Creditreform Sovereign Rating

Creditreform Rating

Rating Object	Rating Information	
FEDERAL REPUBLIC OF GERMANY	Assigned Ratings/Outlook: **AAA /stable**	Type: Monitoring, Unsolicited
Long-term sovereign rating Foreign currency senior unsecured long-term debt Local currency senior unsecured long-term debt	Initial Rating Publication Date: Rating Renewal: Rating Methodologies:	29-07-2016 24-03-2023 "Sovereign Ratings" "Rating Criteria and Definitions"

Rating Action

Neuss, 24 March 2023

Creditreform Rating has affirmed the unsolicited long-term sovereign rating of "AAA" for the Federal Republic of Germany. Creditreform Rating has also affirmed Germany's unsolicited ratings for foreign and local currency senior unsecured long-term debt of "AAA". The outlook is stable.

Contents

Rating Action 1
Key Rating Drivers 1
Reasons for the Rating Decision and Latest Developments 2
Macroeconomic Performance 2
Institutional Structure 6
Fiscal Sustainability 7
Foreign Exposure 7
Rating Outlook and Sensitivity ...10
Analysts 10
Ratings*.....................................11
ESG Factors 11
Economic Data 12
Appendix 13

Key Rating Drivers

1. Large, prosperous and competitive economy; a good degree of diversification, strong innovation capabilities and long-standing sound labor market performance add to underlying resilience; despite marked progress in diversifying energy suppliers, the near-term economic outlook remains constrained by headwinds linked to the energy price shock and still high, albeit somewhat easing, supply bottlenecks, while dampening effects via tighter monetary policy will continue to unfold
2. Medium-term growth prospects remain underpinned by sizeable investment plans to bolster the green and digital transformation, expected to exert a positive effect on potential growth, while shortages of skilled labor could, if protracted, exacerbate adverse effects linked to unfavorable demographics
3. Exceptionally strong institutional framework including benefits linked to deep integration into EU/EMU; despite a more fragmented political landscape, the sovereign remains characterized by a high level of political stability, ultimately effective crisis management and policy predictability; commitment to maintain priorities around greening the economy remains broad-based despite additional and pressing challenges in the current geopolitical context
4. Years of fiscal discipline prior to the pandemic have delivered scope for effective fiscal management of recent successive crises; we expect the public debt ratio to trend down over the medium term; while commitment to fiscal consolidation is maintained, envisaged expenditure related to special funds complicate the assessment somewhat; risks to fiscal sustainability associated with large public guarantees, as well as age-related spending, are mitigated by the sovereign's status as a safe haven, very sound debt management and still high, although prospectively deteriorating, debt affordability

5. Germany's external position remains very strong, as also reflected in a highly positive NIIP, supported by an ongoing, albeit at least temporarily smaller current account surplus

Reasons for the Rating Decision and Latest Developments[1]

Macroeconomic Performance

Germany's credit rating is buttressed by its exceptionally strong macroeconomic profile, characterized by a large, diversified, and competitive economy alongside high GDP per capita. Its well-performing labor market, which has shown resilience in the face of the recent succession of crises, adds to our favorable assessment. Downside risks to the near-term outlook persist, although the economy may be past a trough as the winter season proved less challenging than feared, partly due to joint efforts to cut back on gas consumption, and to sufficient gas storage levels. With domestic demand having to come to terms with higher energy prices, and external demand likely more subdued due to similar challenges elsewhere, in addition to the ongoing monetary policy tightening cycle, average GDP growth will likely remain moderate over the medium term. While there has been fast progress on diversifying Germany's energy suppliers and setting up LNG terminals, a somewhat mixed track record over the last decade when it comes to the speed of the implementation of large public investment projects adds to uncertainty regarding the medium-term growth outlook. Unfavorable demographic developments pose downside risks to longer-term growth prospects, whilst reforms and significant investment related to the national Resilience and Recovery Plan (RRP) should bolster underlying growth.

Germany's real GDP grew by 1.8% in 2022, following an expansion of 2.6% in the preceding year. Contributing 2.1 percentage points (p.p.), private consumption constituted the main driver for economic growth last year, partly boosted by a further lifting of corona restrictions, and supported by government measures to alleviate the adverse effect from soaring energy costs. Government consumption and gross fixed capital formation added positively to GDP growth as well. With imports posting a considerably stronger increase than exports, net exports posed a drag on GDP growth last year. While parts of the service sector benefited from catching-up effects following the corona crisis, in particular the construction sector remained heavily affected by shortages of materials and higher costs, in combination with rising financing costs. As a result, the construction sector contributed negatively to GDP growth, as did the manufacturing sector.

Having increased over the course of 2022, German economic output dropped in Q4-22, by a downward-revised 0.4% against the preceding quarter, dragged down by the burden placed on the economy by the energy crisis and ongoing, albeit gradually decreasing, global supply bottlenecks. Private consumption fell by 1.0% q-o-q, not least as relief in the form of a low-cost ticket for public transport and a rebate on fuel expired.

Construction investment posted a third consecutive decline in Q4-22, additionally compounded by cold weather in December and a still high share of cancelled projects amid the abovementioned adverse factors. Investment in machinery and equipment dropped as well, as did overall exports. Energy-intensive industries such as manufacturing of chemicals and manufacture of basic metals saw their gross value added fall markedly in last year's final quarter.

[1] This rating update takes into account information available until 17 March 2023.

More recently, the weekly activity index provided by Bundesbank points to an implied GDP growth rate of 0.5% for the last 13 weeks up to 12 March, compared with the preceding 13 weeks, suggesting that the German economy may avoid a technical recession after all. Latest activity data available for January, such as the volume of retail sales and turnover in the manufacturing sector (incl. construction), seem to point to a weaker outcome, though, whereas new manufacturing orders and industrial production had a good start into 2023, posting increases vis-à-vis December 2022, including some recovery of construction production.

Important sentiment indicators such as the ifo business climate also back the impression that the German economy may have turned the corner, with the overall business climate having posted a fourth consecutive increase in February 2023 on the back of improving expectations with regard to the respective following six months. Nevertheless, looking at the breakdown of the business climate by sector, sentiment in construction as well as in the trade sector remains rather dampened. A decline in February's PMI for the manufacturing sector masks improving supplier delivery times and a fall in stocks of purchases, while the service PMI increased a second time in a row, moving slightly above the 50-point threshold hinting at increasing business activity in the sector, underscoring more constructive prospects for the further course of 2023.

Looking ahead, private consumption will likely remain affected by rising prices for a broader range of products, while energy prices may continue their retreat seen over the last few months. The labor market situation should by and large remain supportive to household expenditure, alongside recent increases to the minimum wage and government measures to limit negative effects on private households from high energy prices. Caps on electricity prices as well as on gas and heating prices have been in force since January and March 2023, respectively, as part of a package of up to EUR 200bn, following on the heels of three support packages launched in 2022 and totaling close to EUR 100bn to shield private households and firms from negative effects of the energy price shocks.

Even though nominal wages posted the strongest increase since 2008 last year, rising by 3.5% in 2022, the surging inflation rate (2022: 8.7%, HICP) left real wages to decrease for a third consecutive year, cutting into private households' disposable income. At present, higher wage demand is virtually omnipresent, accompanied by broadening strike action and fueled by high inflation rates and broad-based shortages of staff in various industries. The majority of the 2023 negotiation rounds, affecting close to 11 million wage earners altogether, mainly concerns the service sector. However, at least with regard to 2023, real wages may well turn out negative again, before presumably displaying positive growth from 2024.

Meanwhile, the unemployment rate has stabilized near historic lows, standing at 3.0% in January 2023 (LFS-adj. Eurostat), one of the lowest readings in Europe (euro area, EA: 6.7%), while total employment has continued to increase, climbing by 1.3% y-o-y in 2022 as a whole (nsa, domestic concept). That said, hiring intentions in energy-intensive industries such as the chemical industry have been more muted lately, as the ifo employment barometer (Feb-23) suggests, although the shortage of skilled labor remains a driving factor. In the machinery and electrical industry, hiring intentions remain pronounced.

Taking a more structural point of view, Germany's labor participation rate remains high by European comparison, resuming its rise following pandemic-related distortions and reaching 79.6% as of Q3-22 (EA: 74.5%). Analysis of developments in different age cohorts suggests that participation among the age groups of 60 years and over has gone up significantly over the last two decades, reflecting the increasing statutory retirement age and related political decisions

as well as generally more inclusive labor market policies. With regard to the European Commission's (EC) Social Scoreboard, Germany is perceived as performing strongly when it comes to fair working conditions, but exhibits some room to improve in the area of equal opportunities and inclusion.

Despite headwinds from rapidly rising financing costs amid the ECB's more aggressive tightening cycle, gross fixed capital formation should gain some traction in the near term, as some easing of supply bottlenecks could enable a reduction of the stock of unfilled orders, which remains on a high level. Recently retreating energy prices and the government's energy price brake should also bring some relief. Moreover, continued public investment in strengthening the green and digital infrastructure should exert some positive pull-effects on private investment, although supply shortages in particular regarding ICT equipment were still quite pronounced as of January 2023. As regards the construction sector, we expect the described challenges largely to persist in the current year, weighing down construction investment.

Business insolvencies continue to move on a lower level than prior to the outbreak of the corona crisis. Insolvencies rose by 4.3% to 14,590 cases in 2021-22, but remained roughly 22% below the respective reading in 2019 (Destatis data). At the same time, the request for insolvency increased by 10.8% m-o-m in Feb-23, after having declined by 3.2% a month earlier. In any case, rising debt-servicing costs and the higher cost of new loans are likely to take their toll on some businesses. We expect the number of business bankruptcies to continue to rise over the coming months, whilst government support to limit energy costs should again prevent any dramatic developments.

Whilst not appearing excessive by European comparison, private sector indebtedness is at a higher level than in recent years prior to the pandemic, suggesting that shock-absorbing capacities are somewhat reduced. Non-financial corporate (NFC) debt stood at 71.8% of GDP as of Q3-22, virtually unchanged from last year (Q3-21: 71.9%, Q4-19: 67.5%, ECB data). Household debt set against disposable income was at 89.8% in Q3-22 (Q3.21: 90.9%), having trended upward since 2019. Recently, lending dynamics especially with regard to lending to private households for house purchases seem to be receding under the impression of tighter financing conditions (see below). Outstanding loans to NFC were still up by 10.5% y-o-y in Jan-23.

In light of its high degree of trade openness, the German economy remains vulnerable to disruptions in global trade. Given the expected acceleration of Chinese economic growth against the backdrop of relaxed anti-Covid-19 policies, as well as the assumed expansion – albeit at a moderate pace – of the European and US economy, prospects for this year's export growth have brightened somewhat. Reflecting this, the ifo export expectations are back in positive territory, suggesting that a higher percentage of companies is becoming more optimistic. Net exports could ultimately contribute slightly positively to this year's GDP growth outcome, given the expected dampening effect of sluggish domestic demand on import growth.

Overall, we expect real GDP growth to decrease markedly to 0.2% this year, partly driven by a weak start into 2023. For 2024 we assume a slight growth acceleration to 1.4% in 2024, mainly on the back of more lively domestic demand.

Uncertainty around the forecasts remains high in view of the ongoing geopolitical tensions associated with the Russian war in Ukraine and the related volatility in energy and commodity prices. The medium-term outlook remains supported by envisaged investment to advance the green and digital transformation. Swift and decisive action by the authorities to diversify energy

suppliers, as well as the joint effort by consumers to reduce energy consumption, point to willingness and ability to adapt to the energy price shock, adding to the notion of underlying resilience of the German economy. That said, while Germany no longer imports gas directly from Russia, and the first two LNG terminals in the North have been in operation from December 2022 and January 2023, high dependency on imported energy means that the economy remains vulnerable to any disruptions in this area.

Germany's generally strong competitive position is reflected by its high share in the global export market, which however has trended down over recent years, dropping to 7.25% in 2021, driven by a lower share in goods exports. That said, its share in global services exports posted another noticeable increase in 2021, driven partly by income from patents for Covid-19 vaccines and still subdued travel activity. While data covering the pandemic phase may be somewhat distorted by these exceptional effects, we will continue to monitor developments in view of ongoing challenges to Germany's vital automotive industry regarding the shift towards electric mobility. Having posted declines in total passenger car exports since 2017, last year was the first to see an increase (+11.5%, VDA).

From a cost perspective, we observe that German real unit labor costs have seen a less favorable development compared to the euro area as a whole over the last few years, whereas the picture vis-à-vis its main European trading partners seems somewhat more mixed. Focusing on non-cost factors, Germany's AAA rating remains well supported by the high degree of competitiveness of its economy. Underscoring this, Germany maintained its rank of 15 out of 63 countries featured in the 2022 IMD Global Competitiveness Index, comparing favorably with the majority of EU countries. Moreover, as suggested by the Global Innovation Index (GII) provided by the World Intellectual Property Organization (WIPO), Germany remains a strong innovator on the global scale, having been consistently ranked among the top ten out of 132 economies since 2016 (2022: 8th). While the latest GII attests to Germany's qualities in terms of R&D investment, patents and export complexity, it also hints at scope to improve when it comes to government's online service, e-participation and starting a firm.

Tying in with that, Germany's middle-range position among EU members with regard to the EC's Digital Economy and Society Index (2022: rank 13) sees it behind AAA-rated peers in our rating universe. Concerning attractiveness to highly skilled foreign workers, the recently published OECD Indicators of Talent Attractiveness (March 2023) suggest a middle-range position for Germany among the 38 members, mentioning perceived slow digitalization and a high level of red tape when it comes to granting visas and immigration as potentially off-putting factors. In a bid to address such issues, the Skilled Immigration Act is to be amended, among others to facilitate hiring foreign talent, with adoption by the government envisaged for this March. Already in July 2022, the government put forward a start-up strategy to improve the environment for company founders.

Adding to risks with a view to medium-to-longer term growth stemming from unfavorable demographics, Germany displays some scope to step up potential growth-enhancing fixed investment, judging by the sum of investment in intellectual property, machinery/equipment and non-dwelling construction as set against GDP. Potential growth is estimated to be at 0.7% and 0.8% in 2023 and 2024 (AMECO data), remaining well below an estimated average of 1.4% p.a. over the years 2015-2019. The finance ministry's estimates seem slightly more optimistic, with expectations at 0.9% for the current and the following year and about 0.8% p.a. in the years to 2027,

with total factor productivity assumed to become the main driver in those later years, while labor as a factor is expected to pose a drag by that time.

Institutional Structure

The sovereign boasts an exceptionally strong institutional framework, as also corroborated by the latest set of the World Bank's Worldwide Governance Indicators (WGIs). We view the strong governance set-up, including very sound monetary policy governance and financial supervision, both on the euro area and the national level, as a key pillar of Germany's credit rating. Its deep integration into the EU/EMU entails significant advantages, and inflation trends in Germany and the euro area remain closely aligned, suggesting effective functioning of the monetary policy framework. A long-standing consensus-seeking political approach has created a high level of confidence in policy predictability, notwithstanding a more fragmented political landscape over recent years. The current government coalition remains firmly committed to addressing challenges posed by climate change and the digital transformation. Political cohesion beyond the governing coalition over strategic issues such as defense continues to be put to the test in the current environment.

Drawing on the latest set of the WGIs, the four pillars which we consider most relevant when assessing the institutional quality of a sovereign underpin our favorable assessment of Germany in this respect. While Germany's institutional performance is ranked well above the median euro area performance when it comes to "voice and accountability" (rank 10 out of 208 vs. EA median of 29), "rule of law" (18 vs. EA median of 33), "government effectiveness" (26 vs. EA median of 37) and "control of corruption" (10 vs. EA median of 44), it is somewhat behind AAA-peers in terms of government effectiveness and rule of law. Concerning the former pillar, i.e. the quality of policy formulation and implementation, Germany's still favorable rank of 26 out of 209 economies considered constitutes the weakest outcome since inception of the WGIs in 1996. As is likely the case with a number of sovereigns, policy implementation during the pandemic phase presumably plays a role in this, as suggested by a more marked change in the years 2020 and 2021.

A high level of perceived judicial independence adds further to Germany's institutional strength, as highlighted by the latest Rule of Law report (EC, Jul-22). Adjustments to the strategic anti-corruption framework at the federal level are still pending, as is robust guidance on protection of whistleblowers. A higher degree of digitalization in the judicial sector remains a work in progress. Advancements were also made regarding corruption prevention with respect to members of parliament, judges and prosecutors. GRECO's second interim compliance report on Germany, published in Nov-22, thus highlights that four of the eight recommendations have been satisfactorily dealt with since Mar-21, with the remaining four recommendations, among them transparency on secondary activities of judges, deemed partially implemented.

Regarding domestic politics, a reform of the election law addressing the long-standing issue of introducing a cap to the number of seats in the Bundestag has been adopted in parliament this March. While oppositional parties envisage to take the matter to the Constitutional Court, the reform will limit the number of seats to 630, implying that directly elected representatives would not automatically receive a mandate. Concurrently, the clause on the minimum number of constituency seats required for party representation in parliament is to be abolished.

While implementation of its RRP remains underway, Germany's request to amend two measures was greenlighted by the European Council this February. In one case, Germany requested to

postpone the expected completion date of one of seven projects regarding the digitalization of rail, due to exceptional delays in construction. The second measure concerned funding for the research and development of vaccines against SARS-CoV-2, with an ultimately lower total outflow of funds under the program.

In a bid to speed up the process of moving towards renewable energy, which remains a top priority of the current government, parliament adopted a comprehensive energy policy package in Jul-22, including five legislative amendments regarding the expansion of renewable energy and the related acceleration of grid expansion. Further major amendments concerned gas market mechanisms and supply chains for gas, as well as options for lower gas consumption if needed. Whilst the government is committed for the country to become climate neutral by 2045, the pressing need to reduce dependency on fossil fuels saw an increase in the 2030 target for the share of renewables in electricity consumption from 65% to 80% (amended Renewable Energy Sources Act).

Looking at its overall share of renewable energy in gross energy consumption, Germany has made continuous advancements, displaying an overall share of 19.2% in 2021, roughly in line with the two other large euro area economies, albeit slightly below the level in the EU as a whole (2021: 21.8%). It remains among those EU members considered to be leading with regard to ecological innovation (Eco-Innovation Index rank 6/27, 2022). The government also remains committed to establishing a green yield curve, having issued a fifth green bond (5-year Green Bobl) in August 2022.

Apart from this, the government aims to remove obstacles to its digital strategy, adopting the gigabit strategy in Jul-22, which envisages fiber access to 50% of all households and businesses by 2025, and nationwide coverage with fiber networks and the newest mobile network standard by 2030.

Fiscal Sustainability

Following the pandemic-induced setback, increased government spending to limit adverse economic effects from the energy price shock will likely keep the public debt ratio above its pre-corona level over the next few years, although the outlook remains subject to high uncertainty. With the estimated debt-to-GDP not too far off the 60% Maastricht reference value, Germany nevertheless displays ample fiscal scope to react to shocks. While debt affordability has deteriorated from exceptionally accommodating levels, ongoing sound debt management, a strong track record of fiscal consolidation and credible commitment to fiscal discipline continue to mitigate fiscal risks linked to sizeable public guarantees and prospectively higher age-related spending.

German public finances concluded 2022 with a general government deficit of 2.6% of GDP (Destatis, preliminary data), lower than the deficits recorded in the two preceding years coined by the corona crisis and lower than envisaged in the Draft Budgetary Plan 2023 (DBP23). While Covid-19 measures were phased out, fiscal relief to alleviate the burden placed on the economy by the war in Ukraine and higher energy costs had a deficit-increasing impact.

Last year's headline deficit was driven solely by the central government balance, on the back of three support packages amounting to a combined total of roughly EUR 96.1bn. Regarding the state and local government levels, as well as with regard to the social security pillar, surpluses were recorded last year.

Drawing on the data provided by the Federal Statistical Office, general government revenue increased by 6.4% last year (2021: 9.1%), boosted by rising tax revenue and net social contributions amid a well-performing labor market. At the same time, total government expenditure posted an increase of 4.1% (2021: 7.5%), with rising transfers amid the relief packages a major driver. Gross fixed capital formation climbed by 8.3% last year, to 2.6% of GDP, remaining slightly above a ten-year average of 2.3% of GDP over the period 2010-2019.

Further government support to private households and firms in the face of high energy costs, involving up to EUR 200bn amid caps to electricity, heating and gas prices, will weigh on this year's and next year's fiscal outcome, although the actual burden is dependent on energy price developments. The caps on energy prices are to remain in place until the end of April 2024. Whilst the government expects support measures to largely expire, expenditure is set to rise over the coming years. We have to highlight that visibility is somewhat blurred by special funds, such as the special Climate and Transformation Fund, for which expenditure of about EUR 36bn and a deficit of EUR 14.1bn is budgeted for 2023, as well as the special fund for the armed forces to strengthen Germany's defense, comprising up to EUR 100bn, to be financed by loans, for which a deficit of EUR 8.4bn is budgeted (Bundesbank intelligence). That said, commitment to fiscal discipline remains high.

We expect the headline deficit to come to about 2.2% of GDP this year. Assuming fading government support in 2024 and a moderate pace of economic expansion, we forecast the deficit to decrease to 1.5% of GDP next year. Uncertainty over geopolitical developments and actual energy prices remains pronounced, and is added to by uncertainty over assumed dampening effects from tighter monetary policy on domestic demand.

Having declined between 2013 and 2019, and having fallen below the Maastricht reference value of 60% of GDP in 2019 (58.9% of GDP), Germany's public debt ratio was driven up by the two recent global shocks. As of Q3-22, general government gross debt stood at 66.6% of GDP, down from 68.6% at the end of 2021 (Bundesbank data). In light of our assumptions for nominal growth and the general government balance, we expect public debt to diminish slightly to 65.3% of GDP this year and further to 63.8% of GDP in 2024.

We continue to monitor fiscal risks related to sizeable contingent liabilities, which according to the DBP23 amount to a maximum of 55.6% of GDP, including a maximum of 15.1p.p. related to the Covid-19 response. Of the overall maximum, 18.6% of GDP was estimated to have been taken up as of October 2022, most of which related to domestic guarantees and export guarantees. In a more recent step, the German government took over 99% of the private energy company Uniper, the largest German importer of Russian gas, in December 2022, granting up to EUR 34.5bn for the recapitalization of the company.

While debt still remains affordable, interest costs have increased significantly amid higher borrowing and rising interest rates. The yield on 10-year German Bunds has mounted to 2.71% as of 03 March 2023 (weekly data, Refinitiv), up by 281 basis points against the prior year, when the yield was in negative territory (04-Mar-22: -0.10%). Following a drop by 3.4% in 2021, interest payments rose by 25.8% last year, ending consecutive years of declining interest costs since 2012. At 0.7% of GDP, or 1.4% of total revenue in 2022, debt payment costs still compare as relatively low.

The ECB increased its main interest rates by another 50 basis points in March, lifting the rate on main refinancing operations to 3.50%. We expect it to raise its policy rates by an additional 50bp,

presumably in two 25bp steps, by the end of the current year. However, uncertainty around these expectations has arguably become more pronounced in view of the most recent market tensions. The data-dependent approach remains key. For the time being, the ECB's Governing Council intends to continue reinvesting the principal payments from maturing securities purchased under the Pandemic Emergency Purchase Program (PEPP) until at least the end of 2024, whereas the Asset Purchase Program (APP) portfolio will be wound down gradually from March 2023 onwards, with an initial monthly portfolio reduction of EUR 15bn until June 2023. The subsequent pace of the reduction will be determined over time. Cumulative net purchases of German government bonds under the PEPP amounted to about EUR 398.3bn as of Jan-23 and to EUR 665.2bn under the PSPP as of Feb-23.

Against the backdrop of further rising interest rates, exposures of the financial sector will have to be monitored more closely, notwithstanding the relatively solid position of the German banking sector. At 14.9% as of Q3-22 (EU: 15.0%, EBA data), the CET1 ratio remains slightly above levels recorded prior to the outbreak of the corona crisis, pointing to a capital buffer to cushion adverse developments. In terms of asset quality, a low NPL ratio (Q3-22: 1.0%, EU: 1.8%, EBA data) adds to the impression of comparatively sound conditions prevailing.

That said, drawing on the latest Financial Stability Report issued by the Federal Financial Supervisory Authority (BaFin, Jan-23), roughly a third (34%) of German financial institutions supervised by BaFin were subject to heighted interest rate risk, implying a drop in the equity ratio by more than 20% in the event of a change in interest rates by 200 basis points. Moreover, although the sector's profitability should benefit from a higher interest rate environment, a possible inversion of the yield curve could ultimately hamper profitability.

Concerning related contingency risks, the German housing market has been subject to scrutiny by the supervisor for a prolonged period, given rapidly rising house prices and increasing lending for residential real estate. Due to the mix of increasing costs of new financing, partial rising costs of servicing existing private sector debt, as well as high energy and material costs, risks on the real estate market have increased, entailing potential negative repercussions for the banking sector. According to the Bundesbank, the outstanding volume of residential credit amounted to roughly EUR 1,774bn as of Q4-22, corresponding to an increase of 62% compared to Q4-09, when the currently ongoing upward trend was about to start.

Affordability indicators such as the OECD's price-to-income ratio have backed the assessment of prevailing overvaluations. As a consequence, macroprudential levers such as a higher countercyclical capital buffer and a newly introduced systemic risk buffer regarding residential real estate loans were activated with effect from February 2023 to counter increasing risks regarding real estate and the wider financial sector. Moreover, according to the January 2023 Bank Lending Survey, German banks tightened their credit standards for loans to enterprises and for households (incl. house purchase) in Q4-22.

Various metrics measuring German housing prices still point to strong annual price increases, although the indicators also hint that prices have begun to recede of late. Growth in lending to private households for house purchases has been slowing since last year (Jan-23: 5.2% y-o-y). House price increases should thus continue to moderate this year, although supply-demand fundamentals could put a floor to that at some point. In Q3-22, the annual increase in house prices had dropped to 4.9%, from 12.8% in Q3-21 (Eurostat data).

Taking a medium-to-longer term view, risks to fiscal sustainability continue to emanate from demographics. Projected unfavorable developments suggest that pressure on age-related spending is set to rise markedly over the coming years. Efforts to address these challenges include the government's intention to work towards a partial capital coverage of the statutory pension system, to be managed as a permanent fund, initially possibly by KENFO, the German Nuclear Waste Management Fund. In an envisaged first step, a capital stock amounting to EUR 10bn is to be set up in 2023.

Foreign Exposure

The sovereign's relatively high degree of trade openness and sensitivity to global growth and trade dynamics generally constitute sources of vulnerability, alongside the pronounced dependency on global value chains. Nevertheless, we consider these features to be more than offset by Germany's position as a large net external creditor, fed by persistent current account surpluses on the back of a high degree of export competitiveness.

Amid a narrowing surplus in goods trade due to strongly increased prices for energy imports, Germany's current account surplus shrank to about EUR 145.1bn in 2022 (Bundesbank, preliminary data), corresponding to 3.8% of GDP last year (2021: 7.4% of GDP). At 3.0% of GDP, Germany posted the lowest surplus in goods trade since the year 2000. To be sure, cars and car parts remained the most important export goods, with this category accounting for the highest export surplus, followed by machinery and pharmaceutical products. Having displayed a more or less balanced position in the years 2020 and 2021, chiefly due to high income from patents for Covid-19 vaccines and subdued travel activity, the service balance returned to negative territory, coming to -1.0% of GDP last year.

Given the moderation in energy prices already seen over recent months, and assuming this to continue to some degree going forward, we expect the current account position to become more positive again this year and next, mainly via the goods balance. Recent peaks in the surplus may not be reached over the medium term, though, partly as a consequence of structurally higher import demand amid the twin transition.

The surpluses continue to support Germany's highly positive net international investment position (NIIP), one of the largest positions among EU countries, which rose by 6.5p.p. to 70.7% of GDP in 2021, on the back of a higher positive net position of portfolio investment and of direct investment. More recently, the position increased further to 74.4% of GDP as of Q3-22 (Eurostat data), and should remain on its upward trajectory going forward.

Rating Outlook and Sensitivity

Our rating outlook for the Federal Republic of Germany's long-term credit ratings is stable. Downside risks relate to macroeconomic and fiscal performance, currently compounded by the geopolitical tensions, the energy price shock and the ECB's aggressive monetary policy tightening. We view these as broadly balanced by the sovereign's ability to adjust to economic shocks, partly thanks to its exceptionally strong institutional set-up, its economic diversification, convincing fiscal track record and ample fiscal and external leeway.

We could consider lowering the outlook or the rating in the event of a considerable worsening of Germany's medium-term growth prospects, possibly on the back of an escalating geopolitical

situation, and/or a substantial and more protracted deterioration of fiscal metrics, the latter possibly exacerbated by materialization of contingent liabilities.

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Ratings*

Long-term sovereign rating	AAA /stable
Foreign currency senior unsecured long-term debt	AAA /stable
Local currency senior unsecured long-term debt	AAA /stable

*) Unsolicited

ESG Factors

Creditreform Rating has signed the ESG in credit risk and ratings statement formulated within the framework of the UN Principles for Responsible Investment (UN PRI). The rating agency is thus committed to taking environmental and social factors as well as aspects of corporate governance into account in a targeted manner when assessing creditworthiness.

While there is no universal and commonly agreed typology or definition of environment, social, and governance (ESG) criteria, Creditreform Rating views ESG factors as an essential yardstick for assessing the sustainability of a state. Creditreform Rating thus takes account of ESG factors in its decision-making process before arriving at a sovereign credit rating. In the following, we explain how and to what degree any of the key drivers behind the credit rating or the related outlook is associated with what we understand to be an ESG factor, and outline why these ESG factors were material to the credit rating or rating outlook.

For further information on the conceptual approach pertaining to ESG factors in public finance and the relevance of ESG factors to sovereign credit ratings and to Creditreform Rating credit ratings more generally, we refer to the basic documentation, which lays down key principles of the impact of ESG factors on credit ratings.

ESG Factor Box

The governance dimension plays a pivotal role in forming our opinion on the creditworthiness of the sovereign. As the World Bank's Worldwide Governance Indicators Rule of Law, Government Effectiveness, Voice and Accountability, and Control of corruption have a material impact on Creditreform Rating's assessment of the sovereign's institutional set-up, which we regard as a key rating driver, we consider the ESG factors 'Judicial System and Property Rights', 'Quality of Public Services and Policies', 'Civil Liberties and Political Participation', and 'Integrity of Public Officials' as highly significant to the credit rating.

Since indicators relating to the assessment of an economy's competitive stance by e.g. the World Bank, the World Economic Forum, the European Commission, and IMD Business School and the World Intellectual Property Organization (UN) add further input to our rating or adjustments thereof, we judge the ESG factor 'Business Environment' as significant.

The social dimension plays an important role in forming our opinion on the creditworthiness of the sovereign. Labor market metrics constitute crucial goalposts in Creditreform Rating's considerations on macroeconomic performance of the sovereign, and we regard the ESG factor 'Labor' as significant to the credit rating or adjustments thereof. Indicators or projections providing insight into likely demographic developments and related cost represent a social component affecting our rating or adjustments thereof. We regard the ESG factor 'Demographics' as less significant.

While Covid-19 may have significant adverse effects on several components in our ESG factor framework in the medium to long term, it has not been visible in the relevant metrics we consider in the context of ESG factors – though it has a significant bearing concerning economic prospects and public finances. To be sure, we will follow ESG dynamics closely in this regard.

Economic Data

[in %, otherwise noted]	2017	2018	2019	2020	2021	2022e	2023e
Macroeconomic Performance							
Real GDP growth	2.7	1.0	1.1	-3.7	2.6	1.8	0.2
GDP per capita (PPP, USD)	53,374	55,021	56,468	54,993	58,757	63,835	65,865
Credit to the private sector/GDP	81.8	82.8	84.3	89.7	89.1	88.9	n/a
Unemployment rate	3.6	3.2	3.0	3.7	3.6	3.0	n/a
Real unit labor costs (index 2015=100)	99.8	101.1	102.2	103.8	101.3	100.2	99.4
World Competitiveness Ranking (rank)	13	15	17	17	15	15	n/a
Life expectancy at birth (years)	81.1	81.0	81.3	81.1	80.8	n/a	n/a
Institutional Structure							
WGI Rule of Law (score)	1.6	1.6	1.6	1.5	1.6	n/a	n/a
WGI Control of Corruption (score)	1.8	1.9	1.9	1.9	1.8	n/a	n/a
WGI Voice and Accountability (score)	1.4	1.4	1.4	1.4	1.4	n/a	n/a
WGI Government Effectiveness (score)	1.6	1.6	1.5	1.4	1.3	n/a	n/a
HICP inflation rate, y-o-y change	1.7	1.9	1.4	0.4	3.2	8.7	6.4
GHG emissions (tons of CO_2 equivalent p.c.)	11.1	10.6	10.0	8.9	n/a	n/a	n/a
Default history (years since default)	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fiscal Sustainability							
Fiscal balance/GDP	1.3	1.9	1.5	-4.3	-3.7	-2.6	-2.2
General government gross debt/GDP	64.6	61.3	58.9	68.0	68.6	67.0	65.3
Interest/revenue	2.3	2.0	1.7	1.4	1.2	n/a	n/a
Debt/revenue	142.0	132.5	126.7	147.6	144.4	n/a	n/a
Total residual maturity of debt securities (years)	6.0	6.2	6.5	6.7	7.1	7.5	n/a
Foreign exposure							
Current account balance/GDP	7.8	8.0	7.6	7.0	7.4	n/a	n/a
International reserves/imports	0.2	0.2	0.2	0.2	0.2	n/a	n/a
NIIP/GDP	44.2	52.3	58.5	64.1	70.7	n/a	n/a
External debt/GDP	146.2	147.6	147.3	163.6	169.4	n/a	n/a

Sources: IMF, World Bank, Eurostat, AMECO, ECB, Destatis, IMD Business School, own estimates

Appendix

Rating History

Event	Publication Date	Rating /Outlook
Initial Rating	29.07.2016	AAA/ stable
Monitoring	30.06.2017	AAA/ stable
Monitoring	27.04.2018	AAA/ stable
Monitoring	26.04.2019	AAA/ stable
Monitoring	24.04.2020	AAA/ stable
Monitoring	16.04.2021	AAA/ stable
Monitoring	08.04.2022	AAA /stable
Monitoring	24.03.2023	AAA /stable

Regulatory Requirements

In 2011 Creditreform Rating AG (CRAG) was registered within the European Union according to EU Regulation 1060/2009 (CRA-Regulation). Based on the registration Creditreform Rating AG is allowed to issue credit ratings within the EU and is bound to comply with the provisions of the CRA-Regulation. The rating was not endorsed by Creditreform Rating AG from a third country as defined in Article 4 (3) of the CRA-Regulation.

This sovereign rating is an unsolicited credit rating. Neither the rated sovereign nor a related third party participated in the credit rating process. Creditreform Rating AG had no access to the accounts, representatives, or other relevant internal documents for the rated entity or a related third party. Between the disclosure of the credit rating to the rated entity and the public disclosure no amendments were made to the credit rating.

Unsolicited Credit Rating	
With Rated Entity or Related Third Party Participation	NO
With Access to Internal Documents	NO
With Access to Management	NO

The rating was conducted on the basis of CRAG's "Sovereign Ratings" methodology (v1.2, July 2016) in conjunction with its basic document "Rating Criteria and Definitions" (v1.3, January 2018). CRAG ensures that methodologies, models and key rating assumptions for determining sovereign credit ratings are properly maintained, up-to-date, and subject to a comprehensive review on a periodic basis. A complete description of CRAG´s rating methodologies and basic document "Rating Criteria and Definitions" is published on our website.

To prepare this credit rating, CRAG has used the following substantially material sources: International Monetary Fund, World Bank, Organization for Economic Co-operation and Development, Eurostat, European Commission, European Banking Authority, European Central Bank, World Economic Forum, IMD Business School, European Center for Disease Prevention and Control (ECDC), Blavatnik School of Government, Destatis, Deutsche Bundesbank, Bundesministerium der Finanzen, Bundesagentur für Arbeit, Bundesanstalt für Finanzdienstleistungsaufsicht, Bundesministerium für Arbeit und Soziales.

A Rating Committee was called consisting of highly qualified analysts of CRAG. The quality and extent of information available on the rated entity was considered satisfactory. The analysts and committee members declared that the rules of the Code of Conduct were complied with. No conflicts of interest were identified during the rating process that might influence the analyses and judgements of the rating analysts involved or any other natural person whose services are placed at the disposal or under the control of Creditreform Rating AG and who are directly involved in credit rating activities or approving credit ratings and rating outlooks. The analysts presented the results of the quantitative and qualitative analyses and provided the Committee with a recommendation for the rating decision. After the discussion of the relevant quantitative and qualitative risk factors, the Rating Committee arrived at a unanimous rating decision. The weighting of all risk factors is described in CRAG´s "Sovereign Ratings" methodology. The main arguments that were raised in the discussion are summarized in the "Reasons for the Rating Decision".

As regards the rating outlook, the time horizon is provided during which a change in the credit rating is expected. This information is available within the credit rating report. There are no other attributes and limitations of the credit rating or rating outlook other than displayed on the CRAG website. In case of providing ancillary services to the rated entity, CRAG will disclose all ancillary services in the credit rating report.

The date at which the credit rating was released for distribution for the first time and when it was last updated including any rating outlooks is indicated clearly and prominently in the rating report; the first release is indicated as “initial rating”; other updates are indicated as an “update”, “upgrade or downgrade”, “not rated”, “affirmed”, “selective default” or “default”.

In accordance with Article 11 (2) EU-Regulation (EC) No 1060/2009 registered or certified credit rating agency shall make available in a central repository established by ESMA information on its historical performance data, including the ratings transition frequency, and information about credit ratings issued in the past and on their changes. Requested data are available on the ESMA website: https://cerep.esma.europa.eu/cerep-web/statistics/defaults.xhtml.

An explanatory statement of the meaning of each rating category and the definition of default are available in the credit rating methodologies disclosed on the website.

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