MOODY'S INVESTORS SERVICE

RATING METHODOLOGY

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Contacts

Frederic Drevon +44.207.772.5356
Managing Director/RPO
frederic.drevon@moodys.com

Jessica Gladstone +1.212.553. 2988
Managing Director/RPO
jessica.gladstone@moodys.com

Jeffrey Berg +1.212.553.3611
Associate Managing Director/RPO
jeffrey.berg@moodys.com

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Rating Methodology

Government-Related Issuers

This rating methodology replaces the *Government-Related Issuers* methodology published in February 2020. While this methodology reflects many of the same core principles as the 2020 methodology, we have expanded the scope of the methodology to include certain subsidiaries of government-related issuers (GRIs). We have made certain other changes and clarifications to the methodology scope, and we have clarified that GRI ratings are generally capped at the supporter's rating, unless the GRI's Baseline Credit Assessment (BCA) is higher. We have also made editorial changes to enhance readability.

Scope

This methodology applies to government-related issuers (GRIs) globally. We define a GRI as an entity with full or partial government ownership or control, generally 20% or more, or as an entity that has a special charter or a public policy mandate from a national, regional or local government. This methodology also applies to GRIs with multiple government owners. We do not consider entities with taxing authority to be GRIs.

We designate subsidiaries of GRIs as GRIs (i) where we consider the supporting government could exert a very high level of control, either directly or through the GRI parent, over the governance or financing of the subsidiary and (ii) where we consider the subsidiary is strategically important to the government. In assessing the level of control, we consider the government's ability to exert control over the governance or financing of the subsidiary. We consider a very high level of government control over the subsidiary to be necessary to ensure timely support. For example, we are likely to designate a GRI subsidiary as a GRI and assign a rating using this methodology where the government or GRI parent retains a majority presence on the subsidiary's governing board. Rated subsidiaries of unrated government-owned entities that meet these criteria would also be designated as GRIs.

This methodology also applies to enterprises that are owned or sponsored by the US federal government. US states, municipal entities and the revenue enterprises and other entities they establish are generally not rated using this methodology, given the unique constitutional framework of the US, including the enumerated separation of powers across levels of government. However, the methodology applies to US state and municipal pension funds.

Issuers rated using our methodologies for banks, finance companies, securities industry market makers, securities industry service providers, clearinghouses and Chinese local government finance vehicles are not designated as GRIs. We discuss how we incorporate government support in the relevant sector methodologies.

For clarity, we do not apply this methodology to debt obligations that we rate using our methodology for guarantees, letters of credit and other forms of credit substitution.[1]

Rating approach

In this rating methodology, we explain our general approach to assigning ratings to GRIs and our view of the credit links between GRIs and their supporting central, regional and local governments. This methodology describes the core principles of our Joint Default Analysis (JDA) approach, which is our standard approach to assigning ratings to GRIs in most cases, as well as the top-down approach we use in some cases. In both of these approaches, 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.

Our credit analysis of GRIs typically starts with an assessment of the GRI's standalone strength, which is its ability to service and repay outstanding debt without recourse to extraordinary support from the supporting government. In our assessment of standalone strength, expressed as a Baseline Credit Assessment (BCA),[2] we consider any day-to-day support received from the government that can be clearly distinguished from extraordinary support.[3] For example, where a GRI receives day-to-day flows from the government for its liquidity, we reflect the reliability of those flows in our standalone assessment. Furthermore, our analysis of governance incorporates our assessment of the impact of routine interaction with the government in determining strategy, complying with regulations or managing day-to-day operations. Support mechanisms, such as a government obligation to ensure the GRI's solvency and liquidity, are reflected in the BCA where they are legally or contractually documented.

Where it is possible and meaningful to assign a BCA, our rating approach is to assign a BCA and to assess uplift from the BCA, if any, which reflects the likelihood of the government providing extraordinary support on a timely basis.

However, there are some cases where the level of integration between the issuer and its government is so high that a standalone credit analysis is either impossible to derive or has extremely limited bearing on the GRI's rating. In those cases, our rating assessment is focused solely or primarily upon extraordinary support. We use a top-down analytical approach in which we primarily consider the ability and willingness of the government to provide timely extraordinary support, instead of the more typical bottom-up approach of starting with the BCA and then considering uplift toward the government's rating.

In our JDA approach, we estimate the likelihood of extraordinary support, expressed in percentage ranges that are represented by five scores between Low and Very High. We also estimate the default dependence of the GRI and the supporting government, expressed in separate percentages that are represented by four scores between Low and Very High. We then calculate a default probability of the GRI that takes into account our estimates of the likelihood of extraordinary support and default dependence (see Appendix 1 for a technical overview of a JDA), as well as the GRI's BCA and the rating of the supporting government, both of which are assessed using sector methodologies.

The BCA is defined on a lower-case alphanumeric rating scale (aaa to c) and represents the intrinsic credit strength of a GRI, incorporating all ordinary support (including ongoing transfers, subsidies or long-term contracts from the supporting government) but excluding any extraordinary support. Essentially, the BCA indicates our view of the likelihood that the GRI would default in the absence of extraordinary support. In assigning a BCA, we use the sector-specific methodology that applies to the primary business activities[4] of the GRI to consider its standalone credit strength.

1 A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.

2 For an explanation of the Baseline Credit Assessment, please refer to *Rating Symbols and Definitions.* A link can be found in the "Moody's related publications" section.

3 Please see the "Extraordinary support" section for a broader discussion and more information on the definition of extraordinary support.

4 The determination of an issuer's primary business is generally based on the preponderance of the issuer's business risks, which are usually proportionate to the issuer's revenues, earnings and cash flows.

In assessing extraordinary support, we consider the likelihood that the government would act in a timely manner to prevent a GRI default. Extraordinary support may take different forms, including guarantees, cash injections or actions that enhance the GRI's access to financing. This methodology discusses the factors used to assess the likelihood of extraordinary support being provided.

Default dependence reflects the tendency of a GRI and its supporting government to be jointly susceptible to adverse circumstances that simultaneously move them closer to default. This methodology discusses the factors used to assess the extent of default dependence between a GRI and its supporting government.

Our approach focuses on assessing the uplift, if any, toward the supporter's rating from our expectation of extraordinary support. As a result, the GRI's senior unsecured rating is typically not higher than the higher of the supporter's rating and the GRI's BCA.

Our assessments also consider the extent of government policy transparency and predictability. Furthermore, given that government behavior can change during periods of stress, we typically apply additional scrutiny in assessing cases where extraordinary support assumptions lift the rating of GRIs with weak BCAs to the level of the supporting government (i.e., rating at par) in the absence of critical features that offer near certainty surrounding the likelihood of extraordinary support.

There may be instances in which we lack sufficient information to assess a rating for the supporting government of a GRI. If the GRI can be assessed as a standalone entity but we lack sufficient information to assess a rating for the government, we may assign a rating based upon the GRI's BCA unless we have significant concerns about credit contagion from the government, in which case we may not to be able to assign a rating to the GRI. Our rating assessment of the GRI in cases where we cannot assess a government rating assumes a zero likelihood of extraordinary support but considers any meaningful indirect benefits that are expected to result from the GRI's association with the government, such as lower taxes or preferential access to bank funding and business opportunities subject to government influence.

Issues related to the technical foundation of a JDA and how we apply a JDA to GRIs in special circumstances are discussed in the appendices:

» Appendix 1 provides a technical overview of a JDA.

» Appendix 2 discusses GRIs without a BCA, which are rated solely or primarily on extraordinary support, and our approach to rating such GRIs at par with the government rating.

» Appendix 3 discusses how we treat cases of multiple government supporters.

» Appendix 4 discusses our rating approach for junior instruments, including hybrids, and for senior secured instruments.

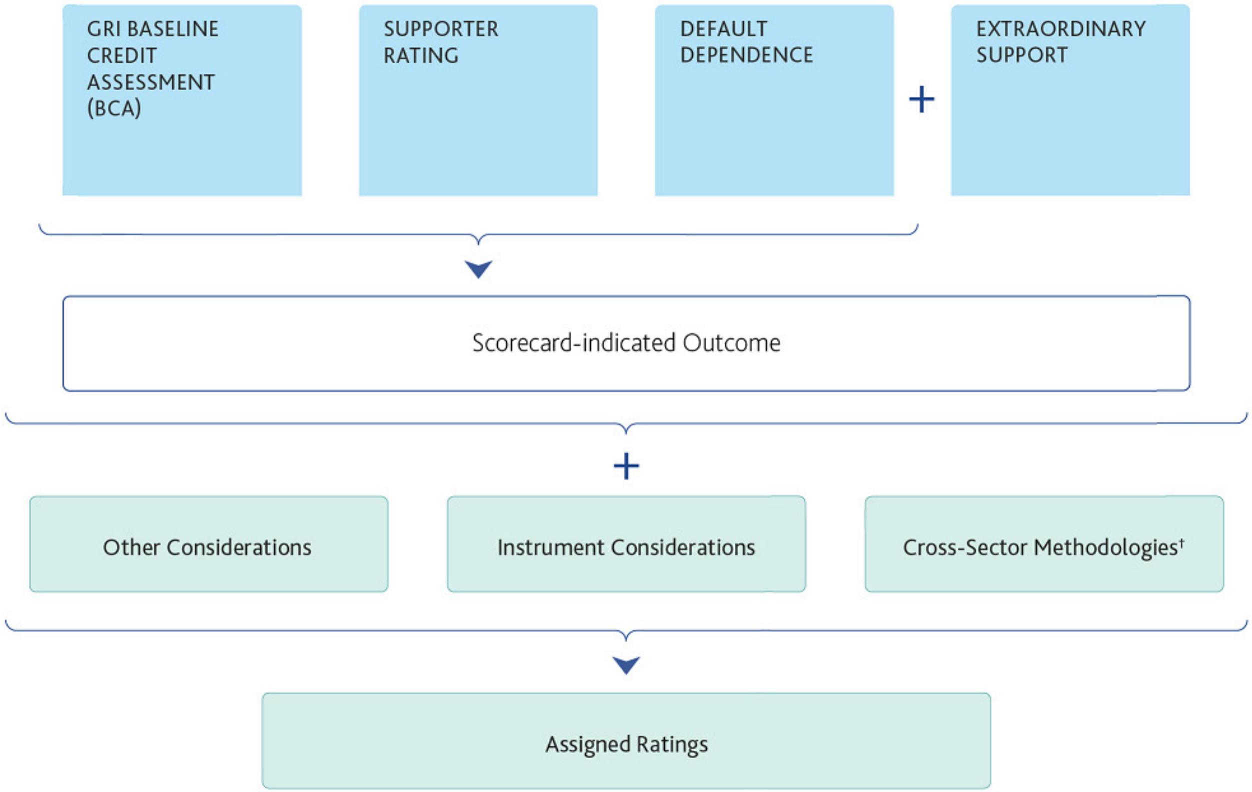
» Appendix 5 describes the approach for rating public pensions and public pension managers (collectively, public pension funds), where we do not assign a BCA, primarily based on extraordinary support from a sovereign or sub-sovereign government.

» Appendix 6 provides illustrative examples of scorecard-indicated outcome ranges for various JDA inputs.

The following schematic illustrates our general framework for the analysis of GRIs, which includes the use of a scorecard. The scorecard-indicated outcome is not expected to match the actual rating for each issuer. For more information, see the "Limitations" and "Other considerations" sections.

Exhibit 1

Illustration of the government-related issuers (GRI) methodology framework



† Some of the methodological considerations described in one or more cross-sector rating methodologies may be relevant to ratings of GRIs. 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

Government-related issuers (GRI) scorecard

Although rating committees have wide discretion on how best to apply the concepts described within this methodology, analysts use a GRI scorecard as a tool to apply JDA to GRIs with a BCA. 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. Please see the "Limitations" and "Other considerations " sections.

Exhibit 2

Government-related issuers (GRI) scorecard

Government-Related Issuers Extraordinary Support Factors[1][2]					
	Low (0% - 30%)	Moderate (31% - 50%)	Strong (51% - 70%)	High (71% - 90%)	Very High (91% - 100%)
Structural Factors					
Factor: Guarantees, Statements of Support, Comfort Letters or Special Legal Status					
	Government does not provide any guarantees, statements of support, comfort letters or special legal status.	Government provides weak statements of support or general special legal status.	Government provides strong statements of support, comfort letters or special legal status.	Government provides guarantees for some of the GRI's debt; or very strong statements of support, comfort letters or special legal status.	Government provides guarantees for most of the GRI's debt.
Factor: Government Ownership Level[3]					
Government Ownership Level	0% - 30%	31% - 50%	51% - 70%	71% - 90%	91% - 100%
Adjustment - Golden Share	Up to two categories higher where the government has a golden share in the GRI.				
Adjustment - Privatization Plan	Up to two categories lower where there is a plan for privatization of the GRI.				
Factor: Barriers to Extraordinary Support[4]					
Barriers to Support	If there are legal barriers (e.g., EU rules) preventing timely financial support, the factor is scored at Low before adjustment.				
Adjustment - Barriers to Support	Up to two categories higher where the government may provide extraordinary support despite legal or policy barriers.				
Willingness Factors					
Factor: Government Intervention					
History of Government Bailouts	Track record of GRI defaults.	No track record but some uncertainty regarding extraordinary support.	No track record but some expectation of extraordinary support.	Strong track record of timely prevention of defaults.	Very strong track record of timely prevention of defaults.
Adjustment - Government Economic Intervention	Up to four categories higher or lower, depending on the extent of government intervention in the economy.				
Adjustment - Government Direction of the GRI, Business Planning, Board Appointment Rights	Up to two categories higher for each of the three sub-factors, capped at two categories higher in total, and capped at High.				

	Low (0% - 30%)	Moderate (31% - 50%)	Strong (51% - 70%)	High (71% - 90%)	Very High (91% - 100%)
Factor: Impact on Borrowing Cost and Political Considerations					
Impact on Borrowing Costs for Government Following a GRI Default	No impact	Limited increase	Sizable increase	Significant increase	Very significant increase
Adjustment - Political and Other Considerations	Up to two categories higher for each of the two sub-factors, capped at High.				
Factor: Economic Importance					
Economic Importance	Low	Moderate	Strong	High	Very High
Adjustment - Politically Influential Workforce	Up to two categories higher.				
Adjustment - Ties to National Security	Up to two categories higher.				
Adjustment - Essential Service	Up to two categories higher.				
Adjustment - Competition	Up to two categories higher or lower.				
Initial Extraordinary Support Score					
Extraordinary Support Constraints					
Support Capacity Constraints, Lack of Transparency and Predictability of Government Policy	Up to one category lower.				
Overall Extraordinary Support Score					

Government-Related Issuers Dependence Factors[5]				
	Low (30%)	Moderate (50%)	High (70%)	Very High (90%)
Factor: Operational and Financial Linkages[6]				
Direct and Indirect Government Transfers as a Percentage of GRI Revenue	< 5%	≥ 5% - ≤ 10%	> 10% - ≤ 20%	> 20%
Government Purchases as a Percentage of GRI Revenue	< 5%	≥ 5% - ≤ 10%	> 10% - ≤ 20%	> 20%
GRI Payments to Government as a Percentage of Government Revenue	< 5%	≥ 5% - ≤ 10%	> 10% - ≤ 20%	> 20%
Factor: Reliance on Overlapping Revenue Base				
Percentage of Government and GRI Income Derived from Within the Government's Territory	< 50%	50% - 75%	75% - 95%	≥ 95%
Factor: Exposure to Common Credit Risks				
Shared Industry Risk, Foreign Exchange Risk in Debt Structure, Political Event Risk	No exposure	Limited exposure to one common credit risk	Significant exposure to one common credit risk	Exposure to more than one common credit risk
Overall Dependence Score				

Government-Related Issuers Baseline Credit Assessment
Government Supporter Rating
Scorecard-Indicated Outcome Range

[1] The overall Extraordinary Support score is the average of the six Extraordinary Support factors, except where no legal barriers to timely support exist. In that case, the overall score is the average of the other five factors.

[2] If a guarantee is provided for 100% support to a GRI, the overall Extraordinary Support score is Very High without assessing the individual extraordinary support factors.

[3] If the GRI has an explicit public policy mandate, the score is High or Very High.

[4] If there are no legal barriers preventing timely financial support, this factor is not scored.

[5] The overall Dependence score is the highest score of the three dependence factors.

[6] If the GRI is a distinct arm of the government (clear administrative and operational linkages; explicit and well-recognized public policy mandate to carry out a government responsibility), the factor is scored Very High without consideration of the individual sub-factors. Otherwise, the factor score is determined by the highest of the three sub-factor scores.

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, and we describe why they are meaningful as indicators in our GRI approach.

Likelihood of extraordinary support

Extraordinary support defined

Extraordinary support is the provision of financial support or other contractual protections to a GRI to avoid a default on its debt obligations. It may take different forms, including the provision of guarantees or cash injections, or actions that enhance the GRI's access to financing. Extraordinary support may be provided directly by a government or indirectly through third parties that are under government influence, such as emergency funding provided by banks. In general, extraordinary support encompasses any assistance provided outside of the ordinary course of business that enables a GRI to avoid a default, whether or not a default is imminent.

Ordinary support and extraordinary support

Many GRIs receive ordinary support, which we typically consider in the BCA. Extraordinary support is not captured in the BCA; rather, we consider extraordinary support in our JDA analysis and through any resultant uplift of the GRI's rating above its BCA. Our assessment of whether the type of support a GRI receives is ordinary or extraordinary is generally based on issuer-specific, idiosyncratic considerations.

Support that is ongoing, programmatic or very regular and is not aimed at the avoidance of default is generally considered ordinary. Examples of ordinary support include ongoing government equity injections to reach and maintain a targeted capital structure for the GRI; a government subsidy program that improves the affordability of purchasing that GRI's goods or services; or a government policy of limiting cash distributions from the GRI. Support that benefits many or all companies in the sector would generally be considered ordinary.

Ordinary support may also be provided less directly, e.g., through regulatory or legislative provisions. Examples of such provisions include legislation that confirms the GRI as the monopoly provider of a service, or banking regulation that encourages banks to provide greater liquidity to the GRI or its sector.

In our consideration of whether support is ordinary or extraordinary, we also typically consider the nature of the support, its source and its purpose. While extraordinary support may help to avoid a default, a government may not wait until default is imminent and may provide extraordinary support to avoid a potential default over a longer time horizon. Where a GRI's liquidity is stressed, we would generally consider a government cash injection to repay a GRI loan that matures a year later to be extraordinary support, especially if the government has not provided such support previously. As another example, a one-time or irregular payment that makes up for delayed remittances under a subsidy program would typically be considered ordinary support, especially if the payment comes from the same government department that normally pays the subsidy. However, if the payment comes from a different department (for example from the treasury department in a case where the normal payment comes from the agriculture department), it may indicate an extraordinary payment, especially where the payment timing indicates it was made to avoid financial stress at the GRI. In contrast, initial capital injections into a GRI or a recapitalization whose primary purpose is to permit expansion of the business or acquisition of another GRI would typically be considered ordinary support because their purpose is distinct from the avoidance of a default of the GRI.

Any government measure for the benefit of the GRI is counted only once as either extraordinary support or ordinary support. An expectation of continuing ordinary support does not constitute extraordinary support. However, a track record of the government providing ordinary support to a GRI may indicate a willingness to provide extraordinary support.

Governments may decide to provide extraordinary support to certain entities, even where they are not contractually obliged to do so, because of the strategic nature of the GRI. In other cases, governments may adopt more selective extraordinary support strategies and allow some GRIs to default. Such ring-fencing may help sustain long-term sovereign credit fundamentals but limits the credit quality of GRIs that a government chooses not to support to the level of their BCA.

Our extraordinary support expectations may be lower for GRIs in countries characterized by low policy transparency and predictability, where it can be difficult to assess government priorities in the absence of issuer-specific considerations that provide indications of a higher expectation of support provision.

Assessing extraordinary support

In assessing extraordinary support, we generally focus on three structural factors and three factors assessing the government's willingness to provide support. The structural factors address the legal, contractual and other structural indicators of the government's relationship with the GRI. The willingness factors address drivers of the government's willingness to provide extraordinary support to the GRI.

Structural factors

Factor: Guarantees, Statements of Support, Comfort Letters or Special Legal Status

Why it matters

Guarantees, statements of support, comfort letters or special legal status provide important indications of potential extraordinary support because they can demonstrate a contractual, moral or reputational commitment to support a GRI at risk of default. Guarantees, statements of support and comfort letters appear in different forms and are not standardized across jurisdictions. Special legal status indicates a higher level of extraordinary government support than the absence of such a status because the government generally has an easier path to prevent a GRI default.

How we assess it for the scorecard

We qualitatively consider the strength of guarantees, statements of support, comfort letters and special legal status provided to a GRI, which can vary based on their form and the jurisdiction in which they were provided.

GUARANTEES

In assessing guarantees, we consider the extent to which the government assumes the responsibility for a GRI's debt obligations in the event of a GRI default. A legally binding guarantee that covers all of the GRI's debt obligations in a timely manner is likely to result in a Very High score for this factor and can, irrespective of our consideration of other extraordinary support factors, lift the GRI's rating to that of the supporting government.[5] Where the guarantee applies to only a portion of a GRI's debt obligations, the GRI is likely to score High for this factor. The rating for the non-guaranteed portions of a GRI's debt may reflect a differentiation in the government's intention to support various classes of debt.

In some cases, our assessment of guarantees could result in an overall expectation of extraordinary support that isn't fully captured in scoring this factor, which we would reflect in our overall scoring of extraordinary support. For example, the presence of a government guarantee that covers almost all of the GRI's debt would likely result in a Very High overall Extraordinary Support score regardless of the scoring of other extraordinary support factors.

STATEMENTS OF SUPPORT AND COMFORT LETTERS

In assessing statements of support and comfort letters, we consider their individual characteristics, including the standing of the person or entity providing the verbal statement of support or comfort letter, the words used to describe the extent of support, the length of time since the verbal statement or comfort letter was provided and whether it was provided publicly or only to Moody's. For example, a clear verbal statement by a government representative (who is also a GRI supervisory board member), or a comment in the GRI's annual report that extraordinary support would be provided if needed would indicate strong extraordinary government support, as would a comfort letter published on a government website stating the government's intention to ensure that a sound GRI financial profile is maintained.

[5] Our cross-sector methodology that discusses guarantees, letters of credit and other forms of credit substitution provides information on our criteria for considering that a support document achieves credit substitution.

Conversely, a generic remark by a relatively junior government official to a journalist about the importance of the GRI to the government, or a weakly worded comfort letter, would receive a lower score.

Even the strongest verbal statements of support or the strongest comfort letters typically score lower than explicit guarantees because they do not provide creditors with a direct legal claim against the government.

SPECIAL LEGAL STATUS

We consider whether a special legal status may prevent the GRI from entering normal bankruptcy proceedings or whether it confers some responsibility on the government for the GRI's debts. For example, special legal status may apply to certain public entities in France that hold the status of an Établissement Public à Caractère Industriel et Commercial (EPIC), or that hold the status of an Ente Público in Spain. Such legal status suggests a higher level of support, as the government may take measures to avoid the uncertain chain of events arising from a default.

Factor: Government Ownership Level

Why it matters

The GRI's government ownership percentage is an important indicator of the likelihood of extraordinary support because less than 100% ownership by the supporting government could result in a delay or a withholding of extraordinary support if the owners are unable to agree to the terms and conditions of support. The percentage of direct government ownership may also provide indications of the importance of the GRI to the government and of the government's ability to exert influence over the GRI's governance, operations and financing.

How we assess it for the scorecard

GRIs that perform core government functions under an explicit public mandate but where the government may not have any ownership stake, such as universities or social housing providers, typically receive a Very High score or High score for this factor.

In all other cases, we consider the percentage of direct and indirect government ownership of a GRI, with 100% government ownership generally receiving a Very High score, and a minority government ownership generally receiving a Low or Moderate score. We also consider other aspects of ownership that may affect the government's ability to influence or control the GRI, such as the government owning a golden share, which gives it a decisive vote over certain GRI actions. We adjust the score for this factor up to two categories higher where the government has a golden share in the GRI.

We may also assess the potential for pre-existing agreements with other shareholders to mitigate uncertainty around the timing and willingness of the supporting government to provide extraordinary support. For more information on our approach for multiple owners, see Appendix 4. Also, we may consider whether a lack of direct government ownership of the GRI may indicate a lower likelihood of extraordinary support.

We consider any government plans for partial or full privatization of the GRI, in which GRI ownership is sold or transferred to a private company, and we also consider statements in favor of privatization and the extent of uncertainty around the outcome. The score for this factor may be lower if there are plans for privatization of a GRI because such plans may indicate that the GRI is of lesser importance to the government, and, therefore, less likely to be supported.

Factor: Barriers to Support

Why it matters

Legal or policy barriers to government support may indicate a reduced likelihood of extraordinary support for the GRI. For example, European Union (EU) competition rules generally prohibit the provision of preferential support to commercial entities. Government support may also be hampered by a legal requirement to involve the parliament or other institutions, which may affect the scope or timeliness of the support. In limited other cases, governments or other trading blocs can be subject to domestic law or other legal support restrictions.

How we assess it for the scorecard

We consider whether the legal framework or government policy may delay, limit or prohibit extraordinary support. A GRI whose supporting government is legally restricted from providing support is likely to receive an initial score of Low for this factor. However, a GRI may receive a higher final score if we assess that the government may not follow the rules. National governments in the EU have sometimes provided extraordinary financial support to GRIs despite EU rules prohibiting such support. In some jurisdictions, the provision of certain types of support, such as guarantees, may be prohibited by law but other forms of support, such as cash injections, may be permitted. In such cases, we consider the overall ability and willingness of the government to provide extraordinary timely support to the GRI.

Where there are no legal barriers to extraordinary support, no score is assigned to this factor.

Willingness factors

Factor: Government Intervention

Why it matters

A government may intervene in a GRI's affairs for ideological, political or socioeconomic reasons, and the nature and extent of government intervention provides important indications of the likelihood of extraordinary government support.

Core aspects of government intervention in a GRI are a history of government bailouts, government economic intervention, government direction of the GRI, business planning, and board appointment rights.

History of Government Bailouts

A history of government bailouts of GRIs is important because prior instances of the provision or withholding of extraordinary support can provide insights into future government decision-making.

Government Economic Intervention

A government's intervention in the economy provides important indications of its willingness to intervene to prevent a GRI from defaulting on its debt obligations.

Government Direction of the GRI

Government influence over a GRI's strategy or financial condition, through regulation or similar means, may provide an incentive for extraordinary support. An example of such government influence is a government explicitly designating a utility to implement domestic energy policy. Indirect control over a GRI's revenues and profits through, for example, the setting of tariffs, may also create a sense within government or externally that the government is responsible for the GRI's welfare.

Business Planning

Government involvement in the GRI's business or funding planning may indicate a greater propensity to provide extraordinary support by signaling a level of government responsibility for the GRI's financial condition.

Board Appointment Rights

The government's ability to appoint board members provides important indications of potential extraordinary support, which may be magnified by a disproportionate board representation relative to the government's ownership percentage.

How we assess it for the scorecard

Our assessment of government intervention is based on five sub-factors: History of Government Bailouts; Government Economic Intervention; and Government Direction of the GRI, Business Planning, Board Appointment Rights.

In our qualitative sub-factor assessments, we consider past government behavior, potential changes to such behavior based on the pronouncements and actions of the current government, our expectation of political and socioeconomic conditions, and government involvement in the affairs of the GRI.

HISTORY OF GOVERNMENT BAILOUTS

In our forward-looking assessment of what the history of government bailouts means for the likelihood of future bailouts, prior instances of the provision or withholding of extraordinary support provide important insights into government decision-making. In general, we consider governments that have provided extraordinary support to GRIs or private-sector companies in the past as more likely to do so in the future, and those that have allowed GRIs to default to be more likely to do the same. We also consider the circumstances under which the government provided or withheld extraordinary support and whether the experience may change officials' stance on future extraordinary support of GRIs, or whether the extraordinary support or lack thereof indicates a prioritization of certain types of GRIs over others.

In our assessment, we also consider the importance of the bailed-out entity to the government and the sector in which it operates. The pronouncements, policies and actions of the current administration may also inform our scoring. A GRI owned by a government that has a long track record of default prevention typically receives a Very High or High score, whereas a GRI owned by a government that has a track record of allowing GRIs to default typically scores Low for this factor. GRIs may receive Strong or Moderate scores where there is no track record of bailouts and there is some uncertainty around our expectations for support provision, for example, because of a change of government and a change of approach to the government-GRI relationship. Recent evidence of government bailouts (e.g., from the past five years) is generally more relevant to our assessment than bailouts from a more distant period.

GOVERNMENT ECONOMIC INTERVENTION

In assessing the level of government intervention in the economy, we typically consider the extent of state ownership of productive assets, government controls over economic activity, preferential schemes or discretionary sector policies.

We consider the extent of a government's political or ideological predisposition to intervene in the economy. We generally consider governments that play a significant role in the economy as more likely to support GRIs. Weakness in property rights and investment and financial freedom may also indicate an increased likelihood of the government intervening in the economy, which could be detrimental to creditors. Measures of economic freedom such as the Index of Economic Freedom, published annually by The Heritage Foundation, may inform our assessment. A high degree of economic freedom or a low government propensity to intervene in the economy typically results in no adjustment to the factor score. A large government role in economic activity and social matters through policy or extensive public control of productive resources likely receives higher scores for this factor.

GOVERNMENT DIRECTION OF THE GRI

In assessing the government's direction of the GRI, we qualitatively consider the extent of the government's influence over the GRI's financial condition, including whether it is economically or operationally regulated or has been tasked by the government with implementation of government policy in its sector.

BUSINESS PLANNING

We qualitatively consider the extent of government involvement in the GRI's business or funding planning. A GRI that is required to seek the supporting government's formal review and approval of its business or funding plans may receive a higher score for this factor than a GRI that has full autonomy over its operations and plans and executes its financing independently from its government.

BOARD APPOINTMENT RIGHTS

In assessing board appointment rights, we consider the extent to which the government has a right to appoint board members. A GRI whose board members are all appointed by the government may receive a higher score for this factor than a GRI whose board members are appointed by private-sector owners or by independent parties.

Factor: Impact on Borrowing Cost and Political Considerations

Why it matters

The potential impact of a GRI default on a supporting government's borrowing costs is an important indicator of the government's likelihood of support. The potential political costs of allowing a GRI to default may also provide important indications of extraordinary support likelihood.

Impact on Borrowing Costs for Government Following a GRI Default

A GRI whose default would result in increased borrowing costs for the government is more likely to receive extraordinary support than a GRI whose default would have a negligible effect on borrowing costs.

Political and Other Considerations

Political and other considerations provide important indications of a government's likelihood of extraordinary support for a GRI. A government may determine that political considerations outweigh the immediate financial costs of a bailout.

How we assess it for the scorecard

IMPACT ON BORROWING COSTS FOR GOVERNMENT FOLLOWING A GRI DEFAULT

In assessing this factor, we first qualitatively consider the extent to which a default by a GRI may lead to higher borrowing costs for the government or its related entities. A GRI whose default would have limited or no impact on the government's borrowing costs would likely receive an initial score of Low for this factor, and a GRI whose default would lead to significantly higher government borrowing costs would likely receive an initial score of High or Very High for this factor.

POLITICAL AND OTHER CONSIDERATIONS

In assessing political and other considerations, we consider any impact of political embarrassment or other political actions on our extraordinary support expectations. We may apply an upward adjustment to our initial score for this factor if a government is closely associated with the GRI, or where the GRI has a high national or international profile. Other political considerations, such as part of the GRI's debt or equity being held by politically relevant investors, such as public service pension funds, may also result in an upward adjustment to our initial score for this factor.

Factor: Economic Importance

Why it matters

A GRI's economic stature in its primary country of operations provides useful indications of a government's likelihood of supporting the GRI. Also important to the economic standing of a GRI are the political power of its workforce, the GRI's role in national security, the existence of viable competitors and the essentiality of its products and services.

How we assess it for the scorecard

In assessing this factor, we first qualitatively consider the economic importance of the GRI to the supporting government's economy. A GRI that is economically important to the supporting government, such as a monopoly provider of electricity, generally receives a High or Very High initial score for this factor, and a GRI that has limited importance to the government generally receives a lower initial score.

We may then adjust the initial factor score to reflect:

» a GRI having a very large workforce or if the workforce is politically influential;

» the risk of the GRI's default threatening military procurement or national security;

» the GRI being the sole provider of an important product or service, the provision of which could cease following a default; or

» the existence of viable competitors who could address demand if the GRI's operations ceased.

The adjustment is up to two categories higher for each of the first three sub-factors, and up to two categories higher or lower for competition. Where the initial factor score is Low, we rarely adjust the factor score to Very High.

The scorecard calculates an initial Extraordinary Support score before extraordinary support constraints based on an average of the scores for the six factors, equally weighting the factors that influence a government's decision to provide a bailout in most cases. In cases where there are no legal barriers to support, the Barriers to Support factor is excluded, and the average is calculated based on the remaining five factors.

Extraordinary support constraints

We may constrain our overall Extraordinary Support score at one category lower than the initial Extraordinary Support score if we consider the government's capacity to support its GRIs is constrained or if our ability to assess sovereign support is limited due to a lack of transparency and predictability of government policy.

Consideration of a government's ability to provide extraordinary support to its GRIs includes both the government's rating and the extent of extraordinary support that may be needed in times of stress. Irrespective of a government's rating, the government's ability to support may be constrained by a combination of balance sheet and off-balance sheet pressures, even though the government's general willingness to support may be strong. These constraints may arise or become evident in a time of stress when more GRI entities or other state-owned enterprises are likely to need extraordinary support. In such cases, governments themselves may have limited fiscal strength and be more likely to lack the capacity to support all the entities needing extraordinary support. Government priorities in such a scenario may be difficult to predict.

Important fiscal strength considerations in assessing a government's capacity to provide extraordinary support include its debt load, debt affordability, debt structure, off-balance sheet liabilities (including the size of contingent liabilities emanating from its GRIs) and fiscal buffers. Reduced economic or monetary flexibility, for example, in highly "dollarized" economies, are other considerations that may indicate a lower capacity to provide extraordinary support.

Institutional and government effectiveness and strength of the rule of law are important considerations in assessing extraordinary support, as are the efficiency and predictability of government actions and the extent of consensus on the country's political goals. For governments with weak institutions, assessing a likely response to GRI distress is typically more challenging because of limited policy predictability and transparency.

Our assessment of extraordinary support constraints begins with a country-level assessment of important fiscal strength considerations, and institutional and government effectiveness and strength of the rule of law. We then consider whether GRI-specific considerations warrant a different outcome than our country-level assessment indicates. We may, for example, consider that low transparency and limited policy predictability of a particular government indicates, for GRIs generally, an Extraordinary Support score constraint at one category below the outcome indicated by our scoring of the Extraordinary Support sub-factors. But, for a specific GRI, we could assign a final Extraordinary Support score at the same level indicated by our scoring of the extraordinary support sub-factors if the GRI's strategic importance to the government indicates a higher extraordinary support likelihood than our country-level view of transparency and policy predictability does.

Default dependence

Default dependence defined

Default dependence (dependence) reflects the joint susceptibility of a GRI and its supporting government to adverse circumstances that simultaneously move them closer to default, i.e., the extent to which their credit profiles are correlated.

Because the capacity of a supporting government to provide extraordinary support and prevent a GRI default is conditional on the government's solvency, a higher correlation between the two parties' default risks is an indicator that a government may have lower capacity to provide extraordinary support to a GRI at the point where support is needed.

If the default probabilities of a GRI and its supporting government are uncorrelated, i.e., their respective credit profiles are independent of one another, the likelihood that the two entities would simultaneously default is less than the probability of either one defaulting on its own. In contrast, if their default probabilities are correlated, i.e., their credit profiles are not independent of one another, there is a higher probability that the two entities may contemporaneously default.

Levels of dependence and how we assess it

In most cases, GRIs demonstrate moderate to very high degrees of default dependence with their supporting governments, which reflects the existence of meaningful institutional linkages and shared exposure to economic conditions.[6]

In assessing the level of dependence between a GRI and its government owner, we generally focus on three broad factors: the extent to which the GRI and government are operationally and financially linked; the extent to which the GRI and government rely on the same economic or revenue base; and the extent to which the GRI and government are exposed to common credit risks.

Dependence factor: Operational and Financial Linkages

Why It matters

Operational linkages between a GRI and government provide important indications of the default dependence between the two entities. A GRI operating as a commercial venture, with no operational or administrative ties to the supporting government, may possess a credit profile distinct from that of the government. However, GRIs with clear operational or administrative linkages to the government, such as an explicit and well-recognized mandate to perform a government responsibility, e.g., certain housing associations and universities, tend to have credit profiles that overlap with that of the government, indicating a very high level of default dependence.

Financial linkages between a government and GRI may also connect their credit profiles. For instance, a GRI's structural reliance on government transfers or subsidies, or a GRI's reliance on the government for a significant share of its revenue, may provide a channel through which financial stress is communicated between the government and the GRI. Likewise, in cases where the GRI contributes meaningfully to government revenue through very large dividends or royalties, financial pressure may be transferred between the two entities in a stress scenario.

How we assess it for the scorecard

In assessing the operational and financial linkages of a GRI, we consider three quantitative sub-factors: Direct and Indirect Government Transfers as a Percentage of GRI Revenue; Government Purchases as a Percentage of GRI Revenue; and GRI Payments to Government as a Percentage of Government Revenue (e.g., dividends, fees or royalties). However, where we consider the GRI to be an arm of the government, we score the Operational and Financial Linkages factor as Very High without consideration of the sub-factors.

DIRECT AND INDIRECT GOVERNMENT TRANSFERS AS A PERCENTAGE OF GRI REVENUE

The numerator is the annual amount of financial support extended to the GRI by the government. Direct and indirect government transfers can include grants received in the form of cash, other monetary or non-monetary assets, interest-free or below-market rate loans, waivers of expenses and other subsidies. We also qualitatively consider other forms of government-provided assistance whose fair value cannot be measured, such as tax credits, technical or marketing advisory services and guarantees. The denominator is the GRI's revenue.

GOVERNMENT PURCHASES AS A PERCENTAGE OF GRI REVENUE

The numerator is the amount of ongoing revenue from the sale of the GRI's products or services to the government. Examples of such sales include an oil exploration and production GRI selling refined oil and gas products to the government and a power utility GRI selling electricity to the government. The denominator is the GRI's revenue.

[6] Our cross-sector methodology that describes how the credit quality of a sovereign can affect other issuers provides more detail on the types of linkages that may create sources of credit contagion among governments and private sector issuers in a country.

GRI PAYMENTS TO GOVERNMENT AS A PERCENTAGE OF GOVERNMENT REVENUE

The numerator is the amount of payments and other benefits transferred by the GRI to the government. These transfers can be direct or indirect and can be in the form of dividends and other distributions, taxes, bonuses, royalties, license fees, concession payments, infrastructure improvements or production entitlements. The denominator is the total revenue of the supporting government.

Dependence factor: Reliance on Overlapping Revenue Base

Why it matters

The extent to which a GRI and government derive their revenue from the same economic base, which generally is the territory of the supporting government, provides important information on the extent of default dependence. For instance, a GRI with an international customer base and substantial overseas assets may not be exposed to the same revenue shocks as the central government, whose revenue is influenced predominantly by fluctuations in domestic economic performance.

How we assess it for the scorecard

The Reliance on Overlapping Revenue Base factor includes one principal metric, which addresses the extent to which both the supporting government and the GRI rely on the same economic base to generate revenue.

In considering the overlap in revenue bases between a government and a GRI, we focus on the extent to which the revenues of both the GRI and the supporting government are derived from within a common economic space, generally the government's territory. The level of overlap is estimated by comparing the percentage of each entity's revenue that is generated within the government's territory.

Where a meaningful portion of the government's revenue is derived from outside the territory, we further consider the overlap of revenues of the GRI and government generated from the same foreign territories.

Dependence factor: Exposure to Common Credit Risks

Why it matters

The extent to which the GRI and the supporting government are exposed to common credit risks is important in understanding default dependence. Core aspects of exposure to common credit risks are shared industry risk, foreign exchange risk in debt structure, and political event risk. For instance, depending on the structure of their debt obligations, exchange rate volatility may pose a common credit risk to the GRI and the government, causing their default probabilities to move in tandem.

Shared Industry Risk

Shared industry risk is important because where the industry in which the GRI operates contributes materially to the domestic economy, a major change in the macroeconomic environment or operating conditions of the industry would likely affect the credit profiles of the GRI and government concurrently. Such changes include commodity price movements, customer preference shifts, changes in demographics, technological advancement and inclusion or exclusion from international economic or trade agreements.

Foreign Exchange Risk in Debt Structure

Foreign exchange risk in a GRI's and government's debt structures is an important consideration because higher levels of foreign currency debt for both the GRI and government are generally linked with higher shared exposure to domestic currency depreciation and debt serviceability. Foreign exchange risk may be mitigated by natural hedges that provide foreign currency cash inflows to service a GRI's foreign currency debt, or may be mitigated by financial derivatives.

Political Event Risk

Domestic politics and geopolitics have the potential, in some countries, to lead to events such as asset expropriation or interference with contractual rights, political violence, or restrictions on currency conversion and transfer. These risks can reduce investor confidence in the GRI and its supporting government, concurrently lowering their creditworthiness.

In the context of developing economies, unstable political environments may lead to political event risk (e.g., a coup, revolution, civil strife or paralysis of the political system) with adverse consequences for creditors to both the GRI and the government.

How we assess it for the scorecard

In our qualitative assessment of this factor, we consider shared industry risk, foreign exchange risk in the GRI's debt structure, and political event risk.

The assessment of exposure to common risks may overlap with other dependence factors, such as where a GRI and government both rely on a similar industry or product (e.g., single commodity export).

SHARED INDUSTRY RISK

We consider the extent to which both the supporting government and the GRI rely on a common industry for their revenue. For the government, we assess the level of exposure by the industry's contribution to GDP or its revenue relative to government debt.

FOREIGN EXCHANGE RISK IN DEBT STRUCTURE

In assessing shared foreign exchange risk in debt structure, we consider the levels of foreign currency debt a GRI and its government hold. We consider that the government and GRI have a shared foreign currency risk where the GRI's and government's debt is denominated in a foreign currency, which exposes them to the risk of domestic currency depreciation and lower debt serviceability.

Where the value of a domestic currency is fixed to the foreign currency, a lower level of default dependence is likely if the fixed exchange regime has been maintained over many decades and we expect the fixed exchange rate to continue over the foreseeable future. Where the foreign currency is adopted as the official legal tender, we typically consider that foreign exchange risk has been eliminated because the revenue, costs and debt service are denominated in the same foreign currency for the GRI and government.

POLITICAL EVENT RISK

We qualitatively consider the domestic political risk and geopolitical risk a government encounters and the potential impact of these risks to the GRI's operations, for example, physical damage to the GRI's assets through civil strife or the exclusion from important markets abroad resulting from sanctions or boycotts. Our assessment of domestic political risk includes consideration of socioeconomic characteristics that could lead to discontent or division in society. We assess geopolitical risk by considering the extent of current or growing geopolitical tensions.

A GRI whose primary operations are geographically diversified across several international markets is likely to have limited exposure to domestic political events but may be exposed to geopolitical risks. Political risk insurance and payment guarantees by multilateral development banks can mitigate political risk exposure, as can joint ventures with local companies.

Other considerations

As described in more detail in the following section, the GRI scorecard-indicated outcome is expressed as an alphanumeric range of up to 13 notches. This range, as well as the overall Extraordinary Support and Dependence scores, are considered by rating committees in assigning ratings to GRIs.

Assigned ratings reflect idiosyncratic considerations that are specific to the GRI, the supporter and their relationship. Ratings may reflect consideration of additional factors that are not in the scorecard, or rating committees may consider that certain factors or sub-factors have greater or lesser weight than the scorecard weighting. Some of the qualitative considerations described in Appendix 3 regarding the differential, if any, between the rating of the supporter and the rating of the GRI may also be relevant to a GRI with a BCA.

Using the scorecard to arrive at a scorecard-indicated outcome

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 factor or sub-factor, and we describe why they are meaningful as credit indicators. When a factor comprises sub-factors, we score at the sub-factor level. Some factors do not have sub-factors, in which case we score at the factor level.

The information used in assessing the GRI scorecard sub-factors is generally found in or calculated from information in the company's financial statements, regulatory filings or data provided by the sovereign or sub-sovereign government. The information also may be derived from other observations or estimated by Moody's analysts. We may also incorporate non-public information.

2. Scorecard calculation of extraordinary support

After estimating or calculating each factor or sub-factor, the scorecard calculates an initial Extraordinary Support score based on an average of the scores for the six factors, equally weighting, in most cases, the factors that influence a government's decision to provide a bailout. In cases where there are no legal barriers to support, the Barriers to Support factor is excluded, and the average is calculated based on the remaining five factors. The initial support score may be adjusted downward (not upward) by one category based on our assessment of Extraordinary Support constraints, in order to arrive at an overall Extraordinary Support score.

For factors that we assess qualitatively, analysts select scores for individual factors that reflect the rationales discussed in previous sections in order to position the extraordinary support relative to national and international peers.

3. Scorecard calculation of dependence

After estimating or calculating each factor or sub-factor, the scorecard calculates a Dependence score based on the highest level generated by any one of the three factors, given the importance of any one of the three factors in influencing a shared exposure to credit risks.

For factors that we assess qualitatively, analysts select scores for individual factors that reflect the rationales discussed in previous sections in order to position the extraordinary support relative to national and international peers.

4. Scorecard-indicated outcome range

Once the Extraordinary Support score and Dependence score have been calculated, the scorecard uses additional JDA inputs, specifically the GRI's assigned BCA and the supporting government's rating, to generate a scorecard-indicated outcome. Appendix 6 provides some examples of potential scorecard-indicate outcome ranges based on the supporter's rating and the BCA of the GRI.

Key rating assumptions

For information about key rating assumptions that apply to methodologies generally, please see *Rating Symbols and Definitions.*[7]

Assigning issuer-level and instrument-level ratings

After considering the GRI scorecard-indicated outcome, other considerations and relevant cross-sector methodologies, we may assign an issuer-level rating, such as an issuer rating or corporate family rating (CFR), one or more instrument ratings, such as a senior unsecured rating, or both. Appendix 5 provides information on rating junior instruments, including hybrids, and senior secured instruments.

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[7] A link to *Rating Symbols and Definitions* can be found in the "Moody's related publications" section.

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 that can be used in most cases to approximate credit profiles of issuers that may benefit from support of a government owner and to explain, in summary form, many of the factors that are generally most important in assigning ratings to these issuers. 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 weights for each factor in the scorecard represent an approximation of their importance for rating decisions, but the actual importance of a particular factor may vary substantially based on a GRI's circumstances.

Factors that are outside the scorecard may be important for ratings, and their relative importance may also vary from GRI to GRI. Examples include evolving market dynamics and shifts in government attitudes toward prioritizing their obligations to creditors. In addition, certain broad methodological considerations described in one or more other cross-sector rating methodologies may be relevant to ratings.[8] Examples of such considerations include the following: how sovereign credit quality affects non-sovereign issuers, the relative ranking of different classes of debt and hybrid securities, and the assignment of short-term ratings.

As part of our forward-looking analysis, we may consider scenarios that include changes to the extraordinary support or Dependence scorecard inputs. 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 to GRIs. GRIs 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 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, industry competition, disruptive technology, or regulatory and legal actions. In any case, predicting the future is subject to substantial uncertainty.

8 A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.

Appendix 1: Technical overview of JDA

Conditional default probabilities

The probability that two parties will jointly default depends on (a) the probability that one of them defaults, and (b) the probability that the second will default, given that the first has already defaulted. Expressed algebraically, one can write:

(1) $P(A \text{ and } B) = P(A \mid B) \times P(B)$

Or equivalently,

(2) $P(A \text{ and } B) = P(B \mid A) \times P(A)$

We define A as the event "obligor A defaults on its obligations" and B as the event "obligor B defaults on its obligations." Likewise, "A and B" is the joint-default event "obligors A and B both default on their obligations." The implication here is that the default events occur simultaneously, but we require only that the timing be such that a holder of the supported obligation suffers credit loss within a specified horizon.

The operator P(•) represents the probability that event "•" will occur and P(• | *) is defined as the conditional probability of event "•" occurring, given that event "*" has occurred.

Moody's ratings can be used to infer directly the probability that a particular issuer will default (P(A) and P(B)). Moody's ratings are defined as ordinal (or relative) measures of default risk and not in terms of cardinal (or absolute) default rates. However, as long as ratings can provide a constant measure of relative default risk, with actual default probabilities rising and falling proportionately by rating category over a credit cycle, the methods proposed here will produce logically consistent measures of jointly supported ratings.

But in order to estimate the conditional default probabilities P(A | B) and P(B | A), one must take into account the relationship between the drivers of default for both obligors. Each of these four probabilities – P(A), P(B), P(A | B) and P(B | A) – are intended to represent unsupported risk measures. That is, they represent the likelihood of an obligor default in the absence of any joint extraordinary support or interference.

Although this problem can, in theory, be tackled directly by estimating either one of the conditional default probabilities described in equations (1) and (2), it may be more intuitive to focus on the product of the conditional probability of default for the lower-rated, or supported, firm and the unconditional probability of default for the higher-rated, or supporting, firm. Using L to denote the event "lower-rated obligor L defaults on its obligations" and H to denote "higher-rated obligor H defaults on its obligations," we can rewrite equation (1) as:

(3) $P(L \text{ and } H) = P(L \mid H) \times P(H)$

It is not difficult to imagine situations where the conditional probability P(L | H) might be at its theoretical maximum (i.e., 1) or at its minimum (i.e., P(L)). Technically, the conditional default probability P(L | H) could be as low as zero, a situation which would occur if the default correlation between the two obligors was at its theoretically maximum negative value. However, throughout this discussion, we follow the standard practice of ignoring the highly unlikely possibility that the default experience of the two obligors will be negatively correlated.

Let us consider these extreme outcomes in turn by way of example.

P(L | H) = 1. Suppose that the financial health of an issuer is crucially linked to the operations of another, higher-rated entity. For example, the default risk of a distributor in a competitive distribution market dominated by a single supplier may be highly dependent on the financial health of that supplier. In other words, the conditional probability of the distributor's default given a default by the higher-rated supplier, P(L | H), is equal to one. In this case, events L and H are maximally correlated. Under such a scenario, the joint default probability P(L and H) in equation (3) above is simply P(H). That is, the rating applied to such jointly supported obligations would equal the supplier's rating, without any ratings uplift, regardless of issuer L's standalone rating. The use of the term "correlation" applies to default events that follow a binomial distribution and should not be confused with potential correlation in rating transitions (or default intensities). When the default profiles of two obligors are maximally correlated, P(L | H) = 1 and P(H | L) = P(H)/P(L). That is, the weaker entity always defaults when the stronger entity defaults, and the stronger entity will only default if the weaker entity also defaults. This leads to the result P(H | L) = P(H)/P(L). Note that maximum correlation will be less than 1 in cases where obligors have different ratings.

P(L | H) = P(L). Suppose a highly rated European bank provides a letter of credit to a lower-rated agribusiness in the US. While there may be circumstances in which the agribusiness might face financial difficulties on its own, its intrinsic operational health is generally unrelated to the circumstances that might lead the European bank to default on its obligations. Under this scenario, the conditional probability of a default by the agribusiness, given a default by the bank – i.e., P(L | H) – is simply the standalone default risk P(L) of the agribusiness. That is, events L and H are uncorrelated and independent of one another. In this case, their joint-default probability is the product of their standalone default probabilities, P(L)*P(H). The jointly supported obligation rating implied by such a relationship is generally higher than the rating of the supporting entity H.

In practice, the conditional default risk of the lower-rated entity, given a default by the stronger entity, will vary somewhere between these two extremes, maximum correlation (i.e., where P(L | H) = 1) and independence, (i.e. where P(L | H) = P(L)).

Intermediate levels of correlation

We propose here a simple tool for modeling intermediate cases of default risk linkage. Let us denote the variable W as a correlation weighting factor, where W = 1 corresponds to a maximum theoretical correlation between the default of the lower-rated entity and that of the higher-rated entity; and W = 0 corresponds to a complete independence (i.e., zero correlation) between default events. Fractional values of W indicate intermediate levels of correlation between the two default events.

Using the correlation weighting concept, we can express the joint-default probability between obligors L and H as:

(4) P (L and H) =W* P(L and H | W=1) + (1-W)* P(L and H | W=0)

Or more compactly,

(5) P(L and H) = W*P(H) + (1 - W)*P(L)* P(H)

In other words, once we have determined standalone ratings for the two obligors, the task of assigning a rating to a jointly supported obligation may be reduced to the assignment of a correlation weight.

Partial extraordinary support

In many cases, an obligation benefits from external extraordinary support, but that support falls short of an iron-clad guarantee. Examples include bonds issued by a weak subsidiary of a relatively strong parent firm, or bonds issued by an issuer with partial government ownership. In the latter case, the government's incentive to bail the issuer out, should it run into difficulties, may be a function of the share of government ownership or of the importance of that issuer to the national economy.

It is helpful to think of the two extreme situations in which an investor faces losses. The first is where the issuer of the obligation defaults and there is no external extraordinary support. The probability of this event occurring is simply P(L), the probability that issuer L will default on its own. The second is where there is full extraordinary support, but both the issuer and the support provider default on their obligations. As above, this is given by P(L and H). The degree of extraordinary support can also be thought of as a probability and can therefore vary between 0 and 1. We model the risk to the investor as a shifting probability between the two risk outcomes P(L) and P(L and H):

(6) P(L and H | S) = (1-S)*P(L)+S*P(L and H)

Here, the weighting parameter S represents the likelihood of extraordinary support. Full extraordinary support (i.e., S = 1) leads to the joint default outcome and no extraordinary support (i.e., S = 0) yields the standalone default risk of the obligor, P(L).

Appendix 2: Top-down assessment of support

The approach described in this appendix is distinct from the concept of credit substitution in assessing guarantees and other similar forms of contractual support.[9]

Alternative approach: Top-down assessment of support

A GRI's BCA reflects the risk of loss for investors if extraordinary support from the government does not materialize. Therefore, we assign a BCA where it is possible to do so and where the BCA is meaningful. However, it is not possible or meaningful to assign a BCA in every case. In certain cases, we may use a top-down assessment that primarily addresses the ability and willingness of a government to provide timely extraordinary support, rather than the standard, bottom-up approach of assigning a BCA and then considering uplift toward the government's rating.

Where we consider that most of the characteristics of GRIs assessed using the top-down approach outlined below are met, we may use a top-down approach to assess extraordinary support as follows:

» For sub-sovereign and financial corporate GRIs that have a clear public policy mandate and where a meaningful BCA cannot be derived;

» For nonfinancial corporates in rare instances where (i) the GRI is so inextricably linked to the government that a BCA cannot be derived, or (ii) our rating approach is analytically driven by our expectation of extraordinary support regardless of the GRI's standalone credit quality.

In cases where it is not possible to derive a BCA and our assessment of extraordinary support and integration indicates that a top-down assessment is not appropriate, we may be unable to assign a rating.

Characteristics of GRIs assessed using the top-down approach

A GRI assessed using a top-down approach typically exhibits most of the following characteristics:

» The GRI has a very close and enduring alignment of interests and objectives with the government, often with a clear public policy mandate or license to perform a strictly limited set of public interest or strategically important functions, generally as a monopoly supplier or operator.

» The GRI is subject to special legislation governing it, has a special legal status that confers protections such as a carve-out from normal bankruptcy procedures or is subject to statutory provisions transferring its obligations to the government on dissolution, which would make a separate winding up difficult to orchestrate.

» The GRI is a government agency or is wholly owned by the government. However, where we believe there is a meaningful likelihood of the GRI being partly or fully privatized, we would generally not apply a top-down assessment.

» The GRI's governance, financing and operations are subject to very strong government oversight, and all key policies and decisions are ultimately dictated by the government. Examples of very strong government oversight include government approval of operating or capital budgets or for the issuance of debt. Government influence is exerted, for example, through the appointment of GRI board members and management or through frequent and extensive reporting requirements to the government. The GRI's operations and finances are inextricably intertwined with those of the government. The provision of financial or logistical resources to the GRI is considered a normal exercise of government.

» The GRI's default would substantially damage the government's own credit standing and would impair its ability to reach the policy objectives it had assigned to the GRI.

[9] For more information on the credit substitution approach, see our methodology for guarantees, letters of credit and other forms of credit substitution. A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.

Characteristics of a GRI equalized with the supporter's rating following a top-down assessment

The rating of a GRI assessed using the top-down approach would generally only be equalized with that of the government where we have a near certain expectation of timely extraordinary support. The presence of several of the following characteristics would support such an expectation.

» We consider it extremely unlikely that the government would prioritize repayment of its own debt above that of the GRI, and it would treat the GRI's debt as effectively pari passu with its own debt in all circumstances. The government's institutional and fiscal strength are very strong and the government has provided strong assurances that the GRI's credit quality is almost indivisible from its own. The risk of government prioritization of repayment of its own debt above that of the GRI may be higher for relatively lower-rated (A-range or below) governments, which may result in the GRI's rating not being equalized with that of the government.

» The government would incur extremely high reputational damage if the GRI defaulted, which would severely undermine market confidence in the government. Reputational damage would likely be higher where the GRI is widely considered a public policy arm of the government with close oversight by, and operational integration with, the government, or where senior officials have recently made clear policy commitments to provide extraordinary support where needed. Reputational damage would also likely be more significant for higher-rated (Aaa or Aa) governments as their capacity to provide extraordinary support is generally undoubted. In our assessment, we distinguish between the impact of a GRI defaulting on its debt and the cessation of the GRI's activities, as there have been many examples of companies continuing to provide critical services, such as electricity supply, while in default.

» Legislation requires the government to provide extraordinary support, if necessary, even in the absence of an explicit guarantee. Those requirements most likely complement clearly worded letters of comfort (which would, alone, rarely justify rating at par).

» The GRI controls essential assets that the government would not allow to fall under the control of creditors and would not conceivably privatize. Or, the GRI performs a vital role in the functioning of the economy that could not be provided by the private sector at an acceptable cost, and where a default would materially interfere with the GRI's operations. Examples of such GRIs include infrastructure owners and operators of national assets such as railways and national defense contractors, and financial institutions that perform a key role in channeling funding to critical parts of the public sector or the economy. In such cases, the government typically has at least a majority ownership of the GRI to ensure it has control over it.

Considerations for assigning ratings lower than the supporter's rating following a top-down assessment

Absent a formal guarantee, certainty of extraordinary support is generally never 100%. While many GRIs rated using the top-down approach are rated at the same level as the supporter, we may assign GRI ratings that are one or two notches below the government's rating to reflect support uncertainty. In rare cases, the GRI could be rated more than two notches below the government's rating.

Where there is a less than near-certain expectation that a government supporter will place payment of the GRI's debt obligations at an equal priority with paying its own obligations, we may assign GRI ratings that are below the government's rating, and the ratings differential reflects the support uncertainty. Since top-down GRIs inherently have a very close and enduring alignment of interests and objectives with the government, they are typically rated one or two notches below the supporter. However, in some cases, the GRI could be rated more than two notches below the government's rating, reflecting a greater level of uncertainty or indications of waning support.

We qualitatively consider the priority the government would ascribe to supporting the GRI, including a scenario where both the government and the GRI were confronted with severe financial distress, and whether extraordinary support to the GRI would exacerbate or diminish the stress on the government. In this scenario analysis, we typically also consider the other GRIs that may require extraordinary support from the government, and their relative importance to the government. We also consider how essential the activities of the GRI would be to the post-failure recovery of the government and whether a default would impair the GRI's core activities or whether they could continue in a default scenario or could be performed by private-sector entities.

In assigning ratings to junior instruments or senior secured instruments of GRIs assessed using the top-down approach, we make notching decisions from the senior unsecured rating using the guidance described in our cross-sector methodology on loss given default for speculative-grade nonfinancial corporates and our cross-sector methodology for notching corporate instrument ratings based on differences in security and priority of claim,[10] or guidance found in the relevant sector methodology.

[10] A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.

Appendix 3: GRIs with multiple government owners

Our extraordinary support assessment for multiple owners addresses the increased risk of supporters not acting in a timely manner to prevent a GRI default due to their unwillingness or inability to provide extraordinary support on terms acceptable to all parties. A majority owner may have more to gain than a minority shareholder from providing extraordinary support, but the majority owner may be less willing to provide extraordinary support if other owners are unwilling or unable to do so. Similarly, if the largest owner is unwilling or unable to provide extraordinary support, the incentive and propensity for other owners to do so is likely be very low.

Where we consider that two or more government owners would act jointly to provide extraordinary support to a GRI in a timely manner because there is a track record of extraordinary support provision or other indications that extraordinary support would be forthcoming (e.g., the government owners are bound by joint-and-several liability or by a shareholder agreement) we generally consider the GRI's government ownership percentage to be the sum of the supporters' shareholdings, and the supporter rating to be the supporters' weighted average rating.

Our approach varies depending on the size of each government ownership stake in cases where there is uncertainty that two or more government owners would act jointly to provide extraordinary support, as follows:

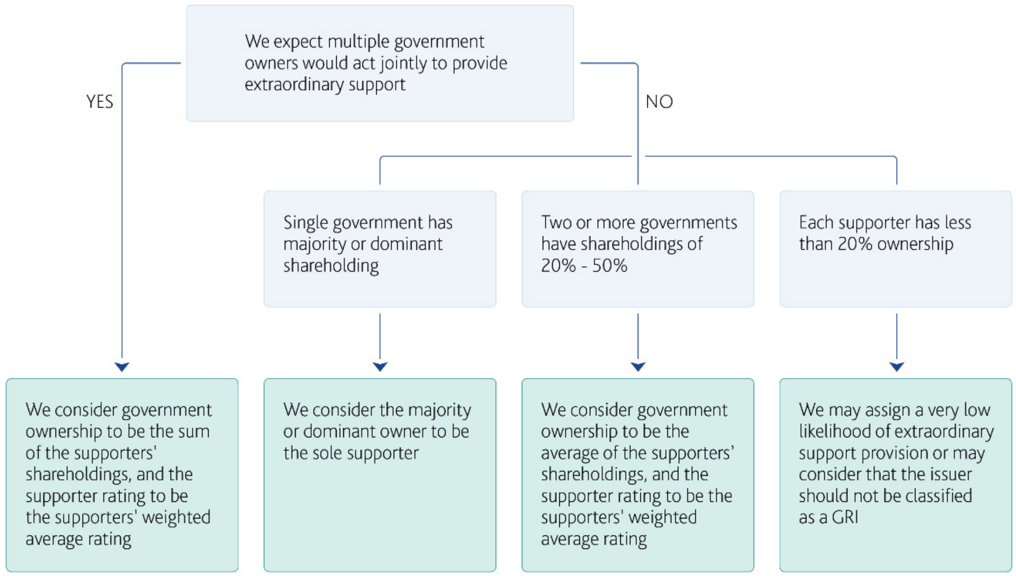
» Where a single government has a majority shareholding or dominant shareholding (i.e., where one owner has a significant but not majority shareholding, and the other government owners have relatively small ownership stakes and potentially unaligned interests) of a GRI, and there is no track record or other indications that they would act jointly to provide timely extraordinary support, we typically consider the majority or dominant owner to be the sole supporter.

» Where two or more governments have shareholdings of between 20% and 50% but there is no dominant shareholder, we generally consider the GRI's ownership percentage to be the average of the percentage shareholding of each supporting shareholder, and the rating used in GRI scorecard is generally the weighted average rating of the government supporters.

» Where a GRI has fragmented government ownership (e.g., each supporter has less than a 20% share of the GRI), we typically consider that without a track record of extraordinary support provision, a shareholder agreement or other indications that the government owners would agree to provide timely extraordinary support, there is a very high risk that sufficient, timely extraordinary support would not be provided. In such cases, we may ascribe a very low likelihood of extraordinary support provision and thus no ratings uplift above the BCA, or we may consider that the issuer should not be classified as a GRI.

Exhibit 3

Approach for multiple government owners



Source: Moody's Investors Service

Our approach for GRIs that have private (i.e., non-government and non-GRI) owners follows the approach outlined above, except that we do not consider private owners as supporters for the purposes of this methodology. We may consider the impact of their shareholdings on our extraordinary support expectation qualitatively, which could be credit positive or negative.

Appendix 4: Rating junior instruments, including hybrids, and senior secured instruments

Our rating approach for junior instruments, including hybrids, issued by GRIs recognizes that in providing extraordinary support to a GRI's senior debt, the government may incidentally also support the junior instruments.

The starting point for rating a GRI's junior instruments is normally its BCA. We make notching decisions from the BCA using the guidance described in our cross-sector methodology on loss given default for speculative-grade nonfinancial corporates and our cross-sector methodology for notching corporate instrument ratings based on differences in security and priority of claim,[11] or guidance found in the relevant sector methodology. We then consider uplift to each instrument issued by the GRI (e.g., senior unsecured, senior subordinated, junior subordinated) based on the likelihood of extraordinary support from the government for that instrument. In general, there is likely to be a greater differential in the likelihood of extraordinary support among instrument types for issuers in regulated sectors, where the regulator can impose losses prior to default.

Because governments own equity stakes in GRIs, they often provide extraordinary support in a form that restores the viability of the entity as a whole (not just the senior unsecured debt), supporting the value of the government's equity stake. Support measures that are sufficient to shield senior unsecured debt from default will, in most cases, benefit hybrids and other junior instruments, although not necessarily to the same extent. As a result, our estimate of the likelihood of extraordinary support is usually somewhat lower for a GRI's hybrids and other junior instruments than for its senior unsecured debt.

The downward notching typically applied based on the subordination and other contractual terms of a GRI's hybrid instruments usually results in their ratings being below its BCA.

In unusual circumstances where we consider a government owner would be exceptionally likely to provide extraordinary support in ways that do not meaningfully distinguish between senior unsecured debt and junior instruments, we may attribute the same likelihood of extraordinary support to both. In such circumstances, the hybrid instruments could be rated as high as one or two notches below the senior unsecured debt, which may be equal to or higher than the BCA. The rating differential between the two classes of debt in such cases would reflect a lower expected recovery on the junior instruments. For hybrid instruments with features that lead to impairment ahead of a more general default of the issuer, it could also reflect a higher probability of default.

In assigning ratings to senior secured instruments, we make notching decisions from the senior unsecured rating using the guidance described in our cross-sector methodology for notching corporate instrument ratings based on differences in security and priority of claim,[12] or guidance found in the relevant sector methodology.

11 A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.

12 A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.

Appendix 5: Rating public pension managers

This appendix provides supplementary information regarding the analytical considerations that are generally most important in assigning ratings to public pension managers, without assigning a BCA, primarily based on extraordinary support from a sovereign or sub sovereign government. In cases where we do have sufficient information to assign a BCA, we would use the methodology for public pension managers to arrive at a BCA[13] and our JDA framework to incorporate extraordinary government support.

Public pension managers include both public pension funds, which are responsible for administering plan contributions and benefits as well as investment management, and public pension reserve funds, which are responsible for investment management but are not responsible for administering plan contributions and benefits.

Public pension plan sponsor/supporters are sovereign or sub-sovereign governments. In the context of our analysis of public pension funds, we use the term sponsor to refer to the participating governments (employers) of the employees (plan members or pensioners) who will receive pension benefits. The term supporter refers to the sponsor(s) or other governmental entities involved in funding/maintaining pensions or pension contributions whom we view as likely to provide extraordinary support to these government related issuers.

Ratings are not assigned to the underlying pension benefit obligation, but instead to the debt, guarantees or general obligations (for instance under hedging agreements) that public pension managers enter into as part of their investment and liability management strategies. We may also assign issuer ratings or Counterparty Risk Ratings (CRRs).

CRRs are opinions of the ability of entities to honor the uncollateralized portion of some non-debt counterparty financial liabilities (CRR Liabilities) and also reflect the expected financial losses in the event such liabilities are not honored.[14] In most cases, the CRR would be assigned at the same level as pension fund's senior unsecured rating or issuer rating, reflecting our expectation that these issuers would most likely be subject to a normal insolvency process and therefore financial liabilities covered by the CRR would have similar expected loss as senior unsecured debt obligations. To the extent that a public pension fund's circumstances cause us to have a view that the probability of default or loss given default of CRR liabilities would be materially different from senior unsecured debt, CRRs would reflect those differences.

As more fully described below, in cases where we do not assign a BCA, the typical starting point of our rating analysis for public pension managers is the sponsor/supporter's long-term issuer rating. In cases where a public pension manager's rated obligations have a clear and sustainable priority of claim over its obligations to make pension payments,[15] the rating for the public pension manager may be higher than the rating for the sponsor/supporter. Upward notching from the sponsor/supporter rating is limited to three notches and is based on the size of the layer of subordinated claims relative to the senior rated obligations (based on the leverage ratio), and the funded status of the pension liability (based on the funding ratio).

Certain other considerations may result in downward notching, with no limit. Weaknesses in the legal framework, pension funding flexibility, governance, or political independence may negatively affect the public pension manager's rating.

Key rating considerations for public pension managers without a BCA, rated based on extraordinary support

Typical starting point is the sponsor / supporter's rating

Public pension managers are entities that are often very closely integrated into public sector operations and finances or that have a close and enduring alignment of interests and objectives with public sector entities. In cases where we do not assign a BCA, the typical starting point of our rating analysis is the sponsor/supporter's long-term issuer rating (which typically corresponds to its senior

13 A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.

14 Please see *Rating Symbols and Definitions* for more information on CRRs and CRR Liabilities. A link can be found in the "Moody's related publications" section.

15 Please see the "Priority of claim" section.

unsecured rating). In the context of our analysis of public pension funds, we use the term “sponsor” to refer to the participating government or governments who are the employer(s) of the plan members who will receive pension benefits. The term “supporter” refers to the sponsor(s) or other governmental entities involved in funding/maintaining pensions or pension contributions that we view as likely to provide extraordinary support to these government-related issuers. In many cases, the sponsor and the supporter are the same entity.

In many cases, the link between the sponsor/supporter’s rating and the pension manager’s rating is very strong, because of the alignment of interests and because the monies that are deposited into the pension fund are raised from the same economic base that underpins the sponsor’s other revenues. Even where public pensions are fully funded relative to the net present value of their future obligations to current employees and retirees, sponsors/supporters typically also provide contributions to fund obligations related to future service for current and future employees. Actuarial assumptions can vary widely, including with respect to future pension obligations, discount rates and future rates of investment return. We may use different assumptions than those reported by the pension plan. To the extent a public pension becomes less than fully funded, these contributions would typically need to increase over time to meet future obligations, unless the obligations are reduced or the government is willing for a portion of future benefits to be paid from its general revenues.

In our assessment, we typically consider how the legal priority of claim affects the credit risk of the public pension manager’s rated obligations relative to the sponsor/supporter’s rating (which may result in upward notching or a downward adjustment), and then consider various other factors relating to the public pension manager’s stand-alone financial strength, management track record, and independence from the sponsor/supporter. These other factors may lead to downward adjustments relative to where the rating would otherwise be assigned considering only the sponsor/supporter’s rating and the priority of claim. Even in cases where there is rating uplift based on an expectation of higher recoveries due to legal priority of claim, such downward adjustments may partially or fully offset such uplift, and they may cause a public pension fund manager’s rating to be lower than the sponsor’s rating.

As the ratings of sponsors/supporters and public pension managers move down the rating scale, it may be possible to distinguish their relative default probabilities or expected relative recoveries in a more meaningful way. For instance, a sub-sovereign in a stress scenario may take actions that provide insights into which of its various spending priorities will receive precedence (e.g., payments to pension beneficiaries, general obligation debt service, debt service of the pension fund or funding for general governmental services). The sub-sovereign’s prioritization may affect relative default probabilities and expected recoveries. In these cases, we would continue to consider how legal priority of claim would affect expected recoveries.

In the sections below, we discuss certain sector-specific considerations that may result in a rating that is higher or lower than the sponsor/supporter’s rating. The same broad rating factors that apply to all GRIs, including extraordinary support and dependence, also apply to public pension managers. In addition, the principles discussed in Appendices II, III and IV are useful in considering the placement of a public pension manager’s rating relative to its sponsor/supporter’s rating.

Considerations for upward adjustments

We may rate a public pension manager higher than the rating of its sponsor/supporter based on considerations related to priority of claim and materially different probabilities of default.

Priority of claim

The expected priority of claim of a public pension manager’s rated obligations (typically, its debt) relative to its other obligations (typically, pension benefit obligations) is an extremely important rating factor that strongly affects loss and recovery rates in a default scenario and can also provide insights into the sponsor/supporter’s priorities.

Assessing the existence and sustainability of priority of claim

Our view of the priority of the public pension manager’s rated obligations to its obligations to make pension payments is typically informed by stated legal priority, while also taking into account precedent and our expectations of how governments may act to favor pension beneficiaries or creditors in a stress scenario.

Because there is almost always significant political and economic incentive for a pension sponsor to place a high priority on the payment of pension benefits to retirees, meaningful priority of claim for rated debt obligations (also called creditor preference) can usually only be established by statute or decree enacted at a higher level of government (e.g., a national statute where the sponsor/supporter is a sub-sovereign). Because the sovereign generally controls the legal framework, the application of upward notching from a sponsor/supporter's rating is typically limited to cases where the sponsor/supporter is a sub-sovereign. Similarly, where priority of claim is established under the law of the sub-sovereign, (e.g., a US state), we would not apply upward notching if that sub-sovereign is the sponsor/supporter of the pension manager. Strong rule of law and an independent judiciary that enforces creditor rights are also important. Precedent may also play a role. A precedent of any contravention or ineffectiveness of creditor preference would be a very meaningful negative indicator. In the absence of statutory creditor preference, the precedent for creditor preference would need to be well established and consistent for us to consider that there is a sustainable priority of claim.

Potential for upward notching based on sustainable priority of claim

Where priority of claim for rated obligations is clear and sustainable, the upward lift relative to the sponsor/supporter's rating is based on (i) the size of the layer of subordinated claims in proportion to the rated claims (based on the leverage ratio) and (ii) the pension funding position (based on the funding ratio). Both of these considerations are important because a default can be primarily liquidity-driven (i.e., a scenario of a liquidity crisis with a high pension funding ratio, where creditors would likely obtain the full benefit of the subordination layer), or it can be primarily insolvency-driven (i.e., a default scenario with a low pension funding ratio, where maintaining creditor preference in bankruptcy proceedings would likely entail reducing future benefits to pension-holders). Government-sponsored plans are often established for a large portion of the sponsor's public sector workforce, and imposing losses on such a group in order to keep institutional investors whole in a default scenario would likely be politically difficult. The courts that administer insolvency proceedings often have considerable leeway in resolving claims. As a result, the likelihood that creditors would be placed before pension beneficiaries diminishes as the funded status of the plan deteriorates. Thus, in addition to considering the legal priority of claim and the size of the layer of subordinated claims to assess the potential for upward notching, we also consider the pension manager's funding position, which can limit the potential upward notching.

Leverage ratio. The numerator is total senior obligations, and the denominator is total assets. In calculating or estimating the ratio, we incorporate applicable adjustments described in our cross-sector rating methodology that discusses financial statement adjustments in the analysis of financial institutions.[16] We may make additional adjustments, for instance to reflect specific provisions in the public pension manager's counterparty netting agreements. For notching, we use a forward-looking, sustainable leverage ratio that is informed by the recent historical ratio based on the pension manager's financial statements and other public disclosures. We also consider developments that could have a material impact on the ratio, and the ratio's trend. We may make additional adjustments, for instance to reflect specific provisions in the public pension manager's counterparty netting agreements. For notching, we use a forward-looking, sustainable leverage ratio that is informed by the recent historical ratio based on the pension manager's financial statements and other public disclosures. We also consider developments that could have a material impact on the ratio, and the ratio's trend.

Funding ratio. The funding position is calculated or estimated as the ratio of net assets to the projected benefit obligation (PBO). The numerator is net assets, calculated as total assets minus debt and debt-like obligations. The denominator is PBO, which we calculate as the present value of accrued benefits, using a discount rate based on market interest rates for high-grade, taxable securities similar in duration to pension benefits.[17] For US and Canadian pension managers, we use the FTSE Pension Liability Index (FTSE PLI). The actual index used could change, for example if the FTSE PLI were no longer available. In the event that the index used for US pension funds changed, it is likely that we would use the same index for Canadian pension funds. For funds outside of the US and Canada, we would use a publicly available, representative index. This approach yields a point-in-time liability measurement of the market value of pension promises that is comparable across reporting entities for the purpose of balance sheet analysis. For notching, we use a forward-looking, sustainable funding ratio that is informed by the recent historical ratio based on the pension manager's financial statements and other public disclosures. We also consider developments that could have a material impact on the ratio, and the ratio's trend. For example, where there is a material amount of non-recourse debt and we consider that the pension manager is unlikely to provide extraordinary

16 A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.

17 For more information, please see our methodology that describes our adjustments to US state and local government reported pension data. A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.

support if the underlying project encounters financial or operational difficulty, or where we consider that a material amount of off-balance debt will crystalize as a liability for the pension manager, we may adjust the numerator accordingly.

For pension managers that only manage pension assets (i.e., reserve funds), the funding ratio score typically incorporates our view of the plan's funding ratio if we were to calculate Net Assets / PBO including our estimate of the portion of the sponsor's projected benefit obligation that we believe the reserve fund will be expected to meet.

Combining the ratios. We use the table in Exhibit 4 to combine the leverage and funding ratio results to arrive at the upward notching that is typically applied. A public pension manager's rating can be up to three notches higher than the sponsor/supporter's issuer rating but would ultimately be constrained by the sovereign rating. In addition, even if it is eligible for upward notching based on priority of claim, a public pension manager's rating may be constrained by its legal framework, pension funding flexibility, or governance and political independence, as described in the following section.

Exhibit 4

Indicative notching guidance*

		Leverage Ratio (%)		
		≤ 10	10 - 25	> 25
Funding Ratio (%)	> 90	3	2	1
	70 - 90	2	2	1
	50 - 70	2	1	0
	≤ 50	0	0	0

* The table describes Indicative upward notching for pension managers where we assess that creditors have clear priority of claim over pension beneficiaries.

Source: Moody's Investors Service

Potential for upward adjustment in the absence of priority of claim

Clear, sustainable priority of claim is a pre-requisite for rating a public pension manager above its sponsor/supporter, except where (i) the sponsor/supporter has relatively low ratings; (ii) the pension fund manager has a standalone profile that is stronger than the sponsor/supporter's credit profile; and (iii) there is clear indication that likelihood of default for the public pension manager is meaningfully lower than for the sponsor/supporter.

Considerations for downward adjustments

In the following sections, we describe some considerations that may result in downward adjustments relative to where the public pension manager's rating would be considering only the sponsor/supporter's rating and the priority of claim.

Impact of a preferred status for pension benefit obligations

In cases where the legal priority of claim of rated obligations is subordinate to other preferred obligations (especially pension fund payments, since they usually represent the bulk of liabilities), rated obligations are generally multiple notches below the sponsor/supporter's rating.

In cases where the legal priority of claim of rated obligations and other obligations (including pension payments) are pari passu and we consider that the treatment in default will also be pari passu (i.e., the stated priority is the same as the de facto priority), there is usually no downward notching from the sponsor/supporter's rating based on priority of claim. However, if we consider that rated obligations will be treated as subordinate in an event of default, even if the stated priority of claim is pari passu or senior to other obligations (i.e., de facto subordination), rated obligations are generally multiple notches below the sponsor/supporter's rating.

In addition to the stated priority of claim and our expectations of the de facto priority of claim, we may also consider how the actions of the sponsor could affect the relative likelihood of default of rated obligations and pension obligations. If we consider that the sponsor will prioritize the payment of pension obligations over the public pension fund's debt, ratings may be many notches below the sponsor/supporter's rating.

Legal and organizational framework

As described above, public pension funds directly manage risks stemming from the obligation to provide recurring benefit payments to retirees. A public pension reserve fund manages funds on behalf of the government entity that is its sponsor and client rather than the ultimate beneficiaries, and the sponsor retains responsibility for benefit payments. Public pension reserve funds thus have a different legal status vis-a-vis the pension obligation. Nonetheless, whether that benefit obligation resides with the public pension manager or the sponsor, there is a strong expectation that the public pension manager will manage invested assets successfully and prudently, and the difference in legal status would typically only be meaningful to ratings in scenarios of sponsor stress or distress where it becomes clear that this legal distinction will be upheld.

We may consider how political and practical considerations could affect the respective responsibilities of the pension manager and the sponsor. A legal or organizational framework that is unclear, evolving or expected to evolve could weigh negatively on the public pension manager's credit profile.

Pension funding flexibility

Public pension managers generally hold a very large and highly diversified portfolio of securities and other investments that may be relatively uncorrelated to the strength of the regional economy of the sponsor (especially a sub-sovereign sponsor). Where pension managers hold assets that either carry a higher risk of material loss for the fund in a stress scenario (e.g., sector concentration or material assets located in the pension manager's jurisdiction) or that may not be readily available to cover payment obligations, this would weigh negatively on a pension manager's flexibility and its credit profile, potentially resulting in downward notching.

Plan funding status is also important. We typically view over-funding of a pension as a relatively temporary phenomenon that would likely be reduced over time by lower pension contributions. Sustained under-funding is a credit weakness because it can be an indication of a weak commitment by the sponsor/supporter or a weak capacity of the pension manager or sponsor to meet future obligations. However, large, chronic pension under-funding, especially during periods of economic stability, raises doubts that a sponsor/supporter would have the capacity and willingness to provide extraordinary support to a public pension manager to meet its obligations, should that support be needed. A weak capacity of the fund administrators to impose plan funding changes on the sponsor (such as contribution increases or benefit reductions) to meet growing obligations or if there is a shortfall in expected returns, would signal limited funding flexibility.

Other important characteristics of the pension benefit liability that may reduce pension funding flexibility include unfavorable plan demographics, in particular the average duration of the pension benefit obligation, the proportion of active to retired plan members and the plan's discount rate. Useful comparisons for the discount rate may include the public pension manager's long-run average return (historical and expected), the jurisdiction's risk-free rate (typically, the sovereign or, in some cases, the sub-sovereign bond yield) or market interest rates reflecting the risk of pension benefits, and the discount rates used by comparable peers.

Governance and political independence

Governance, as overseen by the public pension manager's board of directors, is a contributor to the financial health and credit profile of a public pension manager. Governance is typically assessed based on the board's independence, expertise and involvement, as well as on its ability to align governance practices with proper oversight of the management team and strategy. Where a public pension manager demonstrates some weaknesses in its governance, this may weigh on its credit profile.

We may also assess the interests, motivations, track record, and resources of a public pension manager's sovereign or sub-sovereign sponsor/supporter in order to anticipate how the sponsor/supporter might behave in the normal course of events and at times of stress. The potentially conflicting interests of sponsors, creditors and plan members may also be of importance in assessing how the board and management team may act to balance these demands.

We typically consider the extent to which the public pension manager's strategy, portfolio composition and operations remain independent of political considerations affecting the sponsors (e.g., impacts on taxes and the revenue base, or relationships with employees or unions) versus situations where political considerations negatively affect pension contributions, pension benefits, investment decisions, or actuarial assumptions and measurements in order to satisfy specific interest groups. Political interference typically raises the risk that a public pension manager's decisions will become misaligned to the interests of its creditors, a credit weakness that can result in a rating for the public pension manager that is below the sponsor/supporter's rating.

Jointly sponsored public pension funds

For jointly sponsored public pension funds, the typical starting point of our rating analysis is an aggregate supporter credit profile, which is based on the sponsors' respective credit profiles, the distribution of their commitments and credit profiles (e.g., similar versus disparate credit profiles or a large number of sponsors with relatively similar commitments versus concentration in certain sponsors), the legal nature of their commitments, and the relationship of the sponsors to one another (for instance, all sponsors are separate municipalities with no expectation of mutual extraordinary support beyond legally binding commitments, versus a mix of municipalities and regional/provincial governments that may have a common interest in supporting the municipalities).

» If the sponsors' commitments are joint and several and we have an expectation that the highest-rated sponsor would have the capacity and willingness to meet the obligations of the other sponsors, the highest sponsor rating would typically represent the aggregate supporter credit profile.

» If there is an anchor sponsor – an entity that has a substantial share of the aggregate commitments (or a significant role in funding the commitments) and is at a higher level than the other sponsors (e.g., a state/provincial or regional government anchor with the remaining sponsors being local governments in that entity's jurisdiction over which it has substantial legal authority), the anchor sponsor's rating would likely be used as the aggregate supporter credit profile even if the sponsors' obligations are not joint and several, provided we consider that entity to have a meaningful interest in maintaining the integrity of the public pension fund. In cases where the distance between the credit quality of the anchor sponsor and the weighted average credit quality of the other sponsors is marked, we may apply a downward adjustment from the anchor sponsor's rating.

If there is no anchor sponsor and commitments are not joint and several (incorporating capacity and willingness considerations), we typically use a rating that approximates the weighted average of the sponsors' credit ratings as the aggregate supporter credit profile, provided the ratings are not very disparate. In cases of material concentration in weaker sponsors, we may consider that the aggregate supporter credit profile is lower than the weighted average would imply. Where such concentrations are pronounced, we may use a weakest link or modified weakest link approach.

Appendix 6: Scorecard-indicated outcome range examples

The following tables provide illustrative examples of scorecard-indicated outcome ranges for a selection of the four JDA inputs (GRI BCA, Support Government Rating, Support and Dependence), which are constrained at the higher of the supporter's rating and the GRI's BCA.

Exhibit 5

Scorecard-indicated outcome ranges for an Aaa-rated supporter

Aaa Supporter Rating		Extraordinary Support				
Dependence	BCA	Very High	High	Strong	Moderate	Low
Very High	aaa	Aaa	Aaa	Aaa	Aaa	Aaa
	aa1	Aaa	Aaa-Aa1	Aa1	Aa1	Aa1
	aa2	Aaa	Aa1	Aa1	Aa1-Aa2	Aa2
	aa3	Aaa-Aa1	Aa1	Aa2	Aa2-Aa3	Aa3
	a1	Aaa-Aa1	Aa1-Aa2	Aa2-Aa3	Aa3	Aa3-A1
	a2	Aaa-Aa2	Aa2-Aa3	Aa3-A1	A1	A1-A2
	a3	Aaa-Aa2	Aa2-A1	A1-A2	A2	A2-A3
	baa1	Aaa-Aa3	Aa3-A1	A1-A2	A2-A3	A3-Baa1
	baa2	Aaa-Aa3	Aa3-A2	A2-A3	A3-Baa1	Baa1-Baa2
	baa3	Aaa-A1	A1-Baa1	Baa1-Baa2	Baa2	Baa2-Baa3
	ba1	Aaa-A2	A2-Baa2	Baa2-Baa3	Baa3	Baa3-Ba1
	ba2	Aaa-A3	Baa1-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	Aaa-Baa1	Baa1-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3
	b1	Aaa-Baa2	Baa2-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	Aaa-Baa2	Baa3-Ba1	Ba2-Ba3	Ba3-B1	B1-B2
	b3	Aaa-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	Aaa-Baa3	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	Aaa-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	Aaa-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Aaa-Ba2	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	Aaa-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C
High	aaa	Aaa	Aaa	Aaa	Aaa	Aaa
	aa1	Aaa	Aaa-Aa1	Aa1	Aa1	Aa1
	aa2	Aaa	Aaa-Aa1	Aa1	Aa1-Aa2	Aa2
	aa3	Aaa-Aa1	Aa1	Aa1-Aa2	Aa2-Aa3	Aa3
	a1	Aaa-Aa1	Aa1-Aa2	Aa2-Aa3	Aa3	Aa3-A1
	a2	Aaa-Aa2	Aa2-Aa3	Aa3-A1	A1	A1-A2
	a3	Aaa-Aa2	Aa2-A1	A1-A2	A2	A2-A3
	baa1	Aaa-Aa3	Aa3-A1	A1-A2	A2-A3	A3-Baa1
	baa2	Aaa-Aa3	Aa3-A2	A2-A3	A3-Baa1	Baa1-Baa2
	baa3	Aaa-A1	A1-Baa1	Baa1-Baa2	Baa2	Baa2-Baa3
	ba1	Aaa-A2	A2-Baa2	Baa2-Baa3	Baa3	Baa3-Ba1
	ba2	Aaa-A3	Baa1-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	Aaa-Baa1	Baa1-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3
	b1	Aaa-Baa2	Baa2-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	Aaa-Baa2	Baa3-Ba1	Ba2-Ba3	Ba3-B1	B1-B2
	b3	Aaa-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	Aaa-Baa3	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	Aaa-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	Aaa-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Aaa-Ba2	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	Aaa-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C

		Extraordinary Support				
Dependence	BCA	Very High	High	Strong	Moderate	Low
Moderate	aaa	Aaa	Aaa	Aaa	Aaa	Aaa
	aa1	Aaa	Aaa-Aa1	Aa1	Aa1	Aa1
	aa2	Aaa	Aaa-Aa1	Aa1	Aa1-Aa2	Aa2
	aa3	Aaa-Aa1	Aa1	Aa1-Aa2	Aa2-Aa3	Aa3
	a1	Aaa-Aa1	Aa1-Aa2	Aa2-Aa3	Aa3	Aa3-A1
	a2	Aaa-Aa2	Aa2-Aa3	Aa3-A1	A1	A1-A2
	a3	Aaa-Aa2	Aa2-A1	A1-A2	A2	A2-A3
	baa1	Aaa-Aa3	Aa3-A1	A1-A2	A2-A3	A3-Baa1
	baa2	Aaa-Aa3	Aa3-A2	A2-A3	A3-Baa1	Baa1-Baa2
	baa3	Aaa-A1	A1-Baa1	Baa1-Baa2	Baa2	Baa2-Baa3
	ba1	Aaa-A2	A2-Baa2	Baa2-Baa3	Baa3	Baa3-Ba1
	ba2	Aaa-A3	Baa1-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	Aaa-Baa1	Baa1-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3
	b1	Aaa-Baa2	Baa2-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	Aaa-Baa2	Baa3-Ba1	Ba2-Ba3	Ba3-B1	B1-B2
	b3	Aaa-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	Aaa-Baa3	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	Aaa-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	Aaa-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Aaa-Ba2	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	Aaa-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C
Low	aaa	Aaa	Aaa	Aaa	Aaa	Aaa
	aa1	Aaa	Aaa-Aa1	Aa1	Aa1	Aa1
	aa2	Aaa	Aaa-Aa1	Aa1	Aa1-Aa2	Aa2
	aa3	Aaa-Aa1	Aa1	Aa1-Aa2	Aa2-Aa3	Aa3
	a1	Aaa-Aa1	Aa1-Aa2	Aa2-Aa3	Aa3	Aa3-A1
	a2	Aaa-Aa2	Aa2-Aa3	Aa3-A1	A1	A1-A2
	a3	Aaa-Aa2	Aa2-A1	A1-A2	A2	A2-A3
	baa1	Aaa-Aa3	Aa3-A1	A1-A2	A2-A3	A3-Baa1
	baa2	Aaa-Aa3	Aa3-A2	A2-A3	A3-Baa1	Baa1-Baa2
	baa3	Aaa-A1	A1-Baa1	Baa1-Baa2	Baa2	Baa2-Baa3
	ba1	Aaa-A2	A2-Baa2	Baa2-Baa3	Baa3	Baa3-Ba1
	ba2	Aaa-A3	Baa1-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	Aaa-Baa1	Baa1-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3
	b1	Aaa-Baa2	Baa2-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	Aaa-Baa2	Baa3-Ba1	Ba2-Ba3	Ba3-B1	B1-B2
	b3	Aaa-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	Aaa-Baa3	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	Aaa-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	Aaa-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Aaa-Ba2	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	Aaa-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C

Source: Moody's Investors Service

Exhibit 6

Scorecard-indicated outcome ranges for an Aa1-rated supporter

Aa1 Supporter Rating		Extraordinary Support				
Dependence	BCA	Very High	High	Strong	Moderate	Low
Very High	aa1	Aa1	Aa1	Aa1	Aa1	Aa1
	aa2	Aa1	Aa1	Aa1-Aa2	Aa2	Aa2
	aa3	Aa1	Aa1-Aa2	Aa2	Aa2-Aa3	Aa3
	a1	Aa1-Aa2	Aa2	Aa3	Aa3	Aa3-A1
	a2	Aa1-Aa2	Aa2-Aa3	Aa3-A1	A1	A1-A2
	a3	Aa1-Aa2	Aa3-A1	A1-A2	A2	A2-A3
	baa1	Aa1-Aa3	Aa3-A1	A2	A2-A3	A3-Baa1
	baa2	Aa1-Aa3	Aa3-A2	A2-A3	A3-Baa1	Baa1-Baa2
	baa3	Aa1-A1	A1-Baa1	Baa1-Baa2	Baa2	Baa2-Baa3
	ba1	Aa1-A2	A3-Baa2	Baa2-Baa3	Baa3	Baa3-Ba1
	ba2	Aa1-A3	Baa1-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	Aa1-Baa1	Baa1-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3
	b1	Aa1-Baa2	Baa2-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	Aa1-Baa2	Baa3-Ba1	Ba2-Ba3	Ba3-B1	B1-B2
	b3	Aa1-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	Aa1-Baa3	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	Aa1-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	Aa1-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Aa1-Ba2	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	Aa1-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C
High	aa1	Aa1	Aa1	Aa1	Aa1	Aa1
	aa2	Aa1	Aa1	Aa1	Aa1-Aa2	Aa2
	aa3	Aa1	Aa1-Aa2	Aa2	Aa2-Aa3	Aa3
	a1	Aa1	Aa2	Aa2-Aa3	Aa3	Aa3-A1
	a2	Aa1-Aa2	Aa2-Aa3	Aa3-A1	A1	A1-A2
	a3	Aa1-Aa2	Aa2-A1	A1-A2	A2	A2-A3
	baa1	Aa1-Aa3	Aa3-A1	A2	A2-A3	A3-Baa1
	baa2	Aa1-Aa3	Aa3-A2	A2-A3	A3-Baa1	Baa1-Baa2
	baa3	Aa1-A1	A1-Baa1	Baa1-Baa2	Baa2	Baa2-Baa3
	ba1	Aa1-A2	A3-Baa2	Baa2-Baa3	Baa3	Baa3-Ba1
	ba2	Aa1-A3	Baa1-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	Aa1-Baa1	Baa1-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3
	b1	Aa1-Baa2	Baa2-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	Aa1-Baa2	Baa3-Ba1	Ba2-Ba3	Ba3-B1	B1-B2
	b3	Aa1-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	Aa1-Baa3	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	Aa1-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	Aa1-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Aa1-Ba2	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	Aa1-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C

		Extraordinary Support				
Dependence	BCA	Very High	High	Strong	Moderate	Low
Moderate	aa1	Aa1	Aa1	Aa1	Aa1	Aa1
	aa2	Aa1	Aa1	Aa1	Aa1-Aa2	Aa2
	aa3	Aa1	Aa1-Aa2	Aa2	Aa2-Aa3	Aa3
	a1	Aa1	Aa1-Aa2	Aa2-Aa3	Aa3	Aa3-A1
	a2	Aa1-Aa2	Aa2-Aa3	Aa3-A1	A1	A1-A2
	a3	Aa1-Aa2	Aa2-A1	A1-A2	A2	A2-A3
	baa1	Aa1-Aa3	Aa3-A1	A2	A2-A3	A3-Baa1
	baa2	Aa1-Aa3	Aa3-A2	A2-A3	A3-Baa1	Baa1-Baa2
	baa3	Aa1-A1	A1-Baa1	Baa1-Baa2	Baa2	Baa2-Baa3
	ba1	Aa1-A2	A2-Baa2	Baa2-Baa3	Baa3	Baa3-Ba1
	ba2	Aa1-A3	Baa1-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	Aa1-Baa1	Baa1-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3
	b1	Aa1-Baa2	Baa2-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	Aa1-Baa2	Baa3-Ba1	Ba2-Ba3	Ba3-B1	B1-B2
	b3	Aa1-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	Aa1-Baa3	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	Aa1-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	Aa1-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Aa1-Ba2	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	Aa1-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C
Low	aa1	Aa1	Aa1	Aa1	Aa1	Aa1
	aa2	Aa1	Aa1	Aa1	Aa1-Aa2	Aa2
	aa3	Aa1	Aa1-Aa2	Aa2	Aa2-Aa3	Aa3
	a1	Aa1	Aa1-Aa2	Aa2-Aa3	Aa3	Aa3-A1
	a2	Aa1-Aa2	Aa2-Aa3	Aa3-A1	A1	A1-A2
	a3	Aa1-Aa2	Aa2-A1	A1-A2	A2	A2-A3
	baa1	Aa1-Aa3	Aa3-A1	A1-A2	A2-A3	A3-Baa1
	baa2	Aa1-Aa3	Aa3-A2	A2-A3	A3-Baa1	Baa1-Baa2
	baa3	Aa1-A1	A1-Baa1	Baa1-Baa2	Baa2	Baa2-Baa3
	ba1	Aa1-A2	A2-Baa2	Baa2-Baa3	Baa3	Baa3-Ba1
	ba2	Aa1-A3	Baa1-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	Aa1-Baa1	Baa1-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3
	b1	Aa1-Baa2	Baa2-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	Aa1-Baa2	Baa3-Ba1	Ba2-Ba3	Ba3-B1	B1-B2
	b3	Aa1-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	Aa1-Baa3	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	Aa1-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	Aa1-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Aa1-Ba2	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	Aa1-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C

Source: Moody's Investors Service

Exhibit 7

Scorecard-indicated outcome ranges for an Aa2-rated supporter

Aa2 Supporter Rating		Extraordinary Support				
Dependence	BCA	Very High	High	Strong	Moderate	Low
Very High	aa2	Aa2	Aa2	Aa2	Aa2	Aa2
	aa3	Aa2	Aa2	Aa2-Aa3	Aa3	Aa3
	a1	Aa2	Aa2-Aa3	Aa3	Aa3-A1	A1
	a2	Aa2-Aa3	Aa3	Aa3-A1	A1	A1-A2
	a3	Aa2-Aa3	Aa3-A1	A1-A2	A2	A2-A3
	baa1	Aa2-Aa3	Aa3-A2	A2	A3	A3-Baa1
	baa2	Aa2-A1	A1-A2	A2-A3	A3-Baa1	Baa1-Baa2
	baa3	Aa2-A1	A2-Baa1	Baa1-Baa2	Baa2	Baa2-Baa3
	ba1	Aa2-A2	A3-Baa2	Baa2-Baa3	Baa3	Baa3-Ba1
	ba2	Aa2-A3	Baa1-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	Aa2-Baa1	Baa2-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3
	b1	Aa2-Baa2	Baa2-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	Aa2-Baa2	Baa3-Ba1	Ba2-Ba3	Ba3-B1	B1-B2
	b3	Aa2-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	Aa2-Baa3	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	Aa2-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	Aa2-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Aa2-Ba2	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	Aa2-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C
High	aa2	Aa2	Aa2	Aa2	Aa2	Aa2
	aa3	Aa2	Aa2	Aa2	Aa2-Aa3	Aa3
	a1	Aa2	Aa2-Aa3	Aa3	Aa3-A1	A1
	a2	Aa2	Aa2-Aa3	Aa3-A1	A1	A1-A2
	a3	Aa2-Aa3	Aa3-A1	A1-A2	A2	A2-A3
	baa1	Aa2-Aa3	Aa3-A2	A2	A2-A3	A3-Baa1
	baa2	Aa2-Aa3	A1-A2	A2-A3	A3-Baa1	Baa1-Baa2
	baa3	Aa2-A1	A2-Baa1	Baa1-Baa2	Baa2	Baa2-Baa3
	ba1	Aa2-A2	A3-Baa2	Baa2-Baa3	Baa3	Baa3-Ba1
	ba2	Aa2-A3	Baa1-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	Aa2-Baa1	Baa2-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3
	b1	Aa2-Baa2	Baa2-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	Aa2-Baa2	Baa3-Ba1	Ba2-Ba3	Ba3-B1	B1-B2
	b3	Aa2-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	Aa2-Baa3	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	Aa2-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	Aa2-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Aa2-Ba2	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	Aa2-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C

		Extraordinary Support				
Dependence	BCA	Very High	High	Strong	Moderate	Low
Moderate	aa2	Aa2	Aa2	Aa2	Aa2	Aa2
	aa3	Aa2	Aa2	Aa2	Aa2-Aa3	Aa3
	a1	Aa2	Aa2-Aa3	Aa3	Aa3	A1
	a2	Aa2	Aa2-Aa3	Aa3-A1	A1	A1-A2
	a3	Aa2-Aa3	Aa3-A1	A1-A2	A2	A2-A3
	baa1	Aa2-Aa3	Aa3-A2	A2	A2-A3	A3-Baa1
	baa2	Aa2-Aa3	A1-A2	A2-A3	A3-Baa1	Baa1-Baa2
	baa3	Aa2-A1	A2-Baa1	Baa1-Baa2	Baa2	Baa2-Baa3
	ba1	Aa2-A2	A3-Baa2	Baa2-Baa3	Baa3	Baa3-Ba1
	ba2	Aa2-A3	Baa1-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	Aa2-Baa1	Baa2-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3
	b1	Aa2-Baa2	Baa2-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	Aa2-Baa2	Baa3-Ba1	Ba2-Ba3	Ba3-B1	B1-B2
	b3	Aa2-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	Aa2-Baa3	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	Aa2-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	Aa2-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Aa2-Ba2	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	Aa2-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C
Low	aa2	Aa2	Aa2	Aa2	Aa2	Aa2
	aa3	Aa2	Aa2	Aa2	Aa2-Aa3	Aa3
	a1	Aa2	Aa2	Aa2-Aa3	Aa3	Aa3-A1
	a2	Aa2	Aa2-Aa3	Aa3-A1	A1	A1-A2
	a3	Aa2	Aa2-A1	A1-A2	A2	A2-A3
	baa1	Aa2-Aa3	Aa3-A1	A2	A2-A3	A3-Baa1
	baa2	Aa2-Aa3	Aa3-A2	A2-A3	A3-Baa1	Baa1-Baa2
	baa3	Aa2-A1	A1-Baa1	Baa1-Baa2	Baa2	Baa2-Baa3
	ba1	Aa2-A2	A3-Baa2	Baa2-Baa3	Baa3	Baa3-Ba1
	ba2	Aa2-A3	Baa1-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	Aa2-Baa1	Baa1-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3
	b1	Aa2-Baa2	Baa2-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	Aa2-Baa2	Baa3-Ba1	Ba2-Ba3	Ba3-B1	B1-B2
	b3	Aa2-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	Aa2-Baa3	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	Aa2-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	Aa2-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Aa2-Ba2	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	Aa2-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C

Source: Moody's Investors Service

Exhibit 8

Scorecard-indicated outcome ranges for an Aa3-rated supporter

Aa3 Supporter Rating		Extraordinary Support				
Dependence	BCA	Very High	High	Strong	Moderate	Low
Very High	aa3	Aa3	Aa3	Aa3	Aa3	Aa3
	a1	Aa3	Aa3	Aa3-A1	A1	A1
	a2	Aa3	Aa3-A1	A1	A1-A2	A2
	a3	Aa3	Aa3-A1	A1-A2	A2	A2-A3
	baa1	Aa3-A1	A1-A2	A2-A3	A3	A3-Baa1
	baa2	Aa3-A1	A1-A2	A2-A3	A3-Baa1	Baa1-Baa2
	baa3	Aa3-A2	A2-Baa1	Baa1-Baa2	Baa2	Baa3
	ba1	Aa3-A3	A3-Baa2	Baa2-Baa3	Baa3	Baa3-Ba1
	ba2	Aa3-Baa1	Baa1-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	Aa3-Baa1	Baa2-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3
	b1	Aa3-Baa2	Baa2-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	Aa3-Baa3	Baa3-Ba1	Ba2-Ba3	Ba3-B1	B1-B2
	b3	Aa3-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	Aa3-Baa3	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	Aa3-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	Aa3-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Aa3-Ba2	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	Aa3-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C
High	aa3	Aa3	Aa3	Aa3	Aa3	Aa3
	a1	Aa3	Aa3	Aa3	Aa3-A1	A1
	a2	Aa3	Aa3-A1	A1	A1-A2	A2
	a3	Aa3	Aa3-A1	A1-A2	A2	A2-A3
	baa1	Aa3-A1	A1-A2	A2-A3	A3	A3-Baa1
	baa2	Aa3-A1	A1-A2	A2-A3	A3-Baa1	Baa1-Baa2
	baa3	Aa3-A2	A2-Baa1	Baa1-Baa2	Baa2	Baa2-Baa3
	ba1	Aa3-A3	A3-Baa2	Baa2-Baa3	Baa3	Baa3-Ba1
	ba2	Aa3-Baa1	Baa1-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	Aa3-Baa1	Baa2-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3
	b1	Aa3-Baa2	Baa2-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	Aa3-Baa3	Baa3-Ba1	Ba2-Ba3	Ba3-B1	B1-B2
	b3	Aa3-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	Aa3-Baa3	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	Aa3-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	Aa3-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Aa3-Ba2	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	Aa3-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C

		Extraordinary Support				
Dependence	BCA	Very High	High	Strong	Moderate	Low
Moderate	aa3	Aa3	Aa3	Aa3	Aa3	Aa3
	a1	Aa3	Aa3	Aa3	Aa3-A1	A1
	a2	Aa3	Aa3	A1	A1	A2
	a3	Aa3	Aa3-A1	A1-A2	A2	A2-A3
	baa1	Aa3	Aa3-A2	A2-A3	A3	A3-Baa1
	baa2	Aa3-A1	A1-A2	A2-A3	A3-Baa1	Baa1-Baa2
	baa3	Aa3-A2	A2-Baa1	Baa1-Baa2	Baa2	Baa2-Baa3
	ba1	Aa3-A2	A3-Baa2	Baa2-Baa3	Baa3	Baa3-Ba1
	ba2	Aa3-A3	Baa1-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	Aa3-Baa1	Baa2-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3
	b1	Aa3-Baa2	Baa2-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	Aa3-Baa2	Baa3-Ba1	Ba2-Ba3	Ba3-B1	B1-B2
	b3	Aa3-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	Aa3-Baa3	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	Aa3-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	Aa3-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Aa3-Ba2	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	Aa3-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C
Low	aa3	Aa3	Aa3	Aa3	Aa3	Aa3
	a1	Aa3	Aa3	Aa3	Aa3-A1	A1
	a2	Aa3	Aa3	Aa3-A1	A1	A1-A2
	a3	Aa3	Aa3-A1	A1-A2	A2	A2-A3
	baa1	Aa3	Aa3-A2	A2	A2-A3	A3-Baa1
	baa2	Aa3	A1-A2	A2-A3	A3-Baa1	Baa1-Baa2
	baa3	Aa3-A1	A2-Baa1	Baa1-Baa2	Baa2	Baa2-Baa3
	ba1	Aa3-A2	A3-Baa2	Baa2-Baa3	Baa3	Baa3-Ba1
	ba2	Aa3-A3	Baa1-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	Aa3-Baa1	Baa2-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3
	b1	Aa3-Baa2	Baa2-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	Aa3-Baa2	Baa3-Ba1	Ba2-Ba3	Ba3-B1	B1-B2
	b3	Aa3-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	Aa3-Baa3	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	Aa3-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	Aa3-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Aa3-Ba2	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	Aa3-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C

Source: Moody's Investors Service

Exhibit 9

Scorecard-indicated outcome ranges for an A1-rated supporter

A1 Supporter Rating — Extraordinary Support

Dependence	BCA	Very High	High	Strong	Moderate	Low
Very High	a1	A1	A1	A1	A1	A1
	a2	A1	A1	A1-A2	A2	A2
	a3	A1	A1-A2	A2	A2	A2-A3
	baa1	A1	A1-A2	A2-A3	A3	A3-Baa1
	baa2	A1-A2	A2-A3	A3-Baa1	Baa1	Baa1-Baa2
	baa3	A1-A2	A2-Baa1	Baa1-Baa2	Baa2-Baa3	Baa3
	ba1	A1-A3	A3-Baa2	Baa2-Baa3	Baa3	Baa3-Ba1
	ba2	A1-Baa1	Baa1-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	A1-Baa2	Baa2-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3
	b1	A1-Baa2	Baa2-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	A1-Baa3	Baa3-Ba2	Ba2-Ba3	Ba3-B1	B1-B2
	b3	A1-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	A1-Baa3	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	A1-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	A1-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	A1-Ba2	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	A1-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C
High	a1	A1	A1	A1	A1	A1
	a2	A1	A1	A1	A1-A2	A2
	a3	A1	A1	A1-A2	A2	A2-A3
	baa1	A1	A1-A2	A2-A3	A3	A3-Baa1
	baa2	A1	A1-A3	A3	A3-Baa1	Baa1-Baa2
	baa3	A1-A2	A2-Baa1	Baa1-Baa2	Baa2	Baa3
	ba1	A1-A3	A3-Baa2	Baa2-Baa3	Baa3	Baa3-Ba1
	ba2	A1-Baa1	Baa1-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	A1-Baa2	Baa2-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3
	b1	A1-Baa2	Baa2-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	A1-Baa3	Baa3-Ba2	Ba2-Ba3	Ba3-B1	B1-B2
	b3	A1-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	A1-Baa3	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	A1-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	A1-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	A1-Ba2	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	A1-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C

Dependence	BCA	Very High	High	Strong	Moderate	Low
Moderate	a1	A1	A1	A1	A1	A1
	a2	A1	A1	A1	A1-A2	A2
	a3	A1	A1	A1-A2	A2	A2-A3
	baa1	A1	A1-A2	A2-A3	A3	A3-Baa1
	baa2	A1	A1-A2	A2-A3	A3-Baa1	Baa1-Baa2
	baa3	A1-A2	A2-Baa1	Baa1-Baa2	Baa2	Baa3
	ba1	A1-A3	A3-Baa2	Baa2-Baa3	Baa3	Baa3-Ba1
	ba2	A1-Baa1	Baa1-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	A1-Baa1	Baa2-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3
	b1	A1-Baa2	Baa2-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	A1-Baa3	Baa3-Ba1	Ba2-Ba3	Ba3-B1	B1-B2
	b3	A1-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	A1-Baa3	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	A1-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	A1-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	A1-Ba2	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	A1-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C
Low	a1	A1	A1	A1	A1	A1
	a2	A1	A1	A1	A1-A2	A2
	a3	A1	A1	A1-A2	A2	A2-A3
	baa1	A1	A1-A2	A2-A3	A3	A3-Baa1
	baa2	A1	A1-A2	A2-A3	A3-Baa1	Baa1-Baa2
	baa3	A1-A2	A2-Baa1	Baa1-Baa2	Baa2	Baa2-Baa3
	ba1	A1-A3	A3-Baa2	Baa2-Baa3	Baa3	Baa3-Ba1
	ba2	A1-Baa1	Baa1-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	A1-Baa1	Baa2-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3
	b1	A1-Baa2	Baa2-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	A1-Baa3	Baa3-Ba1	Ba2-Ba3	Ba3-B1	B1-B2
	b3	A1-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	A1-Baa3	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	A1-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	A1-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	A1-Ba2	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	A1-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C

Source: Moody's Investors Service

Exhibit 10

Scorecard-indicated outcome ranges for an A2-rated supporter

A2 Supporter Rating		Extraordinary Support				
Dependence	BCA	Very High	High	Strong	Moderate	Low
Very High	a2	A2	A2	A2	A2	A2
	a3	A2	A2	A2	A2-A3	A3
	baa1	A2	A2-A3	A3	A3	Baa1
	baa2	A2	A2-A3	A3-Baa1	Baa1	Baa1-Baa2
	baa3	A2-A3	A3-Baa1	Baa1-Baa2	Baa2-Baa3	Baa3
	ba1	A2-A3	Baa1-Baa2	Baa2-Baa3	Baa3	Baa3-Ba1
	ba2	A2-Baa1	Baa1-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	A2-Baa2	Baa2-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3
	b1	A2-Baa2	Baa2-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	A2-Baa3	Baa3-Ba2	Ba2-Ba3	Ba3-B1	B1-B2
	b3	A2-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	A2-Ba1	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	A2-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	A2-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	A2-Ba2	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	A2-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C
High	a2	A2	A2	A2	A2	A2
	a3	A2	A2	A2	A2-A3	A3
	baa1	A2	A2	A2-A3	A3	A3-Baa1
	baa2	A2	A2-A3	A3-Baa1	Baa1	Baa1-Baa2
	baa3	A2-A3	A3-Baa1	Baa1-Baa2	Baa2-Baa3	Baa3
	ba1	A2-A3	A3-Baa2	Baa2-Baa3	Baa3	Baa3-Ba1
	ba2	A2-Baa1	Baa1-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	A2-Baa2	Baa2-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3
	b1	A2-Baa2	Baa2-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	A2-Baa3	Baa3-Ba2	Ba2-Ba3	Ba3-B1	B1-B2
	b3	A2-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	A2-Ba1	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	A2-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	A2-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	A2-Ba2	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	A2-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C
Moderate	a2	A2	A2	A2	A2	A2
	a3	A2	A2	A2	A2	A2-A3
	baa1	A2	A2	A2-A3	A3	A3-Baa1
	baa2	A2	A2-A3	A3-Baa1	Baa1	Baa1-Baa2
	baa3	A2	A2-Baa1	Baa1-Baa2	Baa2-Baa3	Baa3
	ba1	A2-A3	A3-Baa2	Baa2-Baa3	Baa3	Baa3-Ba1
	ba2	A2-Baa1	Baa1-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	A2-Baa2	Baa2-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3
	b1	A2-Baa2	Baa2-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	A2-Baa3	Baa3-Ba2	Ba2-Ba3	Ba3-B1	B1-B2
	b3	A2-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	A2-Baa3	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	A2-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	A2-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	A2-Ba2	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	A2-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C
Low	a2	A2	A2	A2	A2	A2
	a3	A2	A2	A2	A2	A2-A3
	baa1	A2	A2	A2-A3	A3	A3-Baa1
	baa2	A2	A2	A3	A3-Baa1	Baa1-Baa2
	baa3	A2	A2-Baa1	Baa1-Baa2	Baa2	Baa3
	ba1	A2-A3	A3-Baa2	Baa2-Baa3	Baa3	Baa3-Ba1
	ba2	A2-Baa1	Baa1-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	A2-Baa1	Baa2-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3
	b1	A2-Baa2	Baa2-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	A2-Baa3	Baa3-Ba2	Ba2-Ba3	Ba3-B1	B1-B2
	b3	A2-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	A2-Baa3	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	A2-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	A2-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	A2-Ba2	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	A2-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C

Source: Moody's Investors Service

Exhibit 11
Scorecard-indicated outcome ranges for an A3-rated supporter

A3 Supporter Rating		Extraordinary Support				
	BCA	Very High	High	Strong	Moderate	Low
Dependence: Very High	a3	A3	A3	A3	A3	A3
	baa1	A3	A3	A3	A3-Baa1	Baa1
	baa2	A3	A3-Baa1	Baa1	Baa1	Baa1-Baa2
	baa3	A3	Baa1-Baa2	Baa2	Baa2-Baa3	Baa3
	ba1	A3-Baa1	Baa1-Baa2	Baa2-Baa3	Baa3	Baa3-Ba1
	ba2	A3-Baa2	Baa2-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	A3-Baa2	Baa2-Ba1	Ba1	Ba1-Ba2	Ba2-Ba3
	b1	A3-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	A3-Baa3	Baa3-Ba2	Ba2-Ba3	Ba3-B1	B1-B2
	b3	A3-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	A3-Ba1	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	A3-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	A3-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	A3-Ba2	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	A3-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C
Dependence: High	a3	A3	A3	A3	A3	A3
	baa1	A3	A3	A3	A3-Baa1	Baa1
	baa2	A3	A3	A3-Baa1	Baa1	Baa1-Baa2
	baa3	A3	A3-Baa1	Baa1-Baa2	Baa2-Baa3	Baa3
	ba1	A3-Baa1	Baa1-Baa2	Baa2-Baa3	Baa3	Baa3-Ba1
	ba2	A3-Baa1	Baa2-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	A3-Baa2	Baa2-Baa3	Ba1	Ba1-Ba2	Ba2-Ba3
	b1	A3-Baa2	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	A3-Baa3	Baa3-Ba2	Ba2-Ba3	Ba3-B1	B1-B2
	b3	A3-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	A3-Ba1	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	A3-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	A3-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	A3-Ba2	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	A3-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C

		Extraordinary Support				
	BCA	Very High	High	Strong	Moderate	Low
Dependence: Moderate	a3	A3	A3	A3	A3	A3
	baa1	A3	A3	A3	A3	A3-Baa1
	baa2	A3	A3	A3-Baa1	Baa1	Baa1-Baa2
	baa3	A3	A3-Baa1	Baa1-Baa2	Baa2-Baa3	Baa3
	ba1	A3	Baa1-Baa2	Baa2-Baa3	Baa3	Baa3-Ba1
	ba2	A3-Baa1	Baa1-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	A3-Baa2	Baa2-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3
	b1	A3-Baa2	Baa2-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	A3-Baa3	Baa3-Ba2	Ba2-Ba3	Ba3-B1	B1-B2
	b3	A3-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	A3-Ba1	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	A3-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	A3-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	A3-Ba2	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	A3-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C
Dependence: Low	a3	A3	A3	A3	A3	A3
	baa1	A3	A3	A3	A3	A3-Baa1
	baa2	A3	A3	A3-Baa1	Baa1	Baa1-Baa2
	baa3	A3	A3-Baa1	Baa1-Baa2	Baa2-Baa3	Baa3
	ba1	A3	A3-Baa2	Baa2-Baa3	Baa3	Baa3-Ba1
	ba2	A3-Baa1	Baa1-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	A3-Baa2	Baa2-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3
	b1	A3-Baa2	Baa2-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	A3-Baa3	Baa3-Ba2	Ba2-Ba3	Ba3-B1	B1-B2
	b3	A3-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	A3-Ba1	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	A3-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	A3-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	A3-Ba2	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	A3-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C

Source: Moody's Investors Service

Exhibit 12

Scorecard-indicated outcome ranges for a Baa1-rated supporter

Baa1 Supporter Rating

Dependence	BCA	Extraordinary Support: Very High	High	Strong	Moderate	Low
Very High	baa1	Baa1	Baa1	Baa1	Baa1	Baa1
Very High	baa2	Baa1	Baa1	Baa1	Baa1-Baa2	Baa2
Very High	baa3	Baa1	Baa1-Baa2	Baa2	Baa2-Baa3	Baa3
Very High	ba1	Baa1-Baa2	Baa2-Baa3	Baa3	Baa3	Ba1
Very High	ba2	Baa1-Baa2	Baa2-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
Very High	ba3	Baa1-Baa2	Baa2-Ba1	Ba1	Ba1-Ba2	Ba2-Ba3
Very High	b1	Baa1-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
Very High	b2	Baa1-Baa3	Baa3-Ba2	Ba2-Ba3	Ba3-B1	B1-B2
Very High	b3	Baa1-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
Very High	caa1	Baa1-Ba1	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
Very High	caa2	Baa1-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
Very High	caa3	Baa1-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
Very High	ca	Baa1-Ba3	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
Very High	c	Baa1-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C
High	baa1	Baa1	Baa1	Baa1	Baa1	Baa1
High	baa2	Baa1	Baa1	Baa1	Baa1-Baa2	Baa2
High	baa3	Baa1	Baa1-Baa2	Baa2	Baa2-Baa3	Baa3
High	ba1	Baa1	Baa1-Baa2	Baa2-Baa3	Baa3	Baa3-Ba1
High	ba2	Baa1-Baa2	Baa2-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
High	ba3	Baa1-Baa2	Baa2-Ba1	Ba1	Ba1-Ba2	Ba2-Ba3
High	b1	Baa1-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
High	b2	Baa1-Baa3	Baa3-Ba2	Ba2-Ba3	Ba3-B1	B1-B2
High	b3	Baa1-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
High	caa1	Baa1-Ba1	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
High	caa2	Baa1-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
High	caa3	Baa1-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
High	ca	Baa1-Ba3	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
High	c	Baa1-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C

Dependence	BCA	Extraordinary Support: Very High	High	Strong	Moderate	Low
Moderate	baa1	Baa1	Baa1	Baa1	Baa1	Baa1
Moderate	baa2	Baa1	Baa1	Baa1	Baa1	Baa1-Baa2
Moderate	baa3	Baa1	Baa1	Baa2	Baa2-Baa3	Baa3
Moderate	ba1	Baa1	Baa1-Baa2	Baa2-Baa3	Baa3	Baa3-Ba1
Moderate	ba2	Baa1-Baa2	Baa2-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
Moderate	ba3	Baa1-Baa2	Baa2-Ba1	Ba1	Ba1-Ba2	Ba2-Ba3
Moderate	b1	Baa1-Baa2	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
Moderate	b2	Baa1-Baa3	Baa3-Ba2	Ba2-Ba3	Ba3-B1	B1-B2
Moderate	b3	Baa1-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
Moderate	caa1	Baa1-Ba1	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
Moderate	caa2	Baa1-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
Moderate	caa3	Baa1-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
Moderate	ca	Baa1-Ba3	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
Moderate	c	Baa1-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C
Low	baa1	Baa1	Baa1	Baa1	Baa1	Baa1
Low	baa2	Baa1	Baa1	Baa1	Baa1	Baa1-Baa2
Low	baa3	Baa1	Baa1	Baa1-Baa2	Baa2-Baa3	Baa3
Low	ba1	Baa1	Baa1-Baa2	Baa2-Baa3	Baa3	Baa3-Ba1
Low	ba2	Baa1	Baa1-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
Low	ba3	Baa1-Baa2	Baa2-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3
Low	b1	Baa1-Baa2	Baa2-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
Low	b2	Baa1-Baa3	Baa3-Ba2	Ba2-Ba3	Ba3-B1	B1-B2
Low	b3	Baa1-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
Low	caa1	Baa1-Ba1	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
Low	caa2	Baa1-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
Low	caa3	Baa1-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
Low	ca	Baa1-Ba3	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
Low	c	Baa1-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C

Source: Moody's Investors Service

Exhibit 13

Scorecard-indicated outcome ranges for a Baa2-rated supporter

Baa2 Supporter Rating		Extraordinary Support				
Dependence	BCA	Very High	High	Strong	Moderate	Low
Very High	baa2	Baa2	Baa2	Baa2	Baa2	Baa2
	baa3	Baa2	Baa2	Baa2-Baa3	Baa3	Baa3
	ba1	Baa2	Baa2-Baa3	Baa3	Baa3-Ba1	Ba1
	ba2	Baa2	Baa2-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	Baa2-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2	Ba2-Ba3
	b1	Baa2-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	Baa2-Baa3	Baa3-Ba2	Ba2-Ba3	Ba3-B1	B1-B2
	b3	Baa2-Ba1	Ba1-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	Baa2-Ba1	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	Baa2-Ba1	Ba2-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	Baa2-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Baa2-Ba3	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	Baa2-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C
High	baa2	Baa2	Baa2	Baa2	Baa2	Baa2
	baa3	Baa2	Baa2	Baa2	Baa2-Baa3	Baa3
	ba1	Baa2	Baa2-Baa3	Baa3	Baa3-Ba1	Ba1
	ba2	Baa2	Baa2-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	Baa2	Baa3-Ba1	Ba1	Ba1-Ba2	Ba2-Ba3
	b1	Baa2-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	Baa2-Baa3	Baa3-Ba2	Ba2-Ba3	Ba3-B1	B1-B2
	b3	Baa2-Baa3	Ba1-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	Baa2-Ba1	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	Baa2-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	Baa2-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Baa2-Ba3	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	Baa2-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C

		Extraordinary Support				
Dependence	BCA	Very High	High	Strong	Moderate	Low
Moderate	baa2	Baa2	Baa2	Baa2	Baa2	Baa2
	baa3	Baa2	Baa2	Baa2	Baa2-Baa3	Baa3
	ba1	Baa2	Baa2	Baa3	Baa3	Baa3-Ba1
	ba2	Baa2	Baa2-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	Baa2	Baa2-Ba1	Ba1	Ba1-Ba2	Ba2-Ba3
	b1	Baa2-Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	Baa2-Baa3	Baa3-Ba2	Ba2-Ba3	Ba3-B1	B1-B2
	b3	Baa2-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	Baa2-Ba1	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	Baa2-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	Baa2-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Baa2-Ba3	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	Baa2-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C
Low	baa2	Baa2	Baa2	Baa2	Baa2	Baa2
	baa3	Baa2	Baa2	Baa2	Baa2-Baa3	Baa3
	ba1	Baa2	Baa2	Baa2-Baa3	Baa3	Baa3-Ba1
	ba2	Baa2	Baa2-Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	Baa2	Baa2-Baa3	Ba1	Ba1-Ba2	Ba2-Ba3
	b1	Baa2	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	Baa2-Baa3	Baa3-Ba2	Ba2-Ba3	Ba3-B1	B1-B2
	b3	Baa2-Baa3	Baa3-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	Baa2-Ba1	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	Baa2-Ba1	Ba1-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	Baa2-Ba2	Ba2-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Baa2-Ba3	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	Baa2-Ba3	Ba3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C

Source: Moody's Investors Service

Exhibit 14

Scorecard-indicated outcome ranges for a Baa3-rated supporter

Baa3 Supporter Rating — Extraordinary Support

Dependence	BCA	Very High	High	Strong	Moderate	Low
Very High	baa3	Baa3	Baa3	Baa3	Baa3	Baa3
	ba1	Baa3	Baa3	Baa3	Ba1	Ba1
	ba2	Baa3	Baa3-Ba1	Ba1	Ba1-Ba2	Ba2
	ba3	Baa3	Baa3-Ba1	Ba1-Ba2	Ba2	Ba2-Ba3
	b1	Baa3-Ba1	Ba1-Ba2	Ba2	Ba2-Ba3	Ba3-B1
	b2	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1	B1-B2
	b3	Baa3-Ba1	Ba1-Ba3	Ba3-B1	B1-B2	B2-B3
	caa1	Baa3-Ba1	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	Baa3-Ba2	Ba2-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	Baa3-Ba2	Ba3-B2	B3-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Baa3-Ba3	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	Baa3-Ba3	B1-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C
High	baa3	Baa3	Baa3	Baa3	Baa3	Baa3
	ba1	Baa3	Baa3	Baa3	Baa3-Ba1	Ba1
	ba2	Baa3	Baa3-Ba1	Ba1	Ba1	Ba1-Ba2
	ba3	Baa3	Baa3-Ba1	Ba1-Ba2	Ba2	Ba2-Ba3
	b1	Baa3	Baa3-Ba1	Ba2	Ba2-Ba3	Ba3-B1
	b2	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1	B1-B2
	b3	Baa3-Ba1	Ba1-Ba3	Ba3-B1	B1-B2	B2-B3
	caa1	Baa3-Ba1	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	Baa3-Ba2	Ba2-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	Baa3-Ba2	Ba3-B2	B3-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Baa3-Ba3	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	Baa3-Ba3	B1-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C

Extraordinary Support

Dependence	BCA	Very High	High	Strong	Moderate	Low
Moderate	baa3	Baa3	Baa3	Baa3	Baa3	Baa3
	ba1	Baa3	Baa3	Baa3	Baa3-Ba1	Ba1
	ba2	Baa3	Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	Baa3	Baa3-Ba1	Ba1-Ba2	Ba2	Ba2-Ba3
	b1	Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	Baa3	Baa3-Ba2	Ba2-Ba3	Ba3-B1	B1-B2
	b3	Baa3-Ba1	Ba1-Ba2	Ba3-B1	B1-B2	B2-B3
	caa1	Baa3-Ba1	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	Baa3-Ba2	Ba2-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	Baa3-Ba2	Ba3-B2	B3-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Baa3-Ba3	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	Baa3-Ba3	B1-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C
Low	baa3	Baa3	Baa3	Baa3	Baa3	Baa3
	ba1	Baa3	Baa3	Baa3	Baa3	Ba1
	ba2	Baa3	Baa3	Baa3-Ba1	Ba1	Ba1-Ba2
	ba3	Baa3	Baa3-Ba1	Ba1	Ba1-Ba2	Ba2-Ba3
	b1	Baa3	Baa3-Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	Baa3	Baa3-Ba2	Ba2-Ba3	Ba3-B1	B1-B2
	b3	Baa3-Ba1	Ba1-Ba2	Ba2-B1	B1-B2	B2-B3
	caa1	Baa3-Ba1	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	Baa3-Ba1	Ba2-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	Baa3-Ba2	Ba3-B2	B3-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Baa3-Ba3	Ba3-B3	B3-Caa2	Caa2-Caa3	Caa3-Ca
	c	Baa3-Ba3	B1-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C

Source: Moody's Investors Service

Exhibit 15

Scorecard-indicated outcome ranges for a Ba1-rated supporter

Ba1 Supporter Rating — Extraordinary Support

Dependence	BCA	Very High	High	Strong	Moderate	Low
Very High	ba1	Ba1	Ba1	Ba1	Ba1	Ba1
	ba2	Ba1	Ba1	Ba1	Ba1-Ba2	Ba2
	ba3	Ba1	Ba1-Ba2	Ba2	Ba2	Ba2-Ba3
	b1	Ba1	Ba1-Ba2	Ba2-Ba3	Ba3	Ba3-B1
	b2	Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1	B1-B2
	b3	Ba1-Ba2	Ba2-Ba3	Ba3-B1	B1-B2	B2-B3
	caa1	Ba1-Ba2	Ba2-B1	B1-B2	B2-B3	B3-Caa1
	caa2	Ba1-Ba2	Ba2-B1	B2-B3	B3-Caa1	Caa1-Caa2
	caa3	Ba1-Ba3	Ba3-B3	B3-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Ba1-Ba3	B1-B3	Caa1-Caa2	Caa2-Caa3	Caa3-Ca
	c	Ba1-B1	B1-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C
High	ba1	Ba1	Ba1	Ba1	Ba1	Ba1
	ba2	Ba1	Ba1	Ba1	Ba1-Ba2	Ba2
	ba3	Ba1	Ba1	Ba1-Ba2	Ba2	Ba2-Ba3
	b1	Ba1	Ba1-Ba2	Ba2-Ba3	Ba3	Ba3-B1
	b2	Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1	B1-B2
	b3	Ba1	Ba1-Ba3	Ba3-B1	B1-B2	B2-B3
	caa1	Ba1-Ba2	Ba2-B1	B1-B2	B2-B3	B3-Caa1
	caa2	Ba1-Ba2	Ba2-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	Ba1-Ba3	Ba3-B3	B3-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Ba1-Ba3	B1-B3	Caa1-Caa2	Caa2-Caa3	Caa3-Ca
	c	Ba1-B1	B1-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C

Extraordinary Support

Dependence	BCA	Very High	High	Strong	Moderate	Low
Moderate	ba1	Ba1	Ba1	Ba1	Ba1	Ba1
	ba2	Ba1	Ba1	Ba1	Ba1-Ba2	Ba2
	ba3	Ba1	Ba1	Ba1-Ba2	Ba2	Ba2-Ba3
	b1	Ba1	Ba1-Ba2	Ba2	Ba2-Ba3	Ba3-B1
	b2	Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1	B1-B2
	b3	Ba1	Ba1-Ba3	Ba3-B1	B1-B2	B2-B3
	caa1	Ba1-Ba2	Ba2-Ba3	B1-B2	B2-B3	B3-Caa1
	caa2	Ba1-Ba2	Ba2-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	Ba1-Ba3	Ba3-B3	B3-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Ba1-Ba3	B1-B3	Caa1-Caa2	Caa2-Caa3	Caa3-Ca
	c	Ba1-B1	B1-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C
Low	ba1	Ba1	Ba1	Ba1	Ba1	Ba1
	ba2	Ba1	Ba1	Ba1	Ba1	Ba1-Ba2
	ba3	Ba1	Ba1	Ba1-Ba2	Ba2	Ba2-Ba3
	b1	Ba1	Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1
	b2	Ba1	Ba1-Ba2	Ba2-Ba3	Ba3-B1	B1-B2
	b3	Ba1	Ba1-Ba3	Ba3-B1	B1-B2	B2-B3
	caa1	Ba1	Ba1-Ba3	Ba3-B2	B2-B3	B3-Caa1
	caa2	Ba1-Ba2	Ba2-B1	B1-B3	B3-Caa1	Caa1-Caa2
	caa3	Ba1-Ba3	Ba3-B3	B3-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Ba1-Ba3	B1-B3	Caa1-Caa2	Caa2-Caa3	Caa3-Ca
	c	Ba1-B1	B1-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C

Source: Moody's Investors Service

Exhibit 16

Scorecard-indicated outcome ranges for a Ba2-rated supporter

Ba2 Supporter Rating

Dependence	BCA	Extraordinary Support: Very High	High	Strong	Moderate	Low
Very High	ba2	Ba2	Ba2	Ba2	Ba2	Ba2
	ba3	Ba2	Ba2	Ba2	Ba2-Ba3	Ba3
	b1	Ba2	Ba2-Ba3	Ba3	Ba3	Ba3-B1
	b2	Ba2	Ba2-Ba3	Ba3-B1	B1	B1-B2
	b3	Ba2	Ba2-Ba3	Ba3-B1	B1-B2	B2-B3
	caa1	Ba2-Ba3	Ba3-B1	B1-B2	B2-B3	B3-Caa1
	caa2	Ba2-Ba3	Ba3-B2	B2-B3	B3-Caa1	Caa1-Caa2
	caa3	Ba2-B1	B1-B3	B3-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Ba2-B1	B1-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-Ca
	c	Ba2-B1	B2-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C
High	ba2	Ba2	Ba2	Ba2	Ba2	Ba2
	ba3	Ba2	Ba2	Ba2	Ba2-Ba3	Ba3
	b1	Ba2	Ba2	Ba2-Ba3	Ba3	Ba3-B1
	b2	Ba2	Ba2-Ba3	Ba3	Ba3-B1	B1-B2
	b3	Ba2	Ba2-Ba3	Ba3-B1	B1-B2	B2-B3
	caa1	Ba2	Ba2-B1	B1-B2	B2-B3	B3-Caa1
	caa2	Ba2-Ba3	Ba3-B2	B2-B3	B3-Caa1	Caa1-Caa2
	caa3	Ba2-Ba3	B1-B3	B3-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Ba2-B1	B1-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-Ca
	c	Ba2-B1	B2-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C

Dependence	BCA	Extraordinary Support: Very High	High	Strong	Moderate	Low
Very High	ba2	Ba2	Ba2	Ba2	Ba2	Ba2
	ba3	Ba2	Ba2	Ba2	Ba2-Ba3	Ba3
	b1	Ba2	Ba2-Ba3	Ba3	Ba3	Ba3-B1
	b2	Ba2	Ba2-Ba3	Ba3-B1	B1	B1-B2
	b3	Ba2	Ba2-Ba3	Ba3-B1	B1-B2	B2-B3
	caa1	Ba2-Ba3	Ba3-B1	B1-B2	B2-B3	B3-Caa1
	caa2	Ba2-Ba3	Ba3-B2	B2-B3	B3-Caa1	Caa1-Caa2
	caa3	Ba2-B1	B1-B3	B3-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Ba2-B1	B1-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-Ca
	c	Ba2-B1	B2-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C
High	ba2	Ba2	Ba2	Ba2	Ba2	Ba2
	ba3	Ba2	Ba2	Ba2	Ba2-Ba3	Ba3
	b1	Ba2	Ba2	Ba2-Ba3	Ba3	Ba3-B1
	b2	Ba2	Ba2-Ba3	Ba3	Ba3-B1	B1-B2
	b3	Ba2	Ba2-Ba3	Ba3-B1	B1-B2	B2-B3
	caa1	Ba2	Ba2-B1	B1-B2	B2-B3	B3-Caa1
	caa2	Ba2-Ba3	Ba3-B2	B2-B3	B3-Caa1	Caa1-Caa2
	caa3	Ba2-Ba3	B1-B3	B3-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Ba2-B1	B1-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-Ca
	c	Ba2-B1	B2-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-C

Source: Moody's Investors Service

Exhibit 17

Scorecard-indicated outcome ranges for a Ba3-rated supporter

Ba3 Supporter Rating

Dependence	BCA	Extraordinary Support: Very High	High	Strong	Moderate	Low
Very High	ba3	Ba3	Ba3	Ba3	Ba3	Ba3
	b1	Ba3	Ba3	Ba3	Ba3-B1	B1
	b2	Ba3	Ba3	B1	B1	B1-B2
	b3	Ba3	Ba3-B1	B1-B2	B2	B2-B3
	caa1	Ba3	Ba3-B2	B2	B2-B3	B3-Caa1
	caa2	Ba3-B1	B1-B2	B2-B3	B3-Caa1	Caa1-Caa2
	caa3	Ba3-B1	B1-B3	B3-Caa1	Caa2	Caa2-Caa3
	ca	Ba3-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-Ca
	c	Ba3-B2	B2-Caa1	Caa1-Caa3	Caa3	Caa3-C
High	ba3	Ba3	Ba3	Ba3	Ba3	Ba3
	b1	Ba3	Ba3	Ba3	Ba3-B1	B1
	b2	Ba3	Ba3	Ba3-B1	B1	B1-B2
	b3	Ba3	Ba3-B1	B1	B1-B2	B2-B3
	caa1	Ba3	Ba3-B1	B1-B2	B2-B3	B3-Caa1
	caa2	Ba3	B1-B2	B2-B3	B3-Caa1	Caa1-Caa2
	caa3	Ba3-B1	B1-B3	B3-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Ba3-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-Ca
	c	Ba3-B2	B2-Caa1	Caa1-Caa3	Caa3	Caa3-C

Dependence	BCA	Extraordinary Support: Very High	High	Strong	Moderate	Low
Moderate	ba3	Ba3	Ba3	Ba3	Ba3	Ba3
	b1	Ba3	Ba3	Ba3	Ba3	Ba3-B1
	b2	Ba3	Ba3	Ba3-B1	B1	B1-B2
	b3	Ba3	Ba3	Ba3-B1	B1-B2	B2-B3
	caa1	Ba3	Ba3-B1	B1-B2	B2-B3	B3-Caa1
	caa2	Ba3	Ba3-B2	B2-B3	B3-Caa1	Caa1-Caa2
	caa3	Ba3-B1	B1-B3	B3-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Ba3-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-Ca
	c	Ba3-B2	B2-Caa1	Caa1-Caa3	Caa3	Caa3-C
Low	ba3	Ba3	Ba3	Ba3	Ba3	Ba3
	b1	Ba3	Ba3	Ba3	Ba3	Ba3-B1
	b2	Ba3	Ba3	Ba3	Ba3-B1	B1-B2
	b3	Ba3	Ba3	Ba3-B1	B1-B2	B2-B3
	caa1	Ba3	Ba3-B1	B1-B2	B2-B3	B3-Caa1
	caa2	Ba3	Ba3-B2	B2-B3	B3-Caa1	Caa1-Caa2
	caa3	Ba3-B1	B1-B3	B3-Caa1	Caa1-Caa2	Caa2-Caa3
	ca	Ba3-B1	B2-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-Ca
	c	Ba3-B2	B2-Caa1	Caa1-Caa3	Caa3	Caa3-C

Source: Moody's Investors Service

Exhibit 18

Scorecard-indicated outcome ranges for a B1-rated supporter

B1 Supporter Rating		Extraordinary Support				
Dependence	BCA	Very High	High	Strong	Moderate	Low
Very High	b1	B1	B1	B1	B1	B1
Very High	b2	B1	B1	B1	B1-B2	B2
Very High	b3	B1	B1-B2	B2	B2	B2-B3
Very High	caa1	B1	B1-B2	B2-B3	B3	B3-Caa1
Very High	caa2	B1	B2-B3	B3-Caa1	Caa1	Caa1-Caa2
Very High	caa3	B1-B2	B2-Caa1	Caa1-Caa2	Caa2	Caa2-Caa3
Very High	ca	B1-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-Ca
Very High	c	B1-B3	B3-Caa2	Caa2-Caa3	Caa3	Caa3-C
High	b1	B1	B1	B1	B1	B1
High	b2	B1	B1	B1	B1	B1-B2
High	b3	B1	B1	B1-B2	B2	B2-B3
High	caa1	B1	B1-B2	B2-B3	B3	B3-Caa1
High	caa2	B1	B1-B3	B3	B3-Caa1	Caa1-Caa2
High	caa3	B1-B2	B2-Caa1	Caa1-Caa2	Caa2	Caa2-Caa3
High	ca	B1-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-Ca
High	c	B1-B3	B3-Caa2	Caa2-Caa3	Caa3	Caa3-C

		Extraordinary Support				
Dependence	BCA	Very High	High	Strong	Moderate	Low
Moderate	b1	B1	B1	B1	B1	B1
Moderate	b2	B1	B1	B1	B1	B1-B2
Moderate	b3	B1	B1	B1-B2	B2	B2-B3
Moderate	caa1	B1	B1-B2	B2	B2-B3	B3-Caa1
Moderate	caa2	B1	B1-B2	B2-B3	B3-Caa1	Caa1-Caa2
Moderate	caa3	B1-B2	B2-B3	B3-Caa2	Caa2	Caa2-Caa3
Moderate	ca	B1-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-Ca
Moderate	c	B1-B3	B3-Caa2	Caa2-Caa3	Caa3	Caa3-C
Low	b1	B1	B1	B1	B1	B1
Low	b2	B1	B1	B1	B1	B1-B2
Low	b3	B1	B1	B1	B1-B2	B2-B3
Low	caa1	B1	B1	B1-B2	B2-B3	B3-Caa1
Low	caa2	B1	B1-B2	B2-B3	B3-Caa1	Caa1-Caa2
Low	caa3	B1	B2-B3	B3-Caa2	Caa2	Caa2-Caa3
Low	ca	B1-B2	B2-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-Ca
Low	c	B1-B3	B3-Caa2	Caa2-Caa3	Caa3	Caa3-C

Source: Moody's Investors Service

Exhibit 19

Scorecard-indicated outcome ranges for a B2 rated supporter

B2 Supporter Rating		Extraordinary Support				
Dependence	BCA	Very High	High	Strong	Moderate	Low
Very High	b2	B2	B2	B2	B2	B2
Very High	b3	B2	B2	B2	B2-B3	B3
Very High	caa1	B2	B2-B3	B3	B3	B3-Caa1
Very High	caa2	B2	B2-B3	B3-Caa1	Caa1	Caa1-Caa2
Very High	caa3	B2-B3	B3-Caa1	Caa1-Caa2	Caa2	Caa2-Caa3
Very High	ca	B2-B3	B3-Caa1	Caa2	Caa2-Caa3	Caa3-Ca
Very High	c	B2-B3	B3-Caa2	Caa2-Caa3	Caa3	Ca-C
High	b2	B2	B2	B2	B2	B2
High	b3	B2	B2	B2	B2-B3	B3
High	caa1	B2	B2	B2-B3	B3	B3-Caa1
High	caa2	B2	B2-B3	B3-Caa1	Caa1	Caa1-Caa2
High	caa3	B2	B3-Caa1	Caa1-Caa2	Caa2	Caa2-Caa3
High	ca	B2-B3	B3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-Ca
High	c	B2-B3	B3-Caa2	Caa2-Caa3	Caa3	Ca-C

		Extraordinary Support				
Dependence	BCA	Very High	High	Strong	Moderate	Low
Moderate	b2	B2	B2	B2	B2	B2
Moderate	b3	B2	B2	B2	B2	B2-B3
Moderate	caa1	B2	B2	B2-B3	B3	B3-Caa1
Moderate	caa2	B2	B2-B3	B3-Caa1	Caa1	Caa1-Caa2
Moderate	caa3	B2	B2-Caa1	Caa1-Caa2	Caa2	Caa2-Caa3
Moderate	ca	B2-B3	B3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-Ca
Moderate	c	B2-B3	B3-Caa2	Caa2-Caa3	Caa3	Ca-C
Low	b2	B2	B2	B2	B2	B2
Low	b3	B2	B2	B2	B2	B2-B3
Low	caa1	B2	B2	B2	B3	B3-Caa1
Low	caa2	B2	B2	B2-B3	B3-Caa1	Caa1-Caa2
Low	caa3	B2	B2-Caa1	Caa1-Caa2	Caa2	Caa2-Caa3
Low	ca	B2-B3	B3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-Ca
Low	c	B2-B3	B3-Caa2	Caa2-Caa3	Caa3	Ca-C

Source: Moody's Investors Service

Exhibit 20

Scorecard-indicated outcome ranges for a B3 rated supporter

Dependence	BCA	Extraordinary Support: Very High	High	Strong	Moderate	Low
Very High	b3	B3	B3	B3	B3	B3
	caa1	B3	B3	B3	B3-Caa1	Caa1
	caa2	B3	B3-Caa1	Caa1	Caa1	Caa1-Caa2
	caa3	B3	B3-Caa1	Caa1-Caa2	Caa2	Caa2-Caa3
	ca	B3-Caa1	Caa1-Caa2	Caa2	Caa3	Caa3-Ca
	c	B3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-Ca	Ca-C
High	b3	B3	B3	B3	B3	B3
	caa1	B3	B3	B3	B3-Caa1	Caa1
	caa2	B3	B3	B3-Caa1	Caa1	Caa1-Caa2
	caa3	B3	B3-Caa1	Caa1-Caa2	Caa2	Caa2-Caa3
	ca	B3-Caa1	Caa1-Caa2	Caa2	Caa3	Caa3-Ca
	c	B3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-Ca	Ca-C

Dependence	BCA	Extraordinary Support: Very High	High	Strong	Moderate	Low
Moderate	b3	B3	B3	B3	B3	B3
	caa1	B3	B3	B3	B3	B3-Caa1
	caa2	B3	B3	B3-Caa1	Caa1	Caa1-Caa2
	caa3	B3	B3-Caa1	Caa1-Caa2	Caa2	Caa2-Caa3
	ca	B3	Caa1-Caa2	Caa2	Caa2-Caa3	Caa3-Ca
	c	B3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-Ca	Ca-C
Low	b3	B3	B3	B3	B3	B3
	caa1	B3	B3	B3	B3	B3-Caa1
	caa2	B3	B3	B3-Caa1	Caa1	Caa1-Caa2
	caa3	B3	B3-Caa1	Caa1-Caa2	Caa2	Caa2-Caa3
	ca	B3	B3-Caa2	Caa2	Caa2-Caa3	Caa3-Ca
	c	B3-Caa1	Caa1-Caa2	Caa2-Caa3	Caa3-Ca	Ca-C

Source: Moody's Investors Service

Moody's related publications

Cross-sector credit rating methodologies are typically applied in tandem with sector credit rating methodologies, but in certain circumstances may be the basis for assigning credit ratings. 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.

Author
Tomás O'Loughlin
Geordie Thompson

Report Number: 1371152