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DBRS Morningstar Confirms Federal Republic of Germany at AAA, Stable Trend

Industry Group: Public Finance – Sovereigns

Region: Europe

DBRS Ratings GmbH (DBRS Morningstar) confirmed the Federal Republic of Germany's (Germany) Long-Term Foreign and Local Currency — Issuer Ratings at AAA. At the same time, DBRS Morningstar confirmed Germany's Short-Term Foreign and Local Currency — Issuer Ratings at R-1 (high). The trend on all ratings is Stable.

KEY RATING CONSIDERATIONS

The Stable trend reflects DBRS Morningstar's view that Germany's credit fundamentals remain solid, despite the adverse impacts of the recent energy shock on the economic and fiscal outlooks. Economic headwinds for the German economy have increased in recent months as the strong increase in inflationary pressures particularly for energy has led to a marked deterioration of consumer and business sentiment and weakened households' purchasing power. In addition, the shortfall of Russian gas supplies has raised energy security risks particularly for gas-intensive manufacturing industries. DBRS Morningstar expects the energy shock to raise budgetary pressures particularly next year due to the recently announced introduction of temporary gas and electricity price brakes from early 2023 until mid-2024 through which the government seeks to cushion the adverse impact of energy price inflation on household and business finances. This weakening of the fiscal outlook, however, is balanced by Germany's ample fiscal space for absorbing a temporary increase in budgetary pressures. Fiscal space is bolstered by a still moderate debt level, a very low interest burden and favourable government financing conditions due to Germany's status as a safe haven.

Germany's AAA ratings are supported by its competitive and highly developed economy, its sound public finances, high institutional quality and strong external finances. However, the country faces important challenges stemming from potential high-for-longer energy prices and unfavourable demographic trends. In particular, DBRS Morningstar views the medium-to-long-term trajectory of domestic electricity prices as an important determinant for the international competitiveness of energy-intensive manufacturing. Furthermore, contingent liabilities, emanating from state guarantees for domestic companies and fiscal burden sharing within the currency union could eventually weigh on public finances. While the current financial condition of the banking sector is sound, DBRS Morningstar views the deterioration of the economic environment and elevated housing prices in tandem with rising interest rates as risk factors for banks' future asset quality.

RATING DRIVERS

Germany is strongly placed within the AAA category. DBRS Morningstar could downgrade the ratings if the country's growth and fiscal prospects deteriorate severely enough to place the public debt-to-GDP ratio on a persistent upward trajectory. Moreover, a materialisation of substantial contingent liabilities could put negative pressure on the ratings.



RATING RATIONALE

Energy Shock Has Raised Economic Headwinds And Downside Risks For the German Economy

The German economy benefitted from a rebound of service sector activity from the COVID-19 shock over the course of this year but has started to face rising economic headwinds from the energy shock and from high and broadening inflationary pressures. Real GDP rose by 2.2% during the first nine months of 2022 on a year-on-year basis as the easing of Covid-19 containment measures in early 2022 fostered private consumption, particularly of services and household finances still benefited from pandemic-induced savings. At the same time, the strong decrease in Russian gas supplies over the past months has led to a large increase in energy price inflation and tightening gas supplies which, in turn, weakened manufacturing activity in energy-intensive industries. While total gross value added in the manufacturing sector expanded by a modest 0.5% (yoy) during Q1-Q3 2022, this headline figures masks a substantial divergence of growth dynamics across different manufacturing industries. Production levels of electronic products and pharmaceuticals expanded by a strong 5.7% and 3.8%, respectively during the first nine months of 2022, whereas the production of chemicals (-8.2%), plastics (-3.7%) and basic metals (-3.6%) declined markedly as the strong upswing in European gas and electricity wholesale prices decreased the international price competitiveness of local producers. The economy's short-term growth outlook is clouded by the strong increase in inflationary pressures over the past months which have led to a marked deterioration of consumer and business sentiment and weakened households' purchasing power. Annual consumer price inflation (HICP) stood at a high 11.6% in October 2022, driven by still very high energy price inflation (43.5%). Moreover, inflationary pressures have broadened in recent months with core inflation amounting to a high 6.7% in October 2022. Taking into account the recent deterioration of economic sentiment, the European Commission has revised downward its growth projections for the Germany economy in November 2022 and now forecasts real GDP to contract by 0.6% in 2023.

While not envisaged in our baseline view, the German economy is exposed to important downside risks as the shortfall of Russian gas supplies has raised energy security risks particularly for gas-intensive manufacturing industries until the completion of alternative gas import infrastructure. The government has rented five floating LNG terminals two of which are currently planned to come on stream at end 2022. The three remaining floating LNG terminals are projected to become operational next winter. The Bundesnetzagentur, the domestic regulator, estimates that household and industrial gas consumption needs to decrease by at least 20% compared to 2021 levels in order to avoid a rationing of gas over the next two heating periods. Even in the absence of gas shortages, DBRS Morningstar expects the current energy crisis to lead to some long-term scarring effects on the economy's production capacities in gas-intensive industries as local gas prices are unlikely to return to their pre-crisis level due to a higher reliance on more expensive LNG supplies. Furthermore, the uncertain medium-to-long-term trajectory of electricity prices constitutes a crucial determinant for the international competitiveness of energy-intensive manufacturing. While DBRS Morningstar considers Germany's unfavourable demographic trends as an important risk factor, Germany's credit profile continues to be supported by the competitive and highly developed nature of the economy and its high level of labour productivity.

Budgetary Pressures Are Likely To Rise Next Year Due To Energy Support Measures for Households and Businesses

Fiscal accounts have been adversely affected by the economic impact of COVID-19 and, more recently, by the energy price shock. After posting recurring budget surpluses in the years prior to the COVID-19 shock, the general government budget balance has turned into a deficit since 2020 and is expected to continue to register deficits over the medium-term. While budgetary pressures have eased



moderately in the current year, they are likely to rise again next year due to the recently announced energy support measures (e.g. electricity and gas price brakes). In terms of 2022, the European Commission forecasts the general government budget deficit to narrow to 2.3% of GDP from 3.7% in 2021 due to a gradual phasing-out of COVID-19 support measures and as high inflationary pressures contributed to an upswing of nominal tax revenues, particularly value added tax. General government tax revenues, excluding municipal taxes, rose by a large 9.3% (yoy) during the first ten months of 2022.

Going forward, the European Commission forecasts the general government budget deficit to widen to 3.1% of GDP in 2023 and to 2.6% in 2024. The projected widening of the budget deficit next year reflects the adoption of several temporary energy support measures such as the gas and electricity price brakes through which the government aims to cushion the adverse impact of high energy prices on households and companies. In DBRS Morningstar's view, the budget deficit next year might well exceed the above mentioned forecast by the European Commission as the recently published 2023 budget for the Economic Stabilisation Fund through which the government seeks to finance most energy-related support measures includes budget appropriations for energy support measures in 2023 (incl. participation in energy company Uniper) totaling a large EUR 133 billion (3.3% of GDP). At the same time, DBRS Morningstar notes that fiscal projections for next year are subject to substantial uncertainty as the actual fiscal costs of the gas and electricity price brakes will depend on the future development of energy prices. In terms of the national fiscal framework, we view the central government's increased reliance on off-budget funds (e.g. Economic Stabilisation Fund, Climate and Transformation Fund, Special Fund for the Bundeswehr) for financing energy support measures and public investments on climate transition and defence in the years ahead as detrimental to the transparency of the debt brake, the national fiscal rule. While the operations of these special funds will be captured by general government accounts (prepared according to the European System of Accounts), they won't be reflected in central government accounts set up in line with the stipulations of the debt brake.

Fiscal Space is Large due to Still Moderate Debt Levels and Favourable Financing Conditions

In DBRS Morningstar's view, Germany has ample fiscal space to accommodate the projected moderate budgetary deficits over the next years. Fiscal space benefits from still moderate government debt levels, a very low interest burden and Germany's status as a safe haven. General government gross debt increased on the back of the COVID-19 shock to 69.6% of GDP at end 2021 up from 58.9% at end 2019. While the government is projected to continue to incur budget deficits over the next years, debt dynamics benefit from high nominal GDP growth. The European Commission currently forecasts general government debt to decrease to 65.4% of GDP at end 2024. Risks for public finances emanate from potential support needs for companies affected by the energy shock. This was exemplified by recent support measures for the energy company Uniper. Going forward, a potential disruption of industrial activities due to gas shortages constitutes an important downside risk for public finances as it markedly would raise the support needs for companies particularly from energy-intensive manufacturing industries. Despite the increase in budgetary pressures over the past few years, Germany still benefits from very favourable financing conditions. The European Commission forecasts Germany's annual interest expenditures at a very low 0.7% of GDP in 2023 compared to euro area averages of 1.8%. In general, government financing benefits from the government's role as a benchmark issuer for the euro area. Germany's safe-haven status has a positive impact on the "Debt and Liquidity" building block assessment.



Financial Condition of The Banking Sector Is Sound But Asset Quality Risks Are Rising

DBRS Morningstar assesses the current financial condition of the banking sector as sound but views a deterioration in the economic environment and rising interest rates as risk factors for banks' future asset quality. While the banking sector continues to be hampered by structural problems such as a low profitability, banks' current financial strength benefits from still good capitalization buffers with the banking sector' average capital adequacy ratio standing at 18.7% in June 2022, down from 19.1% % a year earlier. Furthermore, banks have so far weathered the COVID-19 shock well which can partly be ascribed to extensive government support measures for COVID-hit industries. The average NPL ratio of German banks (supervised by the EBA) amounted to a low 1.0% in June 2022 compared to 1.3% in December 2019. Going forward, however, we expect asset quality risks to increase as rising economic headwinds and the increase in interest rates are likely to strain the repayment capacity of some borrowers. This applies particularly to companies which have been affected by higher energy costs and have not been able to pass on the latter to their customers. In this regard, DBRS Morningstar, however, notes that the size of banks' total loan exposure towards the manufacturing sector (4.9% of loans to the nonfinancial private sector in September 2022) and utilities (4.4%) is moderate. Risks to asset quality might also emerge from a potential correction of housing prices in tandem with rising interest rates given the banking sector's sizeable stock of household mortgages (37.3%) and commercial real estate loans (9.8%). Housing prices (particularly residential real estate) have risen markedly over the past years, clearly exceeding the increases in rents and incomes. In its latest financial stability review, the Bundesbank estimated the overvaluation in the residential real estate market at 15-40% in 2021. In DBRS Morningstar's view, financial risks from elevated housing prices are partly mitigated by the comparatively low level of household debt (56% of GDP in Q1 2022) and long interest rate fixation periods of most mortgages.

External Finances Robust to Potential Global Trade and Financial Shocks

Germany's external finances are strong and robust to potential shocks. The economy commands over a structural current account surplus which has mitigated the impact of the recent energy price shock on external finances. The IMF forecasts the current account surplus to decrease to a still large 4.2% of GDP in 2022 from 7.4% in 2021 as the strong increase in energy prices increased the economy's energy import bill and the rebound of private consumption led to a strong increase in service imports (e.g. tourism). Furthermore, DBRS Morningstar assesses the economy's vulnerability to a potential global financial shock as low due to its status as a safe haven and its large net external asset position. At end 2021, Germany's net international investment position amounted to a large 70.7% of GDP due to high foreign assets held particularly by non-depository financial institutions and, to a lesser extent, the central bank. This strong net external creditor position supports the "Balance of Payments" building block assessment.

Germany's Rating Is Underpinned by High Institutional Quality

Germany's high institutional quality is a key strength of its credit profile. Germany is a strong performer on the World Bank's Governance Indicators as it is characterized by a high rule of law, low levels of corruption and stable political and economic institutions. Moreover, political polarization is less pronounced than in some other advanced economies. The federal election in September 2021 has led to the formation of a 'traffic-light' government coalition which comprises centre-left and centre-right parties (Social Democrats, Green Party, Free Democrats). The coalition government aims to accelerate the green and the digital transitions of the economy by raising public investment moderately and streamlining regulatory frameworks. In terms of the government's response



to the recent energy shock, DBRS Morningstar notes that policymaking has partly been complicated by programmatic differences between the three coalition parties particularly with regard energy and fiscal policies.

ENVIRONMENTAL, SOCIAL, GOVERNANCE CONSIDERATIONS

There were no Environmental, Social or Governance factors that had a significant or relevant effect on the credit analysis.

A description of how DBRS Morningstar considers ESG factors within the DBRS Morningstar analytical framework can be found in the DBRS Morningstar Criteria: Approach to Environmental, Social, and Governance Risk Factors in Credit Ratings at https://www.dbrsmorningstar.com/research/396929/dbrs-morningstar-criteria-approach-to-environmental-social-and-governance-risk-factors-in-credit-ratings (17 May 2022).

For more information on the Rating Committee decision, please see the Scorecard Indicators and Building Block Assessments.

EURO AREA RISK CATEGORY: LOW

Notes:

All figures are in EUR unless otherwise noted. Public finance statistics reported on a general government basis unless specified.

The principal methodology is the Global Methodology for Rating Sovereign Governments https://www.dbrsmorningstar.com/research/401817/global-methodology-for-rating-sovereign-governments (29 August 2022). In addition, DBRS Morningstar uses the DBRS Morningstar Criteria: Approach to Environmental, Social, and Governance Risk Factors in Credit Ratings https://www.dbrsmorningstar.com/research/396929/dbrs-morningstar-criteria-approach-to-environmental-social-and-governance-risk-factors-in-credit-ratings (17 May 2022) in its consideration of ESG factors.

The sources of information used for this rating include Germany's Federal Ministry of Finance (German Draft Budgetary Plan 2023; Monthly Report November 2022), German Finance Agency (Deutsche Finanzagentur), Deutsche Bundesbank (Monthly Report November 2022; Financial Stability Review 2022), Federal Ministry for Economic Affairs and Climate Action, Federal Statistical Office, Federal Financial Supervisory Authority (BaFin), European Banking Authority, German Council of Economic Experts (Annual Report 2022-23), Ifo Institute, European Commission (Autumn 2022 Economic Forecast November 2022), Statistical Office of the European Communities, European Central Bank (ECB), IMF (World Economic Outlook October 2022; International Financial Statistics; Germany: 2022 Article IV Consultation July 2022; Germany: Financial System Stability Assessment July 2022), OECD (Housing Prices), BulwienGesa AG (Housing Price Index), Germany Climate Action Plan, German Council of Experts on Climate Change (Biennial Report 2022), Social Progress Index, World Economic Forum Global Competitiveness Index, World Bank, Bank for International Settlements, Our World In Data, Haver Analytics. DBRS Morningstar considers the information available to it for the purposes of providing this rating to be of satisfactory quality.

With respect to FCA and ESMA regulations in the United Kingdom and European Union, respectively, this is an unsolicited credit rating. This credit rating was not initiated at the request of the issuer.



With Rated Entity or Related Third Party Participation: YES With Access to Internal Documents: NO With Access to Management: NO

DBRS Morningstar does not audit the information it receives in connection with the rating process, and it does not and cannot independently verify that information in every instance.

The conditions that lead to the assignment of a Negative or Positive trend are generally resolved within a 12-month period. DBRS Morningstar's outlooks and ratings are under regular surveillance.

For further information on DBRS Morningstar historical default rates published by the European Securities and Markets Authority (ESMA) in a central repository, see: https://cerep.esma.europa.eu/cerep-web/statistics/defaults.xhtml. DBRS Morningstar understands further information on DBRS Morningstar historical default rates may be published by the Financial Conduct Authority (FCA) on its webpage: https://www.fca.org.uk/firms/credit-rating-agencies.

The sensitivity analysis of the relevant key rating assumptions can be found at: https://www.dbrsmorningstar.com/research/406030.

This rating is endorsed by DBRS Ratings Limited for use in the United Kingdom.

Lead Analyst: Yesenn El-Radhi, Vice President, Global Sovereign Ratings

Rating Committee Chair: Nichola James, Managing Director, Co-Head of Sovereign Ratings, Global Sovereign Ratings

Initial Rating Date: 16 June 2011 Last Rating Date: 3 June 2022

DBRS Ratings GmbH Neue Mainzer Straße 75 60311 Frankfurt am Main Deutschland Tel. +49 (69) 8088 3500 Geschäftsführer: Detlef Scholz

Amtsgericht Frankfurt am Main, HRB 110259

For more information on this credit or on this industry, visit www.dbrsmorningstar.com.

Issuer	Debt Rated	Rating Action	Rating	Trend
Germany, Federal Republic o	f Long-Term Foreign Currency — Issuer Rating	Confirmed	AAA	Stable
Germany, Federal Republic o	f Long-Term Local Currency — Issuer Rating	Confirmed	AAA	Stable
Germany, Federal Republic o	f Short-Term Foreign Currency — Issuer Rating	Confirmed	R-1 (high)	Stable
Germany, Federal Republic o	f Short-Term Local Currency — Issuer Rating	Confirmed	R-1 (high)	Stable



Contacts

Yesenn El-Radhi Vice President, Global Sovereign Ratings +49 69 8088 3517 vesenn.el-radhi@dbrsmorningstar.com

Nichola James
Managing Director, Co-Head of Sovereign Ratings
+49 69 8088 3689
nichola.james@dbrsmorningstar.com

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Germany

Scorecard Indicators Source Current Scorecard Input

Fiscal Management and Policy	2016	2017	2018	2019	2020	2021	2022	2023	2024			
Overall Fiscal Balance (% of GDP)	1.2%	1.3%	1.9%	1.5%	-4.3%	-3.7%	-3.3%	-2.5%	-1.5%	IMF WEO	13 year average	-0.6%
Government Effectiveness (Percentile Rank)	93.8	93.8	92.3	92.8	88.9	88.0	-	-	-	World Bank	5 year average	91.2
Debt and Liquidity	2016	2017	2018	2019	2020	2021	2022	2023	2024			
General Government Gross Debt (% of GDP)	69.0%	64.6%	61.3%	58.9%	68.0%	69.6%	71.1%	68.3%	65.6%	IMF WEO	5 year projection	61.0%
Interest Costs (% of GDP)	0.9%	0.8%	0.7%	0.6%	0.4%	0.4%	0.6%	0.7%	0.7%	IMF WEO	5 year average	0.5%
Economic Structure and Performance	2016	2017	2018	2019	2020	2021	2022	2023	2024			
GDP per Capita (USD thousands)	42.1	44.6	48.0	46.8	46.7	51.2	48.4	49.4	52.0	IMF WEO	10 year average	45.9
Output Volatility (%)	2.0%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.2%	2.2%	IMF WEO	Latest	2.3%
Economic Size (USD billions)	3,469	3,690	3,976	3,889	3,887	4,263	4,031	4,120	4,337	IMF WEO	5 year average	3,941
Monetary Policy and Financial Stability	2016	2017	2018	2019	2020	2021	2022	2023	2024			
Rate of Inflation (%, EOP)	1.7%	1.6%	1.7%	1.5%	-0.7%	5.7%	10.2%	5.4%	2.9%	IMF WEO	13 year average	2.6%
Total Domestic Savings (% of GDP)	202%	205%	203%	211%	232%	237%	-	-	-	ECB/IMF	Latest ¹	237%
Change in Domestic Credit (% of GDP)	-0.3%	0.4%	2.4%	1.8%	8.1%	-1.1%	-	-	-	BIS/IMF	7 year average ¹	1.5%
Net Non-Performing Loans (% of Capital)	14.7%	11.9%	9.1%	6.8%	6.2%	5.4%	-	-	-	IMF IFS	Latest ¹	5.4%
Change in Property Price/GDP Index (%)	3.1%	3.9%	3.8%	2.5%	7.3%	-0.1%	-	-	-	Bulwien/IMF	7 year average ¹	3.2%
Balance of Payments	2016	2017	2018	2019	2020	2021	2022	2023	2024			
Current Account Balance (% of GDP)	8.5%	7.8%	8.0%	7.6%	7.0%	7.4%	4.2%	5.3%	6.3%	IMF WEO	8 year average	6.7%
International Investment Position (% of GDP)	39.2%	44.2%	52.3%	58.5%	64.1%	70.7%	-	-	-	IMF	5 year average ¹	58.0%
Share of Global Foreign Exchange Turnover (Ratio)	195.0%	200.7%	199.3%	206.9%	208.5%	212.6%	-	-	-	BIS/IMF	Latest	212.6%
Exchange Rate Classification (see footnote)	5	5	5	5	5	5	-	-	-	IMF	Latest	5
Political Environment	2016	2017	2018	2019	2020	2021	2022	2023	2024			
Voice and Accountability (Percentile Rank)	95.1	95.6	94.7	95.7	94.2	95.7	-	-	-	World Bank	5 year average	95.2
Rule of Law (Percentile Rank)	91.8	91.3	91.3	92.3	91.3	91.8	-	-	-	World Bank	5 year average	91.6

See DBRS Morningstar's Global Methodology for Rating Sovereign Governments for additional details on the methodology behind the scorecard indicators and associated scoring thresholds. Exchange Rate Classifications: Freely floating exchange rate = 1; Float = 2; Crawls, banded pegs, and other managed = 3; Stabilized = 4; Pegs, currency unions and dollarized arrangements = 5.

Rating Committee Date:

30-Nov-2022

¹ Scores for 2021 have been computed using the most recent data when year-end data is not available.

Germany



Building Block Assessments and Rating Committee Summary

30-Nov-2022

Building Blocks	Scorecard Result	Quantitative Assessment	Net Impact of Qualitative Factors	Building Block Assessment
Fiscal Management and Policy	19.25	Very Strong	N/A	Very Strong
Debt and Liquidity	15.21	Strong/Good	+ 1 Category	Strong
Economic Structure and Performance	17.62	Strong	N/A	Strong
Monetary Policy and Financial Stability	17.64	Strong	N/A	Strong
Balance of Payments	16.21	Strong/Good	+ 1 Category	Strong
Political Environment	20.00	Very Strong	N/A	Very Strong
Overall Assessment	Composite Scorecard Result	Scorecard Rating Range	Composite Building Block Assessment	Indicative Rating Range
	88.3	AAA - AA (high)	91.6	AAA - AA (high)
Germany's Long-Term Foreign Curre	ncy - Issuer Rating		AAA	

Main topics discussed in the Rating Committee include: Recent macroeconomic developments and the economy's growth outlook, the energy shock and potential scarring effects on energy-intensive industries, budgetary developments and the fiscal outlook, the government's financing conditions and financial sector stability risks. For additional details on DBRS Morningstar analysis and opinions, please see the accompanying rating report.

DBRS Morningstar Scorecard: Scoring Ranges and Associated Assessment Categories

Lower Bound	0.00	1.00	3.00	5.00	7.00	9.00	11.00	13.00	15.00	17.00	19.00
Upper Bound	0.99	2.99	4.99	6.99	8.99	10.99	12.99	14.99	16.99	18.99	20.00
Assessment Category	Very Weak	Weak	Weak/ Poor	Poor	Poor/ Moderate	Moderate	Good/ Moderate	Good	Strong/ Good	Strong	Very Strong

Germany, Federal Republic of

ESG Checklist

ctor	ESG Credit Consideration Applicable to the Credit Analysis:	Y/N	Extent of the Effect of ESG Factor on the O Analysis: Relevant (Significant (S)*
nvironmental	Overall:	N	N
Emissions, Effluents, and Waste	Do the costs or risks result in changes to a government's financial standing or relationship with other governments, and does this affect the assessment of credit risk?	N	N
Carbon and GHG Costs	Does a governments as a result of its GHG emissions policies, and does this affect the assessment of credit risk?	N	N
	Will recent regulatory changes have an impact on economic resilience or public finances?	N	N
	Carbon and GHG Costs:	N	N
Resource and Energy Management	Does the scarcity of key resources impose high costs on the public sector or make the private sector less competitive?	N	N
	Is the economy reliant on industries that are vulnerable to import or export price shocks?	N	N
	Resource and Energy Management:	N	N
Land Impact and	Is there a risk to a government's economic or tax base for failing to effectively regulate land impact	N	N
Biodiversity	and biodiversity activities?	IN	N
Climate and Weather Risks	Will climate change and adverse weather events potentially destroy a material portion of national wealth, weaken the financial system, or disrupt the economy?	N	N
Passed-through Environmental credit considerations	Does this rating depend to a large extent on the creditworthiness of another rated issuer which is impacted by environmental factors (see respective ESG checklist for such issuer)?	N	N
	Overell.	N	N
Ocial	Overall: Compared with regional or global peers, is the domestic labour force more or less competitive, flexible,	N	N
Human Capital and Human Rights	and productive? Are labour or social conflicts a key source of economic volatility?	N N	N N
	Are individual and human rights insufficiently respected or failing to meet the population's	IN	IN .
	expectations?	N	N
	Is the government exposed to heavy, coordinated international pressure as a result of its respect for fundamental human rights?	N	N
	Human Capital and Human Rights:	N	N
Access to Basic Services	Does a failure to provide adequate basic services deter investment, migration, and income growth within the economy?	N	N
Passed-through Social credit considerations	Does this rating depend to a large extent on the creditworthiness of another rated issuer which is impacted by social factors (see respective ESG checklist for such issuer)?	N	N
overnance	Overall:	N	N
Bribery, Corruption, and Political Risks	Does widespread evidence of official corruption and other weaknesses in the rule of law deter investment and contribute to fiscal or financial challenges?	N	N
Institutional Strength, Governance, and Transparency	Compared with other governments, do institutional arrangements provide a higher or lesser degree of accountability, transparency, and effectiveness?	N	N
	Are regulatory and oversight bodies insufficiently protected from inappropriate political influence?	N	N
	Are government officials insufficiently exposed to public scrutiny or held to insufficiently high ethical standards of conduct?	N	N
	Institutional Strength, Governance, and Transparency:	N	N
Peace and Security	Is the government likely to initiate or respond to hostilities with neighboring governments?	N	N
	Is the government's authority over certain regions contested by domestic or foreign militias?	N	N
	Is the risk of terrorism or violence sufficient to deter investment or to create contingent liabilities for the government?	N	N
	Peace and Security:	N	N
Passed-through Governance credit considerations	Does this rating depend to a large extent on the creditworthiness of another rated issuer which is impacted by governance factors (see respective ESG checklist for such issuer)?	N	N

 $^{^*}$ A **Relevant Effect** means that the impact of the applicable ESG risk factor has not changed the rating or rating trend on the issuer.

A Significant Effect means that the impact of the applicable ESG risk factor has changed the rating or trend on the issuer.



Germany, Federal Republic of: ESG Considerations

December 2, 2022

Environmental

This factor does not affect the ratings assigned to Germany. From a credit perspective, policies relating to each subfactor are generally sound, and the fiscal cost of new investments is managed effectively within the context of Germany's budgetary framework. In June 2021, the German parliament passed a new climate law which has made climate goals more ambitious. Compared to 1990 levels of greenhouse gas (GHG) emissions, Germany now targets a 65% reduction by 2030, 85-90% by 2040, and net zero emissions by 2045. Meeting this targets, however, may require additional policy measures. Total GHG emissions in Germany decreased by 26.6% between 2000 and 2021 according to the biennial report 2022 (published in November 2022) by the Council of Experts on Climate Change, the country's climate watchdog. Looking ahead, the biennial report states that the pace of GHG emission reductions needs to accelerate markedly over the next years particularly with regard to transport and industry in order to meet the 2030 GHG emission reduction target. DBRS Morningstar will continue to assess the credit impact of new regulatory and policy measures.

Social

This factor does not affect the ratings. Germany's respect for human rights is high, and access to quality healthcare and other basic services is widespread. Germany ranks 8 among the 169 countries assessed in the 2022 Social Progress Index. Germany's economy is highly productive and competitive, ranking seventh out of 141 countries in the World Economic Forum's 2019 Global Competitiveness Index. Low income inequality compared to most advanced economies, according to the OECD, reduces economically disruptive labour or social conflicts.

Governance

This factor does not affect the ratings assigned. Germany has independent and transparent institutions. Demonstrating a high degree of transparency and accountability, German institutions perform well in the World Bank's Worldwide Governance Indicators (WGI). Germany's 2021 percentile rank scores of 95.7 for Voice and Accountability and 91.8 for Rule of Law are very strong.