MOODY'S INVESTORS SERVICE

RATING METHODOLOGY

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Rating Methodology

Construction

This rating methodology replaces the *Construction Industry* methodology published in March 2017. We have reordered and have made editorial updates to various sections of the methodology, and we have changed the presentation of the scorecard. We have removed outdated information. These updates do not change our methodological approach.

Scope

This methodology applies to companies globally that are primarily engaged* in the construction or refurbishment of civil infrastructure (tunnels, roads, bridges, harbors); industrial infrastructure (manufacturing plants, power generating plants, oil and gas processing facilities); and buildings for commercial purposes (offices, warehouses) or public purposes (schools, hospitals, government buildings). These companies include general contractors or subcontractors.

This methodology also applies to companies that provide installation, repair and maintenance of electrical and mechanical systems, and power generation and telecommunications infrastructure.

This methodology does not apply to building materials companies, companies focused on homebuilding for private customers, real estate development companies, and companies focused on the production and installation of heavy equipment and machinery for industrial users and utilities.

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

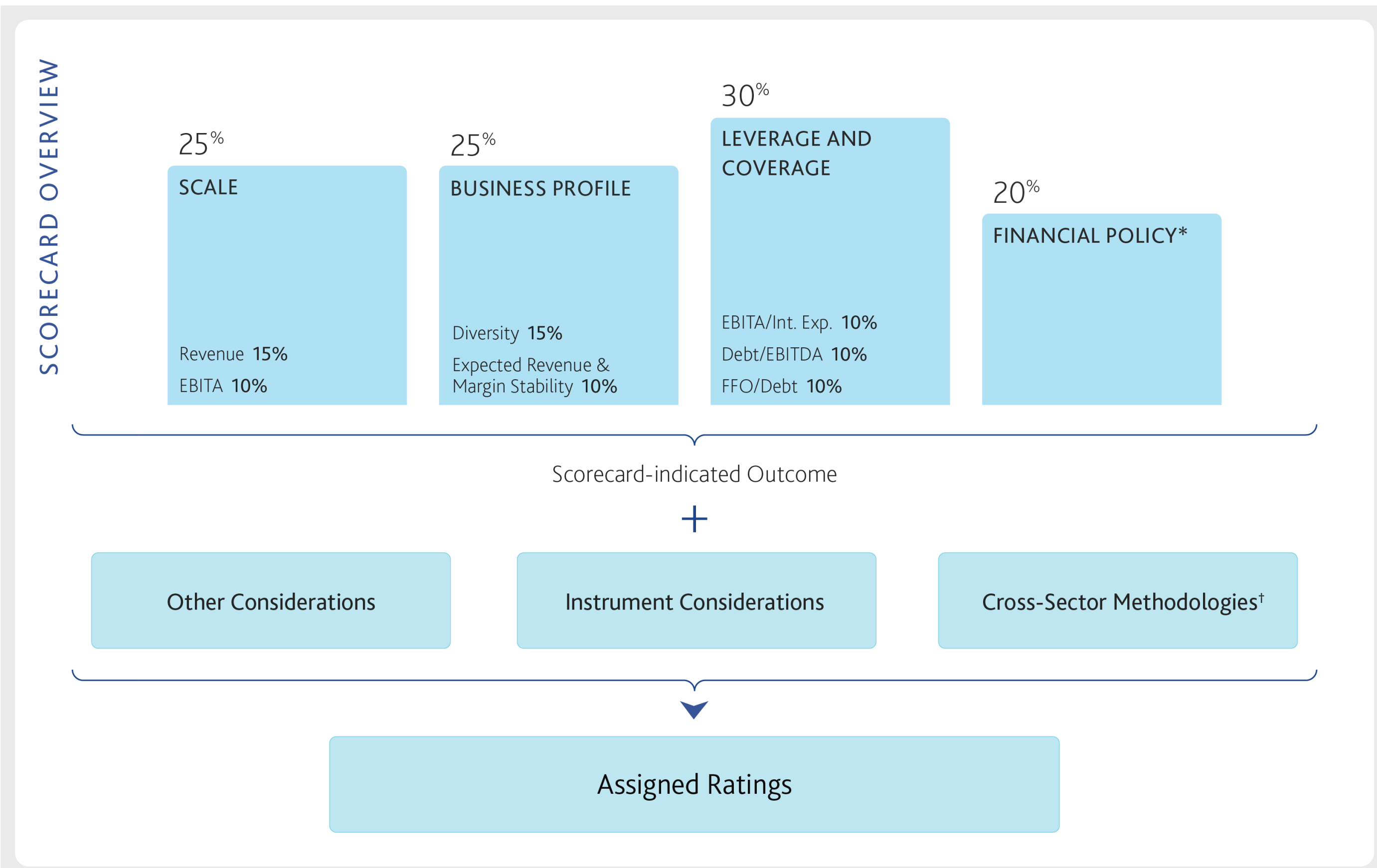
Rating approach

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

The following schematic illustrates our general framework for the analysis of construction companies, which includes the use of a scorecard.[1] The scorecard-indicated outcome is not expected to match the actual rating for each company. For more information, see the "Other considerations" and "Limitations" sections.

Exhibit 1

Illustration of the construction methodology framework



* This factor has no sub-factors.
† Some of the methodological considerations described in one or more cross-sector rating methodologies may be relevant to ratings in this sector. A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.
Source: Moody's Investors Service

Construction scorecard

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

Exhibit 2

Construction scorecard

	SCALE (25%)		BUSINESS PROFILE (25%)		LEVERAGE and COVERAGE (30%)			FINANCIAL POLICY (20%)
	Total Revenue (USD Billion) (15%)	**EBITA (USD Billion) (10%)**	**Diversity (15%)**	**Expected Revenue & Margin Stability (10%)**	**EBITA / Interest Expense (10%)**	**Debt / EBITDA (10%)[1]**	**FFO / DEBT (10%)**	
Aaa	≥ $40	≥ $4	Extremely well diversified with several profitable global platforms that are market leaders in multiple continents.	Superior revenue, margin and backlog sustainability and technical capabilities that create very strong barriers to entry. Superior track record of project execution within scheduled time frame and established budget.	≥ 20x	< 0.25x	≥ 100%	Expected to have extremely conservative financial policies; very stable metrics; public commitment to very strong credit profile over the long term.
Aa	$15 - $40	$2 - $4	Well diversified with several profitable global platforms and strong market positions in multiple continents.	Extremely high revenue, margin and backlog sustainability and technical capabilities that create very strong barriers to entry. Very strong track record of project execution within scheduled time frame and established budget.	15x - 20x	0.25x - 0.75x	80% - 100%	Expected to have very stable and conservative financial policies; stable metrics; minimal event risk that would cause a rating transition; public commitment to strong credit profile over the long term.
A	$12 - $15	$1.5 - $2	A number of diversified segments, varying in size and profitability with just under half of revenues within one continent.	Very high revenue, margin and backlog sustainability and technical capabilities that create strong barriers to entry. Strong track record of project execution within scheduled time frame and established budget.	10x - 15x	0.75x - 1.5x	55% - 80%	Expected to have predictable financial policies that preserve creditor interests. Although modest event risk exists, the effect on leverage is likely to be small and temporary; strong commitment to a solid credit profile.
Baa	$7 - $12	$0.75 - $1.5	More than one balanced and profitable segment with the majority of revenues within one continent.	High revenue, margin and backlog sustainability and technical capabilities that create strong barriers to entry. Solid track record of project execution within scheduled time frame and established budget.	5x - 10x	1.5x - 2.75x	35% - 55%	Expected to have financial policies that balance the interest of creditors and shareholders; some risk that debt funded acquisitions or shareholder distributions could lead to ratings migration.
Ba	$3.5 - $7	$0.25 - $0.75	Heavily reliant on one segment with the significant majority of revenues within one continent, but diversified across several economic regions.	Good revenue, margin and backlog sustainability and technical capabilities that create barriers to entry. Generally good track record of project execution within scheduled time frame and established budget.	2.25x - 5x	2.75x - 4.5x	20% - 35%	Expected to have financial policies that tend to favor shareholders over creditors; above average financial risk resulting from shareholder distributions, acquisitions or other significant capital structure changes.
B	$1 - $3.5	$0.125 - $0.25	Heavily reliant on one segment with the significant majority of revenues within one continent and diversified across a few economic regions.	Moderate revenue, margin and backlog sustainability and technical capabilities that create modest barriers to entry. Moderate track record of project execution.	1x - 2.25x	4.5x - 6.5x	10% - 20%	Expected to have financial policies that favor shareholders over creditors; high financial risk resulting from shareholder distributions, acquisitions or other significant capital structure changes.

	SCALE (25%)		BUSINESS PROFILE (25%)		LEVERAGE and COVERAGE (30%)			FINANCIAL POLICY (20%)
	Total Revenue (USD Billion) (15%)	**EBITA (USD Billion) (10%)**	**Diversity (15%)**	**Expected Revenue & Margin Stability (10%)**	**EBITA / Interest Expense (10%)**	**Debt / EBITDA (10%)[1]**	**FFO / DEBT (10%)**	
Caa	$0.25 - $1	$0.06 - $0.125	Heavily reliant on one segment and the significant majority of revenues expected to be within one economic region.	Volatile revenues, margins and backlog. Modest technical capabilities and limited competitive differentiation. Weak track record of project execution.	0.5x - 1x	6.5x - 9x	5% - 10%	Expected to have financial policies that create elevated risk of debt restructuring in varied economic environments.
Ca	< $0.25	< $0.06	One segment generates all revenues and all sales expected to be within one small economic region.	Volatile and unpredictable revenues, margins and backlog with no competitive differentiation. Poor track record of project execution.	< 0.5x	≥ 9x	< 5%	Expected to have financial policies that create elevated risk of debt restructuring even in healthy economic environments.

[1] When debt is zero, the score is Aaa. When debt is positive and EBITDA is negative, the score is Ca.
Source: Moody's Investors Service

Sector overview

Cyclicality

The pattern of general economic cycles is a significant driver of demand for construction and refurbishment activity. Exposure to certain geographical areas, customers and end-markets determines the trajectory of a company's operating performance in relation to the cycles of specific economies. From a broader customer segmentation perspective, private customers and public customers exhibit different contracting behavior through the cycle. Private sector customers, whose contracts are normally of higher profitability, may delay or cancel new projects when the economy slows, but could shift towards demand for refurbishment projects depending on their specific financial condition and investment policies. Public sector contracts, which are typically less profitable, are closely tied to a government's fiscal policy or spending plans, which are not necessarily linked to the stage of an economic cycle in a specific country. Public sector spending could even show anti-cyclical spending patterns, supported by efforts to stimulate the economy through the construction sector.

Relatively low margins and volatile earnings

Low industry profitability levels are often a result of extensive levels of subcontracting, which reduce the value added revenues and hence profitability for a company but substantially increase the level of operating flexibility through the cycle. In order to offer a complete solution package, many construction companies act as "general contractors" and coordinate resources from various "subcontractors" to execute the work on a project, while retaining the responsibility for project completion. Subcontracting allows them to have a more flexible cost structure, but leads to substantially reduced profitability. Since the general contractor bills the whole project, the general contractor will recognize the full revenues but pass on part of the profit to the subcontractors.

Another determining factor of profitability and earnings volatility is the type of construction contracts. Fixed-price contracts typically offer high margin potential, but the risk of cost overruns on complex projects or those with a long project duration is more severe than for cost-plus contracts or fee for service contracts. These contracts do not expose contractors to the risk of cost overruns. Therefore, these cost-plus type contracts offer a higher level of earnings stability but provide lower margin potential.

Profitability levels in the industry are also burdened by time-consuming competitive tender procedures for order awards, leading to aggressive bidding by construction companies. In highly competitive markets or in cyclical downturns, companies may relax margin standards in order to win tenders and fill capacity with the knowledge that variable costs (but not all fixed costs) will be covered. This behavior can lead to operating losses and cash flow deficits. Public contracts in particular are normally secured through these tender procedures and are generally linked to greater risk and reduced margins given the focus on price compared to more profitable referral work from private customers.

Effective risk management is essential to project profitability

One of the key drivers of a project's profitability is the bidding process. The competitive nature of the bidding process can drive companies to be aggressive and expose them to the risks of adverse surprises.

Project construction risks include (i) cost overruns above an initial construction budget, which are a greater threat in the case of fixed-price contracts; and (ii) time overruns in the case of delayed completion, which could be a result of an unreasonable construction schedule or a project's complexity. Project construction risks depend on the experience/track record of the contractor with the particular type of project being undertaken, and the degree to which local economic conditions around the project site will affect the cost and the availability of labor and materials over the construction period. Large projects could be exposed to regulatory or political risks in countries whose political, economic and legal systems are less predictable or are potentially unfavorable for companies in this sector.

Substantial working capital needs require financial flexibility

It is often necessary for construction companies to maintain financial flexibility. The construction industry sees large working capital swings not only due to payments received upon completion of major milestones for long-term projects, but also due to the utilization of a complex array of advance payments made by the customer. Certain customers and/or projects typically include payments in advance of services rendered or for the procurement of equipment and materials. A normal trend for these projects is to have higher cash balances during the initial phases of execution which then level out toward the end of the construction phase. As a result, a company's cash position is reduced as customer advances are worked off, unless they are replaced by advances on other projects. However, some customers and project types do not involve advance payments and require significant working capital investments early in the project life cycle. In addition, contractors can be subject to major demands on cash for working capital because of delayed payments from customers or due to sudden, large changes in project schedules. It is sometimes difficult to assess the underlying cash flows of construction companies since their operating results may not be an accurate indicator of their cash flows due to the use of percentage of completion accounting. When changes in project estimates occur, then the estimated impact on the entire project is recognized in the period in which they are determined. For example, if a project estimate is revised and the project is expected to result in a loss for the company, then the full amount of the loss is recognized in the period when they are discovered. Therefore, the percentage of completion method will often result in periods when reported revenues and operating earnings are poor predictors of the company's cash flows.

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 credit indicators.

Factor: Scale (25% weight)

Why it matters

Scale is an indicator of a company's market strength, importance to markets served and ability to weather the vagaries of capital and economic cycles. Scale can also provide a broader platform for sustainable earnings and cash flow generation and typically enhances a construction company's operating and financial flexibility and its ability to bid, finance and profitably execute large, long-term and complex projects. Large construction companies can accommodate a broad range of construction needs since they typically maintain a sizeable network of subcontractors and obtain various sources of financing, including bonding lines, which are key competitive advantages in the industry. In addition, scale in the construction industry often has a bearing on other key considerations such as geographic and segment diversity.

How we assess it for the scorecard

Our assessment is based on two sub-factors: Revenue and EBITA.

REVENUE:

Scale is measured (or estimated in the case of forward-looking expectations) using total reported revenue in US dollars.

EBITA:

Scale is measured (or estimated in the case of forward-looking expectations) using EBITA (earnings before interest, taxes and amortization expense) in US dollars. Non-recurring or unusual charges, such as impairment or other write-down of asset values, may be excluded if we consider the adjustment is likely to produce an outcome that is more reflective of the company's underlying results. Typically, such adjustments are made only if they are sizable, non-recurring and non-cash items. We think EBITA is a better measure of profitability than EBITDA since construction companies must continuously reinvest in property, plant and equipment in order to maintain their competitiveness. Therefore, profitability should take into account depreciation expense.

Factor: Business Profile (25% weight)

Why it matters

The business profile of a construction company is important because it greatly influences its ability to generate sustainable earnings and operating cash flows. Diversification across several continents or economic regions and exposure to a number of uncorrelated segments can mitigate earnings volatility, which can be affected by cyclical swings, changing levels of competition and project performance.

This factor has two sub-factors:

Diversity

Geographic diversity is important because it (i) reduces a company's vulnerability to adverse economic shocks or cyclicality that may impact certain geographies; (ii) mitigates the impact of regional regulatory, environmental or safety issues; and (iii) provides exposure to different demand trends that may persist for an intermediate period of time in various regions. Geographic diversity usually tempers volatility by balancing slower and higher growth markets, regional economic swings, and seasonal or weather-related fluctuations in cash flows.

Segment diversity mitigates the impact of demand fluctuations, price competition and technological trends that can occur in particular segments.

Expected Revenue and Margin Stability

Revenue sustainability provides an indication of how protected a company is from short-term economic disruptions and of its future earnings potential.

Margin stability is an indicator of the presence of sustainable competitive advantages (in particular if combined with evidence of stable market share). If a company is able to sustain a high level of profitability over a long period of time and no major competitors have emerged, that business is probably protected by significant barriers to entry that will help sustain high profitability in the future.

How we assess it for the scorecard

Scoring is based on a qualitative assessment of the business profile of a construction company, including its operational and geographic diversity, technical capabilities, track record of project execution, and stability of revenues and margins. Strength in these areas can temper the impact of cyclicality and competition, and are typically associated with higher scores for this factor.

DIVERSITY:

We assess geographic diversity primarily based on the extent to which a construction company's revenues are spread across multiple continents, countries within a continent or economic regions within a country.

The effectiveness of segment diversity usually considers the correlation of individual segments. The definition of business segments may differ among companies, according to each company's strategic focus or construction services groupings. While the number of business segments discussed in annual reports usually serves as a good indicator of segment diversity, we may adjust these measures based on the estimated levels of correlation across the reported segments.

EXPECTED REVENUE AND MARGIN STABILITY:

Our assessment of a company's expected revenue and margin stability is based on its technical capabilities, its ability to create barriers to entry, and its track record of successful project execution. We assess a company's existing order backlog and the extent to which future orders are protected by competitive barriers. We recognize that many companies, particularly those serving utilities, have significant future revenue streams because of master service agreements. These future revenue streams are difficult to quantify and are usually not reported in backlog. Estimates of these revenues streams are often considered if sufficient information exists on which to base such estimates.

Factor: Leverage and Coverage (30% weight)

Why it matters

Leverage and coverage measures are indicators of a company's financial flexibility and long-term viability. Strength in these measures is an indicator of a greater ability to make new investments, weather the vagaries of the business cycle and respond to unexpected challenges, which often occur in the construction industry given the periodic performance issues that arise.

The factor comprises three sub-factors:

EBITA / Interest Expense

The ratio of earnings before interest, taxes and amortization to interest expense (EBITA/Interest Expense) is an indicator of a company's ability to meet its interest obligations.

Debt / EBITDA

The ratio of debt to earnings before interest, taxes, depreciation and amortization (Debt/EBITDA) is an indicator of debt serviceability and financial leverage. The ratio is commonly used in this sector as a proxy for comparative financial strength.

FFO / Debt

The ratio of funds from operations to total debt (FFO/Debt) is an indicator of a company's financial flexibility and its ability to repay debt. It is a measure or estimate of cash flow generation before investments in working capital, capital expenditures and dividend payments in relation to total debt.

How we assess it for the scorecard
Our assessment is based on three sub-factors: EBITA/Interest Expense; Debt/EBITDA; and FFO/Debt.

EBITA / INTEREST EXPENSE:

The numerator is EBITA, and the denominator is interest expense.

DEBT / EBITDA:

The numerator is total debt, and the denominator is EBITDA.

FFO / DEBT:

The numerator is funds from operations, and the denominator is total debt.

Factor: Financial Policy (20% weight)

Why it matters
Management and board tolerance for financial risk is an important rating determinant because it directly affects debt levels, credit quality, and the risk of adverse changes in financing and capital structure.

Our assessment of financial policies includes the perceived tolerance of a company's governing board and management for financial risk and the future direction for the company's capital structure. Considerations include a company's public commitments in this area, its track record for adhering to commitments, and our views on the ability for the company to achieve its targets.

Financial risk tolerance serves as a guidepost to investment and capital allocation. An expectation that management will be committed to sustaining an improved credit profile is often necessary to support an upgrade. For example, we may not upgrade a company that has built flexibility within its rating category if we believe the company will use that flexibility to fund a strategic acquisition, cash distribution to shareholders, spin-off or other leveraging transaction. Conversely, a company's credit rating may be better able to withstand a moderate leveraging event if management places a high priority on returning credit metrics to pre-transaction levels and has consistently demonstrated the commitment to do so through prior actions.

Construction companies have historically used acquisitions to spur revenue growth, expand business lines, consolidate market positions, advance cost synergies or seek to access new technologies or capabilities. The impact of an acquisition on a rating will depend on the company's existing capital structure, the degree to which it is changed by the acquisition and its focus on returning its credit metrics to a level that is appropriate for its rating.

How we assess it for the scorecard
We assess the issuer's desired capital structure or targeted credit profile, history of prior actions and adherence to its commitments. Attention is paid to management's operating performance and use of cash flow through different phases of economic cycles. Also of

interest is the way in which management responds to key events, such as changes in the credit markets and liquidity environment, legal actions, competitive challenges, and regulatory pressures.

Management's appetite for M&A activity is assessed, with a focus on the type of transactions (i.e., core competency or new business) and funding decisions. Frequency and materiality of acquisitions and previous financing choices are evaluated. A history of debt-financed or credit-transforming acquisitions will generally result in a lower score for this factor.

We also consider a company and its owners' past record of balancing shareholder returns and debtholders' interests. A track record of favoring shareholder returns at the expense of debt holders is likely to be viewed negatively in scoring this factor.

Other considerations

Ratings may reflect consideration of additional factors that are not in the scorecard, usually because the factor's credit importance varies widely among the issuers in the sector or because the factor may be important only under certain circumstances or for a subset of issuers. Such factors include financial controls and the quality of financial reporting; corporate legal structure; the quality and experience of management; assessments of corporate governance as well as environmental and social considerations; exposure to uncertain licensing regimes; and possible government interference in some countries. Regulatory, litigation, liquidity, technology and reputational risk as well as changes to consumer and business spending patterns, competitor strategies and macroeconomic trends also affect ratings.

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

Management Strategy

The quality of management is an important factor supporting a company's credit strength. Assessing the execution of business plans over time can be helpful in assessing management's business strategies, policies, and philosophies and in evaluating management performance relative to performance of competitors and our projections. Management's track record of adhering to stated plans, commitments and guidelines provides insight into management's likely future performance, including in stressed situations.

Environmental, Social and Governance Considerations

Environmental, social and governance (ESG) considerations may affect the ratings of issuers in the construction industry. For information about our approach to assessing ESG issues, please see our methodology that describes our general principles for assessing these risks.[2]

Among the areas of focus in corporate governance, for example, are audit committee financial expertise, the incentives created by executive compensation packages, related party transactions, interactions with outside auditors, and ownership structure.

Financial Controls

We rely on the accuracy of audited financial statements to assign and monitor ratings in this sector. The quality of financial statements may be influenced by internal controls, including the proper tone at the top, centralized operations, and consistency in accounting policies and procedures. Auditors' reports on the effectiveness of internal controls, auditors' comments in financial reports and unusual restatements of financial statements or delays in regulatory filings may indicate weaknesses in internal controls.

Liquidity

Liquidity is an important rating consideration for all construction companies, although it may not have a substantial impact in discriminating between two issuers with a similar credit profile. Liquidity can be particularly important for non-investment grade construction companies where issuers typically have less operating and financial flexibility, and ratings can be heavily affected by extremely weak liquidity. We form an opinion on likely near-term liquidity requirements from the perspective of both sources and uses of cash. For more details on our approach, please see our liquidity cross-sector methodology.[3]

Event Risk

We also recognize the possibility that an unexpected event could cause a sudden and sharp decline in an issuer's fundamental creditworthiness, which may cause actual ratings to be lower than the scorecard-indicated outcome. Event risks — which are varied and can range from leveraged recapitalizations to sudden regulatory changes or liabilities from an accident — can overwhelm even a stable, well-capitalized firm. Some other types of event risks include M&A, asset sales, spin-offs, capital restructuring programs, litigation, pandemics, significant cyber-crime events and shareholder distributions.

Parental Support

Ownership can provide ratings lift for a particular company in the construction sector if it is owned by a highly rated owner(s) and is viewed to be of strategic importance to those owners. In our analysis of parental support, we consider whether the parent has the financial capacity and strategic incentives to provide support to the issuer in times of stress or financial need (e.g., a major capital investment or advantaged operating agreement), or has already done so in the past. Conversely, if the parent puts a high dividend burden on the issuer, which in turn reduces its flexibility, the ratings would reflect this risk.

Government-related issuers may receive ratings uplift due to expected government support. However, for certain issuers, government ownership can have a negative impact on the underlying Baseline Credit Assessment.[4] For example, price controls, onerous taxation and high distributions can have a negative effect on an issuer's underlying credit profile.

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,[5] and we describe why they are meaningful as credit indicators.

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

Our ratings are forward-looking and reflect our expectations for future financial and operating performance. However, historical results are helpful in understanding patterns and trends of a company's performance as well as for peer comparisons. Financial ratios,[6] unless otherwise indicated, are typically calculated based on an annual or 12-month period. However, the factors in the scorecard can be assessed using various time periods. For example, rating committees may find it analytically useful to examine both historical and expected future performance for periods of several years or more.

All of the quantitative credit metrics incorporate our standard adjustments[7] to income statement, cash flow statement and balance sheet amounts for items such as underfunded pension obligations and operating leases. We may also make other analytical adjustments that are specific to a particular company.

2. Mapping scorecard factors to a numeric score

After estimating or calculating each factor or sub-factor, each outcome is mapped to a broad Moody's rating category (Aaa, Aa, A, Baa, Ba, B, Caa, or Ca, also called alpha categories), and to a numeric score.

Qualitative factors are scored based on the description by broad rating category in the scorecard. The numeric value of each alpha score is based on the scale below.

Exhibit 3

Aaa	Aa	A	Baa	Ba	B	Caa	Ca
1	3	6	9	12	15	18	20

Source: Moody's Investors Service

3. Determining the overall scorecard-indicated outcome

The numeric score for each sub-factor (or each factor, where the factor has no sub-factors), is multiplied by the weight for that sub-factor (or factor), with the results then summed to produce an aggregate numeric score. The aggregate numeric score is then mapped back to a scorecard-indicated outcome based on the ranges in the table below.

Exhibit 4
Scorecard-indicated outcome

Scorecard-indicated outcome	Aggregate numeric score
Aaa	x < 1.5
Aa1	1.5 ≤ x < 2.5
Aa2	2.5 ≤ x < 3.5
Aa3	3.5 ≤ x < 4.5
A1	4.5 ≤ x < 5.5
A2	5.5 ≤ x < 6.5
A3	6.5 ≤ x < 7.5
Baa1	7.5 ≤ x < 8.5
Baa2	8.5 ≤ x < 9.5
Baa3	9.5 ≤ x < 10.5
Ba1	10.5 ≤ x < 11.5
Ba2	11.5 ≤ x < 12.5
Ba3	12.5 ≤ x < 13.5
B1	13.5 ≤ x < 14.5
B2	14.5 ≤ x < 15.5
B3	15.5 ≤ x < 16.5
Caa1	16.5 ≤ x < 17.5
Caa2	17.5 ≤ x < 18.5
Caa3	18.5 ≤ x < 19.5
Ca	x ≥ 19.5

Source: Moody's Investors Service

For example, an issuer with an aggregate numeric score of 11.7 would have a Ba2 scorecard-indicated outcome.

In general, the scorecard-indicated outcome is oriented to the corporate family rating (CFR) for speculative-grade issuers and to the senior unsecured rating for investment-grade issuers. For issuers that benefit from rating uplift from parental support, government ownership or other institutional support, we consider the underlying credit strength or Baseline Credit Assessment for comparison to the scorecard-indicated outcome. For an explanation of the Baseline Credit Assessment, please refer to *Rating Symbols and Definitions* and to our cross-sector methodology for government-related issuers.[8]

Assigning issuer-level and instrument-level ratings

After considering the scorecard-indicated outcome, other considerations and relevant cross-sector methodologies, we typically assign a CFR to speculative-grade issuers or a senior unsecured rating for investment-grade issuers. For issuers that benefit from rating uplift from government ownership, we may assign a Baseline Credit Assessment.[9]

Individual debt instrument ratings may be notched up or down from the CFR or the senior unsecured rating to reflect our assessment of differences in expected loss related to an instrument's seniority level and collateral. The documents that provide broad guidance for such notching decisions are the rating methodology on loss given default for speculative-grade non-financial companies, the methodology for notching corporate instrument ratings based on differences in security and priority of claim, and the methodology for assigning short-term ratings.[10]

Key rating assumptions

For information about key rating assumptions that apply to methodologies generally, please see *Rating Symbols and Definitions*.[11]

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 companies in this sector and to explain, in summary form, many of the factors that are generally most important in assigning ratings to these companies. Credit loss and recovery considerations, which are typically more important as an issuer gets closer to default, may not be fully captured in the scorecard. The scorecard is also limited by its upper and lower bounds, causing scorecard-indicated outcomes to be less likely to align with ratings for issuers at the upper and lower ends of the rating scale.

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

Factors that are outside the scorecard, including those discussed above in the "Other considerations" section, may be important for ratings, and their relative importance may also vary from company to company. In addition, certain broad methodological considerations described in one or more cross-sector rating methodologies may be relevant to ratings in this sector.[12] Examples of such considerations include the following: how sovereign credit quality affects non-sovereign issuers, the assessment of credit support from other entities, the relative ranking of different classes of debt and hybrid securities, and the assignment of short-term ratings.

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

General limitations of the methodology

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

Ratings reflect our expectations for an issuer's future performance; however, as the forward horizon lengthens, uncertainty increases and the utility of precise estimates, as scorecard inputs or in other 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.

Moody's related publications

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

For data summarizing the historical robustness and predictive power of credit ratings, please click here.

For further information, please refer to *Rating Symbols and Definitions*, which is available here.

Moody's Basic Definitions for Credit Statistics (User's Guide) can be found here.

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Endnotes

1 In our methodologies and research, the terms "scorecard" and "grid" are used interchangeably.

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

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

4 For an explanation of the Baseline Credit Assessment, please refer to *Rating Symbols and Definitions* and to our cross-sector methodology for government-related issuers. A link to a list of our sector and cross-sector methodologies and a link to *Rating Symbols and Definitions* can be found in the "Moody's related publications" section.

5 Some factors do not have sub-factors, in which case we score at the factor level. Where a factor comprises sub-factors, we score at the sub-factor level.

6 For definitions of our most common ratio terms, please see *Moody's Basic Definitions for Credit Statistics (User's Guide)*. A link can be found in the "Moody's related publications" section.

7 For an explanation of our standard adjustments, please see the cross-sector methodology that describes our financial statement adjustments in the analysis of non-financial corporations.

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

9 For an explanation of the Baseline Credit Assessment, please refer to *Rating Symbols and Definitions* and to our cross-sector methodology for government-related issuers. A link to a list of our sector and cross-sector methodologies and a link to *Rating Symbols and Definitions* can be found in the "Moody's related publications" section.

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

11 A link to *Rating Symbols and Definitions* 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.

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

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