

SECTOR IN-DEPTH

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FSG - Global

Prevalence of ESG factors in public-sector rating actions rose in 2020

Environmental, social and governance (ESG) considerations continue to take on growing significance in our assessment of the credit quality of rated issuers. To examine the prevalence of these factors among public-sector issuers, we reviewed nearly 5,600 credit rating action announcements that we published in 2020. We found that the frequency of ESG citations increased to 72% from 48% the prior year, and that citations rose across all three ESG categories. This study follows our earlier analysis of ESG citations in private-sector rating actions.

- » Social risks associated with COVID-19 risks drove the increase in ESG citations in 2020. Social issues were mentioned most often, referenced in 57% of public-sector rating actions, up from 32% in 2019. The increase largely reflects the impact of the COVID-19 pandemic, which we consider a social risk that has also exacerbated and highlighted other long-standing social issues. Our rating actions for government issuers generally mentioned pandemic factors less often than those for other public-sector issuers. Some governments, particularly in advanced economies, had stronger credit buffers and fiscal flexibility to mitigate the pandemic-driven economic shock.
- Emerging market sovereigns accounted for the most references to environmental considerations. Eighty-five percent of rating actions for emerging market sovereigns mentioned environmental issues, underlining their relatively high exposure and limited capacity to mitigate these risks. Physical climate risk was the most frequently cited environmental consideration, referenced most often in rating actions for emerging market sovereigns, mass transit and advanced economy sovereigns.
- » Rise in governance citations reflects ability to contend with the pandemic shock. References to governance factors in rating actions increased to 43% in 2020 from 28% the previous year, illustrating how these factors can influence issuers' resilience and response during a crisis. Budget management was the most cited governance consideration for government issuers, while financial strategy and risk management was the most cited governance issue for businesslike public entities.
- » Potential for highly disruptive environmental and social risks is growing. Physical climate risks, water scarcity and natural capital erosion will become more prevalent, while social inequities will continue to influence calls for long-term reforms. Public-sector issuers, particularly in some emerging market economies, will face critical challenges in funding climate adaptation and social infrastructure gaps.

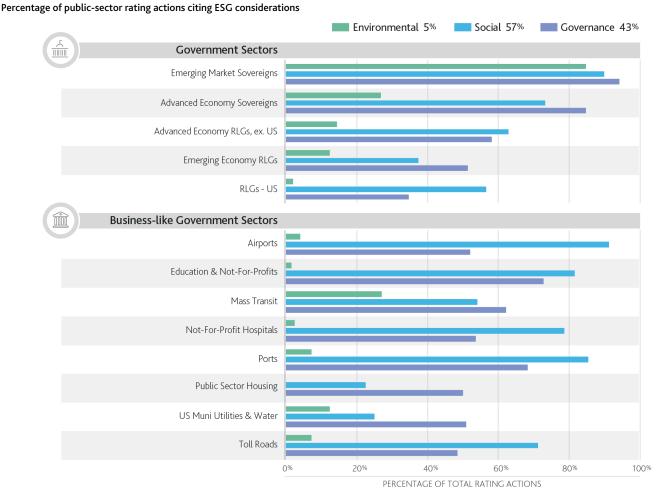
Social risks associated with COVID-19 drove the increase in ESG risks cited in public-sector rating actions

Of the nearly 5,600 public-sector rating action announcements that we published in 2020, 72% included references to material ESG considerations, up from 48% in 2019. The increase largely reflects the impact of the COVID-19 pandemic, which we consider a social risk that has also exacerbated and highlighted other social issues.

The frequency of ESG considerations in our public-sector rating actions increased for all three categories from the previous year, underscoring the growing significance of these factors in our credit analysis. Social issues were mentioned the most often, referenced in 57% of the 2020 rating actions, while 43% referred to governance issues and 5% cited environmental issues, up from 32%, 28% and 3%, respectively, in 2019. US state and local governments accounted for 67% of the total public-sector rating actions in 2020, heavily influencing the distribution across the entire universe of rating actions. There were wide differences across sectors in terms of which ESG categories were cited the most, with the frequency of mentions for each of the categories particularly high for emerging market sovereigns (see Exhibit 1).

Exhibit 1

Social considerations widely cited across regions and sectors; environmental issues disproportionately cited in actions for emerging market sovereigns



Some rating actions cited more than one ESG consideration. Source: Moody's Investors Service

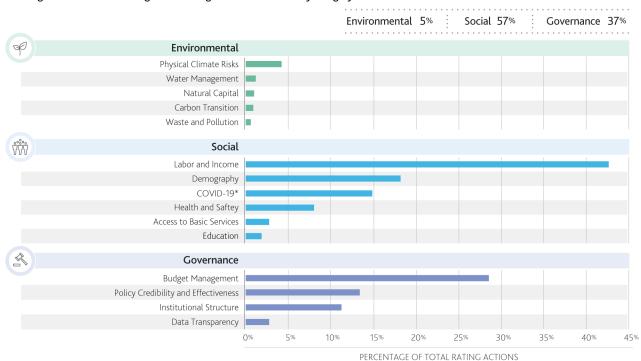
This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on www.moodys.com for the most updated credit rating action information and rating history.

ESG considerations were less prominent in public-sector than in private-sector actions, where <u>85% of rating actions</u> mentioned ESG issues in 2020 (see Appendix B). The relatively lower frequency of ESG mentions in the public-sector actions reflects the disproportionate impact of virus containment measures on the hardest-hit sectors of the economy. In addition, some governments, particularly in advanced economies, had stronger credit buffers and fiscal flexibility to mitigate the pandemic-driven economic shock.

The references to ESG considerations were present in rating actions for many types of public-sector entities, including those in government sectors such as national, regional and local governments, and businesslike public entities such as airports, ports, public utilities, universities, toll roads and mass transit operators. Government sectors accounted for 72% of the public-sector actions, while businesslike public sectors accounted for the other 28%. We apply private-sector social and governance categories to certain businesslike public sectors because credit-relevant ESG considerations more closely mirror those of their counterparts in the private sector. While our 2020 rating actions prominently cited the extraordinary shock of the pandemic, all subcategories of environmental, social and governance risks were cited as material credit considerations.

Exhibits 2 and 3 illustrate the relative share of rating actions citing ESG considerations, with many referring to more than one consideration.

Exhibit 2
Government sector rating actions cited the full range of ESG risk categories
Breakdown of government sector rating actions citing ESG considerations by category

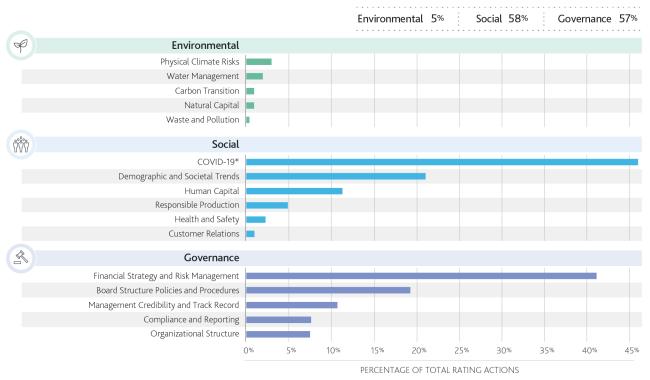


^{*}The COVID-19 considerations cited in the rating actions, which fall under the health and safety and labor and income categories of our ESG public-sector classification, were categorized separately for the purposes of the report.

Combined share exceeds 100% because some rating actions cited more than one ESG consideration Source: Moody's Investors Service

Exhibit 3

Businesslike public-sector rating actions cited COVID-19 more than any other ESG factor Breakdown of businesslike public-sector rating actions citing ESG considerations by category



^{*}The COVID-19 considerations cited in the rating actions, which fall under the health and safety and responsible production categories of our ESG private-sector classification, were categorized separately for the purposes of the report.

Combined share exceeds 100% because some rating actions cited more than one ESG consideration. Source: Moody's Investors Service

ESG issues as a material credit consideration in rating analysis

When a rating action refers to an ESG issue, it indicates that the issue is material to the issuer's overall credit quality. However, it does not necessarily mean that it was a key driver of a given rating action. Other factors may drive the rating action, such as changes in sales growth, profitability or leverage metrics, and may be unrelated to ESG considerations.

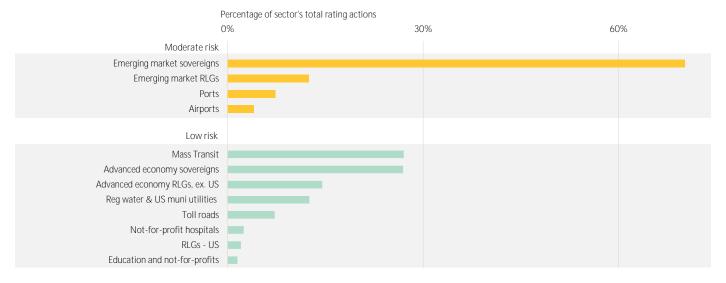
ESG considerations can influence credit quality directly and indirectly. These factors can weaken – or, less frequently, strengthen – credit quality without resulting in changes to an issuer's credit rating or outlook. Rating action announcements do not always fully capture the effect of ESG considerations on debt issuers, but they do indicate the significant role that ESG considerations play in our credit analysis.

ESG issues may also have a larger, or separate, influence on the rating than may be indicated by any one rating announcement. We recently introduced ESG credit impact scores, which speak to the cumulative impact of ESG considerations on an issuer's current rating.

Emerging market sovereigns had the highest rate of environmental considerations compared with any other sector

Environmental considerations were most frequently cited in rating actions for emerging market sovereigns, followed by mass transit and advanced economy sovereigns (see Exhibit 4). Emerging market sovereigns and RLGs have moderate exposure to environmental risks, as discussed in the 2021 update to our <u>environmental heat map</u>, in terms of material effects on credit quality over the medium-to-long term of five or more years.

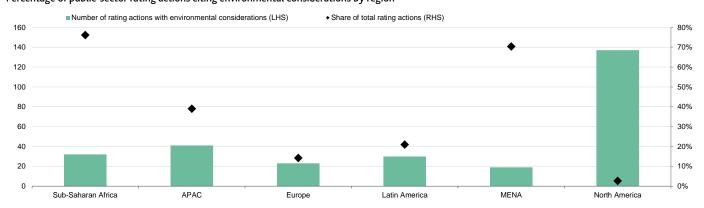
Exhibit 4
High rate of environmental considerations in rating actions for emerging market sovereigns
Percentage of public-sector rating actions citing environmental considerations



Source: Moody's Investors Service

Public-sector issuers in emerging market economies tend to have higher exposure and lower capacity than their advanced economy peers in responding to environmental risks. Their vulnerability to these risks can vary significantly depending on the region's geography, population growth, maturity of institutions, and availability and strength of central government assistance programs. Environmental considerations were cited in more than 70% of public-sector rating actions in Sub-Saharan Africa and the Middle East and North Africa (MENA) (see Exhibit 5).

Exhibit 5
Rating actions in Sub-Saharan Africa and MENA frequently cited environmental considerations
Percentage of public-sector rating actions citing environmental considerations by region



Emerging market sovereigns tend to have smaller, less-diversified economies that are more reliant on agriculture and other natural resources. Moreover, emerging market sovereigns that are hydrocarbon exporters must contend with the imminent credit implications from carbon transition and increasingly stringent environmental regulations from importing trade partners in advanced economies.

Physical climate risk was the most frequently cited environmental consideration for public-sector issuers in 2020. This was a notable difference from our <u>private-sector</u> rating actions, which cited carbon transition risk the most often. Emerging market sovereigns had the highest incidence rate, followed by mass transit and advanced economy sovereigns (see Exhibit 6). Small, less-diversified economies and agriculture-reliant sovereigns, including small island economies, are the most exposed to physical climate risks such as extreme weather events and rising sea levels. For example, in our downgrade of the <u>Government of Maldives</u> (B3 negative) to B3 from B2 in May 2020, we noted the island's increasing vulnerability to risks related to climate change. Factors cited included rising sea levels, increasing temperatures, more frequent extreme weather events, changes in monsoon patterns and coral bleaching. Also noted was the government's approach to improving Maldives' resilience to climate change by retaining and enhancing its existing natural flood protection features, strengthening emergency responsiveness, undertaking conservation efforts, and investing in research capacity.

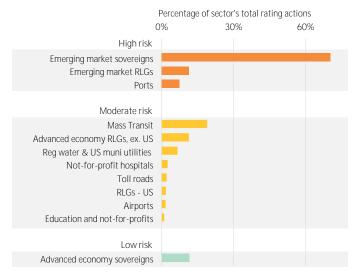
Several rating actions cited accelerating resiliency investments to mitigate the effects of physical climate risk, which illustrates the growing focus on preparedness efforts for high-impact climate risk among public-sector issuers. Some public-sector rating actions cited mitigation and risk management efforts to protect localities or facilities in areas prone to natural disasters such as wildfires, hurricanes and floods.

Water management was the second most cited environmental consideration. Emerging market sovereigns had the highest share of mentions, followed by emerging market RLGs, for which water scarcity has become one of the main challenges in recent years, driven by drought, pollution, or rapid urbanization that increases demand on water infrastructure (see Exhibit 7). In our downgrades of the Government of South Africa (Ba2 negative) in March and November 2020, we cited the effects on revenue from water shortages and regular severe droughts. We also mentioned these factors in subsequent downgrades of South African RLGs including the City of Johannesburg (Ba3 ratings under review) and City of Cape Town (Ba3 ratings under review).

Exhibit 6

Emerging market sovereigns are highly exposed to physical climate risks

Percentage of public-sector rating actions citing physical climate risks



Source: Moody's Investors Service

Exhibit 7

Water management particularly affects emerging market government issuers

Percentage of rating actions citing water shortages



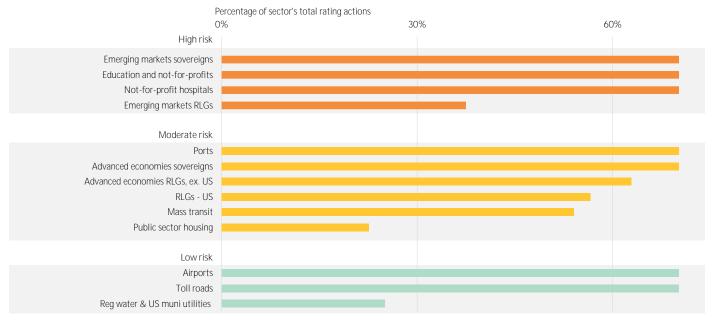
Rating actions for all public sectors cited social considerations more frequently than in the prior year, as COVID-19 brought long-standing social issues to the fore

Social considerations rose in prominence in 2020 rating actions compared with the previous year. Sectors with a high rate of social considerations cited in rating actions included emerging market sovereigns, which we identified as facing high risk in our 2021 update to our <u>social heat map</u>, as well as sectors that were immediately affected by revenue declines triggered by policy measures to contain the virus. These sectors include airports, ports, and education and not-for-profits (see Exhibit 8).

Exhibit 8

Social issues frequently cited in rating actions across all public sectors, partly driven by COVID-19

Percentage of public-sector rating actions citing social considerations



Source: Moody's Investors Service

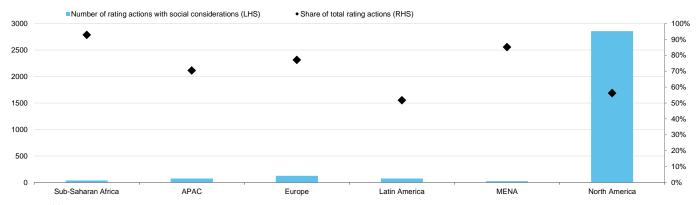
Social factors are core components of government credit quality that can heavily influence economic performance, financial outcomes (i.e., government spending and leverage) and governance stability. Social issues, such as income inequality, education levels and access to essential services, can pose acute credit challenges for emerging market government issuers, because many are less equipped to adapt to these risks as a result of less-diversified economies, lower reserves, and limited sources of funding to finance social solutions. Social considerations were cited in at least half of the public-sector rating actions across regions, and mentioned most often for those in Sub-Saharan Africa and MENA (see Exhibit 9).

We consider COVID-19 a social issue that magnified other societal inequities, such as limited access to healthcare and rising income inequality. The pandemic was specifically mentioned in 23% of the rating actions; however, it was cited less frequently in those for government sectors (15%) compared with businesslike public sectors (46%) and private sectors (64%). These differences highlight the disproportionate impact of the sweeping measures to contain the pandemic on nonfinancial companies and businesslike public entities in consumer-sensitive sectors.

Exhibit 9

Majority of the public-sector rating actions across regions mentioned social considerations

Percentage of public-sector rating actions citing social considerations by region



Source: Moody's Investors Service

For government issuers, references to COVID-19 primarily fell under health and safety, because of the virus's threat to population health and well-being. COVID-19 references also came in the context of labor and income issues, as the pandemic-induced economic crisis triggered sharp revenue declines for many issuers because of massive job losses, while demands for higher spending to contend with the public health crisis increased. The economic challenges during the public health crisis exposed systemic social inequities, illustrated by the disproportionately high levels of unemployment among low-income workers who have limited access to healthcare and paid sick leave. In response, many governments adopted policies to bolster social services for the most vulnerable, such as providing healthcare insurance, supplemental unemployment payments, housing and debt forbearance measures.

For businesslike public entities, COVID-19 references in rating actions largely were in the context of health and safety because of the virus's threat to employees' well-being, and responsible production, as many issuers had to curtail operations or reconfigure supply chains in response to public health measures to contain the virus.

The most frequently cited social consideration for governments was **labor and income** excluding references to COVID-19, which were separated to analyze this consideration in isolation of the extraordinary impact of the pandemic, present in about 43% of government sectors' rating actions. Emerging market sovereigns mentioned this social consideration most frequently, followed by advanced economy sovereigns, which were both identified as having moderate exposure to labor and income considerations in our social heat map (see Exhibit 10).

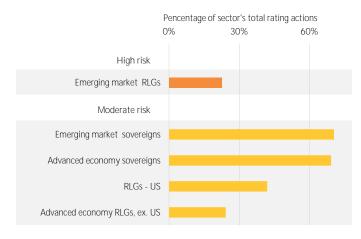
Labor and income considerations, such as income inequality and labor force participation, influence economic and revenue growth, which can affect government credit profiles. Demand for safety net services and political stability is another factor that can influence government credit quality. Labor and income was a material credit consideration in our June 2020 downgrade of the Government (Baa3 negative) rating to Baa3 from Baa2. In the action, we cited the country's large low-income population that limits the government's tax revenue base.

After COVID-19, **demographics and societal trends** were the most frequently mentioned consideration for businesslike public entities, referenced in 21% of our rating actions for these issuers. Sectors with the most mentions of this social consideration were airports, toll roads, and education and not-for-profits (see Exhibit 11).

Exhibit 10

Labor and income was the most frequently cited social consideration for government issuers

Percentage of public-sector rating actions citing labor and income

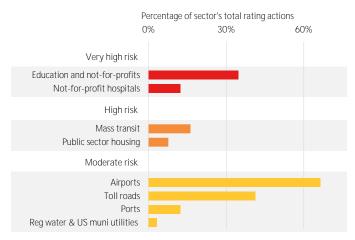


Source: Moody's Investors Service

Exhibit 11

Demographic and societal trends the most referenced social issue for businesslike public issuers

Percentage of public-sector rating actions citing demographic and societal trends



Source: Moody's Investors Service

Sectors with high exposure to this social issue are increasingly susceptible to socially driven regulation, changing consumer preferences, and the effects of digital innovation and technological change. For example, our outlook change for <u>Southern Housing Group Limited</u> (A3 negative) in the UK to negative from stable in December 2020 cited rising pressures from social risks including the impact of demographic trends on demand.

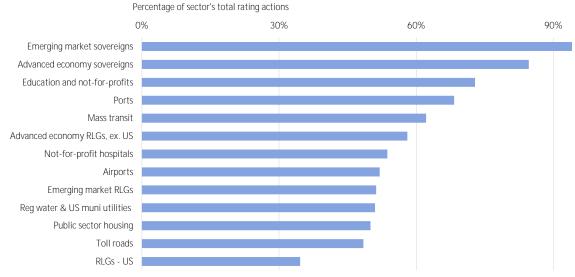
Rise in governance citations reflects ability to contend with the pandemic shock

Governance issues were cited in 43% of all public-sector rating actions, up from 28% in 2019, with the most references in actions for emerging market and advanced economy sovereigns (see Exhibit 12). The pandemic partly drove the large increase from the previous year, as governance factors can influence issuers' resilience and response during a crisis.

Exhibit 12

Governance factors were most prevalent among sovereign issuers

Percentage of public-sector rating actions citing governance considerations

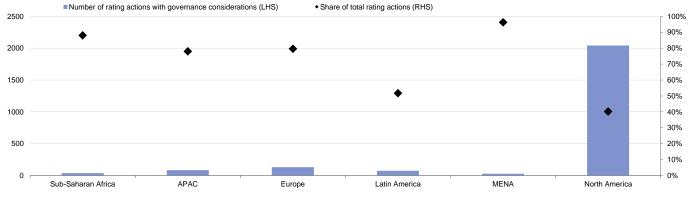


Governance considerations, which can either support or erode issuer credit quality, were most prevalent for issuers in MENA, followed by Sub-Saharan Africa (see Exhibit 13).

Exhibit 13

Governance issues most prevalent in rating actions for Sub-Saharan Africa and MENA

Percentage of public-sector rating actions citing governance considerations by region



Source: Moody's Investors Service

We categorize governance considerations for government and businesslike public entities differently, as illustrated in Appendix C. For businesslike public entities, we applied private-sector governance considerations, because their governance considerations differ from those of governments, primarily given the much broader role of governments, differences in the stakeholders involved and contrasting organizational structures.

Budget management was the most cited governance factor for government issuers, present in 28% of our rating actions for these issuers, with advanced economy sovereigns having the highest rate of mentions (see Exhibit 14). Strong budgetary management is characterized by an adherence to fiscal objectives, and flexibility to adjust revenue and expenses to mitigate unplanned circumstances.

Budget management considerations either strengthened or weakened the credit position of issuers vis-a-vis the pandemic. In some instances, solid budget management before the pandemic provided fiscal flexibility to help offset some of the negative effects, such as revenue loss, during the economic downturn. For example, our upgrade action on the City of Zagreb (Ba1 stable) in November 2020 cited the city's continued good budgetary management practices and solid financial fundamentals, which helped it withstand the impact of the pandemic-induced shock. Conversely, some rating actions cited budget management pressures brought on by operating deficits from fiscal stimulus measures and depressed global demand, which in some cases delayed fiscal consolidation and other budget reforms.

Some references to budget management issues exemplified the interplay between governance and social considerations. Increased demand for social services such as healthcare, education, crime prevention, government employee wages and pensions often curtailed budget management or fiscal consolidation efforts. Budgetary pressures from an aging population also surfaced in some rating actions, particularly for advanced economy government sectors.

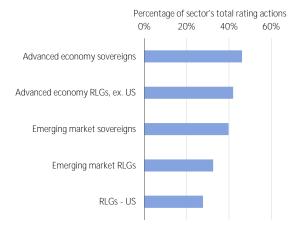
Financial strategy and risk management was the most cited governance issue for businesslike public entities, present in 41% of our rating actions for these issuers (see Exhibit 15).

This governance consideration includes the board and management's tolerance for financial risk and their approach to M&A strategy, commodity risk management, leverage and capital allocation. Several citations of this governance issue discussed corporate finance measures taken in response to the COVID-19 pandemic, such as issuing debt to strengthen liquidity buffers should credit conditions shift.

Exhibit 14

Budget management the most cited governance issue for government issuers

Percentage of public-sector rating actions citing budget management

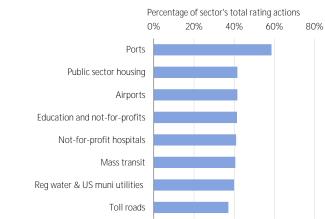


Source: Moody's Investors Service

Exhibit 15

Financial strategy and risk management the most cited governance issue for businesslike public sectors

Percentage of rating actions citing financial strategy and risk management



Source: Moody's Investors Service

Potential for environmental and social risks becoming highly disruptive is growing for public sectors, particularly in emerging markets

While COVID-19 was an extraordinary event, it has accelerated many credit-relevant ESG trends that will become even more important in our assessment of issuer credit quality through the economic recovery and beyond. We expect these considerations to become especially prevalent in several emerging market economies. The relatively higher exposure of emerging market countries to ESG issues will be amplified by their <u>longer path to economic recovery</u> from the pandemic resulting from limited vaccine access and distribution.

Environmental risks, namely the global threats from climate change, are rising, with public sectors in emerging market economies particularly exposed. Physical climate risks such as hurricanes, wildfires and other weather events will become more frequent and severe. In response, public-sector issuers will increase their focus on institutional preparedness for these climate-related risks, requiring more capital spending. However, public-sector issuers in emerging market economies will continue to face critical challenges in responding to severe weather events and financing climate adaptation infrastructure. Failure to invest in resilience can have significant adverse effects and exacerbate social risks, particularly in densely populated, low-income urban areas.

Moreover, physical risks from climate change will continue to influence the speed of <u>natural capital</u> erosion and biodiversity loss, which the World Economic Forum identified as among the top five risks in terms of likelihood and impact over the next 10 years in its 2021 Global Risks Report.¹ Our environmental heat map indicates that emerging market sovereigns are more exposed to natural capital risks than are advanced economy sovereigns. For many emerging market economies, natural capital is a significant source of income through agriculture or tourism, and policymakers will need to balance their economic growth priorities with regulatory imperatives.

Declining global demand for fossil fuels accelerated by a concerted effort among leading economies to achieve net-zero emissions by 2050 will increase carbon transition risk for hydrocarbon-exporting sovereigns, several of which are emerging market economies. Although a baseline carbon transition consistent with Paris Agreement country commitments will be manageable for most sovereigns, the challenge of adjusting to lower demand and prices for hydrocarbons will be particularly high for sovereigns with already relatively weak fiscal and external positions. Decarbonization agendas among leading economies may also pressure some emerging market governments to strengthen environmental regulations, such as reducing carbon emissions, which are typically less stringent than those of developed countries.

The pandemic exposed social inequities in income, education and healthcare, and these will continue to widen absent the implementation of effective new policies to address them. Public demands to improve quality and access to public services will influence long-term reforms that will have credit implications for public sectors. The unprecedented policy support by several

governments during the pandemic to bolster social safety nets may be difficult to scale back. However, stronger healthcare infrastructure and policies to reduce income inequality will improve productivity and growth.

Emerging market sovereigns and RLGs <u>face significant social challenges</u> related to weak infrastructure and high levels of poverty and inequality, which the protracted recovery from the pandemic will exacerbate with the resultant shift in public spending priorities. Given emerging market economies have less financial flexibility to address these challenges, we expect social considerations to continue to weaken their financial metrics. Limited access to services, a pressing social risk for emerging market governments, will be compounded by unprecedented rates of urbanization, with 90% of the estimated urban growth unfolding in Sub-Saharan Africa and Asia over the next 30 years. While rural-urban migration can offer new opportunities for growth, failing to meet the social and environmental challenges from rapid urbanization – such as increased demand for affordable housing, sustainable transportation systems and other infrastructure, basic services and jobs – could impede structural economic transformation.

Moreover, demographic and societal trends will become more relevant to credit profiles. Aging populations, particularly those in the advanced economies, will influence economic and revenue growth, pension costs, and demands for basic services, such as healthcare. Businesslike public sectors that are highly exposed to this risk include education and not-for-profits, as declining numbers of secondary school graduates and the changing profiles of students will pressure higher-education institutions to innovate and adapt while also focusing on affordability.

The pandemic has heightened awareness among public-sector entities about the potential magnitude, complexity and urgency of other imminently disruptive global environmental and social risks, notably climate change and rising social inequality. Greater focus on institutional preparedness and proactive collaboration to undertake additional planning and spending for such risks will continue to intensify. For example, some governments have aligned their fiscal stimulus measures to support their economic recovery along with carbon reduction efforts, such as the €750 billion Next Generation EU recovery plan, a green stimulus package that the EU is rolling out in parallel with national programs. In the US, proposals to support the post-pandemic economic expansion include a \$1.2 trillion legislative package focused on traditional infrastructure and a separate \$3.5 trillion proposal currently being negotiated that incorporates initiatives related to child care, healthcare, education and climate change.

Governments' institutional structure and budget management practices will be critical in their effectiveness and ability to face challenging policy choices and properly allocate public resources for effectively responding to rising environmental and social risks. Businesslike public entities that demonstrate strong governance capabilities and willingness to address these risks will differentiate themselves from their peers.

Appendix A: How we compiled the data for this report

We used natural language processing (NLP) techniques to study all rating action announcements that we published for both public- and private-sector issuers in 2020. We used third-party NLP algorithms developed by Amenity Analytics Inc. and trained by interaction with us, to compile a data set of rating actions that cited ESG considerations, based on our ESG analytical framework and a comprehensive list of words and phrases associated with ESG risks. Through an iterative process with human validation at each stage, the NLP model was trained to identify references to ESG risks and discern their materiality. This process resulted in a high confidence data set of rating actions that cited ESG considerations as material credit considerations.

The ability of the refined NLP algorithms to recognize sentence context is a key feature of our approach. For example, one of our five categories of governance risk for public-sector issuers is budget management, of which financial policy is a key element. The NLP algorithms are trained to distinguish between a simple discussion of leverage, which is present in virtually all rating actions, and a reference to more significant and material shifts in financial policy, which is a governance consideration that we want to capture in our analysis. This approach yields results that are far more accurate than simple keyword searches.

A statistically significant sample of this NLP generated data set was manually reviewed to confirm its validity. Given the high accuracy of the sample reviewed, and the numerous iterations of human review and model improvements made since its inception, we chose not to manually review more than 14,300 rating announcements for both public- and private-sector issuers published in 2020. We are confident in the data set's ability to provide insights into the types of material ESG considerations cited in our rating announcements, although it is possible that it contains a statistically insignificant number of false positives (Type I errors). Additionally, because we have not manually reviewed each of the rating actions, it is possible that our analysis may have failed to capture some announcements where ESG issues were material (Type II errors). These risks are minimized by the close training of the model, its continual high performance, and the fact that our ESG analytical framework and our comprehensive list of ESG terms and phrases were created in consultation with our analysts to capture all aspects of ESG risk relevant to our credit analysis.

Appendix B: Summary of 2020 rating actions citing ESG considerations

Exhibit 16
Breakdown of material ESG credit considerations mentioned in our 2020 rating actions

		Private-sector rating actions 85%	:	Public-sector rating actions 72%
Share of ratir	ng actions citing ESG consid	erations by issuer type and category (%)		
P	Environmental	13%		5%
ෆීෆීෆී	Social	71%		57%
VVV	Social	, ,		31
	Governance	53%		43%

Some rating actions cited more than one environmental, social or governance consideration. Source: Moody's Investors Service

Appendix C: ESG considerations

Exhibit 17

Environmental considerations most relevant to credit quality for public- and private-sector issuers

Carbon transition



- policy risk Actions to mitigate risk
- Long-term resilience to risk of accelerated carbon transition

- Current and future effects of climate change
- Exposure to heat stress, water stress, floods, hurricanes, sea level rise and wildfires

Water management



- Non-climate-related risks
- Impact of economic activity
- Availability, access and consumption
- Innovations to enhance water use efficiency
- Risk of pollution-related regulatory violations

Waste and pollution



- » Hazardous and non-hazardous waste
- » Circular economy

Natural capital



- Impact on natural systems (soil, biodiversity, forest, land, oceans, etc.)
- Dependency on goods and services derived from nature (agriculture, fiber, fish, etc.)

Source: Moody's Investors Service

Exhibit 18

Six social categories most relevant to government issuers

Demographics



» Racial & ethnic composition/trends

Labor & income



- » Labor force participation
- » Income inequality

Education



- » Access to primary/ secondary/tertiary
- » Educated populace
- » Literacy

Housing

» Availability and access » Condition of housing



Health and safety



- » Environmental quality
- » Personal safety & well-being



Access to basic services



- » Water
- » Sewer
- » Electricity
- » Financial services
- » Transportation
- » Telecom/Internet

CROSS-SECTOR MOODY'S INVESTORS SERVICE

Exhibit 19

Five social categories relevant for private-sector and businesslike public issuers

Customer Relations » Data security & customer privacy » Fair disclosure & labelling» Responsible distribution & marketing

Human Capital



Demographic & Societal **Trends**



- » Labour relations
- » Human resources
- » Diversity & inclusion

- » Demographic change» Access and affordability » Social responsibility
- » Consumer activism

Health & Safety » Accident & safety management » Employee health & well-being

Responsible Production



- » Product quality
- » Supply chain management
- » Community stakeholder engagement
 » Bribery & corruption
- » Waste management

Source: Moody's Investors Service

Exhibit 20

Governance categories most relevant for government issuers

Institutional Structure



- » Strength of judiciary and civil society
- » Institutional arrangements that guide fiscal and macroeconomic policy
- » Control of corruption

Policy Credibility & Effectiveness



- » Fiscal policy track-record and effectiveness
- » Monetary and macroeconomic policy effectiveness
- » Regulatory effectiveness

Transparency & Disclosure



- » Comprehensiveness and reliability of economic, fiscal, and financial data
- » Timely financial disclosure



Budget Management



- » Budetary and forecast accuracy
- » Management quality and experience
- » Effective use of multi year planning for operating and capital spending.

CROSS-SECTOR MOODY'S INVESTORS SERVICE

Exhibit 21

Governance categories most relevant for private-sector and businesslike public issuers

Financial Strategy & Risk



- » Capital modeling and stress testing
- » M&A strategy
- » Dividend and capital allocation policies
- » Risk management polices and controls
- » Internal controls

Compliance & Reporting



- » Regulatory violations
- » Civil and criminal Investigations
- » Securities lawsuits and investigations
- » Bribery and corruption
 » Accounting policies and disclosures
- » Consistency and quality of financial reporting

Source: Moody's Investors Service

Management Credibility & Track Record



- » Earnings and guidance accuracy
- » Regulatory relationships
- » Succession planning and key person risk
- » Management quality and experience
- » Project or subsidiary sponsor support
- » Loss reserve development
- » Servicer or manager quality

Board Structure, Policies, & Procedures



- » Ownership and control
- » Management Compensation
- design and disclosure

 » Board of director oversight and effectiveness

 » Financial oversight and capital allocation

Organizational Structure



- » Organizational complexity
- » Legal and ownership structure
- » Insider and related-party transactions
- » Capital structure and organizational funding

Moody's related publications

Sector research

» Regional and local governments – Emerging markets: Infrastructure gap, inequality, weak labor markets underpin exposure to social risks, 22 June 2021

- » ESG Global: COVID-19 amplified credit-relevant ESG issues in 2020 private-sector rating actions, 28 June 2021
- » ESG Global: Social heat map update: Risks rise for coal, oil & gas, tobacco, metals & mining, 27 May 2021
- » Sustainable Finance Global: Sustainable bond volumes surged to new records in Q1 2021 as market interest soars, 10 May 2021
- » Cross-Sector Global: Net-zero pledges increase credit pressure on major emitters, 27 April 2021
- » ESG Global: 2021 outlook Stimulus, transparency and policy alignment to amplify ESG trends, 3 February 2021
- » ESG Global: Coronavirus pandemic will sharpen focus on ESG risks, with increased relevance to credit, 24 June 2020
- » ESG Emerging Markets: ESG risks are prevalent, especially in public sector; governance is cited most frequently, 25 November 2020
- » ESG Global: ESG factors cited as material credit issues in 50% of public-sector rating actions, 18 November 2020
- » ESG Global: ESG factors frequently cited as material credit considerations in 2019 rating actions, 14 April 2020

Rating methodology

» General Principles for Assessing Environmental, Social and Governance Risks Methodology, 14 December 2020

To access any of these reports, click on the entry above. Note that these references are current as of the date of publication of this report and that more recent reports may be available. All research may not be available to all clients.

Endnotes

- 1 The World Economic Forum Global Risks Report 2021.
- 2 United Nations, Department of Economic and Social Affairs, Population Division (2019), World Urbanization Prospects 2018: Highlights.

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