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2023 ARTICLE IV CONSULTATION—PRESS RELEASE; STAFF REPORT; AND STATEMENT BY THE EXECUTIVE DIRECTOR FOR GERMANY

Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. In the context of the 2023 Article IV Consultation with Germany, the following documents have been released and are included in this package:

- A **Press Release** summarizing the views of the Executive Board as expressed during its July 12, 2023 consideration of the staff report that concluded the Article IV Consultation with Germany.
- The **Staff Report** prepared by a staff team of the IMF for the Executive Board's consideration on July 12, 2023, following discussions that ended on May 16, 2023, with the officials of Germany on economic developments and policies. Based on information available at the time of these discussions, the staff report was completed on June 28, 2023.
- An **Informational Annex** prepared by the IMF staff.
- A **Statement by the Executive Director** for Germany.

The documents listed below have been or will be separately released.

Selected Issues

The IMF's transparency policy allows for the deletion of market-sensitive information and premature disclosure of the authorities' policy intentions in published staff reports and other documents.

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International Monetary Fund
Washington, D.C.

IMF Executive Board Concludes 2023 Article IV Consultation with Germany

FOR IMMEDIATE RELEASE

Washington, DC – July 17, 2023: On July 12, 2023, the Executive Board of the International Monetary Fund (IMF) concluded the Article IV consultation[1] with Germany.

The German economy has demonstrated resilience following the shut-off of Russian gas supply last year. Highly adverse scenarios of widespread energy scarcity have been avoided due to strong efforts to conserve gas and secure energy supplies, as well as the lack of severe winter weather. Nevertheless, adverse effects from the energy shock and tightening financial conditions have been sufficient to tilt the economy into recession in recent months. Inflation also spiked as the energy price shock added to existing pandemic-related bottlenecks, though inflation is now falling as these effects ease. The overall capital and liquidity positions of Germany's banking and insurance systems remain at solid levels, but banking turmoil in other advanced economies earlier this year has heightened the focus on potential financial stability risks associated with rising interest rates.

The energy shock and tightening financial conditions are expected to keep annual GDP growth slightly negative in 2023. Growth is expected to regain momentum gradually in 2024–25, as the lagged effects of monetary tightening gradually dissipate and the economy adjusts to the energy shock. Inflation is expected to continue falling amid softening energy prices and tightening fiscal policy, but with core inflation declining more slowly than headline due to rising nominal wage pressures and lagged passthrough of lower global commodity prices to core inflation. Over the medium term, average GDP growth is expected to fall back below 1 percent due to accelerating headwinds from population aging, absent significant increases in productivity and/or labor supply growth.

Uncertainty is unusually high, with substantial risks in both directions, which on balance are tilted downward for growth. Uncertainty around the persistency of core inflation is especially high, as a rapid rise in core inflation to its current levels has not been observed in Germany or most other advanced economies for decades. One near-term risk is that core inflation could remain elevated longer than expected, requiring tighter monetary policy, or that renewed turbulence in global markets could further tighten financial conditions, with adverse effects on growth and real estate markets. An abrupt global slowdown would also adversely affect activity, especially in the export sector. Upside risks include a possible stronger-than-expected recovery in external demand or faster-than-expected decline in core inflation. Over the medium term, key risks include uncertainty regarding the pace of productivity and labor supply growth and rising risks of global geoeconomic fragmentation.

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[1]Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. A staff team visits the country, collects economic and financial information, and discusses with officials the country's economic developments and policies. On return to headquarters, the staff prepares a report, which forms the basis for discussion by the Executive Board.

Executive Board Assessment[2]

Executive Directors agreed with the thrust of the staff appraisal. They commended the authorities' strong policies that have resulted in remarkable economic resilience despite the adverse spillovers from Russia's war in Ukraine. Nonetheless, the energy supply shock and tighter financial conditions are weighing on near-term economic outlook, core inflation remains stubbornly elevated, and downside risks dominate for growth amid high uncertainty. Against this background, Directors called for policies to ensure disinflation and financial stability over the short term and to achieve stronger and greener growth over the medium term.

Directors broadly concurred that fiscal tightening in the near term is needed to support disinflation. In this context, they broadly welcomed the authorities' plans to save the expected underspending on energy price relief and any revenue overperformance. Allowing energy relief measures to expire as scheduled would also be important. Directors also emphasized that fiscal policy should remain flexible, letting automatic stabilizers kick in if downside risks materialize.

Over the medium and longer term, Directors noted the need to create more fiscal room to accommodate rising aging pressures and increase public investment. Such measures would support potential growth and reduce imbalances in the external position, which is assessed to be stronger than the level implied by medium-term fundamentals and desirable policies. Directors broadly noted that expenditure reforms and mobilizing additional revenue could be possible reform options. Revising the debt-brake rule could also be considered following the EU fiscal rules review to lessen reliance on extrabudgetary spending.

Directors welcomed Germany's ambitious and comprehensive Recovery and Resilience Plan. They agreed that addressing population aging, labor skill shortages, and low productivity are critical to boosting Germany's potential growth. They also welcomed plans to promote digitalization, skilled immigration, and upskilling of workers and encouraged further efforts to enhance incentives to undertake R&D, expand funding for young and innovative firms, and lower market entry barriers.

Directors acknowledged that Germany's financial system remains sound. However, with systemic risks rising amidst higher interest rates, they underscored the importance of identifying vulnerable banks and subjecting them to intensive supervision, as well as encouraging a conservative approach to bank capital distributions. Continued efforts to close data gaps in financial sector supervision also remain important. To further strengthen safety nets and crisis management frameworks, Directors encouraged the authorities to consider moving to a single mandatory depositor protection scheme with a robust public liquidity backstop. Furthermore, Directors stressed the need to add income-based measures to the macroprudential toolkit. They also welcomed efforts to further strengthen the AML/CFT framework and continue to address the recommendations in the 2022 FATF mutual evaluations.

Directors commended Germany's leading role in the climate agenda, including for meeting its emission targets in 2022. They noted that continued efforts are needed to meet climate change mitigation targets and encouraged the authorities to improve targeting of subsidies

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[2] At the conclusion of the discussion, the Managing Director, as Chairman of the Board, summarizes the views of Executive Directors, and this summary is transmitted to the country's authorities. An explanation of any qualifiers used in summings up can be found here: http://www.IMF.org/external/np/sec/misc/qualifiers.htm.

that support the green transition and promote a consistent and fiscally affordable approach across EU countries.

Directors welcomed Germany's continued support for a multilateral, rules-based trading system that promotes mutually beneficial cooperation on trade and cross-border flows. At the same time, they encouraged the authorities to identify the country's critical dependencies in terms of supply and sale markets, assess the impact of global economic fragmentation, and develop strategies for coping with these risks.

It is expected that the next Article IV consultation with Germany will be held on the standard 12-month cycle.

Germany: Selected Economic Indicators, 2022–24 1/

		Projections	
	2022	2023	2024
Output			
Real GDP growth (%)	1.8	-0.3	1.3
Total domestic demand growth (%)	3.3	-0.5	1.5
Output gap (% of potential GDP)	0.5	-0.9	-0.9
Employment			
Unemployment rate (%, ILO)	3.1	3.3	3.3
Employment growth (%)	2.6	0.4	-0.1
Prices			
Inflation (%, headline, period avg.)	8.7	5.8	2.6
Inflation (%, core, period avg.)	5.0	6.2	3.0
General Government Finances			
Fiscal balance (% of GDP)	-2.7	-3.0	-1.5
Revenue (% of GDP)	47.0	46.5	46.5
Expenditure (% of GDP)	49.8	49.6	48.0
Public debt (% of GDP)	66.2	66.4	65.0
Money and Credit			
Broad money (M3) (end of year, % change) 2/	5.1	...	...
Credit to private sector (% change)	6.6	...	...
10-year government bond yield (%)	1.3	...	...
Balance of Payments			
Current account balance (% of GDP)	4.2	5.4	5.7
Trade balance (% of GDP)	2.1	3.3	3.6
Exports of goods (% of GDP)	40.1	38.3	38.3
Volume (% change)	1.9	1.9	3.4
Imports of goods (% of GDP)	37.2	34.8	34.6
Volume (% change)	3.4	-0.3	3.9
Service trade balance (% of GDP)	-0.8	-0.3	-0.1
FDI balance (% of GDP)	3.2	2.0	2.7
Reserves minus gold (billions of US$)	98.4	...	...
External Debt (% of GDP)	156.1	...	...
Exchange Rate			
REER (% change)	-3.6	...	...
NEER (% change)	-2.3	...	...
Real effective rate (2010=100) 3/	93.6	...	...
Nominal effective rate (2010=100) 4/	102.4	...	...

Sources: Deutsche Bundesbank, Eurostat, Federal Statistical Office, Haver Analytics, and IMF staff calculations.

1/ GDP and its components are unadjusted for working days.

2/ Reflects Germany's contribution to M3 of the euro area.

3/ Real effective exchange rate, CPI based, all countries.

4/ Nominal effective exchange rate, all countries.

GERMANY

STAFF REPORT FOR THE 2023 ARTICLE IV CONSULTATION

June 28, 2023

KEY ISSUES

Context. The German economy has demonstrated resilience following the shut-off of Russian gas supply last year, with highly adverse scenarios of widespread energy scarcity being avoided. This success reflects impressive efforts to conserve energy and secure future energy supplies, as well as the lack of severe winter weather. Nonetheless, adverse effects from the energy shock and tighter financial conditions have been sufficient to tilt the economy into recession in recent months. Inflation also spiked as the energy price shock added to existing pandemic-related supply bottlenecks, though inflation is now falling as these effects start to ease. Germany's financial system remains well capitalized and liquid overall, but banking turmoil in other advanced economies earlier this year has nonetheless heightened the focus on potential financial stability risks associated with rising interest rates.

Outlook and risks. The energy shock and tightening financial conditions are expected to keep annual GDP growth slightly negative in 2023 before gradually regaining positive momentum in 2024–25, as the lagged effects of monetary tightening gradually dissipate and the economy adjusts to the energy shock. However, uncertainty is unusually high, with risks to the baseline forecast in both directions but tilted downward. Inflation is expected to continue falling, but with core inflation declining more slowly than headline due to rising nominal wage pressures and lagged passthrough of lower global commodity prices to core inflation. Uncertainty around the core inflation forecast is also unusually high, as a rapid rise in core inflation to its current levels has not been observed in Germany for decades. Over the medium term, average GDP growth is expected to fall back below 1 percent due to accelerating headwinds from population aging, absent significant increases in productivity and/or labor supply growth.

Policies. The authorities' policy response to spillovers from Russia's war in Ukraine has been timely and generally well-designed. Continued efforts will be needed to address ongoing challenges related to inflation risks, rising interest rates, population aging, the green transition, and increasing risks associated with global geoeconomic fragmentation (GEF). Staff's main policy recommendations are as follows:

- **Near term.** Near-term policy priorities include supporting disinflation by tightening fiscal policy. The planned tightening of the cyclically-adjusted primary balance by around ½ percent of GDP in 2023 will support these efforts. An additional 1½ percent of GDP in 2024 is appropriate under the baseline forecast and can be achieved mainly by saving expected underspending on energy price relief and any revenue overperformance. To facilitate the transition to structurally higher fossil fuel prices, the electricity and gas price brakes should be allowed to expire as planned by April 2024 at the latest, and new energy price subsidies should be avoided. Financial stability risks associated with rapidly rising interest rates should also be closely monitored and addressed, including by continuing to identify banks that are most vulnerable to interest-rate and liquidity stress and subjecting them to more intensive supervision; encouraging a conservative approach to bank capital distributions; and further enhancing transparency around bank health. Strengthening resolution plans and simplifying the structure of depositor protection by moving to a single mandatory scheme with a robust public liquidity backstop, as recommended in the 2022 FSAP, could further boost stability and enhance efficiency.

- **Medium term.** To address key medium-term challenges, Germany should undertake reforms to: (i) create fiscal room for higher public investment and rising aging-related spending, including through structural revenue and spending reforms; consideration could also be given to easing fiscal constraints imposed by the debt brake in a way that reduces reliance on extrabudgetary funds and improves alignment with EU fiscal rules; (ii) boost labor supply and productivity, including by easing regulatory barriers to new firm creation and implementing the government's plans to expand immigration and digital infrastructure; (iii) accelerate the green transition, including by further increasing carbon pricing and expanding green infrastructure and R&D; and (iv) reduce medium-term financial sector risks, including by expanding the macro-prudential toolkit to include income-based measures (e.g., debt-service-to-income limits). Completion of the pan-European Banking Union and Capital Markets Union would further improve financial sector efficiency and stability. To address GEF-related risks, Germany should continue to support a multilateral, rules-based trading system that promotes mutually beneficial cooperation on trade and cross-border flows. At the same time, Germany should identify its critical dependencies, assess the impact and transmission channels of different GEF scenarios (e.g., stress tests of value chains), and develop strategies for coping with risks.

Approved By
Oya Celasun (EUR) and Martin Sommer (SPR)

The mission took place in a virtual format during May 2–5, 2023, and in Frankfurt and Berlin during May 8–16. The team comprised Mr. Fletcher (head), Mmes. Lan, Mineshima, and Zhou and Mr. Sher (all EUR). The mission met with officials from the Ministries of Finance, Economy and Climate Action, Labor, and Digital and Transport; the Bundesbank; BaFin; the Federal Employment Agency; the ECB; and EIOPA; as well as representatives from the banking sector, auto and chemical industries, trade unions, employers' association, chamber of commerce, real estate sector, credit rating agencies, and think tanks. Members of the German Executive Director's office joined the meetings. Mmes. Evio and Chen and Mr. Previde (all EUR) assisted in preparing the report.

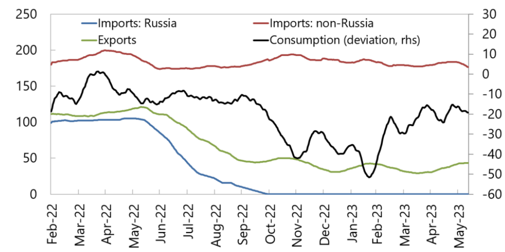
CONTENTS

ANNEXES

CONTEXT AND RECENT DEVELOPMENTS

1. Germany's economy continued to recover from the pandemic in 2022. GDP grew by 1.8 percent, better-than-expected following the shut-off of Russian gas to Germany in mid-2022. The energy crisis's severity was mitigated by successful efforts to cut gas consumption (Text Figure 1), supported by strong price incentives to conserve energy and lack of a severe winter, factors that also helped keep gas storage levels high. This resilience in turn helped boost confidence, as did strong action to increase energy supplies going forward.[1] Growth in 2022 was further supported by easing supply bottlenecks and excess-saving-buffered consumption.

Text Figure 1. Germany: Gas Flows
(TWh per 60 days)



Sources: Bundesnetzagentur; Trading Hub Europe; and IMF staff calculations.
Notes: Consumption is measured as the deviation from the average for the same period over 2017-21.

2. Nonetheless, headwinds from the energy shock and tighter financial conditions have weighed on growth. Energy-intensive sectors have suffered from high energy prices while falling real wages amid high inflation have depressed consumption. With interest rates rising, firms also increasingly cite financing bottlenecks as a constraint on output. Together, these forces tipped Germany into recession in recent months, with GDP contracting by 0.5 percent and 0.3 percent (q-o-q) in Q42022 and Q12023, respectively.

3. Labor markets have been tight. Employment is back to the pre-pandemic trend, the unemployment rate is at historic lows, and labor shortages have increased in nearly all sectors (Text Figure 2, top left). In response, nominal wage growth started to pick up in 2022. Nonetheless, wage growth remains below consumer price inflation so far (Text Figure 2, top right), while corporate profit margins are still substantially above pre-pandemic levels (Text Figure 2, bottom left), setting the stage for higher wage demands going forward. Use of the short-time work program (Kurzarbeit) began to tick up slightly in Q4 (Text Figure 2, bottom right), in line with slowing activity.

4. Headline inflation has been falling since late-2022 as energy prices softened, but declines in core inflation have been more delayed. Inflation averaged 8.7 percent in 2022, half of which is explained by energy goods (Text Figure 3, left). While energy inflation has eased substantially over the last nine months thanks to global price declines and the gas/electricity price brakes starting (Annex I), core inflation (inflation excluding energy and unprocessed food) continued to rise until March 2023, reflecting lagged spillovers from energy inflation and the tight labor market. Consequently, core inflation now exceeds headline (6.7 vs. 6.3 percent, as of May 2023). Core inflation is broad-based—about half of its components now have inflation over 4 percent

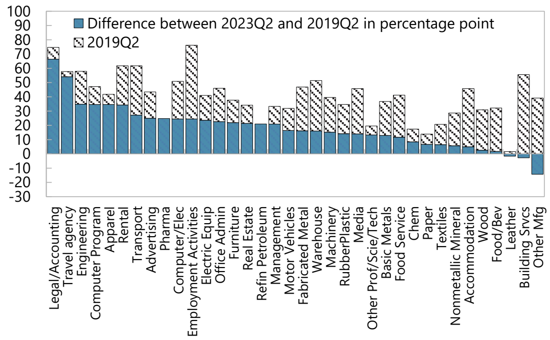
[1] Germany is on track to have five new floating LNG import terminals in place by end-2023, with several already operational, and has signed additional long-term LNG contracts.

(Text Figure 3, right), with processed food and travel services experiencing some of the sharpest price increases.

Text Figure 2. Germany: Labor Market Development

Firms Reporting Labor Shortages

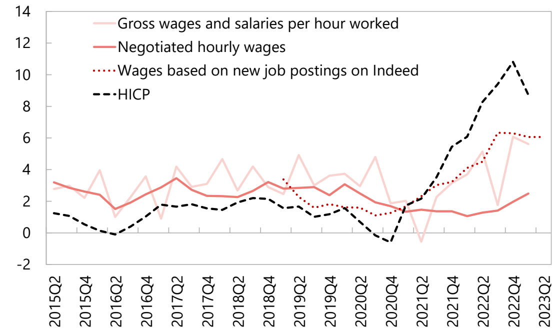
(Percent, share of total firms)



Sources: Eurostat and Haver Analytics.

Wage

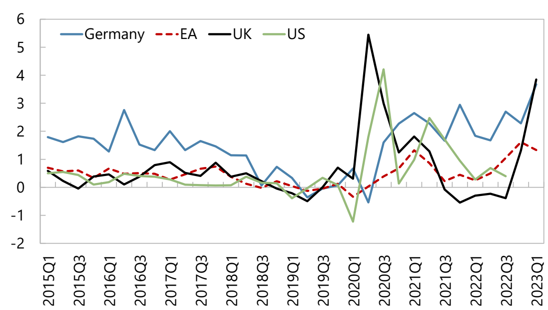
(Percent, year-on-year growth rate)



Sources: Adrjan and Lydon (2022); Eurostat; Haver Analytics; and IMF staff calculations.
Note: 2023Q2 Indeed data is based on April and May.

Profit Margin Deviation from 2019 Average

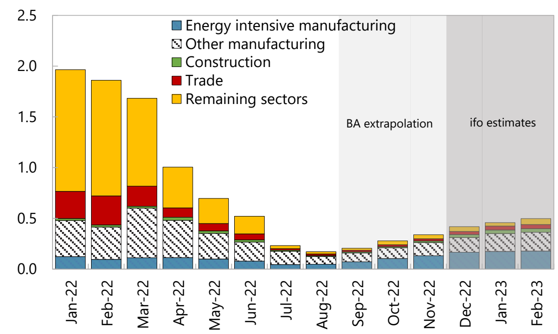
(Percent share of gross operating surplus and mixed income in total GVA)



Sources: Bureau of Economic Analysis; Eurostat; Haver Analytics; Office for National Statistics; and IMF staff calculations.

Number of Workers on Kurzarbeit

(Percent, share of labor force)

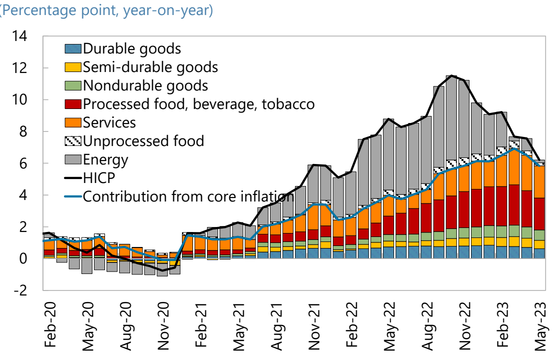


Sources: German Federal Employment Agency (BA) and ifo Institute.

Text Figure 3. Germany: Inflation Dynamics

Inflation Decomposition

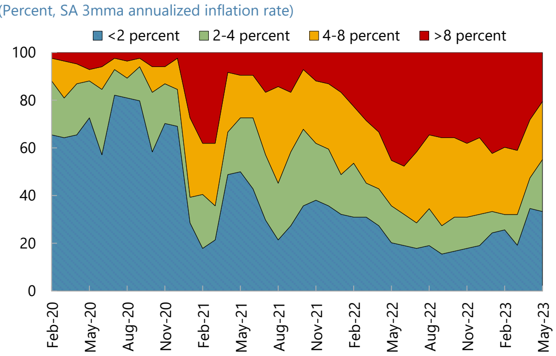
(Percentage point, year-on-year)



Sources: Eurostat; Haver Analytics; and IMF staff calculations.

Inflation Distribution of Core Components

(Percent, SA 3mma annualized inflation rate)

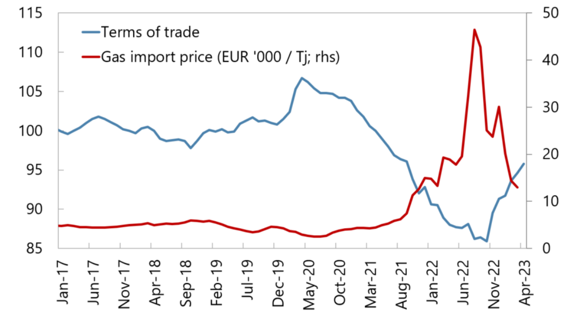


Sources: Destatis; Eurostat; Haver Analytics; and IMF staff calculations.

5. Germany's current account surplus narrowed considerably in 2022 to 4.2 percent of GDP, from 7.7 percent of GDP in 2021, on a surge in energy imports. Surging energy import prices caused the terms-of-trade to deteriorate by 12 percent in the 12 months to August 2022, the largest since German reunification, before recovering somewhat (Text Figure 4). High travel imports and weak demand from Asia also contributed to the falling surplus. The external position in 2022 is assessed to have been stronger than warranted by fundamentals and desirable policy settings, with the current account gap estimated at 2.8 percent of GDP (Annex II).

Text Figure 4. Germany: Terms of Trade

(Index, 2015=100)



Sources: Bundesbank; Destatis; and IMF staff calculations.
Notes: Terms of trade are seasonally adjusted.

6. Tightening financial conditions have reduced new lending to households and firms and softened property prices. Interest rates have risen substantially over the last year, reflecting actual and anticipated ECB monetary tightening, with real lending growth turning negative (Text Figure 5, top left). ECB surveys indicate that households' and firms' loan demand has declined on higher interest rates and lower investment. Banks report that risk perceptions are the key driver of tighter lending standards, which are mainly reflected in higher interest margins, but also in higher collateral requirements and lower loan-to-value (LTV) ratios.[2] Tighter credit conditions are cooling the previously-hot residential real-estate market, with prices now falling (Text Figure 5, bottom left). Nonetheless, prices are still 20 and 40 percent above the historical average price-to-income and price-to-rent ratios, respectively. Similarly, the Basel credit gap was still a positive 4.3 percent of GDP as of Q42022, reflecting buoyant lending in the years prior to 2022. In real terms, retail property and office prices have been falling since 2017 and 2020, respectively, reflecting also structural changes related to increased e-commerce activity and remote work, among other factors (Text Figure 5, bottom right).

7. The headline fiscal deficit declined to around 2½ percent of GDP in 2022 due to lower COVID-related spending and solid economic growth. Lower demand for and expiry of COVID-support measures (e.g., grants to firms, expanded Kurzarbeit benefits) reduced the associated fiscal cost to around 1¼ percent of GDP, from around 4 percent of GDP a year before. In addition, tax revenue overperformed on the back of strong labor market conditions and high inflation. These positive budget forces were partially offset by a range of energy relief measures (e.g., fuel tax cuts, support measures for households and firms), aid for Ukraine, and increased climate-related spending (Annex III). The public debt-to-GDP ratio decreased by 2½ percent of GDP in 2022 to 66.2 percent of GDP, thanks to high nominal GDP growth (Annex IV).

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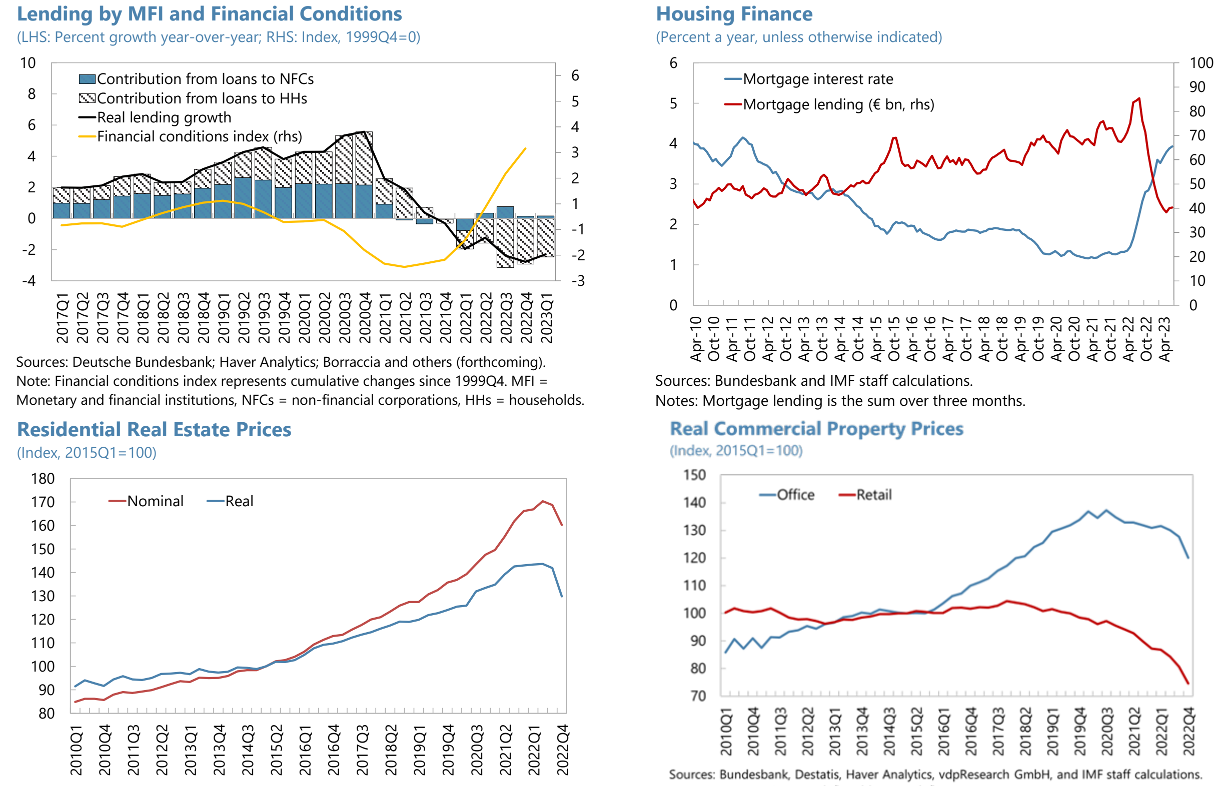
[2] Most mortgages in Germany are fixed rate. In April 2023, fixed-rate mortgages accounted for 84 percent of new mortgages, down 7 percentage points over twelve months.

Text Figure 5. Germany: Financial Conditions, Bank Lending, and House Price Developments



Sources: Deutsche Bundesbank; Haver Analytics; Borraccia and others (forthcoming).
Note: Financial conditions index represents cumulative changes since 1999Q4. MFI = Monetary and financial institutions, NFCs = non-financial corporations, HHs = households.

Sources: Bundesbank and IMF staff calculations.
Notes: Mortgage lending is the sum over three months.

Sources: Destatis; Haver Analytics; and IMF staff calculations.
Notes: Real prices are deflated by GDP deflator.

Sources: Bundesbank, Destatis, Haver Analytics, vdpResearch GmbH, and IMF staff calculations.
Notes: Property prices are deflated by GDP deflator.

8. **The war in Ukraine has created new policy priorities for the coalition government.** In December 2021, Germany swore in the first tri-party government at the federal level—a coalition between the Social Democrats (SPD), Greens, and Free Democrats (FDP). The coalition treaty aims to promote green investment, digitalization, and skilled immigration, among other priorities. Following Russia's invasion of Ukraine, the government has also focused attention on securing energy supplies after the shutoff of Russian gas, supporting Ukraine, and increasing defense spending.

OUTLOOK AND RISKS

9. **Staff expect GDP growth to be slightly negative in 2023, before gradually regaining positive momentum in 2024–25** (Text Table 1). Tightening financial conditions and the energy shock are expected to keep annual GDP growth slightly negative in 2023, notwithstanding a partially offsetting boost from rebounding external demand as China re-opens. The output gap is also expected to turn negative, but unemployment is expected to rise only modestly, as the Kurzabeit scheme dampens the output gap-unemployment rate relationship in Germany, with increased labor market slack being more apparent in hours worked. Growth is projected to strengthen in 2024 and peak in 2025, as the lagged effects of monetary tightening gradually dissipate and the economy adjusts to the energy shock, with the output gap closing in 2026. Nonetheless, technology transition costs are expected to keep steady-state output about 1¼ percent below what it would have been in

a no-energy-crisis scenario, with futures markets expecting medium-term natural gas prices to be roughly twice the level expected before the crisis (see accompanying Selected Issues paper).

Text Table 1. Germany: Macroeconomic Projections, 2022–24

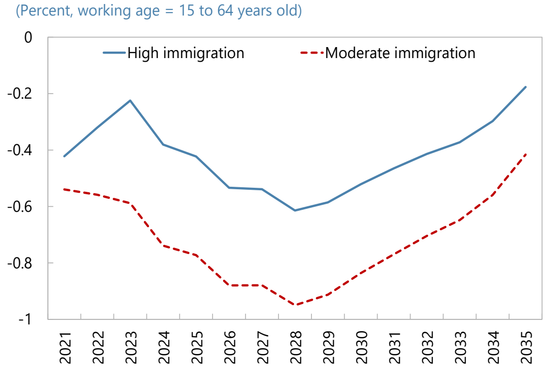
	GDP growth			Inflation			Core inflation		
	2022	2023	2024	2022	2023	2024	2022	2023	2024
Staff projections	1.8	-0.3	1.3	8.7	5.8	2.6	5.0	6.2	3.0
Bundesbank (June 2023) 1/	1.8	-0.5	1.2	8.7	6.0	3.1	3.9	5.2	3.1
BMWK (Apr 2023) 2/	1.8	0.4	1.6	6.9	5.9	2.7	3.8	...	...
European Commission (May 2023)	1.8	0.2	1.3	8.7	6.8	2.7	5.0	...	...
Consensus forecasts (May 2023) 3/	1.8	-0.1	1.0	8.7	6.1	2.5	5.0	...	...

Sources: BMWK; Bundesbank; Consensus forecasts; European Commission; and IMF staff projections.
1/ Bundesbank core inflation shows consumer price excluding energy and food.
2/ BMWK inflation is based on the national CPI.
3/ Continuous Consensus Forecasts: moving average of latest changed forecasts.

10. Medium-term growth is expected to be modest, given a substantial drag from population aging. Germany's working-age population is set to decline as the large baby-boom generation retires in the 2020s. The speed of the decline will depend in part on the pace of immigration (Text Figure 6, left). One uncertainty in this regard is the degree to which the large number of Ukrainian refugees (1.1 million by end-2022) will stay in Germany and join the labor force. Given Germany's demographic headwinds and tepid productivity growth, potential growth is expected to fall below 1 percent in the medium term, based on the average of high and moderate demographic projections and average productivity growth over the last 10 years (Text Figure 6, right).

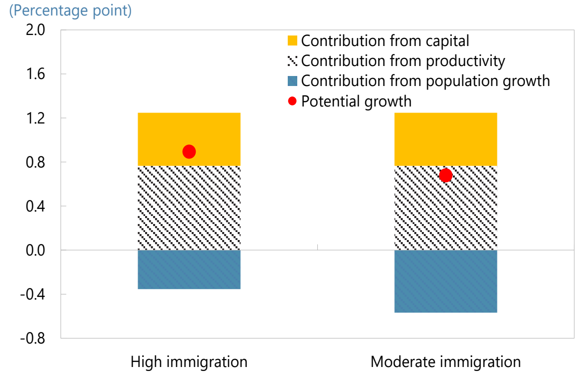
Text Figure 6. Germany: Demographics and Potential Growth Projections

Growth Rate of Working Age Population
(Percent, working age = 15 to 64 years old)



Sources: Destatis and IMF staff calculations.

Medium Term Potential Growth Projection
(Percentage point)



Sources: Destatis; Haver Analytics; Penn World Table; and IMF staff calculations.

Note: Potential growth estimation is based on a Cobb-Douglas production function approach, where potential growth is equal to total productivity growth plus the average of working-age population growth and capital stock growth, weighted by labor and capital shares. Total productivity, labor productivity, capital growth, and the labor share are set at the 50th percentile of the values between 2010 and 2019. Working-age population growth is based on Destatis medium-term population projections. In the high immigration scenario, net immigration is assumed to increase to 450,000 in 2023 and then linearly fall to 320,000 in 2035. In the moderate immigration scenario, net immigration is assumed to remain at 220,000 (level of 2020) per year. The right-hand chart shows average potential growth estimates during 2026–28.

11. Headline inflation is expected to continue to subside, but core inflation will stay elevated for longer. Declining energy prices and continued normalization of supply disruptions are expected to drive headline inflation down to around 3 percent by late-2023. Core inflation is also projected to continue declining as second-round effects from falling energy prices reduce core inflation with a lag; processed food inflation, which has been a major contributor to core (Text Figure 3, left) eases in line with global food prices; and a widening output gap dampens demand. However, core inflation is expected to drop later and more slowly than headline inflation, reaching only around 4½ percent by end-2023, given rising wage pressures and lags in the pass-through from commodity inflation. Core inflation is expected to eventually fall to around 2½ percent by late 2024, once contractionary effects from monetary tightening are fully realized and the pass-through from commodity price disinflation completes. To recoup some of the real income loss in 2022, wage growth is expected to increase to around 5¾ percent in 2023–24, with a modest reduction in firms' profit share partially mitigating the impact on inflation (Annex V).

12. The current account surplus is projected to rebound with improving terms of trade. Energy imports are expected to decrease as declines in wholesale LNG prices are passed through to import prices. Furthermore, exports are projected to increase as demand from Asia grows and German exporters fulfill their large backlog of orders over time. All in all, the current account surplus is expected to recover to some 6 percent of GDP by 2026, weaker than its pre-pandemic level (due to higher medium-term energy prices) but in line with its long-run average.

13. The fiscal stance is expected to be moderately tight in 2023. Staff project the headline deficit to widen by 0.3 percent of GDP in 2023, from 2022, to 3 percent of GDP. This widening is due to weak growth and rising interest rates—the fiscal impulse as measured by the change in the cyclically-adjusted primary balance (CAPB) is expected to be moderately contractionary, with the CAPB tightening by ½ percent of GDP (Text Table 2). A range of energy relief measures—including the gas and electricity price brakes (Annex I), expanded child and housing benefits, discounted public transportation tickets, and the delay in the planned increase in domestic carbon pricing—amount to around 2 percent of GDP on a gross basis, broadly unchanged from 2022. However, these measures will be more than offset by the phase-out of other temporary measures (e.g., COVID-relief measures). The projected headline deficit is considerably smaller than the 4.5 percent of GDP deficit envisaged in the budget, due mainly to lower-than-expected spending on the gas and electricity brakes and limited demand for additional capital injections for gas importers thanks to falling energy prices, as well as some fiscal revenue overperformance.

Text Table 2. Germany: Fiscal Balances and Public Debt, 2020–28
(Percent of GDP)

	2020	2021	2022	2023 Proj.	2024 Proj.	2025 Proj.	2026 Proj.	2027 Proj.	2028 Proj.
Headline Balance	-4.3	-3.7	-2.7	-3.0	-1.5	-0.9	-0.6	-0.5	-0.5
Change form the previous year	*-5.9*	*0.6*	*1.0*	*-0.3*	*1.5*	*0.7*	*0.2*	*0.1*	*0.0*
Cyclically-Adjusted Primary Balance	-2.4	-2.5	-2.3	-1.7	-0.1	0.4	0.4	0.6	0.6
Implied fiscal impulse 1/	*4.5*	*0.1*	*-0.2*	*-0.6*	*-1.6*	*-0.5*	*0.0*	*-0.2*	*-0.1*
Structural Balance	-3.0	-3.1	-2.3	-2.6	-1.1	-0.7	-0.7	-0.5	-0.5
Public Gross Debt (Maastricht definition)	68.7	69.3	66.2	66.4	65.0	62.8	61.1	59.8	58.6

Sources: Ministry of Finance, Bundesbank, Federal Statistical Office, and IMF staff estimates and projections.
1/ Negative of the difference between the cyclically-adjusted primary balance in each year and that of the year before.

14. Uncertainty is unusually high, with substantial risks in both directions (Annex VI), which on balance are tilted downward for growth. Uncertainty around the persistency of core inflation is especially high (Annex V), as a rapid rise in core inflation to its current levels has not been observed in Germany or most other advanced economies for decades. Core inflation could remain elevated longer-than-expected due to higher-than-expected stickiness and/or pressures from wages. This would require tighter monetary policy, which could in turn fuel further headwinds for growth and disorderly corrections in real estate and financial markets (Annex VII). Renewed global banking turbulence could further increase the German financial sector's funding costs and tighten financial conditions, with adverse knock-on effects for the real sector. An abrupt global slowdown would also adversely affect activity, especially in the export sector. A prolonged war in Ukraine could adversely affect commodity prices and confidence. On the upside, faster unwinding of supply disruptions and stronger recovery in external demand could spur faster growth. A faster-than-expected easing of core inflation could also allow an earlier-than-expected easing of financial conditions. Over the medium term, insufficient progress on structural reforms to boost labor supply and productivity would weigh on Germany's potential growth, and deeper GEF could harm trade, financial stability, and growth.

Authorities' Views

15. The authorities broadly agreed with staff's assessment of the outlook and risks. Their baseline forecasts similarly have growth being muted in 2023, strengthening in 2024–25, and averaging below 1 percent over the longer run. The authorities also agreed that headline inflation has likely peaked, but it will take longer for core inflation to normalize. They view the labor market as resilient and expect nominal wage growth to pick up significantly in the near term, as workers demand compensation for real-wage losses. They consider inflationary pressures from rising nominal wages to be somewhat limited by the €3000 one-time inflation premium, as it does not add to base-wage growth over the period until 2024.[3] However, continuing high labor market tightness is likely to keep wage and price pressure elevated for some more time. The authorities broadly agreed with staff on the key risks to the baseline forecast.

POLICY DISCUSSIONS

In the near term, a top policy priority is to support disinflation. ECB monetary tightening will be critical to achieving this goal, but the German authorities can support it by (i) moderately tightening fiscal policy in 2023; and (ii) closely monitoring and addressing systemic financial sector risks, which have risen amidst rapidly rising interest rates and volatile funding conditions. The authorities have begun to address the recommendations of the 2022 FSAP (Annex VIII), but further progress is needed to build resilience, especially in crisis management and safety nets. Looking further ahead, Germany will have to navigate a new normal that entails higher fossil fuel prices, population aging, and heightened risk of GEF. To adapt to this new normal, Germany should undertake reforms to create room for increased public investment and aging-related spending, accelerate the green transition, boost labor supply and productivity, and reduce risks.

A. Fiscal Policy to Support Disinflation and Medium-Term Growth

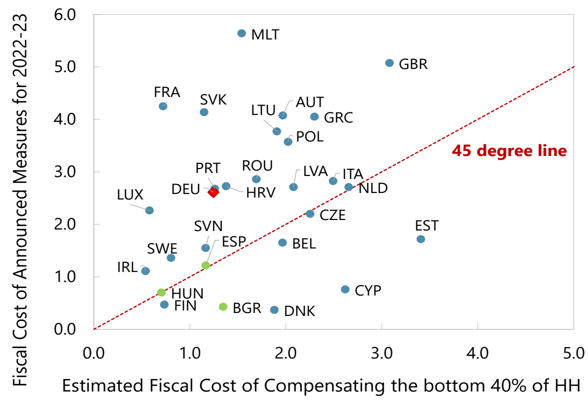
16. Near-term fiscal policy should support disinflation. Possible asymmetry of risks—with the cost of underestimating the persistence of core inflation likely exceeding the cost of overestimating its persistence—further supports the case for near-term fiscal tightening. For 2023, the envisaged moderately-tight fiscal stance will support disinflation efforts. While even more frontloaded fiscal adjustment would further support disinflation, significant additional discretionary adjustment in 2023 is likely to be difficult at this stage without unduly disrupting regular budget processes. However, the planned fiscal consolidation in 2024 (a tightening of the cyclically-adjusted primary balance of around 1½ percent of GDP), driven by the expiration of energy relief measures, is warranted in the baseline scenario in which a growth recovery is underway by late 2023. If, however, risks materialize (Annex VI), fiscal policy should remain flexible: the government should allow automatic stabilizers to operate fully and deploy discretionary measures targeted to the most vulnerable in the event of large shocks (Annex VII).

[3] Several recent wage negotiation settlements (e.g., public-sector wage negotiation settlement) have taken on board the €3000 one-off inflation premium, which allows employers to pay their employees a bonus of up to €3000 tax-free and free from social security costs before end-2024.

17. Energy relief measures are generally well-designed, but targeting could be improved. Germany's main energy relief measures—the gas and electricity price brakes—maintain strong incentives to conserve energy (Annex I). In addition, many relief measures for households are income-taxable and thus progressive. However, the fiscal cost for household relief measures is still considerably larger than the estimated fiscal cost needed to alleviate the impact of high energy prices on bottom 40 percent of households (Text Figure 7). This suggests scope for further targeting. Given technical/administrative challenges to providing income-based transfers for households that are not covered by the existing social safety net, the government could consider partially offsetting the cost of energy price relief via temporary solidarity taxes on higher-income households or greater claw-back of energy price relief provided to them. To facilitate the transition to structurally higher fossil fuel prices, the electricity and gas price brakes should also be allowed to expire as planned by April 2024 at the latest and new energy price subsidies should be avoided. To better target the vulnerable from such future shocks, including the climate transition, the government should also expedite the ongoing project of establishing an information system that consolidates data on households' incomes and bank accounts.

Text Figure 7. Germany: Fiscal Cost: Estimated Cost for Targeted Support versus Announced Measures for Households, 2022–23

(Percent of GDP)



Source: Targeted, Implementable, and Practical Energy Relief Measures for Households in Europe" (Arregui and others, 2022)

Note: The chart shows the fiscal cost of officially announced energy support measures for households against the estimated fiscal cost for compensating the bottom 40 percent of households for the increase in their cost of living (in both 2022 and 2023). Countries that have announced measures for only 2022 are shown in green dots. Measures are gross of income taxation, but Germany would remain above the 45-degree line even after adjusting for the tax effect.

18. Over the medium term, Germany should create fiscal room for investing in its future. Although Germany has ample fiscal space to respond to shocks, additional fiscal room is needed to meet longer-term fiscal demands. Staff expect Germany's fiscal deficit to narrow to around ½ percent of GDP by 2026 as energy-relief measures phase out and the output gap closes. However, there is hardly any room left under the constitutional debt-brake rule, which limits structural net borrowing to 0.35 percent of GDP per year at the federal level and to zero at the Länder (state) level.[4] Even if one assesses fiscal room against Germany's debt-stabilizing overall deficit of around 1¾ percent of GDP (assuming steady-state annual nominal GDP growth of 3 percent and debt of 60 percent of GDP), envisaged longer-term increases in aging-related and defense spending leave essentially no scope for boosting productivity via higher public investment

[4] The debt-brake provisions are in Article 109 and 115 of the Basic Law and Article 115 Act.

or for addressing other needs.[5] To provide adequate funding for the green transition, digitalization, and boosting human and physical capital, Germany may need to create new fiscal room by undertaking expenditure reforms, mobilizing additional revenue, and/or adjusting the debt brake rule (see next paragraph). Such measures could include, for example, reforming property taxes, reducing subsidies that are distortionary or environmentally harmful (1.2 percent of GDP based on the latest available data; Text Table 3), and/or conducting further expenditure reviews to identify low-priority spending.[6]

Text Table 3. Germany: Environmentally Harmful Subsidies, 2018

Measures	Billion euro
Tax exemption for kerosene fuel in the aviation industry 1/	8.4
Energy tax concession for diesel fuel	8.2
Distance allowance – a tax deduction of traveling from home to work 2/	6.0
Lower VAT on meat and other animal products	5.2
Lower concession electricity and gas charges for public spaces	3.6
Favourable tax treatment for privately used company cars 2/	3.1
Electricity and energy tax reductions for the manufacturing and agriculture sectors 3/	2.9
Relief from electricity and energy taxes for certain energy-intensive processes and procedures	1.3
Concessions for energy-intensive industry regarding electricity grid fees	0.6
Exemption of agricultural vehicles from the vehicle excise duty (agriculture diesel)	0.5
Tax concession for agricultural diesel fuel	0.5
Total	40.3
Total, % of GDP	***1.2***

1/ Including international flights taking off or landing in Germany.
2/ This measure does not necessarily support fossil fuels (for example, electric cars can also benefit from the measure). However, most allowances end up supporting the usage of combustion-engine vehicles.

19. Germany should consider adjusting the debt-brake rule to better align it to EU fiscal rules and lessen reliance on extra-budgetary funds.

- Germany has created multiple extrabudgetary funds totaling about 9 percent of GDP (the Climate and Transformation Fund, Special Defense Fund, and "Protective Shield") while the escape clause to the debt-brake was activated during the pandemic (2020–22). Similarly, two Länder governments (Saarland and Bremen) also created extra-budgetary funds in late-2022 (0.15 percent of GDP in total). Spending from these funds does not count against the debt-brake limit, even if the spending occurs after the debt-brake returns to force in 2023, since financing for these funds was approved while the escape clause was triggered. However, such spending does count toward the general government deficit as measured under EU statistical standards. The extensive use of such funds has thus weakened the link between the debt-brake rule and EU fiscal rules. The budget process for the special funds is also less transparent than for the core budget.

- To enhance transparency, credibility, and cohesion with EU fiscal rules, the authorities should consider revising the debt-brake rule to limit use of extra-budgetary funds and increase somewhat the annual deficit limit, perhaps by 1 percentage point of GDP. The latter change would make the rule more realistic, given Germany's significant medium-term spending needs, and thus lessen incentives to rely on extrabudgetary funds. Such easing would also still be

[5] According to the 2021 EU Ageing Report, Germany's fiscal cost arising from pensions, health, and long-term care is expected to rise by 1.4 percent of GDP between 2019 and 2030 and by 2.3 percent of GDP by 2040 under the baseline scenario. The October 2022 Fiscal Monitor projects a somewhat larger increase in the fiscal cost from pension and health of 1.7 percent of GDP between 2021 and 2030.

[6] The government is preparing a subsidy report, which will include the assessed climate impact of subsidies and is expected to be launched in late-summer 2023.

consistent with declining debt ratios.[7] However, such adjustments should await the conclusion of the EU's review of its fiscal rules, which is nearing its final stages, to facilitate consistency between EU and national rules.

20. Efforts to accelerate the implementation of investment projects are welcome and should be deepened. Amid the energy crisis, the government moved quickly to lease floating gas terminals and build new LNG/hydrogen terminals. The 2022 "Easter Package" also set out important measures to accelerate the expansion of renewables by introducing the principle that use of renewables is of overriding public interest and will be given priority over other concerns (e.g., scenery, ecosystem) until greenhouse gas neutrality is achieved. The government should deepen reforms to accelerate public investment, as this is essential to boosting productivity and accelerating the green transition. Such reforms include reducing regulatory burdens, expanding planning capacity at the municipal level, providing additional funding to municipal governments given rising material costs, and further enhancing support from Partnerschaft Deutschland.

Authorities' Views

21. The government agreed that fiscal policy should tighten to support disinflation. Consistent with this, they plan to save expected windfalls from higher-than-budgeted revenue and lower-than-budgeted spending on the electricity and gas price brakes in 2023. They also plan additional consolidation in 2024.

22. The Ministry of Finance (MoF) did not see a need to revise the debt brake or increase revenue to address medium-term spending needs. While acknowledging that medium-term spending pressures from aging-related spending, defense commitments, and public investment needs are substantial, the MoF considered that these needs could be met by cutting lower-priority spending without increasing revenue or easing the debt brake rule, and that such an approach would provide a larger fiscal buffer against future shocks. With respect to the extra-budgetary funds created while the debt brake's escape clause was activated, the MoF emphasized that such time-bound funds for specific purposes would facilitate a smooth consolidation once the crises are over while also making adjustments to the underlying budget more visible.

23. There was broad consensus on the need to accelerate public investment execution. The federal government continues to work with state governments to improve planning and approval procedures, simplify public procurement, and address staff shortages among municipal governments. Toward this end, the government plans to strengthen the role of external project managers to reduce the workload of administrative and court staff. To further simplify, professionalize, and digitize public procurement procedures, a comprehensive procurement transformation package is planned for 2023–24.

[7] See Box 1 of 2021 Staff Report on the analysis with the GIMF model on the macroeconomic and fiscal impact of a permanent 1 percent of GDP fiscal expansion. The analysis finds that the positive impact on GDP is largest if Germany uses this 1 percent of GDP for investment compared to tax cuts, while public debt is expected to decline.

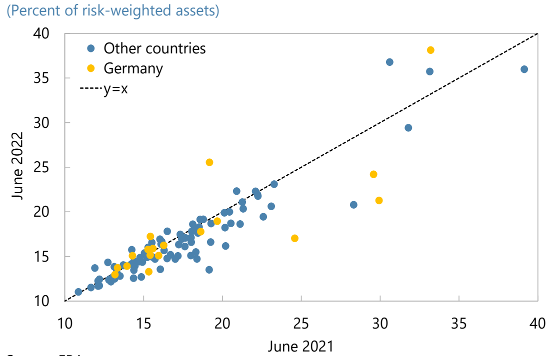
B. Safeguarding Financial Stability Amid Rising Interest Rates

24. The capital positions of German banks and insurers remain sound overall, but rising interest rates bring new challenges. The banking system had substantial total CET1 capital of 19.2 percent of risk-weighted assets at end-2022, with significant institutions' CET1 capital ratios in line with peers (Text Figure 8, left). However, banks—especially savings and cooperative banks—suffered large mark-to-market losses due to revaluation of their securities portfolios, which temporarily lowered profitability.[8] Unrealized losses can be expected on securities that are not marked-to-market, given that 47 percent of significant institutions' government bonds are held at amortized cost. Losses in 2023 could be about twice those of 2022, given that staff expect average long-term government bond yields to rise by 2.8 percentage points in 2023, compared to their increase of just 1.5 percentage points in 2022 (Text Figure 8, right). While the banking system has adequate buffers to weather these losses in aggregate, vulnerabilities in a tail of the distribution cannot be excluded. Moreover, while net interest margins (NIMs) increased in 2022Q2–Q3 as limited changes in depositors' behavior (e.g., shift to other investment products) allowed banks to keep deposit rates low, NIMs are expected to start declining in the near term, as banks have been raising rates on new deposits faster than on new loans. Insurers also suffered mark-to-market losses and saw an uptick in lapses, but their solvency positions were well hedged.[9]

Text Figure 8. Germany: Bank Solvency under Rising Interest Rates

SIs: CET1 Capital Ratios

(Percent of risk-weighted assets)

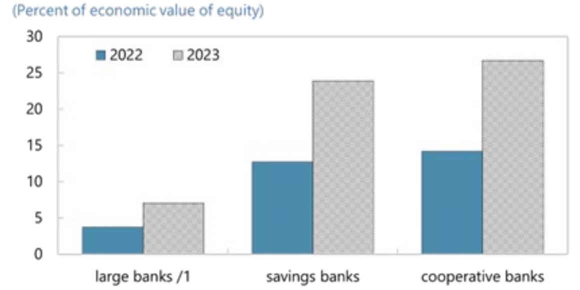


Source: EBA.

Notes: SIs = significant institutions. Axes start at 10 percent to show more detail.

Possible Interest Rate Losses

(Percent of economic value of equity)



Sources: IMF April 2023 WEO; Bundesbank; and IMF staff calculations.

Notes: Based on the product of Pillar 3 disclosures of sensitivity to interest rate risk in the banking book, and staff projections of changes in average long-term German government bond yields since 2021.

1/ large banks category includes 14 O-SIIs.

[8] These losses are after using flexibility in accounting rules, or so-called "hidden reserves," off-balance sheet items that are reported to auditors and supervisors. German accounting standards allow banks to maintain a "hidden reserve" (which can be negative) by over- or under-stating the book values of securities relative to their market value. Since changes in the hidden reserve do not affect the income statement, the reserve can be used to smooth the earnings impact from market-value fluctuations in securities, which may make sense if they are held to maturity. The amount of hidden reserves allowed as provisions for general banking risks is limited to 4 percent of the affected securities' total book value.

[9] German insurers and pension funds are not active users of interest-rate derivatives, making it unlikely that Germany could experience a fire-sale event like that seen in the United Kingdom in 2022. German insurers hedge against interest-rate risk to their capital ratios by managing the maturities of their assets and liabilities and issuing with-profits policies.

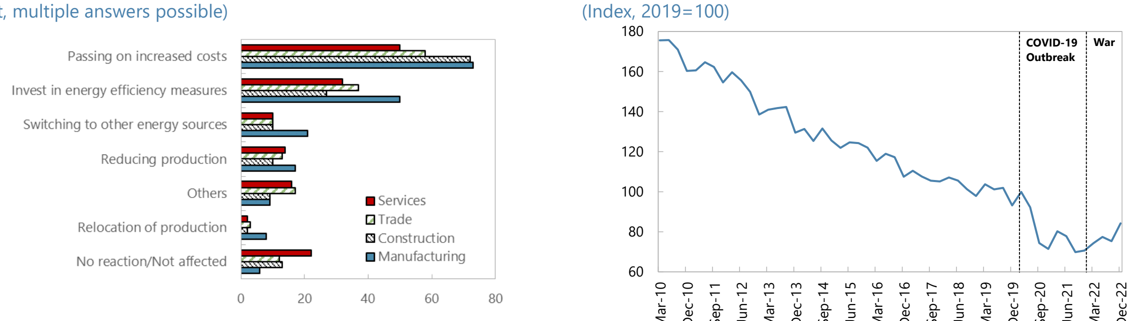
25. Liquidity risk is elevated for all financial intermediaries, given central banks' withdrawal of liquidity and volatility in funding costs. In early 2023, bank distress in the U.S. and Switzerland put pressure on bank CDS spreads and equity prices globally, including in Germany, with markets stabilizing since then. Going forward, liquidity risk in Germany is mitigated by extensive deposit insurance and liquidity coverage ratios of 154 percent for significant institutions and 178 percent for less-significant institutions at end-2022. Nonetheless, the turbulence earlier this year in global bank funding markets underscores that conditions can change quickly. In the nonbank financial sector, open-ended investment funds are also exposed to the risks of redemptions as interest rates rise, especially given that they increased the interest-rate sensitivity of their assets in the last decade and are highly interconnected. In response to regulatory changes aimed at reducing these risks, a quarter of investment funds have introduced liquidity management tools, including gates and notice periods, but further adoption of such tools is needed. Completion of the pan-European Banking Union and Capital Markets Union would further enhance financial stability.

26. Non-financial firms appear sound so far, but some could face distress from rising interest rates and input costs, as well as weak demand. In response to higher energy input costs, firms have largely been able to pass these costs onto consumers while maintaining strong profits (Text Figure 9, left). Bankruptcies have ticked up but remain at very low levels, thanks in part to strong government support during the pandemic and energy crisis (Text Figure 9, right). Nevertheless, labor costs could rise this year, and the adjustment to structurally higher energy prices could pressure energy-intensive firms, especially once temporary relief expires (Annex I). In addition, rising interest rates can increase default risks of highly-indebted enterprises, which account for a disproportionately large share of banks' loan portfolios.[10]

Text Figure 9. Germany: Firms' Response to High Energy Prices

German Firms
(Percent, multiple answers possible)

Business Insolvency
(Index, 2019=100)



Source: DIHK Economic Survey Fall 2022
Question asked: How do you react to the high electricity, gas and fuel prices?

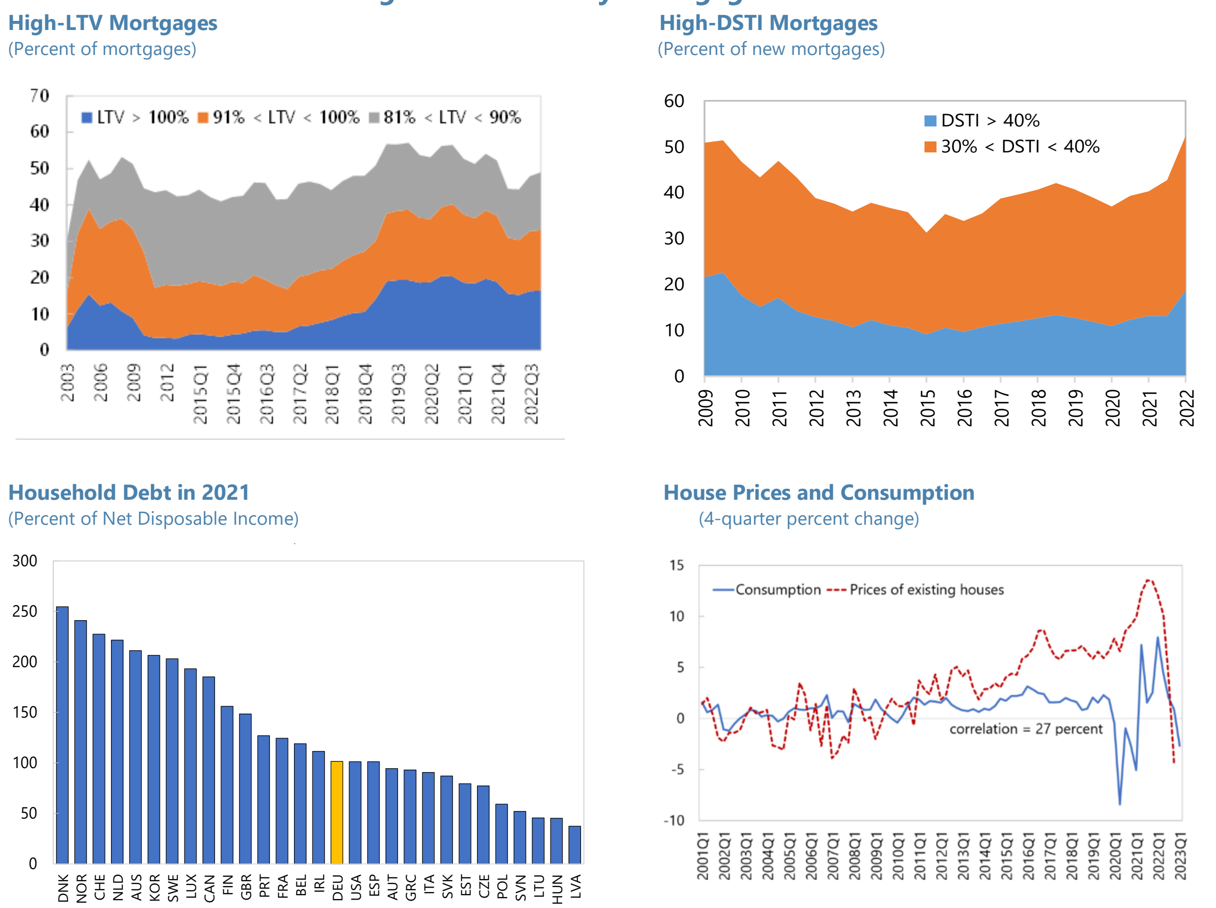
Sources: Destatis and IMF staff calculations.

27. Rising interest rates could expose longstanding vulnerabilities in mortgage financing activity. Household debt is 100 percent of disposable income (Text Figure 10) but concentrated among wealthier households, and the effect of higher interest rates on non-performing loans is mitigated by the fact

[10] The Bundesbank's 2022 Financial Stability Review indicates that around 70 percent of total credit claims are on firms with below-average interest coverage ratios (EBITDA over interest expense).

that mortgages are full-recourse and mostly at fixed rates (average duration is around 10 years). However, since 2018, vulnerabilities have been building, with a high share of high-LTV lending and a rapid rise in house prices during 2018–21 leading to overvaluation concerns. These developments prompted the authorities to announce a counter-cyclical capital buffer (CCyB) requirement of 0.75 percent and a sectoral systemic risk buffer requirement of 2 percent on loans secured by domestic residential real estate, which took effect in February 2023, one year after the announcement. More recently, rising mortgage rates have increased the share of high-DSTI loans in new loans. With house prices now falling, some borrowers could also experience negative equity.

Text Figure 10. Germany: Mortgage Market Risks



Sources: Europace, Bundesbank Financial Stability Review 2022, OECD, Bundesbank, Destatis, and IMF staff calculations.
Notes: The DSTI and LTV ratios shown here are not nationally representative. LTV=loan-to-value ratio. DSTI = debt service-to-income ratio.

28. The authorities should continue to closely analyze the implications of rising interest rates and liquidity risk for the financial sector. High interest-rate volatility (Text Figure 11) underscores the need for more intensive data collection and stress tests of interest-rate risks at less-significant institutions (FSSA ¶33). For significant institutions (SIs), the EU-wide stress test will be an important assessment tool. Relatedly, it is important to anticipate the effects of the withdrawal of

TLTRO support on bank profitability, bank liquidity, and credit supply.[11] While the overall banking system appears sound, the authorities should nonetheless continue efforts to identify banks that are most vulnerable to interest-rate and liquidity stress and subject them to more intensive supervision. Further enhancing transparency around bank health in the rising interest-rate environment by, for example, publishing additional risk analyses, disclosing more information on less-significant institutions, and clarifying to the public the safety nets available could also reduce volatility in funding conditions. Encouraging a conservative approach to bank capital distributions (dividend payouts, share buy-backs, and bonuses) would further reduce risks. For insurers, the review of the Solvency II reporting framework is an opportunity to strengthen supervisors' access to information on market risk.

Text Figure 11. Germany: Expected Interest-Rate Volatility
(Index)

Source: Bloomberg.
Notes: The charts show Swaption Merrill Option Volatility Estimates, which are indices of the normalized implied volatility on 3-month and 1-year interbank swaptions, respectively. Each index is the weighted average of volatilities on 2-yr, 5-yr, 10-yr, and 30-yr maturity swaps.

29. The volatility of bank funding conditions emphasizes the need to strengthen safety nets and crisis management frameworks. Deposit insurance would be cheaper if Germany could move to a single mandatory scheme, with a public liquidity backstop that has sufficient resources to compensate depositors under severe but plausible downside scenarios, like the distress of a medium-sized LSI (FSSA ¶61). Resolution plans need to account for the potential joint resolution of several members of each institutional protection scheme (IPS) and even joint resolution of an IPS member with an IPS itself (FSSA ¶63).

30. Risks from residential real estate require a broader macroprudential toolkit and further analysis, as well as stricter measures as the economy recovers. Staff welcome that data gaps on lending standards will be closed in 2023. The new data will help the authorities analyze further the implications of activating borrower-based measures (e.g., LTV limits), contributing to a more informed debate and helping to communicate the need to add income-based instruments (e.g., DSTI limits) to the macroprudential toolkit (FSSA ¶44 and accompanying Selected Issues paper) and to address any perceived obstacles to the activation of borrower-based measures early in the next real estate market cycle. As the economy, real estate markets, and credit conditions recover, guidance on lending standards should be strengthened from the qualitative guidance issued previously to more quantitative guidance (FSSA ¶44). For example, banks can be advised to phase-

[11] A back-of-the-envelope calculation suggests that the withdrawal could reduce aggregate bank profits by about 1 percent for each 0.1 percentage point in TLTRO interest margin. For example, if the average interest margin is in the range of 0.5-1.0 percentage points, the withdrawal would reduce aggregate profits by around 5-10 percent. This estimate is based on €400 billion in outstanding TLTRO funding to the German banking system (Manenti, 2022), banking system assets of €10 trillion, and a ROA of 0.4 percent.

out lending to cover taxes and transaction costs associated with a house purchase as a first step toward adopting binding LTV limits.

31. Given elevated risks from commercial real estate (CRE), the authorities should close data gaps and strengthen supervision.

- Rising interest rates will increase debt-service costs for CRE loans, especially for the one-third of loans that are at floating rates. Half of CRE loans have a bullet repayment structure, adding to refinancing risks. If any borrowers default, German banks could suffer low recovery rates because their LTV ratios on CRE are higher than in other European countries;[12] some CRE loans even have LTV ratios greater than 100 percent. A further substantial downturn in the CRE market could thus increase credit losses in Germany's financial system. That said, German banks have recourse to the borrower's assets for about two-thirds of CRE loans, and they allocate less of their loan books to CRE than banks in other European countries (10 percent of loans, versus a European average of 12 percent, according to the ESRB).
- To better assess risks in commercial real estate, the authorities should facilitate harmonization of definitions of lending standards across banks and collect and publish comparable data on LTV ratios, interest- and debt-service-coverage ratios, and debt-yield ratios. Furthermore, a recent ECB review revealed weaknesses in euro-area banks' CRE underwriting, provisioning, and appraisals, and German internal ratings-based (IRB) banks may underestimate CRE credit risks, given lower risk weights than standardized approach (STA) banks. The authorities should thus strengthen supervision and enforcement accordingly.

32. Policies should respond nimbly if risks materialize. If a downside scenario of a severe tightening of global financial conditions materializes (Annex VII), a decisive monetary and financial policy response at the euro area level would be required (see the staff report for the 2023 Article IV consultation with member countries on common euro area policies). To support these efforts, the German authorities could also consider relaxing the countercyclical capital buffer to preserve credit supply. Fiscal automatic stabilizers—including Kurzarbeit—should operate freely, with discretionary support deployed in the event of a large contractionary and disinflationary shock.

Authorities' Views

33. The authorities generally agreed with staff's assessment of financial sector health and emphasized the stability of Germany's financial system. They noted that supervisors are more closely examining banks with high interest-rate and liquidity risks and emphasized that stress tests of SIs and LSIs are regularly published. In their view, further enhancing transparency could shift resources away from other supervisory objectives. They signaled their openness to international discussions on how interest-rate risk fits into the Basel III framework and how the LCR is calibrated. In residential real estate, the authorities highlighted the ongoing initiative to close data gaps. They

[12] Lux, Nicole and Alex Skouralis (2022). Bayes Business School Commercial Real Estate (CRE) Lending Report: 2021. Bayes Business School.

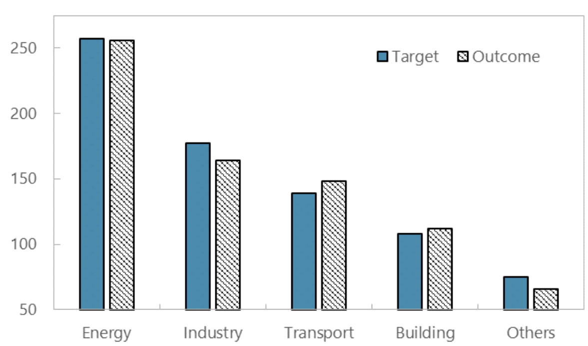
also underscored the recent declines in new high-LTV lending and tighter lending standards and assessed that the package of macroprudential capital buffers introduced in the past year is appropriate. They considered that maintaining the existing structure of deposit guarantee schemes appropriately reflects the three-pillar structure of the German banking system and that the lack of a public liquidity backstop avoids moral hazard. At the same time, the authorities noted that their views would be shaped by the ongoing discussions over the European crisis management and deposit insurance framework.

C. Accelerating the Green Transition While Ensuring Energy Security

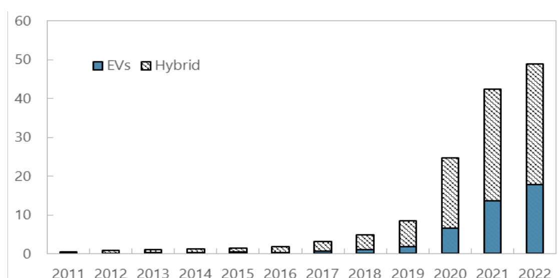
34. Germany met the 2022 CO2 emission target thanks to a sharp decline in emissions by industry and avoidance of a severe winter. With the surge in energy prices, the power and heat generation sector reduced energy consumption by 4.7 percent in 2022. However, increased use of coal and oil partially offset the sector's emission reduction from the energy savings. The industry sector also met its target, thanks to enhanced energy efficiency and production cuts, but the building and transportation sectors did not (Text Figure 12, left). With government subsidies for electric vehicles (EVs)[13], the share of EVs in total new car registrations continued to increase in 2022 to about 45 percent (Text Figure 12, right). However, to reach the target of 15 million EVs (stock) by 2030, the number of annual EV sales must increase further, from around 1.1 million in 2022 to more than 1.4 million per year. EV charging stations must also increase rapidly to meet the one-million target by 2030, from around 70,000 in 2022. More generally, the overhaul of infrastructure required to achieve the green transition is subject to significant implementation risks.

Text Figure 12. Germany: CO2 Emissions and Share of EV Sales

CO2 Emissions by Sector, 2022
(Million Tonnes)



Shares of EVs in New Car Registrations 1/
(Percent)



1/ Including plug-in hybrid cars.
Source: The European Automobile Manufacturers' Association (ACEA), and IMF staff calculations.

35. Accelerating the green transition and ensuring the provision of affordable energy is essential to meet climate goals and safeguard energy security. From an economic efficiency viewpoint, the first-best way to internalize climate-change externalities is to raise carbon prices

[13] In 2022, the government provided subsides of €5,000-6,000 for new battery-electric vehicles (BEV) and €3,750–4,500 for new plug-in hybrids (PHEV). Since January 2023, subsidies for PHEV have been eliminated while those for BEV reduced to €3,000–4,500.

across the board. Reduced reliance on fossil fuels, which are mostly imported, will also increase energy security. Given the expected softening of energy prices and continued efforts needed to meet emissions targets, the government should resume the increase in domestic carbon pricing in 2024 as planned and consider further strengthening carbon pricing. This first-best approach, however, is being challenged by pressures to pursue a more subsidies-based approach, especially following adoption of the US's Inflation Reduction Act (IRA). The IRA's EV subsidy component is not expected to have a large impact on Germany, at least in the near term, as Germany's EV exports to the U.S. are modest.[14] Nonetheless, pressures exist, both in Germany and Europe more broadly, for countermeasures and expanded industrial policy more generally.[15] Any subsidies in this context should aim at addressing market failures (e.g., targeted financial support for investing in green R&D and energy efficiency) and be fiscally affordable both in Germany and other EU countries, as single-market principles require a consistent approach across countries. Take-up of existing programs in Germany that support the green transition could also be enhanced by simplifying procedures and ensuring cohesion across programs. Accelerating the expansion of EV charging stations and the smart grid network is also critical, and revenue-neutral feebate schemes could further speed the green transition. The EU's Carbon Border Adjustment Mechanism (CBAM) is an important mechanism to prevent carbon leakages. Staff welcome Germany's leadership in creating the Climate Club, which aims to provide an inter-governmental forum for discussion and enhance cooperation and coordination on mitigation policies.

Authorities' Views

36. The government highlighted that the emissions reduction in 2022 proves the importance of price signals while concurring that additional measures are needed. The government emphasized that energy savings by households and industries were key to reducing emissions in 2022, suggesting that price signals work. In 2024, the government plans to resume stepwise increases in domestic carbon pricing, which needs to be accompanied with appropriate public communication to promote public support for market-based carbon pricing as a major climate policy instrument. Starting from 2027, Germany plans to shift from its current national emissions trading system for buildings and road transport to the then newly established EU Emissions Trading System (ETS), which also covers buildings and road transport. The government has been discussing a possible introduction of a feebate for cars, but no consensus has yet formed. The government continues to address a range of challenges in the green transition, including accelerating planning and permission procedures for renewable electricity generation, expanding the grid system, and addressing labor shortages.

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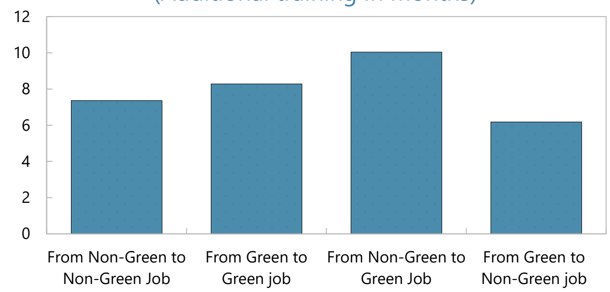
[14] About 2 percent of German car production are EVs exported to the U.S. These include high-end EVs, the prices of which exceed the IRA's price limits for subsidies.

[15] For example, the EC has announced a Green Deal Industrial Plan—see the staff report for the 2023 Article IV consultation with member countries on common euro area policies for further discussion of this plan. Also, on May 5, the German Ministry of Economy and Climate Action presented a policy paper that suggests adopting a subsidized electricity price (6 cents per kilowatt hour for 80 percent of consumption) that may last until 2030 for targeted energy-intensive firms.

D. Boosting the Quantity and Quality of Labor

37. The green transition can alter demand for workers and skills. Employment in carbon-intensive sectors has decreased by a third since 1992, and this sectoral reallocation is expected to continue as the green transition accelerates. Such a transition could lead to disruptions in labor market. For instance, between 2015 and 2020, the transition from internal combustion engines to EVs, the production of which is less labor intensive, increased the unemployment rate in regions relying more heavily on the auto sector.[16] Remaining workers in carbon-intensive sectors can face adjustment costs due to the green transition, including income loss when displaced, time for training and searching for new jobs, and potential relocation cost.[17] It is more difficult for workers in carbon-intensive sectors to switch to a greener sector (Text Figure 13). This suggests a greater mobility cost for such a job switch, underscoring the need for pro-active policies aimed at re-skilling employees.

Text Figure 13. Germany: Labor Mobility Cost
(Additional training in months)



Note: Labor mobility costs for the four categories are estimated as follows. First, the mobility cost of switching from one occupation to another arising from the skill distance between these occupations is estimated using a structural gravity model—as outlined by Cortes and Gallipoli (2018)—for 143,634 4-digit ISCO08 pairs. Second, each pairwise mobility cost arising from skill distance is translated into extra months of training required, using the information on the number of months of training needed for each occupation (from the German Socio-Economic Panel). Third, the mobility cost for all the pairwise mobility costs are aggregated into the four categories (i.e., from non-green to non-green job, green to green job, non-green to green job, and green to non-green job), where green or non-green jobs are in accordance with O*Net OnLine.

Sources: German Socio-Economic Panel; O*Net OnLine; and IMF staff calculations; Cortes, Guido Matias, and Giovanni Gallipoli, 2018, "The Costs of Occupational Mobility: An Aggregate Analysis." Journal of the European Economic Association 16, No. 2, pp. 275-315.

38. The government is making efforts to expand labor supply, including by increasing immigration and enhancing reskilling and upskilling. To augment the Skilled Labor Immigration Act, a broadened strategy has been passed, including granting more EU Blue Cards (work and residential permits for non-EU/EEA nationals) to skilled workers who have a higher education qualification, waiving the certification requirement of foreign professional qualifications for immigrants with an employment contract in a non-regulated profession with an above-threshold salary, and a points system for a one-year visa for job search (including qualifications, language skills, professional experience, links to Germany, and age). The recently-introduced Bürgergeld improves the basic income benefit setting—with proactive instead of retrospective inflation adjustment—and prioritizes reskilling/upskilling of the unemployed through higher training allowances and lengthening the maximum years to complete training. While these measures could help upskill the unemployed, they

[16] O. Celasun, G. Sher, P. Topalova, and J. Zhou, "Labor Market Implications of the Green Transition: Evidence from the Electrification of Europe's Automotive Sector," IMF Working Paper, No. 2023/116.

[17] OECD (2023) finds that displaced workers from high carbon-intensity sectors experience (on average) even higher and more persistent wage losses compared to other displaced workers.

may also increase the duration of unemployment spells. It will thus be important to monitor such effects and adjustment program design as needed.

Authorities' Views

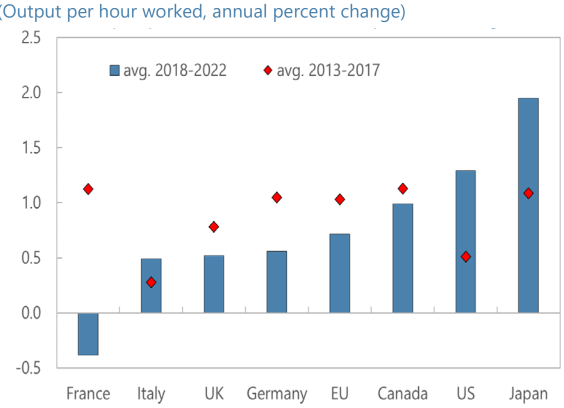
39. The authorities agreed that enhancing human capital is key to facilitating the green transition, boosting growth, and easing inflationary pressures. The authorities agreed that the effectiveness of the skills development component of Bürgergeld should be assessed once adequate data is accumulated and that program design should be modified as needed. To further encourage employment, the government now allows early retirees to work and earn additional income without any loss of pension entitlements. The government is also strengthening vocational training with several measures, including (i) the vocational training guarantee, which aims to provide all youth with access to fully-qualified in-company vocational training; and (ii) a skills development benefit for employees whose jobs are threatened by structural changes but can be reallocated to other positions in the same company by continuing training. Efforts to enhance integration programs for migrants include granting immediate access to integration measures (e.g., language training) for all asylum-seekers since the beginning of 2023.

E. Lifting Productivity via Capital Deepening, Innovation, and Digitalization

40. Boosting labor productivity by enhancing capital deepening and multifactor productivity is essential to lift potential growth. Germany's labor productivity growth has declined over the last decade and trails non-European advanced economies (Text Figure 14, left). At the same time, the number of business registrations has been also on a downward trend (Text Figure 14, right). Germany's relatively low labor productivity growth is driven mainly by lower ICT capital deepening and weaker multifactor productivity. To lift productivity, policies are needed to foster business dynamism and promote private investment, including by facilitating optimal resource allocation and technology diffusion; improving access to finance, especially for young firms and investment in intangible assets; and reducing administrative burdens:

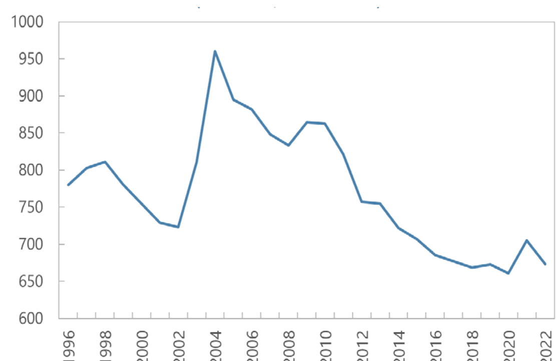
Text Figure 14. Germany: Labor Productivity Growth

Selected Advanced Economies: Labor Productivity Growth
(Output per hour worked, annual percent change)



Sources: EC AMECO database, and IMF staff calculations.

Business Registrations
(Number, thousands)

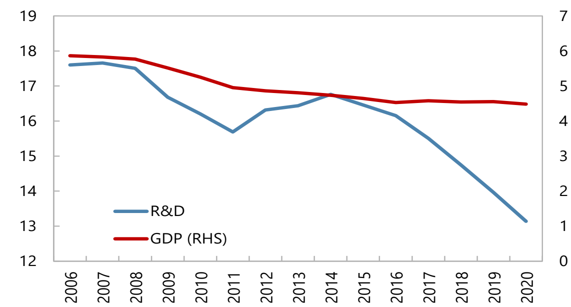


Sources: Destatis, Haver Analytics, and IMF staff calculations.

- **Further increase incentives for R&D.** Germany is an innovation leader in Europe, with relatively high overall R&D spending. However, R&D investment is concentrated in a few large businesses,[18] and Germany's global share of R&D exports has been gradually eroding (Text Figure 15) even faster than its share of global GDP, in part due to increased competition from China. To boost productivity, the authorities should consider further enhancing incentives to undertake R&D, including by further raising the ceiling for the R&D tax credit and increasing the availability of qualified workers.[19]

Text Figure 15. Germany: R&D Exports and GDP Share

(Percent of global R&D exports and global GDP, 3-year-moving average)



Sources: UNCTAD, WEO, and IMF staff calculations.
Note: R&D including provision of customized and non-customized R&D services, sale of property rights arising from R&D, and other than work undertaken on a systematic basis to increase the stock of knowledge.

- **Expand funding for young and innovative firms.** Following a few years of solid increase through 2021, tighter financial conditions cooled venture capital (VC) investment in 2022. To further enhance VC markets, the government could consider reducing regulatory barriers on the participation of institutional investors in venture capital markets. Facilitating the use of employee stock-ownership option plans (ESOPs) by aligning their tax treatment with international standards could also ease start-ups' financing constraints by allowing them to offer company shares to employees in lieu of wages. Completion of the Capital Markets Union could further reduce costs and restrictions on investors.

- **Lower market entry and growth barriers for young and innovative firms.** The government should reduce the administrative burden of starting a new firm, including by increased use of digital government, and strengthen the competition framework by, for example, easing services sector regulation.

41. The pandemic has helped to improve Germany's internet connectivity, but further efforts are needed to expand connectivity and enhance the diffusion of ICT tools. The coverage of 5G jumped to 86.5 percent of households in 2022, from 18 percent in 2021, but high-speed mobile subscriptions continue to trail peers. At the same time, while availability and subscriptions of fixed broadband are high in Germany, the speed of fixed broadband connection is slower than peers (Text Figure 16, left). High-speed internet is also less available outside large cities. Furthermore, use of digital technologies in business and digital skills is also lower compared to the EU average (Text Figure 16, right). The government should diligently implement its new digital

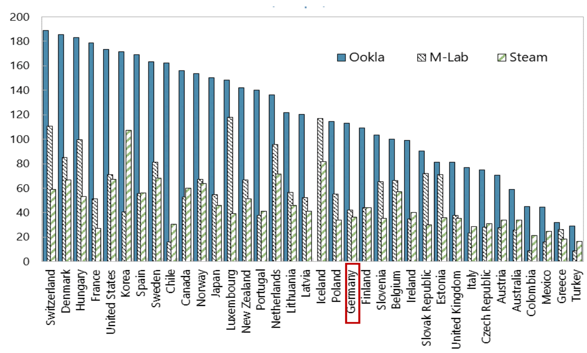
[18] EC (2022) shows that German R&D by SMEs is about half of the EU average as a percent of GDP.

[19] The R&D tax credit is paid in an amount equal to 25 percent of the assessment base (i.e., wages and salaries paid to research staff), which is capped at €2 million. This means that a firm can receive up to €500,000 per financial year. As part of COVID-19 relief measures, the cap on the assessment base has been raised to €4 million during July 2020–June 2026.

strategy in 2022 ("Gigabit Strategy"), which aims to (i) expand digital infrastructure (e.g., high-speed fiber-optic and wireless networks) outside of large cities; (ii) enhance the diffusion of ICT tools in the business and health sector, including through establishing an interoperable education ecosystem; and (iii) strengthen digital government and cyber security.

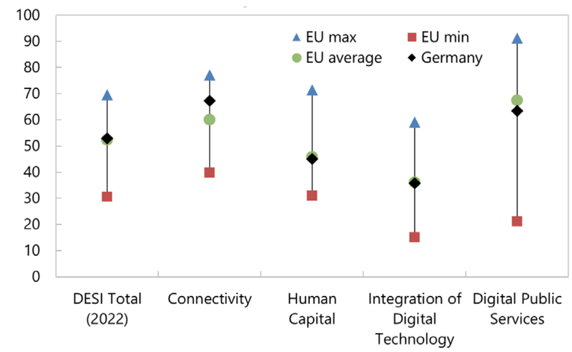
Text Figure 16. Germany: Status of Digitalization

Download Speed of Fixed Broadband Connection, 2022–21
(Mbps)



Source: OECD Broadband Statistics

Digital Economy and Society Index by Main Dimensions
(Weighted score, 0 to 100)



Sources: European Commission; and IMF staff calculations.

Authorities' Views

42. The government agreed on the critical importance of boosting productivity and welcomed staff's recommendations. The government aims to increase R&D spending to 3.5 percent of GDP by 2025, including through potentially increasing the ceiling for the R&D tax credit. The "Future Fund," which the government launched in December 2020, remains a key vehicle for expanding financial support for start-ups going through the capital-intensive growth phase. To create better conditions for start-ups and growth companies to go public, as well as to promote ESOPs, the MoF and Ministry of Justice presented a draft bill in April. The government is also preparing to introduce an investment allowance for green investment and digital assets as an additional measure to promote transformative investment. Implementation of the Gigabit Strategy to expand connectivity also continues on schedule.

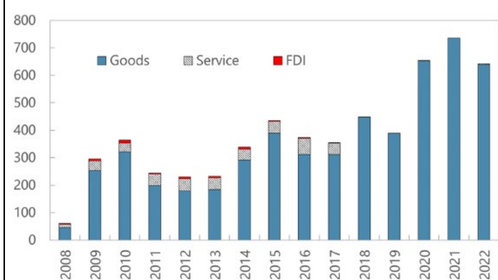
F. Global Economic Fragmentation (GEF)

43. Germany is exposed to GEF. The COVID-19 pandemic, the war in Ukraine, and, more generally, intensified geo-political tensions have led to a rise in the number of trade restrictions affecting EU countries (Text Figure 17, top left), a trend that may continue amidst a heightened global focus on issues of strategic autonomy. While Germany's relatively low trade concentrations insulate Germany from geographically isolated shocks (Text Figure 17, top right), Germany is highly open to trade, with significant trade connections outside the EU (Text Figure 17, middle), making Germany susceptible to increased trade restrictions or higher costs of cross-border trade and knowledge flows. Furthermore, at the product level, Germany has substantial import dependency on

China, and to a lesser extent on the U.S., regarding hard-to-substitute intermediate and high-tech goods, as well as semiconductors (Text Figure 17, bottom left). These all point to a potentially sizable impact of increased GEF. Securing sufficient supplies of critical raw materials could also be challenging given their geographic concentration. Germany's financial exposures to major non-EU countries through the banking system and FDI are also relatively limited on an aggregate basis (Text Figure 17, bottom right).

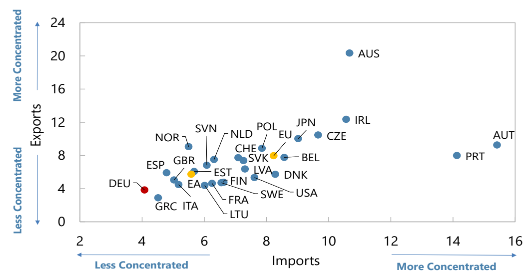
Text Figure 17. Germany's Exposure to Geo-Economic Fragmentation

Restrictions on Trade and FDI Affecting EU Countries
(Number)



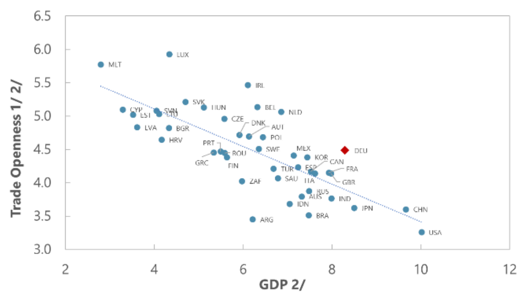
Sources: Global Trade Alert and IMF staff calculations
Note: The figure shows supranational- and national-level new restrictions implemented in each year and currently in palce that affect EU countries. The matric does not account for intensity or economic effect of restrictions.

Geographic Concentration of Imports and Exports
(Percent, Herfindahl index)



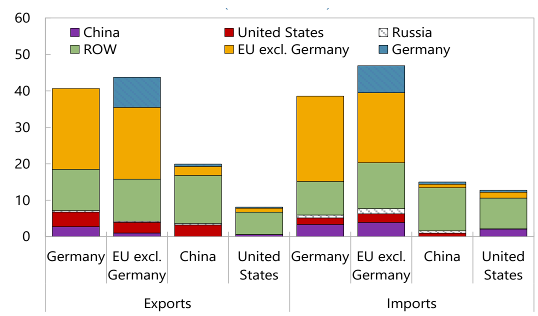
Sources: UN Comtrade and IMF staff calculations.
Note: This chart shows the extent of import and export concentration (Herfindahl concentration index). A larger (smaller) value indicates a greater (a less) concentration.

Trade Openness and Size of Economy



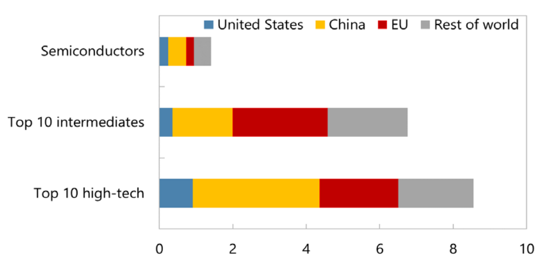
Sources: WEO and IMF staff calculations.
1/ Trade openness = (exports of goods and services + imports of goods and services) / GDP.
2/ Both trade opens and GDP are in the form of the natural logarithm.

Exports and Imports by Trading Partners
(Percent of GDP)



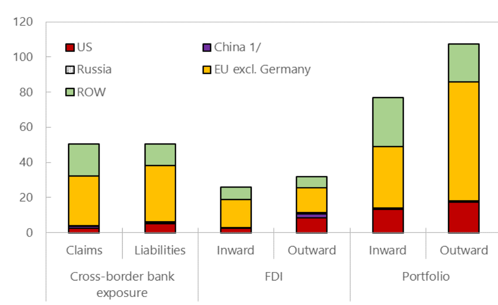
Sources: IMF Direction of Trade Statistics; Haver Analytics; and IMF staff calculations.

Hard-to-Substitute Imports
(Share of imports)



Sources: UN Comtrade, Broda and Weinstein (2006), OECD, and IMF staff calculations.
Notes: The top ten high-tech and intermediate products are each determined according to their average rank in terms of both (lowest) substitutability and (highest) nominal import value. For semiconductors, the displayed products are 4-digit SITC rev2 codes 7763 and 7764.

Cross-Border Financial Linkages
(Percent of GDP)



Sources: BIS, IMF CPIS database, Niels Johannesen database, World Bank, and IMF staff calculations.
1/ Including Mainland China, Hong Kong SAR, and Macao SAR.

44. Germany should assess and prepare for GEF-related risks while pursuing structural reforms to increase its attractiveness as an investment destination. GEF will likely lead to output losses and financial instability globally, as cross-border trade, knowledge flows, and investment become more costly and bank funding costs increase.[20] Germany and its trading partners should therefore continue to support a multilateral, rules-based trading system that promotes mutually beneficial cooperation on trade and cross-border flows. At the same time, Germany should identify its critical dependencies, assess the impact and transmission channels of different GEF scenarios (e.g., stress tests of value chains), and develop strategies for coping with risks. Structural reforms, as outlined in previous sections, would also help retain Germany's attractiveness as an investment destination.

Authorities' Views

45. The government broadly agreed with staff's views on GEF-related risks. They emphasized Germany's commitment to supporting free-trade policies within the framework of a multilateral and rules-based trading system. At the same time, the government also highlighted that Germany is taking steps to reduce its exposure to GEF-related risks. For instance, the Federal Institute for Geoscience and Natural Resources is working with industry to identify critical raw material dependencies. Additionally, Germany, jointly with France, has proposed the European Raw Material Act to the EU, aiming to identify and address critical raw material dependencies at the EU level. Furthermore, the government is considering implementing higher premiums on investment guarantees for firms with highly concentrated investment. Views among the authorities differed on the need to continue subsidizing energy prices beyond 2024: some emphasized that there could be a case for subsidizing electricity prices for energy-intensive firms until 2030 to maintain these industries' international competitiveness, while others emphasized that such an approach could be distortionary and that efforts to boost competitiveness could instead focus on general reforms to improve the business climate for all firms. The government agreed that medium- to long-term, market-based reforms to boost the availability of affordable electricity based on renewable resources are key to industrial competitiveness.

G. Fighting Transnational Corruption and Strengthening AML/CFT

46. The effectiveness of Germany's AML/CFT framework is critical for ensuring that Germany's financial system is not misused to launder the proceeds of crime, including corruption. The Financial Action Task Force's (FATF) mutual evaluation report, published in September 2022, recognizes that Germany has made improvements to its AML/CFT framework but

[20] IMF (2023a) finds that depending on modeling assumptions, the cost to global output from trade fragmentation could range from 0.2 percent (in a limited fragmentation/low-cost adjustment scenario) to up to 7 percent of GDP (in a severe fragmentation/high-cost adjustment scenario); with the addition of technological decoupling, the loss in output could reach 8 to 12 percent in some countries. At the same time, IMF (2023b) finds with illustrative model-based scenario that FDI fragmentation—i.e., the world splinters into a U.S.-centered bloc and a China-centered bloc, and with both India and Indonesia and Latin America and the Caribbean remaining nonaligned—could reduce global output by about 2 percent in the long term.

also identifies several priority areas for improvement, including in the areas of risk-based supervision, the use of financial intelligence, investigation and prosecution of money laundering, transparency of legal persons and arrangements and implementation of targeted financial sanctions.[21] In response, the government has launched a number of initiatives. For example, in December 2022, the government commissioned "Project BBF" (*Projekt Bundesoberbehörde zur Bekämpfung von Finanzkriminalität*) at the Ministry of Finance to set up a new federal AML agency, which plans to start operations in 2025. The planned new structure comprises three pillars: (i) investigation of international and complex money laundering cases with a connection to Germany; (ii) analysis of suspicious transaction reports by the Financial Intelligence Unit; and (iii) a central coordination office for AML supervision. BaFin is also taking steps to improve collection of statistics and performance monitoring of the financial sector. The authorities are working to update their National Risk Assessment, which was last published in 2019.

47. Enhancing beneficial ownership transparency is also key to preventing the misuse of legal entities to launder the proceeds of crime, including corruption. Following on previous recommendations and in line with the Fund's recent guide on beneficial ownership ("Unmasking Control"), Germany should bring its framework in line with the revised international standard. In this context, Germany has taken several measures to increase the quality of beneficial ownership information over the last few years. However, further measures are needed to improve the availability and accuracy of data in the Transparency Register, as pointed out in the FATF mutual evaluations. Following the ruling by the Court of Justice of the European Union on public accessibility to beneficial ownership information, Germany's Transparency Register is now only available to those who can demonstrate a legitimate interest, which will be based on a case-by-case assessment of individual requests.

Authorities' Views

48. The government welcomed the 2022 Mutual Evaluation Report and noted a range of ongoing initiatives to further strengthen systems for governance and transparency. A new federal AML agency will be established to consolidate analysis, investigation, and supervision. The relevant draft legislation will be presented to parliament in the summer. The government expected an EU regulation on AML/CFT and the creation of a European AML agency to follow soon. Germany is improving its statistics and performance monitoring and working on an update of its National Risk Assessment. To ensure accurate and up-to-date beneficial ownership information in the Transparency Register, Germany in recent years has introduced legal obligations and automated links to the company register. The government has also strengthened enforcement and informed companies of these obligations.

[21] Germany received moderate ratings in these areas.

STAFF APPRAISAL

49. Tighter financial conditions and the energy price shock are weighing on near-term growth, while core inflation remains elevated. Strong policies have helped limit adverse spillovers from the war in Ukraine. Nonetheless, the energy shock and tighter financial conditions are likely to keep GDP growth in mildly negative territory in 2023, before gradually strengthening in subsequent years. Inflation is expected to continue falling, but with core inflation declining more slowly than headline inflation, given lags in the pass-through from declining commodity prices and rising nominal wage pressures. However, uncertainty around the baseline forecast is unusually high, especially regarding the persistency of core inflation, as a rapid rise in core inflation to its current levels has not been observed in Germany or most other advanced economies for decades.

50. The moderately tight fiscal stance in 2023 will help support disinflation and reduce risks around these efforts. Spending on the gas and electricity brakes is likely to be lower than budgeted in 2023 due to falling energy prices, and fiscal revenue may also overperform. Staff welcomes plans to save these windfalls, which are expected to make the fiscal stance moderately contractionary in 2023. While even more frontloaded fiscal adjustment would further support disinflation, significant additional discretionary adjustment in 2023 is likely to be difficult without unduly disrupting regular budget processes. However, further fiscal contraction is warranted in 2024 under the baseline scenario of a shallow recession with recovery evident toward the end of this year. In this context, Germany could improve the targeting of energy relief measures by temporary solidarity taxes on higher-income households or greater claw-back of energy price relief provided to them. The gas and electricity price brakes should be allowed to expire as planned by April 2024 at the latest to facilitate adjustment to structurally higher fossil fuel prices. The fiscal stance should also remain flexible and adjust to changing circumstances, including by allowing automatic stabilizers to operate freely and by lessening or even reversing planned structural fiscal adjustment in 2024 if the current downturn is significantly more prolonged and/or deeper than projected in the baseline and inflation risks are well-contained.

51. Over the medium term, Germany should create more fiscal room for investing in its future. To provide adequate funding for the green transition, digitalization, and boosting human and physical capital, Germany needs to create new fiscal room by undertaking expenditure reforms, mobilizing additional revenue, and/or adjusting the debt brake rule. Reform of the latter could also better align it with EU fiscal rules and lessen recourse to extrabudgetary funds. Increased public investment over the medium term would boost growth and reduce imbalances in Germany's external position, which is assessed to be stronger than the level implied by medium-term fundamentals and desirable policies. Staff also welcomes the authorities' efforts to accelerate public investment execution, including by improving planning and approval procedures, simplifying public procurement, and addressing staff shortages among municipal governments.

52. Financial stability risks associated with rapidly rising interest rates should be closely monitored. The overall capital and liquidity positions of Germany's banking system and insurance system remain sound. However, recent bank distress in other advanced economies has highlighted risks associated with excessive interest-rate exposure and unstable funding structures. The authorities should thus continue to identify banks that are most vulnerable to interest-rate and liquidity stress and subject them to intensive supervision. Given elevated risks associated with macroeconomic and financial market uncertainty, supervisors should also encourage a conservative approach to bank capital distributions. Further enhancing transparency around bank health could also reduce volatility in funding conditions. Data collection and stress tests of interest-rate risks at LSIs should also be enhanced. Meanwhile, the authorities should encourage investment funds to continue adopting liquidity management tools, including gates and notice periods. The current calibration of the countercyclical capital buffer remains appropriate for now, but it may need to be eased if a severe tightening of global financial conditions materializes.

53. The volatility of global bank funding conditions also underscores the need to further strengthen safety nets and crisis management frameworks. Toward this end, Germany should consider simplifying the structure of depositor protection by moving to a single mandatory scheme with a robust public liquidity backstop. Completion of the pan-European Banking Union and Capital Markets Union would further enhance financial stability and economic efficiency.

54. A broader macroprudential toolkit and further enhancing data collection would help promote longer-term financial stability in the real-estate sector. Staff welcome the higher capital requirements that took effect in February 2023 to help address risks in the real estate sector, which have been building for some time. To enhance the ability to respond earlier and more effectively during the next real-estate market upswing, the law on borrower-based measures should be modified to add income-based instruments to the toolkit and address any perceived obstacles to their early activation. To better assess risks in commercial real estate, the authorities should facilitate harmonization of definitions of lending standards across banks and collect and publish comparable data on LTV ratios, interest- and debt-service-coverage ratios, and debt-yield ratios.

55. Accelerating the green transition is essential to meet climate goals. Continued efforts are needed to meet targets going forward. Toward this end, the government should resume the increase in domestic carbon pricing in 2024 as planned and consider further strengthening it. Take-up of existing programs that support the green transition could also be enhanced by simplifying procedures and ensuring cohesion across programs. Any additional subsidies for the green transition should be limited to addressing market failures and be fiscally affordable both in Germany and other EU countries, as single-market principles require a consistent approach across countries. Accelerating the expansion of EV charging stations and the smart grid network is critical, and revenue-neutral feebate schemes could further speed the green transition. In this context, staff welcome ongoing efforts to accelerate the implementation of public investment. Staff also welcome the introduction of the EU Carbon Border Adjustment Mechanism, which reduces carbon leakages, as well as Germany's leadership in creating the Climate Club.

56. To help lift medium-term potential growth, Germany should further enhance human capital and boost labor productivity. Plans to augment the Skilled Immigration Act should help cushion the projected decline in the labor force due to population aging. The recently passed Bürgergeld also includes training initiatives that aim to help the unemployed find better-paying jobs. It will be important to closely monitor the use of Bürgergeld and adjust its design if needed to ensure that it achieves its objectives and does not unduly lengthen unemployment spells. To lift labor productivity, Germany should further enhance incentives to undertake R&D, expand funding for young and innovative firms, and lower market entry barriers for such firms.

57. Germany should assess and prepare for GEF-related risks while pursuing structural reforms to increase its attractiveness as an investment destination. Intensified global geo-political tensions have raised GEF-related risks. Germany and its trading partners should continue to support a multilateral, rules-based trading system that promotes mutually beneficial cooperation on trade and cross-border flows. At the same time, Germany should identify its critical dependencies, assess the impact and transmission channels of different GEF scenarios (e.g., stress tests of value chains), and develop strategies for coping with risks.

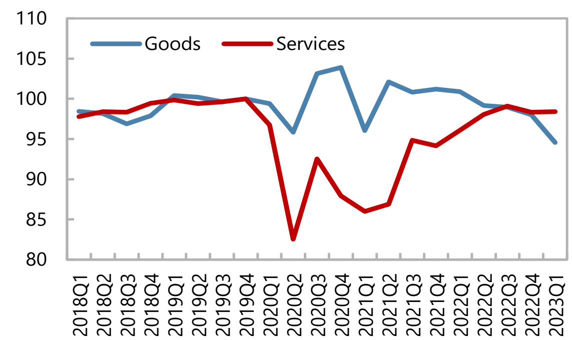
58. Germany is encouraged to further strengthen its AML/CFT framework and enhance beneficial ownership transparency. Staff welcome the government's initiatives to address key areas for improvements identified in the 2022 FATF mutual evaluations. Germany should also further improve the availability and accuracy of data in the Transparency Register.

59. It is recommended that the next Article IV consultation take place on the regular 12-month cycle.

Figure 1. Germany: Real Activity

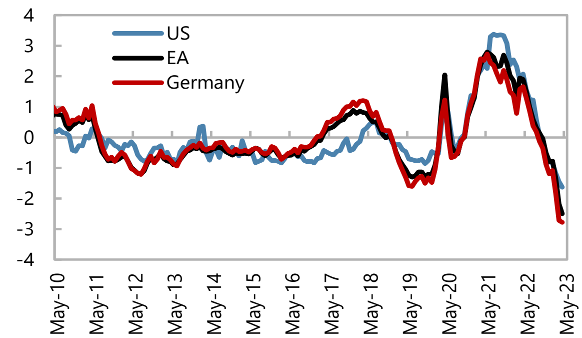
Services consumption has recovered largely to pre-pandemic levels, while high inflation has been weighing on goods consumption.

Real Private Consumption on Goods and Services



Supply disruptions from the pandemic have eased...

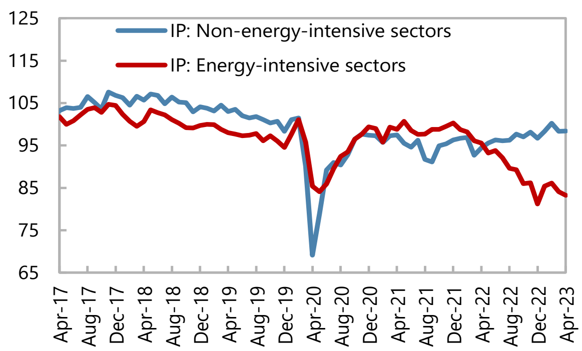
Manufacturing Suppliers' Delivery Times



...yet production of energy-intensive sectors shrank on the back of the surge in energy prices.

Industrial Production

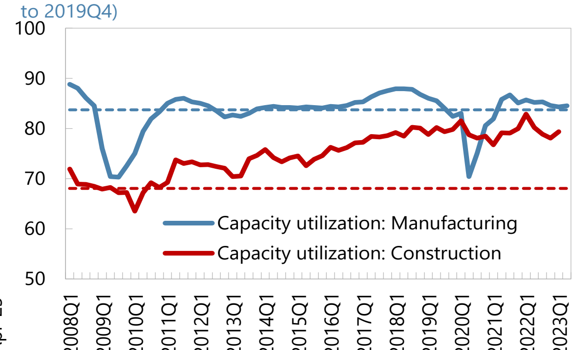
(Index 2015=100, seasonally adjusted)



Capacity utilization has declined recently, especially in the construction sector.

Indicators of Capacity Utilization

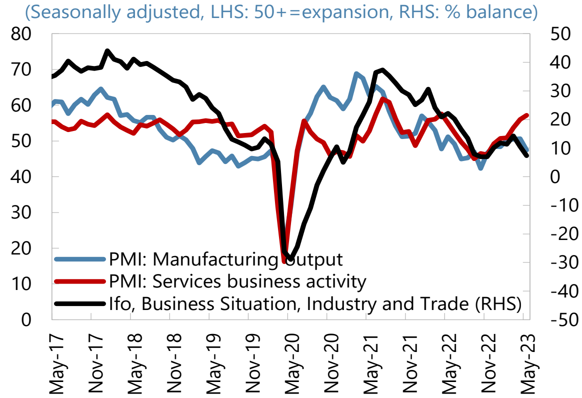
(Percentage points, dotted lines denote averages from 1991Q1 to 2019Q4)



Business confidence began to recover in late-2022 as energy prices softened, but tightening financial conditions have been weighing on it in recent months.

Business Survey 1/

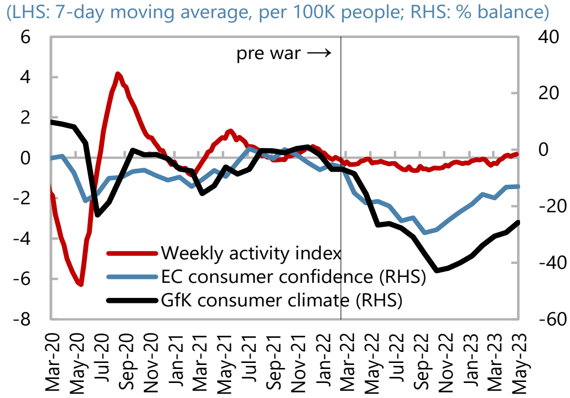
(Seasonally adjusted, LHS: 50+=expansion, RHS: % balance)



Consumer confidence has also been improving, although it is still well below pre-COVID levels.

Weekly Activity Index and Confidence Indicators

(LHS: 7-day moving average, per 100K people; RHS: % balance)



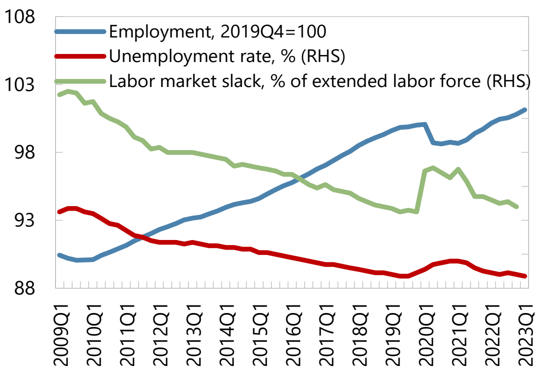
Sources: BMWK, Destatis, Deutsche Bundesbank, European Commission, Eurostat, Haver Analytics, IFO Institute, Markit, Oxford University, and IMF staff calculations.

1/ Manufacturing PMI is a composite index based on a weighted combination of new orders, output, employment, suppliers' delivery times, and stocks of materials purchased.

Figure 2. Germany: Prices and Labor Market

The unemployment rate and employment have returned to pre-pandemic levels ...

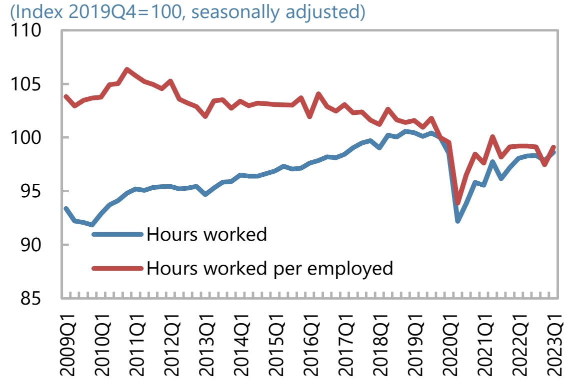
Employment and Unemployment Rate 1/



... but hours worked remain below pre-pandemic levels, partly due to sick leaves.

Hours Worked

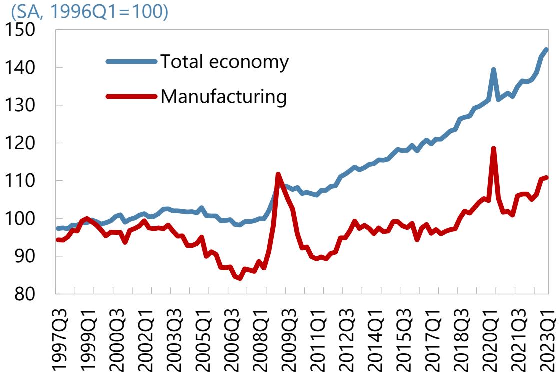
(Index 2019Q4=100, seasonally adjusted)



Unit labor costs have reverted to their pre-pandemic trends but are seeing some notable increases lately.

Unit Labor Costs

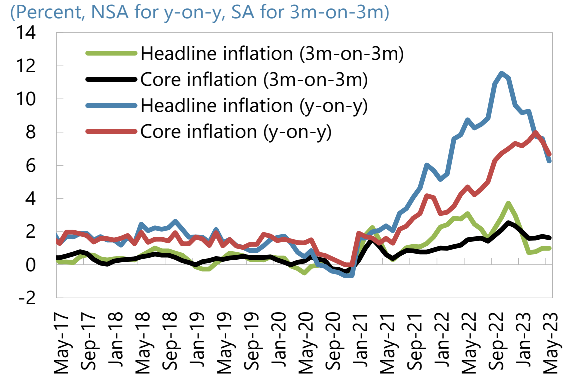
(SA, 1996Q1=100)



Headline inflation has retreated recently, mainly due to subsiding energy prices and the gas/electricity price brakes, but core inflation has been more persistent.

Inflation

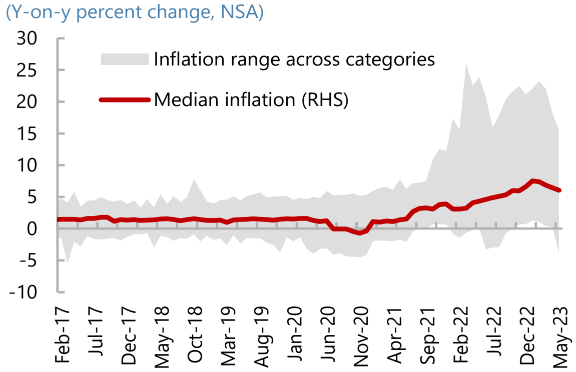
(Percent, NSA for y-on-y, SA for 3m-on-3m)



Broad inflation pressures remain.

Inflation Dispersion

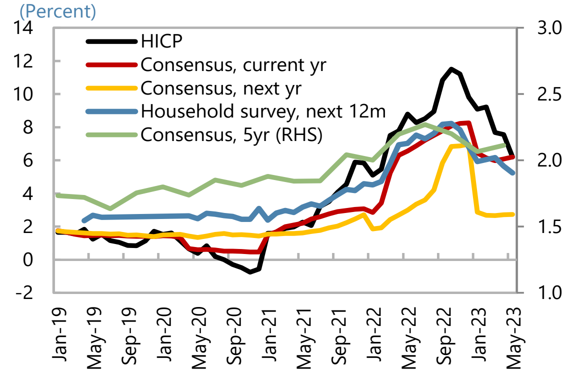
(Y-on-y percent change, NSA)



Short-term inflation expectations have notably declined, and medium-term inflation expectations have remained anchored.

Inflation Expectation 2/

(Percent)



Sources: Bundesbank, Consensus Forecasts, Eurostat, Federal Statistical Office, Haver Analytics, and IMF staff calculations.

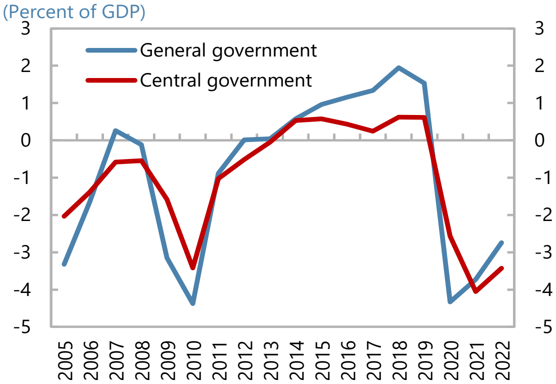
1/ Employment and the unemployment rate are National Accounts Concepts.

2/ Consensus forecasts show the mean of annual inflation projections for current year, next year, and 5 years from now.

Figure 3. Germany: Fiscal Developments and Outlook

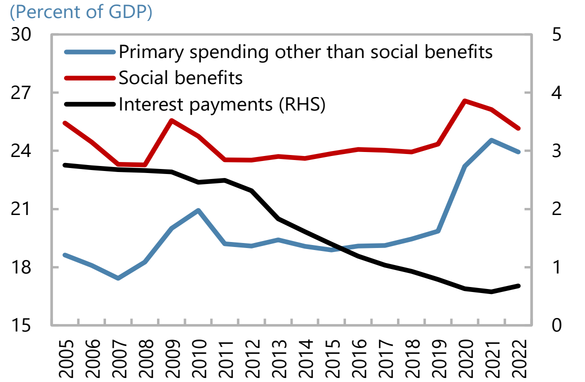
Germany's headline deficit narrowed in 2022 to 2.6 percent of GDP, from 3.7 percent of GDP in 2021…

General and Central Government Balances
(Percent of GDP)



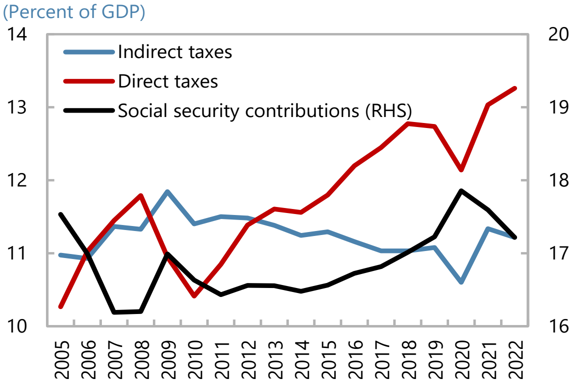
… on the back of the phase out of COVID aid…

General Government Spending
(Percent of GDP)



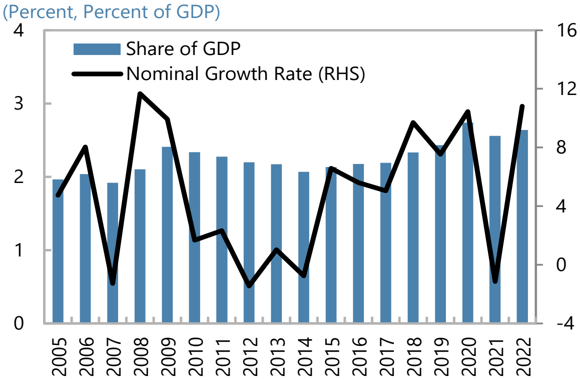
… and strong direct tax collections thanks to the the recovery of economic activities from the pandemic impact and solid labor market conditions.

Tax Revenue and Social Security Contributions
(Percent of GDP)



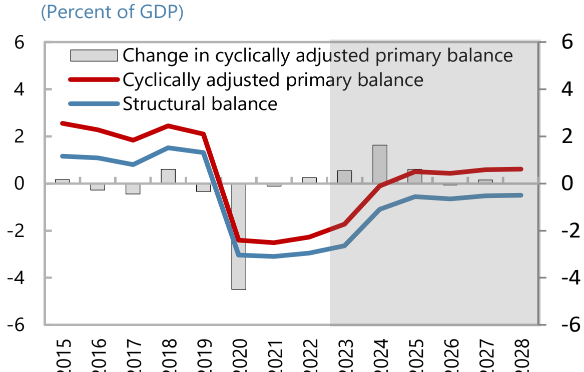
Amid high material costs and tight labor market conditions, public investment as a percent of GDP remained broadly unchanged in 2022.

General Government Gross Fixed Capital Formation
(Percent, Percent of GDP)



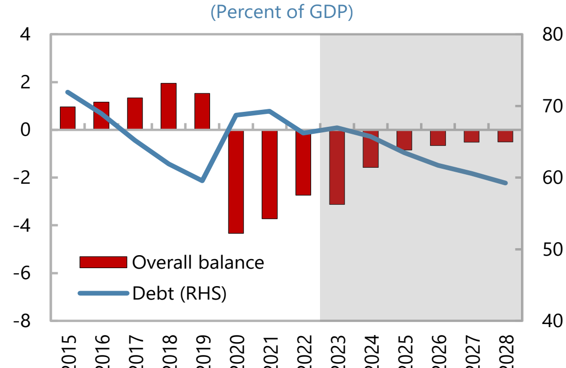
Less-than-budgeted spending on the gas/electricity price brakes due to lower energy prices and possible revenue overperformance are expected to lead to a moderately contractionary fiscal stance in 2023.

General Government Structural Balances, Staff Projection
(Percent of GDP)



The public debt ratio is projected to fall back to the pre-crisis level over the medium term as the overall balance improves.

General Government Fiscal Outlook, Staff Projection
(Percent of GDP)

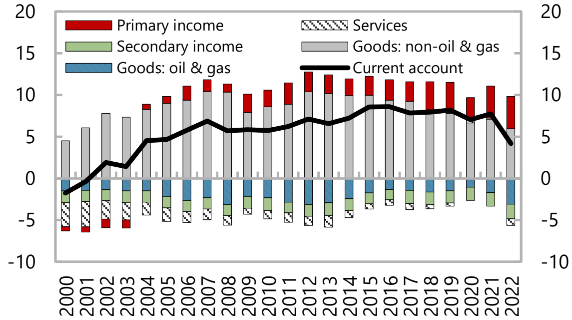


Sources: Federal Statistical Office, Ministry of Finance, and IMF staff calculations and projections.

Figure 4. Germany: Balance of Payments

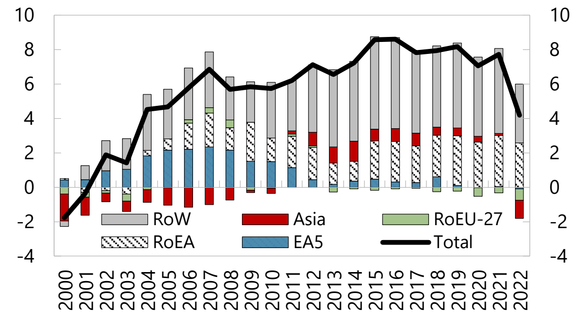
The current account (CA) surplus fell in 2022 on higher energy import costs.

Current Account Balance Breakdown
(Percent of GDP)



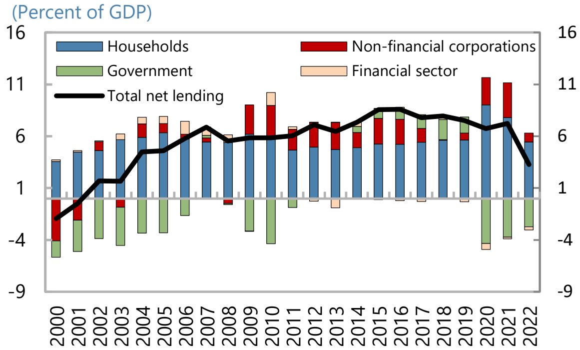
Weaker demand from Asia also contributed to a smaller CA surplus.

Current Account Balance by Region
(Percent of GDP)



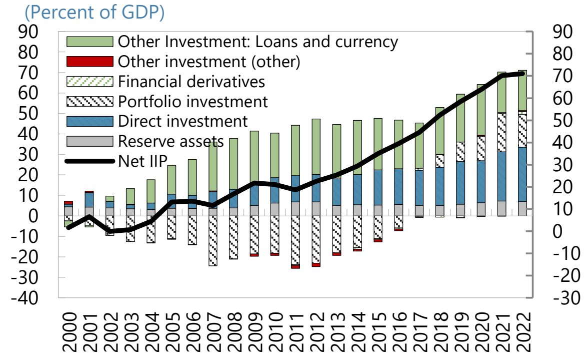
In 2022, the private sector reduced its excess of savings over investment and the public sector reduced its excess of investment over savings.

Saving-Investment Balances
(Percent of GDP)



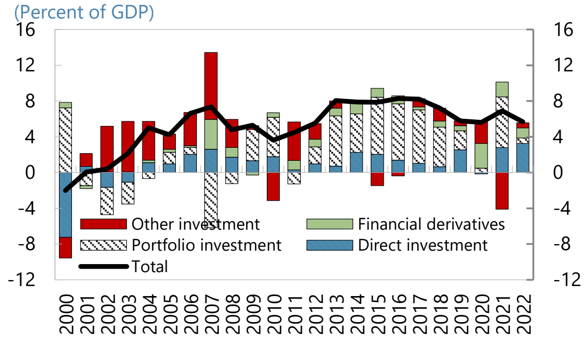
The Net International Investment Position rose slightly, as the current account surplus more than offset valuation losses due to higher interest rates.

Net International Investment Position by Instrument
(Percent of GDP)



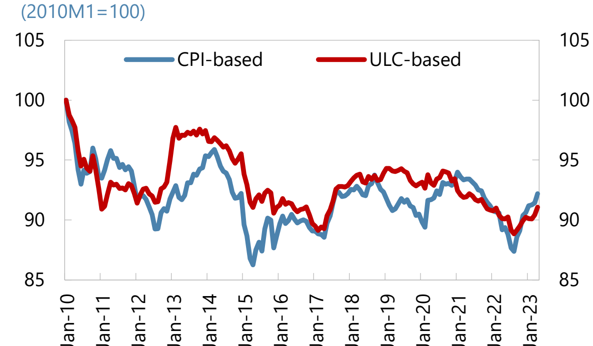
The lower CA surplus financed less outward portfolio investment in 2022. Remittances to Ukraine were reflected in other investment outflows.

Financial Account
(Percent of GDP)



Despite a strong REER depreciation to August, on surging energy import prices, the REER recovered by end-2022.

REER 1/
(2010M1=100)

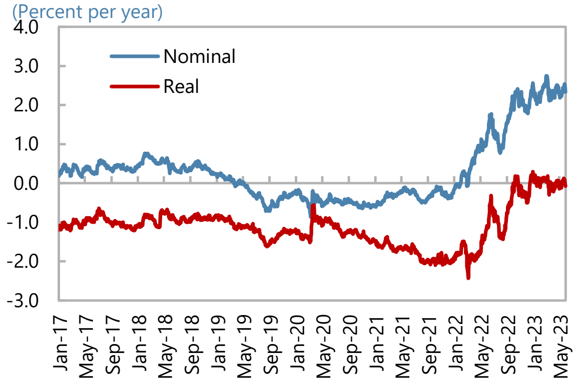


Sources: Bundesbank, DOTS, GDS, Haver Analytics, IMF *World Economic Outlook*, and IMF staff calculations.
1/ The ULC-based REER is measured using ULC statistics for the manufacturing sector in Germany and 37 trading partners, using the OECD System of Unit Labor Cost Indicators.
Note: EA5= Euro area economies (Greece, Ireland, Italy, Portugal, Spain) with high borrowing spreads during the 2010-11 sovereign debt crisis.

Figure 5. Germany: Credit Conditions and Asset Prices

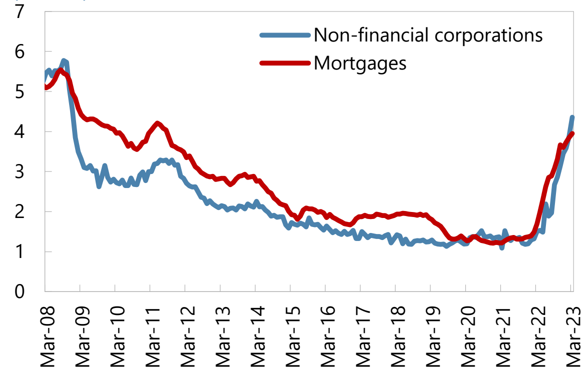
In a little over a year, long-term interest rates have risen to their highest levels since 2014, with long-term real interest rates around zero.

10-year Bond Yield
(Percent per year)



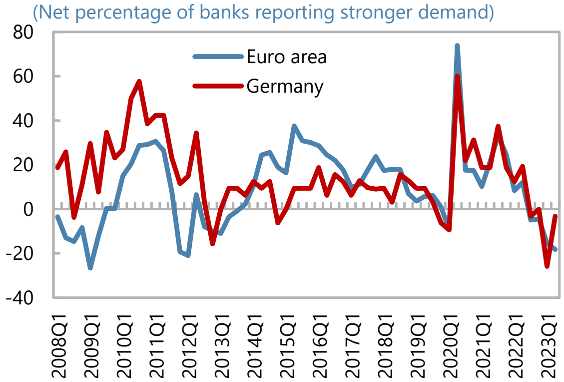
Rising government bond yields are passing through to lending rates, especially for mortgages.

Lending Rates on New Loans
(Percent)



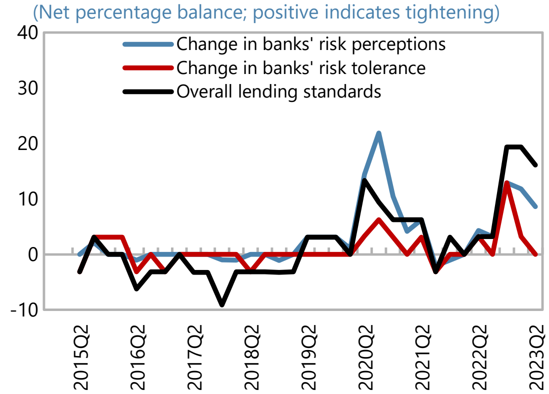
Demand for corporate credit is falling on higher interest rates.

Credit Demand by Enterprises in the Next 3 Months
(Net percentage of banks reporting stronger demand)



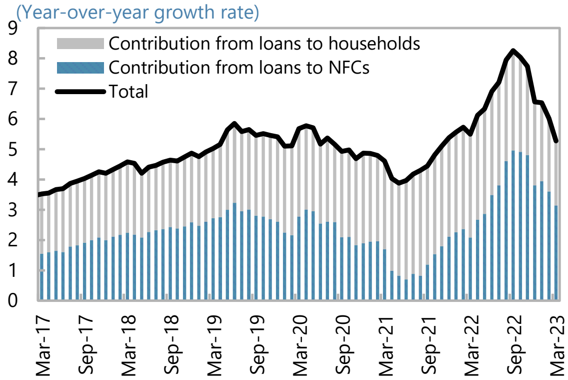
Lending standards to enterprises tightened on banks' perceptions of higher risk and lower risk tolerance.

Bank Lending Standards to Enterprises, past 3 months
(Net percentage balance; positive indicates tightening)



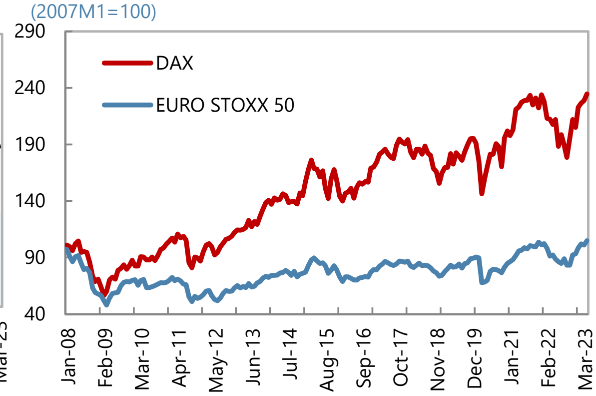
Given tighter lending standards and weaker credit demand, credit growth is decelerating from high levels.

Lending by Monetary Financial Institutions
(Year-over-year growth rate)



The underlying post-pandemic recovery has helped to offset some of the effect of rising interest rates on stock prices.

Stock Market Indices
(2007M1=100)

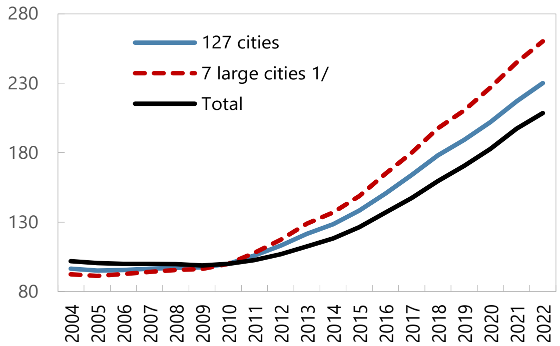


Sources: Bundesbank, ECB, Haver Analytics, Tullett Prebon Information, and IMF staff calculations.

Figure 6. Germany: Housing Market Developments

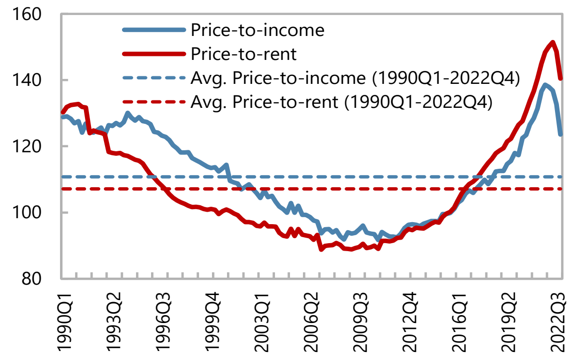
The pandemic did not change the decade-long upward trend in house prices...

Housing Prices
(Index, 2010=100)



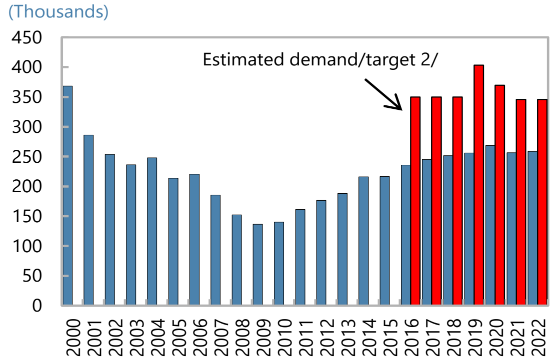
... leading to overvaluation. However, recent interest rate increases have softened house prices.

House Price Valuation
(Index, 2015=100)



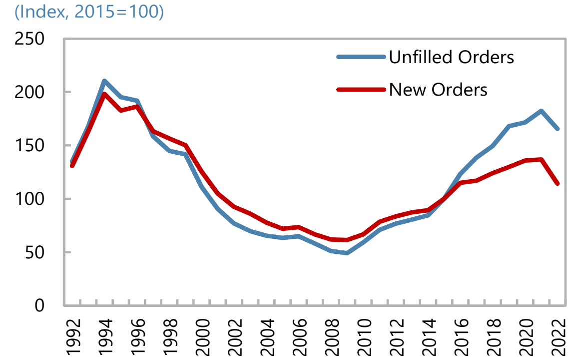
Despite the upward trend, housing supply is not adequate to meet the demand...

New Residential Housing Units
(Thousands)



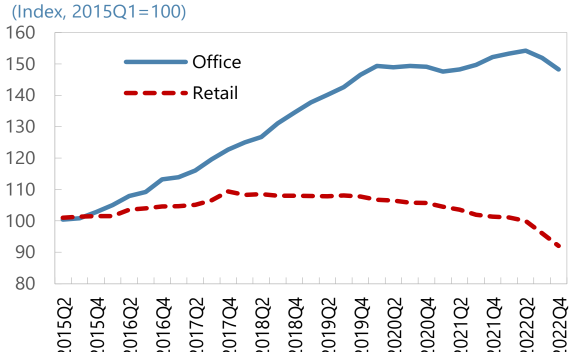
... leading to a backlog of unfilled orders. However, recent interest rate increases have slowed down new orders.

New Orders and Unfilled Orders of Housing Construction
(Index, 2015=100)



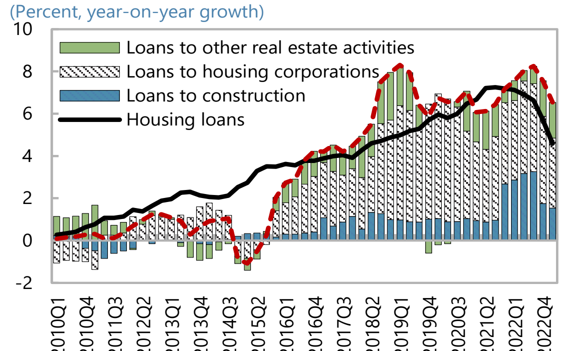
Retail commercial property prices have fallen since 2019, while office prices have been range-bound since the pandemic.

Commercial Real Estate Prices
(Index, 2015Q1=100)



Real estate lending slowed since 2022 on higher interest rates.

German MFIs: Exposure to Commercial Real Estate 3/
(Percent, year-on-year growth)

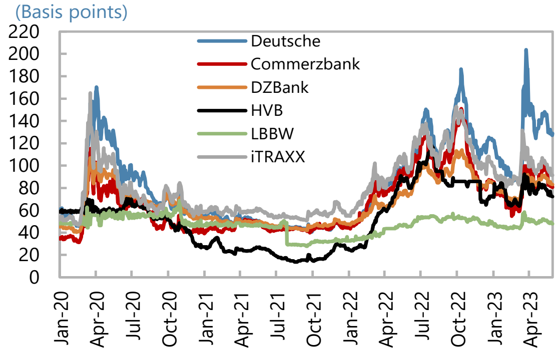


Sources: bulwiengesa AG, Destatis, Deutsche Bundesbank, Federal Ministry of the Interior, Building and Community, vdpResearch, Local Real Estate Surveyor Commission, Haver Analytics, OECD, and IMF staff calculations.
1/ Berlin, Dusseldorf, Frankfurt am Main, Hamburg, Cologne, Munich, and Stuttgart.
2/ The estimate by the Federal Ministry for the Environment for 2016-18 and by the Federal Ministry of Interior for 2019-22.
3/ CRE sectors proxied by construction, housing corporations, and other real estate activities.

Figure 7. Germany: Recent Developments in the German Banking Sector

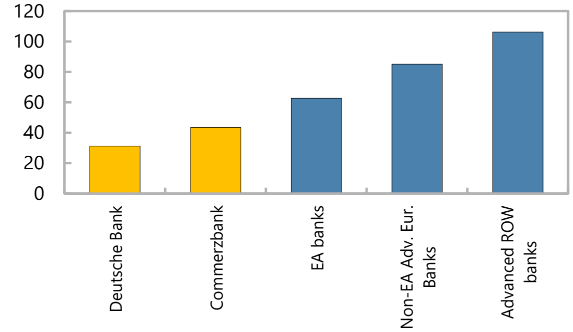
Recent banking sector turmoil lifted CDS spreads to levels last seen during the 2022 energy crisis.

German Banks 5-Year CDS Spreads
(Basis points)



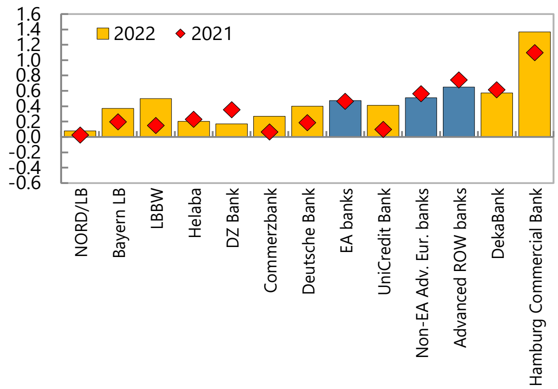
The two largest commercial banks continue trading at a discount relative to many European peers...

Price to Book Ratio, May 30, 2023
(Percent)



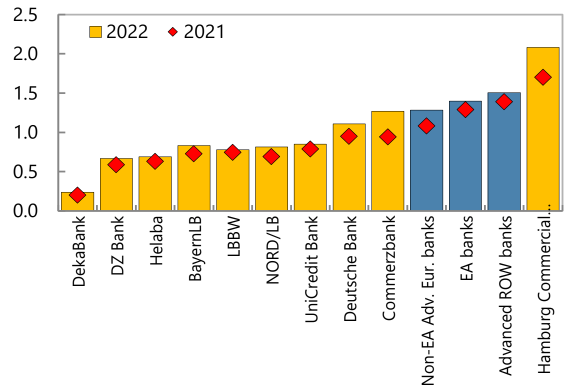
...on the back of structurally low profitability, like many other German banks,...

Return on Assets
(Percent)



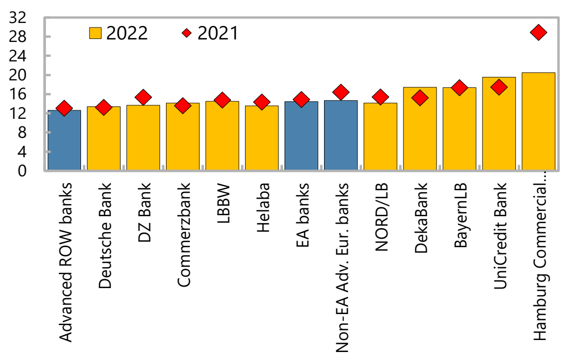
...which in part reflects lower interest rate margins than European peers.

Net Interest Margin
(Percent)



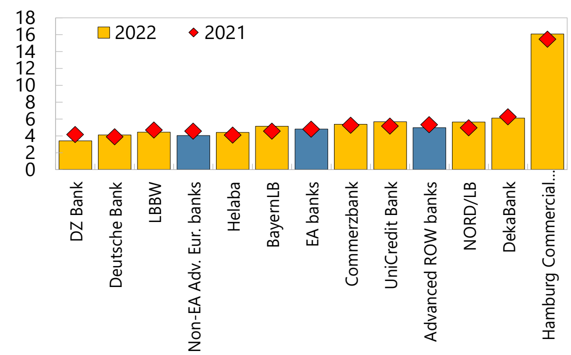
German banks' risk-weighted capital buffers remain stronger than some peers'...

(Phase in) Common Equity Tier 1 Ratio
(Percent)



...although some German banks' leverage ratios are lower than those of peers.

Leverage Ratio 1/
(Percent)



Sources: Bloomberg Finance L.P., S&P Global Market Intelligence, and IMF staff calculations.
Notes: Credit Suisse is excluded from Non-EA Advanced European banks averages.
1/ Leverage ratio is defined as common equity net of intangibles as a percent of total assets net of intangibles.

Table 1. Germany: Selected Economic Indicators, 2021–25

	2021	2022	2023	2024	2025
			Projections		
National Accounts	(Percent change, working-day adjusted)				
GDP	2.6	1.9	-0.1	1.3	2.0
Private consumption	0.4	4.9	0.0	2.1	2.1
Public consumption	3.8	1.2	-2.3	1.1	1.1
Gross fixed investment	1.1	0.7	1.3	0.4	3.1
Construction	-0.2	-1.7	-0.9	-0.4	3.1
Machinery and equipment	3.2	3.5	3.7	0.5	3.1
Final domestic demand	1.4	3.1	-0.3	1.5	2.1
Inventory accumulation 1/	0.6	0.3	0.0	0.0	0.0
Total domestic demand	1.9	3.3	-0.3	1.5	2.0
Exports of goods and services	9.5	3.5	2.3	3.4	3.5
Imports of goods and services	8.9	7.0	1.9	3.9	3.6
Foreign balance 1/	0.7	-1.3	0.3	-0.1	0.1
	(Percent change, non-adjusted)				
GDP	2.6	1.8	-0.3	1.3	1.9
Private consumption	0.4	4.9	-0.6	3.0	2.1
Public consumption	3.8	1.2	-2.5	1.1	1.0
Gross fixed investment	1.2	0.4	1.0	0.4	2.9
Construction	0.0	-1.8	-1.1	-0.4	3.0
Machinery and equipment	3.5	3.3	3.6	0.5	3.0
Final domestic demand	1.4	3.0	-0.7	2.0	2.0
Inventory accumulation 1/	0.5	0.3	0.2	-0.4	0.0
Total domestic demand	1.9	3.3	-0.5	1.5	1.9
Exports of goods and services	9.7	3.4	2.1	3.4	3.4
Imports of goods and services	9.0	6.9	1.7	3.9	3.5
Foreign balance 1/	0.8	-1.4	0.3	-0.1	0.0
Output gap (percent of potential GDP)	-1.3	0.5	-0.9	-0.9	-0.4
Unemployment	(Percent)				
Unemployment rate 2/	3.6	3.1	3.3	3.3	3.1
Unemployment rate 3/	3.3	2.9	...	...	...
Prices and Incomes	(Percent change)				
GDP deflator	3.1	5.5	4.8	3.2	2.9
Consumer price index (harmonized)	3.2	8.7	5.8	2.6	2.1
Consumer price index (harmonized), core	2.3	5.0	6.2	3.0	2.1
Compensation per employee (total economy)	3.1	3.7	6.1	5.3	3.5
Unit labor cost (total economy)	0.6	3.2	7.1	4.0	1.7
Real disposable income 4/	-1.1	0.4	-0.8	2.7	2.0
Household saving ratio (percent)	15.2	11.4	11.1	10.9	10.9

1/ Contribution to GDP growth.

2/ ILO definition.

3/ National Accounts Concepts.

4/ Deflated by national accounts deflator for private consumption; not SWDA.

Table 1. Germany: Selected Economic Indicators, 2021–25 (concluded)

	2021	2022	2023	2024	2025
			Projections		
Public Finances			(Percent of GDP)		
General government					
Overall balance 5/	-3.7	-2.7	-3.0	-1.5	-0.9
Structural balance	-3.1	-2.3	-2.6	-1.1	-0.7
General government debt	69.3	66.2	66.4	65.0	62.8
Balance of Payments			(Percent of GDP)		
Current account	7.7	4.2	5.4	5.7	6.6
Trade balance 6/	5.4	2.9	3.6	3.8	4.4
Services balance	0.1	-0.8	-0.3	-0.1	-0.1
Primary income balance	3.8	3.9	3.9	3.9	4.0
Secondary income balance	-1.6	-1.8	-1.8	-1.8	-1.8
Monetary Data			(Percent change)		
Money and quasi-money (M3) 7/ 8/	5.7	5.1	…	…	…
Credit to private sector 7/	5.4	6.6	…	…	…
Interest Rates			(Period average in percent)		
Three-month interbank rate 7/	-0.5	0.3	…	…	…
Yield on ten-year government bonds 7/	-0.3	1.3	…	…	…
Exchange Rates					
Euro per US$	0.84	0.95	…	…	…
Nominal effective rate (2010=100) 9/	104.7	102.4	…	…	…
Real effective rate (2010=100) 10/	97.1	93.6	…	…	…
Memorandum Items:					
Nominal GDP (billions of euros)	3601.8	3869.9	4043.5	4230.4	4438.2
Population growth (percent)	0.0	0.7	…	…	…
GDP per capita (thousands of euros)	43.3	46.2	…	…	…

Sources: Deutsche Bundesbank, Federal Statistical Office, IMF staff estimates and projections.

5/ Net lending/borrowing.

6/ Excluding supplementary trade items.

7/ Data refer to end of December.

8/ Data reflect Germany's contribution to M3 of the euro area.

9/ Nominal effective exchange rate, all countries.

10/ Real effective exchange rate, CPI based, all countries.

Table 2. Germany: General Government Operations, 2019–28

(Percent of GDP)

					Projections					
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Revenue	46.5	46.1	47.5	47.0	46.5	46.5	46.6	46.8	46.8	46.8
Taxes	23.8	22.7	24.4	24.5	23.9	23.9	24.1	24.2	24.2	24.2
Indirect taxes	11.1	10.6	11.3	11.2	11.0	11.0	11.0	11.1	11.1	11.1
Direct taxes	12.7	12.1	13.0	13.3	12.9	12.9	13.0	13.1	13.1	13.1
Social contributions	17.2	17.9	17.6	17.2	17.2	17.2	17.2	17.3	17.3	17.3
Grants	0.1	0.1	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3
Other current revenue	5.4	5.4	5.2	5.1	5.0	5.0	5.0	5.0	5.0	5.0
Expense	45.0	50.4	51.3	49.8	49.5	47.9	47.4	47.4	47.3	47.2
Compensation of employees	7.9	8.3	8.2	7.9	8.1	8.1	8.1	8.1	8.1	8.1
Goods and services	5.4	6.1	6.3	6.2	5.9	5.7	5.5	5.4	5.4	5.4
Interest	0.8	0.6	0.6	0.7	0.9	1.0	1.1	1.1	1.1	1.1
Subsidies	0.8	2.2	3.1	1.8	3.0	1.7	1.3	1.3	1.2	1.2
Social benefits	24.3	26.6	26.1	25.1	24.8	24.8	25.0	25.0	25.0	25.1
Social benefits in kind	8.5	9.0	9.2	9.1	8.6	8.6	8.7	8.7	8.7	8.7
Social transfers	15.8	17.6	17.0	16.0	16.2	16.2	16.3	16.3	16.3	16.4
Pensions	9.1	9.6	9.3	9.0	9.0	9.2	9.3	9.5	9.5	9.6
Child benefits	0.6	0.8	0.7	0.6	0.7	0.6	0.6	0.6	0.6	0.6
Unemployment benefits	1.2	1.9	1.7	1.3	1.4	1.4	1.3	1.3	1.3	1.3
Other social transfers	4.9	5.3	5.2	5.1	5.0	5.0	5.0	5.0	4.9	4.9
Other expense	5.8	6.6	7.0	8.0	6.8	6.7	6.6	6.6	6.5	6.4
Gross public investment	2.4	2.7	2.6	2.6	2.8	2.9	2.9	2.9	2.8	2.8
Net acquisition of nonfinancial assets	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
Net lending/borrowing	1.5	-4.3	-3.7	-2.7	-3.0	-1.5	-0.9	-0.6	-0.5	-0.5
Primary balance	2.3	-3.7	-3.2	-2.1	-2.1	-0.6	0.2	0.4	0.6	0.6
Memorandum Items:										
Structural balance	1.3	-3.0	-3.1	-2.3	-2.6	-1.1	-0.7	-0.7	-0.5	-0.5
Change in structural balance	*-0.3*	*-4.3*	*-0.1*	*0.8*	*-0.3*	*1.5*	*0.4*	*0.0*	*0.2*	*0.0*
Structural primary balance	2.1	-2.4	-2.5	-1.6	-1.7	-0.1	0.4	0.4	0.6	0.6
Change in structural primary balance	*-0.4*	*-4.5*	*-0.1*	*0.9*	*0.0*	*1.6*	*0.5*	*0.0*	*0.2*	*0.1*
Public gross debt (Maastricht definition)	59.6	68.7	69.3	66.2	66.4	65.0	62.8	61.1	59.8	58.6

Sources: Bundesbank, Federal Statistical Office, Ministry of Finance, and IMF staff estimates and projections.

Table 3. Germany: Medium Term Projections, 2019–28

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
					Projections					
Real Sector	(Percentage change unless otherwise indicated, working-day adjusted)									
Real GDP	1.1	-4.1	2.6	1.9	-0.1	1.3	2.0	1.8	1.1	0.9
Total domestic demand	1.8	-3.3	1.9	3.3	-0.3	1.5	2.0	1.8	1.0	1.0
Private consumption	1.7	-5.9	0.4	4.9	0.0	2.1	2.1	2.0	0.9	0.9
Households saving ratio (in percent)	10.8	16.5	15.2	11.4	11.1	10.9	10.9	10.8	10.8	10.8
Foreign balance (contribution to growth)	-0.6	-1.0	0.7	-1.3	0.3	-0.1	0.1	0.1	0.1	-0.1
	(Percentage change unless otherwise indicated, non-adjusted)									
Real GDP	1.1	-3.7	2.6	1.8	-0.3	1.3	1.9	1.8	1.1	0.9
Total domestic demand	1.7	-3.0	1.9	3.3	-0.5	1.5	1.9	1.8	1.0	1.0
Private consumption	1.6	-5.6	0.4	4.9	-0.6	3.0	2.1	1.9	1.0	0.9
Households saving ratio (in percent)	10.8	16.5	15.2	11.4	11.1	10.9	10.9	10.8	10.8	10.8
Foreign balance (contribution to growth)	-0.6	-0.8	0.8	-1.4	0.3	-0.1	0.0	0.1	0.1	-0.1
Output gap (percent of potential GDP)	0.4	-3.0	-1.3	0.5	-0.9	-0.9	-0.4	0.0	0.0	0.0
	(Percentage change unless otherwise indicated)									
Employment (millions of persons)	41.6	41.2	41.4	42.4	42.6	42.5	42.5	42.4	42.3	42.2
Labor productivity (per employed person)	0.1	-2.9	2.5	0.5	-0.9	1.3	1.7	1.8	1.1	0.9
Consumer prices (headline, period avg.)	1.4	0.4	3.2	8.7	5.8	2.6	2.1	2.1	2.0	2.0
Consumer prices (core, period avg.)	1.4	0.9	2.3	5.0	6.2	3.0	2.1	2.1	2.0	2.0
Compensation per employee	3.4	0.5	3.1	3.7	6.1	5.3	3.5	3.4	3.3	3.3
External Sector	(Percent of GDP)									
Current account balance	8.2	7.1	7.7	4.2	5.4	5.7	6.6	6.6	6.3	6.2
Trade balance (goods and services)	5.9	5.8	5.5	2.1	3.3	3.6	4.3	4.2	3.8	3.8
Net international investment position	58.5	63.8	70.1	71.1	72.5	75.2	78.2	81.8	85.7	89.4
General Government										
Overall balance	1.5	-4.3	-3.7	-2.7	-3.0	-1.5	-0.9	-0.6	-0.5	-0.5
Cyclically adjusted balance	1.3	-3.0	-3.1	-3.0	-2.6	-1.1	-0.7	-0.7	-0.5	-0.5
Gross debt	59.6	68.7	69.3	66.2	66.4	65.0	62.8	61.1	59.8	58.6

Sources: Federal Statistical Office, Bundesbank, and IMF staff estimates.

Table 4. Germany: Balance of Payments, 2019–28 1/
(Percent of GDP)

	2019	2020	2021	2022	Projections 2023	2024	2025	2026	2027	2028
Current account	8.2	7.1	7.7	4.2	5.4	5.7	6.6	6.6	6.3	6.2
Trade balance	5.9	5.8	5.5	2.1	3.3	3.6	4.3	4.2	3.8	3.8
Trade in goods	6.3	5.6	5.4	2.9	3.6	3.8	4.4	4.4	3.9	3.9
Exports	37.7	34.9	37.9	40.1	38.3	38.3	38.1	37.8	37.4	37.4
Imports	31.4	29.3	32.5	37.2	34.8	34.6	33.7	33.5	33.5	33.5
Trade in services	-0.4	0.2	0.1	-0.8	-0.3	-0.1	-0.1	-0.1	-0.1	-0.1
Exports	9.4	8.5	9.6	10.5	10.8	10.8	10.7	10.7	10.6	10.5
Imports	9.8	8.3	9.4	11.3	11.1	11.0	10.8	10.8	10.7	10.6
Primary income balance	3.7	2.8	3.8	3.9	3.9	3.9	4.0	4.2	4.3	4.2
Secondary income balance	-1.5	-1.6	-1.6	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8	-1.8
Capital and Financial Account	5.7	5.4	6.9	5.2	5.4	5.7	6.6	6.6	6.3	6.2
Capital account	-0.1	-0.3	0.0	-0.5	0.0	0.0	0.0	0.0	0.0	0.0
Financial account	5.8	5.6	6.9	5.7	5.4	5.7	6.6	6.6	6.3	6.2
Direct Investment	2.5	-0.1	2.8	3.2	2.0	2.7	2.6	2.4	2.6	2.5
Abroad	4.4	3.9	5.0	4.4	4.4	4.6	4.5	4.5	4.5	4.5
Domestic	1.9	4.1	2.2	1.1	2.5	1.9	1.9	2.1	2.0	2.0
Portfolio investment balance	2.1	0.5	5.7	0.6	2.0	2.6	2.1	2.5	2.4	2.2
Financial derivatives	0.6	2.8	1.7	1.1	1.2	1.2	1.4	1.4	1.3	1.3
Other financial transactions	0.5	2.5	-4.1	0.6	0.3	-0.7	0.5	0.3	0.1	0.1
Change in reserve assets	0.0	0.0	0.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Net errors and omissions	-2.3	-1.2	-0.8	2.0	0.0	0.0	0.0	0.0	0.0	0.0

Sources: Bundesbank, Federal Statistical Office, IMF Statistics Department, and IMF staff estimates.

1/ Based on Balance of Payments Manual 6.

Table 5. Germany: International Investment Position, 2014–22 1/

(Percent of GDP)

	2014	2015	2016	2017	2018	2019	2020	2021	2022
Assets	261.7	260.8	264.2	261.4	260.9	277.5	308.0	318.4	308.9
Direct investment	56.2	59.4	60.3	61.0	64.1	67.1	71.4	75.0	75.2
Portfolio investment	86.5	88.2	90.1	93.3	89.2	99.1	107.7	112.4	90.5
Equity and investment fund shares	26.4	28.9	30.5	34.6	31.5	38.2	43.0	52.8	43.4
Debt securities	60.1	59.3	59.6	58.7	57.7	60.9	64.7	59.6	47.1
Financial derivatives (other than reserves) and employee stock options	27.0	22.0	19.5	14.5	12.7	18.0	24.7	19.8	36.0
Other investment	86.6	85.9	88.7	87.4	89.8	87.6	97.8	104.0	100.2
Reserve assets	5.4	5.3	5.6	5.1	5.1	5.7	6.4	7.3	7.1
Liabilities	232.4	225.9	224.7	216.8	208.5	219.0	244.2	248.3	237.9
Direct investment	41.3	42.2	42.9	43.8	45.6	46.4	50.9	51.0	48.8
Portfolio investment	102.1	99.2	95.6	92.3	83.0	89.5	95.8	93.7	74.4
Equity and investment fund shares	33.2	34.3	34.0	36.9	29.1	33.9	34.7	36.9	27.4
Debt securities	68.9	64.9	61.5	55.4	54.0	55.7	61.0	56.8	46.9
Financial derivatives (other than reserves) and employee stock options	27.8	22.5	20.4	15.0	13.2	18.9	25.0	19.8	34.6
Other investment	61.1	62.0	65.8	65.7	66.7	64.2	72.6	83.9	80.1
Net International Investment Position	29.4	34.9	39.5	44.6	52.3	58.5	63.8	70.1	71.1
Direct investment	14.8	17.2	17.4	17.2	18.6	20.7	20.5	24.1	26.4
Portfolio investment	-15.6	-11.0	-5.5	1.0	6.2	9.6	11.9	18.8	16.1
Financial derivatives (other than reserves) and employee stock options	-0.8	-0.5	-0.9	-0.4	-0.6	-0.9	-0.3	-0.1	1.4
Other investment	25.5	24.0	22.9	21.8	23.0	23.3	25.3	20.1	20.0

Sources: Deutsche Bundesbank, IMF Statistics Department, and IMF staff calculations.

1/ Based on Balance of Payments Manual 6.

Table 6. Germany: Core Financial Soundness Indicators for Banks, 2017–22
(Percent, unless otherwise indicated)

	2017	2018	2019	2020	2021	2022
Capital adequacy						
Regulatory capital to risk-weighted assets	19.4	18.9	18.6	19.2	18.8	19.2
Commercial banks	18.8	18.1	18.3	19.8	20.1	21.2
Landesbanken	22.3	20.2	20.0	19.9	20.0	19.3
Savings banks	17.4	17.6	17.3	17.6	16.7	16.7
Credit cooperatives	17.6	17.5	17.1	17.2	16.6	16.5
Regulatory Tier I capital to risk-weighted assets	16.9	16.6	16.5	17.2	16.8	17.0
Commercial banks	16.7	16.0	16.4	17.6	17.4	17.9
Landesbanken	17.5	15.6	15.7	15.8	15.9	15.5
Savings banks	15.8	16.2	16.1	16.4	15.7	15.8
Credit cooperatives	14.8	15.0	14.9	15.4	15.0	15.3
Asset composition and quality						
Sectoral distribution of loans to total loans						
Loan to households	28.6	29.1	29.5	28.4	27.9	27.5
Commercial banks	20.8	21.4	22.2	21.1	20.2	19.6
Landesbanken	5.0	4.2	4.0	3.8	3.7	3.4
Savings banks	57.1	55.3	54.5	51.6	50.9	52.1
Credit cooperatives	67.0	66.0	64.7	61.5	60.3	60.9
Loans to non-financial corporations	15.1	15.7	16.1	15.4	15.1	15.7
Commercial banks	11.4	12.6	13.1	11.9	11.3	11.8
Landesbanken	23.3	22.2	21.9	20.9	21.8	21.3
Savings banks	24.0	25.1	25.2	24.2	23.8	24.9
Credit cooperatives	18.3	19.0	19.6	19.6	20.1	21.5
NPLs to gross loans	1.5	1.2	1.1	1.7	1.5	1.4
Commercial banks	1.1	1.1	1.0	2.1	1.9	1.9
Landesbanken	3.2	1.7	0.9	0.9	0.9	0.8
Savings banks	1.3	1.2	1.1	1.5	1.3	1.2
Credit cooperatives	1.6	1.4	1.2	1.7	1.5	1.3
NPLs net of provisions to capital	11.9	9.1	6.8	6.2	5.4	7.9
Commercial banks	5.5	6.1	3.0	9.3	7.8	10.8
Landesbanken	30.1	10.6	4.9	5.9	5.8	7.8
Savings banks	13.6	11.9	10.4	3.0	2.4	6.0
Credit cooperatives	15.9	14.4	12.5	5.2	4.5	7.0

Table 6. Germany: Core Financial Soundness Indicators for Banks, 2017–22 (concluded)
(Percent, unless otherwise indicated)

	2017	2018	2019	2020	2021	2022
Earnings and profitability						
Return on average assets (after-tax)	0.2	0.2	0.0	0.1	0.2	0.4
Commercial banks	0.1	0.1	-0.5	-0.1	0.1	0.5
Landesbanken	0.1	-0.2	0.1	0.0	0.1	0.4
Savings banks	0.6	0.4	0.4	0.3	0.4	0.4
Credit cooperatives	0.6	0.5	0.6	0.4	0.5	0.3
Return on average equity (after-tax)	4.1	2.4	-0.4	1.1	3.2	5.7
Commercial banks	2.8	1.5	-9.0	-3.0	1.4	7.2
Landesbanken	1.0	-3.9	1.6	0.8	2.3	8.4
Savings banks	6.7	4.8	4.8	3.4	4.2	4.5
Credit cooperatives	7.1	5.5	6.6	5.0	6.2	3.6
Interest margin to gross income	69.5	72.3	69.5	67.3	65.2	51.8
Commercial banks	60.7	67.8	61.8	57.6	55.8	42.6
Landesbanken	73.9	74.2	73.0	75.7	70.7	46.0
Savings banks	73.9	71.7	71.4	70.5	68.1	73.1
Credit cooperatives	75.3	74.6	73.5	72.3	70.6	76.3
Trading income to gross income	4.5	2.9	2.1	2.9	3.9	-4.3
Commercial banks	8.0	4.9	3.2	5.3	6.5	6.7
Landesbanken	11.5	8.8	6.4	6.2	10.7	2.6
Savings banks	0.0	0.0	0.0	0.0	0.0	-28.9
Credit cooperatives	0.0	0.0	0.0	0.0	0.0	-30.8
Noninterest expenses to gross income	71.9	73.1	76.0	72.3	72.9	76.6
Commercial banks	79.4	79.3	84.9	77.7	79.9	75.1
Landesbanken	72.5	76.6	78.5	75.9	70.6	69.3
Savings banks	67.1	68.3	71.4	70.1	70.7	80.4
Credit cooperatives	65.7	66.2	67.2	67.2	65.9	84.3
Liquidity						
Liquid assets to total short-term liabilities 1/	151.3	151.7	161.2	169.6	170.9	34.1
Commercial banks	131.4	140.3	147.4	157.4	160.9	37.7
Landesbanken	150.8	126.0	152.6	178.4	152.6	46.9
Savings banks	263.6	198.6	186.0	187.2	174.4	19.8
Credit cooperatives	242.2	162.2	169.9	158.6	166.9	15.4
Sensitivity to market risk						
Net open positions in FX to capital 1/	3.7	3.2	3.7	3.4	4.3	3.6
Commercial banks	2.1	2.2	2.6	2.4	2.8	2.7
Landesbanken	4.0	3.1	2.6	3.2	3.4	3.4
Savings banks	4.3	3.5	4.0	3.6	4.6	3.7
Credit cooperatives	8.2	7.4	7.6	7.4	9.6	7.9

Source: Deutsche Bundesbank. The authorities provide annual data only and disseminate them once a year.

1/ Due to methodological amendments given a corresponding methodological break in time series occurs in 2022.

Table 7. Germany: Additional Financial Soundness Indicators, 2017–22
(Percent, unless otherwise indicated)

	2017	2018	2019	2020	2021	2022
Deposit-taking institutions						
Capital to assets	6.3	6.5	6.3	5.9	5.9	5.4
Commercial banks	5.6	5.7	5.5	4.8	4.9	4.1
Landesbanken	5.4	5.0	4.8	3.7	3.6	2.9
Savings banks	9.0	9.1	9.1	8.7	8.5	8.7
Credit cooperatives	8.2	8.3	8.4	8.2	8.2	8.6
Geographical distribution of loans to total loans						
Germany	78.7	78.0	77.6	79.8	79.0	78.9
EU-member countries	12.6	13.2	14.2	9.4	9.4	9.8
Others	8.7	8.8	8.2	10.9	11.6	11.2
FX loans to total loans	9.8	9.7	9.4	7.6	8.1	8.0
Personnel expenses to noninterest expenses	50.4	50.2	49.3	50.8	50.8	...
Commercial banks	42.5	41.5	40.8	43.5	44.9	...
Landesbanken	46.0	50.4	49.0	49.7	48.6	...
Savings banks	63.3	62.2	61.7	62.2	61.1	...
Credit cooperatives	59.7	59.0	57.3	57.3	56.9	...
Trading and fee income to total income	30.5	27.7	30.5	32.7	34.8	...
Commercial banks	39.3	32.2	38.2	42.4	44.2	...
Landesbanken	26.1	25.8	27.0	24.3	29.3	...
Savings banks	26.1	28.3	28.6	29.5	31.9	...
Credit cooperatives	24.7	25.4	26.5	27.7	29.4	...
Funding						
Customer deposits to total (non-interbank) loans	80.6	81.8	82.1	82.2	81.1	78.0
Commercial banks	84.9	88.3	91.1	83.6	82.7	79.3
Landesbanken	40.0	32.8	35.8	42.6	41.0	41.1
Savings banks	108.0	107.5	105.1	105.9	104.3	102.1
Credit cooperatives	116.2	115.2	112.8	114.7	112.0	109.3
Deposits/total assets	68.8	69.1	66.5	67.9	70.2	63.6
Commercial banks	72.9	73.3	67.7	68.5	73.3	60.3
Landesbanken	60.3	59.9	57.5	60.0	60.5	56.8
Savings banks	86.2	85.9	86.2	86.9	87.2	86.7
Credit cooperatives	87.1	87.1	87.2	87.6	87.6	87.5
Interbank assets/total assets	36.2	35.6	33.9	35.5	37.1	33.8
Commercial banks	41.0	39.4	35.6	37.3	40.8	34.0
Landesbanken	35.5	38.2	36.2	36.9	35.9	35.9
Savings banks	17.3	17.7	17.9	20.9	21.5	19.6
Credit cooperatives	20.4	20.2	20.3	22.4	22.4	20.5
Interbank liabilities/total assets	21.9	21.2	20.1	22.1	24.2	21.0
Commercial banks	26.8	25.3	23.1	25.5	29.9	23.6
Landesbanken	27.5	30.8	27.8	31.1	31.2	27.6
Savings banks	10.7	10.2	10.3	11.6	12.9	11.3
Credit cooperatives	12.6	12.4	12.4	13.9	14.7	14.1
Loans/assets	42.8	44.3	43.3	41.6	42.7	...
Commercial banks	32.0	34.7	32.8	30.8	32.1	...
Landesbanken	44.9	44.6	43.9	42.6	45.9	...
Savings banks	66.1	66.0	66.2	63.7	63.4	...
Credit cooperatives	62.6	63.1	63.5	61.8	62.0	...
Securities holdings/assets	16.7	16.2	15.3	14.1	13.6	...
Commercial banks	11.3	10.7	9.7	8.6	8.6	...
Landesbanken	16.9	15.7	15.1	13.3	12.0	...
Savings banks	23.7	23.2	22.2	20.8	19.9	...
Credit cooperatives	26.0	25.4	24.2	23.3	22.3	...
Spread between highest and lowest interbank rates 1/	4.1	...	49.4	59.3	62.7	...
Spread between reference loan and deposit rates 2/	260.0	242.0	225.0	208.0	193.0	...

Table 7. Germany: Additional Financial Soundness Indicators, 2017–22 (concluded)
(Percent, unless otherwise indicated)

	2017	2018	2019	2020	2021	2022
Insurance sector						
Solvency ratio, Life	393.7	461.2	386.8	373.5	455.5	520.0
Solvency ratio, Non-life (without reinsurance and health insurance)	291.8	288.8	285.1	277.9	275.9	279.6
Return on average equity, Life 3/	3.6	5.4	4.8	1.7	1.9	...
Return on average equity, Non-life (without reinsurance and health insurance) 3/	4.6	4.1	3.9	3.7	4.3	...
Market liquidity						
Average bid-ask spread in the securities market (government bills)	0.005	0.005	0.002	0.004	0.000	0.002
Corporate sector						
Total debt to equity 4/	81.7	99.8	95.4	94.4	91.2	118.1
Earnings to interest and principal expenses 4/ 5/	1769.2	1944.7	1981.7	2099.3	2595.6	2714.9
Number of applications for protection from creditors 4/ 6/	11967	11434	11434	10566	8677	9243
Households						
Household debt to GDP 4/	52.9	52.7	53.5	57.0	56.7	55.1
Household debt service and principal payments to income 4/ 5/	1.2	1.1	0.9	0.8	0.8	0.8
Real estate markets						
Real estate prices, new dwellings 7/	109.7	118.9	127.3	134.5	143.5	151.9
Real estate prices, resale 7/	108.7	118.0	125.3	134.0	144.3	153.0
Real estate prices, new and resale 7/	108.9	118.2	125.6	134.1	144.1	152.8
Real estate prices, long time series 8/	133.7	142.5	150.8	162.4	181.3	190.9
Real estate prices, commercial property 9/	154.7	163.2	171.7	166.7	159.0	146.4
Residential real estate loans to total loans	18.6	19.4	20.4	19.9	19.9	19.8
Commercial real estate loans to total loans	5.6	5.9	6.3	6.2	4.6	4.6

Source: Deutsche Bundesbank. The authorities provide annual data only and disseminate them once a year.
1/ Spread between highest and lowest three month money market rates as reported by Frankfurt banks (basis points). The value for 2018 is missing due to the change of the methodology in Q4/2018 and the corresponding data basis.
2/ Spread in basis points.
3/ Profits after tax devided by equity.
4/ Indicator compiled according to definitions of the Compilation Guide on FSIs.
5/ Excluding principal payments.
6/ Resident enterprises that filed for bankruptcy.
7/ Residential property price index (yearly average, 2016 = 100); source: Bundesbank calculations based on price data provided by bulwiengesa AG for 127 towns and cities, weighted by transactions.
8/ Residential property price index (yearly average, 2010 = 100, long time series); source: Bundesbank calculations based on varying data providers (until 2005: bulwiengesa AG, from 2006 onwards: vdpResearch, from 2014 onwards: Federal Statistical Office); varying composition of regions and housing types.
9/ Commercial property price index (office and retail property, yearly average, 2010 = 100), source: capital growth data provided by bulwiengesa AG for 127 towns and cities; separate indices are calculated for office property and retail property.

Table 8. Germany: Depository Corporations Survey, 2018–22

	2018	2019	2020	2021	2022
	(In billions of euros, end of period)				
Net foreign assets	1731	1834	1908	1817	1887
Claims on Nonresidents	3067	3101	3346	3632	3762
Central Bank	1208	1159	1427	1590	1617
Other Depository Corporations	1859	1942	1919	2041	2146
Liabilities to Nonresidents (-)	1336	1266	1437	1815	1876
Central Bank (-)	348	228	308	500	401
Other Depository Corporations (-)	988	1039	1129	1315	1475
Net domestic assets	3156	3458	3750	3835	4938
Net Claims on Central Government	292	309	328	487	437
Claims on State and Local Government	477	469	512	513	478
Claims on NBFIs	862	1121	1269	1061	2031
Financial Derivatives	449	690	828	594	1521
Claims on Private Sector	2631	2758	2892	3045	3235
Corporates	955	1006	1058	1115	1220
Households	1676	1752	1834	1930	2015
Capital and Reserves (-)	734	794	817	828	732
Other Items, Net (-, including discrepancy)	372	405	434	445	509
Broad Money	3183	3353	3659	3874	4071
Currency in Circulation	260	282	312	337	374
Transferable Deposits	2100	2257	2579	2784	2813
Other Deposits	810	804	762	744	867
Securities	13	10	6	10	16
Other Liabilities	1704	1940	1999	1778	2753
Financial Derivatives	420	654	801	574	1503
	(Annual percentage change)				
Net foreign assets	5.2	6.0	4.0	-4.8	3.8
Net domestic assets	1.1	9.6	8.4	2.3	28.7
Claims on private sector	3.8	4.8	4.9	5.3	6.2
Corporates	4.2	5.3	5.2	5.4	9.3
Households	3.6	4.5	4.7	5.2	4.4
Broad Money	4.6	5.3	9.1	5.9	5.1
	(In millions of U.S. dollars, end of period)				
Net foreign assets	1971	2039	2323	2054	1998
Net domestic assets	3593	3843	4563	4335	5228
Claims on private sector	2995	3065	3520	3442	3425
Corporates	1087	1118	1288	1261	1292
Households	1908	1947	2232	2182	2134
Memorandum items					
Velocity (GDP/Broad Money)	1.1	1.0	0.9	0.9	0.9
Euro per U.S. dollar (end of period)	0.88	0.90	0.82	0.88	0.94

Sources: International Financial Statistics and IMF Staff.

Annex I. Germany's Gas and Electricity Price Brakes

To cushion the impact of high energy prices on end-users, the German government adopted a "price brake" for gas and electricity in December 2022. The associated fiscal cost, which is estimated to be around 1.4 percent of GDP (€57 bn), is funded by the €200 billion "protective shield" established in 2022. Under this scheme, households and firms have access to gas (including heating) and electricity at a subsidized price up to the pre-determined amount calculated based on previous year's consumption. The volume of gas or electricity consumption exceeding this threshold is priced at a "work price" (Arbeitspreis) agreed between a customer and a supplier.

- Households and small- and medium-size enterprises (SMEs) receive a refund if their gas or electricity consumption does not reach the threshold amount. This effectively means that households and SMEs receive a lump-sum cash transfer based on the previous year's consumption and the "work price" while facing the marginal price for all gas and electricity consumption, creating strong incentives to conserve energy. Subsidies are paid by the government to energy suppliers, which are obligated to credit the relief amount to consumers, either in their annual bill or via their instalments or advance payments.

- The scheme for large firms is also effectively a lump-sum cash transfer, with the marginal price for all gas and electricity consumption being the market price. Large firms also have a number of limitations on the relief they can receive; they must also meet several conditions, such as retaining workers, not paying dividends, etc. (details below).

Key Parameters of Gas and Electricity Price Brakes

Households and SMEs

	Gas/heat	**Electricity**
Period	January–December 2023, but extension through April 2024 is possible	
Price cap	• Natural gas: 12 cents/KWh • Heat: 9.5 cents/KWh	• 40 cents/KWh, including grid fees, taxes, charges, and levies
Eligible amount	• 80 percent of consumption forecasted in September 2022	• 80 percent of consumption forecasted in September 2022, up to 30,000 KWh
Other considerations	• **Incentive to conserve energy.** Households/SMEs receive a refund for a fixed consumption multiplied with the difference between the actual gas/electricity price and the reference price. Hence, the refund is independent of current consumption, and the marginal cost equals the actual price of the supplier. This implies that the full incentive to safe energy is preserved as if the brakes were absent. • **Tenants.** Their landlords must pass on any relief amounts they received via the utility bill.	

Key Parameters of Gas and Electricity Price Brakes Industry		
	Gas	**Electricity**
Period	January-December 2023, but extension through April 2024 is possible	
Price cap	• Natural gas: 7 cents/KWh	• 13 cents/KWh, before grid fees, taxes, charges, and levies
Eligible amount	• 70 percent of consumption in 2021	• 70 percent of consumption in 2021
Benefits	**Hard-hit companies** • €150 mn: Energy-intensive company (i.e., energy costs in 2021 of 3 percent of turnover; or energy costs in 2022H1 of 6 percent of turnover) and operating in one of the 4-digit trade-exposed industries (as listed in EU TCF) • €50 mn: Energy-intensive company • €100 mn: Other companies, subject to a limit of 40 percent of the eligible energy costs **Non-Hard-hit companies** • €4 mn: Provided that the aid does not exceed 50 percent of the eligible energy costs • €2 mn: Other companies (aid can cover up to 100 percent of eligible energy costs)	
Other conditions	• **Job retention obligation.** Firms receiving €2 mn or more are required to maintain a workforce of at least 90 percent of the full-time equivalent jobs as of January 1, 2023, through April 30, 2025. • **Ban on bonuses and dividend payouts.** Firms receiving €25 million or more are not allowed to provide (i) bonuses to the management of the company or to members of the company's supervisory bodies; and (ii) the payment of variable compensation components and increases in fixed salaries paid to corporate bodies until after end-2023. In addition, firms receiving €50 million or more are not allowed to pay out dividends. • **Aid for hospitals and inpatient care facilities.** Hospitals and inpatient care facilities benefit from the price brakes under the same conditions, but there are special aid funds to ensure uninterrupted supply.	

Annex II. External Sector Assessment

<table>
<tr><td colspan="8">Overall Assessment: The external position in 2022 was stronger than the level implied by medium-term fundamentals and desirable policies. This assessment accounts for temporary weakness in Germany’s CA due to the surge in energy import prices (through the cyclical adjustment) and, to a lesser extent, to higher prices for transport service imports. In 2023, the CA is expected to strengthen as declines in wholesale liquefied natural gas prices are passed through to import prices and as demand from Asia recovers.

Potential Policy Responses: Policies aimed at promoting investment and diminishing excess saving would support external rebalancing and a further reduction of the CA balance toward its norm. Over the medium term, higher fiscal deficits than currently planned are likely to be required to achieve Germany’s climate, digital, and energy security goals. Structural reforms to foster innovation, including development of the venture capital market and reducing the administrative steps needed to start a business, would also stimulate investment. Training to enhance employability of older workers with outdated skills could also extend working lives and reduce the need for excess saving.</td></tr>
<tr><td>Foreign Asset and Liability Position and Trajectory</td><td colspan="7">Background. The NIIP reached 71 percent of GDP in 2022, compared with 70 percent in 2021. The NIIP increased in 2022 less than the year’s CA balance, suggesting valuation losses over the year. These valuation losses likely reflect the falls in international bond and equity prices in a rising-interest-rate environment, which are partly offset by valuation gains from the depreciation of the euro. Germany’s TARGET2 claims on the Eurosystem were €1.3 trillion at the end of 2022, the same as at the end of 2021. Between 2017 and 2022, the NIIP increased by some 27 percent of GDP, lifting the primary income balance going forward.

Assessment. Germany’s exposure to the Eurosystem remains large, given the ECB’s quantitative easing through 2022.</td></tr>
<tr><td>2022 (% GDP)</td><td colspan="2">NIIP: 71</td><td colspan="2">Gross Assets: 310</td><td>Debt Assets: 162</td><td>Gross Liab.: 239</td><td>Debt Liab.: 156</td></tr>
<tr><td>Current Account</td><td colspan="7">Background. The CA surplus came in at 4.2 percent of GDP in 2022, compared with 7.7 percent in 2021 and 8.0 percent on average over 2017–19. The weakening of the CA in 2022 was driven mainly by a surge in energy import costs following Russia’s invasion of Ukraine and an almost-complete recovery in travel imports after the pandemic also contributed. The goods trade balance fell significantly on energy import costs, despite some alleviation of supply bottlenecks at the end of the year, which boosted motor vehicle exports. In addition to travel imports, the services balance was also slightly weakened by an increase in transport services imports, linked to higher transport prices. The fall in the CA surplus reflected a weaker CA balance for Germany in respect to Asia, given weak demand from China in particular. The savings-investment surpluses of households and firms shrank, more than offsetting an increase in the government’s savings-investment balance.

Assessment. The cyclically adjusted CA balance is estimated by the EBA model to be 5.3 percent of GDP in 2022. The adjusted CA balance is 0.4 percentage point higher, at 5.7 percent of GDP, which accounts for the temporary increase in transport services imports after the pandemic, while net travel services imports have recovered. The IMF staff assesses the CA norm to be between 2.3 and 3.3 percent of GDP, with a midpoint of 2.8 percent of GDP, in line with the EBA model. The difference between the cyclically adjusted CA and the CA norm implies that the CA gap in 2022 was in the range of 2.3 to 3.3 percent of GDP, with a midpoint of 2.8 percent of GDP.</td></tr>
<tr><td>2022 (% GDP)</td><td>CA: 4.2</td><td>Cycl. Adj. CA: 5.3</td><td>EBA Norm: 2.8</td><td>EBA Gap: 2.5</td><td>COVID-19 Adj.: 0.4</td><td>Other Adj.: 0.0</td><td>Staff Gap: 2.8</td></tr>
<tr><td>Real Exchange Rate</td><td colspan="7">Background. The REER based on consumer prices appreciated by 0.4 percent in 2022, driven by real appreciations against China and Japan. This relative stability masks substantial volatility during the year, with a depreciation of 3.9 percent in the 12 months to August, reflecting the largest 12-month terms-of-trade deterioration since German reunification, resulting from spiking energy import prices following Russia’s invasion of Ukraine; this depreciation was followed by appreciation later in the year as energy import prices eased. Between December 2022 and February 2023, the REER based on consumer prices appreciated a further 0.2 percent. As of April 2023, the CPI-based REER was 3.2 percent above the 2022 average.

Assessment. The IMF staff CA gap implies a REER gap of –7.8 percent in 2022 (with an estimated elasticity of 0.37 applied). The EBA REER level and index models suggest an undervaluation of 9.5 percent and an overvaluation of 6.7 percent, respectively. Consistent with the staff CA gap, the staff assesses the REER to be undervalued, with a midpoint of 7.8 percent and a range of uncertainty of ±1.4 percent.</td></tr>
<tr><td>Capital and Financial Accounts: Flows and Policy Measures</td><td colspan="7">Background. In 2022, Germany’s CA surplus largely financed direct investment abroad by German residents. Strong worldwide corporate profits seem to have played a role, given that reinvested earnings accounted for a large portion of this direct investment. The drop in net foreign investment between 2021 and 2022, due to the fall in the CA surplus, was most evident in a reduction of portfolio investment abroad by German residents.

Assessment. Risks are limited, given Germany’s safe haven status and the strength of its external position.</td></tr>
<tr><td>FX Intervention and Reserves Level</td><td colspan="7">Background. The euro has the status of a global reserve currency.

Assessment. Reserves held by euro area economies are typically low relative to standard metrics. The currency floats freely.</td></tr>
</table>

Annex III. Authorities' Response to Past IMF Policy Recommendations

IMF 2022 Article IV Recommendations	Authorities' Response
Fiscal Policy	
• Fiscal policy should remain flexible in 2023 if downside risks materialize such as higher commodity prices and weaker growth.	• Partly owing to a strong policy response, Germany avoided the severe downside risk from the shut-off of Russian gas. To cushion the impact of the surging energy prices, the authorities introduced a range of energy relief measures, including the gas and electricity price brakes, expanded child and housing benefits, discounted public transportation tickets, and the delay in the planned increase in domestic carbon pricing.
• Minimize extensive use of extra-budgetary funds.	• Germany created another extra-budgetary fund, "Protective Shield" (€200 bn), in 2022 to finance part of the energy relief measures, including the gas and electricity price brakes.
• Fiscal space should be used fully to enhance growth potential and resilience, by tapping into the remaining room within debt brake and also reviewing the overall fiscal framework to ensure that fiscal policy can continue to respond to structural needs.	• Public investment held up in 2022 and 2023, and the government is stepping up support for the green transition, innovation, digitization, as well as labor supply. With the envisaged rise in aging-related spending, there is almost no fiscal room with respect to the debt-brake rule left over the medium term. The government aims to accommodate additional spending needs within the debt-brake rule and has not indicated any plans to revisit it.
Financial Sector Policy	
• Further analyze of the financial stability implications of the war, sanctions, and rising energy prices.	• In the 2022 Financial Stability Report, the Bundesbank published analysis on the risk scenarios for the German financial system, including an intensified energy crisis scenario. In September 2022, BaFin published the LSI stress test results.
Structural Reforms	
• Secure energy supplies and build resilience.	• The government has leased five floating LNG terminals (FSRU), two of which started operating at the turn of the year 2022/23. Three stationary LNG terminals are planned, two of which are to be ready from 2026. The LNG Planning Acceleration Act of May 2022 introduced relaxed procedural rules to expedite the approval of FSRU and LNG terminals. • Several acts were passed/revised to secure energy storage, accelerate renewable energy development, and expand the grid, including the Energy Industry Act, Gas Storage Act, Onshore Wind Energy Act, Offshore Wind Energy Act, and Renewable Energy Sources Act. • Federal funding for efficient heating networks (BEW) took effect in September 2022 to finance the conversion of district heating to renewable energy sources. • The government reformed federal funding for the efficient buildings (BEG) scheme, to (i) give a greater focus on retrofitting and (ii) introduce a bonus for serial retrofitting.

IMF 2022 Article IV Recommendations	Authorities' Response
Structural Reforms	
• Continue the effort to boost labor participation, especially removing the obstacles and disincentives to work.	• In March 2023, the Cabinet passed (i) the Draft of the Act on the Development of Skilled Labour Migration; and (ii) the Draft of the Skills Act, which contains measures including the vocational training guarantee for young people and improvements of the system supporting continuing education for both employees and companies. • Germany has introduced Bürgergeld, which, in addition to increasing the level of benefits within the minimum income scheme, aims to improve employment prospects of the long-term unemployed by offering more training and support. • Since January 2023, it is allowed to combine an early pension with additional earnings without any loss of pension entitlements. • All asylum seekers are granted immediate access to integration measures.
• Improve public investment management system to boost public investment in energy security, digitalization, and green transition.	• To accelerate planning, approval, and other administrative procedures, several legislative packages were passed in 2022 including the EEG amendment, the amendments to the Offshore Wind Energy Act, the Energy Security of Supply Act 3.0, and the amendment to the Federal Nature Conservation Act. Major revisions include: (i) a newly introduced principle that renewable energy is of major public interest and serves public security (thus renewable energy has priority over other interests); (ii) measures to increase availability for wind energy space and to simplify planning procedures; and (iii) regulations for simplified enforcement of species protection/onshore wind energy. • Further measures to speed up planning and approval procedures are being implemented with the current amendments to the Regional Planning Code (ROG) and Building Code (BauGB) and the Federal Immission Control Act (BImSchG). • Measures are planned to address the increasing shortage of skilled staff in public administration, including (i) strengthening of the role of external project managers to reduce the workload of administrative and court staff; and (ii) an Amendment of the Administrative Court Code to accelerate court proceedings with the option of prioritizing procedures (e.g., EE-related proceedings). • To further simplify, professionalize, digitize, and accelerate public procurement procedures, a comprehensive procurement transformation package is planned in 2023–24. In addition, the government plans to implement new digital standard forms (eForms).
• Enhance cost-effectiveness of the climate change mitigation strategy.	• Germany plans to resume the stepwise increase in domestic carbon pricing for transport and building in 2024 and converge to the EU ETS2 in 2027. The government has discussed a possible introduction of a feebate for transport, but there is no plan to implement it. • Under Germany's leadership, the Climate Club was established, while the implementation of EU CBAM in 2023 is expected to reduce carbon leakages.

Annex IV. Sovereign Risk and Debt Sustainability Analysis

Germany's risk of debt distress is assessed as low, and debt is viewed as sustainable. Following a 10 percent of GDP increase over 2020-21 due to the COVID-19 pandemic and exceptional fiscal policy measures, public debt declined to 66.2 percent of GDP in 2022 as most COVID-relief measures phased-out while the economy continued to recover from the pandemic. Public debt is expected to broadly stabilize in 2023. The debt ratio is projected to fall from 2024, returning to below 60 percent of GDP by 2028.

A. Background

1. Public debt declined by 3 percent of GDP in 2022 as most COVID-related measures phased-out while continued economic recovery and high inflation improved debt dynamics. Germany's fiscal balance improved in 2022 to -2.7 percent of GDP, from -3.7 percent of GDP in 2021. In 2022, the federal government created two new extra-budgetary funds that can be used in the coming years and are not bound by the national debt brake rule: (i) the Special Defense Fund (€100 bn, 2.6 percent of 2022 GDP) to achieve the government's commitment to increasing defense spending to meet NATO's benchmarks; and (ii) the "Protective Shield" (€200 bn, 5.2 percent of 2022 GDP) to fund part of energy relief measures, including the electricity and gas price brakes. These funds were not fully pre-funded in 2022, and actual debt-financing of these funds will largely take place from 2023 over several years.

2. Germany's public debt is held largely by stable investors. About two-thirds of debt is held by the Bundesbank or external official creditors, and only 2 percent by external private creditors. The average maturity of federal government debt is around seven years.

B. Baseline Scenario

3. Macroeconomic assumptions. Despite the adverse impact of surging energy prices and high inflation, the German economy continued to recover from the pandemic in 2022. However, economic activities softened starting in late-2022 in response to the energy shock and tightening monetary policy and financial conditions. Real GDP is projected to be slightly negative in 2023, before regaining positive momentum in 2024 and peaking in 2025 as the lagged effects of monetary tightening gradually dissipate and the economy adjusts to the energy shock. The output gap is expected to close in 2026. Over the medium term, growth will converge to its potential of just below 1 percent per year. Owing to declining energy prices and continuing normalization of supply disruptions, average headline inflation is projected to drop to 5.8 percent on average in 2023, from 8.7 percent in 2022, and then converge to a long-run steady state of around 2 percent by 2025.

4. Fiscal deficit. The overall balance is expected to worsen in 2023 to -3 percent of GDP, from -2.7 percent of GDP in 2022, on the back of weak growth and rising interest rates. The fiscal cost related to energy-relief measures remains broadly unchanged at around 2 percent of GDP. The fiscal balance is projected to start improving in 2024 as the energy-relief measures start phasing out and to reach around -0.5 percent of GDP over the medium term.

5. Interest rates and gross financing needs (GFN). Long-term interest rates on German bonds are projected to rise from 1.2 percent in 2022 to 2.9 percent in 2025 and then decline to around 2½ percent by 2028. Meanwhile, the effective interest rates are projected to steadily rise from 1 percent in 2022 to 1.9 percent by 2028. GFN is expected to decline from nearly 19 percent of GDP in 2022 to below 13 percent of GDP in 2028.

6. The realism of baseline assumptions. Previous forecasts of macro-fiscal variables have been conservative. Forecast errors of debt-related variables for Germany, including the public debt-to-GDP ratio, primary balance, r-g, and stock flow adjustments (SFA) are in the range of 25th to 50th percentile for three-year and five-year horizons. Over a one-year horizon, previous forecasts errors for public debt-to-GDP ratio and SFA are in the range of the 50th to 75th percentiles while those for the primary balance and r-g are in the range of the 25th to 50th percentiles.

7. Factors contributing to the evolution of public debt-to-GDP ratios. Realism analysis compares the contributions of debt-creating flows between the past five years and the next five years. The debt evolution over the past five years was dominated by the adverse growth impact of the pandemic and associated fiscal support measures. Going forward, debt creation from the primary deficit is expected to decrease somewhat as the sizable energy-relief measures are expected to phase-out over the medium term, while the projected strengthening of GDP growth is expected to improve debt dynamics.

C. Risk Assessment and Mitigating Factors

8. Germany is at a low overall risk of sovereign stress, and debt is sustainable. Following a temporary stabilization in 2023, public debt is expected to start declining in 2024, reaching below 60 percent of GDP by 2028. Large negative growth shocks and a faster-than-expected monetary policy tightening could push up the debt ratio and also increase GFN. Risk-mitigating factors include: a relatively long average debt maturity of around seven years, which slows the pass-through from higher yields to effective interest rates; a large, stable investor base and home bias, which mitigate liquidity risks; and virtually no debt denominated in foreign currency, which insulates Germany from FX risks.

Figure IV.1. Germany: Risk of Sovereign Stress

Horizon	Mechanical signal	Final assessment	Comments
Overall	...	Low	Staff assess the overall risk of sovereign stress as low, reflecting a relatively low level of vulnerability in the near- and medium-term horizons, and a moderate vulnerability in the long-term horizon.
Near term 1/			
Medium term	Low	Low	Staff assess medium-term risks as low, consistent with the mechanical signals. Germany's strong institutions, stable investor base, relatively long average debt maturity, and predominantly euro-denominated debt.
Fanchart	Low	...	
GFN	Low	...	
Stress test	...	...	
Long term	...	Moderate	Long-term risks are assessed moderate as aging-related expenditures on health and social security feed into debt dynamics.
Sustainability assessment 2/	Not required for surveillance countries	Sustainable with high probability	The projected debt path is expected to stabilize and GFNs will remain at manageable levels, conditional on the implementation of fiscal adjustment measures that are assessed as feasible in spite of not yet being legislated. Therefore debt is assessed as sustainable with high probability.
Debt stabilization in the baseline			Yes

DSA Summary Assessment

Commentary: Germany is at a low overall risk of sovereign stress and debt is sustainable. Following about a 10 percent of GDP increase over 2020-21 during the COVID-19 pandemic, public debt declined by around 3 percent of GDP in 2022, from 2021, thanks to the favorable debt dynamics and a decrease in fiscal deficits. Debt is expected to broadly stabilize in 2023 despite energy-relief measures of around 2 percent of GDP and stepped-up spending on defense as well as green and digital investment. Given the temporary nature of the energy-relief measures, public debt is expected to start declining in 2024, reaching below 60 percent of GDP by 2028 and further to around 53 percent of GDP by 2033. Medium-term liquidity risks as analyzed by the GFN Financeability Module are low. Over the longer run, Germany should undertake reforms to tackle fiscal risks arising from population aging.

Source: Fund staff.

Note: The risk of sovereign stress is a broader concept than debt sustainability. Unsustainable debt can only be resolved through exceptional measures (such as debt restructuring). In contrast, a sovereign can face stress without its debt necessarily being unsustainable, and there can be various measures—that do not involve a debt restructuring—to remedy such a situation, such as fiscal adjustment and new financing.

1/ The near-term assessment is not applicable in cases where there is a disbursing IMF arrangement. In surveillance-only cases or in cases with precautionary IMF arrangements, the near-term assessment is performed but not published.

2/ A debt sustainability assessment is optional for surveillance-only cases and mandatory in cases where there is a Fund arrangement. The mechanical signal of the debt sustainability assessment is deleted before publication. In surveillance-only cases or cases with IMF arrangements with normal access, the qualifier indicating probability of sustainable debt ("with high probability" or "but not with high probability") is deleted before publication.

Figure IV.2. Germany: Debt Coverage and Disclosures

						Comments
1. Debt coverage in the DSA: 1/	CG	GG	NFPS	CPS	Other	
1a. If central government, are non-central government entities insignificant?					n.a.	

2. Subsectors included in the chosen coverage in (1) above:

					Subsectors captured in the baseline	Inclusion
CPS	NFPS	GG: expected	CG	1	Budgetary central government	Yes
				2	Extra budgetary funds (EBFs)	Yes
				3	Social security funds (SSFs)	Yes
				4	State governments	Yes
				5	Local governments	Yes
				6	Public nonfinancial corporations	No
				7	Central bank	No
				8	Other public financial corporations	No

3. Instrument coverage:	Currency & deposits	Loans	Debt securities	Oth acct. payable 2/	IPSGSs 3/

4. Accounting principles:	Basis of recording		Valuation of debt stock		
	Non-cash basis 4/	Cash basis	Nominal value 5/	Face value 6/	Market value 7/

5. Debt consolidation across sectors:	Consolidated	Non-consolidated

Color code: chosen coverage; Missing from recommended coverage; Not applicable

Reporting on Intra-government Debt Holdings

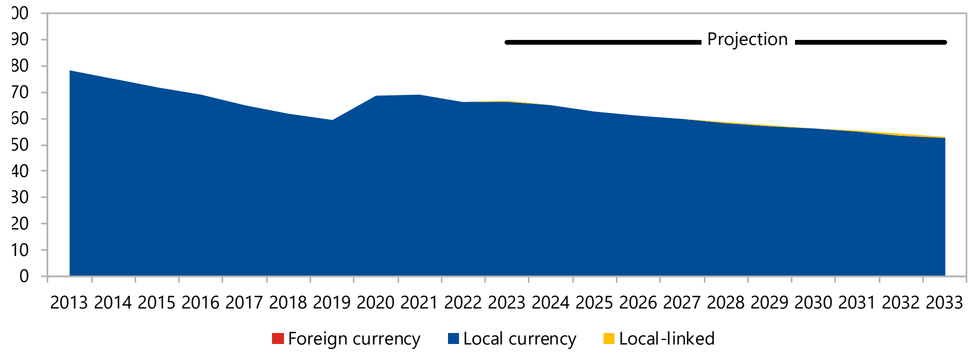
					Issuer \ Holder	Budget. central govt	Extra-budget. funds	Social security funds	State govt.	Local govt.	Nonfin. pub. corp.	Central bank	Oth. pub. fin corp	Total
CPS	NFPS	GG: expected	CG	1	Budget. central govt									0
				2	Extra-budget. funds									0
				3	Social security funds									0
				4	State govt.									0
				5	Local govt.									0
				6	Nonfin pub. corp.									0
				7	Central bank									0
				8	Oth. pub. fin. corp									0
					Total	0	0	0	0	0	0	0	0	0

1/ CG=Central government; GG=General government; NFPS=Nonfinancial public sector; PS=Public sector.
2/ Stock of arrears could be used as a proxy in the absence of accrual data on other accounts payable.
3/ Insurance, Pension, and Standardized Guarantee Schemes, typically including government employee pension liabilities.
4/ Includes accrual recording, commitment basis, due for payment, etc.
5/ Nominal value at any moment in time is the amount the debtor owes to the creditor. It reflects the value of the instrument at creation and subsequent economic flows (such as transactions, exchange rate, and other valuation changes other than market price changes, and other volume changes).
6/ The face value of a debt instrument is the undiscounted amount of principal to be paid at (or before) maturity.
7/ Market value of debt instruments is the value as if they were acquired in market transactions on the balance sheet reporting date (reference date). Only traded debt securities have observed market values.

Commentary: The debt coverage remains unchanged from the last Article IV -- i.e., it covers general government debt, with most debt issued by the federal (central) government. The outstanding of the federal government guarantees issued as of end-2022 amounted to 16¼ percent of GDP.

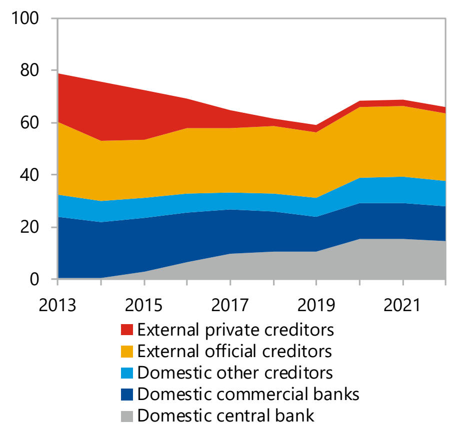
Figure IV.3. Germany: Public Debt Structure Indicators

Debt by Currency (Percent of GDP)



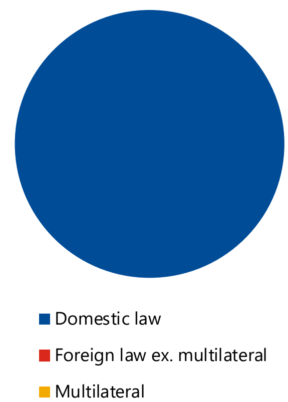
Note: The perimeter shown is general government.

Public Debt by Holder (Percent of GDP)



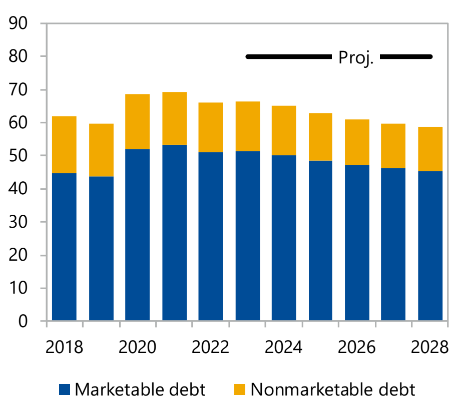
Note: The perimeter shown is general government.

Public Debt by Governing Law, 2022 (Percent)



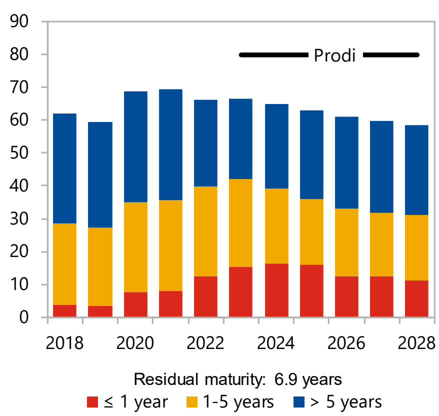
Note: The perimeter shown is general government.

Debt by Instruments (Percent of GDP)



Note: The perimeter shown is general government.

Public Debt by Maturity (Percent of GDP)



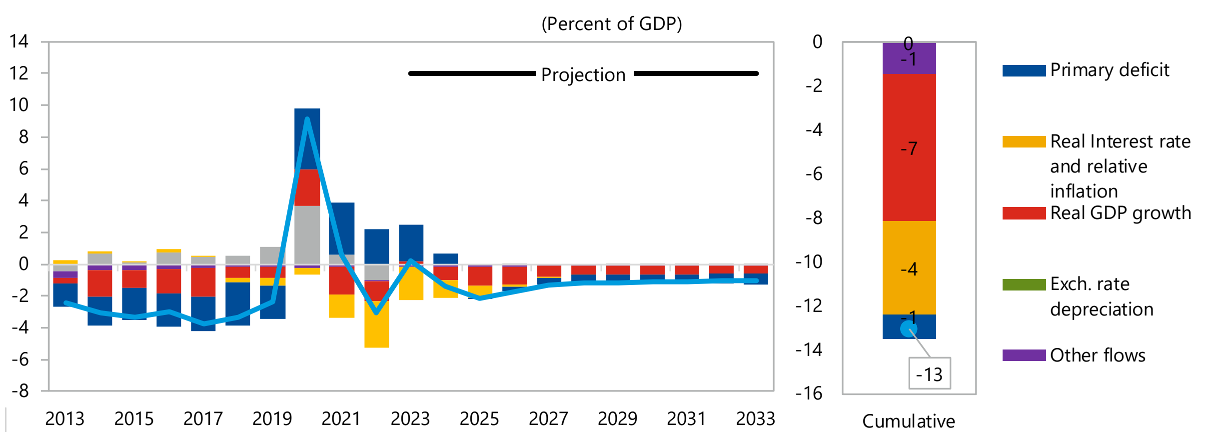
Note: The perimeter shown is general government.

Commentary: Public debt is entirely in domestic currency and predominantly marketable. The share held by the central bank has risen from zero in 2014 to 15 percent in 2022 while the share of external private creditors declined from 23 percent in 2014 to 2 perecent in 2022.

Figure IV.4. Germany: Baseline Scenario
(Percent of GDP unless indicated otherwise)

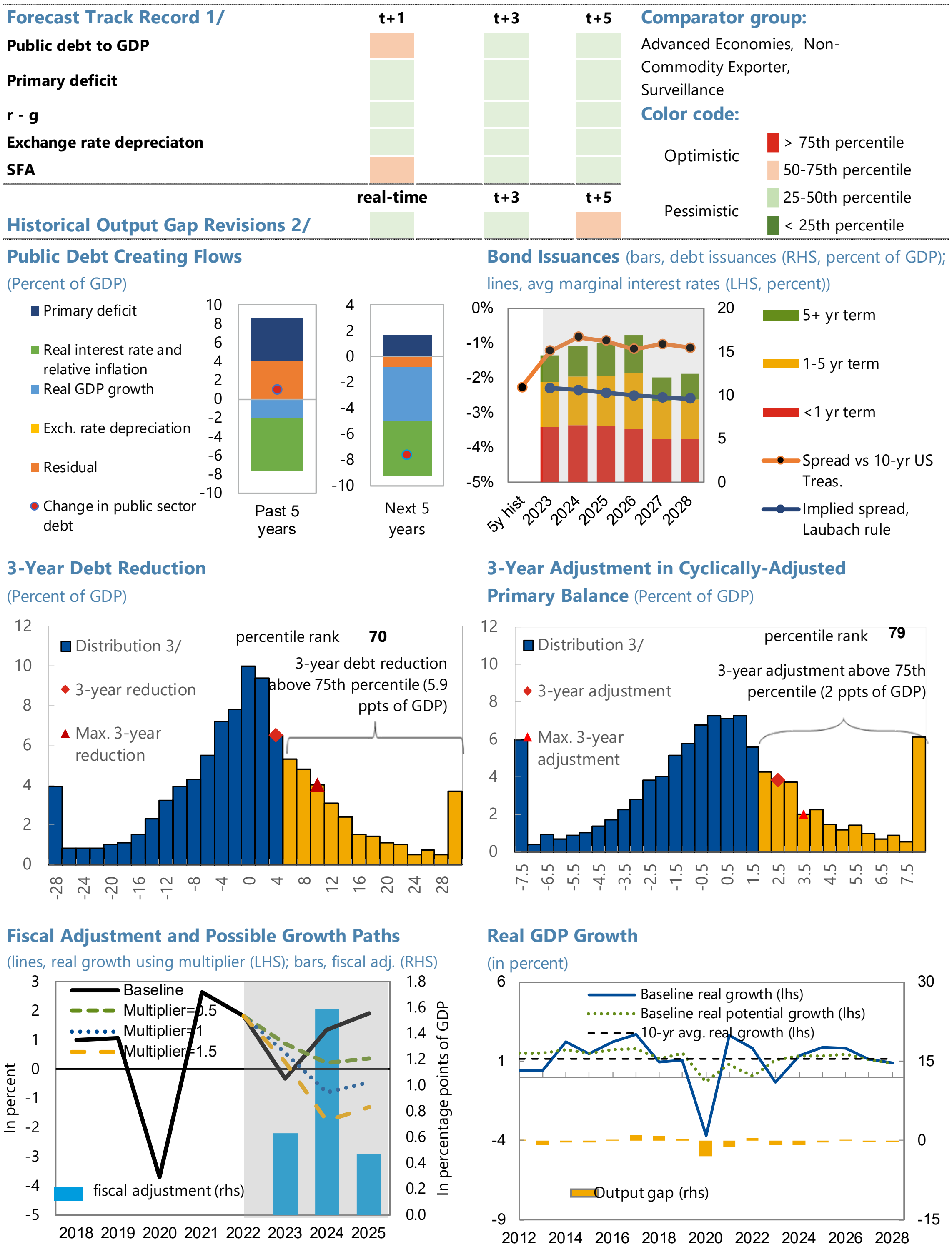
	Actual	Medium-term projection						Extended projection				
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Public debt	66.2	66.4	65.0	62.8	61.1	59.8	58.6	57.5	56.4	55.3	54.2	53.2
Change in public debt	-3.0	0.2	-1.4	-2.2	-1.7	-1.3	-1.2	-1.2	-1.1	-1.1	-1.1	-1.0
Contribution of identified flows	-2.1	0.2	-1.4	-2.2	-1.7	-1.3	-1.2	-1.2	-1.1	-1.1	-1.1	-1.0
Primary deficit	2.2	2.3	0.7	-0.1	-0.3	-0.5	-0.5	-0.5	-0.5	-0.5	-0.6	-0.7
Noninterest revenues	46.9	46.4	46.4	46.5	46.7	46.7	46.7	46.7	46.7	46.7	46.7	46.7
Noninterest expenditures	49.1	48.7	47.1	46.4	46.4	46.3	46.2	46.2	46.2	46.2	46.1	46.1
Automatic debt dynamics	-4.1	-1.9	-2.0	-2.0	-1.3	-0.7	-0.6	-0.5	-0.5	-0.4	-0.4	-0.2
Real interest rate and relative inflatio	-2.9	-2.2	-1.1	-0.8	-0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.2
Real interest rate	-2.9	-2.2	-1.1	-0.8	-0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.2
Relative inflation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Real growth rate	-1.2	0.2	-0.9	-1.2	-1.1	-0.7	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
Real exchange rate	0.0	...	...	...	...	...	...	...	...	...	...	...
Other identified flows	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Contingent liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other transactions	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Contribution of residual	-1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gross financing needs	18.9	15.4	16.2	16.3	16.3	12.4	12.7	11.3	11.6	11.0	9.7	12.0
of which: debt service	16.8	13.3	15.7	16.5	16.7	13.0	13.3	11.9	12.2	11.7	10.4	12.8
Local currency	0.7	12.9	15.6	16.4	16.3	13.0	13.3	11.9	11.7	11.6	10.4	12.4
Foreign currency	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Memo:												
Real GDP growth (percent)	1.8	-0.3	1.3	1.9	1.8	1.1	0.9	0.9	0.9	0.9	0.9	0.9
Inflation (GDP deflator; percent)	5.5	4.8	3.2	2.9	2.1	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Nominal GDP growth (percent)	7.4	4.5	4.6	4.9	3.9	3.0	2.8	2.8	2.8	2.8	2.8	2.8
Effective interest rate (percent)	1.0	1.4	1.5	1.7	1.8	1.8	1.9	1.9	2.0	2.1	2.2	2.4

Contribution to Change in Public Debt



Staff commentary: Public debt is expected to broadly stabilize in 2023, then start declining in 2024 as energy-relief measures will start phasing out while GDP growth starts to strengthen.

Figure IV.5. Germany: Realism of Baseline Assumptions



Commentary: Past forecast errors do not reveal any systematic biases and the projected fiscal adjustment and debt reduction are well within norms.

Figure IV.7. Germany: Medium-Term Risk Analysis

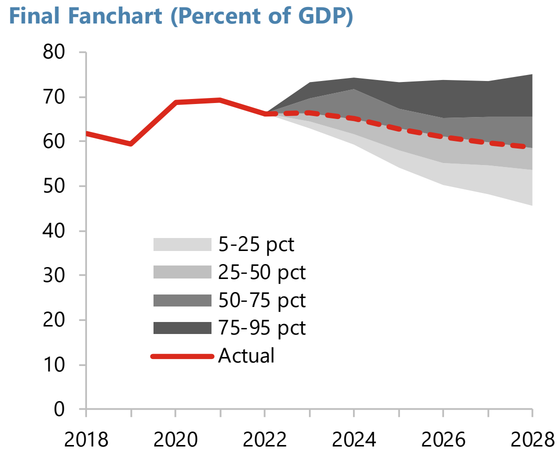
Debt Fanchart and GFN Financeability Indexes

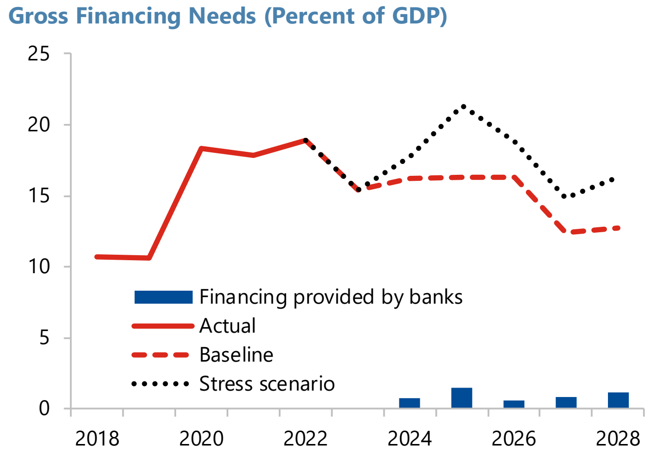
(Percent of GDP unless otherwise indicated)

Module	Indicator	Value	Risk index	Risk signal
Debt fanchart module	Fanchart width	29.6	0.4	...
	Probability of debt not stabilizing (pct)	15.0	0.1	...
	Terminal debt level x institutions index	11.9	0.3	...
	Debt fanchart index	**...**	**0.8**	**Low**
GFN finance-ability module	Average GFN in baseline	14.9	5.1	...
	Bank claims on government (pct bank assets)	3.8	1.2	...
	Chg. in claims on govt. in stress (pct bank assets)	0.3	0.1	...
	GFN financeability index	**...**	**6.4**	**Low**

Adv. Econ., Non-Com. Exp, Program: 0 25 50 75 100

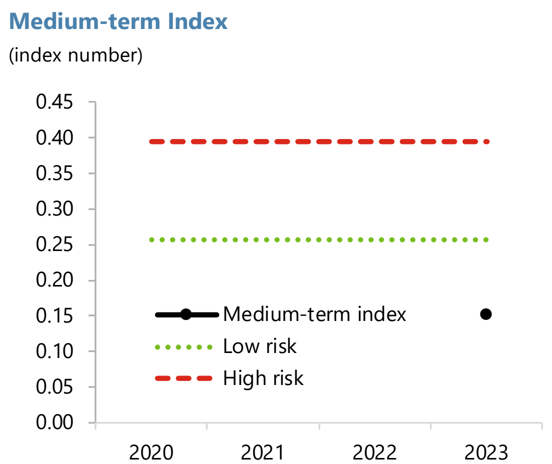
Legend: Interquartile range; Germany





Triggered stress tests (stress tests not activated in gray)

Banking crisis Commodity prices Exchange rate Contingent liab. Natural disaster



Medium-term Risk Analysis

	Low risk threshold	High risk threhsold	Weight in MTI	Normalized level
Debt fanchart index	1.1	2.1	0.5	0.2
GFN finaceability index	7.6	17.9	0.5	0.1
Medium-term index (MTI)	0.3	0.4	...	0.2, Low

Prob. of missed crisis, 2023-2028 (if stress not predicted): 0.0 pct.

Prob. of false alarm, 2023-2028 (if stress predicted): 70.5 pct.

Commentary: The debt fanchart shows a relatively low probability (blow 25 percent) that Germany's public debt will not stabilize over the medium term.And all medium-term tools point to low level of risks,

Annex V. Core Inflation Dynamics[1]

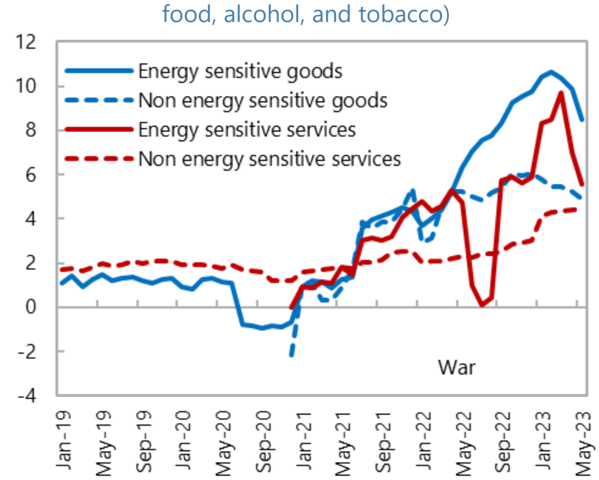
The annex examines core inflation dynamics by analyzing how inflation has differed across energy-sensitive and non-energy sensitive core items and by estimating how attempts to recoup real wage losses would affect inflation, depending on differing assumptions about the evolution of profit margins.

1. **The unusual nature of the recent inflation surge complicates efforts to project its evolution**. The recent surge is the first significant, sustained spike in core inflation in Germany since euro adoption, reflecting exceptionally large shocks from the pandemic and the energy crisis, among other factors. The specific features of this shock and the lack of recent similar episodes in Germany make it difficult to calibrate the future evolution of core inflation with high confidence. However, to gain further insight into the possible path of core inflation, we examine two key factors driving it: (i) the effect of higher energy prices on energy-sensitive items in core inflation; and (ii) the relationship between wages, profits, and inflation.

Core Inflation Dynamics by Energy-Sensitivity

2. **Higher energy prices have been an important driver of higher core inflation.** This effect can be seen by dividing core inflation into energy-sensitive items and non-energy sensitive items, based on ECB staff's classification. This division shows that inflation for energy-sensitive items has substantially outstripped inflation of non-energy sensitive items (Figure AV.1), reflecting the passthrough of higher energy input costs into core inflation.

Figure V.1. Germany: Core Inflation by Energy Sensitivity (Percent, yoy, excluding energy, food, alcohol, and tobacco)



Sources: Eurostat, ECB staff, IMF staff calculations.

Note: Classification of (non) energy sensitive goods and services is according to an experimental analysis for the euro area based on input-output tables. Energy-sensitive goods and services reflect those goods and services with an above-average share of energy costs in the euro area. For details see: Lane, Philip,Inflation Diagnostics, The ECB Blog Frankfurt am Main, 25 November 2022.

3. **This effect suggests that core inflation is likely to decline further in the near term.** Lower energy prices have not fully passed through to core prices, given lags. Hence, this process should continue to put downward pressure on core inflation in the near term.

4. **However, the rise in inflation for non-energy sensitive items suggests that reducing inflation may become more difficult as it nears the target.** Inflation for non-energy sensitive items has not risen as rapidly as for energy-sensitive items. Nonetheless, inflation for non-energy sensitive items has still doubled over the last 18 months. Inflation for non-energy sensitive

[1] Prepared by Jing Zhou (EUR).

services now exceeds 4 percent, with no strong signs yet of deceleration.[2] Staff project that this item will start to decline as slowing economic activity weighs on aggregate demand. However, this process may be more difficult and prolonged than the near-term decline in core inflation arising from lagged passthrough of lower energy inflation to energy-sensitive core items.

Wages, Profits, and Inflation

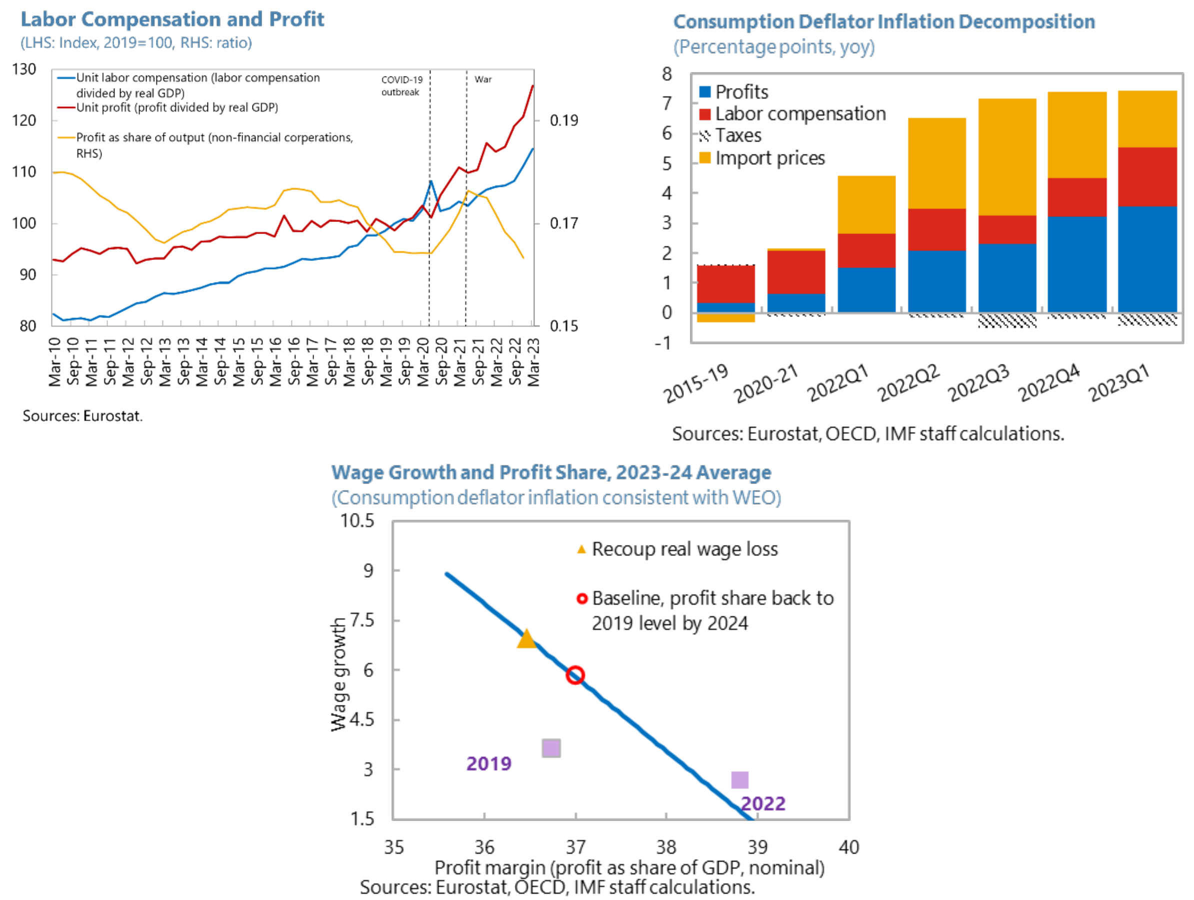
5. **Profits have been more resilient than wages during the energy crisis.** Since 2020Q3, unit profit—nominal profit of one unit of real GDP—has exceeded the historical trend and increased by more than 20 percent as of 2023Q1. In contrast, unit labor compensation saw a temporary spike during the lockdown in the spring of 2020 but then subsided to trend until late 2022 (Figure AV.2, left). In the two decades before the pandemic, labor cost was the dominant driver in total consumption deflator inflation, accounting for more than half of the increase, reflecting labor's larger share of total production costs. However, the pandemic brought notable changes in 2020/21—the VAT rate cuts in 2020 and the subsequent reversal generated large swings in consumption deflator inflation (Figure AV.2, right). From 2022Q1 to 2023Q1, import prices—which are closely linked to the terms of trade—contributed about two fifths to the total consumption deflator inflation, which is comparable to the contribution from energy to HICP inflation. Domestic profits also played a large role—contributing a similar two fifths to total consumption deflator inflation. Compared with historical averages, the import prices and profit parts replaced labor cost as the driving forces in inflation over the past two years. As the role of labor compensation has been muted, this could indicate potential pressures for wage catch-up down the road. In fact, with the reversal of energy prices, the contribution from import prices has been decreasing since its peak in mid-2022, and the contribution from labor compensation has already gradually picked up over recent quarters.

6. **Fully recouping real wage losses without adding to inflation is likely to be difficult unless profit margins fall significantly.** The adverse terms-of-trade shock from higher energy import prices implies that national income must fall, shouldered by lower real profits and/or wages. Staff's baseline scenario assumes that both wages and profits bear part of the terms-of-trade shock, with wage growth of around 5¾ percent on average for 2023-24 and with profit margins (nominal profit as share of nominal GDP) unwinding back to their 2019 levels by 2024 (Figure AV.2, bottom). If instead nominal wages rise by 7 percent to fully recoup real wage losses during 2019–24 (holding projected inflation constant in line with staff's baseline), either profit margins would have to fall by another 1 percentage points relative to their 2019 levels in 2024 or inflation would rise higher than staff's projection, implying that real wages would not be fully recouped and pointing to potential upside risks to inflation in the event of higher-than-expected wage pressures and/or an inability to

[2] The large price drop in energy-sensitive services during 2022Q3 was due to the introduction of the 9-euro ticket—a monthly flat fee of 9 euro for all local and regional public transportation, excluding long-distance and first-class transportation. The recent drop in energy-sensitive services was associated with a slump in package holidays prices. Excluding these one-off factors, the median of energy-sensitive services inflation remained increasing, as has inflation for non-energy-sensitive services.

unwind the recent increase in profit margins. For reference, profit margins decreased by 1.5 percentage points between 2017 and 2019 and by 1 percentage point from 2019 to 2020.

Figure V.2. Germany: Consumption Deflator Decomposition and Potential Forthcoming Wage Pressure



Note: The consumption deflator decomposition takes four steps: (i) as sectoral GVA can be written as the sum of labor compensation and gross operating surplus, it follows that the sectoral GVA deflator can be decomposed into contributions from unit labor costs and unit profits; (ii) using the share of value added embedded in total consumption for each domestic sector from the 2018 vintage of OECD TiVA dataset as weights, the total contributions from domestic labor compensation and profit are the weighted sum of the sectoral unit labor costs and unit profits contributions; (iii) the contribution from net taxes is based on the difference between HICP inflation and HICP inflation under constant tax rates; and (iv) the residual is attributed to import prices (from foreign value-added), which is closely related to the terms-of-trade. See Hansen, Toscani, and Zhou (2023) for details.

Conclusion

7. **In sum, the analysis suggests that core inflation will continue to decline, but with high uncertainty and risks**. Key risks include that inflation declines may become more difficult (i) after passthrough of lower energy prices has played out and as inflation gets closer to target; and (ii) as increasing nominal wage pressures put pressure on core inflation.

Annex VI. Risk Assessment Matrix[1]

Source of Risks	Relative Likelihood	Impact	Policy Response
Global Conjunctural and Structural Risks			
Intensification of regional conflict(s). Escalation of Russia's war in Ukraine or other regional conflicts and resulting economic sanctions disrupt trade (e.g., energy, food, tourism, and/or critical supply chain components), remittances, refugee flows, FDI and financial flows, and payment systems.	High	High Given its high integration in global value chains, Germany is vulnerable to disruptions in trade associated with the war in Ukraine or other regional conflicts. Higher energy/commodity prices could add to inflation pressures. Heightened uncertainty could also weigh on consumer and business confidence.	• Allow automatic stabilizers to operate fully. • Provide targeted support to vulnerable households. • Support firms to preserve the jobs that will be viable once the disruptions ease. • Closely monitor the refugee influx from Ukraine and use fiscal space if necessary to accommodate refugees and enhance integration programs.
Abrupt global slowdown or recession. Global and idiosyncratic risk factors combine to cause a synchronized sharp growth downturn, with recessions in some countries, adverse spillovers through trade and financial channels, and markets fragmentation.	Medium	High Weakened external demand would take a toll on Germany's economy. Subdued sentiment would deter consumption and investment.	• Allow automatic stabilizers to operate fully and supplement with discretionary stimulus in the event of a significant downturn. • Carefully monitor potential implications on financial markets and calibrate measures to ensure financial stability as needed.
• **U.S.:** Amid tight labor markets, supply disruptions and/or commodity price shocks, inflation remains elevated, prompting the Fed to keep rates higher for longer and resulting in dollar strengthening, a more abrupt financial and housing market correction, and "hard landing".	Medium		
• **Europe:** Intensifying fallout from the war in Ukraine, worsening energy crisis and supply disruptions, and monetary tightening exacerbate economic downturns and housing market corrections.	High		
• **China:** Greater-than-expected economic disruptions from COVID resurgence, rising geopolitical tensions, and/or a sharper-than-expected slowdown in the property sector disrupt economic activity.	Medium		

[1] The Risk Assessment Matrix (RAM) shows events that could materially alter the baseline path. The relative likelihood is the staff's subjective assessment of the risks surrounding the baseline ("low" is meant to indicate a probability below 10 percent, "medium" a probability between 10 and 30 percent, and "high" a probability between 30 and 50 percent). The RAM reflects staff views on the source of risks and overall level of concern as of the time of discussions with the authorities. Non-mutually exclusive risks may interact and materialize jointly. The conjunctural shocks and scenario highlight risks that may materialize over a shorter horizon (between 12 to 18 months) given the current baseline. Structural risks are those that are likely to remain salient over a longer horizon.

Source of Risks	Relative Likelihood	Impact	Policy Response
Global Conjunctural and Structural Risks			
Commodity price volatility. A succession of supply disruptions (e.g., due to conflicts and export restrictions) and demand fluctuations (e.g., reflecting China reopening) causes recurrent commodity price volatility, external and fiscal pressures, and social and economic instability.	**Medium**	**High** Given its high dependence on energy imports, Germany is vulnerable to energy price shocks. Rising energy prices could lead to consumer price inflation and erode corporate profits and household real income.	• Intensify search for secure alternative energy resources and the associated storage and processing facilities. • Maintain price signals to promote energy savings. • Provide targeted support to vulnerable households and firms impacted by high energy prices. • Carefully monitor potential implications on financial markets and calibrate measures to ensure financial stability as needed.
Monetary policy miscalibration. Amid high economic uncertainty and volatility, major central banks slow monetary policy tightening or pivot to loosen monetary policy stance prematurely, de-anchoring inflation expectations and triggering a wage-price spiral in tight labor markets.	**Medium**	**Medium** Inflation pressures have been high in Germany on the back of high energy prices, but medium-term inflation expectations remain anchored. De-anchoring of inflation expectations could lead to sharper-than-expected monetary tightening and a costly price-wage spiral.	• Monetary policy responses need to be recalibrated at the euro area level. • Ensure that fiscal policy works in concordance with monetary policy.
Systemic financial instability. Sharp swings in real interest rates, risk premia, and assets repricing amid economic slowdowns and policy shifts trigger insolvencies in countries with weak banks or non-bank financial institutions, causing markets dislocations and adverse cross-border spillovers.	**Medium**	**Medium** Rising rates in the U.S. and Euro Area could lead to tighter financial conditions for firms. Sharp correction of the residential real estate price overvaluation could impair banks' balance sheets, lead to financial market disruptions, and weigh on firms' financial condition and economic activity.	• Intensify monitoring of banks' liquidity and capital positions and risk management practices to contain systemic risk. • At the euro-area level, provide ample liquidity to solvent banks to prevent liquidity issues from morphing into solvency issues. • Encourage a conservative approach to bank capital distributions. • Swiftly intervene in weak institutions and undertake contingency planning for such events. • In the event of a sharp downturn, relax macroprudential settings so that banks can keep credit flowing.

Source of Risks	Relative Likelihood	Impact	Policy Response
Global Conjunctural and Structural Risks			
Deepening geo-economic fragmentation. Broader and deeper conflict(s) and weakened international cooperation lead to a more rapid reconfiguration of trade and FDI, supply disruptions, technological and payments systems fragmentation, rising input costs, financial instability, a fracturing of international monetary and financial systems, and lower potential growth.	**High**	**High** With its high degree of trade openness, Germany is susceptible to fluctuations in global trade. Higher trade barriers and/or supply disruptions could lead to shortages of crucial inputs.	• Continue support for the multilateral rules-based trading system. Promote cooperation within and across continents to realize mutual benefits from cross-border flows. • Identify critical dependencies, assess the impact and transmission channels of different GEF scenarios, and develop strategies for coping with risks. • Undertake structural reforms to further enhance Germany's attractiveness as an investment destination.
Cyberthreats. Cyberattacks on critical domestic and/or international physical or digital infrastructure (including digital currency and crypto ecosystems) trigger financial and economic instability.	**Medium**	**High** With increased remote work and digitalization, Germany's economic activity would be severely disrupted and confidence would be weakened by cyber-attacks.	• Assess and address the loopholes and other potential weaknesses exposed by cyberattacks. • Update and further strengthen governance and risk management of large public and private organizations, including in the financial system, and scale up investment in cyber resilience.
Regional Risks			
A shift in market sentiment against some high-debt euro area countries. Sharper-than-expected ECB monetary tightening and policy slippages with weak growth outturns in some high-debt euro area countries could raise concerns over debt sustainability. Miscalibration in the EU fiscal rules and rising yields would put pressure on the euro area policy framework in the medium term.	**High**	**Medium** A rise in sovereign yields may have knock-on effects on the broader financial sector and affect German banks.	• Ensure that banks' liquidity and capital buffers are adequate, encourage further adoption of liquidity management tools among investment funds, and engage in contingency planning. • Bolster the stability and efficiency of the euro area by completing the pan-European Banking Union and Capital Markets Union.

Source of Risks	Relative Likelihood	Impact	Policy Response
Domestic Risks			
Key sectors fail to adjust in a timely fashion to technological change and digitalization. Lack of progress in adapting to the technological and digital revolution, as well as pandemic-related change in production and consumption preferences, could undermine Germany's position as an innovation leader.	Medium	**High** Loss of competitiveness and shrinking market shares for Germany's key export products (automobiles and machinery) threaten the country's growth model, increasing structural unemployment and lowering potential growth.	• Increase public investment in digitalization, helping to crowd-in private investment and boost digital infrastructure. • Ensure that the energy transition proceeds as planned.

Annex VII. Downside Scenario

1. **A severe tightening of global financial conditions could lead to a sizable real GDP decline and disinflationary impulse for Germany.** Recent market turbulence in the U.S. and Switzerland has heightened financial sector vulnerabilities. This annex employs the IMF's G20 Model[1] to quantify the potential impact from a severe downside scenario in which banking sector balance sheet fragilities materialize, in line with the severe downside scenario in the April 2023 WEO. The shock is modeled as follows:

- *Global credit crunch*: a decline in credit supply equivalent to a 250 bp increase in corporate spreads for the U.S., euro-area countries, and Japan, and proportionally adjusted for other G20 countries, based on the correlation between their financial conditions and those in the United States.

- *Decline in equity prices*: global equity prices fall by 10 percent on impact and by about 6 percent on average in 2023.

- *Flight to safety and dollar appreciation*: in emerging markets excluding Asia, sovereign premiums increase considerably, and the U.S. dollar appreciates by close to 10 percent. The shock for emerging market economies in Asia is about half as large; China is not directly affected. Sovereign spreads in some euro-area countries increase by a modest amount.

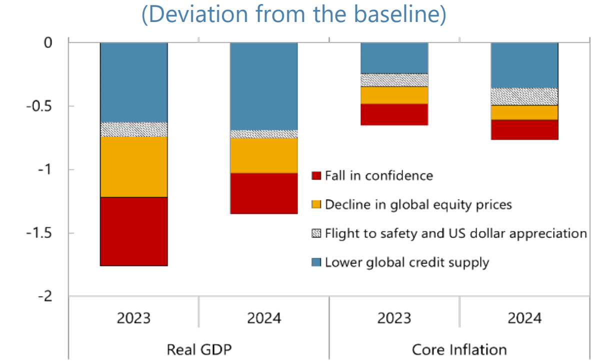
- *Fall in confidence*: greater precautionary saving (about 75 percent of the estimated increase in precautionary saving during the global financial crisis) leads to lower consumption, while a decline in business sentiment reduces investment.

2. **The combined effect from all layers implies a decrease in output of 1.8 and 1.4 percent in 2023 and 2024 relative to the baseline, respectively**. The credit crunch would cut real GDP by more than half of a percentage point, with a persistent impact through 2024. Weakened confidence and global equity markets alone would shave 1 percent off real GDP in 2023, with the effects dissipating to about one-half of a percentage point in 2024.

3. **Lower domestic and foreign demand would cool core inflation by about 0.7 percentage points in 2023 and 2024.** This estimate includes the effect of monetary policy responding endogenously to reduced activity.

Figure VII.1. Germany: Downside Scenario

(Deviation from the baseline)



Sources: IMF staff calculations.

Note: Deviations of real GDP and core inflation are represented, respectively, as a percent of the baseline level and as the percentage point change relative to the baseline.

[1] Andrle and others (2023).

Annex VIII. 2022 FSAP Key Recommendations—Implementation Status

Key FSAP Recommendations 1/		
Recommendations	**Timing 2/**	**Implementation Status**
Systemic Risk Analysis		
Perform top-down stress tests of interest rate risks.	I/NT	1) *Comprehensive top-down stress test:* In the last years, a comprehensive microprudential top-down stress test has been built up and is still under continuous improvement. This stress test calculates the full profit and loss statement for three years on a single-bank basis. It simulates a comprehensive macroeconomic scenario that contains inter alia an interest-rate shock scenario. As to the status, the overall top-down stress test framework is running, and results have been validated against the results of the 2022 bottom-up LSI stress test. Further analyses are planned for 2023. The project is ongoing and several improvements and refinements are planned and will be developed and implemented in the coming months and years. In particular, new data (see next point) may enable better modelling in the future. 2) *Ad hoc analysis and focused stress tests:* • In the context of the ongoing interest-rate reversal, the Bundesbank (BBk) performed a dedicated top-down analysis in Q1 2022 to evaluate the effect of interest-rate increases on net interest income (NII) and to approximate possible depreciations in bond portfolios at the individual bank level. As a follow-up to the analysis, BaFin directed the identified most-vulnerable institutions to perform a focused review on interest-rate risk in the banking book (IRRBB) as part of the of 2022 annual financial statement audit. • The ad hoc analysis was set up to bridge the time gap until results of a new NII-based supervisory metric will be available on a regular basis. This new metric is planned in the context of enhanced EBA guidelines on IRRBB that are currently being discussed as a final draft version and which will be accompanied by a harmonized EU-wide IRRBB reporting. The future IRRBB reporting will also cover granular data on notional repricing cash flows that will facilitate future focused top-down stress tests. • In the absence of granular repricing profiles, the ad hoc analysis in Q1 2022 had to bypass data gaps by utilizing assumptions and original maturity profiles from MFI balance sheet statistics. Instead, future focused top-down stress tests on interest-rate risk will be able to utilize more suitable IRRBB reporting data that enable more precise assessments. 3) *Regular monitoring of interest rate risk*: At the BBk, there is a regular analysis of banks' reported data for the Basel interest-rate coefficient. A dedicated report has been developed for several years already and allows the authorities to monitor interest-rate risk on a regular basis.

Recommendations	Timing [2/]	Implementation Status
Systemic Risk Analysis		
Strengthen monitoring of larger LSIs with significant FX (USD) exposures to mitigate liquidity risk.	NT	This recommendation has not been implemented, as BaFin considers that FX liquidity risks are already adequately monitored and covered in the Liquidity Supervisory Review and Evaluation Process (SREP) in Germany.
Climate Transition Risks		
Expand the analytical capacity of banks for assessing climate risks, promote the disclosure of climate risks; conduct supervisory climate stress tests for LSIs to facilitate such efforts.	NT	With regard to the activities in banking supervision, ESG risks will be, among other activities, included in the on-site inspection plan for 2023. The 2022 ECB climate risk stress test provided valuable insights on the impact of climate risks on European and German SIs. In addition, the Bundesbank developed a climate risk stress test for the German banking sector to analyze the impact of transition risks on German banks. This stress test also covered small and medium-sized institutions. A structured survey was also conducted among German LSIs on the implementation status of the BaFin Guide on sustainability. In addition, BaFin and the Bundesbank joined the 2022 ECB Thematic Review on Climate and Environmental Risks with selected LSIs. The results of these exercises were used to get a picture of the implementation status of banks for the systematic integration of ESG risks into their risk management systems and to derive supervisory implications. The authorities also closely monitor the requirements placed on banks with regard to sustainability disclosure. These include, for example, sustainability reporting and the taxonomy of disclosure requirements under Pillar III.
Macroprudential Framework and Policy		
Enhance the legislated powers over yet-to-be activated borrower-based instruments to facilitate their effective use, and rapidly introduce powers to set debt-to-income and debt service limits.	NT	A legislative draft from the Bundesfinanzministerium (BMF) to enlarge the macroprudential toolbox by adding DSTI and DTI limits is still being prepared, such that the legislative process has been delayed, given political concerns due to recent developments on the residential real estate (RRE) market. The draft may also address identified weaknesses, such as reciprocity issues. Furthermore, it will take recommendations by the ESRB and IMF, concerning increased efficiency of measures, into due consideration. There is not yet a concrete timeframe for legislating DSTI and DTI limits.
Strengthen current guidance on residential real estate lending standards.	NT	While BaFin had the intention of a full application of the recommendation, the available data basis on lending did not provide a clear-cut indication. BaFin therefore conducted a short survey in mid-2022, focusing in particular on the DSTI ratio. Taking into account differences in data definitions applied by respondents, the survey provided rather mixed results. Still, while DSTI ratios on average, and particularly the share of loans with high DSTI ratios rose in 2022, the average LTV and DTI ratios decreased in 2022. Thus, to detect whether there were specific risk pockets within high-risk loans, BaFin additionally conducted a Deep Dive into loans with high LTV ratios (>90%) and high DTI ratios (>7) based on individual case studies. The outcome of the Deep Dive has been presented to BaFin management. However, it is difficult to draw any specific quantitative conclusions from it, due to numerous data quality issues. Qualitatively, the Deep Dive detected that high-risk loans are more prevalent than expected. BaFin will continue to discuss its insights with line supervisors and the ECB staff conducting a targeted review on RRE financing, to provide a more clear-cut view of the actual situation. ECB data, however, show a similar pattern. However, in 2023 the new regular data collection on housing loans (called *Wohnimmobilienfinanzierungsstatistik,* or short *WIFSTa*) of the Bundesbank starts, and first data from quarterly-reporting lenders with aligned definitions will become available this summer (see also below). Once these data are available for analysis, BaFin will check them and provide a decision proposal.

Recommendations	Timing [2/]	Implementation Status
Macroprudential Framework and Policy		
Initiate the development of a communication strategy in support of the activation of borrower-based measures.	NT	An adjustment to the Financial Stability Committee's communication standards to communicate more regularly (biannually) on its risk assessment is currently being considered. This could support also an activation or increase of macroprudential measures by the BaFin, like borrower-based measures in the area of RRE financing, if such were considered necessary to counter risks to financial stability.
Close data gaps on lending standards to monitor existing and evolving risks.	I	The Bundesbank has initiated a new regular data collection on housing loans to natural persons (*WIFSta*) by issuing a general administrative act in September 2021. Following an 18-month implementation period, lenders with a quarterly reporting obligation have to report data on new housing loans granted in the first quarter of the year 2023 by May 15, 2023, while lenders with a yearly reporting obligation have to report data for 2023 only by February 15, 2024. These raw data will have to undergo relevant quality checks before they can be analysed and used to also create pre-defined aggregates. Consequently, the Bundesbank does not expect to start using the first data from quarterly-reporting institutions before June 2023.
Macroprudential Framework and Policy		
Supplement the toolkit to assess real estate risks with price-at-risk model for commercial and residential real estate prices.	NT	Bundesbank experts have developed a price-at-risk model for residential real estate prices as part of their toolkit for analyzing macroprudential risks related to RRE financing internally, with a technical paper on the model planned in the future. Bundesbank experts have also started work on setting up a price-at-risk model for commercial real estate prices.
Supervision and Regulation: Banking and Insurance		
Strengthen BaFin's operational independence and strategic cooperation between BaFin and Bundesbank on banking supervision.	I	BaFin and the BMF have amended the principles of cooperation. In exercising legal and technical supervision, the BMF respects the operational independence of BaFin. BaFin informs the BMF about the methods and manner of its supervision in a risk-oriented way and with regard to the achievement of the agreed objectives. BaFin assumes responsibility for public relations in connection with its supervisory mandate. In order to strengthen the strategic cooperation between BaFin and the Bundesbank, a three-day senior management workshop took place in May 2022. The workshop identified five areas for further work. These relate to the specification of a common strategy for banking supervision. This includes the definition of long-term goals and a new enhanced process for the definition of medium- and short-term goals and the annual supervisory strategy. Further areas of work will be the development of a risk-tolerance framework and a framework to evaluate to which degree the supervisory goals were reached by the chosen strategies and measures. In addition, the current cooperation structure in joint groups at various levels will be reviewed. Lastly, measures for the improvement of a trustful cooperation (incl. joint teambuilding measures and staff exchanges) and measures for an enduring change of the supervisory culture will be developed. The five working groups started their work in September. The interim results of the groups were presented at a joint workshop in December 2022. A second workshop took place in March 2023. The implementation schedule varies depending on the topic. One goal is to set up the supervisory strategy for 2024 and ensure supervisory and inspection planning already under the new framework. Furthermore, in autumn 2021 the Digital Agenda, which had been partly paused because of BaFin's modernization project, continued its work. It currently consists of five work streams with joint teams of BaFin and the Bundesbank: (1) Supervisory Processes, (2) Data Exchange, (3) Analysis of Structured Data, (4) Analysis of Unstructured Data, and (5) Change Management. Given the diversity of the mandates of the work streams, the timelines are quite different. The work is managed by a Project Management Office and steered by a Steering Group which meets once a month.

Recommendations	Timing [2/]	Implementation Status
Supervision and Regulation: Banking and Insurance		
Align the corporate governance framework with international best practices; provide additional supervisory guidelines to align MaRisk with EBA Guidelines on key banking risk issues.	NT/MT	The policy departments of banking supervision at BaFin and BBk have checked whether a clarification of the supervisory expectation is possible. Given the legal framework in Germany (*Gesellschaftsrecht*), they consider that the possibilities of BaFin/BBk are limited. This relates especially to the topic of "formal independence". With respect to the topic of "independence of mind", they consider that some clarification might be achievable. With regard to supervisory activities, BaFin and BBk agreed to a higher minimum engagement level (e.g., the interaction with the supervisory board or key function holder). With a view to the EU Capital Requirements Directive (CRD) VI developments and implementation, further adjustments of the legal framework are expected relating to the improvement of the relationship between the internal control functions and the management bodies in its supervisory function. This refers in particular to the reporting lines and the removal of the heads of the internal control functions.
Review the minimum engagement level and inspection frequency, strengthen the ability to effectively challenge external auditor's work, and make earlier use of corrective and sanctioning powers.	NT	The inspection-frequency framework has been adopted and comes into effect with the on-site inspection plan for 2023. For instance, the largest LSIs with the lowest quality are on a 2-year inspection cycle. The MEL framework has been significantly changed. SNCI are covered in the impact dimension explicitly, high-risk and high-impact institutions and all other categories are considered in the framework. The engagement levels are now more risk-orientated than before, given higher attention on institutions with MEL 3 and MEL 4. The framework now contains more activities that supervisors at BaFin and BBk are supposed to fulfill and extends the supervisory dialogue with the MEL 3 and 4 institutions. The framework is the basis for on-site inspection and supervisory planning for 2023. This also includes challenging external auditor's work, more meetings with the external auditor, and more own on-site presence (*Aufsichtsbesuche*).
Step up efforts on fintech data collection, forward looking dynamic market monitoring and related financial stability analysis.	NT	BaFin exchanges generally-available data with the Bundesbank. In addition, BaFin closely monitors significant trends, developments, and conspicuities in the fintech segment of the financial market. For this purpose, it evaluates scientific papers and press reports as well as reports from consulting firms or venture capital companies. In addition, experts participate remotely and in person in specialist congresses and industry conferences. Furthermore, BaFin is currently evaluating solutions available on the market with regards to crypto-asset-market data. In particular, blockchain analytics are currently under review as they might be used to get a more holistic picture in DeFi space. BBk (DG Banking and Financial Supervision) will start a systematic supervisory "horizon scanning" of relevant tends in financial technology.
Take steps to strengthen the solvency framework for insurers.	I	This recommendation has not been implemented, as the authorities consider that extreme interest-increase scenarios on the funding of the Zinszusatzreserve (ZZR) are not necessary.
Clearstream and Financial Market Infrastructure		
Improve the independence of the internal control functions at the Executive Board level.	NT	In line with current reorganization of the Executive Board of Clearstream Banking AG, responsibilities of each Executive Board member will be reviewed and allocated. In particular, the functions of the CEO (incl. responsibilities for risk management and compliance) will be newly allocated. A new distribution-of-business plan has been shared with BaFin and Bundesbank. The transfer of responsibilities is currently scheduled to become effective from July 1, 2023.

Recommendations	Timing[2/]	Implementation Status
Clearstream and Financial Market Infrastructure		
Broaden Clearstream's explicit identification criteria for clients of direct participants by including system-level thresholds.	NT/MT	Based on the definition of a SSS in accordance with the CSDR and the Settlement Finality Directive, BaFin is currently in discussion with Clearstream Banking AG to identify and determine further risk control measures based on criteria for clients of direct participants.
Crisis Management and Financial Safety Nets		
Ensure robust planning for financial distress of IPSs, including planning for recovery and resolution at a consolidated level, promoting review of EU legislation if necessary	NT	Not implemented
Establish a single mandatory DGS as a public body, with access to a robust backstop liquidity line	NT	Not implemented
1/ Includes only recommendations to the German authorities. 2/ I = Immediate (within one year); NT = Near Term (within 1 to 3 years); MT=Medium Term (within 3 to 5 years).		

INTERNATIONAL MONETARY FUND

GERMANY

June 28, 2023

STAFF REPORT FOR THE 2023 ARTICLE IV CONSULTATION—INFORMATIONAL ANNEX

Prepared By

European Department

CONTENTS

FUND RELATIONS

(As of June 13, 2023; unless specified otherwise)

***Mission*:** May 2–16, 2023. The concluding statement of the mission is available at https://www.imf.org/en/News/Articles/2023/05/16/mcs051623-germany-staff-concluding-statement-of-the-2023-article-iv-mission.

***Staff team*:** Mr. Fletcher (head), Mmes. Lan, Mineshima, and Zhou and Mr. Sher (all EUR).

***Country interlocutors*:** Bundesbank Vice President Buch; Director General of the Federal Ministry of Finance Reuter; Director General for Economic Policy in the German Federal Ministry for Economy and Climate Protection Bartsch; officials from the Federal Chancellor's office; officials from the Finance, Economic Affairs and Climate Action, Labor, Housing, Transport and Digital Ministries; officials from the Bundesbank, BaFin, the Federal Employment Agency, the ECB, and the EIOPA; and representatives from the banking sector, auto and chemical industries, trade unions, employers' association, chamber of commerce, real estate sector, academia, credit rating agencies, and think tanks.

***Fund relations*:** The previous Article IV consultation discussions took place during May 2022. The staff report was discussed by the Executive Board on July 18, 2022. The Executive Board's assessment and staff report are available at https://www.imf.org/en/Publications/CR/Issues/2022/07/19/Germany-2022-Article-IV-Consultation-Press-Release-Staff-Report-and-Statement-by-the-521018.

Membership Status: Joined August 14, 1952; Article VIII.

General Resources Account:	**SDR Million**	**Percent of Quota**
Quota	26,634.40	100.00
IMF's Holdings of Currency	19,182.65	72.02
Reserve Tranche Position	7,473.04	28.06
Lending to the Fund		
New Arrangements to Borrow	74.49	

SDR Department:	**SDR Million**	**Percent of Allocation**
Net cumulative allocation	37,587.04	100.00
Holdings	39,158.57	104.18

Outstanding Purchases and Loans: None

Latest Financial Commitments: None

Overdue Obligations and Projected Payments to Fund[1/] (SDR Million; based on existing use of resources and present holdings of SDRs):

		Forthcoming			
	2023	2024	2025	2026	2027
Principal					
Charges/Interest		0.49	0.49	0.49	0.49
Total		0.49	0.49	0.49	0.49

1/ When a member has overdue financial obligations outstanding for more than three months, the amount of such arrears will be shown in this section.

Exchange Arrangements

The currency of Germany is the euro. The exchange rate arrangement of the euro area is free floating. Germany participates in a currency union (EMU) with 19 other members of the EU and has no separate legal tender. The euro, the common currency, floats freely and independently against other currencies.

Germany is an Article VIII member and maintains an exchange system free of multiple currency practices and restrictions on payments and transfers for current international transactions. It maintains measures adopted for security reasons, which have been notified to the Fund for approval in accordance with the procedures of Decision 144–(52/51) and does so solely for the preservation of national or international security.

Anti-Money Laundering/Combating the Financing of Terrorism (AML/CFT)

Following the 2009/10 Financial Action Task Force (FATF) assessment against the previous AML/CFT standard, with a follow-up in 2014, Germany has comprehensively restructured its legal and organizational framework for AML/CFT, including the transposition of the EU's fifth Money Laundering Directive (5AMLD). Some other measures that Germany has taken are discussed in previous Article IV consultation staff reports. In November 2021, Germany received another FATF assessment against the 2013 methodology, which notably focuses on the effectiveness of AML/CFT measures. The accompanying report published by FATF in September 2022 acknowledges that Germany has considerably improved its AML/CFT framework. However, the report also identifies several priority areas for further improvement, including in the areas of risk-based supervision; the use of financial intelligence, investigation, and prosecution of money laundering cases; transparency of legal persons; and arrangements and implementation of targeted financial sanctions. In response, the government has launched a number of initiatives. In December 2022, the government commissioned a so-called "Project BBF" (Projekt Bundesoberbehörde zur Bekämpfung von Finanzkriminalität) at the Ministry of Finance to set up a new federal AML agency that consolidates analysis, investigation, and supervision. This agency is expected to start operations in 2025. Additionally, Germany is improving its statics and performance monitoring of AML/CFT and is working to update its National Risk Assessment.

STATISTICAL ISSUES

(As of June 13, 2023)

I. Assessment of Data Adequacy for Surveillance
General: The economic database is generally comprehensive and of high quality, and data provision is adequate for surveillance.
National Accounts: Germany adopted the *European System of Accounts 2010 (ESA2010)* in September 2014, with GDP calculated both annually and quarterly on a current and chained volume basis. Germany has received multiple derogations from *ESA2010* requirements, most of which were scheduled to be addressed by 2020. A direct source for quarterly changes in inventories, which is an important indicator of changes in GDP over the business cycle, is lacking. Extrapolations of changes in inventories are based on the difference between the monthly production index and turnover index in manufacturing.
Government Finance Statistics: Comprehensive data reporting systems support the accuracy and reliability of the government finance statistics. However, these data are based on cash accounting systems, although documentation exists to explain the differences between the general government data in the ESA2010 (noncash) classification and the general cash data on an administrative basis; Germany publishes—through Eurostat—general government revenue, expenditure, and balances on a noncash/accrual basis on a quarterly basis (*ESA2010*) and these data are presented in a *GFSM 2014* format in International Financial Statistics, albeit with delay. Germany submits annual data for publication in the *Government Financial Statistics Yearbook,* in *GFSM 2014* format. Monthly data are disseminated on a cash basis. **Monetary and Financial Statistics:** The ECB reporting framework is used for monetary statistics and data are reported to the IMF through a "gateway" arrangement with the ECB. The arrangement provides an efficient transmission of monetary statistics to the IMF and for publication in the *IFS*. Monetary statistics for Germany published in the *IFS* cover data on central bank and other depository corporations (ODCs) using euro area-wide residency criterion. Data based on national residency criterion is also published as memorandum items. Germany reports data on some series and indicators of the Financial Access Survey (FAS), including the two indicators adopted by the UN to monitor Target 8.10 of the Sustainable Development Goals (SDGs). **Financial Sector Surveillance:** Germany participates in the IMF's Coordinated Direct Investment Survey (CDIS), Coordinated Portfolio Investment Survey (CPIS) and financial soundness indicators (FSIs) databases. The German authorities compiled a comprehensive set of FSI data and metadata. Of the 40 FSIs, Germany reports all except net foreign exchange exposure to equity (I31). Former FSI ratios on nonperforming loans have been switched from annual to quarterly periodicity. The quarterly data stemming from the harmonized FINREP reporting is due to the EBA ITS on

reporting. The former use of data provided by the annual accounts has been suspended in line with the periodicity concept of the SDDS plus. **External Sector Statistics:** The Bundesbank compiles the balance of payments in close cooperation with the Federal Statistical Office. Balance of payments, International Investment Position statistics, and related cross-border statistics are compiled according to the sixth edition of the *Balance of Payments and International Investment Position Manual* (*BPM6*) and the legal requirements of the ECB and Eurostat.	
II. Data Standards and Quality	
Adherent to the Special Data Dissemination Standard Plus (SDDS Plus) since February 2015. **Implementing G-20 DGI recommendations:** Currently disseminates a residential property price index and a commercial property price index.	Data ROSC from 2006 is available.

Table of Common Indicators Required for Surveillance (As of June 13, 2023)					
	Date of Latest Observation	Date Received	Frequency of Data[7]	Frequency of Reporting[8]	Frequency of Publication[8]
Exchange Rates	Jun 13, 2023	Jun 13, 2023	D	D	D
International Reserve Assets and Reserve Liabilities of the Monetary Authorities[1]	May 2023	Jun 2023	M	M	M
Reserve/Base Money[2]	Apr 2023	May 2023	M	M	M
Broad Money[2]	Apr 2023	May 2023	M	M	M
Central Bank Balance Sheet	May 2023	Jun 2023	M	M	M
Consolidated Balance Sheet of the Banking System	Mar 2023	Apr 2022	M	M	M
Interest Rates[3]	May 2023	May 2023	M	M	M
Consumer Price Index	May 2023	May 2023	M	M	M
Revenue, Expenditure, Balance and Composition of Financing[4]—General Government[5]	Q1:2023	May 2023	Q	Q	Q
Stocks of General Government and Government-Guaranteed Debt[6]	2022	Apr 2023	A	A	A
External Current Account Balance	Mar 2023	May 2023	M	M	M
Exports and Imports of Goods and Services	Mar 2023	May 2023	M	M	M
GDP/GNP	Q1:2023	May 2023	Q	Q	Q
Gross External Debt	Q4:2022	Mar 2023	Q	Q	Q
International Investment Position[7]	Q4:2022	Mar 2023	Q	Q	Q

[1] Includes reserve assets pledged or otherwise encumbered as well as net derivative positions.
[2] Pertains to contribution to EMU aggregate.
[3] Both market-based and officially determined, including discount rates, money market rates, rates on treasury bills, notes, and bonds.
[4] Foreign, domestic bank, and domestic nonbank financing.
[5] The general government consists of the central government (budgetary funds, extra budgetary funds, and social security funds) and state and local governments.
[6] Including currency and maturity composition.
[7] Includes external gross financial asset and liability positions *vis-à-vis* nonresidents.
[8] Daily (D); weekly (W); monthly (M); quarterly (Q); annually (A); irregular (I); and not available (NA).

Statement by Mr. Joerg Stephan, Executive Director, and Mr. David Bruns, Advisor to the Executive Director Executive Board Meeting July 12, 2023

On behalf of our authorities, we would like to thank Mr. Fletcher and his team for the substantive, insightful, and constructive discussions, and the well-written and well-balanced report. We largely concur with the analysis presented and appreciate staff's valuable advice on longer-term structural challenges for the German economy.

Overall, the German economy has withstood the impact of Russia's war against Ukraine and demonstrated remarkable resilience. In 2022, real GDP increased by 1.8 % although high energy prices and inflation have caused a contraction in the last quarter of 2022 and the first quarter of this year. After a buoyant start this year, industrial activity suffered a setback in March 2023. Overall, growth in 2023 is expected to remain muted as the effects of tighter financial conditions are materializing throughout the economy and real income losses are reducing private consumption. The latest Bundesbank projections see real GDP contracting by 0.5 % in 2023. However, economic activity is expected to have slightly risen again in the second quarter. Going forward, diminishing supply bottlenecks and order backlogs, as well as lower energy prices are supporting the recovery. Amid still high but declining inflation, robust wage increases are expected to drive a recovery of households' real net income and support private demand. According to the Bundesbank's latest projections, the German economy is expected to expand by 1.2 % p.a. in 2024 and 2025.

Headline inflation has likely peaked, but core inflation will take longer to normalize. Mainly because of declining energy prices, consumer prices rose less sharply at the beginning of this year than in the preceding quarters. The recent small re-increase in headline inflation published by Germany's Statistical Office in June can largely be explained by base-effects stemming from short-term support measures which were in place between June and August 2022. Core inflation will likely only begin to noticeably decrease at the end of 2023 as the dampening effects of tighter financing conditions and lower upstream price pressures materialize. According to Bundesbank's latest projections, headline inflation in Germany is set to fall from 8.7 % in 2022 to 6 % in 2023 and to decline further but remain clearly above its 2 % target in 2025. So far, wage agreements have not offset real income losses, but both wages and profit margins have increased, in part also as a reaction to high inflation.

The German economy is well integrated in global markets and the government remains committed to support free-trade policies within the framework of the multilateral and rules-based trading system. The COVID-19 pandemic as well as the Russian war of aggression against Ukraine have exposed vulnerabilities in our international supply chains. The functioning of value chains in an open world economy is an important cornerstone of our economy and de-globalization would likely lead to sizable value-added losses for Germany and its trading partners. In this context, we are working to improve the business environment in the EU and Germany, while also diversifying unilateral dependencies in terms of supply and sales markets. This will support the private sector where many companies have taken measures to change procurement strategies and increase inventory levels while diversifying suppliers.

We largely concur that higher public and private investment are conducive to external rebalancing. We take note that staff still assesses Germany's external position in 2022 to be stronger than the level implied by medium-term fundamentals and desirable policies. However, Germany's external position is affected by demographic change and many exogenous variables, including non-domestic policy influences. Moreover, despite the recent refinements the EBA model underlying staff's assessment continues to perform not that well for Germany. According to the June Bundesbank projections, the current account surplus this year is expected to moderately rise again, driven by the recent decline in energy prices, but stay below its pre-pandemic level. In 2024, it is projected to remain unchanged at a level somewhat above 6 %. Its future evolution, however, is subject to high uncertainty and will depend inter alia on the future evolution of energy prices and supply bottlenecks.

Safeguarding the Recovery

The spillovers from Russia's war against Ukraine were largely contained in 2022 due to the deployment of decisive support measures as well as a swift adjustment to higher energy prices. Germany's EUR 200 billion "protective shield", mainly consisting of electricity, gas, and heating price brakes, has stabilized price expectations and continues to alleviate burdens from high energy prices. These temporary measures are currently envisaged to expire in April 2024 at the latest. By providing individual lump-sum transfers to cover basic energy consumption, these measures have kept price signals intact which was decisive for achieving substantive energy savings by both firms and households. While energy prices have eased considerably over the last quarters, they will likely stay above their pre-war level also in the medium-term.

The federal government is pursuing supply-oriented fiscal economic policies with the aim to mobilize private investment, strengthen the labor market, increase productivity growth, and thereby also reduce inflationary pressures. Above all, it is important to create an even more attractive environment for innovative companies and to strengthen Germany as a business location in general. The federal government has therefore set the goal of ensuring a modern public administration with accelerated and digitized procedures. Multiple legislative and regulatory measures are ongoing to speed-up these processes, raise labor and product market productivity, prepare for demographic challenges, and to further strengthen resilience against risks.

Fiscal Policy to Support Disinflation and Medium-Term Growth

Germany is setting restrictive fiscal impulses, as the government aims at supporting disinflation and meeting the debt brake rule. The debt brake rule has served Germany well as an anchor for solid public finances and for the build-up of fiscal buffers. The government sees the federal budget for 2023 as a first step in the transition to normalizing fiscal policy. The return to the regular upper net borrowing limit of the German debt brake rule in the core budget is an important signal regarding the prudence and sustainability of German fiscal policy and public finances. For the federal budget 2024 and onwards, the federal government is firmly committed to a consolidation course, consisting of further reductions in deficit and debt ratios, if compatible with the business cycle.

In 2022, the German budget deficit has dropped below 3 % for the first time since 2020. This has been supported by a petering out of pandemic-related expenditure as well as lower-than-budgeted spending on the electricity price brakes.

The federal government has opened a decade of investments into a modern, digital, and climate-neutral German economy, supported by ongoing prioritization of expenditures. Our government employed the extrabudgetary funds for Climate and Transformation as well as the Special Defense Fund to address large investment needs to expedite the climate transition and bolster national security. While being located outside the core budget, the government is of the view that the use of such temporary funds allows to target investments more effectively while ensuring a credible phase-out.

Several administrative steps have been taken to help accelerate the implementation of public investment and efforts to establish a consolidated information system for targeted support measures are under way. The legal basis for storing the bank details of recipients in a consolidated database was created with the Annual Tax Act 2022 in December 2022 and implementation at the IT-level is currently ongoing. The federal government further works with state governments to improve planning and approval procedures. A comprehensive procurement transformation package is planned in 2023/24.

Safeguarding Financial Stability Amid Rising Interest Rates

The German financial sector remains stable and well-capitalized despite significant mark-to-market losses in banks' and insurers' balance sheets. Given the high rates of inflation, rising interest rates, and subdued growth prospects, bank supervisors have stepped-up careful monitoring of interest and liquidity risks including through regular stress tests of SIs and LSIs. In February 2023, the macroprudential measures activated in 2022 by the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) have become effective. The Countercyclical Capital Buffer was set at 0.75 % and a sectoral systemic risk buffer of 2 % for loans secured by residential real estate was introduced. Both buffers are deemed appropriate at the current juncture.

Vulnerabilities to losses resulting from the fall in residential real estate prices seem to be manageable in the short-term and are closely monitored by the authorities. Prices in the residential property sector experienced the first decline in the second half of 2022 after more than a decade of consecutive growth. However, roll-over risks due to higher interest rates from potentially overvalued mortgages in bank portfolios seem to be limited in the short-term due to the long interest fixing periods of mortgage loans. The older loan vintages that will need to be rolled over in the next years carry initial interest rates which are close to the current market rates. However, in the medium term when loan vintages that carry much lower interest rates will come due, risks from the mortgage portfolio could increase and need to be monitored very closely. Thus, banks have sufficient time to prepare for that. In addition, the macroprudential package of policy measures can be adjusted at any time although it seems to be appropriate at the current juncture.

Increased risks from commercial real estate markets are subject to close monitoring. The interest rate rises since mid-2022 put further pressure on CRE valuations. Credit losses from CRE are still unchanged, but may increase over the medium term, as interest rates will have to be adjusted for a significant share of CRE loans. Measures to further improve CRE risk monitoring are underway both on the microprudential (valuation assessments by BaFin) and macroprudential levels (CRE stress testing by the Bundesbank).

Risks to banks stemming from the flow of new residential real estate mortgages are limited. The flow of new mortgages has decreased significantly, mainly reflecting lower demand. Lending standards have become more conservative, and interest rate fixation periods are long. Nevertheless, we agree with staff that developments of LTVs, DTIs, and DSTIs need to be monitored carefully. Against this backdrop, the macroprudential authorities addressed data issues around lending standards in residential real estate. The reporting of lending standards for new mortgage loans has started on 31. March 2023.

We thank staff for the comprehensive SIP on "Borrower-Based Macroprudential Instruments in Germany" and take note of the policy recommendations given. It is worthwhile noting, that the German macroprudential toolkit already contains borrower-based measures (BBMs) such as limits to the LTV ratio and amortization requirements. Legal obstacles to the activation of these BBMs do not exist. But any activation of these BBMs would require a solid financial stability risk assessment based on solid data. As mentioned, the collection of such data has just started. As regards the need to add income-based measures to the macroprudential toolkit, the technical preparatory work on the expert level is ongoing.

Accelerating the Green Transition towards a more Resilient and Sustainable Economy

Reaching carbon neutrality by the year 2045 through decisive climate action remains one of the government's key priorities. To meet this objective, a mix of instruments is being deployed. Key pillars are carbon pricing, regulatory instruments as well as targeted support measures. From 2024 onwards, the government plans to continue increasing the domestic carbon price in a stepwise fashion.

Germany has met its 2022 CO2-emissions target, mainly due to emissions reduction in the industrial sector. The update of Germany's Renewable Energy Act establishes a more ambitious target for the share of renewables in total electricity consumption, increasing it from 65 % to 80 % until 2030. Furthermore, the Climate and Transformation Special Fund has been created to provide funding for climate action and environmentally friendly, reliable, and affordable energy supplies to companies and households. Around EUR 178 billion have been budgeted for the period between 2023 and 2026, with EUR 36 billion available for 2023 alone.

The green transformation of the automobile industry as well as the transition towards electrical mobility is well under way. New production sites are being built in Germany along the entire value chain, complemented by substantial R&D spending for e-mobility development as well as innovations in battery cell production. To boost electrical mobility, a new version of the "Charging Infrastructure Masterplan" bundles measures to address obstacles to the build-up, planning, and construction of mainly fast-charging infrastructure for e-mobility. The goal is to set up 1 million publicly accessible fast charging points by 2030.

Germany supports efforts to curb emissions and unify climate regulation at the EU-level. Starting from 2027, our authorities plan to shift from the current national emissions trading system for buildings and transport to the newly established EU system. In addition, Germany sees merit in having a single carbon price in the EU and supports the European Carbon Boarder Adjustment Mechanism (CBAM) which strengthens the steering effect of EU emissions trading and extends CO2-pricing to imports from outside of the EU.

Boosting the Quantity and Quality of Labor

The German labor market has proven to be very robust, countering multiple shocks over the past years. Several measures have been put in place to address persistent labor shortages in key sectors and overcome skills-mismatches. The government is also planning a vocational training guarantee for young people, as well as a skills development benefit to offer more opportunities for employees to adjust their skillsets to technological developments during the transformation of the labor market.

To counteract demography-related labor shortages, the government also aims at increasing skilled labor migration to Germany. The Bundestag has just approved the modification of the "Skilled Immigration Act" which offers new possibilities for skilled migrants to work in Germany, based on their professional experience and their qualification. The law also contains temporary work quota for unskilled workers and introduces a new, point-based visa system for job seekers.

The German government is planning to adjust the pension regulation, to ensure the future viability of the pay-as-you-go system. A gradual increase in the standard retirement age to 67 is scheduled until 2031, which will also adjust the retirement age for early pensions. The government further intends to introduce a funded component into the pay-as-you-go system ("Generationenkapital"). This add-on will stabilize the system by widening its financing base and taking advantage of the opportunities offered by global capital markets. Since January 2023, it is possible to combine an early pension with additional earnings without any loss of pension entitlements. This gives early retirees the opportunity to work.

Lifting Productivity via Capital Deepening, Innovation, and Digitalization

Boosting productivity to lift medium- to long-term potential growth is of critical importance for the German government. A number of measures have been deployed to enhance the attractiveness of the German Venture Capital Market. To this end, the government has established an EUR 10 billion "Future Fund" to support the provision of growth capital to German firms and expand financing options for start-ups. Various other initiatives such as a platform for founders ("Gründerplattform") will help young entrepreneurs in developing business plans and accessing finance.

Fighting Transnational Corruption and Strengthening AML/CFT

Combatting money laundering, terrorist financing, and tax evasion remains a high priority for the German government. We welcome the August 2022 Mutual Evaluation Report by the FATF, which assessed the German AML/CFT regime as being overall fair on average. To address the recommendations made in the report, the government is planning to unify the most important competences in the fight against financial crime under the umbrella of a new authority at the federal level ("Bundesbehörde zur Bekämpfung von Finanzkriminalität"). The newly created authority is envisaged to comprise the Federal Office for Financial Crime Investigations, Germany's Financial Intelligence Unit, as well as a Central Office for AML Supervision. The government further supports the establishment of a common European AML agency. To improve data quality and transparency, automated links between beneficial ownership information in the Transparency Register and information in the Company Register have been established. Our authorities remain committed to address all remaining recommendations in the FATF report.