

## RATING METHODOLOGY

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## Rating Methodology Sovereigns

This rating methodology replaces the *Sovereign Ratings Methodology* published in November 2019. While this methodology retains the same factors and sub-factors as the 2019 methodology, we have made a number of specific changes, including the following: In the Economic Strength factor, for the assessment of a sovereign's volatility in real gross domestic product (GDP) growth, the median absolute deviation (MAD) has replaced standard deviation; the Institutions and Governance Strength factor describes additional data that may be used to inform our assessment, and the specific inflation thresholds in the Monetary and Macroeconomic Policy Effectiveness sub-sub-factor were eliminated; several adjustments to the Fiscal Strength factor were modified to better reflect our analytical thinking, including the adjustments for debt trend, general government foreign currency debt, and government financial assets; for HIPC/IDA countries, we modified how the scorecard weights are used; in the Susceptibility to Event Risk factor, the four sub-factors were refined to promote consistency in our scoring; the revised methodology text describes the treatment of sovereigns that participate in official sector debt relief with and without private sector involvement and describes in more detail how environmental, social and governance (ESG) considerations are integrated into our credit analysis of sovereigns. We have also reordered and have made editorial updates to various sections of the methodology.

### Scope

This methodology applies to sovereign governments globally.<sup>1</sup> A sovereign is the highest tier of government in a country, and we also refer to a central or federal government as the sovereign.

We also use this methodology to rate national central banks and the governments of certain specific jurisdictions that have significant autonomy on a range of policies.

## Rating approach

In this rating methodology, we explain our general approach to assessing credit risk of sovereigns globally, including the qualitative and quantitative factors that are likely to affect rating outcomes in this sector. We seek to incorporate all material credit considerations in ratings and to take the most forward-looking perspective that visibility into these risks and mitigants permits.

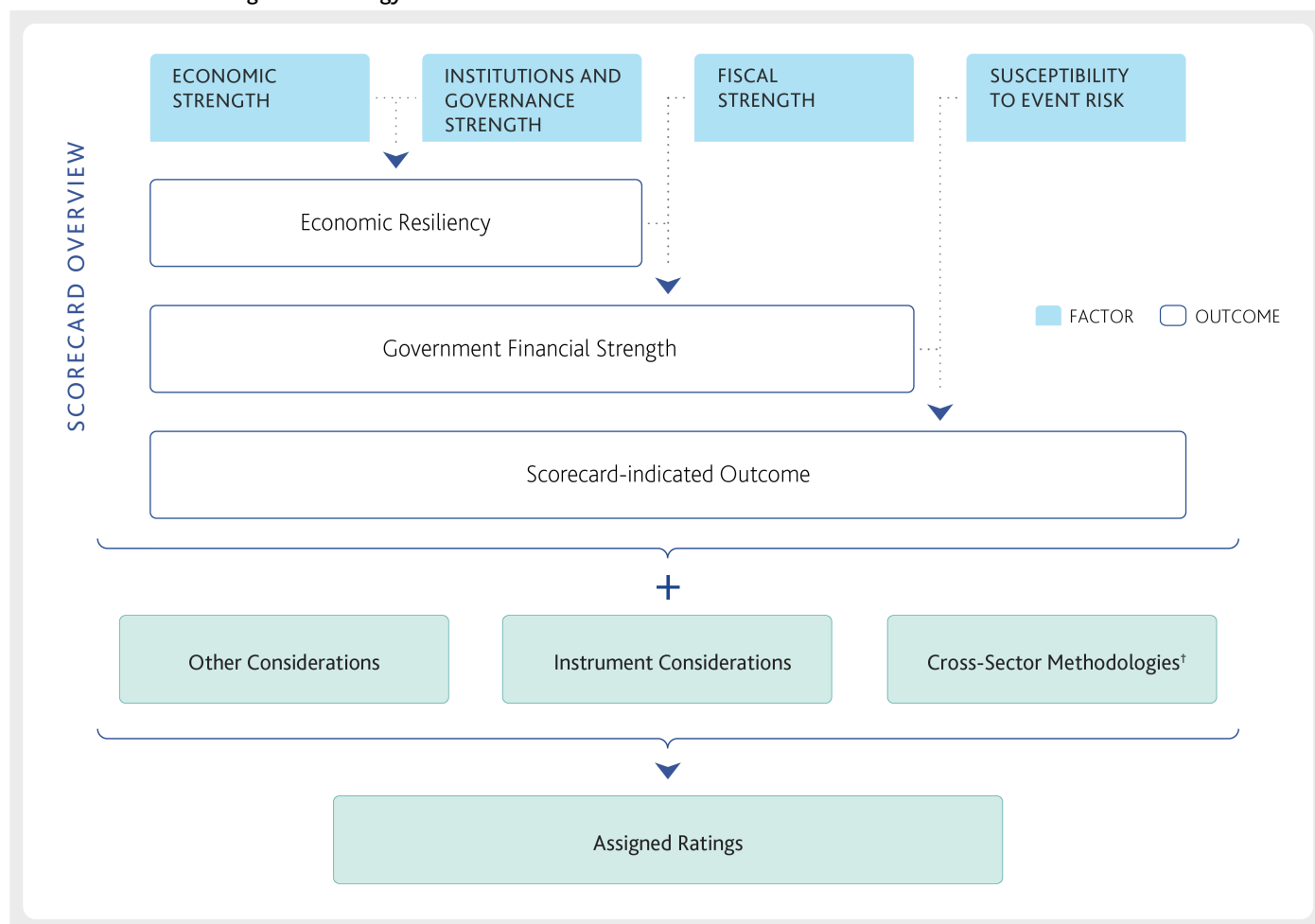
The following schematic illustrates our general framework for the analysis of sovereigns, which includes the use of a scorecard.<sup>2</sup>

- » Using equal weights, we combine the final scores of the Economic Strength and the Institutions and Governance Strength factors to arrive at the Economic Resiliency score.
- » Using dynamic weights, we combine the Economic Resiliency Outcome with the final score of the Fiscal Strength factor to arrive at the Government Financial Strength score.
- » We then consider a sovereign's susceptibility to event risk to arrive at a scorecard-indicated outcome, which is expressed as a range.

The scorecard-indicated outcome is not expected to match the actual rating for each issuer. For more information, see the "Other considerations" and "Limitations" sections.

Exhibit 1

### Illustration of the sovereign methodology framework



<sup>†</sup> Some of the methodological considerations described in one or more cross-sector rating methodologies may be relevant to ratings in this sector. A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.

Source: Moody's Investors Service

## Exhibit 2

## Sovereign scorecard overview

Factor	Sub-factor	Sub-factor Weighting	Metric / Sub-sub-factor	Metric /Sub-sub-factor Weighting	
ECONOMIC STRENGTH	Growth Dynamics	35%	Average Real GDP Growth	25%	
			MAD Volatility in Real GDP Growth	10%	
	Scale of the Economy	30%	Nominal GDP (US\$ bn)	30%	
	National Income	35%	GDP per Capita (PPP, Int. USD)	35%	
	Adjustment to Factor Score	0 to 9 notches	Other		
INSTITUTIONS AND GOVERNANCE STRENGTH	Quality of Institutions	40%	Quality of Legislative and Executive Institutions	20%	
			Strength of Civil Society and the Judiciary	20%	
	Policy Effectiveness	60%	Fiscal Policy Effectiveness	30%	
			Monetary and Macroeconomic Policy Effectiveness	30%	
	Adjustments to Factor Score	0 to 3 notches	Government Default History and Track Record of Arrears		
0 to 3 notches		Other			
FISCAL STRENGTH	Debt Burden	50% <sup>1</sup>	General Government Debt / GDP	25%	
			General Government Debt / Revenue	25%	
	Debt Affordability	50% <sup>1</sup>	General Government Interest Payments / Revenue	25%	
			General Government Interest Payments / GDP	25%	
	Adjustments to Factor Score	0 to 6 notches	Debt Trend	Historical Change in Debt Burden	
				Expected Change in Debt Burden	
		0 to 3 notches	Other	General Government Foreign Currency Debt / GDP	
				Other Non-Financial Public Sector Debt / GDP	
Government Financial Assets including Sovereign Wealth Funds / GDP					
SUSCEPTIBILITY TO EVENT RISK	Political Risk	Minimum Function <sup>2</sup>	Domestic Political and Geopolitical Risk		
	Government Liquidity Risk	Minimum Function <sup>2</sup>	Ease of Access to Funding		
		0 to 2 scoring categories	Adjustment to Sub-factor Score High Refinancing Risk		
	Banking Sector Risk	Minimum Function <sup>2</sup>	Risk of Banking Sector Credit Event (BSCE)		
		0 to 2 scoring categories	Total Domestic Bank Assets / GDP		
	External Vulnerability Risk	Minimum Function <sup>2</sup>	Adjustment to Sub-factor Score		
		0 to 2 scoring categories	External Vulnerability Risk		
Adjustment to Factor Score	0 to 2 scoring categories	Adjustment to Sub-factor Score			

<sup>1</sup> For more details about how these weights may vary, please refer to our discussion on the "Treatment of Reserve Currency Countries and HIPC/IDA Countries" within the "Fiscal Strength" section of the methodology.

<sup>2</sup> The aggregation of Political Risk, Government Liquidity Risk, Banking Sector Risk and External Vulnerability Risk follows a minimum function, i.e., as soon as one area of risk warrants an assessment of elevated risk, the country's overall Susceptibility to Event Risk is scored at that specific, elevated level.

Source: Moody's Investors Service

## Sector overview

Sovereign debt is used to fund government operations. Most sovereigns issue a combination of bonds, bills, notes and loans, and their debt structures are based on capital market depth, market conditions and government preferences. In the vast majority of the world's debt capital markets, national governments are the largest borrowers, and their credit standing provides a benchmark for other issuers of debt.

Sovereigns have executive authority, including to incur debt. A number of characteristics distinguish sovereigns from other debtors. These characteristics include (i) a sovereign's ability to curb expenditures or increase tax revenues to service debt outstanding; (ii) the absence of a higher authority to compel debt resolution; and (iii) the high probability of survival even after an event of default — that is, countries rarely disappear.

## How environmental, social and governance considerations are integrated into our analysis

ESG considerations are integrated into our credit analysis of sovereigns in various ways. Ratings incorporate our full view of ESG considerations, including those that are captured in the scorecard factors and those that are considered outside the scorecard.

The general principles underpinning our analysis of current and developing ESG risks and benefits and how we arrive at E, S and G issuer profile scores for sovereigns, which are inputs to ratings, are described in our cross-sector methodology.<sup>3</sup> Issuer profile scores provide a consistent way to express our assessment of ESG risks and benefits. Exhibit 3 shows the interrelationships among E, S and G and the four scorecard factors, which are also described in the "Discussion of the scorecard factors" section.


Environmental risks — which include carbon transition, physical climate risk, water management, waste and pollution, and natural capital considerations — primarily influence a sovereign's credit profile through their economic and fiscal impacts and reflect the effects of extreme weather or slowly materializing changes in climate and the availability of natural resources on economies and on government revenue and expenditure. Another channel of transmission of environmental risk is through efforts at a global level to reduce emissions of greenhouse gases, which will negatively affect demand and prices of hydrocarbon products, thus affecting the fiscal strength of hydrocarbon producers. For some sovereigns, environmental risk may also affect their susceptibility to event risks, for instance, where climate change raises political risk or where the transition to a low-carbon economy or a depletion of natural capital increases external vulnerability risk.

We seek to assess how social considerations — which include demographics, labor and income, education, housing, health and safety and access to basic services — are likely to affect sovereign creditworthiness. Social considerations have pervasive effects throughout a sovereign's credit profile. For example, the level and distribution of incomes may affect a sovereign's economic strength. Social considerations are also relevant to our assessment of the strength of a sovereign's institutions and governance, which greatly influence policy effectiveness and partly determine a government's capacity to fulfill social demands. Demographic trends have a material impact on fiscal strength, in particular where a population is aging rapidly. More generally, social considerations are likely to influence a government's fiscal policy settings and outcomes, on both the revenue and expenditure sides. Social risks are often closely related to political risk and may influence other aspects of a sovereign's susceptibility to event risk, such as when heightened social tensions, whether actual or perceived, increase government liquidity risk.

Governance relates to the framework and processes through which decisions are made and related actions are carried out. Governance is directly embedded in the Institutions and Governance Strength factor and may also influence a sovereign's economic strength, fiscal strength and susceptibility to event risk. For instance, strong governance mitigates susceptibility to event risk. It also contributes to higher growth potential and greater fiscal strength. As described in our cross-sector ESG methodology, our assessment of institutions and governance strength in the sovereign scorecard drives the governance issuer profile score for a sovereign.

Exhibit 3

## How ESG considerations are integrated into our analysis

Factor	Sub-factor	 Environmental IPS	 Social IPS	 Governance IPS
ECONOMIC STRENGTH	Growth Dynamics	●	●	●
	Scale of the Economy			
	National Income		●	
INSTITUTIONS AND GOVERNANCE STRENGTH	Quality of Institutions		●	●
	Policy Effectiveness		●	●
FISCAL STRENGTH	Debt Burden	●	●	
	Debt Affordability		●	●
SUSCEPTIBILITY TO EVENT RISK	Political Risk	●	●	●
	Government Liquidity Risk			●
	Banking Sector Risk			●
	External Vulnerability Risk	●		

Source: Moody's Investors Service

## Sovereign scorecard

For general information about how we use the scorecard and for a discussion of scorecard mechanics, please see the "Using the scorecard to arrive at a scorecard-indicated outcome" section. The scorecard does not include or address every factor that a rating committee may consider in assigning ratings in this sector. Please see the "Other considerations" and "Limitations" sections.

The scorecard comprises four weighted factors. Some of these factors comprise sub-factors, metrics and sub-sub-factors, which may incorporate adjustments. In the "Discussion of the scorecard factors" section, we explain the typical drivers of adjustments.

The scorecard is oriented to the issuer rating. Scorecard-indicated outcomes are expressed as three-notch ranges on our alphanumeric rating scale. The assigned rating is expressed on our 21-point rating scale and is often but not always within the three-notch range.

We may apply notching adjustments to certain factor or sub-factor scores to incorporate considerations that, for a particular issuer, may not be fully reflected in the scorecard using the standard metrics, thresholds and weights. Final factor scores incorporate additional analytical judgment, reflecting that the scorecard may not always capture the nuances of a sovereign's credit profile.

In the "Discussion of the scorecard factors" section, we explain the typical drivers of adjustments. We consider these drivers and, in a few cases, other drivers that meaningfully affect a sovereign in their totality to arrive at an adjusted factor or sub-factor score. Some adjustment drivers are inter-related, or are influenced by environmental, social and governance (ESG) considerations, but we avoid double-counting by taking an overall view of the factor or sub-factor score.

Exhibit 4

## Sovereign scorecard

Factor: Economic Strength																						
Sub-factor	Metric	Metric Weight	aaa	aa1	aa2	aa3	a1	a2	a3	baa1	baa2	baa3	ba1	ba2	ba3	b1	b2	b3	caa1	caa2	caa3	ca
Growth	Average Real GDP Growth (%) <sup>1</sup> <sub>t-4 to t+5</sub>	25%	≥ 5.7	5.3 - 5.7	4.9 - 5.3	4.4 - 4.9	4 - 4.4	3.7 - 4	3.3 - 3.7	3 - 3.3	2.6 - 3	2.3 - 2.6	2 - 2.3	1.8 - 2	1.6 - 1.8	1.3 - 1.6	1.1 - 1.3	0.9 - 1.1	0.7 - 0.9	0.5 - 0.7	0.3 - 0.5	< 0.3
	Dynamics MAD Volatility in Real GDP Growth (%) <sup>2</sup> <sub>t-9 to t</sub>	10%	≤ 0.10	0.10 - 0.20	0.20 - 0.30	0.30 - 0.40	0.40 - 0.50	0.50 - 0.60	0.60 - 0.75	0.75 - 0.90	0.90 - 1.10	1.10 - 1.30	1.30 - 1.50	1.50 - 1.80	1.80 - 2.10	2.10 - 2.40	2.40 - 2.70	2.70 - 3.00	3.00 - 3.50	3.50 - 4.00	4.00 - 4.50	> 4.50
Scale of the Economy	Nominal GDP (US\$ bn) <sup>3</sup>	30%	≥ 1,000	750 - 1,000	600 - 750	450 - 600	330 - 450	250 - 330	190 - 250	140 - 190	100 - 140	80 - 100	60 - 80	45 - 60	35 - 45	26 - 35	20 - 26	15 - 20	10 - 15	8 - 10	6 - 8	< 6
National Income	GDP per capita (PPP, international USD) <sup>4</sup>	35%	≥ 48,000	42,000 - 48,000	37,000 - 42,000	32,000 - 37,000	27,500 - 32,000	24,500 - 27,500	21,000 - 24,500	19,000 - 21,000	16,000 - 19,000	14,000 - 16,000	12,000 - 14,000	10,750 - 12,000	9,500 - 10,750	8,000 - 9,500	7,000 - 8,000	6,200 - 7,000	5,500 - 6,200	4,700 - 5,500	4,100 - 4,700	< 4,100
<b>Adjustment to Factor Score</b>																						
<b>Other</b>																						
0 to 9 notches																						

## Factor: Institutions and Governance Strength

Sub-factor	Sub-sub-factor	Sub-sub-factor Weight	aaa	aa	a	baa	ba	b	caa	ca
Quality of Institutions	Quality of Legislative and Executive Institutions	20%	Sovereigns in this category would generally have WGI scores for regulatory quality and government effectiveness above 1.5.	Sovereigns in this category would generally have WGI scores for regulatory quality and government effectiveness between 1.5 and 1.0.	Sovereigns in this category would generally have WGI scores for regulatory quality and government effectiveness between 1.0 and 0.5.	Sovereigns in this category would generally have WGI scores for regulatory quality and government effectiveness between 0.5 and 0.0.	Sovereigns in this category would generally have WGI scores for regulatory quality and government effectiveness between 0.0 and -0.5.	Sovereigns in this category would generally have WGI scores for regulatory quality and government effectiveness between -0.5 and -1.	Sovereigns in this category would generally have WGI scores for regulatory quality and government effectiveness between -1.0 and -1.5.	Sovereigns in this category would generally have WGI scores for regulatory quality and government effectiveness below -1.5.
			Policy is legislated and implemented with the support of a highly professional, well-staffed and highly capable public administration with exceptionally deep bench strength.  These institutions have demonstrated the flexibility to deal with changing circumstances and can absorb shocks while maintaining financial and economic stability.	Policy is legislated and implemented with the support of a generally professional and capable public administration, though in some cases it may face skill shortages in some areas or capacity constraints due to the country's size.  These institutions can absorb shocks while maintaining financial and economic stability, but may be slow or tentative when dealing with changing circumstances.	Policy is legislated and implemented with the support of a generally professional and capable public administration, though in some cases it may face skill shortages in some areas or capacity constraints due to the country's size.  These institutions can absorb shocks while maintaining financial and economic stability, but may be slow or tentative when dealing with changing circumstances.	The public administration has a core of highly capable and qualified professionals, but bench strength is not particularly deep. As a result, at times it may struggle to support policymaking and implementation.  These institutions generally struggle to respond to shocks while maintaining financial and economic stability, and are slow or tentative when dealing with changing circumstances.	The public administration has a core of highly capable and qualified professionals, but bench strength is not particularly deep. As a result, at times it may struggle to support policymaking and implementation.  These institutions generally struggle to respond to shocks while maintaining financial and economic stability, and are slow or tentative when dealing with changing circumstances.	The public administration often struggles to support policymaking and implementation. It often accumulates government arrears.  These institutions have difficulty dealing with changing circumstances and have little or no ability to absorb shocks without creating social, fiscal, and/or economic instability.	The public administration often struggles to support policymaking and implementation. It often accumulates government arrears.  These institutions have difficulty dealing with changing circumstances and have little or no ability to absorb shocks without creating social, fiscal, and/or economic instability.	The public administration lacks technical skills in some key areas and is often not executing its functions. It exhibits weak willingness to pay creditors, and accumulates significant government arrears.  These institutions have difficulty coping with even day-to-day management of the country and the population's fundamental economic and security needs.

(continued on the next page)



## Factor: Institutions and Governance Strength

Sub-factor	Sub-sub-factor	Sub-sub-factor Weight	aaa	aa	a	baa	ba	b	caa	ca
Quality of Institutions	Quality of Legislative and Executive Institutions	20%	<p>Law-making occurs under a well-developed constitutional framework that is transparent and predictable.</p> <p>Data sets are timely, stable, comprehensive and are provided for all levels of government (central, regional, local, and social security).</p> <p>Politically independent governmental bodies, such as fiscal councils, have a strong voice in the policymaking process.</p>	<p>Law-making occurs under a well-developed constitutional framework that is transparent and predictable.</p> <p>Data reporting is comprehensive overall, but it may not be timely or may be subject to large revisions.</p> <p>Politically independent governmental bodies, such as fiscal councils, have a strong voice in the policymaking process.</p>	<p>Law-making occurs under a constitutional framework that is generally transparent and predictable.</p> <p>Data reporting is comprehensive overall, but it may not be timely or may be subject to large revisions.</p> <p>Politically independent governmental bodies, such as fiscal councils, are an input into the policymaking process.</p>	<p>Law-making occurs under a constitutional framework that is generally transparent and predictable.</p> <p>Data reporting is systematic but not comprehensive and may be subject to significant lags and revisions. There may also be recurrent questions about data reliability. Fiscal data is not reported for lower levels of government (regional, local, and social security).</p> <p>Politically independent governmental bodies, such as fiscal councils, are an input into the policymaking process.</p>	<p>Law-making occurs under a constitutional framework that may be somewhat opaque and unpredictable.</p> <p>Data reporting is systematic but not comprehensive and may be subject to significant lags and revisions. There may also be recurrent questions about data reliability. Fiscal data is not reported for lower levels of government (regional, local, and social security).</p> <p>Politically independent bodies do not have a meaningful voice in the policymaking process.</p>	<p>Law-making occurs under a constitutional framework that may be somewhat opaque and unpredictable.</p> <p>Data reporting of key fiscal and economic indicators is typically annual, can be erratic or incomprehensive, or data collection and provision are adversely affected by political influence over the collection and reporting process.</p> <p>Politically independent bodies do not have a meaningful voice in the policymaking process.</p>	<p>Law-making occurs under a legal framework that is opaque and unpredictable.</p> <p>Data reporting of key fiscal and economic indicators is typically annual, can be erratic or incomprehensive, or data collection and provision are adversely affected by political influence over the collection and reporting process.</p> <p>There are no politically independent actors participating in the policymaking process.</p>	<p>Law-making occurs under a legal framework that is opaque and unpredictable.</p> <p>Key data sets are unreliable or missing.</p> <p>There are no politically independent actors participating in the policymaking process.</p>

## Factor: Institutions and Governance Strength

Sub-factor	Sub-sub-factor	Sub-sub-factor Weight	aaa	aa	a	baa	ba	b	caa	ca
Quality of Institutions	Strength of Civil Society and the Judiciary	20%	<p>WGI scores for voice and accountability, rule of law and control of corruption typically above 1.5.</p> <p>The enforcement of laws is highly predictable and consistent, including as they apply to the government itself.</p> <p>An effective balance of power and separation of powers is consistently and dependably maintained between branches of government, and judicial independence is maintained and respected.</p> <p>There are few instances of corruption that act to the detriment of the <b>sovereign's credit profile</b>.</p> <p>Judicial processes are impartial, contracts are enforced, and legal cases are resolved in a timely manner.</p> <p>Institutions in civil society consistently act as an effective check on the exercise of government power.</p>	<p>Generally have WGI scores for voice and accountability, rule of law and control of corruption typically between 1.5 and 1.0.</p> <p>The enforcement of laws is highly predictable and consistent, including as they apply to the government itself.</p> <p>An effective balance of power and separation of powers is consistently and dependably maintained between branches of government, and judicial independence is maintained and respected.</p> <p>There are few instances of corruption that act to the detriment of the <b>sovereign's credit profile</b>.</p> <p>Judicial processes are impartial, contracts are enforced, and legal cases are resolved in a timely manner.</p> <p>Institutions in civil society consistently act as an effective check on the exercise of government power.</p>	<p>Generally have WGI scores for voice and accountability, rule of law and control of corruption typically between 1.0 and 0.5.</p> <p>The enforcement of laws is usually predictable and consistent, including as they apply to the government itself.</p> <p>An effective balance of power and separation of powers is generally maintained between branches of government. However, judicial independence is not always maintained.</p> <p>Corruption can be a problem that acts to the detriment of the <b>sovereign's credit profile</b>.</p> <p>Judicial processes are impartial and contracts are enforced, but it often takes a long time for a case to be resolved in the courts.</p> <p>Civil society institutions often act as an effective check on the exercise of government power.</p>	<p>Generally have WGI scores for voice and accountability, rule of law and control of corruption typically between 0.5 and 0.0.</p> <p>The enforcement of laws is usually predictable and consistent, including as they apply to the government itself.</p> <p>An effective balance of power and separation of powers is generally maintained between branches of government. However, judicial independence is not always maintained.</p> <p>Corruption can be a problem that acts to the detriment of the <b>sovereign's credit profile</b>.</p> <p>Judicial processes are impartial and contracts are enforced, but it often takes a long time for a case to be resolved in the courts.</p> <p>Civil society institutions often act as an effective check on the exercise of government power.</p>	<p>WGI scores for voice and accountability, rule of law and control of corruption typically between 0.0 and -0.5.</p> <p>The enforcement of laws is only sometimes predictable and consistent.</p> <p>Checks on the exercise of government power are not consistently applied. The judiciary is subject to political influence in ways that affect the business climate or other aspects of the <b>sovereign's credit profile</b>.</p> <p>Corruption is a significant structural challenge that undermines policy formation, economic stability and/or social cohesion.</p> <p>There is evidence of judicial bias, and contract enforcement can be challenging.</p> <p>Civil society institutions exist, but have difficulty acting as an effective check on the exercise of government power.</p>	<p>WGI scores for voice and accountability, rule of law and control of corruption typically between -0.5 and -1.0.</p> <p>The enforcement of laws is only sometimes predictable and consistent.</p> <p>Checks on the exercise of government power are not consistently applied. The judiciary is subject to political influence in ways that affect the business climate or other aspects of the <b>sovereign's credit profile</b>.</p> <p>Corruption is a significant structural challenge that undermines policy formation, economic stability and/or social cohesion.</p> <p>There is evidence of judicial bias, and contract enforcement can be challenging.</p> <p>Civil society institutions exist, but have difficulty acting as an effective check on the exercise of government power.</p>	<p>WGI scores for voice and accountability, rule of law and control of corruption typically between -1.0 and -1.5.</p> <p>The enforcement of laws is usually unpredictable and inconsistent.</p> <p>There are few formal checks on the exercise of government power or the judiciary is not independent.</p> <p>Corruption is endemic and affects a wide range of policy choices.</p> <p>The courts system is ineffective.</p> <p>Civil society institutions either do not exist or have little discernable impact on the exercise of government power.</p>	<p>WGI scores for voice and accountability, rule of law and control of corruption typically below -1.5.</p> <p>The enforcement of laws is usually unpredictable and inconsistent.</p> <p>There are few formal checks on the exercise of government power or the judiciary is not independent.</p> <p>Corruption is endemic and affects a wide range of policy choices.</p> <p>The courts system is ineffective.</p> <p>Civil society institutions either do not exist or have little discernable impact on the exercise of government power.</p>

## Factor: Institutions and Governance Strength

Sub-factor	Sub-sub-factor	Sub-sub-factor Weight	aaa	aa	a	baa	ba	b	caa	ca
Policy Effectiveness	Fiscal Policy Effectiveness	30%	Over several cycles, debt/GDP may have increased during recessions, but then decreased during periods of normal or high growth.  The budget is and is expected to remain generally in a balance or in surplus position with flexibility to accommodate for the economic cycle.  Fiscal targets or expenditure ceilings are observed or outperformed.	Over several cycles, debt/GDP may have increased during recessions, but then decreased during periods of normal or high growth.  The budget is generally in balance or in a small deficit; or budget balances are generally consistent with a stable debt burden. The structure of government revenues and expenditures is relatively flexible, and tax evasion is not a major problem for fiscal policy formation.  Fiscal targets or expenditure ceilings are observed or outperformed.	Over several cycles, debt/GDP will have generally increased during recessions, but then decreased slowly during periods of normal or high growth.  The budget is generally in a balance or a small deficit; or budget balances are generally consistent with a stable debt burden. The structure of government revenues and expenditures is relatively flexible, and tax evasion is not a major problem for fiscal policy formation.  Fiscal targets or expenditure ceilings are sometimes missed.	Over several cycles, debt/GDP will have generally increased during recessions, but then decreased slowly during periods of normal or high growth.  The budget is generally in deficit; or budget balances are generally consistent with a gradual rise in the debt burden. The structure of government revenues and expenditures is relatively rigid. Tax evasion is a constraint on fiscal policy formation.  Fiscal targets or expenditure ceilings are sometimes missed.	Over several cycles, debt/GDP will have generally increased materially during recessions, without meaningful decreases during periods of normal or high growth.  The budget is generally in deficit; or budget balances are generally consistent with a gradual rise in the debt burden. The structure of government revenues and expenditures is relatively rigid. Tax evasion is a constraint on fiscal policy formation.  Fiscal targets or expenditure ceilings are often missed.	Over several cycles, debt/GDP will have generally increased materially during recessions, without meaningful decreases during periods of normal or high growth.  Budget deficits are the norm and tend to be large enough so that they add to the debt burden. The structure of government expenditures is highly rigid, and the government is reliant on a narrow range of revenue sources. The incidence of tax evasion is high and is a material constraint on fiscal policy formation.  Fiscal targets or expenditure ceilings do not exist.	Over several cycles, debt/GDP will have increased on an unsustainable basis.  Budget deficits are the norm and tend to be large enough so that they add to the debt burden. The structure of government expenditures is highly rigid, and the government is reliant on a narrow range of revenue sources. The incidence of tax evasion is high and is a material constraint on fiscal policy formation.  Fiscal targets or expenditure ceilings do not exist.	Over several cycles, debt/GDP will have increased on an unsustainable basis.  The government faces very significant constraints in formulating fiscal policy, including a very high incidence of tax evasion.  Fiscal targets or expenditure ceilings do not exist.

(continued on the next page)

## Factor: Institutions and Governance Strength

Sub-factor	Sub-sub-factor	Sub-sub-factor Weight	aaa	aa	a	baa	ba	b	caa	ca
Policy Effectiveness	Fiscal Policy Effectiveness	30%	<p>The medium-term policy planning process is highly robust. Revenues and expenditures are very stable, and a period of significant economic weakness does not prompt material and lasting deviations from the plan.</p> <p>There is a high degree of transparency in the government accounts, including guarantees and other contingent liabilities.</p> <p>Debt is well-structured and issuance is predictable, with extremely robust capacity and resources to mitigate risks proactively and manage risks arising from shocks.</p>	<p>Medium-term policy planning process results in government spending remaining largely stable in the outer years, except in periods of significant economic shock.</p> <p>There is a high degree of transparency in the government accounts, including guarantees and other contingent liabilities.</p> <p>Debt is well-structured and issuance is predictable, with extremely robust capacity and resources to mitigate risks proactively and manage risks arising from shocks.</p>	<p>Medium-term policy planning process results in government spending remaining largely stable in the outer years, except in periods of significant economic shock.</p> <p>There is a high degree of transparency in the government accounts, but information on guarantees and other contingent liabilities may not be available or fully transparent.</p> <p>Debt is well-structured but issuance is opportunistic, with robust capacity and resources to mitigate risks proactively and manage risks arising from shocks.</p>	<p>Fiscal policymaking is often reactive rather than the product of a structured, well-planned process. The medium-term policy planning process may result in government spending changing meaningfully and frequently throughout the budgeting horizon (including mid-year). Governments regularly adjust budget imbalances through sudden, unplanned cuts in capital spending.</p> <p>There is a high degree of transparency in the government accounts, but information on guarantees and other contingent liabilities may not be available or fully transparent.</p> <p>Debt is well-structured but issuance is opportunistic, with robust capacity and resources to mitigate risks proactively and manage risks arising from shocks.</p>	<p>Fiscal policymaking is often reactive rather than the product of a structured, well-planned process. The medium-term policy planning process may result in government spending changing meaningfully and frequently throughout the budgeting horizon (including mid-year). Governments regularly adjust budget imbalances through sudden, unplanned cuts in capital spending.</p> <p>There are material gaps in the transparency of government accounts, and information on guarantees and other contingent liabilities is generally not available.</p> <p>Debt structure carries significant unhedged risk. There is not a structured issuance plan in place, relying more heavily on opportunistic market access.</p>	<p>Fiscal policymaking is entirely reactive. There is no medium-term policy planning process, and government spending throughout the budgeting horizon (including mid-year) is subject to meaningful changes. Governments typically adjust budget balances through sudden, unplanned cuts in capital spending.</p> <p>There are material gaps in the transparency of government accounts, and information on guarantees and other contingent liabilities is generally not available.</p> <p>Debt structure carries significant unhedged risk. There is not a structured issuance plan in place, relying more heavily on opportunistic market access.</p>	<p>Fiscal policymaking is entirely reactive. There is no medium-term policy planning process, and government spending throughout the budgeting horizon (including mid-year) is subject to meaningful changes. Governments typically adjust budget balances through sudden, unplanned cuts in capital spending.</p> <p>Government accounts are opaque.</p> <p>Debt management is insufficiently effective to avoid very significant foreign exchange or interest rate risk and intermittent liquidity crises.</p>	<p>Fiscal policymaking is entirely reactive, and the government's ability to manage its finances is highly limited. Government spending decisions are ad hoc.</p> <p>Government accounts are opaque.</p> <p>Debt management is insufficiently effective to avoid very significant foreign exchange or interest rate risk and intermittent liquidity crises.</p>

## Factor: Institutions and Governance Strength

Sub-factor	Sub-sub-factor	Sub-sub-factor Weight	aaa	aa	a	baa	ba	b	caa	ca
Policy Effectiveness	Monetary and Macroeconomic Policy Effectiveness	30%	The authorities maintain price stability, avoid the buildup of macroeconomic imbalances, and are highly proactive in pursuing competitiveness-enhancing structural reforms.	The authorities are generally proactive and forward-thinking in delivering price stability and in addressing macroeconomic imbalances, including pursuing structural reforms where needed.	The authorities are generally proactive and forward-thinking in delivering price stability and in addressing macroeconomic imbalances, including pursuing structural reforms where needed.	The authorities address challenges to price stability, macroeconomic imbalances and structural challenges in a reactive manner that is driven by short-term concerns.	The authorities address challenges to price stability, macroeconomic imbalances and structural challenges in a reactive manner that is driven by short-term concerns.	The authorities only address challenges to price stability, macroeconomic imbalances and structural challenges under duress, either from market forces or international bodies.	The authorities only address challenges to price stability, macroeconomic imbalances and structural challenges under duress, either from market forces or international bodies.	The authorities do not address challenges to price stability and macroeconomic imbalances or are ineffective in doing so. Central bank policymaking is ineffective, and the transmission of monetary policy to the economy is very weak. The authorities do not use macroprudential tools to mitigate systemic capital, liquidity and credit risk.
			The central bank has a clear goal, the tools to implement the goal, and is credible in delivering against that goal. The central bank is independent.	The central bank has a clear goal, the tools to implement the goal, and is credible in delivering against that goal. The central bank is independent.	The central bank has a clear goal, the tools to implement the goal, and is largely credible in delivering against that goal, but structural features such as the depth and breadth of the financial sector or the economy's reliance on imported goods impair policy effectiveness.	The central bank has a clear goal, the tools to implement the goal, and is largely credible in delivering against that goal, but structural features such as the depth and breadth of the financial sector or the economy's reliance on imported goods impair policy effectiveness.	The central bank may not have a clear policy goal, and it lacks either the tools to implement monetary policy or is inconsistent in delivering the desired monetary policy outcomes. The government tends to interfere with the conduct of monetary policy.	The central bank may not have a clear policy goal, and it lacks either the tools to implement monetary policy or is inconsistent in delivering the desired monetary policy outcomes. The government tends to interfere with the conduct of monetary policy.	Central bank policymaking is ineffective, and the transmission of monetary policy to the economy is very weak. The authorities do not use macroprudential tools to mitigate systemic capital, liquidity and credit risk.	The authorities do not use macroprudential tools to mitigate systemic capital, liquidity and credit risk.
			The authorities effectively use macroprudential tools to mitigate systemic capital, liquidity and credit risk without creating unintended distortions or imbalances in the financial system.	The authorities effectively use macroprudential tools to mitigate systemic capital, liquidity and credit risk without creating unintended distortions or imbalances in the financial system.	The authorities use macroprudential tools to mitigate systemic capital, liquidity and credit risk, but sometimes fail to avoid the buildup of imbalances in the financial system.	The authorities use macroprudential tools to mitigate systemic capital, liquidity and credit risk, but sometimes fail to avoid the buildup of imbalances in the financial system.	The authorities use macroprudential tools to mitigate systemic capital, liquidity and credit risk but struggle to avoid the buildup of imbalances in the financial system.	The authorities use macroprudential tools to mitigate systemic capital, liquidity and credit risk but struggle to avoid the buildup of imbalances in the financial system.		

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## Factor: Institutions and Governance Strength

Sub-factor	Sub-sub-factor	Sub-sub-factor Weight	aaa	aa	a	baa	ba	b	caa	ca
Policy Effectiveness	Monetary and Macroeconomic Policy Effectiveness	30%	The banking system is regulated in a way that effectively balances the need for the sector to support economic growth against the need to avoid excessive risk-taking. Regulatory competence is in line with the complexity of the financial system. There have been no systemic banking crises in the past decade.	The banking system is regulated in a way that effectively balances the need for the sector to support economic growth against the need to avoid excessive risk-taking. Regulatory competence is in line with the complexity of the financial system. There have been no systemic banking crises in the past decade.	The banking system is regulated in a way that effectively balances the need for the sector to support economic growth against the need to avoid excessive risk-taking. However, the regulator may suffer from skills shortages, lack of effective tools or may struggle to keep pace with the complexity of the financial system. There may have been a systemic banking crisis in the past decade.	The banking system is regulated in a way that effectively balances the need for the sector to support economic growth against the need to avoid excessive risk-taking. However, the regulator may suffer from skills shortages, lack of effective tools or may struggle to keep pace with the complexity of the financial system. There may have been a systemic banking crisis in the past decade.	The banking system is regulated in a way that either fails to support economic growth or allows excessive risk-taking to build up in the system. There may have been a systemic banking crisis in the past decade, and there is a moderate probability of a future crisis developing.	The banking system is regulated in a way that either fails to support economic growth or allows excessive risk-taking to build up in the system. There may have been a systemic banking crisis in the past decade, and there is a moderate probability of a future crisis developing.	Banking system regulation is weak, and these shortcomings keep the probability of a crisis developing in the sector at relatively high levels.	Banking system regulation is weak and these shortcomings keep the probability of a crisis developing in the sector at relatively high levels.

## Adjustments to Factor Score

<a href="#">Government Default History and Track Record of Arrears</a>
0 to 3 notches
<a href="#">Other</a>
0 to 3 notches

Factor: Fiscal Strength																						
Sub-factor	Metric	Metric Weight <sup>*9</sup>	aaa	aa1	aa2	aa3	a1	a2	a3	baa1	baa2	baa3	ba1	ba2	ba3	b1	b2	b3	caa1	caa2	caa3	ca
Debt Burden	General Government Debt / GDP (%) <sup>*5</sup>	25%	≤ 5	5 - 20	20 - 30	30 - 35	35 - 40	40 - 45	45 - 50	50 - 55	55 - 60	60 - 65	65 - 70	70 - 75	75 - 80	80 - 90	90 - 100	100 - 120	120 - 130	130 - 140	140 - 150	> 150
	General Government Debt / Revenue (%) <sup>*6</sup>	25%	≤ 10	10 - 80	80 - 120	120 - 140	140 - 160	160 - 180	180 - 200	200 - 220	220 - 230	230 - 240	240 - 260	260 - 280	280 - 320	320 - 360	360 - 400	400 - 450	450 - 500	500 - 550	550 - 600	> 600
Debt Affordability	General Government Interest Payments / Revenue (%) <sup>*7</sup>	25%	≤ 1.5	1.5 - 3.5	3.5 - 6	6 - 7	7 - 8	8 - 9	9 - 10	10 - 11	11 - 11.5	11.5 - 12	12 - 13	13 - 14	14 - 16	16 - 18	18 - 20	20 - 22.5	22.5 - 25	25 - 27.5	27.5 - 30	> 30
	General Government Interest Payments / GDP (%) <sup>*8</sup>	25%	≤ 0.25	0.25 - 1.0	1.0 - 1.5	1.5 - 1.75	1.75 - 2.0	2.0 - 2.25	2.25 - 2.5	2.5 - 2.75	2.75 - 3.0	3.0 - 3.15	3.15 - 3.25	3.25 - 3.5	3.5 - 4.0	4.0 - 4.5	4.5 - 5.0	5.0 - 6.0	6.0 - 6.5	6.5 - 7.0	7.0 - 7.5	> 7.5

Adjustments to Factor Score	
Debt Trend: Historical Change in the Debt Burden (t-8 to t)	
Debt Trend: Expected Change in the Debt Burden (t to t+2)	
General Government Foreign Currency Debt / GDP	
Other Non-Financial Public Sector Debt / GDP	
Government Financial Assets Including Sovereign Wealth Funds / GDP	
0 to 6 notches	
Other	
0 to 3 notches	

## Factor: Susceptibility to Event Risk

Sub-factor	Sub-sub-factor	aaa	aa	a	baa	ba	b	caa	ca
Political Risk	Domestic Political and Geopolitical Risk	WGI for voice and accountability is typically above 1.5.	WGI for voice and accountability is typically between 1.5 and 1.0.	WGI for voice and accountability is typically between 1.0 and 0.5.	WGI for voice and accountability is typically between 0.5 and 0.0.	WGI for voice and accountability is typically between 0.0 and -0.5.	WGI for voice and accountability is typically between -0.5 and -1.0.	WGI for voice and accountability is typically between -1.0 and -1.5.	WGI for voice and accountability is typically below -1.5.
		WGI for Political Stability is typically above 1.5.	WGI for Political Stability is typically between 1.5 and 1.0.	WGI for Political Stability is typically between 1.0 and 0.5.	WGI for Political Stability is typically between 0.5 and 0.0.	WGI for Political Stability is typically between 0.0 and -0.5.	WGI for Political Stability is typically between -0.5 and -1.0.	WGI for Political Stability is typically between -1.0 and -1.5.	WGI for Political Stability is typically below -1.5.
		Unemployment is typically low, and distribution of wealth and incomes is relatively uniform with little or no adverse impact on policy outcomes.	Unemployment is typically low, and distribution of wealth and incomes is relatively uniform with little or no adverse impact on policy outcomes.	Unemployment is typically moderate, and wealth and income is relatively uniform across the economy, but differences across regions, socioeconomic or other groups or changes over time may have an adverse impact on policy outcomes.	Unemployment is typically moderate, and wealth and income is relatively uniform across the economy, but differences across regions, socioeconomic or other groups or changes over time may have an adverse impact on policy outcomes.	Unemployment is typically high, and wealth and income is relatively unequal, and there may be deep religious, ethnic or social divisions in society.	Unemployment is typically high, and wealth and income is relatively unequal, and there may be deep religious, ethnic or social divisions in society.	There is mass unemployment, large disparities of wealth and income, communal tensions in some cases involving internal armed conflict, which severely disrupt or impair economic activity, policymaking and the orderly operation of government institutions.	There is mass unemployment, large disparities of wealth and income, communal tensions in some cases involving internal armed conflict, which severely disrupt or impair economic activity, policymaking and the orderly operation of government institutions.
		There are no significant sources of social conflict that pose a material risk to political or economic outcomes.	There are no significant sources of social conflict that pose a material risk to political or economic outcomes.	There are some areas of religious, ethnic or social conflict that could materially influence political or economic outcomes.	There are some areas of religious, ethnic or social conflict that could materially influence political or economic outcomes.	These tensions introduce a low but not insignificant probability of social tensions that could include violence and that could have a severe impact on policy outcomes.	These tensions introduce a low but not insignificant probability of social tensions that could include violence and that could have a severe impact on policy outcomes.	Changes in government or severely impaired administrative functions hamper policymaking with negative effects on economic and fiscal outcome.	Changes in government or severely impaired administrative functions hamper policymaking with negative effects on economic and fiscal outcome.
		General consensus on credit-positive policy outcomes that endures through changes in government.	General consensus on credit-positive policy outcomes that endures through changes in government.	Changes in government may pose challenges to the continuity of credit-positive policy outcomes, or the ability to address credit weaknesses.	Changes in government may pose challenges to the continuity of credit-positive policy outcomes, or the ability to address credit weaknesses.	Changes in government routinely reduce policy predictability and raise the probability of credit-negative policies that could impact economic or fiscal outcomes.	Changes in government routinely reduce policy predictability and raise the probability of credit-negative policies that could impact economic or fiscal outcomes.		

(continued on the next page)



## Factor: Susceptibility to Event Risk

Sub-factor	Sub-sub-factor	aaa	aa	a	baa	ba	b	caa	ca
Political Risk	Domestic Political and Geopolitical Risk	Political transitions are routinely smooth, with negligible implications for the sovereign's credit profile.	Political transitions are routinely smooth, with negligible implications for the sovereign's credit profile.	Political transitions are generally orderly and rarely significantly impact the administrative functions of the bureaucracy.	Political transitions are generally orderly and rarely significantly impact the administrative functions of the bureaucracy.	There is a meaningful potential for succession or key-person risks, where government instability negatively impacts the administrative functions of the bureaucracy.	There is a meaningful potential for succession or key-person risks, where government instability negatively impacts the administrative functions of the bureaucracy.	The means for an orderly transfer of power is opaque or impaired, and there is significant risk that any succession will be disorderly and will damage the sovereign's credit profile.	The means for an orderly transfer of power is opaque or impaired, and there is significant risk that any succession will be disorderly and will damage the sovereign's credit profile.
		Generally harmonious geopolitical relationships and little interference from external actors.	Generally harmonious geopolitical relationships and little interference from external actors.	Sometimes tense geopolitical relationships that could have some limited impact on the sovereign's credit profile. Interference from external actors does not have a material credit impact.	Sometimes tense geopolitical relationships that could have some limited impact on the sovereign's credit profile. Interference from external actors does not have a material credit impact.	The escalation of geopolitical tensions, possibly leading up to an armed conflict, has the potential to negatively impact economic activity, fiscal outcomes and funding conditions.	The escalation of geopolitical tensions, possibly leading up to an armed conflict, has the potential to negatively impact economic activity, fiscal outcomes and funding conditions.	Highly contentious geopolitical relationships, which could include engagement in armed conflict, severely impair or disrupt economic activity, the ability to obtain financing or the orderly operation of institutions.	Highly contentious geopolitical relationships, which could include engagement in armed conflict, severely impair or disrupt economic activity, the ability to obtain financing, or the orderly operation of institutions.
		The country is not engaged in any armed or latent conflict that affects economic activity, fiscal outcomes or policymaking.	The country is not engaged in any armed or latent conflict that affects economic activity, fiscal outcomes or policymaking.	Although the country is not engaged in armed conflict, it may be exposed to the impact of armed conflict elsewhere or to a latent conflict, with a manageable impact on economic activity, fiscal outcomes or policymaking.	Although the country is not engaged in armed conflict, it may be exposed to the impact of armed conflict elsewhere or to a latent conflict, with a manageable impact on economic activity, fiscal outcomes or policymaking.				

## Factor: Susceptibility to Event Risk

Sub-factor	Sub-sub-factor	aaa	aa	a	baa	ba	b	caa	ca
Government Liquidity Risk	Ease of Access to Funding	<p>The government has a strong track record of reliable access to extremely deep domestic capital markets with a broad and diverse base of investors, including a wide range of types of institutional investors.</p> <p>The government has unquestioned access to an extremely broad range of non-resident investors in local-currency debt, generally reflecting the reserve currency status of its currency.</p> <p>The government has a strong track record of reliable access to foreign currency financing from a broad and diverse range of investors.</p>	<p>The government has a strong track record of reliable access to extremely deep domestic capital markets with a broad and diverse base of investors, including a wide range of types of institutional investors.</p> <p>The government has a strong track record of reliable access to a broad range of non-resident investors in local-currency debt. Non-resident participation in domestic capital and credit markets is extremely stable.</p> <p>The government has a strong track record of reliable access to foreign currency financing from a broad and diverse range of investors.</p>	<p>Experience suggests that the government has generally reliable access to deep domestic capital markets with a reasonably broad and diverse base of investors, including a range of institutional investors.</p> <p>The government has a strong track record of reliable access to a broad range of non-resident investors in local-currency debt. Non-resident participation in domestic capital and credit markets is extremely stable.</p> <p>The government has generally reliable access to foreign currency financing from a reasonably broad and diverse range of investors.</p>	<p>Experience suggests that the government has generally reliable access to deep domestic capital markets with a reasonably broad and diverse base of investors, including a range of institutional investors.</p> <p>Experience suggests that the government has generally reliable access to non-resident investors in local-currency debt. Non-resident participation in the domestic capital and credit markets can be volatile but is expected to remain quite stable over time.</p> <p>The government has generally reliable access to foreign currency financing from a reasonably broad and diverse range of investors.</p>	<p>The government has intermittent access to domestic capital markets which are relatively narrow and underdeveloped.</p> <p>Experience suggests that the government has generally reliable access to non-resident investors in local-currency debt. Non-resident participation in the domestic capital and credit markets can be volatile but is expected to remain quite stable over time.</p> <p>The government has intermittent access to foreign currency financing through a relatively narrow range of investors and a variety of official lenders.</p>	<p>The government has intermittent access to domestic capital markets which are relatively narrow and underdeveloped.</p> <p>The government has intermittent access to non-resident investors in local-currency debt. Non-resident participation in the domestic capital and credit markets is limited and can be volatile.</p> <p>The government has intermittent access to foreign currency financing through a relatively narrow range of investors and a variety of official lenders.</p>	<p>The government has very limited access to domestic capital markets which are narrow and underdeveloped.</p> <p>The government has intermittent access to non-resident investors in local-currency debt. Non-resident participation in the domestic capital and credit markets is limited and can be volatile.</p> <p>The government has no or virtually no access to market-based foreign currency financing, and relatively limited access to official lenders.</p>	<p>The government has very limited access to domestic capital markets which are narrow and underdeveloped.</p> <p>The government has no or very limited access to non-resident investors in local-currency debt. Non-resident participation in the domestic capital and credit markets is shallow, volatile and unreliable.</p> <p>The government has no or virtually no access to market-based foreign currency financing and relatively limited access to official lenders.</p>

## Adjustment to Government Liquidity Risk Sub-factor Score

High Refinancing Risk

0 to 2 scoring categories

Factor: Susceptibility to Event Risk		
Sub-factor	Sub-sub-factor	
		aaa      aa      a      baa      ba      b      caa      ca
Banking Sector Risk	Risk of Banking Sector Credit Event (BSCE)	See the "Discussion of the scorecard factors" section
	Total Domestic Bank Assets / GDP	See the "Discussion of the scorecard factors" section
<b>Adjustment to Banking Sector Risk Sub-factor Score</b>		
0 to 2 scoring categories		

Factor: Susceptibility to Event Risk

Sub-factor	Sub-sub-factor	aaa	aa	a	baa	ba	b	caa	ca
External Vulnerability Risk	External Vulnerability Risk	<p>The country benefits from a structural external surplus, as demonstrated by consistent current account surpluses resulting from a well-diversified export base.</p> <p>The country has a low level of net external liabilities. Alternatively, very high economic resilience and general attractiveness to investors enable it to support a high external debt load, even during times of economic and financial shock.</p> <p>The country has unfettered access to international capital markets, for example through a reserve currency status.</p>	<p>The country benefits from a structural external surplus, as demonstrated by consistent current account surpluses resulting from a well-diversified export base.</p> <p>The country has a low level of net external liabilities. Alternatively, very high economic resilience and general attractiveness to investors enable it to support a high external debt load, even during times of economic and financial shock.</p> <p>The country is expected to have no difficulty in using immediately available foreign currency reserves to service external debt. Alternatively, the country has deep and stable access to foreign exchange markets or a strong external guarantor, limiting the need for large foreign currency buffers.</p>	<p>Current account deficits are expected to be small (typically less than 5% of GDP over three years) and are, for the most part, consistently financed by FDI inflows.</p> <p>The country has high or moderate economic resilience or a moderate level of economy-wide external liabilities (above 100% of current account receipts).</p> <p>The country is expected to have no difficulty in using immediately available foreign currency reserves to service external debt. Alternatively, the country has deep and stable access to foreign exchange markets or a credible external guarantor, limiting the need for large foreign currency buffers.</p>	<p>Current account deficits are expected to be small (typically less than 5% of GDP over three years) and are, for the most part, consistently financed by FDI inflows.</p> <p>The country has high or moderate economic resilience or a moderate level of economy-wide external liabilities (typically above 100% of current account receipts).</p> <p>The country displays relatively limited vulnerability in its capacity to service external debt. Foreign exchange reserves are expected to remain sufficient to prevent external liquidity pressures (typically EVI of around 100%).</p>	<p>Current account deficits are expected to be large and persistent (typically more than 5% of GDP over three years). Financing is partly dependent on portfolio and debt capital inflows that expose the economy to shifts in market sentiment.</p> <p>The country is a net debtor. It has a low economic resilience and high level of economy-wide external liabilities (typically above 200% of current account receipts) which makes it vulnerable to external shocks.</p> <p>The country displays relatively limited vulnerability in its capacity to service external debt. Foreign exchange reserves are expected to remain sufficient to prevent external liquidity pressures (typically EVI of around 100%).</p>	<p>Current account deficits are expected to be large and persistent (typically more than 5% of GDP over three years). Financing is partly dependent on portfolio and debt capital inflows that expose the economy to shifts in market sentiment.</p> <p>The country is a net debtor. It has a low economic resilience and high level of economy-wide external liabilities (typically above 200% of current account receipts) which makes it vulnerable to external shocks.</p> <p>The country displays increasing vulnerability in its capacity to service external debt. Foreign exchange reserves have fallen to low levels and external liquidity is increasingly constrained (typically EVI of around 200%).</p>	<p>Current account deficits are expected to be very large and persistent, indicative of a structural imbalance. Financing is highly dependent on portfolio and debt capital inflows that expose the economy to shifts in market sentiment. The export base is narrow or concentrated on commodities.</p> <p>The country is a net debtor. It shows very weak economic resilience and a very high level of economy-wide external liabilities (typically above 400% of current account receipts), or a large share composed of short-term debt resulting in very high external refinancing needs.</p> <p>The country displays increasing vulnerability in its capacity to service external debt. Foreign exchange reserves have fallen to low levels and external liquidity is increasingly constrained (typically EVI of around 200%).</p>	<p>Current account deficits are expected to be very large and persistent, indicative of a structural imbalance. Financing is highly dependent on portfolio and debt capital inflows that expose the economy to shifts in market sentiment. The export base is narrow or concentrated on commodities.</p> <p>The country is a net debtor. It shows very weak economic resilience and a very high level of economy-wide external liabilities (typically above 400% of current account receipts), or a large share composed of short-term debt resulting in very high external refinancing needs.</p> <p>The country displays significant vulnerability in its capacity to service external debt. Foreign exchange reserves have fallen to very low levels and external liquidity is materially constrained (typically EVI above 200%).</p>

<b>Adjustment to External Vulnerability Risk Sub-factor Score</b>
0 to 2 scoring categories
<b>Adjustment to Factor Score</b>
0 to 2 scoring categories

[1] For the linear scoring scale, the aaa endpoint value is 15%. A value of 15% or better equates to a numeric score of 0.5. The ca endpoint value is 0%. A value of 0% or worse equates to a numeric score of 20.5.

[2] For the linear scoring scale, the aaa endpoint value is 0%. A value of 0% equates to a numeric score of 0.5. The ca endpoint value is 10%. A value of 10% or worse equates to a numeric score of 20.5.

[3] For the linear scoring scale, the aaa endpoint value is \$25,000 billion. A value of \$25,000 billion or better equates to a numeric score of 0.5. The ca endpoint value is \$1 billion. A value of \$1 billion or worse equates to a numeric score of 20.5.

[4] For the linear scoring scale, the aaa endpoint value is \$100,000. A value of \$100,000 or better equates to a numeric score of 0.5. The ca endpoint value is \$1,000. A value of \$1,000 or worse equates to a numeric score of 20.5.

[5] For the linear scoring scale, the aaa endpoint value is 0%. A value of 0% equates to a numeric score of 0.5. The ca endpoint value is 700%. A value of 700% or worse equates to a numeric score of 20.5.

[6] For the linear scoring scale, the aaa endpoint value is 0%. A value of 0% equates to a numeric score of 0.5. The ca endpoint value is 700%. A value of 700% or worse equates to a numeric score of 20.5.

[7] For the linear scoring scale, the aaa endpoint value is 0%. A value of 0% equates to a numeric score of 0.5. The ca endpoint value is 35%. A value of 35% or worse equates to a numeric score of 20.5.

[8] For the linear scoring scale, the aaa endpoint value is 0%. A value of 0% equates to a numeric score of 0.5. The ca endpoint value is 35%. A value of 35% or worse equates to a numeric score of 20.5.

[9] For more details about how these weights may vary, please refer to our discussion on the Treatment of Reserve Currency Countries and HIPC/IDA Countries within the Fiscal Strength section of the methodology.

Source: *Moody's Investors Service*

## Discussion of the scorecard factors

In this section, we explain our general approach for scoring each scorecard factor or sub-factor,<sup>4</sup> and we describe why the sub-factors we use are meaningful credit indicators.

The sections below describe how we calculate or estimate quantitative sub-sub-factors. For sub-sub-factors that are scored qualitatively, we generally do not expect each of the attributes listed for a given scoring category to exactly match those of a given sovereign. We typically assign each sub-sub-factor score based on the alpha category for which the sovereign has the greatest number of characteristics. However, there may be cases in which one characteristic is sufficiently important to a particular sovereign's credit profile that it has a large influence on the sub-sub-factor score.

### Factor: Economic Strength

#### Why it matters

A sovereign's economic strength provides critical indications of its resilience to shocks and long-term structural shifts, which could include those related to climate and demographic change. A sovereign's ability to generate sufficient revenue to service debt over the medium term relies on sustained economic growth and prosperity.

Economic weakness, either sudden and severe or milder but long-lasting, has been a decisive factor in past sovereign defaults. An erosion of external competitiveness, caused either by a major terms-of-trade shock or by a gradual erosion that leads to a loss of export revenue, is also an indicator of default risk. Past sovereign defaults have typically occurred in the context of severe and sustained economic stress, underscoring the importance of a sovereign's economic strength in reducing the likelihood of default in the event of adverse shocks or severe or prolonged economic downturns. Large, diversified and flexible economies are much more resilient to economic shocks or downturns than smaller, concentrated and inflexible economies.

The factor comprises three sub-factors:

#### *Growth Dynamics*

Low or volatile levels of economic growth can, if sustained over a number of years, amplify debt serviceability challenges and can render a heavy debt burden unsustainable. A low level of growth over a long period typically indicates challenges in addressing structural constraints to growth. In turn, prolonged low growth may reduce the latitude for economic and fiscal reforms, which often involve short-term economic costs for longer-term economic and fiscal gains. In addition, high growth volatility, if sustained over several years, undermines wealth creation and competitiveness, reducing an economy's ability to withstand shocks and the government's capacity to pursue stable, predictable policies. Meanwhile, sovereigns experiencing robust, sustained growth are typically better able to implement socially challenging, credit-positive reforms, maintain strong budgetary performance and manage relatively large debt burdens or reverse increases in debt ratios caused by domestic or external shocks.

Environmental conditions, demographic change and a country's governance are key determinants of an economy's growth dynamics. For instance, environmental shocks, such as frequent natural disasters, can lead to heightened volatility in growth, which in turn may hinder investment and growth potential. Changes in the population structure, such as aging, can also lead to lower growth as the labor force shrinks. Strong governance can support long-term growth by fostering a more stable and predictable economic environment.

#### *Scale of the Economy*

Scale is an important indicator of an economy's diversity and complexity, which greatly influences its ability to withstand shocks and hence a sovereign's capacity to generate stable revenue streams to service its debt. For example, a very small country with a competitive economy but concentrated exposure to a few sectors can be subject to abrupt economic shifts, which can undermine a sovereign's ability to raise revenue from within the economy. As another example, governments with larger, stronger and more diverse economies typically have a higher level of economic and fiscal flexibility to mitigate a wide range of risks, including environmental threats or cyber and geopolitical risks.

#### *National Income*

National Income provides important indications of an economy's output in relation to the size of the population and is a further proxy for the revenue-generating potential of a sovereign. We use per capita income in purchasing power parity (PPP) terms as a measure of

national income because it provides comparability of the level of buying power associated with that per capita income across different countries and currencies. High national income is generally closely correlated with a low risk of default, because higher national income is associated with a greater capacity on the part of the population to absorb economic or fiscal shocks. Conversely, low income levels and pervasive poverty, a source of social risks, undermine a population's ability to face shocks. National Income can also be a proxy for other characteristics that inform a sovereign's economic strength, including the underlying degree of competitiveness within an economy such as the availability and quality of labor and capital.

**How we assess it for the scorecard – Growth Dynamics sub-factor**

**AVERAGE REAL GROSS DOMESTIC PRODUCT GROWTH:**

We calculate or estimate the average of real gross domestic product (GDP) growth levels based on a 10-year average, including the average of the five most recently reported annual periods and our estimate of growth for the following five years. Where environmental or social risks point to significant change in growth trends over the long term, we reflect this in our qualitative assessment of economic strength (see "Other" in the "Adjustments to the Economic Strength factor score" section). For instance, we typically incorporate information derived from climate models to assess the share of a sovereign's economy, population and agricultural production that is exposed to extreme weather events. The most exposed sovereigns may experience structurally lower growth in the long term as a result of climate change. We would also typically consider how changes in governance and institutions may affect economic performance over time.

**MAD VOLATILITY IN REAL GDP GROWTH:**

We calculate or estimate the volatility in real GDP growth based on the median absolute deviation (MAD) of real GDP growth over the 10 most recently reported years. The MAD provides a measure of variability of growth around the median over the time period considered.

To arrive at the MAD, we first calculate the median GDP growth rate for the most recent 10 years. Then, we calculate the absolute values of the differences between the GDP growth rate for each year and that median. The median of the absolute value of those differences is the value for the MAD.

**How we assess it for the scorecard — Scale of the Economy sub-factor**

**NOMINAL GDP:**

We use the most recently reported annual nominal GDP, denominated in billions of US dollars at market exchange rates.

**How we assess it for the scorecard — National Income sub-factor**

**GROSS DOMESTIC PRODUCT PER CAPITA:**

We use the most recently estimated GDP per capita in purchasing power parity (PPP) terms, in international dollars.<sup>5</sup> For countries where we do not have estimates of relative price levels, we use GDP per capita, unadjusted for price level, as a proxy.

This measure of average income levels informs our assessment of social risks to economic strength, and we use that assessment in our forward-looking view of economic strength, which may lead to adjustments to the factor score, as described below.

**Adjustments to the Economic Strength factor score**

We may apply a notching adjustment<sup>6</sup> to the Economic Strength factor score where we conclude that the core scorecard metrics do not adequately reflect relative strengths or weaknesses.

Adjustments to the Economic Strength factor score most often reflect our judgment regarding the economy's (i) adaptability; (ii) diversity; (iii) productivity; and (iv) labor supply challenges, which we consider to be key factors influencing the level and volatility of medium-term growth. They may also reflect other considerations relevant in our assessment of the Economic Strength factor score, including environmental and social considerations. Adjustments can be upward or downward and are limited to nine notches in aggregate. While there may be several considerations, there is one overall notching adjustment.

Adjustments are generally more likely for either extremely large or small, extremely wealthy or poor countries. For example, we may adjust the Economic Strength factor score upward where we consider an economy to be unusually diverse for its scale, and where economic size therefore understates the economy's resilience.

In assessing whether to apply notching adjustments related to flexibility, diversity, productivity, labor supply challenges or other economic or ESG considerations, we use a set of globally relevant indicators to inform our analysis, examples of which are provided below. However, indicators that are relevant and globally available may vary over time. Peer comparisons also inform our assessment. For example, we may differentiate between two sovereigns whose core metrics signal similar economic strength but where other indicators and analytical judgment indicate material differences in economic fundamentals.

#### **ADAPTABILITY:**

Countries that have efficient markets for labor, goods and services and deep financial markets are generally more adaptable to changing market conditions and shocks, which in turn support sustained growth and ultimately boost long-term economic prosperity.

For example, labor markets that facilitate a broad equilibrium between demand and supply are better able to withstand downturns by redeploying labor toward the most efficient sectors or helping employees retrain to adjust their skills to changes within their sector. Legislation or regulatory changes that aim to facilitate an adequate match between demand and supply of labor, without exacerbating wealth and income inequality, may weigh positively in our assessment.

Flexibility in a country's production structure and resource allocation, reflected in conditions that support a competitive product market, helps ensure that goods and services are traded efficiently and also drives an economy's capacity to adapt to changes. Well-developed and deep financial markets can support the reallocation of resources between sectors, and thereby support an economy's flexibility.

In assessing flexibility, we typically consider indicators such as the World Economic Forum (WEF)'s Global Competitiveness Index (GCI), including components that measure labor and goods market efficiency, and the WEF Financial Market Development Index.

#### **DIVERSITY:**

We may apply upward notching to the Economic Strength factor score where we consider an economy to be unusually diverse for its scale, and where economic size therefore understates the economy's resilience.

Conversely, high economic dependence on a single or a few products or services as a percentage of GDP may result in a downward notching adjustment. For example, a country that shows a particularly large concentration of exports of a few products is vulnerable to a shock hitting demand for these products. This can be the case for countries whose growth or revenue is highly dependent on the production and export of a commodity (or a group of highly correlated commodities). Sudden shocks or long-term changes in the demand and prices of particular commodities, such as hydrocarbons, affect sovereigns that rely on them as a source of economic activity. The risk associated with an economy that has a large concentration in commodities diminishes when a country produces a diverse set of commodities whose price movements and international demand trends exhibit weak correlation with one another.

We generally consider a sovereign to be highly dependent on commodities where they account for more than half of all exports, and exports account for more than a quarter of GDP. We typically do not apply a downward notching adjustment on the basis of high concentration where the Economic Strength factor score before adjustments is already very low, because we generally expect concentration to be reflected in the core indicators.

In assessing diversity, we typically consider broad measures of export structure diversification, such as the United Nations Conference on Trade and Development (UNCTAD) Export Product Concentration Index, and indicators of the value-added nature or price sensitivity of the country's exports, such as the World Development Indicator (WDI) for goods exports to high-income countries and the Economic Complexity Index produced by the Observatory of Economic Complexity.

In limited cases, we may apply an upward notching adjustment, or offset the downward adjustment for concentration, where a sovereign benefits from exceptionally large, untapped natural resources that can be accessed readily and cheaply. Such resources typically allow a sovereign to adjust output to mitigate a price shock, and help to sustain economic growth over the long term. We



typically limit this upward notching to two notches. However, we may fully offset the downward notching adjustment otherwise suggested by excessive economic concentration in commodities in rare cases where proven oil or gas reserves are projected to last more than 50 years or, on a sustained, forward-looking basis, proven reserves of other commodities are in approximately the top 15th percentile among global producers and the cost of production is in or very near the lowest decile among global producers.

For services, we typically assess the contribution to GDP of major service categories produced in an economy as well as their relationships with other sectors of the economy. For example, a country whose economy is heavily dependent on a service sector (e.g., tourism or financial services) would typically score lower for this factor. Conversely, countries that produce diverse types of services typically show greater resilience to adverse shocks and would typically score higher.

#### **PRODUCTIVITY:**

An economy's productivity is a key source of its competitiveness and helps drive wealth creation. Productivity reflects how efficiently the inputs into production, such as labor and capital, are used to produce a given level of output. Countries that have low or declining productivity levels generate less wealth and typically face diminishing long-term growth prospects. Where we consider the underlying productivity potential is understated or overstated by the scorecard metrics, we may apply an upward or downward notching adjustment to the Economic Strength factor score.

Sustained productivity growth has many drivers, including innovation, adequate infrastructure, and a mix of favorable economic and social policies and trends. The capacity to adopt new technologies supports productivity by increasing the country's level of output for a given labor force. Poor infrastructure can hinder the effective functioning of the economy by impeding the provision of goods and services, the free flow of information through communication networks and the reliability of electricity and energy supplies. Economic or social policies, such as investment in workforce skills and education, can sustain or improve a country's productivity.

In assessing productivity, we typically consider the WEF Infrastructure, Innovation and Higher Education and Training Indexes. We also typically consider estimates of longer-term changes in productivity based on a country's average growth of real GDP per capita over 10 years.

#### **LABOR SUPPLY CHALLENGES:**

In many countries, changing demographics and labor supply developments can weigh on the size and composition of a country's workforce. For example, slowing labor force growth, a decline in working-age populations or pervasive social unrest raise labor input challenges that can weigh on long-term growth. Similarly, an aging workforce may affect labor productivity if it is not supported by technological solutions or skills development. Conversely, positive trends in the labor force, such as through net inward migration or increases in female labor force participation can, over time, support the growth of the workforce and its productivity.

These social considerations, while longer-term in nature, are typically an important part of our assessment of a sovereign's ability to expand its economy sustainably and to foster economic prosperity.

Where labor market challenges are expected to become acute, we may reflect these in a downward notching adjustment to the Economic Strength factor score to recognize that these longer-term considerations may not be adequately reflected in the scorecard metrics.

In assessing labor supply challenges, we may consider estimates of a country's working age population growth over the next decade compared with the previous 10 years. We may also consider indicators for the extent of aging within a population.

#### **OTHER:**

In limited cases, we may also apply upward or downward notching adjustments to the Economic Strength factor score based on other considerations. Following are examples of other notching considerations:

- » We may consider applying a downward notching adjustment to the factor score where excessive credit growth suggests that apparently strong core scorecard metrics will not be sustained. We typically consider the absolute levels of credit growth, whether credit growth has deviated materially from estimates of its long-term trend or the extent to which it exceeds nominal GDP growth for a sustained period. We also typically assess the severity of a potential credit boom-bust cycle based on the size of the domestic credit stock relative to GDP, because generally, the larger the size of domestic credit as a proportion of GDP, the greater the potential severity of a credit boom-bust cycle. We also may consider whether there is evidence of excessive asset price growth, which might lead to an unsustainable buildup of credit. Furthermore, we may look beyond aggregate credit growth and consider the sectors that have borrowed heavily to inform our assessment of the extent to which credit growth is excessive. We typically consider whether macroprudential frameworks are in place that may curb excessive credit growth or mitigate the impact.
- » We may apply a notching adjustment to the factor score where an economy is undergoing a structural break, positive or negative, that the scorecard metrics fail to capture. This notching adjustment may be particularly relevant where a sovereign's growth prospects or volatility of growth are likely to change beyond the five-year period captured in the scorecard metrics. For example, a commodity-based economy may undergo deep structural change resulting from a depletion of natural resources, or an increasing risk in the future of an inability to exploit a resource to the same extent as in the past. As a counter-example, policies aimed at supporting economic diversification may point to more balanced and sustained growth in the future.
- » Where there are extremes of high national income or poverty, we may consider that core metrics understate or overstate a sovereign's economic strength relative to its peers, and that these social risks indicate a materially higher or lower buffer to absorb internal and external shocks. For example, small jurisdictions that act as offshore centers may report income per capita levels above those which would in reality be available to absorb shocks. In such circumstances, we may apply upward or downward notching to the Economic Strength factor score to the extent this consideration is not already captured in metrics or other adjustments.

### Factor: Institutions and Governance Strength

#### Why it matters

The strength of institutions and governance is an important determinant of a sovereign's creditworthiness because it influences the predictability and stability of the legal and regulatory environment, which is of importance to investors. Institutions and governance provide a strong indication of a government's willingness to repay its debt. They influence the sovereign's capacity and willingness to formulate and implement economic, fiscal and monetary policies that support growth, socioeconomic stability and fiscal sustainability, which in turn protect the interests of creditors over the long term.

We define a country's institutional and governance framework broadly, to include all the actors, i.e., broadly speaking, state and non-state actors, that participate in the formation and enforcement of rules and norms and in the policymaking process. Checks and balances that allow policy and other public actions to be scrutinized and to be informed by feedback are also part of a country's institutional and governance framework.

There has been a clear linkage between institutional weaknesses and sovereign defaults, arising in part from an erosion in governments' willingness to pay, but also because institutional weaknesses amplify other credit weaknesses, such as structural growth challenges, which influence the sovereign's capacity to pay.

This factor comprises two qualitative sub-factors.

#### *Quality of Institutions*

Core aspects of the quality of a sovereign's institutions are (i) the quality of its legislative and executive institutions; and (ii) the strength of civil society and the judiciary.

Transparent, predictable and robust legislative and executive institutions are important drivers of the strength of a sovereign's credit profile. Where legislative and enforcement institutions are weak and the development and enforcement of laws, rules and societal norms are unpredictable, opaque and unreliable, the position of investors in sovereign debt is correspondingly more uncertain and credit risk higher. In such environments, administrative and legislative capacity tends to be weaker, with negative long-run implications for growth, debt and investor confidence.

Social risk can undermine the quality of institutions. For instance, actual or perceived income or wealth inequality can undermine trust in legislative, executive and judicial institutions and hamper their effectiveness.

The strength of the judiciary and, more broadly, civil society is also important because these institutions can act as a check on a country's lawmakers or executive. They enforce the rule of law, control corruption and reinforce norms in a way that typically protects the interests of creditors and supports effective policymaking.

When the general enforcement environment is weak, governance mechanisms are typically less effective and adherence to the rule of law and to norms of society is more uncertain, thus undermining the overall strength of the business environment, including the repayment culture that prevails in a given country.

### *Policy Effectiveness*

The willingness and capacity of a country's institutions to design and implement policies that foster economic and fiscal strength are important aspects of a sovereign's credit profile.

Sovereigns that exhibit a lack of policy stability or a weak capacity to legislate policies typically exhibit greater economic inertia and find it more difficult to adapt to changes or shocks. For example, emerging economies that have not sufficiently built up the quality of their legislative and executive institutions may face difficulty in designing and implementing multiyear economic and social plans and, more generally, in unlocking the country's growth potential or building resilience to shocks.

In developed economies, a lack of reforms may diminish the ability to adapt to eroding competitiveness and to other structural challenges. This inaction may result from a lack of consensus, instability around the design of socioeconomic policies or from the complexity and rigidity of the legislative process. Social risks can reduce policy effectiveness. For instance, poor access to high-quality education can prevent workers from securing jobs in the formal economy and prevent the government from collecting tax revenue.

Our assessment of policy effectiveness focuses on two core aspects, namely (i) fiscal policy effectiveness; and (ii) monetary and macroeconomic policy effectiveness.

Effective fiscal policies support debt sustainability over the medium term. Such policies create fiscal capacity during periods of economic expansion that allows a country to weather inevitable cyclical downturns, the crystallization of contingent liabilities or other foreseeable fiscal challenges without permanently impairing the government's credit quality. The capacity to sustain credit-positive fiscal policy over time can also support investor confidence, which improves debt affordability. Investors typically place a great deal of importance on public debt sustainability, because signals that a government does not have the sufficient fiscal firepower to pursue its socioeconomic role or to protect the economy from shocks may erode business confidence and investment. For example, measures taken to address social considerations such as adverse demographics, including reducing pension benefits and extending working lives, or encouraging immigration, can have in some cases political consequences that discourage their implementation and undermine the credibility — and hence the effectiveness — of policies.

Preventing and correcting macroeconomic imbalances through robust monetary and macroeconomic policies is key to supporting sustained economic growth over the longer term. Macroeconomic imbalances may erode competitiveness and impair social cohesion over time. Such imbalances can take many forms, depending on the stage of development of an economy and the fundamental characteristics of a country's economic model. These include elevated inflation, volatile currency and investment inflows, high current account deficits, unsustainable external indebtedness and asset price bubbles.

### **How we assess it for the scorecard — Quality of Institutions sub-factor**

#### **QUALITY OF LEGISLATIVE AND EXECUTIVE INSTITUTIONS:**

We assess this sub-factor qualitatively, based on the quality of public actions we observe, both at the legislative and executive levels. However, our qualitative assessment is informed by a range of quantitative indicators. The Worldwide Governance Indicators (WGI) for regulatory quality and government effectiveness are typically primary considerations in our assessment. Beyond those inputs, our assessment incorporates our forward-looking views of certain other considerations, including the efficiency of the government and public administration, institutional capacity constraints (typically more prevalent in very small countries), the reporting of data, the capacity to translate policy into law and whether independent bodies have a voice in policymaking.

Among other aspects, the WGI for government effectiveness captures an element of social risk, including perceptions of the quality of public services. Our view of the effectiveness of government action is also driven by the quality of the public administration, because its role is key in the formulation and implementation of government policy. Understaffing or a poorly skilled public sector workforce typically constrains government effectiveness. Similarly, infrequent and limited data reporting and major revisions may indicate a weaker institutional setting.

Due to their more limited human and financial resources, very small countries are typically constrained in their capacity to plan and execute policy at the legislative and executive levels. As a result, we typically do not assign the highest score for this sub-factor to very small sovereigns.

**How we assess it for the scorecard — Quality of Institutions sub-factor**  
**STRENGTH OF CIVIL SOCIETY AND THE JUDICIARY:**

We focus on institutional outcomes, not on the form of government, namely, the ability and willingness of sovereigns to observe and enforce laws and norms in a way that supports the government's overall creditworthiness and the interests of creditors.

We assess this sub-factor qualitatively, principally based on the strength of the sovereign's rule of law, including the judiciary system and role of civil society institutions. Again, however, we typically inform our qualitative assessment using quantitative measures, namely the WGI for voice and accountability, rule of law and control of corruption. Beyond those metrics, our assessment incorporates our forward-looking views of certain considerations, including the enforcement of laws, the balance and separation of power between the judiciary and the government, the prevalence of corruption, the effectiveness of judicial and legal processes and civil society's capacity to act as a check on the exercise of government power.

In our overall assessment of this sub-factor, we also consider the consistency and predictability of the enforcement of laws, including as they apply to the government itself and public officials. We generally view effective public enforcement as a pre-condition to enforcement of private mechanisms such as contract rights, which require public laws to function predictably. A track record of delayed, partial or absent enforcement of laws typically signals limited predictability of enforcement in the public and private sectors and may weigh negatively on our assessment of this sub-factor score.

The existence of judicial institutions that have meaningful influence on and independence from the government is also an important determinant of the strength of an enforcement environment. Legal obligations or contractual arrangements between private and public stakeholders are not likely to be easily enforceable in an environment where judicial institutions are subject to a large degree of government interference or where they have by law or due to capacity constraints little control over the government's compliance with the law.

Corruption negatively affects our view of the quality of sovereign institutions and governance. The presence of corruption may reflect the absence of enforceability of the law or incentives to abide by it. It may also influence other credit features, such as the government's ability to collect revenues effectively or, more broadly, growth levels in the economy. We typically assign lower scores to this sub-factor in cases where corruption is widespread or undermines policy formation, the business environment or social cohesion.

Our view of the quality of the judiciary is also influenced by an assessment of its impartiality and effectiveness in enforcing the law and resolving disputes. For example, we consider whether the judicial power operates with laws that facilitate the enforcement of contracts and whether it benefits from sufficient human and financial resources to be effective. A track record of bias in judicial decisions, for example in favor of a specific socioeconomic, ethnic or religious group or a particular sector (e.g., large government-owned corporations) typically does not reflect strong enforcement foundations and practice.

Civil society can play an important role in shaping the enforcement of laws and norms and can act as a check on the exercise of government power. Capacity to voice concerns about the rule of law and exert influence on government policy to promote good governance are viewed positively in our assessment of this sub-factor score.

In assessing the strength of civil society and the judiciary for a sovereign, we may also consider other indicators, such as the World Justice Project's (WJP) index of regulatory enforcement, index of constraints on government power, index of civil justice and index of criminal justice, or similar information from other established international organizations with sufficiently broad coverage.

## How we assess it for the scorecard — Policy Effectiveness sub-factor

### FISCAL POLICY EFFECTIVENESS:

We assess this sub-factor qualitatively, based on the trajectory of public debt through cycles, fiscal balances and fiscal performance against budgetary plans, medium-term planning, transparency in reporting of government accounts as well as debt management. In our assessment of this sub-factor, we consider fiscal policy effectiveness over a sustained period.

In assessing the trajectory of public debt throughout cycles, we consider historical and anticipated government debt<sup>2</sup> levels as a percentage of GDP through several economic cycles. Stronger fiscal effectiveness is typically associated with stable or decreasing debt levels over time. In times of downturn or crisis, government debt levels may increase, typically because of reduced revenue levels and budget expansion to support recovery. However, the ability of a government to contain increases and rebuild shock absorption capacity thereafter through a reduction in debt loads is a key indication of its fiscal effectiveness. Conversely, sovereigns that exhibit large debt burdens or consistent increases in debt levels over several economic cycles typically score lower for this sub-factor.

The trajectory of budget balances is also an important indicator in our assessment of fiscal policy effectiveness. Governments that have stronger budget planning capacities typically build in flexibility to accommodate larger fiscal deficits than planned during an economic downturn and tighten the fiscal stance during an economic expansion. Examples of flexibility built into a budget include options to levy progressive income taxes that boost government revenue during economic expansions or introduce spending during downturns in a counter-cyclical way. Flexibility in the design of the budget is key to mitigating economic gyrations and one-off events. Sovereigns with weaker fiscal effectiveness typically have more rigid budgets that make it more difficult to adjust to changed economic circumstances. Similarly, challenges in tax collection are typically indicative of developing administrative capacities, or as can be the case for tax evasion, a lack of effective tax enforcement from the fiscal institutions. These characteristics are typically commensurate with a low score for this sub-factor. In assessing a sovereign's trajectory of budget balances, we may also consider structural fiscal balances<sup>3</sup> that are produced by the International Monetary Fund (IMF) or similar information from other established international organizations with sufficiently broad coverage, where available.

The existence of fiscal targets, such as expenditure ceilings, and consistent compliance with those targets over a number of political cycles generally signal stronger fiscal policymaking and implementation. Fiscal targets or expenditure ceilings are useful budgetary tools to foster fiscal discipline and expenditure efficiency. A track record of adherence to the targets or limits is typically viewed positively in our assessment, to the extent that they are designed to maintain a good fiscal performance or to improve the fiscal trajectory. However, the absence of stated fiscal rules does not necessarily signal weaker policy effectiveness. Our main analytical focus is on the track record of fiscal prudence and our expectations regarding budgetary performance and debt management over the medium term.

While flexibility to adjust revenue and expenses to mitigate unplanned circumstances is an important driver of our assessment, medium-term fiscal policy planning is also key. Robust multiyear planning is typically accompanied by better fiscal performance over the long term. In particular, frequent changes in the policy mix as a reaction to unforeseen or unplanned events, such as large and sudden discrete spending items (e.g., capital expenditures), may support the fiscal trajectory in the short run but undermine the effectiveness of the longer-term fiscal policy objectives. The existence of nonpartisan bodies that form part of the budget-making process through a consultative or review role is typically viewed positively in our assessment of the quality of budgetary planning practices.

Transparency and quality of government accounts, for all levels of government, are important determinants of effective budget planning. The availability of comprehensive, accurate and recent data on government accounts supports budgetary authorities and related stakeholders (including external non-partisan bodies) in the design of robust fiscal policies. Sovereigns with higher quality of disclosures typically report monthly budget accounts (on a cash basis) and annual or quarterly accrual budget accounts as well as government balance sheets, including contingent liabilities and other off-balance-sheet items. The perimeter of accounts is also typically clearly defined. Our primarily qualitative assessment is also informed by various indices assessing transparency of fiscal reporting (for example, the Open Budget Index and certain dimensions of the World Bank's Country Policy and Institutional Assessment) as well as the IMF assessment on the adequacy of data for surveillance. While accounting standards can be complex and evolve over time, leading to ex-post revisions of fiscal performance and debt levels, a track record of frequent and large revisions in past budget accounts would typically weigh negatively on our assessment of a sovereign's fiscal policy effectiveness.

Our view of fiscal policy effectiveness also relies on the quality of government debt management. Sovereigns with a higher score for this sub-factor typically have a generally professional and capable public administration. Well-structured debt management policies typically aim at ensuring reliable access to financing, for example through frequent issuances across maturities and by diversification of funding sources, while limiting the service cost and refinancing risk. Mitigation strategies are typically well-articulated. Stronger debt management practices also typically include regular public reporting of key financial information, planning and policies. Indications of weaker debt management practices typically include the absence, or the understaffing, of dedicated professionals; poor or nonexistent formal debt management plan and policies, for example characterized by the absence of a multiyear strategy (which considers, for example, investor type, maturities and currencies); or practices that are informed by insufficient data, for example on future financing needs.

We may also consider any material benefit a country may derive from its participation in an external assistance program, such as from the IMF or the European Stability Mechanism (ESM), or cooperation with other institutions such as the EU or the World Bank, where we see lasting positive credit impact. The measures policymakers may implement under the auspices of these institutions can have a positive impact on all dimensions captured in our Institutions and Governance Strength factor, but the largest impact would typically be within the fiscal policy effectiveness and monetary and macroeconomic policy effectiveness sub-factors. In assessing the institutional benefits governments may derive from these programs, we also consider the capacity of governments to sustain the benefits after their participation in the program.

#### **How we assess it for the scorecard — Policy Effectiveness sub-factor**

##### **MONETARY AND MACROECONOMIC POLICY EFFECTIVENESS:**

We assess this sub-factor qualitatively, based on the effectiveness of monetary and macroeconomic policies. Considerations include the implied effectiveness of monetary policy in maintaining price stability, including through low, stable and predictable inflation and the level of inflation relative to any targets set for or by policymakers. We also consider a sovereign's rate of inflation relative to that of peers and the capacity of the authorities to adjust inflation targets in response to macroeconomic imbalances. In addition, we assess the role and effectiveness of the central bank, the strength of macroprudential tools and banking system regulation. In our assessment of this sub-factor, we consider monetary and macroeconomic policy effectiveness over a sustained period. The effectiveness of the public policy response to shocks and trends, including adverse economic, social or financial changes, is another important consideration. Sovereigns whose institutions swiftly mitigate the impact of shocks or formulate effective plans to address slowly unfolding trends without threatening macroeconomic stability typically score higher for this sub-factor. Delays in responding to changing circumstances can weigh negatively on our assessment, in particular if these institutions' response or inaction jeopardizes macroeconomic stability.

Sustained economic growth and prosperity are best achieved with price stability. Inflation is also a determinant of an economy's competitiveness. Inflationary episodes are often a precursor to economic, social and political instability given that inflation effectively acts as a tax, particularly on the more vulnerable members of a society. High inflation also typically erodes confidence in the function of a domestic currency as a store of value and can contribute to capital flight and to currency and balance-of-payments crises. The ability of the monetary authorities to contain inflation provides meaningful insight into the broader capacity of a country's institutions to articulate and achieve creditor-friendly policies. We typically assign lower scores for this sub-factor to sovereigns whose economies exhibit high and volatile inflation, reflecting our view that the policy objectives or tools of the monetary authorities are insufficient to deliver price stability and ensure macroeconomic stability.

While the inflation level relative to any targets typically offers a good proxy for the effectiveness of monetary and macroeconomic policies, we also consider more holistically the sovereign's capacity and willingness to address macroeconomic imbalances and structural challenges. Sovereigns whose institutions proactively prevent the buildup of macroeconomic imbalances or address them swiftly through structural reforms typically receive higher scores for this sub-factor. Where sovereigns address imbalances as a result of external incentives — for example, because it is a prerequisite to regain investor confidence or to secure financing from a supranational, or because the sovereign would otherwise be subject to any form of penalty — scores for this sub-factor are typically lower. Sovereigns whose policies do not address macroeconomic imbalances or are ineffective in doing so typically have scores in the lowest categories.

The role of identifying and addressing macroeconomic and structural imbalances can belong to different authorities in a given country depending on the institutional framework. Our assessment of the capacity to prevent and address those imbalances typically considers the tools relevant authorities have at hand to perform a comprehensive and effective diagnostic assessment and implement effectual corrective actions.

The central bank generally plays an essential role in ensuring monetary and macroeconomic stability. The role and mandate of a central bank can be different across jurisdictions. In our assessment, we consider the central bank's objectives, whether they are clearly delineated and whether the central bank has sufficient capacity and independence from the government to fulfill its role. A lack of clearly established goals or a central bank's track record of falling short of meeting its objectives, for example, illustrated by high or volatile inflation, a deflationary environment,<sup>9</sup> large currency fluctuations, or buildup of unsustainable private indebtedness, typically weigh negatively on the sub-factor score. Where the emergence of central bank digital currencies (CBDC) is accelerating, we may also incorporate into our assessment the ways in which a central bank is planning for the adoption of related policies and the ways in which the adoption of CBDC can impact the sovereign. The central bank's de jure and de facto insulation from government interference is typically also an important input to our assessment of this sub-factor. We may also consider the availability and credibility of the tools the central bank can use to address any future economic or financial shock.

We may also assess how imbalances that may exist in the financial system are addressed. Because of its intermediary role in the economy, its increasingly interlinked nature, and, typically, its large size relative to the economy, the financial system can be a key source of macroeconomic risk. Financial or banking crises have often translated into economic downturns, with rising unemployment, costly bailouts for governments and social discontent. The existence of effective macroprudential tools<sup>10</sup> that are reviewed on a regular basis and informed by relevant data is viewed positively in our assessment. The very strongest macroprudential tools are expected to increase the resilience of the financial sector, contain the buildup of systemic vulnerabilities by managing procyclicality in the financial system, and control structural vulnerabilities that can arise due to interlinkages in the financial system and the broader economy.

Similarly, effectively balancing the need for the banking sector to support economic growth against the need to avoid excessive risk-taking is one of the key objectives of banking regulation. Weaker regulations fail to achieve these goals, typically as a result of a lack of effective tools or difficulty in keeping pace with the complexity of the financial system. Sovereigns that have experienced a systemic banking crisis in the recent past would typically score lower for this sub-factor as a reflection of their past inability to contain systemic risks. In these cases, we typically also consider any regulatory or restructuring reforms the sovereign may have undertaken in its banking sector to respond to weaknesses highlighted by the crisis, where we think those reforms will have a lasting effect in reducing credit risk.

### **Adjustments to the Institutions and Governance Strength factor score**

#### **GOVERNMENT DEFAULT HISTORY AND TRACK RECORD OF ARREARS:**

We may apply a downward notching adjustment to the Institutions and Governance Strength factor score in cases where there is a track record of government default or significant arrears. Our assessment typically focuses on defaults on debt owed to the private sector. The adjustment can only be downward and is limited to three notches.

The number of downward notches applied typically depends on our expectations for the risk of re-default, how recent the default was and the size of the loss for investors. The larger the losses, the greater the downward notching to this factor score. Moreover, we typically apply a greater downward adjustment for a government that has defaulted several times in the past 20 years, regardless of the recovery rate observed. If there have been no new defaults in the past 10 to 15 years, we may reduce the downward adjustment if it is clear that the underlying economic, financial or political problems that gave rise to the default event have been resolved in an enduring way. If there have been no new defaults in 20 years, we generally do not make a downward adjustment due to default.

Similarly, we may also make a downward adjustment to the factor score if the government has a frequent history of accumulating significant arrears to creditors, including suppliers or government employees. Frequent and large arrears can point to weak fiscal management, a poor culture of repayment and ultimately, a fragile rule of law and contract enforcement.

**OTHER:**

In limited cases, we may apply a notching adjustment to the Institutions and Governance Strength factor score based on our view that the combination of the sub-sub-factor weights and the government's default history and track record of arrears adjustment do not fully reflect our overall view of a sovereign's institutions and governance strength. The adjustment can be upward or downward and is limited to three notches. For example, where one sub-factor is very important to a particular sovereign's institutions and governance strength, the impact it has on the factor score may be much greater than the standard scorecard weight would imply.

**Determining the Economic Resiliency Outcome**

We combine the final scores of the factors Economic Strength and Institutions and Governance Strength to arrive at the Economic Resiliency score using equal weights.

**Factor: Fiscal Strength****Why it matters**

A sovereign's fiscal strength is an important indicator of the sustainability of the sovereign's debt burden. Persistent fiscal deficits often result in elevated leverage and deteriorating debt affordability, ultimately making the sovereign more vulnerable to financial shocks and the risk of not being able to meet its obligations.

This factor comprises two quantitative sub-factors, each of which comprises two metrics.

*Debt Burden*

This sub-factor provides indications of a sovereign's debt level relative to GDP, i.e., relative to the size of the economy, as well as relative to overall government revenue, i.e., the sovereign's repayment capacity based on its actual revenue base.

High debt burdens often result from the buildup of persistent financial imbalances. Apart from reflecting such legacy fiscal weaknesses, high debt levels may also be the result of the assumption of contingent liabilities (e.g., from the recapitalization of financial institutions or state-owned enterprises), or stock-flow adjustments, driven, for example, by a depreciation of the local currency and its effect on foreign-currency-denominated debt relative to GDP.

An elevated debt level relative to GDP also constrains the sovereign's capacity to provide fiscal support to the economy, particularly in times of economic or financial stress, dampening the growth prospects for an economy.

Environmental and social risks can place pressure on fiscal accounts. For example, climate-related trends such as more frequent and severe natural disasters or sea level rise can raise borrowing needs. The effect of social pressures, such as high unemployment, income inequality or an aging population can result in higher demands for spending and over time can erode fiscal strength if not matched by an increase in revenue or a decrease in expenditures in other areas.

*Debt Affordability*

This sub-factor provides indications of a sovereign's capacity to service its debt. The ratio of interest payments to revenue indicates the extent to which a government's debt service burden is within its revenue-generation capacity. Drivers of debt affordability are the debt burden itself (the larger the stock of debt relative to GDP or revenue, the weaker the debt affordability); the interest rate (which reflects the willingness of creditors to finance government deficits with smaller or larger risk premia); and revenues generated by the sovereign (the lower the value of revenues, the less that is available for interest payments).

A high ratio of interest payments to revenue means that a large share of revenue needs to be diverted to interest payments, crowding out other types of government spending, including on the provision of basic services, education, and health and safety. The lower the sovereign's debt affordability, the higher the social costs of servicing debt. Unsustainably high social costs of servicing debt may over time undermine a sovereign's ability, and eventually its willingness, to service debt.

The ratio of interest payments to GDP expands our analysis to the broader capacity of the economy to provide a revenue base to meet government debt service requirements.



Social risks such as heightened income inequality can reduce the revenue base and worsen debt affordability. Conversely, strong governance contributing to high policy credibility is likely to lower debt costs and support debt affordability.

#### **How we assess it for the scorecard**

In assessing the Debt Burden and Debt Affordability sub-factors, we use debt and fiscal metrics at the general government level. The typical perimeter for our definition of general government debt includes the debt of the central government and the regional and local governments, and, when separate from the central government, the social security system. We generally draw the perimeter at that level to reflect both the high mutual reliance between central and lower government levels that we typically observe and the overlap in sources and uses of revenue. Our calculation or estimation includes government debt owned by a central bank but typically excludes the central bank's liabilities.

In cases where there are insufficient reported data to calculate or estimate the general government debt perimeter, we typically calculate or estimate the metrics for this factor using a perimeter based on available data and assess any credit impact on fiscal strength related to the fiscal position outside of the factor core metrics (see the "Adjustments to the Fiscal Strength factor score" section).

We may in some cases calculate or estimate the metrics for this factor at the central government level where there is no or very limited risk that the central government will assume the debt obligations of lower tiers of government. For example, in a few cases of federal systems with a very clear and credible division of fiscal responsibilities, we may focus our assessment only on the finances of the central or federal government.

On the other hand, we may include the debt of other entities in the metrics for this factor where we consider there to be a high likelihood that this debt would be serviced by the central government or by other entities in our defined general government perimeter on an ongoing basis. For example, we may include the debt of loss-making state-owned enterprises that are unable to service their debt if we consider that the government is, in effect, responsible for this liability on an ongoing basis.

#### **How we assess it for the scorecard — Debt Burden sub-factor**

##### **GENERAL GOVERNMENT DEBT / GDP:**

The numerator is general government gross debt, and the denominator is GDP in nominal terms.

##### **GENERAL GOVERNMENT DEBT / REVENUE:**

The numerator is general government gross debt, and the denominator is general government revenue.

#### **How we assess it for the scorecard — Debt Affordability sub-factor**

##### **GENERAL GOVERNMENT INTEREST PAYMENTS / REVENUE:**

The numerator is general government interest payments, and the denominator is general government revenue.

##### **GENERAL GOVERNMENT INTEREST PAYMENTS / GDP:**

The numerator is general government interest payments, and the denominator is GDP in nominal terms.

Our assessment of environmental, social and governance considerations may affect our view of a sovereign's debt trend and contingent liabilities, which may lead to adjustments to the factor score, as described below.

#### **Treatment of reserve currency countries and HIPC/IDA countries**

For reserve currency countries and countries that are eligible for funding from the World Bank or the IMF as part of the Heavily Indebted Poor Countries (HIPC), International Development Association (IDA) or similar programs, the scorecard weights for the debt burden and debt affordability ratios may be different from the weights shown in the scorecard above, reflecting our view of the varying importance of these considerations in assessing the fiscal strength of these countries.

A reserve currency is a currency held by central banks as part of their foreign currency reserves and is widely used in international trade and in pricing international contracts. We consider sovereigns that issue reserve currencies as their legal tender as reserve currency countries. We typically consider that these countries benefit from an exceptional capacity to attract investors and as such, our assessment largely focuses on debt affordability rather than on debt burden. Accordingly, for reserve currency countries, the weights of the Debt Burden and Debt Affordability sub-factors are 10% and 90%, respectively.<sup>11</sup> We consider that Australia, Canada, Japan, Switzerland, the UK and the US are currently reserve currency countries. While the euro is considered a reserve currency, we consider only the two largest member states, Germany and France, to benefit from reserve currency status.

For countries in HIPC, IDA or similar programs, apparently strong debt affordability ratios typically reflect the largely concessional terms of their debt but do not denote high fiscal strength. If these countries were to shift toward greater issuance of marketable debt, the cost of debt would typically be higher and debt affordability correspondingly lower. Accordingly, the weights of the Debt Burden and Debt Affordability sub-factors are typically 100% and 0%, respectively,<sup>12</sup> reflecting our view that for these countries, debt burden metrics generally provide a more relevant indication of debt sustainability than do the debt affordability metrics. However, where the application of standard scorecard weights results in weaker debt metrics, we apply the weaker of the two scores to reflect our view that debt affordability may be weighing on the sovereign's fiscal strength.

### **Participation in official sector debt relief**

Where a sovereign participates as a recipient in official sector debt relief, we consider a number of key elements in order to assess if such participation constitutes meaningful credit support that results in improved fiscal strength. Official sector debt relief has the potential to lower the sovereign's debt burden and improve debt affordability (as well as reducing government liquidity risk and alleviating balance of payments pressures). However, in our assessment, we also take into account the extent to which the sovereign's participation in debt relief is indicative of credit pressures (please also see the "Other considerations" section).

### **Adjustments to the Fiscal Strength factor score**

We may apply notching adjustments to the factor score based on a sovereign's debt trend. The debt trend incorporates a sovereign's historical change in its debt burden and can result in downward notching. The debt trend also incorporates an assessment of the expected change in the debt burden and can result in upward or downward notching.

We may also apply downward notching adjustments to the factor score based on the government's exposure to a sudden exchange rate depreciation or a crystallization of its contingent liabilities. Where there are sizable government financial assets, we may apply upward notching. In aggregate, the notching can result in an upward or downward adjustment to the factor score of up to six notches.

### **FISCAL STRENGTH FACTOR SCORE ADJUSTMENT — DEBT TREND:**

We may apply notching adjustments to the Fiscal Strength factor score based on two forms of credit-relevant information captured by a sovereign's debt trend. The first is an assessment of the accumulation of debt over the past economic cycle, which provides information about the vulnerability of a sovereign's debt-carrying capacity to changes over the period and of its ability to unwind the effects of such changes. The second is based on our expectations for an increase or decrease in the government's debt burden and how this change is likely to affect the sovereign's fiscal strength in the future.

#### *Historical Change in Debt Burden*

A sovereign's debt accumulation over the past economic cycle provides important information about the challenges a sovereign may confront in stabilizing or reducing its debt burden and maintaining its debt affordability following a potential shock.

This adjustment is qualitative but is informed by quantitative data, in particular the changes in the government's debt burden over the last eight years. This adjustment can only be downward and is limited to two notches.

In limited cases, we may apply a notching adjustment that is different from that indicated by the data over the look-back period to reflect a recent structural change that materially reduces a sovereign's fiscal vulnerability to stress or shocks relative to the previous cycle.

Exhibit 5

**Historical change in debt burden**

Indicative notching adjustment	0	-1	-2
Change in General Government Debt / GDP (percentage points) t-8 to t	< 25	25 - 50	≥ 50

Source: Moody's Investors Service

*Expected Change in Debt Burden*

The notching adjustment for the forward-looking debt trend is qualitative and based primarily on our near-term baseline projections of a sovereign's debt burden. Our projections incorporate our baseline macroeconomic assumptions, including for commodity prices, and take into account the government's stated policy plans and its track record of implementing such plans, as well as budget pressures that may arise from social issues.

We assess the percentage point change in the debt-to-GDP ratio between the base year for our scorecard (t) and our baseline projection for the subsequent two years (t+2). The number of downward notches depends on the magnitude of the projected increase in the debt burden. Conversely, we may apply an upward notch to the factor score in cases where we expect the government's debt burden to decline (please see Exhibit 6).

We may apply a notching adjustment that is different from the adjustment resulting from our debt-to-GDP projections where there is exceptionally high uncertainty around our forecasts, where our longer-term expectation for the debt trend is substantially different from the two-year projection or where we view that the expected change in the debt burden would not imply a material change in a sovereign's fiscal strength. As an example of the latter, for reserve-currency sovereigns, an increasing debt burden may not be indicative of deteriorating fiscal strength.<sup>13</sup> In our assessment, we may also consider forward-looking scenario analyses with respect to nominal growth, fiscal trajectories and the government's ability to manage budgets, interest rate developments and other risk factors of a sovereign's debt trend that could cause meaningful variations in the direction of fiscal strength relative to our baseline scenario. Exposure to physical climate risk, such as that arising from a dependence on weather-exposed economic sectors, i.e., agriculture or tourism, can result in increases in debt and challenge debt affordability under some scenarios. Similarly, an aging population can raise some sovereigns' debt burdens sharply unless governments take measures to mitigate this rise.

In cases where our baseline projection for the debt burden incorporates contingent liabilities that would crystallize on the government's balance sheet or changes in the debt burden that would result from a change in the government's financial assets, we do not include them in the other notching adjustments described below.

The upper bound of notching for the fiscal direction adjustment is more constrained than the lower bound because governments are less likely to attain large debt reductions. Governments typically enact economic stimulus measures, which increase debt, more often and more effectively than they impose fiscal austerity. Debt-reduction programs are typically short-lived, and declining debt trends are more likely to plateau or reverse than increasing debt trends.

Exhibit 6

**Expected change in debt burden**

Indicative notching adjustment	+1	0	-1	-2	-3
Change in General Government Debt / GDP (percentage points) t to t+2	< (5)	(5) - 5	5 - 10	10 - 15	≥ 15

Source: Moody's Investors Service

**FISCAL STRENGTH FACTOR SCORE ADJUSTMENT — GENERAL GOVERNMENT FOREIGN CURRENCY DEBT / GDP:**

We may apply a notching adjustment to the Fiscal Strength factor score based on the amount of the government's debt denominated in or linked to foreign currencies. The adjustment can only be downward and is limited to six notches.

Our assessment of the adjustment for foreign currency government debt is qualitative but is informed by quantitative data, in particular the amount of government debt denominated in foreign currency relative to its GDP. A sovereign's stock of foreign currency debt in relation to its GDP provides an indication of the susceptibility of a sovereign's fiscal strength to a currency depreciation, i.e., the higher the stock of foreign currency debt, the higher the potential impact of a currency depreciation on the debt burden and debt

affordability. The number of downward notches we apply is informed by the potential for added debt-servicing costs and debt stock in the case of a currency depreciation.

We may consider meaningful mitigants to foreign exchange risk, such as financial hedges or natural hedges. For example, a natural hedge could occur where a sovereign receives a large share of its revenue in foreign currency, as may be the case for oil-and gas-exporting sovereigns.

Where a sovereign has adopted another sovereign's currency as an official legal tender, for example, where an economy is entirely dollarized, we typically do not consider the potentially negative credit impact of debt issuances denominated in the adopted currency, considering that the adopted foreign currency is the de facto local currency. However, we may still apply some downward notching adjustment if the value of the local currency is fixed to another sovereign's currency through a fixed exchange regime or peg, because sovereigns operating under these regimes are susceptible to a risk of devaluation should external imbalances destabilize the pegs. Where currency pegs have been maintained over many decades and where we have no reasonable expectation that these pegs could be destabilized over the foreseeable future, we typically would apply limited or no downward notching. In limited cases, a more negative notching could be applied for sovereigns with highly concentrated or rigid economic and fiscal structures, which expose them to significantly larger debt sustainability risks from a potential currency depreciation than implied by their stock of foreign-currency-denominated debt relative to GDP.

Exhibit 7

#### General government foreign currency debt / GDP

Indicative notching adjustment	0	-1	-2	-3	-4	-5	-6
General Government Foreign Currency Debt / GDP (%)	< 10	10 - 20	20 - 30	30 - 40	40 - 50	50 - 60	≥ 60

Source: Moody's Investors Service

#### FISCAL STRENGTH FACTOR SCORE ADJUSTMENT — OTHER NON-FINANCIAL PUBLIC SECTOR DEBT:

We may apply a notching adjustment to the Fiscal Strength factor score based on the presence of sizable debt from the non-financial public sector and our view of the related risk of the direct or indirect assumption of this debt by the government. The adjustment can only be downward and is limited to three notches.

Weak public sector companies can drain fiscal resources from the government, which can eventually lead to the government directly or indirectly assuming debt that was previously a contingent claim. The assumption of debt can take different forms, such as recapitalizations, subsidies or transfers of the debt obligation.

The adjustment to the factor score is primarily qualitative but is typically informed by quantitative data, in particular by the debt level of non-financial public entities relative to GDP. The number of downward notches is based on both the size of the non-financial public sector debt and the likelihood that there will be a partial assumption of this debt by the government. Considerations that may indicate a material likelihood of the assumption of this debt by the government over time typically include weak stand-alone financial profiles with low or negative profitability levels and a history of financial support. For example, gradual but persistent changes in a state-owned enterprise (SOE)'s environment may also point to a likelihood of financial support from the government in the future. This may be the case for an SOE exposed to carbon transition risk.

The likelihood of the government's assumption of public sector debt also depends on the government's willingness to provide financial support. Entities that carry an economic or social mandate that is viewed as being strategically important for the country, such as a public utility company, are typically more likely to receive some form of support in times of stress.

Because there can be myriad public companies in a country, we generally restrict the perimeter of our assessment to non-financial corporates that are material relative to domestic GDP or whose debt makes up a material portion of the government's debt, i.e., typically where they represent more than a few percentage points. We exclude from the perimeter of our assessment entities whose financial obligations are already consolidated within the general government debt perimeter used for core metrics in the Fiscal Strength factor. Guarantees that are not already directly included in the general government debt perimeter are typically considered in our assessment of this adjustment.

Our assessment is typically based on reliable and comprehensive data on public companies, including audited financial statements. Where there is insufficient data on public companies or the size of public companies appears individually very small but may collectively represent a sizable risk for the sovereign's fiscal strength, we may apply a downward adjustment, although it would typically be limited to one notch.

Exhibit 8

### Other non-financial public sector debt

Indicative notching adjustment	0	-1	-2	-3
Other Non-Financial Public Sector Debt / GDP (%)	< 20	20 - 40	40 - 55	≥ 55

Source: Moody's Investors Service

### FISCAL STRENGTH FACTOR SCORE ADJUSTMENT — GOVERNMENT FINANCIAL ASSETS INCLUDING SOVEREIGN WEALTH FUNDS (SWF) / GDP:

We may apply notching adjustments to the factor score based on the presence of sizable government financial assets (GFA), including sovereign wealth funds and certain assets held by the ministry of finance or treasury, because these government financial assets are a partial mitigant to the government debt burden. We consider these assets to support debt sustainability if, in principle, they could be converted to cash, typically within a year and at a generally predictable value. For example, very large government financial assets can buffer the fiscal effects of environmental shocks and provide resources that could help a sovereign manage fiscal risks associated with longer-term environmental and social considerations. The adjustment can only be upward and is limited to four notches.

Our assessment of the adjustment to the factor score is primarily qualitative but is typically informed by quantitative data, in particular the level of financial assets held by sovereign wealth funds or other materially large financial assets that are owned by and available to the government, relative to GDP. Examples of these assets include government-owned domestic cash funds, including government deposits with the central bank and government contingency reserve funds and sinking funds earmarked for government debt repayments. We also typically include government-owned foreign currency funds other than central bank foreign-currency reserves or those already included in sovereign wealth fund assets, and on an exceptional basis we may include domestic funds that hold bonds issued by the government, unless those holdings have already been netted out in our calculation of consolidated general government gross debt.

We typically do not place meaningful weight on assets owned by social security or public pension systems, because using these assets to reduce government debt generally has the effect of replacing one liability with another. We also typically do not include financial assets of state-owned enterprises or the government's equity stakes in state-owned enterprises other than shares that are publicly traded.

We typically assign less uplift for government financial assets managed by sovereign wealth funds that have limited transparency. If the level of transparency is extremely poor, e.g., where the total size of sovereign wealth fund assets is unavailable or there is meaningful uncertainty around the size of the funds, we haircut the size estimate, typically by up to 50%. We also typically deduct from total government financial assets the sovereign wealth fund's or the government's equity shares in state-owned enterprises, if those shares are not publicly traded on a stock exchange. We also typically exclude government and sovereign-wealth-fund loans to third parties or the value of government-owned real estate and infrastructure. Where the sovereign wealth fund issues debt, we typically subtract borrowings from assets.

Our assessment of government financial assets is forward-looking, and the extent of any notching adjustment is case-specific, taking into consideration other information relevant to how these assets may mitigate the sovereign's debt burden. The amount of uplift provided by government financial assets rises according to their size in relation to GDP. However, if for example, we expect that the sovereign will liquidate a portion of its financial assets to pay down debt, we may apply notching that is lower than the adjustment resulting from the calculation of government financial assets to GDP.

Exhibit 9

**Government financial assets including sovereign wealth funds**

Indicative notching adjustment	0	+1	+2	+3	+4
Government Financial Assets including Sovereign Wealth Funds / GDP (%)	< 10	10 - 25	25 - 50	50 - 100	≥ 100

Source: Moody's Investors Service

**FISCAL STRENGTH FACTOR SCORE ADJUSTMENT — OTHER:**

In limited cases, we may apply additional notching adjustments to the factor score based on our view that the sub-factors and the previously described fiscal strength factor score adjustments do not fully reflect our overall view of a sovereign's fiscal strength. The adjustment can be upward or downward and is limited to three notches.

**Determining the Government Financial Strength outcome**

We combine the final score of the factor Fiscal Strength with the Economic Resiliency Outcome using dynamic weights according to the table below to arrive at the Government Financial Strength outcome. The weight of Fiscal Strength is highest for sovereigns with Economic Resiliency scores between baa2 and ba2, reflecting our view that the creditworthiness of countries with a high score for Economic Resiliency is less susceptible to changes in their fiscal strength whereas the creditworthiness of countries with mid scores for Economic Resiliency is more sensitive to changes in their Fiscal Strength. In contrast, the creditworthiness of countries with low Economic Resiliency scores tends to be weak irrespective of debt metrics.

Exhibit 10

**Government financial strength**

	Fiscal Strength																			
	aaa	aa1	aa2	aa3	a1	a2	a3	baa1	baa2	baa3	ba1	ba2	ba3	b1	b2	b3	caa1	caa2	caa3	ca
aaa	aaa	aaa	aaa	aaa	aaa	aa1	aa1	aa1	aa1	aa1	aa1	aa1	aa2	aa2	aa2	aa2	aa2	aa2	aa3	aa3
aa1	aa1	aa1	aa1	aa1	aa1	aa1	aa1	aa2	aa2	aa2	aa2	aa2	aa2	aa2	aa2	aa2	aa2	aa2	aa3	aa3
aa2	aa1	aa1	aa2	aa2	aa2	aa2	aa2	aa2	aa2	aa3	aa3	aa3	aa3	aa3	aa3	aa3	a1	a1	a1	a1
aa3	aa2	aa2	aa2	aa2	aa3	aa3	aa3	aa3	aa3	aa3	aa3	aa3	a1	a1	a1	a1	a1	a1	a1	a2
a1	aa2	aa2	aa3	aa3	aa3	aa3	a1	a1	a1	a1	a2	a2	a2	a2	a2	a3	a3	a3	a3	baa1
a2	aa3	aa3	aa3	a1	a1	a1	a1	a2	a2	a2	a2	a3	a3	a3	a3	a3	baa1	baa1	baa1	baa2
a3	aa3	a1	a1	a1	a1	a2	a2	a2	a2	a3	a3	a3	a3	baa1	baa1	baa1	baa1	baa2	baa2	baa2
baa1	a1	a1	a2	a2	a2	a2	a3	a3	a3	a3	baa1	baa1	baa1	baa1	baa2	baa2	baa2	baa2	baa2	baa3
baa2	a1	a1	a2	a2	a2	a3	a3	a3	baa1	baa1	baa1	baa2	baa2	baa2	baa2	baa3	baa3	baa3	ba1	ba1
baa3	a1	a2	a2	a2	a3	a3	a3	baa1	baa1	baa1	baa2	baa2	baa2	baa2	baa3	baa3	baa3	ba1	ba1	ba1
ba1	a2	a2	a3	a3	a3	baa1	baa1	baa1	baa2	baa2	baa2	baa2	baa3	baa3	baa3	ba1	ba1	ba1	ba2	ba2
ba2	a2	a3	a3	a3	baa1	baa1	baa1	baa2	baa2	baa2	baa3	baa3	ba1	ba1	ba1	ba1	ba2	ba2	ba2	ba2
ba3	baa1	baa1	baa2	baa2	baa2	baa2	baa3	baa3	baa3	baa3	ba1	ba1	ba1	ba1	ba2	ba2	ba2	ba2	ba2	ba3
b1	baa2	baa2	baa2	baa2	baa3	baa3	baa3	baa3	ba1	ba1	ba1	ba1	ba2	ba2	ba2	ba2	ba2	ba2	ba3	ba3
b2	baa2	baa2	baa3	baa3	baa3	baa3	ba1	ba1	ba1	ba1	ba2	ba2	ba2	ba2	ba2	ba3	ba3	ba3	ba3	b1
b3	baa3	baa3	baa3	ba1	ba1	ba1	ba1	ba2	ba2	ba2	ba2	ba3	ba3	ba3	ba3	ba1	ba1	ba1	ba1	b2
caa1	ba2	ba2	ba2	ba2	ba3	ba3	ba3	ba3	ba3	ba3	b1	b1	b1	b1	b1	b1	b1	b2	b2	b2
caa2	ba3	ba3	ba3	ba3	ba3	ba3	b1	b1	b1	b1	b1	b1	b2	b2	b2	b2	b2	b2	b2	b3
caa3	ba3	b1	b1	b1	b1	b1	b1	b1	b2	b2	b2	b2	b2	b2	b2	b3	b3	b3	b3	b3
ca	b1	b1	b1	b2	b2	b2	b2	b2	b2	b2	b3	b3	b3	b3	b3	b3	caa1	caa1	caa1	caa1

Source: Moody's Investors Service

**Factor: Susceptibility to Event Risk**

After arriving at the Government Financial Strength, we consider a sovereign's susceptibility to event risk. This factor may only lower the Government Financial Strength outcome. Exhibit 11 shows the midpoint of the overall scorecard-indicated range outcome resulting from the combination of the Government Financial Strength outcome and the Susceptibility to Event Risk factor score. The overall scorecard-indicated outcome is expressed as a three-notch range on our alphanumeric scale except for scores of Caa3 and Ca, for which the range is Caa2-C.

Exhibit 11

## Combining government financial strength and susceptibility to event risk

		Government Financial Strength																
		aaa	aa1	aa2	aa3	a1	a2	a3	baa1	baa2	baa3	ba1	ba2	ba3	b1	b2	b3	caa1
Susceptibility to Event Risk	aaa	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1
	aa	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1
	a	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa2	Baa3	Ba1	Ba2	Ba3	B2	B3	Caa1	Caa2	Caa3
	baa	Aaa	Aa1	Aa2	Aa3	A2	A3	Baa1	Baa2	Ba1	Ba2	Ba3	B1	B3	Caa1	Caa2	Caa3	Ca
	ba	Aa1	Aa2	Aa3	A1	A2	Baa1	Baa2	Baa3	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca
	b	Aa2	Aa3	A1	A2	A3	Baa2	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Caa3	Ca
	caa	Aa3	A1	A2	A3	Baa1	Baa3	Ba1	Ba2	B1	B2	B3	Caa1	Caa2	Caa3	Caa3	Caa3	Ca
	ca	A1	A2	A3	Baa1	Baa2	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Caa3	Caa3	Ca

Source: Moody's Investors Service

## Why it matters

Susceptibility to sudden, extreme events that could severely impact the country's economy or its institutions, or strain fiscal stability is an important indicator of a sovereign's creditworthiness. Event risks are varied and typically include domestic political and geopolitical risks, government liquidity risk, banking sector risk and external vulnerability risk.

This factor comprises four sub-factors.

### Political Risk

Political risks, stemming from domestic politics or from geopolitics, may increase a sovereign's probability of default. A challenging domestic political environment characterized by political instability, elevated or rising social discontent, or religious, ethnic or social divisions, can challenge stability and predictability of policymaking. Limited employment opportunities, income disparities or unequal access to education, affordable housing and basic services, as well as environmental risks such as climate change, can also be sources of political risk. Political risk can also rise where a government seeks to generally reduce the quality of services, which can weaken the social safety net. In more extreme cases, a challenging domestic political environment can lead to civil wars and economic dislocation. Geopolitical risks can also threaten economic, institutional and fiscal stability. For example, a sovereign's credit standing may be influenced by unresolved political or military issues with a neighboring country, especially one with a bellicose foreign policy. An escalation of tensions between countries or the potential for a loss of sovereignty due to interference from another state can weigh on the creditworthiness of a sovereign.

### Government Liquidity Risk

A government's liquidity risk is an important indicator of its ability to meet all its payment obligations, especially those related to debt service.

A core aspect of government liquidity risk is ease of access to funding. Most sovereigns operate with negative cash flows, run annual fiscal deficits and typically have maturing debt to repay or refinance each year. And they usually have a limited amount of highly liquid, high-quality assets relative to their refinancing needs. Their capacity to obtain fresh funding on a consistent and reliable basis is thus core to our assessment of government liquidity. Even for sovereigns with a track record of securing financing when needed, access to funding can be very sensitive to internal or external developments. For example, lenders may be less willing to provide funding where governance is weak.

Sovereigns typically borrow from varying types of creditors. Government borrowings most often entail the issuance of debt instruments on domestic or international markets. Many governments also tap loan markets or borrow directly from commercial banks.

Official sector lending, including from bilateral lenders (countries) and supranational institutions, is another common source of financing for emerging economies and frontier markets, generally at interest rates below the level offered by the other types of borrowing. Exceptionally, when governments have accumulated a very large reserve of financial assets such as sovereign wealth funds, they will also be able to rely on asset drawdowns.

*Banking Sector Risk*

Because of the essential role of banks in the economy, systemic banking crises are often accompanied by a material buildup of public debt typically issued to counter revenue losses due to deep recessions, bank bailouts or economically costly debt restructurings. Weak governance may contribute to weak regulation and supervision of banks in the country, raising banking sector risks for the sovereign.

Systemic banking crises often cause or exacerbate economic dislocation by impeding or sometimes halting the supply of credit and hampering policy effectiveness. An accompanying economic crisis would in turn weigh negatively on the government's revenue generation. Recovery from this type of economic crisis is often very lengthy, due in part to high levels of debt in the economy as a whole.

*External Vulnerability Risk*

External vulnerability risk is an important indicator of a sovereign's capacity to access or repay financing denominated in a foreign currency.

Economies rely on capital inflows to meet import payments and repay external debt. When risk appetite weakens, investors tend to rebalance their portfolios away from the economies most reliant on such capital inflows, in particular those with low reserve buffers. In turn, a reduction in capital inflows may erode official foreign exchange reserves, which may further discourage inflows, and contribute to a depreciation of the currency, ultimately challenging the sovereign's capacity to meet foreign currency debt payments.

Physical climate risk, water risk or risks related to natural capital can all impair a country's ability to rely on its natural resources for exports and foreign-currency generation. Over time, these negative environmental trends can hamper a sovereign's external position.

**How we assess it for the scorecard**

The aggregation of the four sub-factors of event risk uses a minimum function (in other words the factor score is the worst score of the four sub-factors), because the materialization of even one of these risks can lead to a severe deterioration of a sovereign's credit profile. The use of a minimum function also reflects that these risks are typically correlated, with the manifestation of one of these risks likely to accelerate the occurrence of other risks.

However, a score that is worse than indicated by the minimum of sub-factor scores may be assigned where weak scores are observed across more than one sub-factor, and where the risks driving those scores are considered to be largely uncorrelated.

**How we assess it for the scorecard — Political Risk sub-factor**  
**DOMESTIC POLITICAL AND GEOPOLITICAL RISK:**

We assess this sub-factor qualitatively, based on our view of domestic political and geopolitical risks, typically using quantitative indicators to inform our analysis. Our assessment includes our expectation of the forward-looking scenario.

Our assessment of domestic political risk considers the existence of socioeconomic characteristics that could lead to discontent or divisions in a society, such as high levels of income inequality, ethnic or religious strife, or an absence of consensus around policy direction.

We generally consider people's ability to voice their preferences freely and to have an impact on policymaking, which typically support lower risk of tensions that could lead to disruptive political episodes and can have a credit positive impact on policy outcomes. To inform our assessment regarding freedom of expression, we typically use the WGI Voice and Accountability indicator.

Social risks such as high or rising unemployment and wealth and income inequality typically pose risks of social unrest and hence political disruption, in particular where most of an economy's resources are concentrated within a region or specific group, or where a government is seen as reducing programs or policies that provide economic security. We may use the Gini index<sup>14</sup> or other established indicators of wealth and income distribution to inform our assessment.

Tensions within society can also result from ethnic, religious or social divisions. Where we consider deep-rooted or rising divisions are likely to threaten political stability, we typically assign a lower score for this sub-factor.



Political stability is another important determinant of political risk. Sovereigns that achieve a high degree of policy continuity, possibly despite frequent government transitions, typically receive higher scores for this sub-factor. Conversely, countries where executive transitions are disorderly or typically translate into low policy predictability owing to their frequency, negative impact on the continuity of public administration work or the lack of effective succession plans and mechanisms typically receive lower scores for this sub-factor. We typically use the WGI political stability indicator to inform our assessment.

The above challenges can be magnified where there is an absence of consensus on policy outcomes that we view as credit positive. Heightened political or social divisions, which can arise from unequal access to education, affordable housing or basic services, may undermine the enactment of credit-positive policies.

In our assessment of the sub-factor, we also consider the existence of geopolitical tensions that have already materialized or that can escalate into events or policies that may weigh negatively on a sovereign's creditworthiness. Geopolitical tensions can include latent conflicts and armed conflicts on the one hand, and also instances of nonviolent state-to-state tension or tension between a state and a bloc of nations, including trade wars, cyberattacks or sanctions.

Over time, climate change, including heat and water stress, flooding, hurricanes and typhoons, and rising seas may contribute to forced displacement of large populations, raising credit risks both in the countries or regions that migrants leave and those in which they ultimately settle. For example, increasing competition for land and water resources may raise frictions between new migrants and the more established population.

In arriving at an overall assessment, we typically develop a qualitative view of the probability of political risk events and the impact on the economy, institutions and fiscal strength if these were to materialize.

We typically score to our view of the greater of the domestic political and geopolitical risks. However, in some cases, the two risks reinforce each other, leading to a score that is weaker than otherwise assessed for the individual risks.

### **How we assess it for the scorecard — Government Liquidity Risk sub-factor**

#### **EASE OF ACCESS TO FUNDING:**

We assess this sub-factor qualitatively, based primarily on the government's ease of access to three main categories of borrowing: (i) local currency borrowing from domestic creditors; (ii) local currency borrowing from external creditors; and (iii) foreign currency borrowing. Considerations include the government's track record of having access to these types of funding, their cost and maturity relative to peers, the diversity of each sovereign's investor base for different types of debt instruments, the reliance on borrowing from official lenders and the existence of material government reserve assets. Our assessment of government liquidity risk is based on a forward-looking view and, to the extent we have visibility, includes an assessment of events that could impede a sovereign's access to funding. We may use scenario analysis to inform our assessment of this sub-factor.

In assessing a government's future capacity to access funding, we complement the assessment of a government's track record with an assessment of the robustness of a government's financing strategy, i.e., the priorities it has set in terms of price, maturity and currency, among other things, and not only based on its funding constraints. Whereas a government's funding mix may be skewed toward one specific source, this funding would not necessarily be indicative of the potential for access to other funding sources. In assessing a sovereign's ease of access to funding, we also may consider the willingness of lenders to provide funding where governance strength is weak or weakening.

Sovereigns that have low or no debt on a sustained basis or access to large reserve assets for the foreseeable future typically receive high scores for this sub-factor, reflecting our view of their very low liquidity risk.

- » **Local currency borrowing from domestic creditors.** The presence of deep domestic capital markets on which the government can rely to borrow in local currency is a credit strength. A large, broad and diverse base of domestic investors fosters a deep local market, providing the sovereign with consistent ability to issue various types of debt instruments across a wide range of maturities. Conversely, where domestic capital markets are narrow, the government typically has fewer options and largely relies on banks, which carries a heightened risk that the capacity of the prime source of demand for government debt becomes saturated. A government's capacity to rely on banks for funding depends on a variety of considerations, including the size of the banking system, the dynamic of deposit inflows or the share of assets already invested in government securities. A high share typically denotes a track record of capacity, although it could also point to saturation risks. Regulations that incentivize government debt holdings by banks may indicate good access to bank financing. Conversely, regulatory frameworks that deter banks from holding government debt typically weigh negatively on our assessment of ease of access to funding.
- » **Local currency borrowing from external creditors.** Access to foreign investors in local currency government debt broadens the government's borrowing base, which is positive in our assessment of the government's ease of access to funding. The larger, broader and more diversified the base, the lower the liquidity risk for the government. A track record of stable and reliable access to foreign investors for local currency debt issuance is an important credit differentiator, because foreign investors who typically have a wider array of investment choices generally represent a more volatile source of funding than domestic investors, which we view as being more captive. As a result, there is a greater risk of a sudden stop to foreign investment in local currency debt or a net disinvestment (i.e., capital outflows) over time.

Indications that suggest a sovereign's strong and reliable capacity to attract foreign investors include a reserve status of the currency in which a government issues debt. Governments with a local currency benefiting from a reserve status, which is often reflected in a high share of government debt in local currency held by central banks of other countries as reserve assets, typically receive higher scores for this sub-factor. For governments with no track record, we typically assess their potential ability to borrow from foreign investors in local currency but would typically not expect the sovereign to score in the top scoring categories for the government liquidity risk sub-factor, unless the sovereign has no or very low debt or has very large reserve assets.
- » **Foreign currency borrowing.** A government's capacity to borrow in foreign currency, typically from external creditors, further broadens the government's scope of funding sources and weighs positively in our assessment. Foreign currency borrowing primarily comes in the forms of international bond issuances and loans, including from the official sector. The larger, broader and deeper the available sources of foreign currency borrowing, the lower the liquidity risk for the government. Governments with a track record of stable and reliable foreign currency issuance in international markets typically receive higher scores for this sub-factor. The absence of any track record of stable access to international markets in foreign currency typically implies higher liquidity risk. Only if the government benefits from the best access to external borrowing in its own currency (i.e., is compatible with a aaa score for that consideration) we would consider that the government could benefit from the strongest access to foreign currency borrowing (i.e., would be compatible with a aaa score for this consideration). In such a case, it is likely that the government's financing strategy focuses on issuing only in local currency to avoid foreign exchange risk or the related hedging cost.<sup>15</sup>

Indications that access to foreign currency borrowing may be limited typically include a strong reliance on official sector lending. Some governments rely on a broad range of official lenders, in which case the sovereign would typically score ba or lower for this sub-factor. The reliance on a broad range of official lenders is often associated with constrained access to other sources of funding. Official sector lending also may be less flexible because it is often earmarked for specific uses, such as infrastructure projects or social programs. A reliance on IMF financing programs, which are often a funding source of last resort, is generally a sign of significant fundamental credit weakness and heightened default risk.

- » **Large reserve assets held by the government, including sovereign wealth funds.** The presence of large liquid assets also informs our assessment of liquidity risk. Where governments have large reserve assets, typically managed through sovereign wealth funds, we also consider in our assessment the size of these reserves relative to the stock of debt, the coverage these provide to the government's gross financing needs, their liquidity and the sovereign's ease of access to these reserves. We only include reserves that are readily available to support the government's budget and debt repayment and typically exclude the central bank's foreign exchange reserves from our assessment of government liquidity risk. Where we consider a sovereign wealth fund to be a source of liquidity, we incorporate our view of the longevity of these reserves and the risk that they may be depleted over a relatively short time frame. We also incorporate our view that domestic financial assets do not provide the same level of liquidity buffer as foreign assets, because domestically held and local-currency denominated assets are more likely to lose value or become illiquid in times of sovereign stress.

### **Adjustment to the Government Liquidity Risk sub-factor score**

#### **HIGH REFINANCING RISK:**

We may apply an adjustment to the Government Liquidity Risk sub-factor score based on our forward-looking view of a government's funding needs and refinancing risks. The adjustment can only be downward and is limited to two broad alpha scoring categories.

In our assessment, we typically consider the size of a government's funding needs relative to GDP over the next two years in conjunction with its ease of access to funding. The stronger the access, the higher the tolerance for large government funding needs. In assessing refinancing risk, we typically consider the size of future principal debt payments in the context of the government's ease of access to funding. Large principal debt payments coming due in foreign currency typically expose governments to greater risk, including a more skittish investor base, resultant pressure on exchange rates if foreign currency maturities are refinanced through local currency debt issuance and the potential for depleting foreign currency reserves.

#### **How we assess it for the scorecard — Banking Sector Risk sub-factor**

We assess this sub-factor qualitatively, based on our view of the risk of a systemic crisis and the impact it may have on a country's economic strength and public finances, including through the crystallization of contingent liabilities in the banking system on the government's balance sheet.

There are two main considerations that underpin our assessment of banking sector risk for the sovereign: the stand-alone credit profile of the domestic banking system, i.e., absent any support from the government, which informs our assessment of the risk of a Banking Sector Credit Event (BSCE); and the size of the domestic banking system, measured or estimated by total domestic bank assets relative to GDP. The weaker and the larger the banking system, the greater the potential for contingent liabilities to crystallize on the government's balance sheet and for a banking crisis to spill over and affect the functioning of the economy.

For the purposes of our assessment of both the size and strength of the banking system, we define domestic banks as banks that have a strong footprint in the domestic market, as lenders, investors or deposit takers. We typically include the bank subsidiaries of foreign financial institutions as domestic banks but typically exclude the branches of foreign banks unless they have established significant lending or deposit activities in the domestic market.

As a result, our assessment of the size and strength of the domestic banking system may be markedly different from that of the total banking system for countries that house large offshore financial centers. Similarly, we would include the offshore operations of domestic banks within the perimeter of our assessment where we have a reasonable expectation, based on past actions, legislation or pronouncements, that these offshore operations would be considered part of the domestic bank's core business in a resolution, leading to higher contingent liability risks for the sovereign.

#### **RISK OF BANKING SECTOR CREDIT EVENT (BSCE):**

The BSCE is our assessment of the underlying credit strength of the domestic banking system. To inform our assessment, we use the average of Baseline Credit Assessments (BCAs), weighted by bank assets, for rated domestic banks (as described above). BCAs are our opinions of issuers' stand-alone intrinsic strength, absent any extraordinary support from an affiliate or a government.<sup>16</sup> BCAs incorporate a sovereign's governance, including the strength of banking regulation and supervision.

The underlying credit strength of the domestic system may not be fully reflected by the asset weighted-average BCA for countries in which our ratings cover only part of the overall banking sector. In these cases, we may consider the risk of a banking sector credit event to be higher than the weighted average BCA if the average for the system as a whole obscures credit concerns in a discrete but material part of the system. For example, where the weighted average BCA is uplifted by the BCAs of a small number of strong banks and understates the risk posed to the sovereign by a larger number of small banks with weaker credit quality, scoring for this sub-factor typically would reflect the higher risk.

Conversely, a banking system that is predominantly foreign-owned and whose parent banks have the capacity and a high propensity to support the branches or subsidiaries in other jurisdictions would typically lessen the need for sovereign support or its costs. In these cases, we may consider banking sector credit risk to be lower than what is implied by the weighted average BCA of the domestic system, because such support lowers contingent liabilities to the government and can lessen the impact of a banking sector credit event for the host country. In our assessment, we may consider the share of domestic assets under foreign ownership as well as the potential for parent support to reduce a domestic bank's credit risk, which may include reference to the subsidiaries' adjusted BCA (incorporating affiliate support).

Where we have no or very small rating coverage in a system, we estimate the risk of a banking sector credit event based on available data for the aggregate banking system and analytical judgment. Our assessment includes our understanding of the system's funding profile, capitalization, liquidity, industry structure, profitability and asset performance, and takes into account the strength of banking sector regulation and supervision. We typically compare this information with that of other banking systems that have similar characteristics. In our assessment, we also consider the existing sovereign rating. In these instances, we typically use the corresponding reference point provided in the table below. The BSCE score is not typically higher than the sovereign rating and would generally be lower, which recognizes the relationship between the sovereign rating and the risk of a banking sector credit event.

Exhibit 12

#### Risk of banking sector credit event

Sovereign Rating Category	Indicative Score for Risk of Banking Sector Credit Event
Aaa	a3
Aa	baa2
A	baa3
Baa	ba1
Ba	ba3
B	b2
Caa	caa2

Source: Moody's Investors Service

#### TOTAL DOMESTIC BANK ASSETS / GDP:

We calculate or estimate the size of the domestic banking system using the ratio of total assets of the domestic banking sector (as described above) relative to GDP. All else being equal, the larger the relative size of the domestic banking system, the larger the contingent liability risks and the risks of negative spillovers to the economy. In instances where our assessment of the risk of a banking sector credit event is based on a subset of the domestic system, we adjust the size perimeter accordingly.

#### *Combining the BSCE and the Total Domestic Bank Assets / GDP Metric to Arrive at the Banking Sector Risk Score*

Using the matrix shown in Exhibit 13 below, we combine the BSCE score and the total domestic bank assets to GDP ratio to estimate the overall banking sector risk for the sovereign.

Exhibit 13

**Banking sector risk for the sovereign**

Total Domestic Bank Assets / GDP	Risk of Banking Sector Credit Event						
	aaa-a3	baa1	baa2	baa3	ba1-ba2	ba3-b3	caa-c
≥ 400%	a	a	baa	ba	b	b	ca
230 - 400%	a	a	baa	baa	ba	b	ca
180 - 230%	a	a	a	baa	ba	ba	b
80 - 180%	a	a	a	a	baa	ba	ba
< 80%	aaa	aa	aa	a	a	baa	ba

Source: Moody's Investors Service

**Adjustments to the Banking Sector Risk sub-factor score**

We may adjust the Banking Sector Risk sub-factor score based on considerations that are not fully captured by the BSCE and the ratio of total assets of the domestic banking sector relative to GDP. The adjustments can be upward or downward and are limited to two scoring categories.

Examples of other considerations that may result in downward or upward notching adjustments may include:

- » Where the domestic banking system, irrespective of its overall size, is highly concentrated in a few banks, we consider whether there is a higher risk that distress in a single institution would give rise to a systemic crisis. We may conclude that the risks to the sovereign from a highly concentrated banking system warrant a lower Banking Sector Risk score than indicated by the initial score. In such cases, we may apply a downward notching adjustment.
- » We typically do not consider the existence of an Operational Resolution Regime (ORR) a mitigating factor in assessing banking sector risk for the sovereign. This is because an ORR, which entails specific legislation enabling the orderly resolution of a failed bank, may be effective in eliminating risks for the sovereign in case of an individual bank failing, but is less likely to prove effective in mitigating or eliminating the contingent liability risks for the sovereign in the event of a systemic banking crisis, which is the focus of our assessment of banking sector risk for sovereigns. In rare instances where we consider an ORR to be effective in the event of a systemic crisis, we may consider that the contingent liability risks from the banking sector are lower than suggested by the initial score and apply an upward notching adjustment. Such effectiveness would likely entail clear, recent and objective evidence that the sovereign is willing to not provide financial support to multiple entities within the banking system.
- » We may consider applying a downward notching adjustment to the sub-factor score where there is a significant presence of or dominance by state-owned banks in the domestic banking system. For example, we may notch down if we view that state-owned banks' dominance increases the risk of materialization of contingent liabilities for the sovereign, in particular in cases where the banking sector is weak.
- » We may consider whether repeated capital injections to different banks from the government over time suggest a broader risk of financial distress at a systemic level and pose a contingent liability risk to the sovereign. In such cases, we apply a downward notching adjustment.
- » We may consider adjusting the sub-factor score downward in the event of a significant and sustained shift in sentiment that poses acute financing pressures for the banking sector, including through a sharp rise in funding costs, and increases the potential risk of a systemic banking crisis.
- » We may consider, in rare instances, adjusting the Banking Sector Risk sub-factor score downward to reflect risks to the sovereign from the wider financial sector in terms of contingent liabilities and possible disruption to the wider economy. For example, we may adjust our assessment downward to reflect the risks to the sovereign from non-bank systemically important financial institutions. A downward adjustment could also reflect the risks posed by the possible need for the sovereign to step in to support policy banks, to honor a contractual obligation or for another reason.

- » In cases where we consider the risk of a banking crisis to be magnified and imminent, the Banking Sector Risk sub-factor score may also incorporate scenario analysis of sovereign contingent liabilities arising from the banking sector that could crystallize onto the sovereign's balance sheet. For this scenario analysis, we consider the aggregate potential capital needs of all rated banks and extrapolate proportionally to the entire banking system as needed for countries with sizable unrated banks. This assessment may result in a downward notching adjustment.

### How we assess it for the scorecard — External Vulnerability Risk sub-factor

While we incorporate multiple quantitative elements into our analysis of external vulnerability, our assessment of this sub-factor is primarily qualitative, based on the descriptions below, incorporating multiple dimensions into a single assessment. The country's current account position and its financing structure, the level and sustainability of its external liabilities, the presence of foreign exchange reserves and the overall capacity to access hard currency are the main considerations. For some sovereigns, environmental risk may also be a consideration, for instance, where the transition to a low-carbon economy increases external vulnerability risk. For a particular issuer, the interplay among these risks and mitigants is often very specific, and we consider them holistically to arrive at an overall assessment.

#### *Current Account Balance and How It Is Financed*

We consider the current account position and the financing structure of any current account deficit. Considerations include the size and track record of current account surpluses or deficits relative to GDP, the composition of external financing and the level of diversification of the economy's export base.

- » **Current account balance.** Our forward-looking expectation for the current account balance (CAB), based on the track record and our assessment of change drivers, often serves as the primary anchor in assessing external vulnerability. The CAB records all cross-border transactions between residents and non-residents, including exports and imports of goods and services, unilateral transfers (such as official grants and worker remittances), and flows of dividend and interest payments on foreign assets and liabilities. The CAB is positive if receipts from abroad exceed payments, and it is negative if the reverse is the case. Hence, the CAB (when in deficit) gives an approximate indication of the external position — how much net import of capital from the rest of the world a country requires to close the gap between domestic savings and investments. During times of weaker risk appetite, large current-account deficits can increase a country's vulnerability to sudden stops in foreign financing, with disruptive consequences for the overall economy.  
We consider a structurally strong external position, demonstrated by a current account that is consistently balanced or in surplus, a credit strength. Conversely, large and persistent current-account deficits indicate a credit-negative structural imbalance — for example, structural features of the economy that constrain saving or competitiveness — and would typically lead us to consider assigning a low score for this sub-factor.
- » **Financing of the external position.** How a current account deficit is financed is very meaningful to assessing the risk to the sovereign posed by a current account deficit. Financing a current account deficit through portfolio or similar flows, which are typically short-term and can be volatile, exposes the economy to shifts in international investor sentiment. Foreign Direct Investment (FDI) is generally a more stable source of external financing and less prone to sudden stops, and reliance on FDI to finance a current account deficit may indicate that the country has a combination of growth, stability and returns that are attractive to investors. Where current-account deficits are, for the most part, consistently financed by FDI inflows, the sub-factor score is typically higher than it would be if the sovereign's deficits were financed with debt.
- » **Export base structure.** The diversification of the export base can be a distinguishing element in our assessment. A sovereign with an economy where a high share (typically about half) of total goods and services exports is driven by a single commodity, or by multiple commodities whose prices are largely correlated, has higher vulnerability to terms of trade shocks and significant fluctuations in the current-account balance and would typically receive a lower score for this sub-factor. Conversely, a high degree of export diversification can provide shock absorption, and would typically provide some uplift to our assessment of this sub-factor.

### *External Debt Sustainability*

We consider the economy's stock of external liabilities and its ability to sustain them. Metrics informing this aspect of our assessment may include the ratio of gross external debt to current account receipts, the net international investment position (NIIP),<sup>17</sup> and the composition of overall foreign liabilities.

In our assessment, we consider both the ratio of gross external debt to current account receipts as well as the NIIP relative to GDP. Both are indicators of the sustainability of the country's current account balance and the potential for balance-of-payments stresses to emerge. We typically assign a lower score to sovereigns with a high level of external liabilities, particularly if a large share is composed of short-term debt obligations that result in very high external refinancing needs.

However, we also consider the level of economic resilience — the intrinsic strength of the economy and institutions — as a key mitigant. Economies with very high levels of economic resilience are typically able to support a higher external debt load, even during times of economic or financial shock. This resilience may reflect a general attractiveness to investors, strong institutions and policy frameworks, positive demographic trends and an educated workforce, deep and liquid financial markets, and sustained economic potential. As a result, these countries typically receive the highest score for this sub-factor. Conversely, countries with moderate or low economic resilience are typically more susceptible to external shocks and the risks associated with a higher level of external debt, and typically receive lower scores for this sub-factor.

### *Foreign Exchange Reserves and Other Resources*

We consider the economy's ability to repay external debt and its ease of access to hard currency. Countries hold foreign-exchange reserves in part as a buffer against current and capital account shortfalls. In general, countries with high external debt obligations relative to foreign reserves are particularly at risk of an external crisis.

In our external vulnerability assessment, we primarily consider reserve adequacy through the external vulnerability indicator (EVI) ratio, which provides an important indication of a sovereign's capacity to use immediately available international reserves to make debt payments, even if there is a complete refusal of creditors to roll over debt that is due within a given year. The ratio is defined as the stock of official foreign exchange reserves at the end of year t-1 as the denominator, and the residual maturity short-term debt (including original maturity short-term debt and principal payments on long-term debt) falling due in year t in the numerator. Also included in the numerator are deposits in domestic banks by non-residents with a maturity greater than one year (those below one year are already included as part of short-term debt). This is included because, in a general run on the currency, depositors may attempt to withdraw longer-term deposits even if they have to pay a penalty to do so. The EVI thus measures the capacity to withstand a (temporary) loss of investor confidence resulting from heightened risk perception or a general liquidity squeeze.

A high ratio, particularly one exceeding 100%, can be a signal of vulnerability, resulting either from excessive short-term debt, large upcoming repayments on long-term debt, or insufficient reserves. A country with a high EVI or one where we assess that strains on the ability of the government or private sector to service external debt are otherwise evident would typically receive a low score for this sub-factor. Membership in a currency union in which the convertibility of the union's currency is guaranteed by a strong external guarantor can limit external vulnerability. In such cases, the EVI would typically be calculated at the level of the monetary union — if all member countries' foreign exchange reserves are pooled — instead of the country level. We also consider other mitigants to external debt repayment risk such as currency composition or presence of large intercompany debt. A large share of external debt in local currency typically weighs positively in our scoring of the sub-factor, and we typically consider that intercompany debt and trade credits carry less repayment risk because they can be more easily rolled over. As an additional mitigant, in scoring this sub-factor, we also take into account the availability of highly liquid foreign-currency denominated government financial assets that could be deployed to support the country's balance of payments in a stress scenario.

Our assessment of external vulnerability typically focuses on the economy as a whole. However, where external debt composition varies significantly across sectors, we may also focus on external risk for sectors that are important to the economy. We may also consider import coverage, i.e., the number of months of imports that can be covered with immediately available foreign-exchange reserves.

Not all countries need to hold reserves to the same extent. For advanced economies, we may consider the country's ability to draw on resources beyond reserve buffers to repay external debt, including reliable access to foreign exchange markets. The availability and adequacy of other means of access to hard foreign currency, and the country's role in the global financial system, may also be important considerations in our assessment. A track record of deep and resilient access to funding markets, including the foreign-exchange swap market, is credit positive and can lead to higher scores for this sub-factor. Countries with a local currency benefiting from a reserve status typically receive the highest score.

### **Adjustment to the External Vulnerability Risk sub-factor score**

#### **OTHER:**

We may adjust the sub-factor score based on considerations that are not fully captured by the considerations listed above. The adjustment can be upward or downward and is limited to two scoring categories.

#### **Other considerations**

Ratings may reflect consideration of additional factors that are not in the scorecard, usually because the factor's credit importance varies widely among the issuers in the sector or because the factor may be important only under certain circumstances or for a subset of issuers. Such factors include our assessment of regulatory, litigation, liquidity, technology and reputational risk.

Following are some examples of additional considerations that may be reflected in our ratings and that may cause ratings to be different from scorecard-indicated outcomes.

#### **Partial Guarantees**

The credit quality of sovereign debt may benefit from partial guarantees extended by another entity, often by another sovereign or multilateral development bank. This entity may partially guarantee debt instruments issued by the sovereign in order to lower the interest rate or otherwise improve the terms and conditions. The guarantee is partial if it covers a portion of the debt issuance rather than the full amount. We consider that such guarantees materially reduce credit risk only in cases where the guarantor has a higher rating than the sovereign.

Where a higher-rated entity provides a direct partial guarantee<sup>18</sup> for a sovereign's bond issuance, the difference in the expected loss on the enhanced instrument relative to the expected loss on an unsupported instrument informs our assessment of the extent, if any, to which the rating of the enhanced instrument may be notched up from the sovereign's unenhanced debt rating. For the purposes of considering partial guarantees for sovereigns, and on the basis of broad historical average loss experience at various horizons, a one-notch downward movement on the alphanumeric rating scale can be thought of as generally implying an average 60% increase in expected losses for investment-grade ratings (Aaa – Baa3) and generally implying an average 40% increase in expected losses for non-investment-grade ratings (Ba1 and lower). The impact of the partial guarantee on expected loss depends on the coverage it provides of future debt payments (the percentage of principal or interest or both) and the rating of the entity providing the partial guarantee. The impact of the partial guarantee is typically informed by the 10-year Moody's Idealized Cumulative Loss Rates associated with the rating level of the guarantor, for the guaranteed portion, and the unenhanced rating or equivalent of the sovereign for the unguaranteed portion. Where the coverage is high and the credit profile of the guarantor is substantially stronger than the unenhanced credit profile of the sovereign, the uplift could be material because it would reflect the reduced expected loss on the relevant instrument.

#### **Official Sector Debt Relief with Private Sector Involvement**

In the Fiscal Strength factor section, we discuss some of the considerations that may arise from a sovereign's participation in official sector debt relief. We also assess the risk of private-sector involvement, e.g., that private sector creditors such as bondholders and banks may effectively be required to offer similar terms of debt relief to the sovereign, which typically constitutes a distressed exchange or other type of default (see *Rating Symbols and Definitions*).<sup>19</sup> In these cases, the sovereign's issuer rating incorporates our assessment of the risk of private-sector participation in debt relief and the likely extent of loss in the event of inclusion. For clarity, these considerations typically do not apply where debt relief is exclusively offered by the official sector with no risk of private-sector involvement.



### Special Considerations for Central Banks

Because a central bank's credit profile is typically inextricably intertwined with that of the government and therefore influenced by the same credit fundamentals, issuer-level and instrument-level ratings assigned to a central bank typically correspond to those of the central government. In assigning a central bank rating, we consider the central bank's institutional setup, as well as relationship between the sovereign and the central bank and their overall alignment.

In evaluating a regional central bank, we consider the credit strength of each sovereign that is a member. Our analysis of a regional central bank is also informed by its institutional setup, which includes the ownership percentage of the central bank's shareholders or members. We often focus on the central bank's strongest shareholders and their ability to support, typically indicated by their rating or credit profile; however, the relative importance, or weighting, of each shareholder's credit profile depends upon the individual circumstances of the regional central bank. For example, we typically consider the central bank's economic importance in the region, the financial resources available to it and any specific institutional arrangements with supporting members and non-members.

A regional central bank's rating is typically constrained by the relevant currency ceiling of the strongest shareholder.

### Additional Metrics

The metrics included in the scorecard are those that are generally most important in assigning ratings to sovereigns; however, we may use additional metrics to inform our analysis of specific sovereigns. These additional metrics may be important to our forward view of metrics that are in the scorecard or other rating factors.

## Using the scorecard to arrive at a scorecard-indicated outcome range

### 1. Measurement or estimation of factors in the scorecard

In the "Discussion of the scorecard factors" section, we explain our analytical approach for scoring each scorecard sub-factor, sub-sub-factor or metric,<sup>20</sup> and we describe why they are meaningful as credit indicators. We explain how we generally calculate or estimate each metric for use in the scorecard and the weighting for each individual sub-factor, sub-sub-factor indicator or metric.

The information used in assessing the sub-factors is generally drawn from a number of international sources, including the International Monetary Fund, the Organisation for Economic Co-operation and Development, the European Commission, the World Bank, and the Bank for International Settlements. Some indicators, however, particularly in the area of government and external debt, may be estimated by Moody's analysts using data provided by national statistical sources. We may also incorporate non-public information.

Our ratings are forward-looking and reflect our expectations for future financial performance. However, historical results are helpful in understanding patterns and trends of a sovereign issuer's performance as well as for peer comparisons. Financial metrics, unless otherwise indicated, are typically calculated based on a historical period (an annual period unless otherwise specified in the "Discussion of the scorecard factors" section). However, the factors in the scorecard can be assessed using various time periods. For example, rating committees may find it analytically useful to examine both historical and expected future performance for periods of several years or more. We also incorporate our views on the future trend of key financial metrics. These trends can lead to adjustments to the sub-factors; upward if we expect a sovereign issuer's financial indicators to materially improve from their historic trend in the coming years or downward if the reverse holds true. We also explain other adjustments we may make in assigning scores.

### 2. Assigning sub-factor and factor scores and mapping to a numeric score

Qualitative sub-factors are scored based on the description in the scorecard and are mapped to a broad Moody's rating category (aaa, aa, a, baa, ba, b, caa or ca) and to a numeric score based on the scale below.

Exhibit 14

#### Assigning sub-factor and factor scores

aaa	aa	a	baa	ba	b	caa	ca
1	3	6	9	12	15	18	20

Source: Moody's Investors Service

Quantitative factors are scored on a linear continuum. For each metric, the scorecard shows the range by alphanumeric category. We use the scale below and linear interpolation to convert the metric, based on its placement within the scorecard range, to a numeric

score, which may be a fraction. As a purely theoretical example, if there were a ratio of revenue to short-term debt for which the baa1 range was 5x to 5.5x, then the numeric score for an issuer with revenue/short-term debt of 5.4x, relatively strong within this range, would score closer to 7.5, and an issuer with revenue/short-term debt of 5.1x, relatively weak within this range, would score closer to 8.5. In the text or table footnotes, we define the endpoints of the line (i.e., the value of the metric that constitutes the lowest possible numeric score, and the value that constitutes the highest possible numeric score).

Exhibit 15

### Scoring scale

Alphanumeric score	Numeric score
aaa	$x \leq 1.5$
aa1	$1.5 < x \leq 2.5$
aa2	$2.5 < x \leq 3.5$
aa3	$3.5 < x \leq 4.5$
a1	$4.5 < x \leq 5.5$
a2	$5.5 < x \leq 6.5$
a3	$6.5 < x \leq 7.5$
baa1	$7.5 < x \leq 8.5$
baa2	$8.5 < x \leq 9.5$
baa3	$9.5 < x \leq 10.5$
ba1	$10.5 < x \leq 11.5$
ba2	$11.5 < x \leq 12.5$
ba3	$12.5 < x \leq 13.5$
b1	$13.5 < x \leq 14.5$
b2	$14.5 < x \leq 15.5$
b3	$15.5 < x \leq 16.5$
caa1	$16.5 < x \leq 17.5$
caa2	$17.5 < x \leq 18.5$
caa3	$18.5 < x \leq 19.5$
ca	$19.5 < x \leq 20.5$
c	$> 20.5$

Source: Moody's Investors Service

Each numeric score for quantitative metrics and qualitative sub-factors or sub-sub-factors within the first three factors of the scorecard (Economic Strength, Institutions and Governance Strength, Fiscal Strength) is multiplied by the weight for that sub-factor (or sub-sub-factor), and the products are summed and rounded to the nearest integer to arrive at the initial numeric factor score, which can be mapped to an alphanumeric score using the table in Exhibit 15. The initial factor score may be adjusted upward or downward by a defined number of scoring categories, based on the "other" adjustments to factor score described in the "Discussion of the scorecard factors" section, to arrive at a final factor score.<sup>21</sup> For these first three factors, an adjustment of one in the scorecard corresponds to an adjustment by one alphanumeric scoring category (e.g., from baa2 to baa3 or from a2 to a1).

For the last factor, Susceptibility to Event Risk, the initial sub-factor scores may be adjusted. For these sub-factors, an adjustment of one corresponds to an adjustment by one alpha scoring category (e.g., from aa to a or from ba to baa). The combination of adjusted sub-factor scores in the Susceptibility to Event Risk factor is based on a minimum function, i.e., the initial factor score corresponds to the lowest alpha score (highest risk) of the four sub-factors within the factor. The initial factor score may be adjusted upward or downward by a defined number of alpha scoring categories.

### 3. Combining factors and determining the overall scorecard-indicated outcome

We combine, using equal weights, the Economic Strength and Institutions and Governance Strength factors to arrive at the Economic Resiliency score, which is rounded to the nearest integer, and the resulting numeric score can be mapped to an alphanumeric based on the scoring scale in Exhibit 15. We then combine the numeric Economic Resiliency with the numeric Fiscal Strength factor score using variable weights (see Exhibit 10) to arrive at a numeric Government Financial Strength value, which can be mapped to an alphanumeric based on the scoring scale in Exhibit 15.

The final step combines the Susceptibility to Event Risk factor with Government Financial Strength as detailed in Exhibit 11 to arrive at an alphanumeric that is the midpoint of the scorecard-indicated outcome, which is expressed as a three-notch range on our alphanumeric scale.

## Assigning issuer-level and instrument-level ratings and distinguishing between local and foreign currency ratings

After considering the scorecard-indicated outcome, other rating considerations and relevant cross-sector methodologies, we may assign a senior unsecured debt rating, an issuer rating that usually corresponds to the senior unsecured debt rating, or both. In cases where a sovereign issues debt instruments other than senior unsecured debt, individual debt instrument ratings may be notched upward or downward from the senior unsecured rating to reflect our assessment of any differences in expected loss arising from an instrument's seniority and any collateral. Collateral is considered only where it would meaningfully lower creditors' loss upon default. Given sovereigns' broad powers, such collateral would typically need to be held offshore.

We may also assign issuer-level and instrument-level ratings to the central bank.

We also use this methodology to rate asset-based sukuk instruments where we conclude, based on the terms and conditions of the financing documents, that a sukuk instrument represents an obligation equivalent to a senior unsecured obligation of the sovereign.

We may also assign short-term ratings based on our methodology for assigning short-term ratings.<sup>22</sup>

Our rating approach typically does not differentiate between obligations in local currency and foreign currency. In rare cases, we may differentiate ratings of those obligations where there is (i) limited capital mobility; and (ii) the government faces constraints in terms of external liquidity, or, in exceptional cases, shows a material and observable distinction between its ability and willingness to repay creditors in local currency versus foreign currency (which could lead to lower ratings for foreign currency obligations), or vice versa (i.e., in very exceptional cases the foreign currency obligations could be rated higher than the rating of local currency obligations). The magnitude of any notching in favor of local currency obligations depends on the severity of the external liquidity constraint. Any difference of more than two notches would be very rare.

Even if these two necessary conditions are met, we would differentiate ratings only where we consider that these conditions will persist. If in our view these conditions could evolve over the foreseeable future we may not differentiate ratings, for instance if the government were likely to open up the capital account of the balance of payments, or if the country's external position were likely to improve considerably.

## Key rating assumptions

For information about key rating assumptions that apply to methodologies generally, please see *Rating Symbols and Definitions*.<sup>23</sup>

## Limitations

In the preceding sections, we have discussed the scorecard factors and many of the other considerations that may be important in assigning ratings. In this section, we discuss limitations that pertain to the scorecard and to the overall rating methodology.

### Limitations of the scorecard

There are various reasons why scorecard-indicated outcomes may not map closely to actual ratings.

The scorecard in this rating methodology is a relatively simple reference tool focused on indicators for relative credit strength. Credit loss and recovery considerations, which are typically more important as an issuer gets closer to default, may not be fully captured in the scorecard. The scorecard is also limited by its upper and lower bounds, causing scorecard-indicated outcomes to be less likely to align with ratings for issuers at the upper and lower ends of the rating scale.

The weights for each sub-factor and factor in the scorecard represent an approximation of their importance for rating decisions across the sector, but the actual importance of a particular factor may vary substantially based on an individual issuer's circumstances.

Factors that are outside the scorecard, including those discussed above in the "Other considerations" section, may be important for ratings, and their relative importance may also vary from issuer to issuer. In addition, certain broad methodological considerations

described in one or more cross-sector rating methodologies may be relevant to ratings in this sector.<sup>24</sup> Examples of such considerations include the following: the relative ranking of different classes of debt and hybrid securities, and the assignment of short-term ratings.

We may use the scorecard over various historical or forward-looking time periods. Furthermore, in our ratings we often incorporate directional views of risks and mitigants in a qualitative way.

### **General limitations of the methodology**

This methodology document does not include an exhaustive description of all factors that we may consider in assigning ratings in this sector. Institutions in the sector may face new risks or new combinations of risks, and they may develop new strategies to mitigate risk. We seek to incorporate all material credit considerations in ratings and to take the most forward-looking perspective that visibility into these risks and mitigants permits.

Ratings reflect our expectations for an issuer's future performance; however, as the forward horizon lengthens, uncertainty increases and the utility of precise estimates, as scorecard inputs or in other rating considerations, typically diminishes. Our forward-looking opinions are based on assumptions that may prove, in hindsight, to have been incorrect. Reasons for this could include unanticipated changes in any of the following: the macroeconomic environment, general financial market conditions, sector competition, disruptive technology or regulatory and legal actions. In any case, predicting the future is subject to substantial uncertainty.

## Moody's related publications

Credit ratings are primarily determined through the application of sector credit rating methodologies. Certain broad methodological considerations (described in one or more cross-sector rating methodologies) may also be relevant to the determination of credit ratings of issuers and instruments. A list of sector and cross-sector credit rating methodologies can be found [here](#).

For data summarizing the historical robustness and predictive power of credit ratings, please click [here](#).

For further information, please refer to *Rating Symbols and Definitions*, which is available [here](#).

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## Endnotes

- [1](#) We may also assign local and foreign currency country ceilings for bonds and other obligations in order to facilitate the assignment of ratings to issuers domiciled in the country or structured finance transactions whose cash flows are primarily generated from domestic assets or residents. For more information on ceilings, please see the cross-sector methodology that describes our approach for assigning local and foreign currency country ceilings for bonds and other obligations. A link to a list of our cross-sector methodologies and a link to *Rating Symbols and Definitions* can be found in the "Moody's related publications" section.
- [2](#) In our methodologies and research, the terms "scorecard" and "grid" are used interchangeably.
- [3](#) For more information on issuer profile scores, see our cross-sector methodology that discusses ESG considerations and *Rating Symbols and Definitions*. A link to *Rating Symbols and Definitions* and to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.
- [4](#) For simplicity, we may use the terms *factor* or *sub-factor scoring* interchangeably in this methodology to refer to scoring at the factor, sub-factor, metric or sub-sub-factor level.
- [5](#) An international dollar is a hypothetical unit of currency that has the same purchasing power in a given country as the US dollar has in the US in a given year.
- [6](#) A downward notching adjustment decreases the Economic Strength alphanumeric equivalent factor score (e.g., from baa1 to baa2) and increases the corresponding numeric score. An upward notching adjustment increases the Economic Strength alphanumeric equivalent factor score (e.g., from baa2 to baa1) and decreases the corresponding numeric score.
- [7](#) For more details on the perimeter of government debt, please see the "Factor: Fiscal Strength" section.
- [8](#) The structural budget is an estimate of the nominal budget balance adjusted by the cyclical component, excluding one-off and temporary policy measures.
- [9](#) A deflationary environment also reflects adversely on a central bank's capabilities. Deflationary developments typically coincide with subdued or negative real growth and an increase in the debt-to-GDP ratio.
- [10](#) Macroprudential tools are used to regulate and mitigate risk to the financial or banking system as a whole rather than to its individual components and are thereby designed to reduce the risk and the macroeconomic costs of financial instability. Examples of such tools include leverage limits for lending to households, or minimum capitalization levels. Macroprudential tools are by nature preventative rather than resolution or crisis tools.
- [11](#) Metrics within the Debt Burden and Debt Affordability sub-factors are equally weighted.
- [12](#) Metrics within the Debt Burden sub-factor are equally weighted.
- [13](#) For more details, please refer to the "Treatment of reserve currency countries and HIPC/IDA countries" section.
- [14](#) The Gini index is a statistical measure of distribution of a value (here, income) within a population.
- [15](#) With a few exceptions, including some commodity exporter governments, the bulk of government revenues are in local currency.
- [16](#) Affiliate includes a parent, cooperative groups and significant investors (typically with a greater than 20% voting interest). Government includes local, regional and national governments. For more information about Baseline Credit Assessments, please see our methodology that discusses banks and *Rating Symbols and Definitions*; a link to this publication and to a list of sector and cross-sector methodologies can be found in the "Moody's related publications" section.
- [17](#) The difference between the market value of a country's foreign financial assets and that of its liabilities.
- [18](#) Where a higher-rated entity provides a full guarantee for another entity's bond issuance, the security is typically rated using our cross-sector methodology that discusses credit substitution. A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.
- [19](#) A link to *Rating Symbols and Definitions* can be found in the "Moody's related publications" section.
- [20](#) When a factor comprises sub-factors, we score at the sub-factor level, or, in cases where the sub-factor comprises sub-factor indicators, at the sub-factor indicator level.
- [21](#) In Fiscal Strength, for the Debt Trend, General Government Foreign Currency Debt, Other Non-Financial Public Sector Debt, and Government Financial Assets including Sovereign Wealth Funds adjustments, the indicated adjustments are based on quantitative indicators as described in the "Discussion of the scorecard factors" section and are included in the initial score. Qualitative judgment applied to these adjustments as well as any "other" adjustment applied to the initial Fiscal Strength factor score results in the final Fiscal Strength factor score.
- [22](#) A link to a list of our sector and cross-sector rating methodologies can be found in the "Moody's related publications" section.
- [23](#) A link to *Rating Symbols and Definitions* can be found in the "Moody's related publications" section.
- [24](#) A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.

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