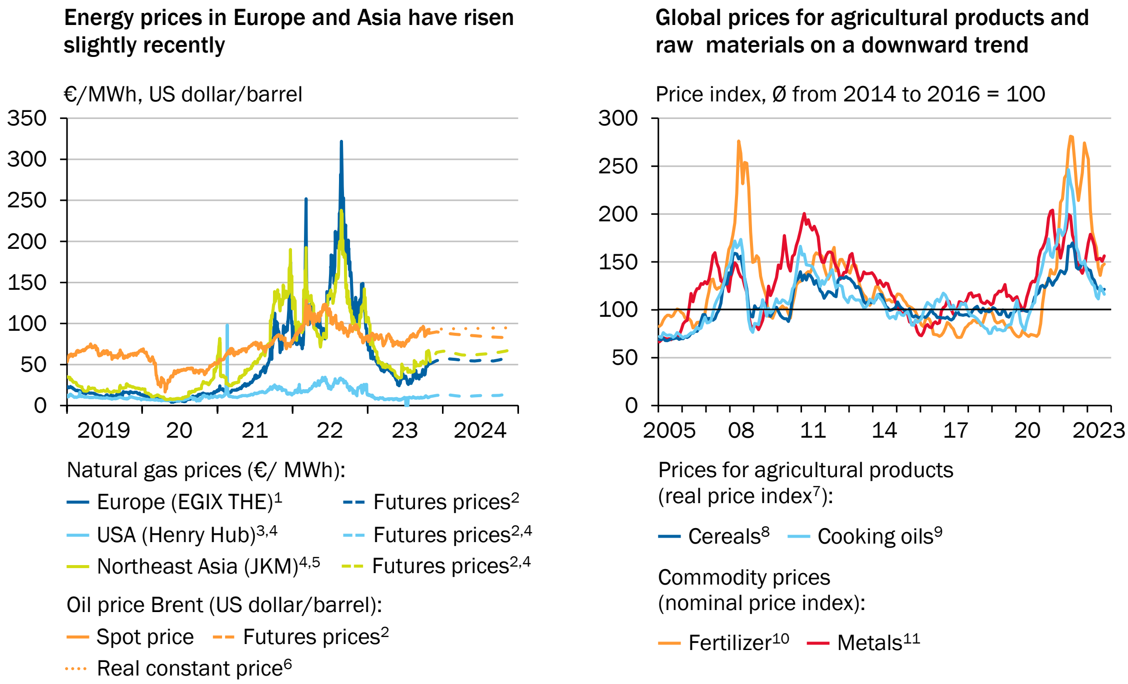
18. High inflation in 2022 has led to high real wage losses in many economies. High nominal wage increases are compensating more and more for the real wage losses of recent years, especially in economies experiencing high labour shortages. ↘ ITEMS 34 FF. Thus, **real wages** are expected to **continue to recover slowly** after the temporary changes in the structure of employment and the volume of work during the Corona pandemic and the sharp inflation-related declines. ↘ CHART 7 RIGHT On the one hand, this is likely to be inflation-increasing. On the other hand, however, similar catch-up effects in real wage growth have mostly not led to a wage-price spiral in the past (Alvarez et al., 2022).

Commodity prices develop unevenly

19. After declining since August 2022, crude oil prices have increased slightly again since summer 2023. The **price of** North Sea Brent **crude oil** was, on average, 89 US dollars per barrel in October 2023, after almost 78 US dollars in Q2 2023. ↘ CHART 8 LEFT The price increase was due to a higher demand – especially from China – and fallen inventories (EIA, 2023; IEA, 2023a). The **announcement by OPEC+ countries**, ↘ GLOSSARY Saudi Arabia and Russia, to continue **voluntary production cuts** of 1.0 and 0.3 million barrels per day, respectively, until the end of 2023 is also **likely to have provided a boost to prices** in September 2023 (IEA, 2023b, 2023c). The increase in production in non-OPEC+ countries by almost 2.7 million barrels per day in the third quarter of 2023 compared to the previous year, however, is likely to have dampened the price increase (EIA, 2023).

After the **terrorist attacks by Hamas on Israel on 7 October 2023**, uncertainty about the development of the oil price increased. On the first trading day thereafter, the price for futures contracts maturing in December 2023 and December 2024 rose by almost 3.60 and 2.20 US dollars respectively. Overall, the entire futures price curve has shifted upwards by almost 5 US dollars since

↘ CHART 8
Prices for energy, agricultural products and raw materials



1 – The European Gas Index (EGIX) is based on exchange trades with the respective current front month contracts of the Trading Hub Europe (THE). A front month contract is defined as a contract maturing in the next month that is traded on the futures exchanges. 2 – Average futures prices of the last 10 trading days for November 2023 and the following months as of 27. October 2023. 3 – Prices are based on delivery at the Henry Hub in Louisiana. Official daily closing prices at 2:30 p.m. from the trading floor of the New York Mercantile Exchange (NYMEX) for a specific delivery month. 4 – Price in US dollar/MMBtu (1 million British thermal units) converted into €/MWh. For the conversion of futures prices, the last available daily rate is used. 5 – Japan Korean Marker (JKM) is the Northeast Asia spot price index for LNG delivered ex-ship to Japan und Korea. 6 – Oil price extrapolated with an annual inflation rate of 2 %. 7 – Nominal price index deflated by the World Bank's Manufactures Unit Value (MUV) Index. 8 – Includes prices for barley, maize, millet, rice and wheat. 9 – Includes prices of ten different vegetable cooking oils. 10 – Includes prices for phosphate fertilizer, potash fertilizer and urea fertilizer. 11 – Includes prices for aluminium, cobalt, copper, iron ore, lead, molybdenum, nickel, tin, uranium and zinc.

Sources: ECB, EEX, EIA, FAO, ICE, IMF, NYMEX, Refinitiv Datastream, own calculations

7 October. The price increase may be due to higher demand to secure stocks. As Israel is not an oil-producing country, the **impact on oil prices is** likely to be **limited** unless the conflict spreads to oil-producing countries. ↘ ITEM 25

20. After the strong price increase in 2021 and 2022, which mainly affected Europe, **prices on the natural gas markets are normalising**. ↘ CHART 8 LEFT In October 2023, however, the average price for natural gas in Europe was around 47 euros per megawatt hour (MWh), having averaged just under 36 euros per MWh in Q2 2023. In the USA, the reference price for natural gas was just under 11 euros per MWh in October 2023, slightly higher than in Q2 2023, when it averaged just under 8 euros per MWh.

The terrorist attack on Israel also **increases uncertainty for natural gas**. European prices for futures contracts maturing in 2023 rose by more than 10 % on the first trading day after the attack. For contracts maturing in 2024, the increase was between 5 % and 9 %. The shutdown of production at the **Tamar**

gas field off the coast of Israel is likely to be one reason for the price increase (Elliot, 2023). In the first half of 2023, 4.91 billion cubic meters (bcm) of natural gas was produced here, which represented about 40 % of Israel's total production in the same period. The **gas fields Leviathan** (5.44 bcm) **and Karish** (1.97 bcm) have **not** been **affected so far**. Futures prices have recently continued to rise, and are, on average over the last ten trading days in October 2023, 51 euros per MWh for contracts maturing in November 2023. **European futures prices for the end of 2024** are 60 euros, **about 4 euros higher than the average in March 2023**, but well below the level in 2022.

21. **World market prices for other commodities** such as **metals** have declined compared to March 2023. ↘ CHART 8 RIGHT For **agricultural products**, such as cereals and cooking oils, and fertilisers, which are important for agricultural production, the normalisation after last year's price explosions has also continued. Cereal prices rose slightly in September 2023.

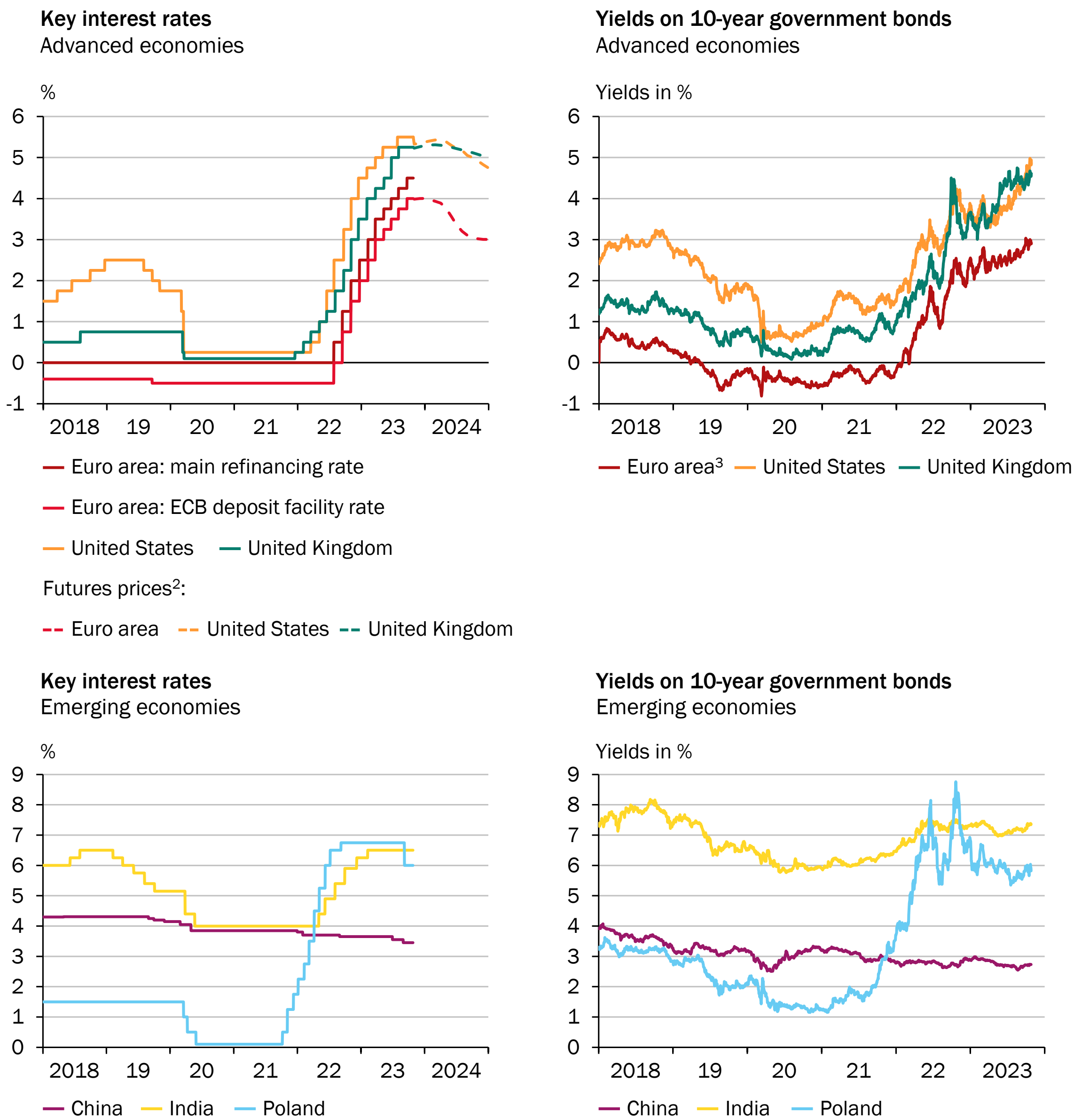
Monetary policy remains restrictive

22. **Central banks in many advanced economies and some emerging markets have continued to raise their key policy rates** in 2023 to combat persistently high inflation rates. ↘ CHART 9 TOP LEFT AND BOTTOM LEFT Since the beginning of the year, the US Federal Reserve raised its benchmark rate by one percentage point to 5.25 % to 5.5 %, while the Bank of England raised its base rate by 1.75 percentage points to 5.25 %. After raising interest rates until spring 2023, the central banks in Poland and India have recently lowered or maintained their key policy rates slightly. In China, the interest rate was lowered again to counteract the crisis in the real estate market. Monetary policy tightening has been reflected to varying degrees in rising government bond yields ↘ CHART 9 TOP RIGHT and rising interest rates for loans in the advanced economies. ↘ ITEM 40 Over the forecast horizon, key policy rates in advanced economies are expected to decline slowly from current high levels. ↘ BOX 5

23. Against the backdrop of slower economic expansion and monetary policy tightening measures, **global consumer price inflation** is likely to continue to fall. On an annual average, however, it is still expected to be significantly higher at **5.3 % in 2023**. In 2024, a noticeably lower inflation rate of **3.8 %** is then to be expected. The targets of most central banks are therefore not likely to be reached until the end of 2024.

↘ CHART 9

Rising key interest rates[1] and yields on 10-year government bonds



1 – The considered key interest rates are the main refinancing rate and the ECB deposit facility rate for the euro area, the federal funds rate for the United States, the bank rate for the UK, the short-term borrowing base rate for households and enterprises for China, the repo rate for india and the reference rate for Poland. 2 – Market participants' expectations of central bank interest rates derived from the 30-day Federal Funds Futures for the United States the 3-month EURIBOR futures for the euro area and the overnight index swap forwards for the United Kingdom. Retrieved on 27 October 2023. 3 – For the euro area, only AAA-rated government bonds are considered.

Sources: BoE, CME, ECB, Fed, ICE, National Bank of Poland, Refinitiv Datastream, Reserve Bank of India, The People's Bank of China

↘ BOX 2

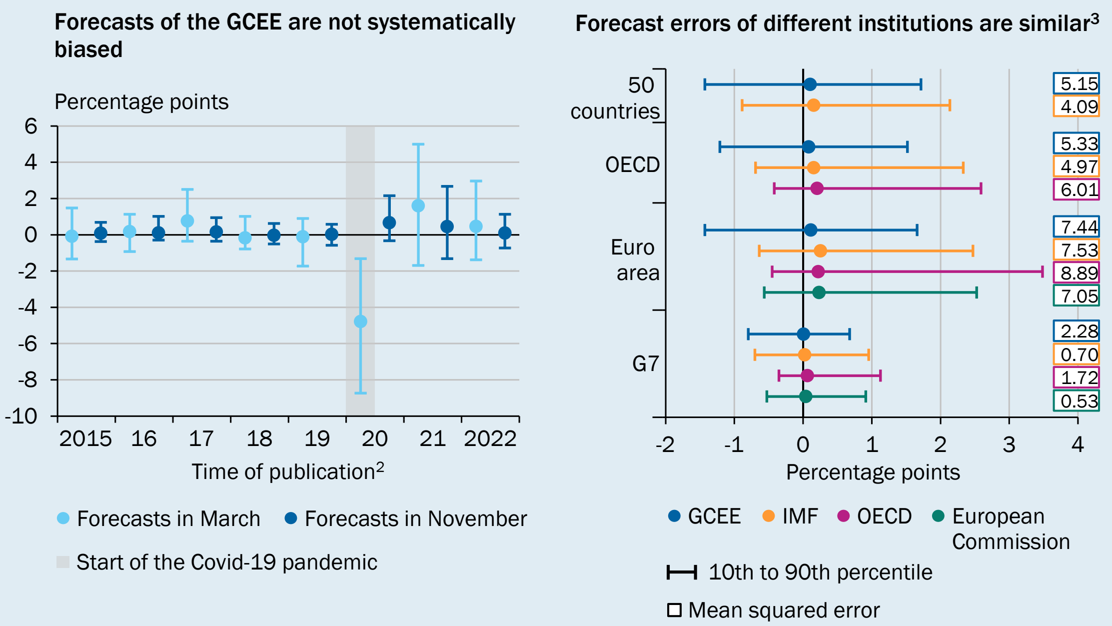
Analysis: Evaluation of the GCEE's GDP forecasts

The GCEE **has been forecasting the economy twice a year since 2012.** In addition to the forecast for Germany, it also produces forecasts for GDP and inflation of 49 other economies. The 50 countries considered contributed about 84 % to global GDP (weighted by purchasing power parities) in 2022. ↘ TABLE 1 An evaluation of the forecasts serves as quality assurance. Various studies have thus already examined the forecasts of the Federal Reserve (Clements et al., 2007), the IMF (Timmermann, 2007; Celasun et al., 2021), the ECB (Kontogeorgos and Lambrias, 2019) and Consensus Economics (Dovern et al., 2012). In the recent past, the GCEE has also evaluated the quality of its forecasts for German GDP (Annual Report 2019 box 4) and the quality of its inflation forecasts for the euro area (Annual Report 2021 box 4).

Forecasts are subject to uncertainty. In the case of unexpected shocks such as the Corona pandemic, **forecast errors,** i.e. deviations of the forecasts from the realised annual values, are **unavoidable.** The growth losses due to the Covid-19 pandemic could hardly be estimated in March 2020. In 2020, the GDP growth forecasts for 30 countries were at least 4.0 percentage points too high based on the assumptions made by the GCEE. Forecast errors can also be country-specific. The largest forecast error is for Irish GDP growth in 2015, which unexpectedly grew by more than 26 % due to shifts in ownership by a few multinational companies. **Forecast errors** therefore do not necessarily reflect an incorrect assessment, but can occur due to unexpected developments despite the best possible assessment at the time of the forecast.

↘ CHART 10

Forecast error for GDP growth in 50 countries[1]



1 – Forecast errors are the difference between the realised GDP growth for the respective year and the forecast for the same year, which was prepared either in March or November. The whiskers show the 10th to 90th percentile. The dot represents the median. The 50 countries include those in Table 1. Venezuela, which was still included in publications until March 2016, is not included. 2 – November and March forecasts are from the GCEE Annual Report and the GCEE Economic Outlook, respectively. 3 – In the groups of 50 countries, OECD, euro area and G7, 799, 460, 237 and 98 forecast errors are included, respectively.

Sources: European Commission, IMF, OECD, own calculations

The evaluation of the forecasts since 2014 shows that the **GCEE forecasts for the GDP growth rates of the 50 countries** are **not systematically biased.** ↘ CHART 10 LEFT The median of the 50 forecast errors is close to zero across all publications. The range of the forecast errors is often larger in March than in November. This is related to the availability of information: While in March of each year growth for all four quarters still has to be forecast to complete the annual rate, by the time the GCEE Annual Report is published in autumn the growth rates for the first half of the year are already available and the annual rate can be better forecast with this additional information.

The **GCEE's forecast errors** turn out very **similar to the forecast errors of other institutions.** ↘ CHART 10 RIGHT An earlier data cut-off and an earlier publication, such as it is for the International Monetary Fund (IMF), which publishes its autumn forecast already in October, can partly explain the slightly more optimistic forecasts of the other institutions. According to the mean square error, the IMF's forecast errors are lower. The forecast errors for the G7 countries, which have a considerable impact on global GDP with a share of almost 30 % in 2022 weighted by purchasing power parities, are remarkably close to each other.

3. Opportunities and risks: China and geopolitics

24. The **development of the Chinese economy** continues to be the **most significant downside risk for the global economy** (GCEE Economic Outlook 2023 item 13). In particular, the Chinese real estate sector, which is important for the overall economy, is highly indebted. In the face of weak domestic demand and falling real estate prices, real estate groups and municipal infrastructure companies are struggling with declining sales. As a result, it has recently become more difficult to service interest payments. In addition, payments from infrastructure companies to municipalities are declining, which can further affect infrastructure projects at the municipal level as well as limit municipal spending on public services (Bradsher, 2023). Debt relief can be lengthy and may require further support measures from central government. A weak construction sector over the years not only weighs on value added but also on employment. This is likely to further dampen subdued domestic consumer demand. An unexpectedly strong **slowdown** in Chinese growth is **likely to have a negative impact on its main trading partners, the US and Europe**.

25. **Geopolitical risks have increased recently**. On the one hand, geopolitical tensions between the **USA and China** pose a threat to the global economy, which is already reflected in trade relations, for example in export restrictions on high-tech products. At the same time, a decline in the bilateral trade volume between the USA and China can be observed. On the other hand, the **terrorist attacks by Hamas on Israel** have significantly increased the potential for conflict in the Middle East. A spread of the conflict to other states could further reduce natural gas production off Israel's coast and affect crude oil supplies from the Middle East. ↘ ITEM 19 Speculative transactions as well as stockpiling for precautionary reasons could create additional price pressure on the crude oil and natural gas markets.

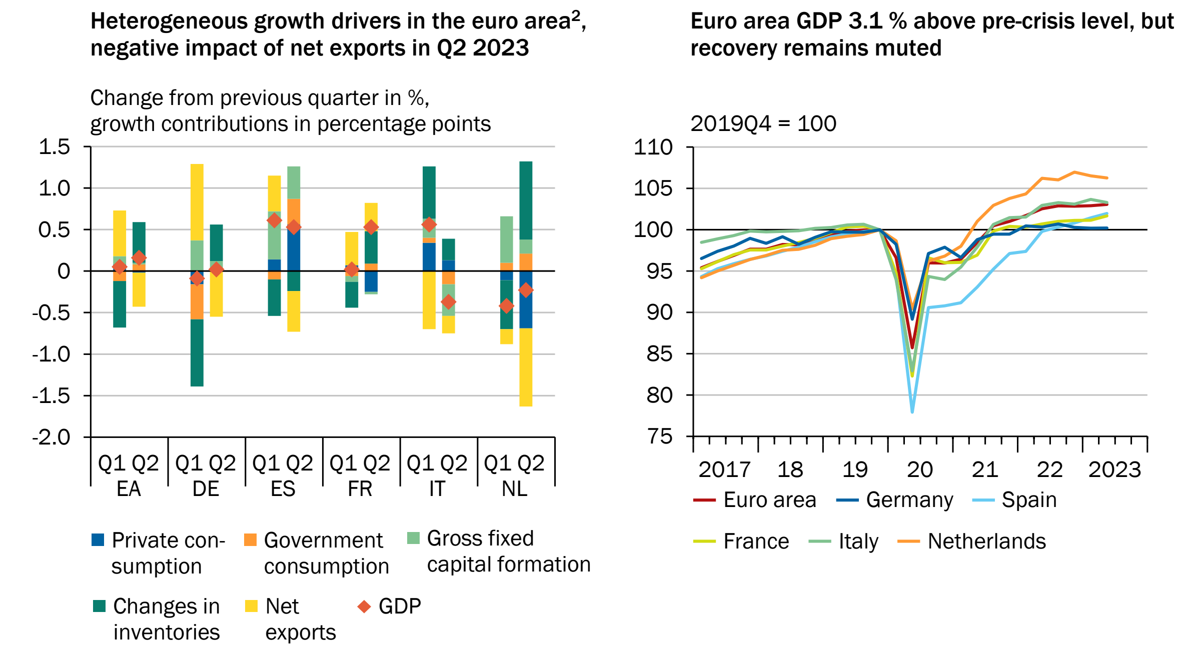
III. EURO AREA

26. Growth momentum in the **euro area** was **weak in the first half-year of 2023**. Despite the economic effects caused by the energy crisis and the resulting inflation shock, no major decline in the GDP occurred. Nevertheless, value added in the industry has largely stagnated since 2021, partly as a result of higher energy prices and persistent shortages of materials. Service sectors, which were restricted during the pandemic, have had a stabilising effect since 2022. **In the course of 2024, a somewhat stronger growth** can **be expected** again based on the recovery in real wages.

1. Weak growth also in the euro area

27. **In the euro area, price-, seasonally- and calendar-adjusted GDP increased slightly by 0.2 % in Q2 2023** following a stagnation in Q4 2022 and Q1 2023. ↘ CHART 11 LEFT In particular, the contrasting developments in net exports and changes in inventories ↘ GLOSSARY in Q1 and Q2 2023 have shaped GDP growth. The positive net exports are the result of volatile changes in imports and exports of services. By contrast, exports of goods declined by 1.0 % and 1.4 % quarter-on-quarter in these quarters, respectively. Despite the strong monetary policy tightening, gross fixed capital formation did not decline in Q1 and Q2 2023 and even made a marginally positive contribution to GDP growth of almost 0.1 percentage

↘ CHART 11
GDP[1] development in the euro area subdued in the first half-year 2023



1 – Price-, seasonally and calendar-adjusted. 2 – EA-Euro area, DE-Germany, ES-Spain, FR-France, IT-Italy, NL-Netherlands.

Sources: Eurostat, own calculations

points in Q1 2023. Covid-19measures imposed by the government have largely expired, which caused a significant decline in government consumption in Q1 2023. This effect was particularly pronounced in Germany. In Q2 2023, there was a partial rebound in government consumption for instance in Spain and France. ↘ ITEM 50

28. **Compared to pre-pandemic levels** in Q4 2019, **GDP in the euro area was 3.1 % higher in Q2 2023**, and increased by 2.0 % compared to Q4 2021. However, growth varied considerably across member states. ↘ CHART 11 RIGHT The different economies and economic sectors were asymmetrically affected by the Corona pandemic and the energy crisis. ↘ BOX 3 While factors such as the lingering effects of the easing of the Covid-19 measures should fade out in a timely manner, structural output changes resulting from higher energy prices are likely to have longer-lasting effects (Emter et al., 2023).

↘ BOX 3

Focus: Development of GDP growth in selected economies and economic sectors since Q4 2021

The economic development of the euro area in the past four years was significantly shaped by the **Covid-19 pandemic and** the **energy crisis.** Economies were not only affected to different degrees by the crises. The **effects on the economic sectors** and thus on the overall economy of the member states also varied greatly. In the following, the focus is on the period since the fourth quarter of 2021, i.e. the quarter before the start of the Russian war of aggression against Ukraine. In addition, the economic development in the economic sectors is examined on the basis of the price-, seasonally- and calendar-adjusted gross value added (GVA).

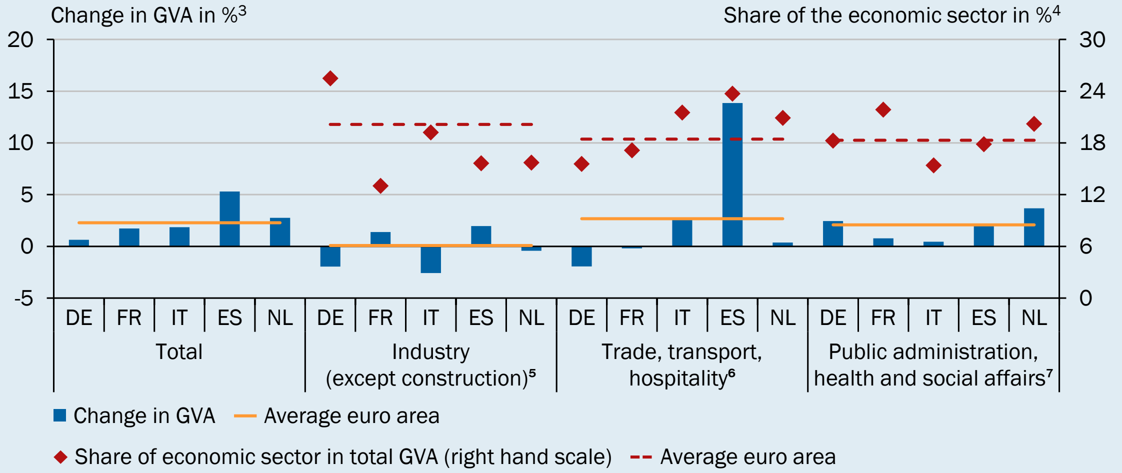
The development of the three largest economic sectors in the largest Member States shows ↘ CHART 12 TOP that the **comparatively weak growth in Germany cannot be attributed solely to the** energy-intensive **industry**. With a few exceptions, value added in Germany has grown more slowly than the euro area average in almost all economic sectors. ↘ CHART 12 BOTTOM LEFT Parts of the manufacturing sector in Germany were more affected by shortages of materials and skilled workers in certain occupations, among other things, and by weak demand from China than in other economies (Joint Economic Forecast, 2023). In contrast, a shift in production towards higher-value goods is likely to have cushioned the negative effect on value added.

Since the economic sectors were affected differently by the Covid-19 pandemic and the energy crisis, the **different development of** the **member states can also be explained by the different economic structure.** ↘ CHART 12 BOTTOM RIGHT Thus, the larger the share of the industry in total value added, the lower the growth in total GVA has been since Q4 2021 in the wake of the energy crisis. At the same time, the larger the share in the trade, transport and hospitality sector, the stronger the economies have been growing. This is likely to be due to opening effects resulting from the relaxation of pandemic-related quarantine measures, which are still having an impact in 2023 (Battistini and Gareis, 2023). Moreover, the strong growth in Spain, as in other southern European economies, is likely to be partly attributable to the recovery in tourism (European Commission, 2023; Fernández Cerezo et al., 2023). Overall, GVA growth in the trade, transport and hospitality sector since Q4 2019 has been strongest in countries where the weight of the sector is particularly high. Accordingly, catch-up effects appear to have had an impact beyond the mere normalisation of services consumption (Battistini and Gareis, 2023).

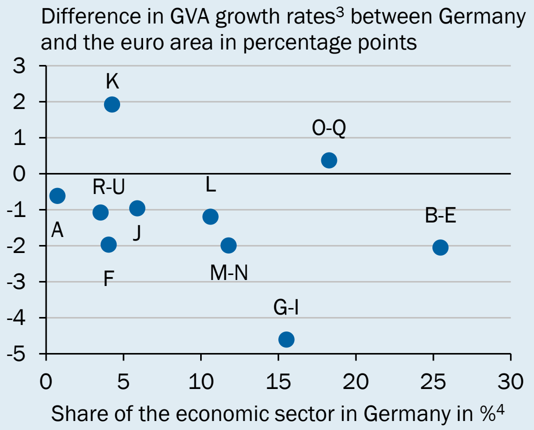
↘ CHART 12

Gross value added[1] (GVA) in almost all economic sectors in Germany grew more slowly than the euro area average[2] between Q4 2021 and Q2 2023

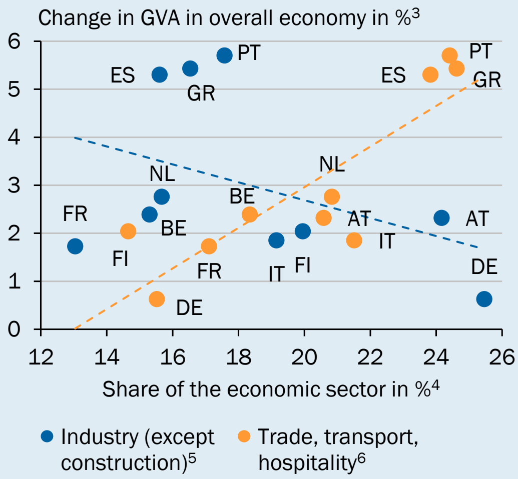
Development of GVA in the overall economy and the three largest economic sectors in the euro area



Change in GVA in the economic sectors in Germany compared to the euro area



Relationship between the size of economic sectors[8] and the growth of overall economy GVA in the euro area



1 – Price, seasonally and calendar-adjusted. According to the statistical classification of economic activities in the European Community (NACE Rev. 2). 2 – DE-Germany, FR-France, IT-Italy, ES-Spain, NL-Netherlands, AT-Austria, BE-Belgium, FI-Finland, GR-Greece, PT-Portugal. 3 – Between the fourth quarter of 2021 and the second quarter of 2023. 4 – Average share of value added in the respective economic sector in the gross value added of the overall economy in the period between Q4 2021 and Q2 2023. 5 – Mining and quarrying; Manufacturing; Electricity, gas, steam and air conditioning supply; Water supply; sewerage, waste management and remediation activities. 6 – Wholesale and retail trade, transport, accommodation and food service activities. 7 – Public administration, defence, education, human health and social work activities. 8 – A-Agriculture, forestry and fishing; B-E-Industry (excl. construction); F-Construction; G-I-Trade, transport, hotels and restaurants; J-Information and communication; K-Financial and insurance activities; L-Property and housing; M-N-Professional, scientific and technical activities, M-N-Scientific and technical activities, other business activities; O-Q-Public administration, health and social work; R-U-Arts, entertainment and recreation; other business activities; Households, renting and business support activities. Private households, extra-territorial organisations and corporations.

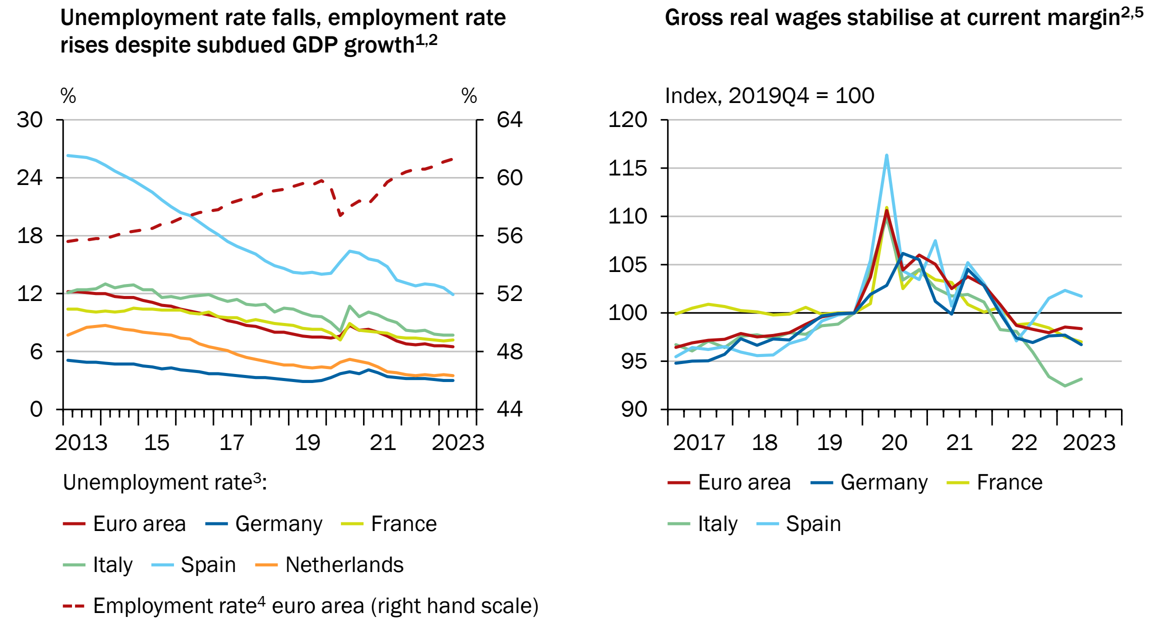
Sources: Eurostat, own calculations

29. **The subdued economic growth had only a minor impact on the labour market in the first half-year 2023**. The unemployment rate in the euro area continued to decline. In August 2023, it stood at 6.4 %, 0.3 percentage points lower than in the same month of the previous year. ↘ CHART 13 LEFT This development is accompanied by a rising employment rate, which reached an all-time high of 61.3 % in Q2 2023. At the same time, the job vacancy rate ↘ GLOSSARY is slightly declining (Eurostat, 2023), but at the current margin it remains only slightly below the Q2 2022 peak. While the unemployment rate is declining across the euro area, there are still significant differences in levels. In particular, in Spain the unemployment rate of 11.5 % in August 2023 was far above the average rate in the euro area. Overall, the labour market is expected to remain fairly tight over the forecast period due to the relatively high number of job vacancies. Therefore, the impact of the weaker economic development on unemployment in the euro area should be low.

30. **Nominal wage growth** in the euro area has **picked up**. Hourly wages grew by 5.9 % in Q2 2023 compared to the same quarter of the previous year and by 0.8 % compared to the previous quarter. Negotiated wages grew by 4.4 % year-on-year in the same period. With inflation rates falling, there are signs of a **stabilisation** after a period of falling **real wages** in **recent quarters** since the end of 2020. ↘ CHART 13 RIGHT Some initial catch-up effects in the form of higher nominal wage increases in response to past losses in purchasing power can be observed, which should soon be reflected in further real wage growth. ↘ ITEM 18

↘ CHART 13

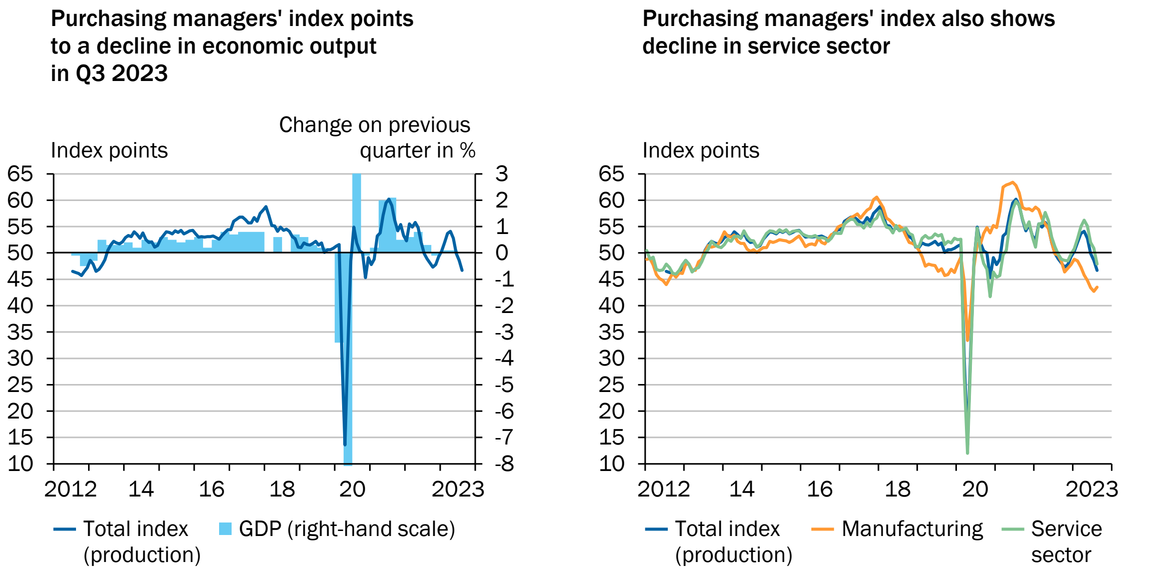
Labour market in the euro area remains robust, gross wages stabilise



1 – Delimitations according to the measurement concept of the International Labour Organization (ILO). Persons aged 15 to 74 years. 2 – Seasonally adjusted values. 3 – Unemployed persons as a share of the labour force. 4 – Employed persons as a share of the population of the corresponding age group (resident population concept). 5 – The figure shows gross wages and salaries per hour worked. Price adjustments are made using the Harmonised Index of Consumer Prices (HICP). Seasonally adjusted values.

Sources: Eurostat, own calculations

↘ CHART 14
Real-time and leading indicators signal weak growth in the second half of 2023



Sources: Eurostat, S&P Global, own calculations

31. Available **economic indicators** suggest a **very modest growth** in **the second half-year 2023.** Official statistics have recently been pointing upwards, such as industrial production, which grew by 0.6 % month-on-month in August. However, survey-based indicators, such as the Purchasing Managers' Index, ↘ CHART 14 LEFT, point to a further decline in demand, which could still be partially offset by the order backlog (S&P Global, 2023). The weakness in demand has now reached not only the industry but also the services sector. ↘ CHART 14 RIGHT

32. **An economic recovery in the euro area** is not expected **until next year**. Initially, the negative effects of monetary policy tightening on domestic demand and the comparatively weaker development in exports are likely to predominate. However, expected real wage increases as a result of rising nominal wages and a further decline in inflation should have an increasingly supportive effect in the upcoming quarters. In the course of the associated recovery of real purchasing power and consumer confidence positive impulses for private consumption expenditure should also emerge.

33. Overall, the GCEE expects a **GDP growth of 0.6 % in the euro area in 2023,** ↘ TABLE 2 with the carry-over from the previous year ↘ GLOSSARY contributing 0.4 % percentage points. In **2024**, overall growth of the economy in the euro area is expected to accelerate to some extent to an **annual average of 1.1 %**. Economies with a high share of value added from industry, such as Germany or other interest-sensitive sectors of the economy, such as construction, are likely to grow more slowly than others, since they are more affected by the aftermath of the energy crisis and the impact of monetary policy tightening. ↘ ITEM 28 ↘ BOX 4

↘ TABLE 2

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

Country/ country group	Weight in %[1]	Gross domestic product (calendar-adjusted)[2]			Consumer prices (HICP)[3]			Unemployment rate[4]		
		Change on previous year in %						%		
		2022	2023[5]	2024[5]	2022	2023[5]	2024[5]	2022	2023[5]	2024[5]
Euro area[6]	**100**	**3.5**	**0.6**	**1.1**	**8.4**	**5.6**	**2.9**	**6.7**	**6.5**	**6.5**
including:										
Germany	28.8	1.9	– 0.2	0.7	8.7	6.1	2.6	3.1	3.1	3.1
France	19.6	2.5	0.9	1.1	5.9	5.8	2.7	7.3	7.3	7.4
Italy	14.2	3.9	0.6	0.7	8.7	6.2	2.5	8.1	7.6	7.8
Spain	10.0	5.8	2.4	1.7	8.3	3.6	3.7	12.9	11.9	11.3
Netherlands	7.1	4.4	0.5	0.9	11.6	4.4	3.0	3.5	3.6	3.8
Belgium	4.1	3.0	1.3	1.0	10.3	2.6	3.4	5.6	5.6	5.6
Ireland	3.8	9.5	– 1.5	3.9	8.1	5.3	3.0	4.5	4.2	4.3
Austria	3.3	4.8	– 0.4	0.5	8.6	7.7	3.5	4.8	5.1	5.2
Finland	2.0	1.6	0.1	0.5	7.2	4.4	1.3	6.8	7.2	7.5
Portugal	1.8	6.8	2.3	1.4	8.1	5.6	3.4	6.0	6.4	6.3
Greece	1.5	5.9	2.3	2.2	9.3	4.4	2.8	12.5	11.1	10.4
memorandum:										
Euro area without Germany	**71.2**	**4.1**	**0.9**	**1.3**	**8.4**	**5.3**	**3.0**	**8.0**	**7.7**	**7.7**

1 – GDP in the year 2022 as a percentage of the GDP of the euro area. 2 – Price-adjusted. Values are based on seasonal and calendar-adjusted quarterly figures. 3 – Harmonised Index of Consumer Prices. 4 – According to the measuring concept of the International Labour Organization (ILO). For the total euro area and euro area without Germany weighted by the labour force of 2022. 5 – Forecast by the German Council of Economic Experts. 6 – Weighted average of the 20 euro area member states.

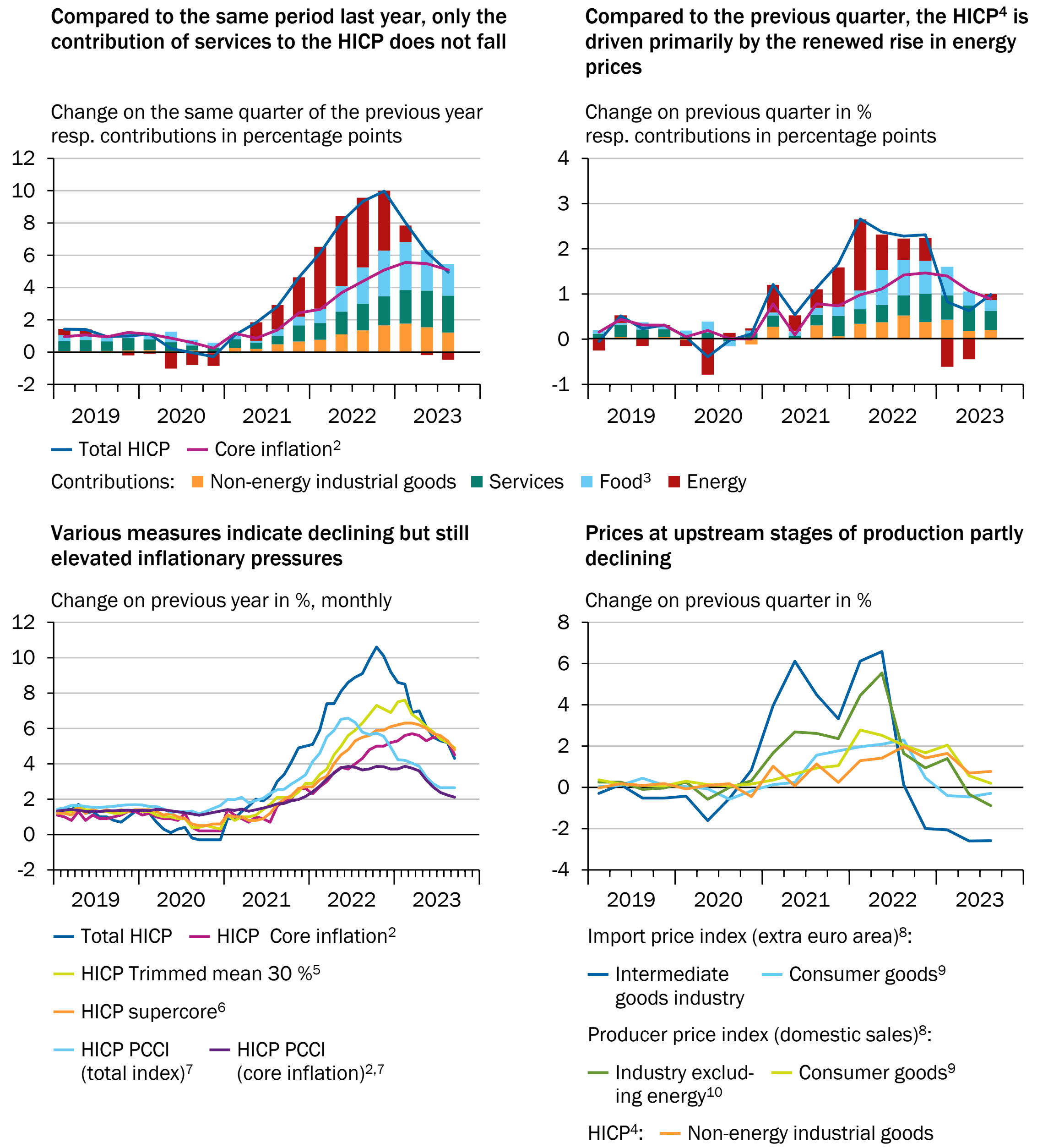
Sources: Eurostat, own calculations

2. Inflation continues to fall towards target rate

34. **Inflation** as measured by the Harmonised Index of Consumer Prices (HICP) **has continued to decline and stood at 4.3 % in September 2023** compared to the same month of last year. In this context, the absolute decline in the energy component, compared to its peaks in 2022, has significantly dampened the inflation trend. ↘ CHART 15 TOP LEFT Consumer prices in Q3 2023 were up 1.0 % on a seasonally adjusted basis compared to Q2 2023 (up 4.1 % on an annualised basis). ↘ CHART 15 TOP RIGHT Food, alcohol and tobacco inflation also slowed. The corresponding index rose by just under 1.2 % in Q3 2023 compared to the previous quarter. **Core inflation** (HICP inflation excluding energy, food, alcohol and tobacco), which is less susceptible to fluctuations, is **proving to be persistent**. It reached a new historical high of 5.7 % year-on-year in March 2023 and has since fallen to 4.5 % in September 2023, with the inflation rate of non-energy industrial goods declining comparatively sharply. However, service sector price inflation accelerated further during 2023. Compared to the previous quarter, the inflation rate for services stood at 1.0 % in Q3 2023, making it the largest contributor to the inflation rate on a quarterly basis. ↘ CHART 15 TOP RIGHT Overall, various measures of

↘ CHART 15

HICP inflation[1] in the euro area declined significantly compared to the same period last year, service prices gained importance for the overall index



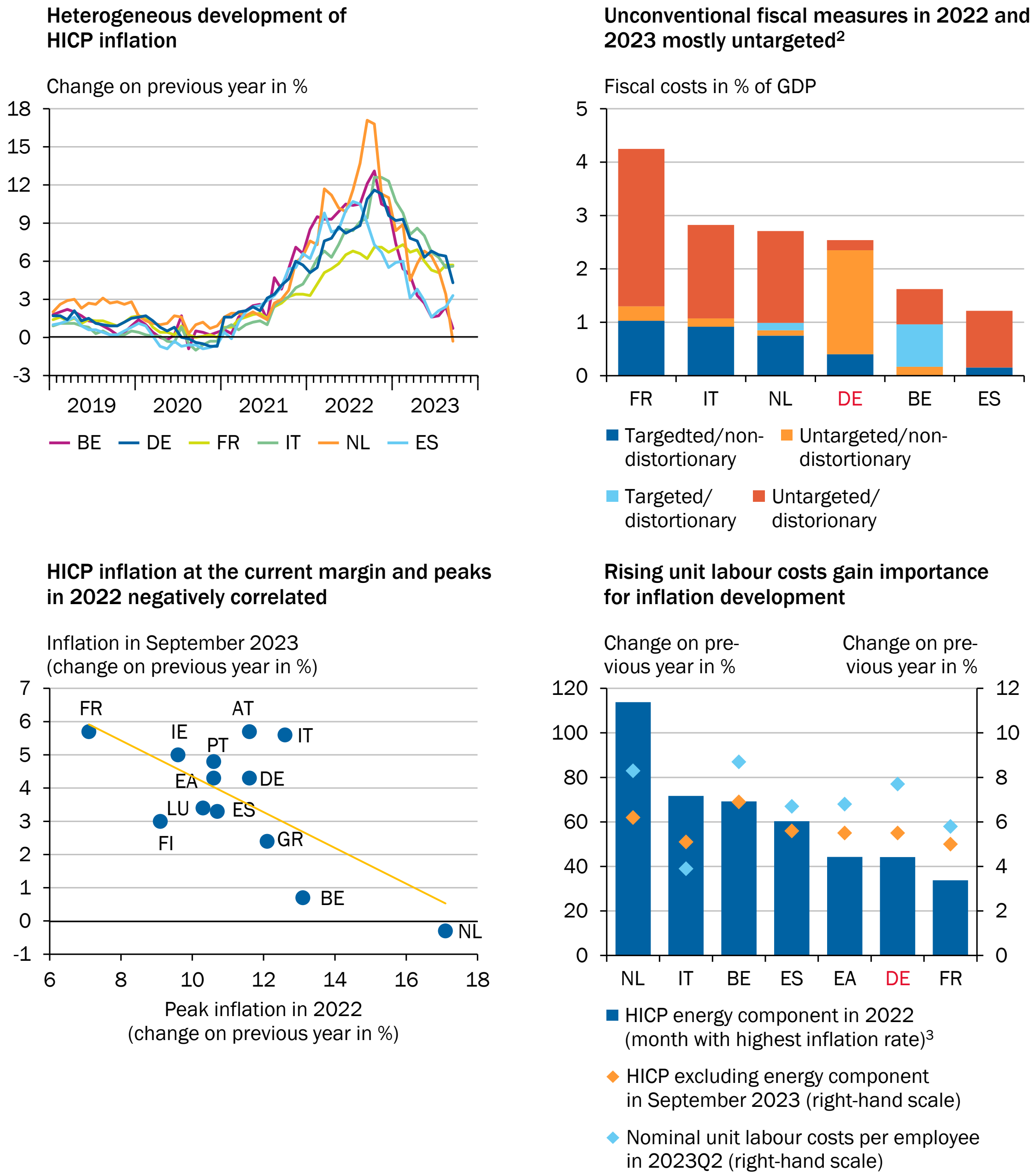
1 – Harmonised Index of Consumer Prices. 2 – Total index excluding energy, food, alcohol and tobacco. 3 – Food including alcohol and tobacco. 4 – Except energy: seasonally and calendar-adjusted values and until the end of 2022 excluding Croatia. 5 – When calculating the trimmed mean, 15 % of the components (measured by their weighting in the overall index) with the lowest or highest price increases are excluded at each point in time. 6 – The supercore measure for the core rate corresponds to the part of the price increases of the respective components of the HICP excluding energy and food that can be explained by the output gap in a regression. Details on the calculation in Ehrmann et al. (2018). 7 – 3-month moving averages. The Persistent and Common Component of Inflation (PCCI) is a model-based measure of the core HICP rate in the euro area based on a dynamic factor model for the individual components of the total HICP and the total HICP excluding energy and food, respectively, in twelve euro area member states. For details on the calculation, see Bańbura and Bobeica (2020). 8 – According to the Statistical classification of economic activities in the European Community (NACE Rev. 2). 9 – Excluding food and tobacco. 10 – Mining and quarrying; manufacturing excluding the main industrial groupings of energy production.

Sources: ECB, Eurostat, own calculations underlying inflationary pressures (GCEE Annual Report 2022 box 7) indicate declining but still elevated readings. ↘ CHART 15 BOTTOM LEFT

35. The pass-through of increased **production costs to consumer prices** since mid-2021 **does not appear yet to be complete.** For example, import prices

↘ CHART 16

Heterogeneous inflation development in selected euro area member states[1]



1 – AT-Austria, BE-Belgium, DE-Germany, EA-euro area, ES-Spain, FI-Finland, FR-France, GR-Greece, IE-Ireland, IT-Italy, LU-Luxembourg, NL-Netherlands, PT-Portugal. 2 – Estimates from the study by Arregui et al. (2022). Examples of the measures are: the child bonus and the child emergency supplement for low-income families (targeted/non-distortionary), the gas price brake (untargeted/non-distortionary) and the petrol rebate (untargeted/distortionary) in Germany and the energy social tariff (targeted/distortionary) in Belgium. 3 – For EA and ES: March, for FR: June, for DE and NL: September, for BE and IT: October.

Sources: Arregui et al. (2022), Eurostat, IMF, own calculations for industrial intermediate goods and consumer goods are now declining and the increase in producer prices at the downstream stages of production is slowing or declining. ↘ CHART 15 BOTTOM RIGHT However, at the stages of production close to consumption, producer prices still rose at a rate of 0.6 % quarter-on-quarter in Q3 2023 (annualised 2.4 %).

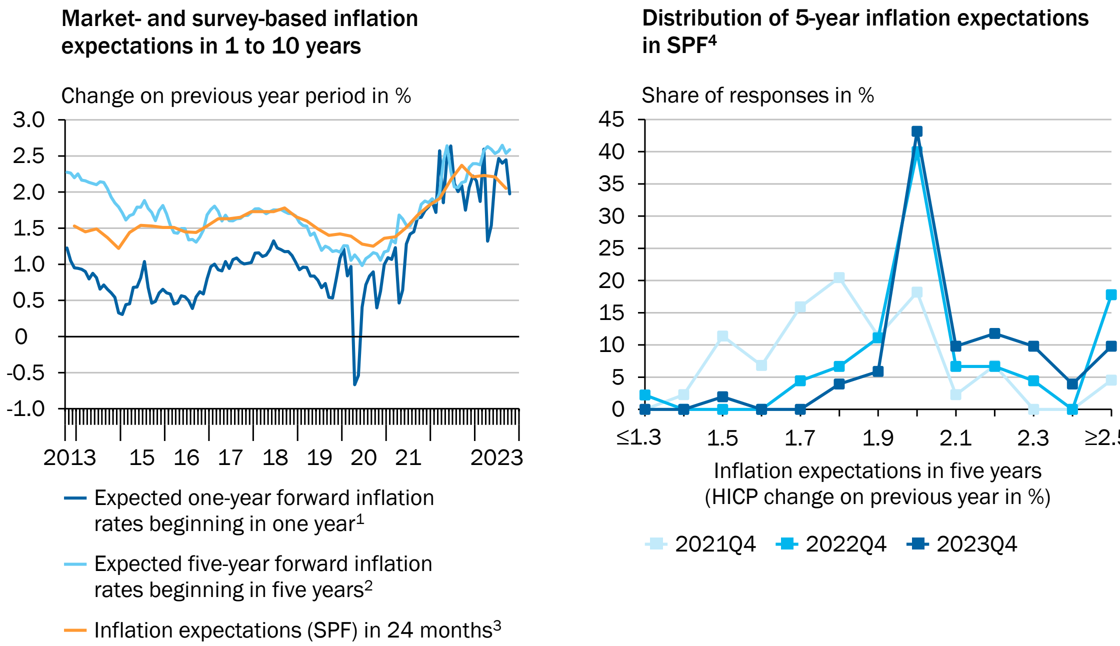
36. **Inflation developments** have **varied considerably across member states** since the second half-year 2021. ↘ CHART 16 TOP LEFT While energy prices have led to rising consumer prices in all economies, the timing and magnitude of the price increase has been different (Joint Economic Forecast, 2023). This was particularly due to differences in the extent to which they were affected by the energy crisis (GCEE Annual Report 2022 item 26), in the speed at which they were passed on to final consumers, and in the measures taken by the government to deal with the increased energy prices. In many economies, unconventional fiscal measures have been poorly targeted, sometimes directly intervening in and capping energy prices (Arregui et al., 2022; Checherita-Westphal and Dorrucci, 2023). ↘ CHART 16 TOP RIGHT Despite the risk of increasing energy demand, unconventional fiscal measures, such as capping price increases as well as tax cuts on energy sources, have helped to stabilise inflation in the euro area in a sustainable manner (Dao et al., 2023). The economic slowdown in the euro area has also contributed to this.

Currently, **inflation is relatively low due to the base effect** among others in those **Member States that have seen the largest price increases in 2022**. ↘ CHART 16 BOTTOM LEFT In addition, HICP inflation excluding energy appears to be driven only to a limited extent by energy price inflation, ↘ CHART 16 BOTTOM RIGHT so that in the forecast horizon inflation developments are likely to be driven increasingly by wage and unit labour cost developments.

37. With the decline in inflation, **inflation expectations have largely stabilised** on average. However, some financial market-based measures of inflation expectations remain **above the 2 % inflation target**. ↘ CHART 17 LEFT In the Survey of Professional Forecasters (SPF), a survey of qualified experts carried out by the ECB on their macroeconomic expectations, the five-year mean of inflation expectations has declined from the 2022 peak to 2.1 % most recently (ECB, 2023a). The distribution of point estimates focuses on the 2 % inflation target. ↘ CHART 17 RIGHT The expectations, however, are distributed asymmetrically with a higher weight for values above 2 %. Thus, upside rather than downside risks are seen for the next few years. Furthermore, the aggregate uncertainty for the long-term inflation outlook has recently decreased slightly, but remains at a high level (ECB, 2023a).

38. The Governing Council of the ECB has continued to tighten monetary policy in view of sharply elevated inflation rates and expectations that inflation will remain too high for too long. **Key policy rates have been raised ten times in a row since July 2022 in decreasing steps by a total of 4.5 percentage points**. At the most recent meeting in October 2023, a pause was initiated for the first time, since the Governing Council of the ECB deemed that key policy rates are at a level which, if maintained long enough, will make a significant contribution to a timely return of inflation to the medium-term objective of 2 %. The interest rates

↘ CHART 17
Inflation expectations have declined compared to last year



1 – Market-based long-term inflation expectations starting in one year for one year. Derived from the fixed payment stream of inflation swaps, which is exchanged for the annual realised inflation rates of the next year or the next two years. 2 – Market-based long-term inflation expectations starting in five years for five years. Derived from the fixed payment stream of inflation swaps, which is exchanged for the annual realised inflation rates of the next five or ten years. 3 – SPF (Survey of Professional Forecasters), expectations of the annual inflation rate in 24 months. 4 – SPF (Survey of Professional Forecasters), expectations of the annual inflation rate in five years. Respondents are asked to provide point estimates of the expected annual inflation rate in five years. This chart shows the distribution of the point estimates provided.

Sources: ECB, Refinitiv Datastream, own calculations

on the main refinancing operations, the marginal lending facility and the deposit facility have been 4.50 %, 4.75 % and 4.00 %, respectively, since 20 September 2023. ↘ CHART 9 TOP LEFT As a result of the restrictive monetary policy, real interest rates, i.e. nominal interest rates minus expected inflation, have risen sharply and money growth (M3) ↘ GLOSSARY was in negative territory for the first time since mid-2010. ↘ BOX 4

39. The **ECB's securities holdings** acquired under the Pandemic Emergency Purchase Programme (PEPP) and the Asset Purchase Programme (APP) have fallen by around €153bn since March 2023 to just under €4,777bn. Since principal payments of maturing securities from the APP portfolio are not reinvested, the APP holdings are likely **to fall by a further** almost **€333bn** by September 2024, according to the ECB. In contrast, principal payments of maturing securities from the PEPP holdings will be reinvested flexibly across time, asset classes and member states until at least the end of 2024 (ECB, 2022, 2023b). The **consolidated balance sheet of the Eurosystem has fallen** overall by almost €918bn to €7,038bn since the beginning of 2023, also against the background of the massive decline in targeted longer-term refinancing operations (TLTRO).

↘ BOX 4

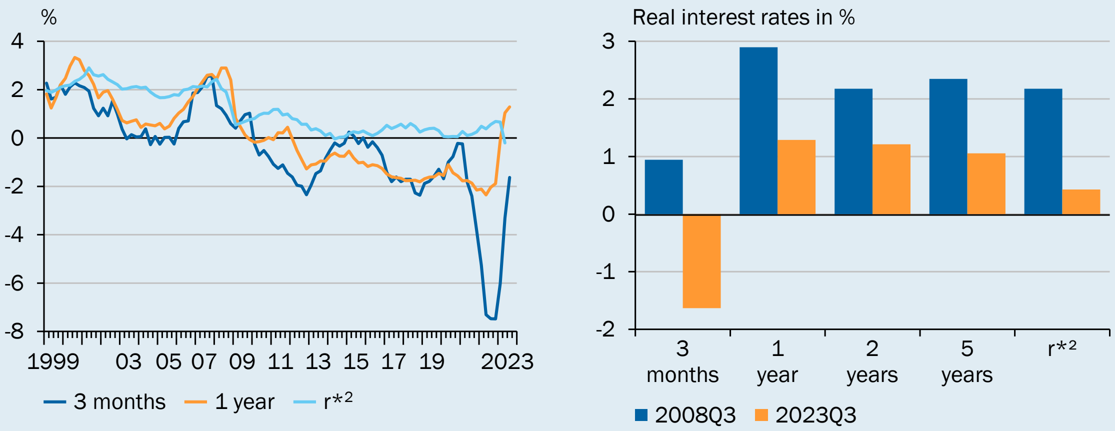
Analysis: How restrictive is the monetary policy stance in the euro area?

In the course of the ongoing normalisation of monetary policy, the **ECB implemented the largest key interest rate increase in its history.** This has caused short-term real interest rates – measured by the difference between short-term money market interest rates and short-term inflation expectations of market participants – to rise significantly. ↘ CHART 18 LEFT The extent to which this has a restrictive effect on the economy can be assessed, among other things, by comparing it with the estimated neutral interest rate ↘ GLOSSARY. If benchmark interest rates for government bonds and inflation expectations over corresponding time horizons are used as a reference, then **real interest rates with a time horizon of at least one year are now well above the estimated neutral interest rate**, r*. ↘ CHART 18 RIGHT If we compare the yield curve of real interest rates before the financial crisis in Q3 2008 – at the peak of monetary policy tightening at that time, when inflation as well as real interest rates reached record highs – with that at the current margin, medium- to long-term real interest rates are now more above the neutral interest rate than they were then. ↘ CHART 18 RIGHT

↘ CHART 18

Development of real interest[1] rates in the euro area

Historical comparison between short-term real interest rates and estimates for the neutral interest rate r* | **Comparison of real interest rates at their peak before the financial crisis and currently**



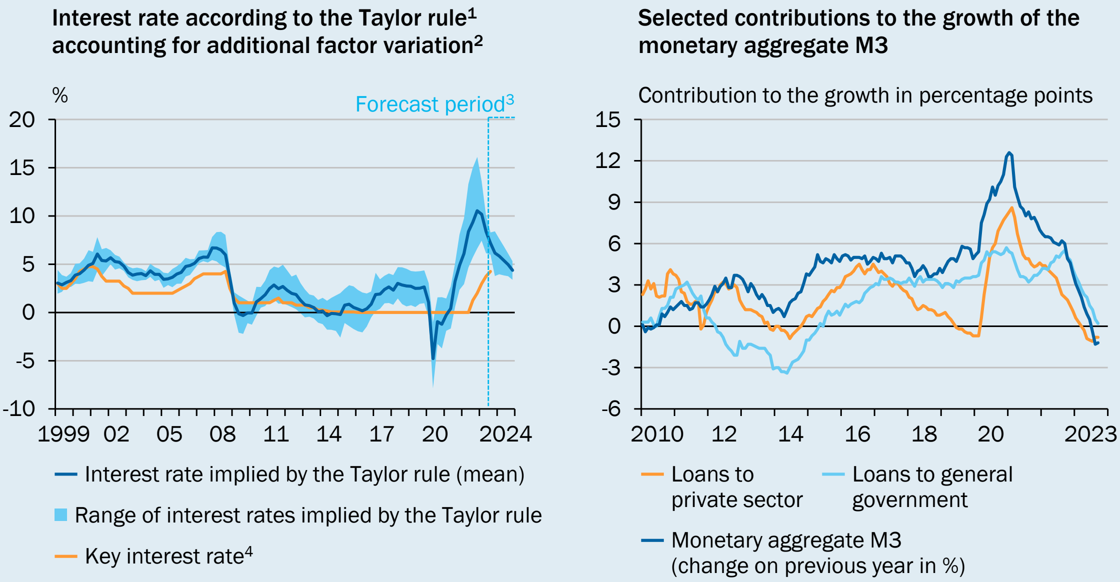
1 – Difference between the nominal Euribor interest rate or the benchmark interest rate on government bonds of the member states in the euro area and the inflation expectations from the Survey of Professional Forecasters with the same maturity. 2 – Estimates for the neutral interest rate r* in the euro area are regularly updated by the Federal Reserve Bank of New York based on the Holston-Laubach-Williams model (Holston et al., 2017). Due to the high volatility of r*, the average value from 2007Q4 to 2008Q3 was used for 2008Q3 and the average value from 2022Q3 to 2023Q2 was used for 2023Q2.

Sources: ECB, Fed, own calculations

Simple central bank reaction functions (interest rate rules), such as the Taylor rule, can provide further guidance on the monetary policy stance (GCEE Annual Report 2022 items 135 ff.). In the course of monetary policy tightening, the key policy rate has come significantly closer to the rate calculated by means of the Taylor rule. However, the key policy rate has been well below the Taylor interest rate in the recent past. ↘ CHART 19 LEFT Assuming that the projected developments in inflation and economic output materialise and that the key policy rate remains at the current level for some time, the **interest rate rules** indicate a **monetary policy tightening that is sufficiently restrictive** for inflation to return to its target value.

The **historically strong increase** in **key interest rates** resulted in a **significant decline in money growth** ↘ GLOSSARY. The year-on-year growth rate of the broadest aggregate M3 declined from its peak of around 12.6 % in January 2021 to –1.2 % in September 2023. ↘ CHART 19 RIGHT This was accompanied by a sharp decline in credit growth in both the private and public sectors, the latter likely driven by the reduction in APP securities holdings. ↘ ITEM 39 The sharp decline in money growth also points to a restrictive stance of monetary policy. ↘ CHART 19

↘ CHART 19
Rising key interest rates and shrinking money supply



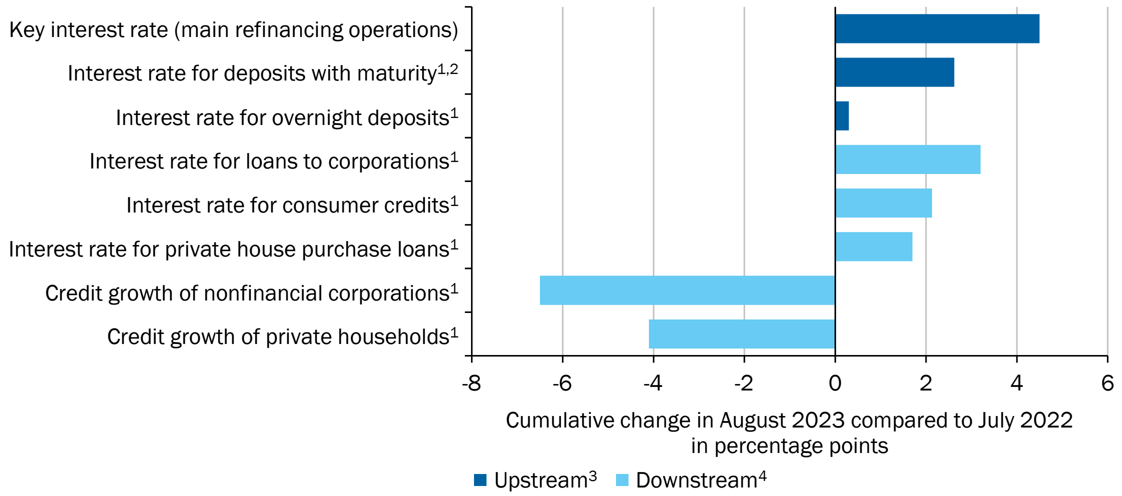
1 – Equation: $i = 2 + \pi + 0{,}5(\pi - \pi^*) + 0{,}5y$. i is the interest rate implied by the Taylor rule for the money market; it depends on the real interest rate in long-term equilibrium (estimated at 2 %), the current inflation rate in deviation from the central bank's target, $(\pi - \pi^*)$, and the output gap, y. $y = 100(Y-Y^*)/Y^*$, where Y is real GDP and Y* is potential output. 2 – Refers to the euro area with 20 member states. The calculation is based on all combinations of three inflation measures (HICP, core HICP and GDP deflator), three output gaps (AMECO, IMF and OECD) and two different equilibrium interest rates (2 % constant and floating r* following Holston et al. (2017)). Due to the high volatility of r*, the average value from 2022Q3 to 2023Q2 was used to calculate the forecast values. The core HICP was approximated by the HICP excluding energy and unprocessed food (time-varying country composition) for the period between 1999 and 2001. 3 – Based on forecasts by AMECO, ECB, IMF and OECD. 4 – Main refinancing operations rate.

Sources: ECB, own calculations

In order to evaluate the effects of monetary policy tightening and the associated uncertainty, an ECB study (Darracq-Paries et al., 2023) first estimated the effect of monetary policy on the yield curve and then translated this into macroeconomic effects using several models. According to the ECB's model calculations, the restrictive **monetary policy stance is** likely to have significantly **dampening effects on GDP and inflation** until beyond the forecast horizon. While the effect of the interest rate increases carried out until March 2023 on GDP is expected to peak in 2023 according to the study, the peak for inflation is not expected until next year.

The restrictive monetary policy is also likely to have **different** effects on **the individual member states**, partly due to the heterogeneous economic structure. ↘ BOX 3 For example, Mandler et al. (2022) find in the context of an empirical multi-country model that real GDP in Germany declines more sharply and the price level reacts less strongly after an interest rate hike than in the other major euro area economies. On the one hand, this is probably due to the higher share of economic sectors with more interest-rate-responsive demand, such as manufacturing, and on the other hand due to the lower rigidities in fixed-term employment contracts.

↘ CHART 20
Financing conditions tightened
Monetary tightening and financing conditions in the euro area



1 – Loans and deposits from credit institutions and other financing institutions (excluding money market funds and central banks) for new business. 2 – Across all maturities. 3 – Describes upstream indicators in transmission that directly address financing conditions in the money and capital markets. 4 – Covers downstream indicators that primarily reflect the financing conditions in the banks' lending business.

Sources: Deutsche Bundesbank, ECB, own calculations

40. The strong **monetary policy tightening in** the euro area since July 2022 has **increased banks' funding costs**. On the deposit side, interest rates on term deposits have risen particularly, while those on overnight deposits have so far risen only very little, even compared to previous tightening phases. ↘ CHART 20 The latter has a stabilising effect on interest margins. ↘ BACKGROUND INFO 1 Banks, whose funding or opportunity costs have increased due to monetary tightening, **raised interest rates** on new **company and consumer credits** as well as on **home construction loans for private households**. Relative to the baseline, this increase was highest on corporate credits, followed by home construction loans. In parallel with the rise in interest rates, growth in corporate credits decreased from 6.6 % year-on-year to 0.1 % between July 2022 and August 2023, and growth in loans to private households decreased from 4.5 % to 0.4 %.

↘ BACKGROUND INFO 1
Interest rate risks of the banks

In the short term, due to the **different maturities of banks' assets and liabilities**, an increase in interest rates usually has a negative impact on their interest margins, i.e. on the difference between interest income and costs. The interest costs for predominantly short-term liabilities such as deposits rise immediately, while the interest income of the often long-term assets, such as loans, increases only slowly in the amount of new business. The current development, however, is different. In Germany, the interest margin (in relation to the total loan portfolio) initially even increased slightly from the middle of 2022 and has stagnated since the beginning of the year (Deutsche Bundesbank, 2023b). This is because **interest rates on overnight deposits** have been **raised very little so** far. ↘ CHART 20 The weak increase in deposit rates is explained in the literature mainly by incomplete competition in the banking market (De Graeve et al., 2007; Drechsler et al., 2017; GCEE Annual Report 2019 items 381 f.). With the expiry of the fixed-interest periods for the long-term assets held by banks, the positive effect of higher lending rates is likely to increase significantly, so that banks' interest margins will rise substantially in the long term. This counteracts losses that banks can suffer with their long-term assets as a result of higher interest rates and thus contributes positively to finacial stability.

41. With the energy price shock resulting from the Russian war of aggression subsiding and supply chains normalising, domestic demand and, in particular, **nominal wage growth** have become the **driving factor for inflation developments**. ↘ ITEM 18 However, the slowdown in inflation in some member states is also influenced by strong base effects in the energy component. ↘ ITEM 36 Thus, the contribution of the energy component is expected to remain negative until Q4 2023. ↘ ITEM 42 Further easing of supply chains ↘ BOX 5 and easing price pressures at the upstream stages of production ↘ ITEM 35 are expected to further reduce non-energy industrial goods inflation. At the same time, services price inflation is likely to remain high, also as significant nominal wage increases are still expected. ↘ BOX 7 On the one hand, inflation-related losses in purchasing power may not have been compensated partly yet. On the other hand, the persistently high demand for labour and the shortage of skilled workers in certain occupations are likely to keep wage growth high over the forecast period.

The GCEE forecasts an **average** year-on-year **increase in HICP of 5.6 % for the** euro area in **2023.** In **2024, the** inflation rate is expected to fall to **2.9 %.**

↘ BOX 5

Forecast assumptions for the euro area and Germany

Wholesale prices for energy sources have declined significantly in the course of 2023. ↘ TABLE 3 However, forward prices for natural gas indicate a renewed increase in the winter half-year 2023/24. In 2024, prices are expected to stabilise at a higher level. The GCEE assumes that there will be no shortage of natural gas in the forecast horizon. ↘ CHART 42 For electricity, a more volatile price development with an upward trend can be assumed. The futures markets for Brent crude oil suggest slightly falling prices for 2024 compared to the current level (at cut-off date).

Interest rate steps by the Fed, the Bank of England and the ECB have gradually become smaller, and **forward interest rates suggest an end to monetary policy tightening.** ↘ CHART 20 TOP LEFT As a result of the monetary policy tightening in the euro area, the exchange rate of the euro against the US dollar continued its upward trend until mid-July 2023, but has depreciated significantly since then. **For the forecast horizon, the exchange rate level** of 1.05 US dollars per euro observed at cut-off date is **maintained** at a constant level.

As in the Spring Forecast 2023, the GCEE continues to assume that there **will be no normalisation of trade relations with Russia over the forecast horizon**, that the sanctions regime of the European Union will remain in place and that imports of raw materials and energy sources from Russia will therefore not increase. However, it is assumed that the effects will continue to decrease over the forecast horizon.

↘ TABLE 3

Forecast assumptions

	Unit	2023				2024			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Oil price (Brent)	US $/barrel	82.2	77.9	86.0	91.1	88.0	85.6	83.9	82.5
Gas price (EGIX THE)	€/MWh	54.3	35.9	34.2	47.5	52.1	50.7	50.8	54.2
Electricity price (EEX Phelix)	€/MWh	122.9	99.5	98.3	95.6	128.1	113.3	123.7	139.9
Overnight rate (ECB)[1]	% p. a.	2.5	3.3	3.8	4.0	3.9	3.5	3.1	3.0
Exchange rate (ECB)	€ in US $	1.07	1.09	1.09	1.05	1.05	1.05	1.05	1.05

1 – Deposit facility rate.

Sources: CPB, ECB, EEX, ICE, NYMEX, Refinitiv Datastream, own calculations

According to a survey by the European Commission, **supply bottlenecks** for materials and intermediate products have recently **continued to decline** in the euro area. However, they are still above the average level of the years 2015 to 2019. The declining trend is likely to continue over the forecast horizon. In contrast, **labour shortages remain severe**, not only in Germany. The economic weakness and the decline in sick leave ↘ BOX 8 have eased these bottlenecks only slightly.

3. Opportunities and risks: Inflation development and monetary policy effect

42. **Downside risks** continue to **predominate** for the economic outlook in **the euro area**. Ari et al. (2023) show for 111 inflation shocks in 56 advanced economies and developing countries between 1973 and 2014 that the risk of a **renewed rise in inflation** is not negligible – especially if a restrictive monetary and fiscal policy stance is not maintained for a sufficiently long time. ↘ ITEM 37 **At the same time, monetary tightening** could have a **stronger impact on** the **overall economy** than expected. This would further weigh on demand and additionally dampen economic activity.

E**nergy prices** and their volatility have fallen sharply in 2023. However, there are still risks with respect to energy supply, for example due to a shortage of natural gas supply in connection with the Russian war of aggression on Ukraine. ↘ ITEMS 19 F. AND 25 **A continued higher price volatility** would have a negative impact on consumer confidence, especially in those economies where wholesale prices are passed on to final consumers relatively quickly. In addition, higher energy prices are likely to translate into higher food prices. Along with the still incomplete recovery of real income, **renewed losses in purchasing power** would further weigh on private consumption expenditure.

IV. GERMAN ECONOMY

43. The **energy crisis** of 2022 **and increased inflation have left heavy traces in the** German economy. There has not been a strong decline in economic output. However, **the economy** has **not yet returned to a growth path** and will **recover only slowly over** the forecast horizon. In view of the globally subdued economy and the monetary policy tightening in the advanced economies, no expansive impulses are to be expected from foreign trade and capital formation.

The GCEE **expects German GDP to contract by 0.4 % in 2023 and grow by 0.7 % in 2024**. Inflation is expected to fall from 6.9 % in 2022 to 6.1 % in 2023 and to 2.6 % in 2024. Core inflation remains substantially elevated at rates of 5.2 % in 2023 and 3.2 % in 2024. ↘ TABLE 5

1. Restrained recovery

44. Price, seasonally and calendar-adjusted **GDP fell by 0.1 % in Q1 2023 compared to the previous quarter.** At the same time, domestic components fell by 1.0 % and hence much stronger. Here, special effects strongly influenced the economy. While gross fixed capital formation in construction, machinery and equipment rose in the face of mild temperatures and still elevated order backlogs as well as easing supply bottlenecks, declining inventories led to an overall negative contribution from investment. Final consumption expenditure also declined, with public consumption virtually collapsing as Covid-19-related spending expired. The strongest single positive contribution to GDP growth in Q1 came from imports falling by 1.5 % and hence supporting GDP. **In Q2,** the **contributions of foreign trade and domestic use reversed**. On the one hand, domestic use grew by 0.6 %, mainly due to expanding capital formation. On the other hand, exports – with constant imports – fell by 1.1 %. **Overall, GDP stagnated in the second quarter of 2023**.

The slump in government consumption in the first quarter of 2023 had not been anticipated in the spring forecast. Not least because of this, projected annual average **GDP growth in 2023** had to be **revised downwards by 0.6 percentage points.** ↘ BOX 6 ↘ ITEM 50

↘ BOX 6

Background: Forecast revision

In the following, changes in the GDP forecast for 2023 compared to the spring forecast are discussed. **Compared to March 2023,** the GCEE's **forecast for German GDP growth** in 2023 is **0.6 percentage points lower.** ↘ TABLE 4 The **data revision of the current national accounts of** Federal Statistical Office hardly changed the overhang from 2022 (–0.2 % compared to –0.1 % in spring).

For the **first quarter of 2023**, however, the Federal Statistical Office reported a decline in GDP of 0.1 %. This means that **growth** in this quarter was **0.3 percentage points weaker than**

↘ TABLE 4
Comparison of the spring and the autumn forecasts for the year 2023

	Forcast by the German Council of Economic Experts					
	March 2023		Annual Report 2023		Difference	
	Change on previous year[1]	Growth contri-butions[2]	Change on previous year[1]	Growth contri-butions[2]	Change on previous year[1]	Growth contri-butions[2]
Gross domestic product	**0.2**	x	**– 0.4**	x	**– 0.6**	x
Domestic demand	– 0.1	0.0	– 0.8	– 0.8	– 0.8	– 0.8
Final consumption expenditure	– 0.5	– 0.4	– 1.3	– 0.9	– 0.8	– 0.6
Private consumption[4]	– 0.9	– 0.5	– 0.8	– 0.4	0.1	0.1
Government consumption	0.5	0.1	– 2.4	– 0.5	– 2.8	– 0.6
Gross fixed capital formation	– 0.9	– 0.2	0.2	0.0	1.1	0.2
Investment in machinery & equipment[5]	2.2	0.1	3.1	0.2	0.9	0.1
Construction investment	– 3.7	– 0.5	– 1.3	– 0.2	2.4	0.3
Other products	3.0	0.1	– 0.2	0.0	– 3.2	– 0.1
Changes in inventories	x	0.5	x	0.1	x	– 0.4
Net exports	x	0.2	x	0.3	x	0.1
Exports of goods and services	0.6	0.3	– 1.2	– 0.6	– 1.7	– 0.9
Imports of goods and services	0.1	– 0.1	– 1.9	0.9	– 2.0	1.0

1 – Price-adjusted. In %. 2 – Contributions to growth of price-adjusted GDP. In percentage points; Deviations in the differences due to rounding. 3 – In percentage points. 4 – Including non-profit institutions serving households. 5 – Including military weapon systems.

Source: own calculations

expected in the spring forecast. This is largely due to government consumption, which, contrary to assumptions, did not stagnate but declined by 1.9 %. ↘ ITEM 50 Net exports, on the other hand, were underestimated on both the export and import side and thus unexpectedly supported GDP. For **the second quarter of 2023**, there has been **no forecast error in GDP growth** so far. However, exports grew by 1.4 percentage points less than expected by the GCEE, while gross fixed capital formation in construction increased by 0.7 percentage points more.

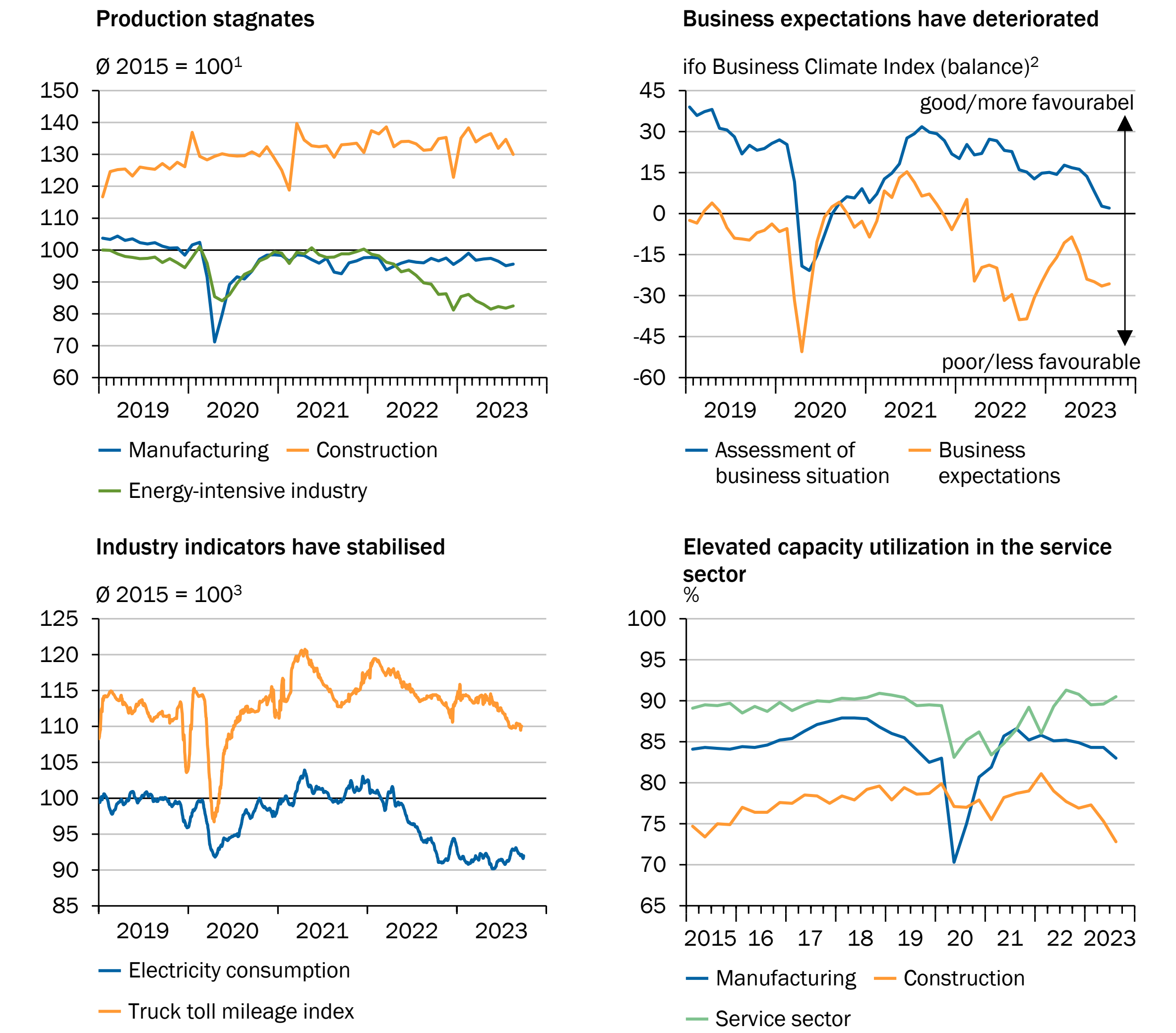
In the third and fourth quarters of 2023, GDP growth is likely to be lower than forecasted in spring. The ifo export expectations suggest that the unexpectedly weak development of exports from the second quarter will continue in the third quarter. However, due to the unexpectedly strong decline in imports in the first quarter, the growth contributions from foreign trade in the spring forecast for 2023 remain almost unchanged. ↘ CHART 54↘ ITEM 55 The **downward revision in 2023 as a whole** is largely due to a **weaker-than-expected domestic use**, driven by declining government consumption and a larger-than-expected reduction in inventories over the course of 2023. By contrast, gross fixed capital formation in construction provides unexpected support.

Pessimistic growth expectations for the 2nd half of 2023 also contribute to the **downward revision of the forecast GDP growth for 2024.** The overhang for 2024 is likely to be 0 % instead of 0.3 % as assumed in the spring forecast. In addition, the predicted quarterly growth rates in 2024 are lower than in the spring forecast, **due to the weak development of foreign trade and gross fixed capital formation in construction.**

45. **A heterogeneous development can** also **be seen in the value-added components of GDP**. In the first half-year of 2023, gross value added fell by –1.8 %, especially in the trade, transport and accommodation sector. In addition

↘ CHART 21

Economic indicators in Germany



1 – Volume index; seasonally and calendar adjusted values. 2 – Business expectations in the next six months. Difference in the percentages expecting an improvement and assessing a deterioration. 3 – Moving 30-day average; seasonally and calendar adjusted values.

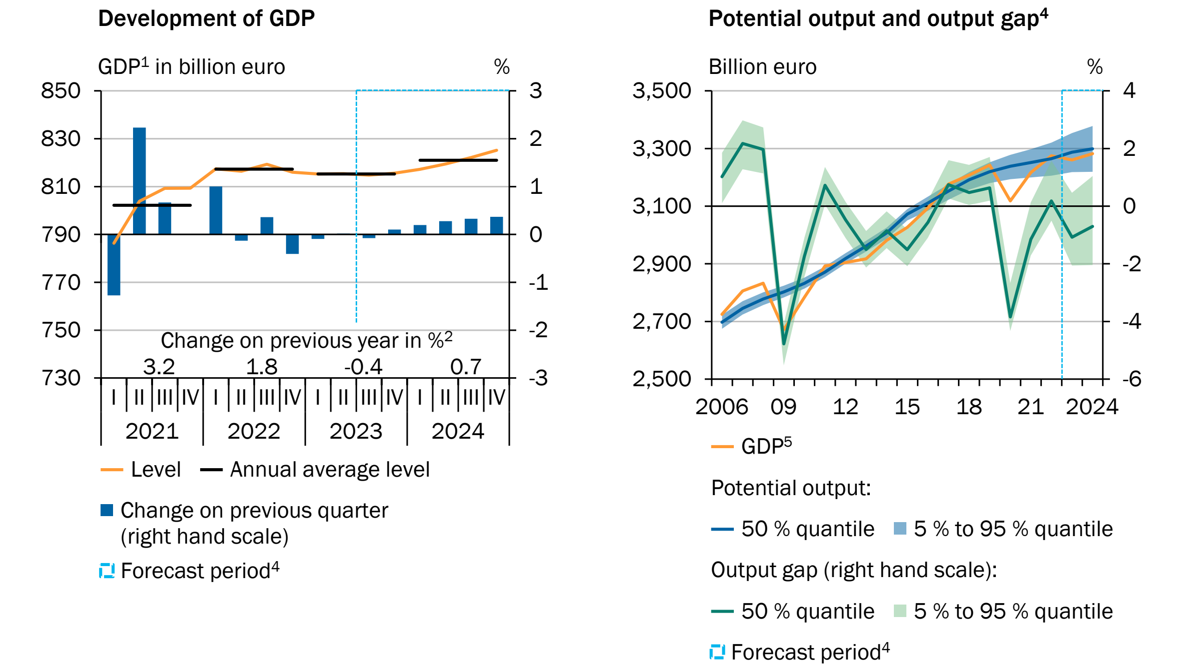
Sources: Deutsche Bundesbank, European Commission, Federal Statistical Office, ifo, own calculations

to the loss of purchasing power in 2022, delivery problems in the food retail sector are likely to have played a role here (ifo, 2023a). Value-added in the manufacturing sector almost stagnated in the first half-year of 2023, although easing supply bottlenecks for intermediate products and high order backlogs likely prevented a decline. **Energy-intensive industries continue to suffer** from **the consequences of** last year's **energy crisis** and have recovered only slightly, despite the decline in wholesale energy prices. Their production levels are still below the trough of the Covid crisis in 2020. ↘ CHART 21 TOP LEFT Since the outbreak of Russia's war of aggression on Ukraine, all energy-intensive industries have recorded production declines. However, chemical production and metal production and processing showed signs of stabilisation in the first seven months of 2023. The declines are likely to be related to the fact that **natural gas and electricity prices** have **settled at an elevated level compared to the 2010s and in international comparison** ↘ BOX 5 while uncertainty about further price developments is high given the volatility. ↘ ITEM 42 Surveys suggest that high energy prices are expected to have a negative impact on potential output in the medium term (Deutsche Bundesbank, 2023b). ↘ ITEM 71

46. **The available indicators** point to a **0.1 %** decline in GDP in **Q3 2023.** While turnover in the service sector expanded by 0.9 % in July compared to the average of the previous quarter, industrial production and retail turnover fell by 1.7 % and 0.8 % by August 2023 compared to the average of the previous quarter. Moreover, the ifo Business Climate Index and the Purchasing Managers' Index also point to a decline. The ifo capacity utilisation indicator shows a decline in overall economic capacity utilisation, albeit from a high level compared to model-based estimates. Capacity utilisation is significantly higher in the services sector than in construction and manufacturing. ↘ CHART 21 BOTTOM RIGHT **For Q4 2024,** real-time indicators and indicator models point to a **slight pick-up**, ↘ CHART 21 BOTTOM LEFT hence GDP is expected to rise by 0.1 %.

47. **In 2024, GDP growth rates are** expected to **increase** steadily, but only **moderately. GDP is expected to grow by 0.7 % overall**, driven solely by domestic use. At 0.9 %, domestic use should grow more strongly than GDP in the year as a whole. Shrinking net exports, on the other hand, are expected to reduce GDP growth by 0.2 percentage points, due to the increase in imports and weak export growth. ↘ CHART 22 LEFT ↘ TABLE 11 ↘ TABLE 5 Model-based production is below its potential by 1.1 % in the current year. Capacity utilisation is expected to increase in the coming year, but still below potential by 0.7 %. ↘ ITEM 71 ↘ CHART 22 RIGHT

↘ CHART 22
Expected economic development in Germany



1 – Chained volumes, reference year 2015. 2 – Seasonally and calendar-adjusted. 3 – Not adjusted. 4 – Forecast by the GCEE. 5 – Estimate by the GCEE. 6 – Quantiles of the sample.

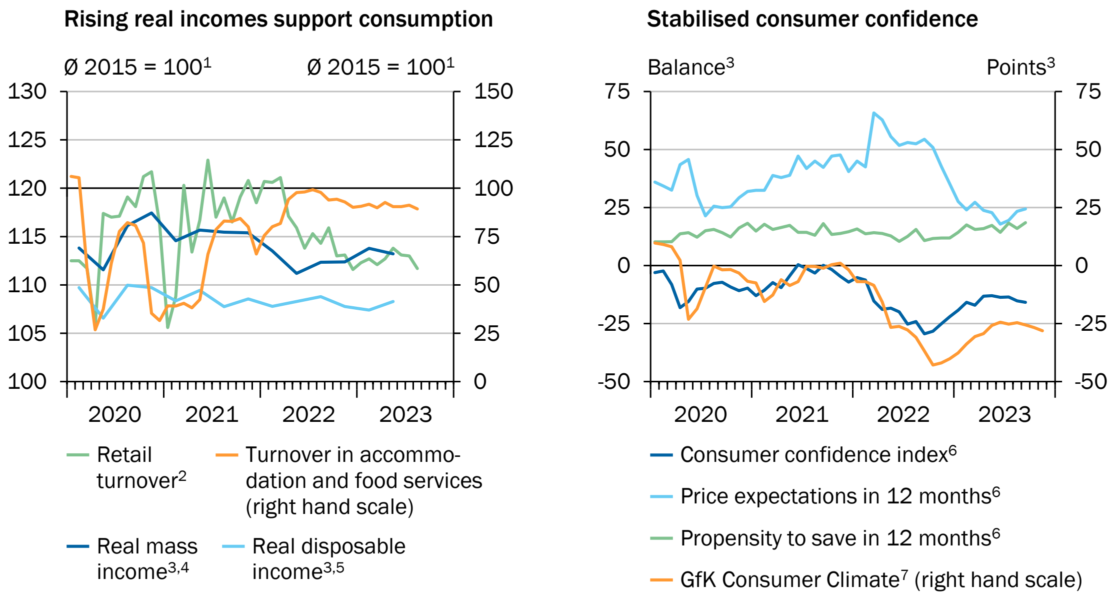
Sources: Federal Statistical Office, own calculations

Consumption expenditures

48. After private **consumption expenditure** declined by 0.3 % in the first quarter of 2023, **it stagnated in the second quarter.** As in the rest of the euro area, the **stabilisation** is related to an **improvement in real income**. This is also reflected in improved sentiment indicators. ↘ CHART 23 RIGHT Net wages increased first and foremost, which can be explained by the use of the tax-free inflation compensation premium. However, following declines in the previous quarters, self-employment income and corporate income also rose again significantly in Q2 2023. The savings rate of private households rose significantly to 11.9 % in Q2 2023, up from 10.7 % in Q1 2023. This suggests restrained spending behaviour despite the income increases.

49. Declines in retail turnover by 0.8 % in July and August 2023 compared to the Q2 average were accompanied by falling turnover in accommodation and food services (–1.0 %). ↘ CHART 23 LEFT Private vehicle registrations rose by 1.4 % in September compared to the previous quarter, thus having a supportive effect. Overall, private consumption is expected to decline slightly by 0.2 % in Q3. **In 2024, further increases in labour income and higher welfare benefits should provide a modest boost to private consumption.** ↘ ITEMS 65 AND 69 Total nominal net wages are expected to increase by 8.8 % and 4.8 % in 2023 and 2024, respectively. In addition, welfare benefits increased by 12 % in 2023 and will

↘ CHART 23
Consumer indicators in Germany



1 – Seasonally and calendar-adjusted. 2 – Real index excluding the trade in motor vehicles. 3 – Seasonally adjusted. 4 – Net wages and salaries including monetary social benefits less social security contributions and consumption-related taxes. Deflation is based on the deflator of final consumption expenditure. 5 – Disposable income of private households. Deflation is based on the deflator of final consumption expenditure. 6 – The Consumer confidence index and the indicators on price expectations and propensity to save are based on selected questions answered by consumers according to the Joint Harmonised EU Programme of Business and Consumer Surveys. 7 – Based on about 2,000 consumer interviews per month.

Sources: European Commission, Federal Statistical Office, GfK, own calculations increase again by this percentage in 2024. From these increases parts of the population will benefit the most that were particularly affected by the past losses in purchasing power (Annual Report 2022 items 199 f.). In addition, these parts of the population have a relatively high consumption rate. Despite the positive outlook, the **reaction of households to rising incomes is uncertain**. ↘ CHART 60 Overall, private consumption expenditure is expected to decline by 0.8 % in 2023 and grow by 1.1 % in 2024.

50. Price-adjusted **government consumption fell sharply by 1.9 % in Q1 2023**. The **effect on GDP growth** in Q1 2023 was –0.4 percentage points. This is predominantly due to the fact that Covid-19-related expenditures such as expenditures for vaccination centres, vaccinations and compensation payments to hospitals expired at the beginning of the year (Federal Government, 2022). In addition, the entitlement to free Covid-19 tests ceased in February 2023. The decline can thus be understood as a **countermovement to the strong expansion of government consumption in the wake of the Covid-19 pandemic since 2020.** Despite the decline, **government consumption as a share of GDP was** still at 22 % in Q2 2023, **higher than in the years before the Covid-19 pandemic** when it was 20 % (Boysen-Hogrefe et al., 2023a). Other one-off effects such as the inflation compensation premium for state employees and the inclusion of subsidies to finance the 49-euro ticket in government consumption contribute to this. However, the share of government consumption in GDP is not expected to decline over the forecast horizon due to rising personnel expenses. In 2023, price-adjusted government consumption is expected to decline by 2.4 % and increase by 1.4 % in 2024.

Capital formation

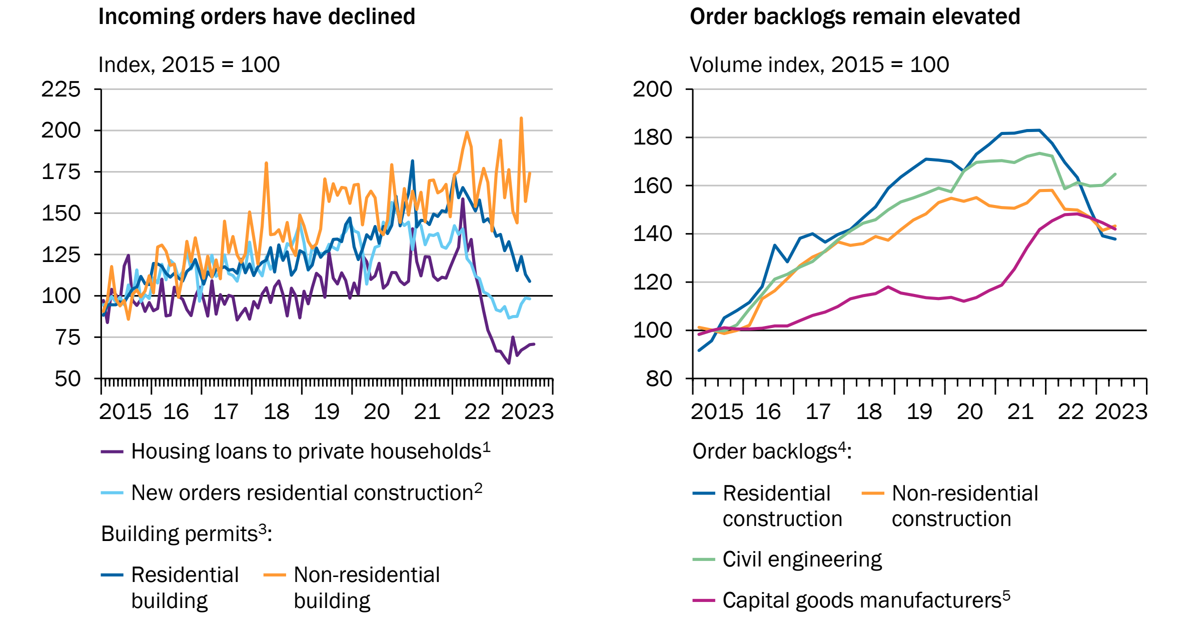
51. The **components of gross fixed capital formation** are currently **developing** very **heterogeneously.** Gross fixed capital formation in machinery and equipment increased by 2.1 % and 0.6 % in the first and second quarters of 2023, adjusted for prices and seasonal and calendar factors, and thus continued its positive trend from 2022. In contrast, total gross fixed capital formation in construction grew only minimally by 0.2 % in Q2 2023, following the weather-related expansion of 2.7 % in Q1. While residential construction stagnated in Q2, commercial construction grew strongly by 2 % compared to the previous quarter. Both construction and gross fixed capital formation in machinery and equipment are in the **tension field between a high residual order backlog and low new orders.** The construction sector in particular is reacting strongly to the rise in interest rates as a result of monetary policy tightening. ↘ ITEM 39 ↘ CHART 24 LEFT For example, home construction loans declined significantly in the first half-year of 2023. In addition to increased borrowing costs, the sharp rise in construction costs in 2022 is likely to weigh on capital formation.

52. The **indicators draw a slightly negative picture of gross fixed capital formation in machinery** and **equipment at the current margin.** The production of capital goods fell by 3.1 % in Q3 2023 compared to the previous quarter. The turnover of capital goods manufacturers also fell significantly. In contrast, new commercial car registrations rose by 7.3 % in Q3 2023. Government gross

fixed capital formation in machinery and equipment, which already increased in Q2 2023, should have a supporting effect. The government is likely to contribute to the growth of gross fixed capital formation in machinery and equipment over the forecast horizon due to rising spending on weapons systems. The expenses are financed by special resources for the Federal army ("Sondervermögen Bundeswehr"), among others. **In the coming quarters, the high order backlogs should** be worked off and, together with diminishing effects of monetary policy tightening, **support investment demand**. Gross fixed capital formation in machinery and equipment is therefore expected to **grow** by **3.1 % and 1.7 % in 2023 and 2024,** respectively. ↘ CHART 24 RIGHT

53. The **order backlog is** still **elevated in the construction sector as well**, but it is falling relatively sharply due to cancellations in residential construction (ifo, 2023b) and an increasing share of 41 % of construction companies recently reported a **lack of orders** (compared to 33 % in manufacturing). ↘ CHART 24 RIGHT The **unfavourable conditions** in construction are expressed in weak business expectations. As a result, a decline of 1.2 % is expected in Q3 2023, which is also reflected in the production figures available until August. The outlook is nevertheless heterogeneous. Private residential construction, for example, is expected to decline the most, while the government will support investment demand in civil engineering through infrastructure measures. ↘ CHART 24 LEFT Total gross **fixed capital formation in construction is expected to fall by 1.3 % and 2.3 % in 2023 and 2024, respectively**, mainly **due to high borrowing and construction costs.** ↘ ITEM 103

↘ CHART 24
Investment indicators



1 – Volumes of new business of banks. 2 – Volume index; seasonally and calendar adjusted. 3 – Estimated construction cost, including construction work on existing buildings; seasonally and calendar adjusted. 4 – Seasonally adjusted. 5 – Seasonally and calendar adjusted.

Sources: Deutsche Bundesbank, Federal Statistical Office, own calculations

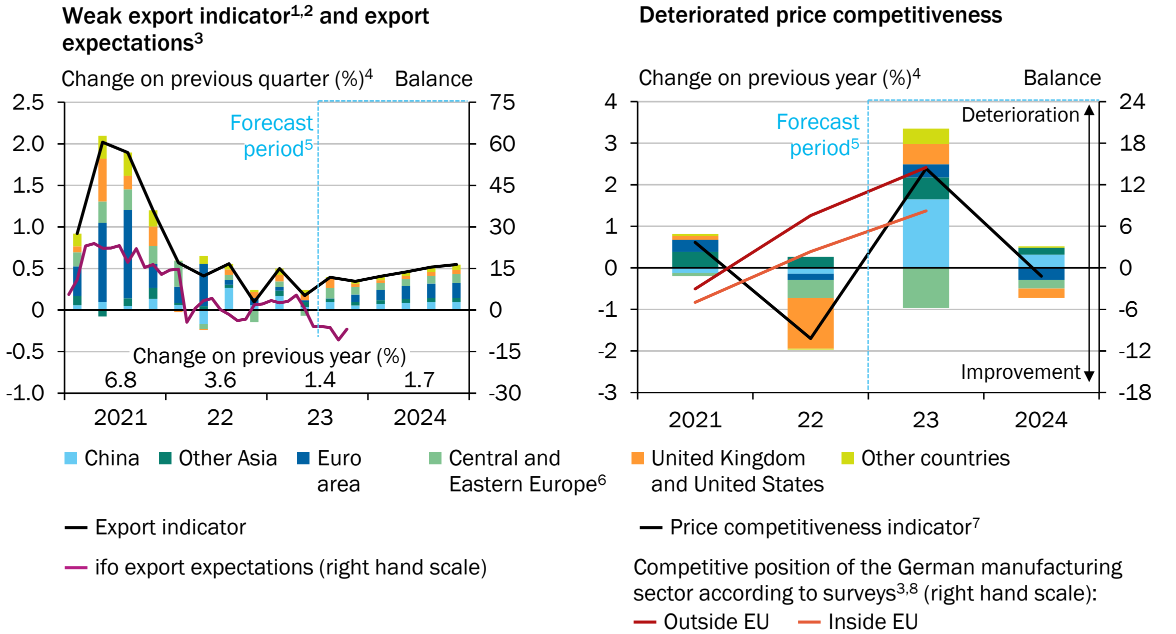
Foreign trade

54. **Real imports fell in Q1 2023** due to reduced purchasing power and weak production and **stagnated in the 2nd quarter**. Imports of goods declined in both quarters, while imports of services increased. The stabilisation in Q2 is likely caused by falling import prices, an appreciation of the euro and income gains. The decline in goods imports in Q1 was particularly strong for mineral fuels. In contrast to imports as a whole, imports of organic chemical products increased, which can be explained by the high costs of domestic production due to energy prices. Total imports of goods (adjusted for import prices until August 2023) fell by 1.1 % compared to the average of Q2, according to monthly foreign trade statistics. The **forecast for Q3 2023 is thus negative**. As the real incomes of private households increase and the terms of trade continue to improve, **imports** are expected to **expand** by **1.0 % in 2024 after a decline of 1.9 %** in **2023.**

55. **Exports rose by 0.4 % in Q1 2023** compared to the previous quarter, **but fell by 1.1 % in Q2.** The development was particularly weak for goods, especially for machinery. Exports of motor vehicles supported the export economy until the middle of the year, but fell sharply in July and August. By August, total monthly exports of goods had fallen by 1.6 % in price-adjusted terms compared to the

↘ CHART 25

Export indicator and price competitiveness



1 – The indicator is based on the GDP development of 49 trading partners. The weighting of each country corresponds to its share of German exports. Country definitions as in Table 1. 2 – Seasonally and calendar-adjusted. 3 – Seasonally adjusted. 4 – Growth contributions of the respective regions. 5 – Forecast by the GCEE for the export indicator and the price competitiveness indicator. 6 – Bulgaria, Czechia, Hungary, Poland, Romania. 7 – The indicator is based on Germany's inflation rates relative to those of 37 trading partners as well as exchange rates and corresponds to the sum of contributions to growth; a positive change indicates reduced price competitiveness of German products. Calculation and country definitions based on the approach of the Deutsche Bundesbank. Forecast by the GCEE. 8 – Annual averages of the quarterly survey values of the European Commission. Values shown with reversed sign. The value for 2023 refers to the first three quarters of 2023.

Sources: Deutsche Bundesbank, European Commission, ifo, national statistical offices, own calculations second quarter average. Exports are expected to remain weak due to a number of factors. For example, global monetary policy tightening is reducing demand for capital goods, which account for a large share of German merchandise exports. In addition, the **price competitiveness** of the German economy **has deteriorated** in view of high inflation by international standards**, especially vis-à-vis China.** It is expected to fall by 2.4 % overall in 2023 and remain almost constant in 2024. ↘ CHART 25 RIGHT Accordingly, **ifo export expectations are extremely weak in the 3rd quarter.** ↘ CHART 25 LEFT The GCEE forecasts a **1.2 % decline in exports this year** and subdued **growth of 0.5 % in 2024**. As imports rise more strongly than exports in the forecast, the contributions to growth from foreign trade are probably negative in 2024.

↘ TABLE 5

Key economic indicators for Germany

	Unit	2021	2022	2023[1]	2024[1]
Gross domestic product[2]	**Growth in %**	**3.2**	**1.8**	**– 0.4**	**0.7**
Final consumption expenditure	Growth in %	2.0	3.2	– 1.3	1.2
Private consumption[3]	Growth in %	1.5	3.9	– 0.8	1.1
Government consumption	Growth in %	3.1	1.6	– 2.4	1.4
Gross fixed capital formation	Growth in %	– 0.2	0.1	0.2	– 0.4
Investment in machinery & equipment[4]	Growth in %	2.8	4.0	3.1	1.7
Construction investment	Growth in %	– 2.6	– 1.8	– 1.3	– 2.3
Other products	Growth in %	2.1	– 0.7	– 0.2	2.4
Domestic demand	Growth in %	2.5	3.2	– 0.8	0.9
Net exports	Growth contribution in percentage points	0.9	– 1.2	0.3	– 0.2
Exports of goods and services	Growth in %	9.7	3.3	– 1.2	0.5
Imports of goods and services	Growth in %	8.9	6.6	– 1.9	1.0
Current account balance[5]	**%**	**7.7**	**4.2**	**6.4**	**6.8**
Persons employed (domestic)	**1,000**	**44,984**	**45,596**	**45,904**	**45,971**
Persons employed, covered by social security	**1,000**	**33,897**	**34,507**	**34,810**	**34,938**
Registered unemployment, stocks	**1,000**	**2,613**	**2,418**	**2,580**	**2,533**
Unemployment rate[6]	**%**	**5.7**	**5.3**	**5.6**	**5.5**
Consumer prices[7]	**Growth in %**	**3.1**	**6.9**	**6.1**	**2.6**
Budget balance[8]	**%**	**– 3.6**	**– 2.5**	**– 2.2**	**– 1.5**
Gross domestic product per capita[9,10]	**Growth in %**	**3.1**	**1.1**	**– 1.1**	**0.4**
Gross domestic product, calendar-adjusted[10]	**Growth in %**	**3.1**	**1.9**	**– 0.2**	**0.7**

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

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

2. Inflation declines, but remains elevated at the core

56. As measured by the national consumer price index, **inflation** has **declined significantly since the beginning of the year**. In Q3 2023, the year-on-year increase in consumer prices was 5.6 %, down from 6.5 % in Q2 and 8.2 % in Q1 2023. ↘ CHART 26 TOP LEFT The decline was 0.5 percentage points higher in Q3 2023 than in the spring forecast, driven in particular by a fall in core inflation in Q3 2023, which was one percentage point greater than expected.

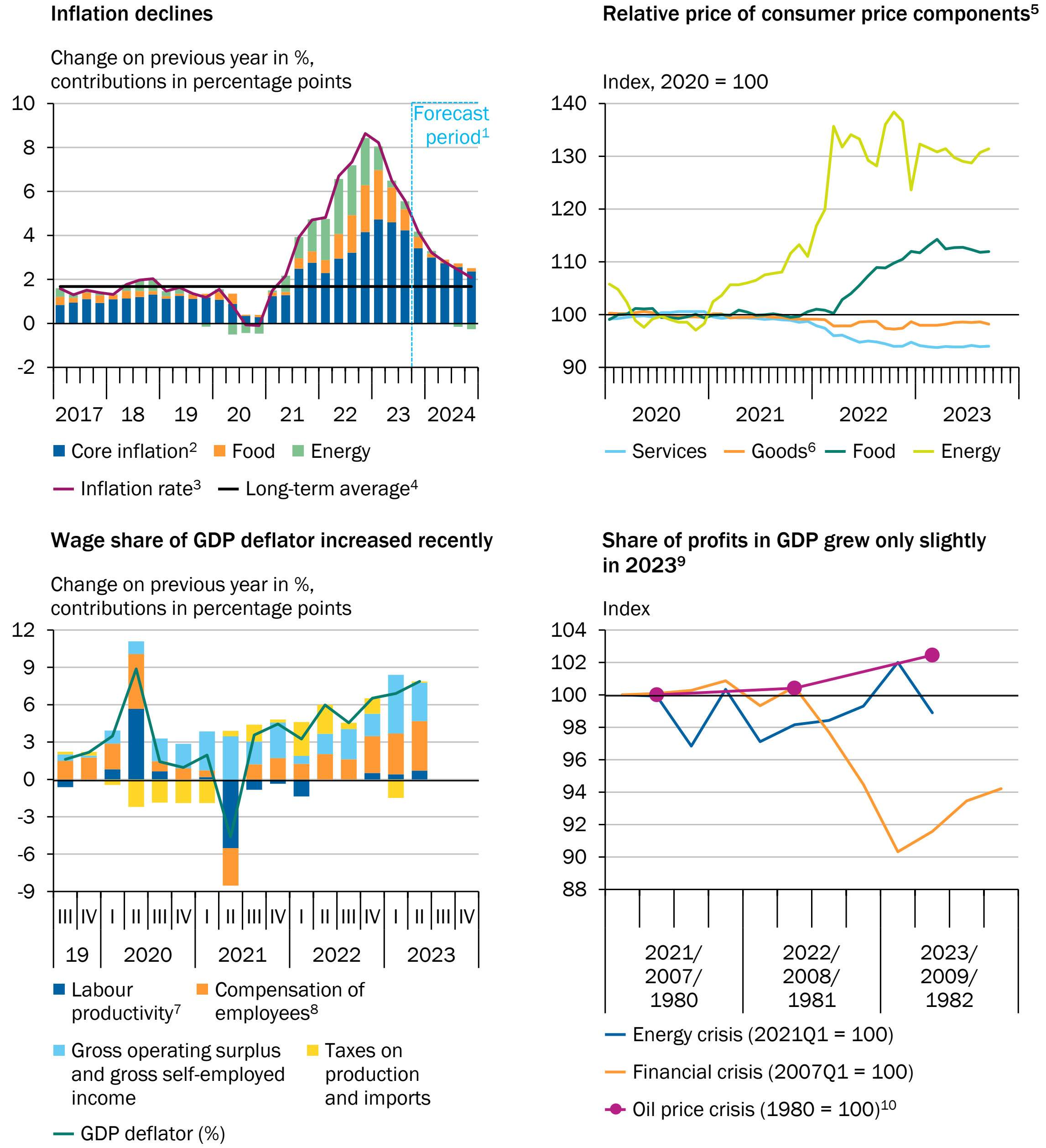
57. The decline in headline inflation is attributable to all components. With oil prices having risen again significantly since July, the **contribution of energy prices to inflation rose again somewhat in Q3 2023**, but remained low at 0.4 percentage points. ↘ CHART 26 TOP LEFT In the case of electricity and gas, the energy price brakes are taking effect, limiting consumer prices to the implicit price caps of 12 and 40 cents per kWh, respectively. As a result, hardly any further price pressure is coming from this side (Garnadt et al., 2023). **Food prices** also **rose** only **slightly** recently. **Core inflation weakened somewhat** in Q3 compared to Q2 2023 and was 3.6 % in annualised terms, down from 3.9 % in Q2. **The price pressure measured by the change on the previous quarter, however,** are **still clearly positive** for both goods and services. Annualised rates in Q3 2023 are 3.2 % and 3.7 %. Therefore, the deflationary trend in imports and producer prices is not yet reflected in the development of consumer prices for goods. ↘ CHART 15 RIGHT This suggests a strong lag in the pass-through of past price increases. ↘ ITEM 35

58. **In 2023,** annual average **inflation is expected to be 6.1 %**. Inflation is only slightly lower than in 2022, when it was 6.9 %. The **decline is likely to continue over the forecast horizon** and is **evident in all components.** However, inflation is expected to fall particularly sharply in energy and food. With gas and electricity wholesale prices becoming cheaper in 2023, average consumer prices are expected to fall below the implicit price caps of the gas and electricity price brakes in Q4 2023 and Q2 2024, respectively. According to spot and futures prices, oil prices are likely to increase slightly again in Q4 2023, but fall again substantially in 2024. ↘ BOX 5 Overall, the energy component is thus likely to make a negative contribution in 2024. **At 3.2 %, the core rate is likely to be higher than headline inflation in 2024,** driven by further increases in services prices. Service prices will rise due to a strongly rising unit labour costs, rising consumer demand and high capacity utilisation. ↘ BOX 7 ↘ ITEM 18 On the non-energy goods side, falling producer and import prices in some cases are expected to be increasingly reflected at the consumer level. **In 2024, headline inflation is expected to be 2.6 %**.

59. Due to falling import prices ↘ CHART 15 **inflation as measured by the GDP deflator**, which measures the prices of domestically produced goods, accelerated to a historically high **6.8 %** year-on-year in the first half-year of 2023. ↘ CHART 26 BOTTOM LEFT **Corporate profits and labour costs contributed shares of 54 % and 49 %, respectively**, to the increase in the GDP deflator (Hahn, 2023). It can be assumed that the inflationary impact of labour costs is somewhat

cushioned by lower corporate profits over the forecast horizon. ↘ CHART 26 BOTTOM RIGHT The share of corporate profits in GDP has increased in 2023, but it is close to the average of 2010 to 2019. While nominal profits have increased strongly in the past year, real profits – similar to wages – have been falling since Q2 2022.

↘ CHART 26
Inflation and development of operating surplus



1 – Forecast by the GCEE. 2 – Overall index excluding food and energy. 3 – Consumer price index, seasonally and calendar adjusted. 4 – Average over the period from 1999 to 2022. 5 – Ratio of CPI components to overall index. 6 – Excluding energy. 7 – Increases in labour productivity have a negative impact on the GDP deflator. 8 – According to domestic concept. 9 – Gross operating surpluses and gross self-employed income in relation to GDP. 10 – Annual values, as no quarterly data are availabe bevor 1991.

Sources: Deutsche Bundesbank, Eurostat, Federal Statistical Office, own calculations

↘ BOX 7

Analysis: Why service price increases are likely to keep inflation elevated

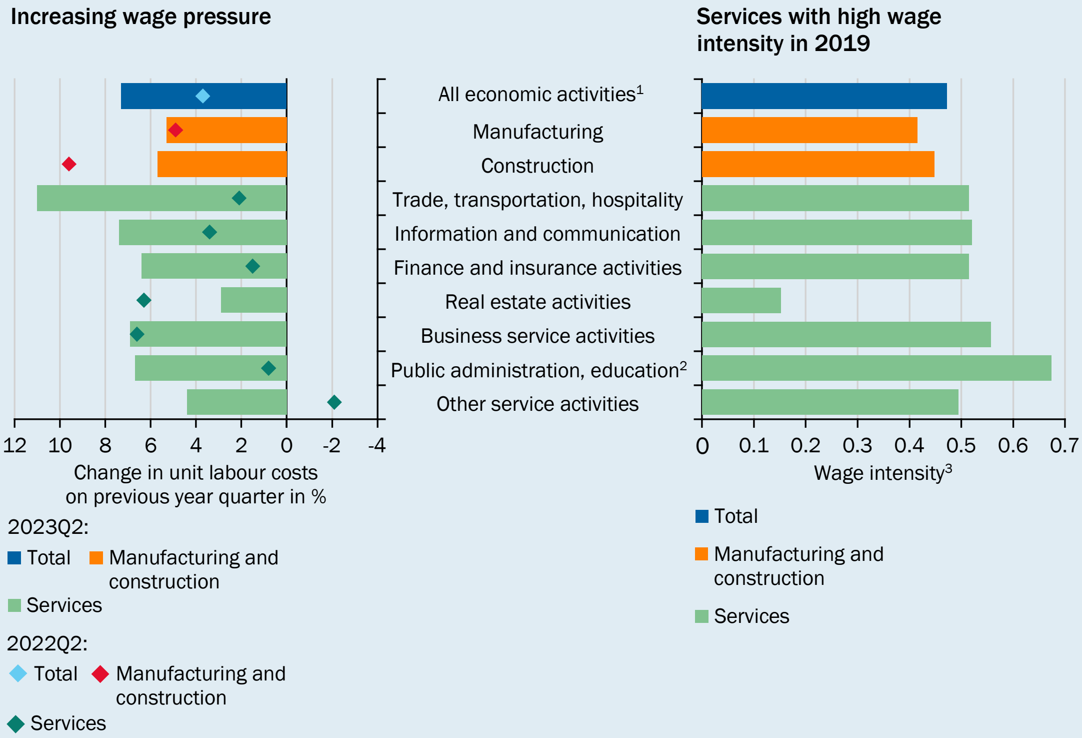
The **high inflation in Germany in 2022 was mainly** caused by **sharply rising goods prices. However, price increases in services** are **becoming increasingly important.** They contributed 45 % to headline inflation in September 2023, up from 27 % at the time of the spring forecast in February 2023. Similar developments can be observed in the euro area and the US. However, the development in the USA is somewhat ahead of that in Europe. Inflation in the USA peaked in June 2022, five months earlier than in Germany. In the USA, service inflation now almost completely explains the overall rate. Despite a still comparatively lower price level ↘ CHART 26 TOP RIGHT **services are** also likely to **become the primary inflation driver in Germany over the forecast horizon,** keeping core inflation at a level of over 2 % until 2025. According to the GCEE forecast, the annual rate of core inflation in Q4 2024 is 2.9 %.

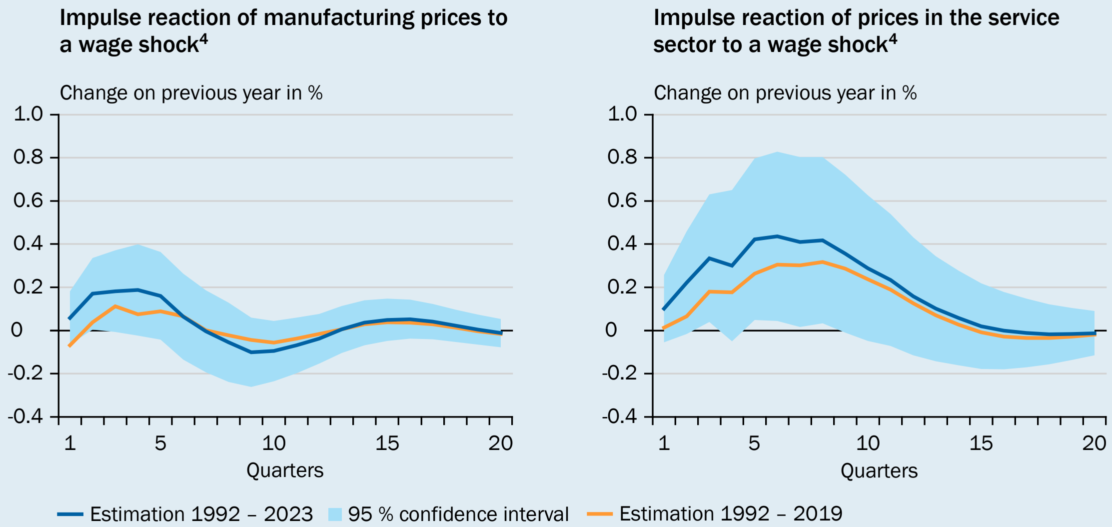
On the one hand, income increases are to be expected within the forecast horizon, which will encounter high capacity utilisation and labour shortages in the service sectors. As a result, rising demand can lead to new price pressure. On the other hand, services react more sluggishly to cost increases than other goods (Nakamura and Steinsson, 2013; Ferrante et al., 2023), implying that the pass-through of previous cost shocks may not yet be complete. New **cost pressures are** currently emerging from the wage side. **Unit labour cost growth in many service sectors is higher than in manufacturing** and has accelerated. ↘ CHART 27 TOP LEFT At the same time, the wage intensity of value added in the service sectors is high (Pasimeni, 2022), ↘ CHART 27 TOP RIGHT so that rising labour costs exert greater price pressure.

The **effect of unit labour cost increases on inflation** can be **estimated using a structural vector autoregressive (VAR) model.** To identify the VAR model, it is assumed that inflation rates are more responsive than unit labour costs, as the latter mostly result from institutionalised wage negotiations. Thus, they react to an unexpected price increase after one quarter at the earliest. Conversely, inflation can react immediately to wages by assumption. The model shows that a **unit labour cost shock that** increases them by 1 % **has a larger inflationary effect in services than in manufacturing.** ↘ CHART 27 BOTTOM Furthermore, a wage-related shock also explains a **larger share of the inflation variance in services than in manufacturing.** When only the period from 1992 to 2019 is considered instead of the estimation period from 1992 to 2023, the effects of a unit labour cost shock on inflation tend to decrease, regardless of the economic sector. This can be explained by the fact that the relationship between wage setting and inflation is greater in a high-inflation environment than in a low-inflation environment, e.g. in the form of generally stronger cost pass-through (Bobeica et al., 2019; Annual Report 2022 item 108). While inflation measured by the gross value added deflator averaged 1.4 % between 1992 and 2019, it was 4.4 % between 2020 and 2023.

Overall, the analyses suggest that the expected wage increases over the forecast horizon are likely to keep services inflation and thus core inflation high.

↘ CHART 27
Wage pressure and wage intensity in the economic sectors





1 – Including agriculture, forestry, fishing, energy supply, water supply, sewerage, waste management and remediation activities. According to the Classification of Economic Activities, 2008 edition (WZ 2008). 2 – Including human health and social work activities. 3 – The wage intensity is derived from the input-output tables using the Leontief inverses. The calculation is based on the input-output table of the national accounts for the year 2019. 4 – The model underlying these results is a structural vector autoregressive model of real gross value added, unit labour costs and the deflator of gross value added, estimated over the period 1992 – 2019 and 1992 – 2023. The estimation is conducted separately for the specified economic sectors. The variables are included are transformed to percentage differences from the previous year. The identification of the variable-specific structural shocks is based on the Cholesky decomposition with the specified variable order. Thus, real gross value added reacts to all three shocks and is thus the most responsive variable.

Sources: Federal Statistical Office, own calculations

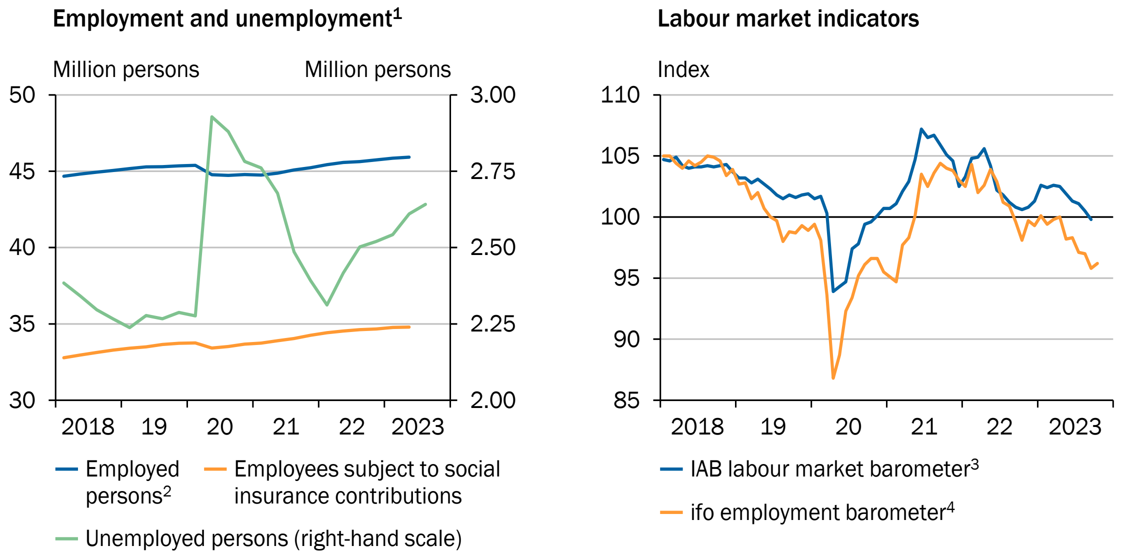
3. Opportunities and risks: private consumption and the global economy

60. **Downside risks dominate the forecast for the German economy**. Domestically, the reaction of private households to expected real income growth is a factor of uncertainty. ↘ ITEM 65 Consumer sentiment is subdued ↘ CHART 23 RIGHT and consumption-related measures of uncertainty are significantly elevated. This could be related to higher interest rates, which stimulate saving behaviour. Accordingly, at the current margin, savings intentions for the coming 12 months and the savings rate in Q2 2023 have also increased. ↘ CHART 23 RIGHT A less favourable development of the global economy and the global political situation, higher energy prices and an unexpectedly strong dampening effect of monetary policy compared to the forecast assumptions also pose significant risks for the German economy. ↘ CHART 24 ↘ ITEM 42

4. Shortages continue to shape the labour market

61. **The economic weakness is currently not reflected in unemployment rates**. This is due to the counteracting effects of the weakening economy and the growing labour shortage, which is being exacerbated to a large extent by demographic change. Accordingly, the labour market is losing momentum, but there are no signs of a major reduction in employment. In Q2 2023, employment increased by 0.1 % compared to the previous quarter. (Q1 2023 +0.2 %). ↘ CHART 28 This growth is largely due to an increase in employment subject to social insurance contributions. This reached a new high of

↘ CHART 28
Development of the labour market



1 – Seasonally adjusted. 2 – Place of work in Germany regardless of place of residence (national concept). 3 – Index values on a scale from 90 (very poor outlook) to 110 (very good outlook). 4 – 2015 = 100; seasonally adjusted.

Sources: Federal Employment Agency, Federal Statistical Office, ifo, Institute for Employment Research (IAB), own calculations

34.8 million persons. The unemployment rate rose slightly by 0.1 percentage points to 5.6 % compared to the previous quarter.

62. Employment indicators point to a further **slowdown in employment growth in the next months.** ↘ CHART 28 The number of registered jobs declined in September 2023, continuing its downward trend since June 2022. The willingness of companies to hire has also declined, falling again in September 2023 according to the ifo Employment Barometer. The IAB Labour Market Barometer, which combines various indicators, signals a neutral outlook for the next 3 months. Compared to the previous month, however, the barometer declined further and is now at its lowest level since 2020. This development is due in particular to the fact that employment agencies expect rising unemployment.

63. **Labour market shortages remain high** despite a further decline in registered jobs and a slightly higher level of unemployment. The unemployment-vacancy ratio is at a low level of 3.6 in August 2023, comparable to 2017. The average vacancy time was 146.5 days and is close to the high point of December 2022 (156.8 days). Survey-based indicators such as the IAB labour shortage index and the KfW-ifo skilled labour barometer also remains at high levels. Accordingly, both employment agencies and companies are finding it difficult to fill vacancies. In recent quarters, increased sick leave has further exacerbated labour market shortages. ↘ BOX 8 However, this should normalise in the future. ↘ BOX 5

↘ BOX 8

Focus: Sick leave in Germany

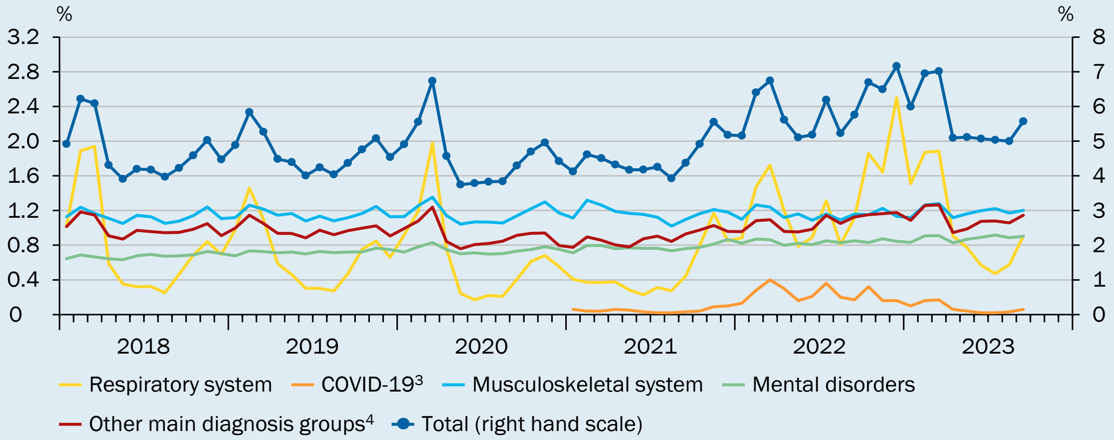
The **sickness rate of employees in Germany** has shown a slight upward trend since 2007 (Weber et al., 2023). This development can be attributed in part to the increasing ageing of society, as older workers have a higher average sickness rate (TK, 2023). In 2022, sickness absence increased by 23.1 hours in comparison to the previous year, reaching a **peak** since 1991 at 91.2 hours per employee. According to an analysis by the ifo Institute, the deviation from the seasonal trend level in sickness absence was 7.4 hours per employee in Q4 2022 and increased to 7.9 hours per employee in Q1 2023 (Wollmershäuser et al., 2023). This is due to the sharp increase in respiratory infections (excluding COVID-19) and colds at the end of 2022 (AOK, 2023; Grobe et al., 2023; Hildebrandt et al., 2023; TK, 2023). ↘ CHART 29 This can be attributed, among other things, to the phase out of corona protection measures, such as contact restrictions and mandatory masks indoors. There is also a continuous increase in the number of sick days in the main diagnosis group "mental disorders" from about 0.6 at the beginning of 2018 to about 0.9 in the middle of 2023.↘ CHART 29

Increased sick leave can dampen economic growth (Jannsen, 2020). Compensatory mechanisms such as an increase in overtime for staff who are able to work, or catching up on absenteeism after recovery can mitigate this effect in the short term (Groll, 2023). In society as a whole, however, the increase in sick leave has not recently been accompanied by an increase in the volume of overtime (Weber et al., 2023).

The GCEE's own analysis using sickness absence data of those insured by the AOK shows that the increased sickness absence is evident in both shortage and non-shortage occupations. However, the ability to compensate for sick leave varies in the different occupational groups. There is a risk that especially in occupations with high **labour shortages**, the increased sickness absence can only be poorly compensated (Hildebrandt et al., 2023). This could have a significant impact on the overall economy's labour volume, especially in large shortage occupations such as nursing and other medical health occupations as well as mechanical and automotive engineering occupations and vehicle driving. As these main occupational groups are located in economically important sectors, it can be assumed that **sickness absence will slow down overall economic growth.**

↘ CHART 29

Sickness rates[1] of employees according to selected main diagnosis groups[2]



1 – The sickness rate indicates the percentage of calendar days in the period under consideration that each employee is on average unable to work due to illness. 2 – According to the International Statistical Classification of Diseases and Related Health Problems, 10th Revision, German Modification (ICD-10-GM). 3 – For the year 2020, the main diagnosis group „COVID-19“ is not shown separately. 4 – Infections, digestive system and injuries/ poisonings.

Sources: BKK DV, own calculations

Most recently, the recorded sickness rate was still higher in the 1st quarter of 2023, whereby the introduction of the new electronic reporting requirements may also have played a role. In the second quarter of 2023, however, it declined again (BKK DV, 2023; Weber et al., 2023). A normalisation is expected by the end of the year. The reason for this is likely to be better immune defences in the population, which will cause the post-pandemic catch-up effect in respiratory diseases to decline (Boysen-Hogrefe et al., 2023a, 2023b).

64. **Demographic ageing** is **increasingly burdening the development of employment in** the forecast period (BA, 2023). The number of employees subject to social insurance contributions with German citizenship already stagnated last year and has declined in recent months. The growth in the labour force potential due to refugee migration from Ukraine is expected to peak this year and decline over the forecast period. ↘ TABLE 6 Participation of Ukrainian refugees in integration courses pushes underemployment up in 2023. Next year, larger cohorts will have completed these integration courses and thus be available to the labour market. In particular, the resulting improved language skills, the lack of which stands in the way of rapid labour market integration, could contribute to for increasing labour force participation of this group of people in the forecast period. In contrast, however, there is increasing demographic ageing, which is why the GCEE expects only a weak increase in the number of people in employment next year. Due to the expected economic recovery from the 4th quarter of 2023 onwards and

↘ TABLE 6

Labour market in Germany
1,000 persons

	2021	2022	2023[1]	2024[1]	2023[1]	2024[1]
	Yearly averages				Change on previous year in %	
Labour force potential[2]	47,514	47,915	48,320	48,414	0.8	0.2
Labour force[3]	46,404	46,800	47,129	47,221	0.7	0.2
Unemployed persons[4]	1,536	1,343	1,368	1,393	1.9	1.8
Commuter balance[5]	116	139	143	143	2.7	0.5
Employed persons[6]	44,984	45,596	45,904	45,971	0.7	0.1
Self employed persons	3,957	3,909	3,904	3,918	– 0.1	0.4
Employees	41,027	41,687	42,000	42,054	0.8	0.1
Employees subject to social security contributions	33,897	34,507	34,810	34,938	0.9	0.4
Marginally employed persons (ILO concept)[7]	4,699	4,736	4,746	4,670	0.2	– 1.6
Marginally employed persons (FEA concept)[8]	7,090	7,311	7,457	7,457	2.0	0.0
Exclusively marginally employed	4,101	4,125	4,144	4,067	0.5	– 1.9
Marginally employed in second job	2,990	3,186	3,313	3,390	4.0	2.3
Registered unemployed persons	2,613	2,418	2,580	2,533	6.7	– 1.8
Underemployment excluding short-time work[9]	3,368	3,185	3,500	3,431	9.9	– 2.0
Short-time work (Employment equivalence)	886	161	66	48	– 59.1	– 26.4
Labour volume (million hours)[10]	60,623	61,410	61,892	62,203	0.8	0.5
Unemployment rate (FEA)[11,12]	5.7	5.3	5.6	5.5	0.3	– 0.1
Unemployment rate (ILO)[12,13]	3.6	3.1	3.1	3.1	0.0	0.1

1 – Forecast by the GCEE except labour force potential (Source: IAB). 2 – Labour force and hidden reserve as defined by the IAB. 3 – Unemployed and employed persons in their working age with residence in Germany (national concept); as defined by the national accounts systems. 4 – According to the measuring concept of the International Labour Organization (ILO). 5 – Difference of employed workers commuting from foreign countries to Germany and those commuting from Germany to foreign countries. 6 – Employed persons in Germany independent of their residence (domestic concept). 7 – Employees not fully subject to social security contributions but who are employed according to the ILO labour force concept, especially exclusively marginally employed workers and persons with employment opportunities („1-Euro-Jobs"). 8 – Employed workers with a monthly wage up to 450 Euro and, since 1 October 2022, with a wage of up to 520 euro (§ 8 Absatz 1 Nr. 1 SGB IV). 9 – According to the concept of underemployment by the FEA. 10 – Working hours of employed persons working in Germany. 11 – Registered unemployed persons in relation to civilian labour force. 12 – Yearly averages in %; change on previous year in percentage points. 13 – Unemployed persons in relation to the civilian labour force, in each case persons in private households aged from 15 to 74 years.

Sources: Federal Employment Agency (FEA), Federal Statistical Office, Institute for Employment Research (IAB), own calculations

the tense situation on the labour market, there should be a slight decline in unemployment in 2024.

65. Effective wages increased by 6.7 % in Q2 2023 compared to the same quarter of the previous year. As consumer prices increased by 6.5 % at the same time, real wages stabilised for the first time in two years. Collectively negotiated wages are expected to continue to rise due to the concluded and ongoing collective bargaining in wholesale and retail trade and in the public sector of the federal states. ↘ TABLES 13 AND 14 APPENDIX It can be assumed that inflation compensation premiums will continue to be used. Overall, it is expected that there will be **slight real wage increases in 2023 and significant increases in 2024.** Nevertheless, real

wages are still likely to be below the 2020 level at the end of the forecast period. ↘ TABLE 14 APPENDIX

5. Public finances in compliance with the debt brake

66. Since 2020, the federal budget as well as many Länder budgets have shown deficits well above the regular limit due to the application of the escape clause of the debt brake for crisis situations (Annual Report 2022 item 165). The **Federal Government plans to comply with the deficit requirements of the debt brake** again in the current and coming year. However, the financial resources of **Special Funds enable additional borrowing by the Federal Government, which is not covered by the debt brake** (Annual Report 2022 items 166 ff). ↘ BOX 9 According to the "Act on the Adoption of a Second Supplement to the Federal Budget for the Financial Year 2021", these funds are to be attributed in 2022 to the time of the borrowing authorisation and no longer to the time of the borrowing or spending (Deutscher Bundestag, 2022).

67. **Government revenues** are expected to **increase in nominal terms in the current year, but decline relative to GDP** compared to the previous year. ↘ TABLE 9 Payroll tax revenues are significantly dampened by the Inflation Compensation Act and tax-free inflation compensation premiums. Economic weakness also ensures lower tax revenue growth. The decline in construction activity is causing revenues from land transfer tax to fall, and tax revenues from the assessed income tax are also being revised significantly downwards. Contributions to social insurance, however, are expected to increase strongly in the current year. At the beginning of the year, the contribution rate for unemployment insurance and the additional contributions of many health insurance providers were raised by 0.2 and 0.3 percentage points, respectively. In the middle of the year, the contribution rate for long-term care insurance was increased by 0.35 percentage points (for childless persons by 0.6 percentage points).

68. In **2024, tax revenues are** expected to **continue to rise and increase slightly as a share of GDP**. ↘ TABLE 9 The Inflation Adjustment Act compensates for the effects of cold progression by shifting the benchmarks of the income tax schedule once again and hence dampens the rise in wage tax revenues. VAT revenue is likely to rise more strongly again and revenues from carbon taxes will also increase as a result of the increase in the national price of carbon emission from 35 euros to 45 euros per ton of CO2. Social insurance contributions will also increase strongly in the upcoming year due to high wage dynamics and increases in contribution rates. For instance, the additional contribution to health insurance will increase by an average of 0.1 percentage points at the beginning of the year.

↘ BOX 9

Background: Stock and development of the Federal Government's Special Funds

A **Special Fund** represents a **subsidiary budget** for **financing certain delimited tasks.** The funds for a Special Fund can come from the normal federal budget or from revenue specified by law. Special Funds can also be endowed by law with their own credit authorisation (Bundesrechnungshof, 2023, p. 16f.). Currently, the Federal Government has a total of 29 Special Funds, some of which were established many decades ago and serve various purposes. The volume of the existing Special Funds totalled 869.1 billion euros in 2022. Of this, 88.9 billion euros came from Special Funds with their own revenues, 590.2 billion euros from Special Funds with their own credit authorisation, and 190.0 billion euros from credit-financed allocations from the federal budget (Bundesrechnungshof, 2023). The importance of Special Funds has increased in recent years. In the years 2011 to 2022, the Federal Government set up Special Funds of around 555 billion euros (Bundesrechnungshof, 2023, p. 9). These were set up to deal with **acute crises** (financial market stabilisation, Covid-19 pandemic, energy crisis) and **long-term**

↘ TABLE 7

Special Funds of the Federal Government: Financial planning
Planned expenditure in billion euro

	2023	2024
Climate and Transformation Fund[1]	**36.0**	**57.6**
Energy-efficient building refurbishment	16.9	18.9
EEG subsidies, subsidies to electricity-intensive companies	3.3	15.7
Decarbonisation of the industry and development of the hydrogen industry	4.0	3.8
Investments in the railway infrastructure	0.0	4.0
Further development of electromobility, charging infrastructure	1.9	4.7
Other	9.8	10.5
Bundeswehr Special Fund[1,2,3]	**8.4**	**19.2**
Air Force	4.9	–
Navy	1.1	–
Clothing and personal equipment	0.9	–
Dimension Leadership/Digitisation	0.7	–
Army	0.5	–
Other	0.3	–
Economic Stabilisation Fund[2,3]	**164.9**	**–**
Electricity price brake	43.0	–
Gas price brake	40.3	–
Takeover of UNIPER SE	15.2	–
Financing of further support measures and compensation payments	8.5	–
Hardship provisions for hospitals and care homes	6.0	–
Other	51.9	–

1 – According to the Federal Financial Plan 2023 to 2027 of 18 August 2023. 2 – According to the Federal Budget 2023 of 19 December 2022. 3 – The WSF measures can be financed until 30 June 2024. Detailed financial planning for the year 2024 is currently not available.

Sources: BMF, Bundesregierung

tasks (climate crisis). In 2022, the expenditures of the Special Funds amounted to about 10 % of the actual expenditures of the federal budget. In 2023, they are significantly higher at 36 % of the target expenditure of the federal budget (Bundesrechnungshof, 2023, p. 23).

The **Climate and Transformation Fund** (**KTF**) was established to finance measures to achieve the Federal Government's climate protection goals, in particular to decarbonise the economy, and for international climate protection (§ 2 KTFG). It is also used to cover grants to firms in order to bridge the costs of transformation (Annual Report 2022 item 169). In 2023, the KTF has reserves of 78.9 billion euros and expects revenues (especially from the EU Emission Trading System (EU ETS) and the national CO_2 pricing) of 21.9 billion euros. At the same time, expenditures of 36.0 billion euros are planned. The largest expenditure item is the promotion of energy efficiency and renewable energies in the building sector with 16.9 billion euros. In 2024, expenditures totalling 57.6 billion euros are planned. ↘ TABLE 7

The **Bundeswehr Special Fund** with a volume of 100 billion euros is to be used to strengthen Germany's alliance and defence capability (§ 2 BwFinSVermG; Annual Report 2022 item 166). In 2023, expenditures of 8.4 billion euros are planned, of which 4.9 billion euros for strengthening air defence. However, actual spending lags behind planned spending. Up to and including September 2023, the Special Fund had taken out loans of about 3.2 billion euros (BMF, 2023, p. 78). In 2024, around 19.2 billion euros are to be drawn down. ↘ TABLE 7

Since its rededication and increase in autumn 2022 (Doppel-Wumms, StFGÄndG), the **Economic Stabilisation Fund** (WSF) has been used to finance measures against the consequences of the Russian war of aggression against Ukraine (§ 26a StFG; Annual Report 2022 item 167). These include the electricity and gas price brake, support measures for companies and other hardship provisions for certain sectors or groups. The WSF has a volume of up to 200 billion euros, of which 164.9 billion euros is still to be used in 2023. ↘ TABLE 7 TOP to and including September 2023, loans of 63.1 billion euros have been drawn down for the Special Fund (BMF, 2023, p. 78). Due to the development of energy prices, expenditure is expected to be significantly lower than originally planned (Federal Government, 2023, p. 55). For the gas price brake, this is in line with estimates by the GCEE (Garnadt et al., 2023).

69. **Government spending is expected to increase in nominal terms in 2023 and to decrease slightly in relation to GDP** compared to the previous year. On the one hand, Covid-19 related expenditures from the previous year will fall away; on the other hand, additional expenditures will be incurred as a result of the Russian war of aggression. The financing of the gas and electricity price brake by the WSF is particularly significant here. ↘ BOX 9 The increase in child benefits and the introduction of the citizen's allowance lead to higher nominal expenditure on welfare benefits. In addition, the first major climate protection programmes are to be realised from KTF funds in 2023. The wage adjustments in the public service will increase the labour costs from June 2023. The planned capital formations to strengthen the defence capability within the framework of the Bundeswehr Special Fund are not expected to have an impact until the autumn.

In 2024, the federal government's spending policy is likely to be somewhat more restrained, especially since the price brakes in the energy sector are unlikely to be applied. In contrast, expenditure by the Bundeswehr Special Fund and the KTF is likely to continue to rise. In addition, personnel costs are likely to rise further due to the collective bargaining agreement for the federal government and municipalities. The ongoing collective bargaining for the federal states is also likely to lead to significant increases in labour costs.

↘ TABLE 8

Discretionary fiscal measures[1]

Burden (–) and relief (+) of the general government budget compared to the previous year in billion euros

	2023	2024
Revenue of the regional authorities		
Inflation Compensation Act	–12.3	– 13.2
Inflation compensation premium	– 8.9	3.2
Annual Tax Act 2022	– 3.1	0.3
Temporary reduction in VAT on natural gas	– 5.9	4.5
Temporary reduction of VAT in the restaurants and catering industry	– 2.8	2.3
Fourth Corona Tax Relief Act	– 3.4	– 1.2
Other tax mesaures[2]	3.2	8.1
Revenue of the social insurance		
Increase in the average supplementary contribution to the statutory health insurance	2.2	3.5
Increase in contribution rates to statutory long-term care insurance	3.3	3.4
Increase in the contribution rate to unemployment insurance	2.7	0
Inflation compensation premium	–10.5	4.5
Other measures[3]	– 1.7	0
Expenditures of federal, state and regional level authorities		
Energy price flat rate 2022	14.5	– 1.0
Additional expenditure of the Climate and Transformation Fund	– 7.4	– 16.2
Electricity and gas price brake	–27.0	25.0
Increase in child benefit 2023	– 6.3	0.0
Changes to housing benefit as of 1 January 2023	– 2.5	– 1.1
Introduction of Citizen's Income on 1 January 2023	– 4.8	– 0.4
Other measures[4]	32.3	– 4.7
Expenditures of the social insurance		
Nursing Staff Strengthening Act and Nursing Care Reform	– 0.8	– 0.3
Statutory health insurance (SHI) Financial Stabilisation Act	1.9	0.3
Protective equipment, rapid tests and vaccination campaign	15.9	0.2
Other measures[5]	0.3	0.2
Total	**– 21.2**	**17.5**
In % of GDP	**– 0.5**	**0.4**

1– Quantification of the burden and relief of the general government budget compared to the previous year without macro economic repercussions. 2 – Other tax measures include among others the Retirement Income Act, the reduction of the Energy Tax 2022, the second Corona Tax Relief Act, changes in tobacco tax, additional revenue from pension taxation and tax incentives for research and development. 3 – Other measures include the increase of the insolvency payments contribution as well as the increase in the mini- and midijob threshold. 4 – Other measures include among others additional funds for transport infrastructure, December discount 2022, hardship assistance for households, additional defence spending, subsidies for the Deutschlandticket and the 9-euro ticket, heating cost subsidies, additional support for social housing, child bonus 2022, subsidies for companies (electricity and gas), aid for hospitals and care facilities, Corona aid, support services for Ukraine, rescue of gas importers 202. 5 – Other measures include spending on the basic pension, the Care Support and Relief Act and the adjustment of the pension value East.

Sources: Federal Ministry for Economic Affairs and Climate, Federal Ministry of Finance, Federal Ministry of Health, Federal Ministry of Labour and Social Affairs, own calculations

70. **For 2023, the GCEE projects a general government deficit of** 91.0 billion euros (**2.2 %** in relation to GDP). ↘ TABLE 9 In the further forecast horizon, the deficit is expected to fall and amount to 63.8 billion euros in **2024** (**1.5 % in relation to** GDP). The GCEE estimates that the structural balance ↘ GLOSSARY will be −1.8 % of GDP in 2023. ↘ TABLE 9 In 2024, it is expected to decline to −1.2 % of GDP. Against the backdrop of continued elevated inflation rates and further significant nominal GDP growth, the GCEE expects the **debt-to-GDP ratio to**

↘ TABLE 9

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

	Billion euro			Change on previous year in %	
	2022	2023[2]	2024[2]	2023[2]	2024[2]
Total revenues	**1,821.2**	**1,897.8**	**2,008.2**	**4.2**	**5.8**
Taxes	946.6	960.7	1,009.9	1.5	5.1
Net social contributions	666.8	705.5	752.8	5.8	6.7
Sales	143.2	159.1	169.7	11.1	6.7
Other current transfers	28.0	30.3	31.8	8.0	5.1
Capital transfers	18.8	18.5	19.0	– 1.8	2.9
Property income	17.6	23.6	24.7	33.8	4.9
Other subsidies on production	0.2	0.2	0.2	– 2.6	0.0
Total expenditures	**1,918.1**	**1,988.8**	**2,072.0**	**3.7**	**4.2**
Social benefits other than social transf. in kind	619.1	661.1	693.3	6.8	4.9
Social benefits in kind	354.9	363.0	375.5	2.3	3.4
Compensation of employees	307.9	325.7	346.0	5.8	6.2
Intermediate consumption	238.4	256.8	271.0	7.7	5.5
Subsidies payable	70.0	68.5	44.7	– 2.1	– 34.7
Gross capital formation	100.9	106.8	115.4	5.8	8.0
Other current transfers	111.4	94.1	95.1	– 15.5	1.0
Capital transfers	89.7	78.0	92.2	– 13.1	18.3
Property income	26.5	35.2	39.3	32.6	11.7
Other taxes on production	0.3	0.3	0.3	4.4	4.3
Acquisitions less disposals of non-prod. assets	– 1.0	– 0.8	– 0.8	– 20.4	0.0
Budget balance	**– 96.9**	**– 91.0**	**– 63.8**	**x**	**x**
Fiscal indices (%)[3]					
Tax ratio[4]	24.8	23.7	24.1	x	x
Tax and contribution ratio[5]	40.9	39.7	40.6	x	x
Budget balance	– 2.5	– 2.2	– 1.5	x	x
Structural budget balance[6]	– 2.6	– 1.8	– 1.2	x	x
Structural primary balance[6]	– 1.9	– 0.9	– 0.3	x	x
Debt-to-GDP ratio[7]	66.1	64.4	63.7	x	x

1 – National accounts (nominal values). 2 – Forecast by the GCEE. 3 – In relation to GDP. 4 – Taxes including inheritance tax and taxes entitled to the EU. 5 – Taxes including inheritance tax and taxes entitled to the EU, and actual social contributions. 6 – Based on the estimate for potential output. Calculated with a budget semielasticity of 0.504. The budget semielasticity measures by how many percentage points the relationship between budget balance and GDP changes in the event of a 1 % increase in GDP. 7 – General government gross debt as defined in the Maastricht Treaty.

Sources: Deutsche Bundesbank, Federal Statistical Office, own calculations

reach 64.4 % in 2023. ↘ TABLE 9 In 2024, it is **expected to decline slightly to** 63.7 % of GDP. According to discretionary measures, fiscal policy is still expansionary in 2023. ↘ TABLE 8 In 2024, it is expected to become contractionary. In contrast, measured by the year-on-year change in the structural fiscal balance, fiscal policy is contractionary in both years. ↘ TABLE 9

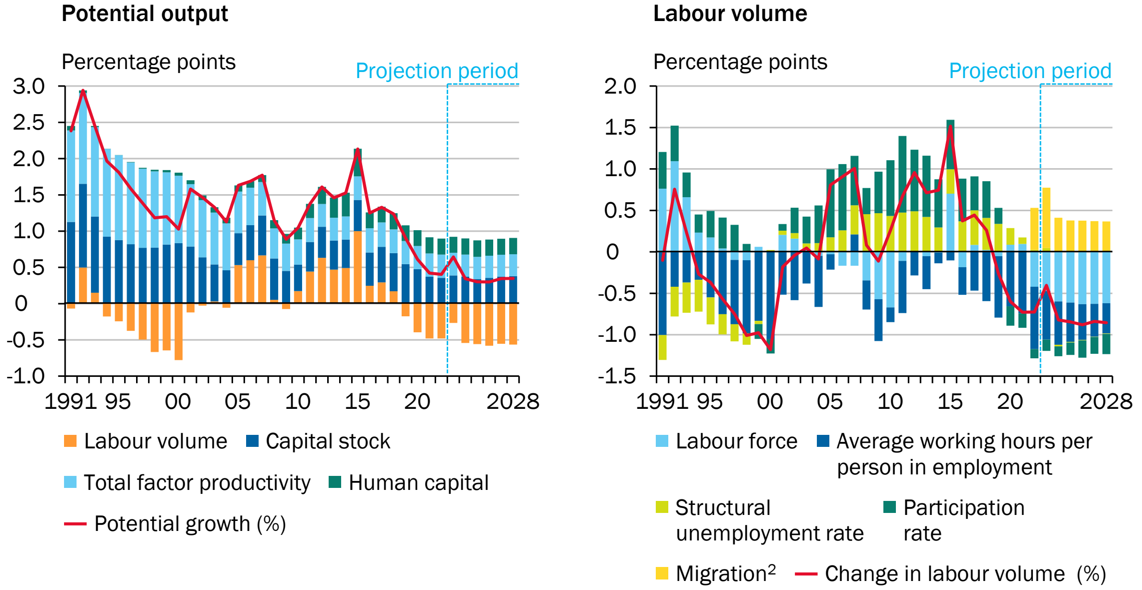
6. Labour volume reduces potential growth

71. In the **medium-term projection,** the GCEE estimates potential outputfor the next five years in each GCEE Annual Report. This is a **growth projection**, i.e. a projection of the expected development of German potential output in the medium to long term at normal capacity utilisation. Potential output depends on the fundamental economic conditions. ↘ BOX 11

The GCEE estimates that potential output growth will average 0.4 % per year **until 2028.** ↘ CHARTS 22 ↘ CHART 30 This marks a historical low, which is due in particular to the declining volume of labour. **In 2023, potential output growth is expected to be** around **0.7 %** due to historically high net in-migration of 1.5 million people in 2022. ↘ ITEM 99

72. While structural unemployment is currently as low as it was last in 1977, the structural labour participation rate and, in particular, average working hours are contributing negatively to potential growth. Labour is thus currently a scarce production factor. This is likely to lead to negative effects of the labour volume on potential output of –0.2 percentage points and –0.5 percentage points in 2023 and 2024, respectively. **Demographic change** will increasingly contribute to the

↘ CHART 30
Growth contributions of components to potential output[1]



1 – Calculations by the GCEE. 2 – Explicitly modelled from 2022; included in population until 2021.

Sources: Federal Statistical Office, own calculations

reduction of the labour force, especially towards the end of the projection horizon, so that only dampening impulses are to be expected from the labour volume overall in the projection horizon. ↘ ITEM 106

73. The trend growth rate of **total factor productivity** is currently also comparatively low at 0.3 % annually. **Capital input is** also making a much weaker contribution to potential output growth than in previous years, at around 0.4 percentage points. ↘ ITEMS 103 FF. This could be related to adverse effects of the energy crisis and the Corona pandemic, as a temporary economic downturn can have lasting adverse effects on potential growth (Cerra et al., 2020; Aikman et al., 2022).

APPENDIX

↘ TABLE 10

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

	2018	2019	2020	2021	2022	2023[2]	2024[2]
Statistical overhang at the end of the previous year[3]	1.3	0.4	0.2	2.4	0.9	– 0.2	0.0
Growth rate over the course of the year[4]	0.1	0.9	– 2.1	1.6	0.8	– 0.1	1.2
Annual rate of change of GDP, calendar adjusted	1.0	1.1	– 4.2	3.1	1.9	– 0.2	0.7
Calendar effect (in percentage points)	0.0	0.0	0.4	0.0	– 0.1	– 0.2	0.0
Annual rate of change of GDP[5]	1.0	1.1	– 3.8	3.2	1.8	– 0.4	0.7

1 – Price adjusted. 2 – Forecast by the GCEE. 3 – Percentage difference between the level of GDP in the last quarter of year t and the average level of quarterly GDP in the total year t (Annual Report 2005 Box 5), seasonally and calendar adjusted. 4 – Percentage change of the fourth quarter on the fourth quarter of the previous year, seasonally and calendar adjusted. 5 – Deviations in sums due to rounding.

Sources: Federal Statistical Office, own calculations

↘ TABLE 11

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

	2018	2019	2020	2021	2022	2023[2]	2024[2]
Domestic demand	**1.5**	**1.4**	**– 2.9**	**2.3**	**3.0**	**– 0.8**	**0.9**
Final consumption expenditure	0.9	1.4	– 2.2	1.4	2.3	– 0.9	0.9
Private consumption[3]	0.8	0.8	– 3.0	0.8	1.9	– 0.4	0.6
Government consumption	0.2	0.5	0.8	0.7	0.3	– 0.5	0.3
Gross fixed capital formation	0.7	0.4	– 0.5	0.0	0.0	0.0	– 0.1
Investment in machinery & equipment[4]	0.3	0.1	– 0.8	0.2	0.3	0.2	0.1
Construction investment	0.3	0.1	0.4	– 0.3	– 0.2	– 0.2	– 0.3
Other products	0.1	0.2	– 0.2	0.1	0.0	0.0	0.1
Changes in inventories	– 0.1	– 0.3	– 0.2	0.9	0.7	0.1	0.1
Net exports	**– 0.6**	**– 0.3**	**– 1.0**	**0.9**	**– 1.2**	**0.3**	**– 0.2**
Exports of goods and services	1.1	1.1	– 4.4	4.2	1.6	– 0.6	0.2
Imports of goods and services	– 1.6	– 1.4	3.4	– 3.4	– 2.8	0.9	– 0.5
Gross domestic product (%)	**1.0**	**1.1**	**– 3.8**	**3.2**	**1.8**	**– 0.4**	**0.7**

1 – Contributions to growth of price-adjusted GDP. Deviations in sums due to rounding. 2 – Forecast by the GCEE. 4 – Including non-profit institutions serving households. 5 – Including military weapon systems.

Sources: Federal Statistical Office, own calculations

↘ TABLE 12
Key figures of the national accounts
Absolute values

	Unit	2022	2023[1]	2024[1]	2023		2024[1]	
					1st half-year	2nd half-year[1]	1st half-year	2nd half-year
Use of domestic product								
at current prices								
Final consumption expenditure	billion euro	2,830.2	2,982.0	3,106.5	1,448.8	1,533.2	1,512.4	1,594.1
Private consumption[2]	billion euro	1,979.3	2,092.0	2,174.2	1,019.5	1,072.5	1,058.8	1,115.4
Government consumption	billion euro	850.9	890.0	932.3	429.3	460.7	453.6	478.7
Gross fixed capital formation	billion euro	856.2	911.2	918.7	445.8	465.4	445.8	472.9
Investment in machinery & equipment[3]	billion euro	253.4	276.3	287.9	132.4	143.9	137.0	150.9
Construction investment	billion euro	463.5	491.4	481.0	246.0	245.4	238.8	242.2
Other products	billion euro	139.3	143.4	149.8	67.3	76.1	70.0	79.8
Domestic demand	billion euro	3,800.5	3,945.0	4,074.6	1,927.1	2,017.9	1,988.9	2,085.8
Exports of goods and services	billion euro	1,974.2	1,956.0	1,968.0	985.0	971.0	970.5	997.5
Imports of goods and services	billion euro	1,897.9	1,783.3	1,777.7	894.3	888.9	865.7	912.1
Gross domestic product	**billion euro**	**3,876.8**	**4,117.8**	**4,264.9**	**2,017.8**	**2,100.0**	**2,093.7**	**2,171.2**
Chained volumes								
Final consumption expenditure	billion euro	2,417.4	2,387.2	2,415.6	1,177.7	1,209.5	1,186.0	1,229.6
Private consumption[2]	billion euro	1,705.1	1,692.0	1,710.8	833.3	858.7	837.4	873.4
Government consumption	billion euro	711.2	694.3	703.7	344.0	350.3	348.0	355.8
Gross fixed capital formation	billion euro	661.7	662.9	660.5	324.7	338.2	321.3	339.2
Investment in machinery & equipment[3]	billion euro	222.5	229.4	233.2	110.4	119.0	111.2	122.0
Construction investment	billion euro	314.6	310.5	303.3	155.3	155.2	150.8	152.5
Other products	billion euro	124.7	124.4	127.4	58.7	65.7	59.8	67.5
Domestic demand	billion euro	3,127.1	3,102.0	3,130.9	1,530.4	1,571.6	1,538.7	1,592.2
Exports of goods and services	billion euro	1,640.6	1,621.5	1,629.5	814.4	807.0	807.7	821.7
Imports of goods and services	billion euro	1,497.7	1,469.1	1,484.5	727.1	742.0	725.2	759.2
Gross domestic product	**billion euro**	**3,274.9**	**3,260.2**	**3,282.3**	**1,620.6**	**1,639.6**	**1,623.8**	**1,658.4**
Price Development (deflators)								
Final consumption expenditure	2015=100	117.1	124.6	128.8	123.0	126.8	127.5	129.6
Private consumption[2]	2015=100	116.1	123.7	127.1	122.3	124.9	126.4	127.7
Government consumption	2015=100	119.7	128.2	132.4	124.8	131.4	130.4	134.5
Gross fixed capital formation	2015=100	129.4	137.5	139.1	137.3	137.5	138.6	139.3
Investment in machinery & equipment[3]	2015=100	113.9	120.6	123.6	120.0	120.9	123.1	123.7
Construction investment	2015=100	147.4	158.3	158.6	158.4	158.1	158.4	158.8
Other products	2015=100	111.7	115.2	117.5	114.6	115.7	116.9	118.1
Domestic demand	2015=100	121.5	127.2	130.2	125.9	128.4	129.3	131.0
Terms of Trade	2015=100	95.0	99.4	100.9	98.3	100.4	100.7	101.0
Exports of goods and services	2015=100	120.3	120.7	120.8	121.0	120.3	120.2	121.4
Imports of goods and services	2015=100	126.7	121.5	119.8	123.0	119.8	119.4	120.1
Gross domestic product	**2015=100**	**118.4**	**126.3**	**129.9**	**124.5**	**128.1**	**128.9**	**130.9**
Production of domestic product								
Employed persons (domestic)	1000	45,596	45,904	45,971	45,739	46,068	45,821	46,122
Labour volume	million hours	61,410	61,892	62,203	30,499	31,393	30,558	31,645
Labour productivity (per hour)	2015=100	106.5	105.2	105.3	106.2	104.3	106.2	104.6
Distribution of net national income								
Net national income	billion euro	2,890.9	3,078.8	3,186.1	1,497.8	1,581.0	1,544.7	1,641.4
Compensation of employees	billion euro	2,023.6	2,157.5	2,283.3	1,029.2	1,128.3	1,087.4	1,195.9
Gross wages and salaries	billion euro	1,661.8	1,777.2	1,876.9	846.0	931.1	892.1	984.8
among them: net wages and salaries[4]	billion euro	1,118.8	1,217.1	1,275.3	573.2	643.8	599.3	676.0
Property and entrepreneurial income	billion euro	867.4	921.3	902.8	468.6	452.7	457.3	445.5
Disposable income of private households[2]	billion euro	2,164.5	2,292.8	2,386.9	1,131.7	1,161.1	1,181.6	1,205.4
Savings rate of private households[2,5]	%	11.1	11.2	11.3	12.3	10.2	12.7	10.0
For information purposes:								
nominal unit labour costs[6]	2015=100	115.7	123.8	130.1	118.6	128.8	125.1	135.0
real unit labour costs[7]	2015=100	97.8	98.0	100.1	95.2	100.5	97.0	103.1
Consumer prices	2020=100	110.2	116.9	120.0	115.9	117.8	119.4	120.5

1 – Forecast by the GCEE. 2 – Including non-profit institutions serving households. 3 – Including military weapon systems. 4 – Compensation of employees minus social contributions of employers and employees and income tax of employees. 5 – Savings relative to disposable income.
6 – Compensation of employees per working hour (employee concept) in relation to real GDP per working hour (employed person concept).
7 – Compensation of employees per working hour (employee concept) in relation to GDP per working hour (employed person concept).

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

↘ STILL TABLE 12

Key figures of the national accounts

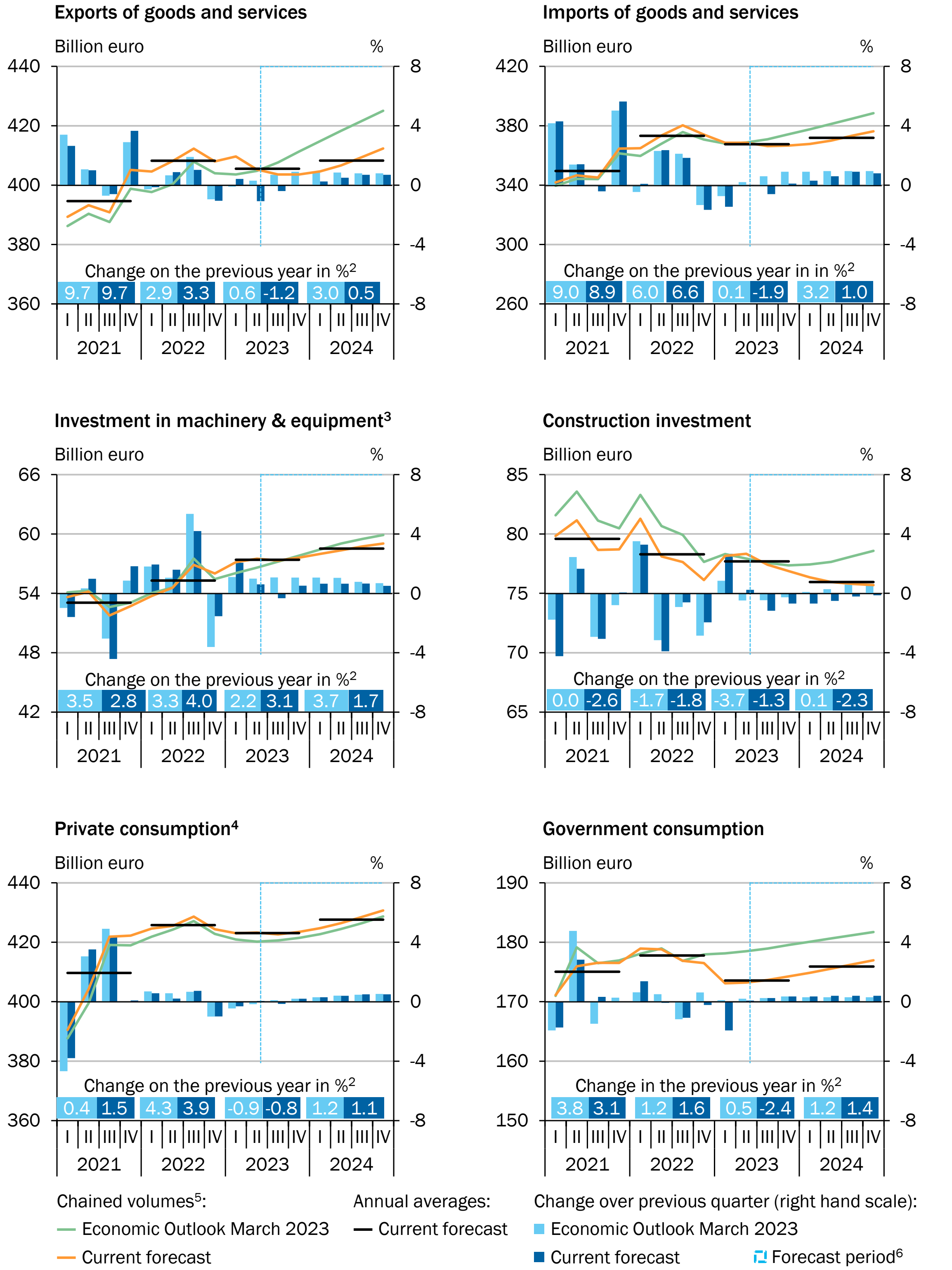
Change on the previous year in %

2022	2023[1]	2024[1]	2023 1st half-year	2023 2nd half-year[1]	2024[1] 1st half-year	2024[1] 2nd half-year	
							Use of domestic product
							at current prices
9.6	5.4	4.2	5.9	4.9	4.4	4.0	Final consumption expenditure
10.9	5.7	3.9	7.0	4.5	3.9	4.0	Private consumption[2]
6.8	4.6	4.8	3.5	5.6	5.7	3.9	Government consumption
11.1	6.4	0.8	8.9	4.2	0.0	1.6	Gross fixed capital formation
11.4	9.1	4.2	13.0	5.7	3.4	4.9	Investment in machinery & equipment[3]
14.0	6.0	– 2.1	8.8	3.4	– 2.9	– 1.3	Construction investment
2.1	2.9	4.4	2.0	3.8	4.0	4.8	Other products
11.1	3.8	3.3	5.0	2.7	3.2	3.4	Domestic demand
15.4	– 0.9	0.6	2.7	– 4.3	– 1.5	2.7	Exports of goods and services
25.3	– 6.0	– 0.3	– 0.8	– 10.8	– 3.2	2.6	Imports of goods and services
7.2	**6.2**	**3.6**	**6.6**	**5.9**	**3.8**	**3.4**	**Gross domestic product**
							Chained volumes
3.2	– 1.3	1.2	– 1.3	– 1.2	0.7	1.7	Final consumption expenditure
3.9	– 0.8	1.1	– 0.5	– 1.0	0.5	1.7	Private consumption[2]
1.6	– 2.4	1.4	– 3.2	– 1.5	1.2	1.6	Government consumption
0.1	0.2	– 0.4	0.6	– 0.2	– 1.1	0.3	Gross fixed capital formation
4.0	3.1	1.7	5.7	0.8	0.8	2.5	Investment in machinery & equipment[3]
– 1.8	– 1.3	– 2.3	– 2.0	– 0.6	– 2.9	– 1.7	Construction investment
– 0.7	– 0.2	2.4	– 0.6	0.1	1.9	2.8	Other products
3.2	– 0.8	0.9	– 0.5	– 1.1	0.5	1.3	Domestic demand
3.3	– 1.2	0.5	0.1	– 2.4	– 0.8	1.8	Exports of goods and services
6.6	– 1.9	1.0	– 0.3	– 3.4	– 0.3	2.3	Imports of goods and services
1.8	**– 0.4**	**0.7**	**– 0.3**	**– 0.6**	**0.2**	**1.2**	**Gross domestic product**
							Price Development (deflators)
6.2	6.4	3.3	7.3	6.1	3.7	2.3	Final consumption expenditure
6.7	6.5	2.8	7.5	5.6	3.3	2.3	Private consumption[2]
5.1	7.1	3.3	7.0	7.3	4.4	2.3	Government consumption
11.0	6.3	1.2	8.3	4.3	1.0	1.3	Gross fixed capital formation
7.1	5.9	2.5	6.9	4.9	2.6	2.3	Investment in machinery & equipment[3]
16.1	7.4	0.2	11.1	3.9	0.0	0.4	Construction investment
2.8	3.1	2.0	2.5	3.6	2.0	2.0	Other products
7.6	4.7	2.3	5.5	3.8	2.6	2.0	Domestic demand
– 4.9	4.6	1.5	3.0	6.1	2.4	0.6	Terms of Trade
11.7	0.3	0.1	2.6	– 2.0	– 0.6	0.9	Exports of goods and services
17.5	– 4.1	– 1.4	– 0.4	– 7.7	– 3.0	0.3	Imports of goods and services
5.3	**6.7**	**2.9**	**6.8**	**6.6**	**3.6**	**2.2**	**Gross domestic product**
							Production of domestic product
1.4	0.7	0.1	0.8	0.5	0.2	0.1	Employed persons (domestic)
1.3	0.8	0.5	0.9	0.7	0.2	0.8	Labour volume
0.5	– 1.2	0.2	– 1.1	– 1.3	0.0	0.3	Labour productivity (per hour)
							Distribution of net national income
4.4	6.5	3.5	7.7	5.4	3.1	3.8	Net national income
5.5	6.6	5.8	6.9	6.4	5.7	6.0	Compensation of employees
5.8	6.9	5.6	7.3	6.6	5.4	5.8	Gross wages and salaries
5.3	8.8	4.8	9.4	8.3	4.6	5.0	among them: net wages and salaries[4]
1.9	6.2	– 2.0	9.7	2.8	– 2.4	– 1.6	Property and entrepreneurial income
6.3	5.9	4.1	7.2	4.8	4.4	3.8	Disposable income of private households[2]
.	.	.	.	.	.	.	Savings rate of private households[2,5]
							For information purposes:
3.5	6.9	5.1	6.8	7.1	5.5	4.8	nominal unit labour costs[6]
– 1.7	0.2	2.2	– 0.1	0.5	1.8	2.5	real unit labour costs[7]
6.9	6.1	2.6	7.4	4.9	3.0	2.3	Consumer prices

1 – Forecast by the GCEE. 2 – Including non-profit institutions serving households. 3 – Including military weapon systems. 4 – Compensation of employees minus social contributions of employers and employees and income tax of employees. 5 – Savings relative to disposable income. 6 – Compensation of employees per working hour (employee concept) in relation to real GDP per working hour (employed person concept). 7 – Compensation of employees per working hour (employee concept) in relation to GDP per working hour (employed person concept).

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

↘ CHART 31
Components of the German GDP[1]

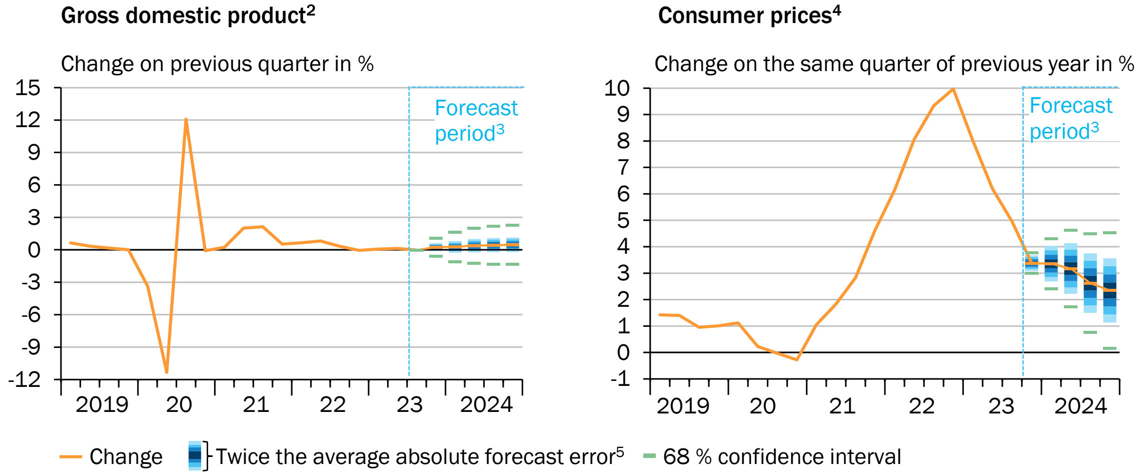


1 – All components of GDP reported price-adjusted. 2 – Not seasonally and calendar-adjusted. 3 – Including military weapon systems. 4 – Including non-profit institutions serving households. 5 – Reference year 2015, seasonally and calendar-adjusted. 6 – Current forecast period. Forecasts by the GCEE.

Sources: Federal Statistical Office, own calculations

↘ CHART 32

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

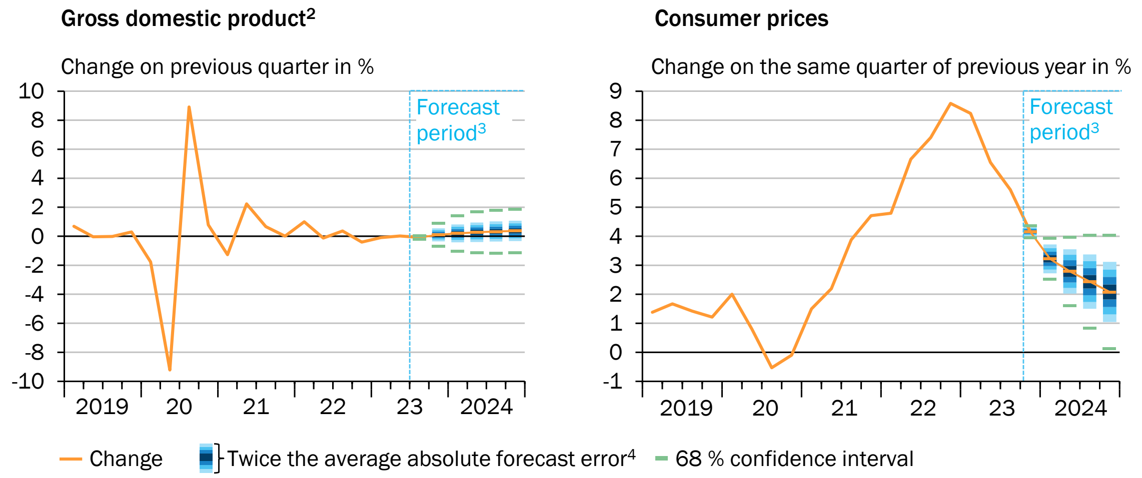


1 – Uncertainty margins calculated on base of the mean absolute forecast error in the period 1999 to 2022. 2 – Price-, seasonally and calendar-adjusted. 3 – Forecast by the GCEE. 4 – Harmonised index of consumer prices. 5 – The width of the confidence band, which is symmetric around the most likely value, is twice the average absolute forecast error.

Sources: Eurostat, own calculations

↘ CHART 33

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



1 – Uncertainty margins calculated on base of the mean absolute forecast error in the period 1999 to 2022. 2 – Price-, seasonally and calendar-adjusted. 3 – Forecast by the GCEE. 4 – The width of the confidence band, which is symmetric around the most likely value, is twice the average absolute forecast error.

Sources: Federal Statistical Office, own calculations

↘ TABLE 13

Negotiated wage agreements by sector with start of term from 2023 onwards[1]

Economic sector	Number of em-ployees	Negotiated agreement	Inflation compensation payments in 2023 and 2024	Start of term/ step of increase	End of term
Deutsche Post AG	160,000	€340/month	Apr 2023: €1,020, May 2023 until Mar 2024: €180/month	01-04-2024	31-12-2024
Motor vehicle business	91,000	5 %	Jul 2023: €1,500, Apr 2024: €1,000	01-11-2023	
		3.6 %		01-10-2024	31-03-2025
Civil service federation and municipality	2,385,200	€200 basic amount plus 5.5 %, at least €340	Jun 2023: €1,240, Jul 2023 until Feb 2024: €220/month	01-03-2024	31-12-2024
Paper, cardboard and plastic manu-facturing industry	71,300	5.1 %	May 2023: €1,000, Mar 2024: €1,000	01-09-2023	
		2.1 %		01-08-2024	
		1.4 %		01-12-2024	31-01-2025
Sugar confectionery industry	60,000	€300/month – €350/month	Jul 2023: €500, beginning 2024: €500	01-07-2023	30-06-2024
Textile and clothing industry West Germany	69,000	4.8 % at least €130/month	Apr/May 2023: €1,000, Apr 2024: €500	01-10-2023	
		3,3 % at least €100/month		01-09-2024	28-02-2025
Temporary employment	800,000	6 % – 9.25 %		01-04-2023	
		3 % – 3.5 %		01-01-2024	31-03-2024
Construction	927,000		€500 until Sep 2023 and until Sep 2024	01-02-2023	
Private energy-sector[2]	30,000	6 %	Jun 2023: €3,000	01-04-2023	
Helios hospitals (non-medical service)	21,000	4 % at least €150/month	May 2023: €1,000, Jan 2024: €1,000	01-07-2023	
		4 % at least €150/month		01-07-2024	
		1 %		01-11-2024	31-12-2024
Deutsche Bahn	180,000	€200/month	Oct 2023: €2,850	01-12-2023	
		€210/month		01-08-2024	31-03-2025
Technical building equipment Baden-Wurttemberg	45,000	6 %	2023: €1,500, 2024: €1,500	01-09-2023	
		3 %		01-09-2024	31-08-2025
Roofer trade	100,000		May 2023: €475, Feb 2024: €475		
Shoe and sports equipment industry	13,000	€200/month (Adidas) €150/month (shoe industry)	2023: €1,000 €, 2024: €1,000	01-08-2023	
		€150/month (Adidas) €100/month (shoe industry)		01-10-2024	

1 – Selected sectors with employment over 10,000 people; data as of 26 October 2023. 2 – Wage group energy: E.ON, Bayernwerk, Westenergie, Avacon, Avu and TenneT.

Sources: DGB, IG Bau, IG BCE, IG Metall, ITGA-BW, Verdi, Wirtschafts- und Sozialwissenschaftliches Institut (WSI)

↘ STILL TABLE 13

Negotiated wage agreements by sector with start of term from 2023 onwards[1]

Economic sector	Number of em-ployees	Negotiated agreement	Inflation compensation payments in 2023 and 2024	Start of term/ step of increase	End of term
Hotel and restau-rant business Berlin	74,000	€175/month		01-07-2023	
		€175/month		01-07-2024	
German Red Cross	50,000	€200/month plus 6 %	Aug 2023: €1,200, Sep 2023 until May 2024: €200/month	01-06-2024	31-05-2025
Electrical trade Baden-Wurttemberg	60,000	6 %	Sep 2023: €1,000, Sep 2024: €1,000	01-07-2023	
		3 %		01-07-2024	30-04-2025
Electrical trade North-Rhine Westphalia	110,000	5 %	€2,000, quarterly payment	01-07-2023	
		4 %		01-07-2024	30-04-2025
Landscape archi-tecture and sports field construction	130,000	5.9 %	Oct 2023: €250, Oct 2024: €250	01-07-2023	
		3.9 %		01-07-2024	30-06-2025
Textile services	22,000	€150/month	Jul 2023: €1,000, Jan 2024: €300	01-03-2024	
		€150/month		01-03-2025	30-06-2025
Locksmith's trade North-Rhine-Westphalia	58,000	5.3 %	2023: €1,500	01-11-2023	
		3.9 %		01-11-2024	31-10-2025
Metal manufactur-ing and precision technic Baden-Wurttemberg	40,000	5.2 %	Mar 2023: €600, Dec 2023: €600	01-05-2023	30.04.2024

1 – Selected sectors with employment over 10,000 people; data as of 26 October 2023. 2 – Wage group energy: E.ON, Bayernwerk, Westenergie, Avacon, Avu and TenneT.

Sources: DGB, IG Bau, IG BCE, IG Metall, ITGA-BW, Verdi, Wirtschafts- und Sozialwissenschaftliches Institut (WSI)

↘ TABLE 14

Wage developments in Germany

Change on the previous year in %

	Collectively agreed wages (hourly concept)	Effective wages[1]	Wage drift[2]	Compensation of employees per working hour	Labour productivity[3]	Unit labour costs (nominal)[4]	Unit labour costs (real)[5]
2019	3.2	3.4	0.2	3.8	0.7	3.1	0.9
2020	2.0	3.7	1.7	4.2	1.2	3.0	1.1
2021	1.3	0.8	– 0.5	0.6	0.6	0.0	– 2.9
2022	2.2	4.3	2.1	4.0	0.5	3.5	– 1.7
2023[6]	4.0	5.9	1.8	5.6	– 1.2	6.9	0.2
2024[6]	4.5	5.1	0.6	5.3	0.2	5.1	2.2

1 – Gross wages and salaries (domestic concept) per employees' hour worked. 2 – Difference between the increase in effective wages and the increase in collectively agreed wages in percentage points. 3 – Real GDP per working hour (em-ployed person concept). 4 – Compensation of employees per working hour (employee concept) in relation to real GDP per working hour (employed person concept). 5 – Compensation of employees per working hour (employee concept) in relation to GDP per working hour (employed person concept). 6 – Forecast by the GCEE.

Sources: Federal Statistical Office, own calculations

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