MOODY'S
INVESTORS SERVICE

RATING METHODOLOGY

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Rating Methodology

Business and Consumer Services

This rating methodology replaces the *Business and Consumer Service Industry* methodology published in October 2016. We have reordered and have made editorial updates to various sections of the methodology, and we have changed the presentation of the scorecard. These updates do not change our methodological approach.

Scope

This methodology applies to companies globally that are primarily* engaged in providing services to other businesses or consumers. Service companies are a particularly diverse group, united primarily by the service nature of their offerings. This methodology excludes specialized service sectors such as telecommunications, passenger airlines, and retail for which our analytical framework is set forth in other rating methodologies.

The global rated universe covers a wide range of service lines and business models. Business services covered by this methodology include: (i) business process outsourcing; (ii) information technology outsourcing; (iii) healthcare outsourcing; (iv) staffing; (v) consulting services; and various others. Consumer services covered by this methodology include: (i) funeral services; (ii) fitness and weight management; (iii) for-profit education; (iv) alarm monitoring; (v) real estate services; and various others.

*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.

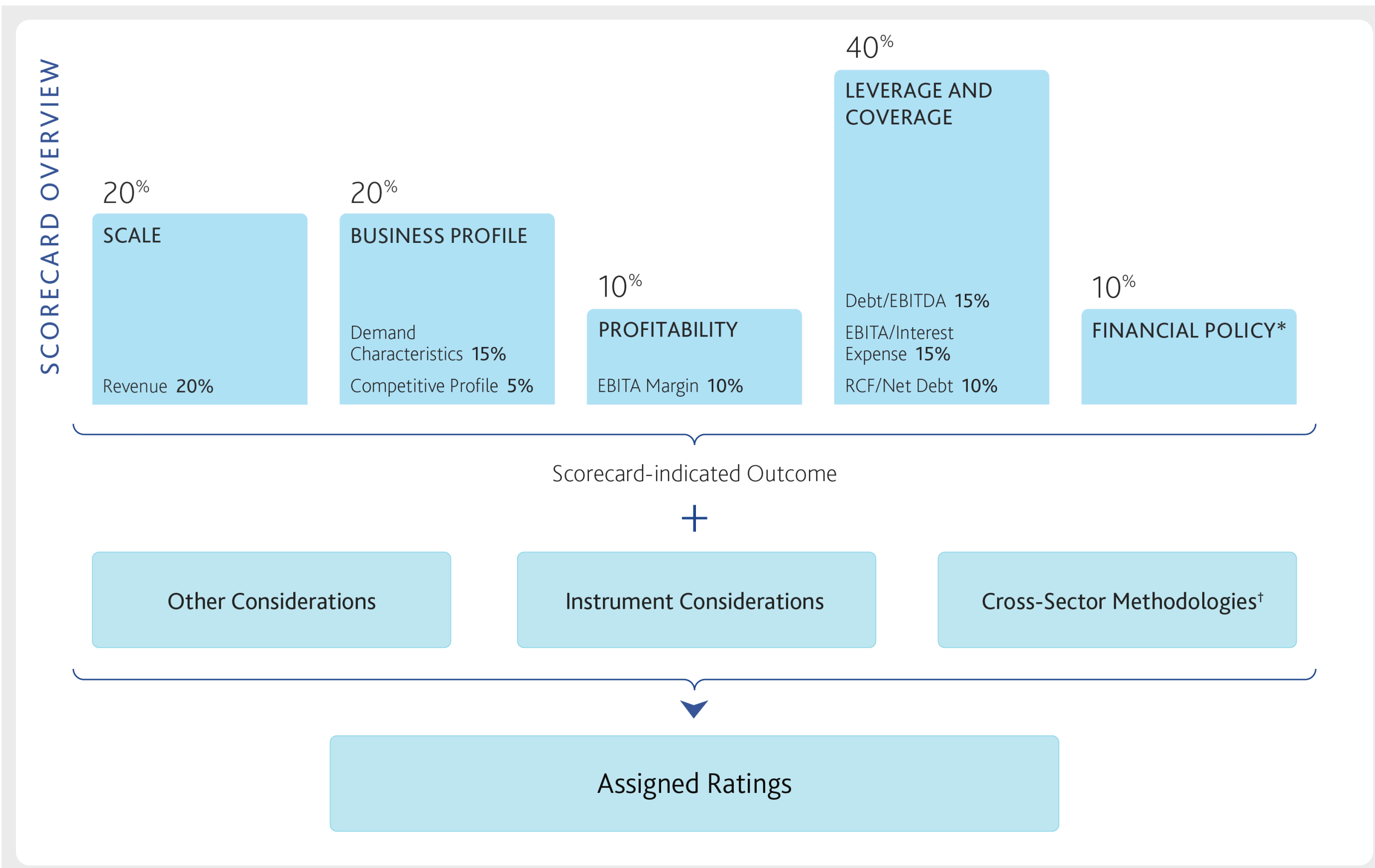
Rating approach

In this rating methodology, we explain our general approach to assessing credit risk of issuers in the business and consumer service industry globally, including the qualitative and quantitative factors that are likely to affect rating outcomes in this sector.[1] 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 business and consumer service companies, which includes the use of a scorecard. 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 business and consumer service 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

Business and consumer service 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

Business and consumer service scorecard

	SCALE (20%)	BUSINESS PROFILE (20%)		PROFITABILITY (10%)	LEVERAGE and COVERAGE (40%)			FINANCIAL POLICY (10%)
	Revenue (USD Billion) (20%)	Demand Characteristics (15%)	Competitive Profile (5%)	EBITA Margin (10%)	Debt / EBITDA[1] (15%)	EBITA / Interest Expense (15%)	RCF / Net Debt[2] (10%)	Financial Policy (10%)
Aaa	≥ $60	Highly reliable and steady demand; impervious to economic cycles. Unique service lines with very well- established track record. Service offerings perceived to be essential.	Multiple business segments and a wide range of services in all segments. End-market is well-diversified with no customer concentration. Strong barriers to entry eliminate possibility of new competitors. Dominant share of market.	≥ 50%	< 0.5x	≥ 25x	≥ 80%	Expected to have extremely conservative financial policies; very stable metrics; public commitment to very strong credit profile over the long term
Aa	$30 - $60	Reliable and steady demand, although moderately exposed to economic cycles. Very high competitive differentiation and well-established track record for service lines. Service offerings perceived to be nearly essential.	Multiple business segments and a wide range of services in most segments. End-market is diversified with very limited customer concentration. New entrants are rare due to strong barriers to entry. Market share reflects oligopolistic industry profile.	35% - 50%	0.5x - 1x	15x - 25x	60% - 80%	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	$10 - $30	Mostly steady demand, with moderate exposure to economic cycles. High differentiation of service lines and established track record. Service offerings perceived to be very important.	Several business segments with broad service offerings in many segments. End-market is fairly well-diversified with minimal customer concentration. Barriers to entry provide sustainable protection of market share. Leading market share in an industry characterized by limited competition.	25% - 35%	1x - 2x	10x - 15x	40% - 60%	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	$5 - $10	Steady demand expected over the medium term; moderate exposure to economic or industry cycles. Significant service line differentiation and some track record. Service offerings perceived to be important.	Several business segments with broad service offerings in at least one key segment. Well diversified in its major market; some customer concentration. Barriers to entry or high switching costs limit new entrants. Among market share leaders.	20% - 25%	2x - 3x	6x - 10x	25% - 40%	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 a weaker credit profile

	SCALE (20%)	BUSINESS PROFILE (20%)		PROFITABILITY (10%)	LEVERAGE and COVERAGE (40%)			FINANCIAL POLICY (10%)
	Revenue (USD Billion) (20%)	Demand Characteristics (15%)	Competitive Profile (5%)	EBITA Margin (10%)	Debt / EBITDA[1] (15%)	EBITA / Interest Expense (15%)	RCF / Net Debt[2] (10%)	Financial Policy (10%)
Ba	$1.5 - $5	Steady demand expected over the near term only, significant exposure to economic or industry cycles. Some service line differentiation and recent track record. Service offerings perceived to be somewhat important.	Operates in a few business segments, with a broad portfolio in at least one segment. Somewhat diversified in its major market; moderate customer concentration. Limited barriers to entry or low switching costs encourage new entrants. Among top providers in key markets or a strong niche player.	15% - 20%	3x - 4.5x	3x - 6x	15% - 25%	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	$0.5 - $1.5	Recent evidence of strong demand, but stability through the cycle is less certain. Limited service line differentiation. Service offerings perceived to be of limited importance.	Operates in a few business segments, although heavily reliant on one segment. High degree of customer concentration. Ineffective barriers to entry or absence of switching costs permit large number of new entrants. Local or niche player in key market or segment.	10% - 15%	4.5x - 6.5x	1x - 3x	7.5% - 15%	Expected to have financial policies that favor shareholders over creditors; high financial risk resulting from shareholder distributions, acquisitions or other significant capital structure changes
Caa	$0.2 - $0.5	Very recent service offering with unknown demand trajectory through the cycle. Little service line differentiation. Service of little importance to customer.	Operates in only one business segment with high customer concentration. No barriers to entry; service has commodity attributes. Small player compared to key competitors or somewhat fragmented market.	5% - 10%	6.5x - 9x	0x - 1x	2.5% - 7.5%	Expected to have financial policies that create elevated risk of debt restructuring in varied economic environments
Ca	< $0.2	New service offering with unknown demand trajectory. No differentiation of service. Service not important to customer.	Operates in only one business segment with very high customer concentration. No barriers to entry; service is a commodity. Very small player compared to key competitors or highly fragmented market.	< 5%	≥ 9x	< 0x	< 2.5%	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.
[2] When net debt is negative and RCF is positive, the score is Aaa. When net debt is negative and RCF is negative, the score is Ca.
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 credit indicators.

Factor: Scale (20% weight)

Why it matters

Larger scale can be an indicator of a company's ability to influence business trends and pricing within its service segments and to support a stable or growing market position. Scale also can be an indicator of greater resilience to changes in demand, geographic diversity, cost absorption, R&D capabilities and of greater bargaining strength with customers, labor, and vendors.

How we assess it for the scorecard

REVENUE:

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

Factor: Business Profile (20% weight)

Why it matters

The business profile of a company is important because it greatly influences its ability to generate sustainable earnings and operating cash flows.

The business and consumer service industry comprises a vast array of business models encompassing a multitude of identifiable customer bases worldwide. We consider the underlying demand characteristics of a company's service offerings and their relative breadth, strength and endurance of demand. Companies that have established a long history of strong demand for a diverse range of service offerings that are critical to customer needs generally entail lower risk compared to those that offer a single line of service which have less importance for customer needs or have a limited history of success.

The competitive forces at work in the markets served are also important considerations. Unique assets or know-how, barriers to entry and a leading market position can lead to greater pricing power, revenue stability and sustainable cash flow. Operations in multiple business segments, as well as diversity within the customer and geographic base, can indicate the ability to maintain a relatively strong competitive position over time.

How we assess it for the scorecard

Scoring for this factor is based on our qualitative assessment of two sub-factors: Demand Characteristics and Competitive Profile.

DEMAND CHARACTERISTICS:

The scoring of this sub-factor is based on our qualitative assessment of the durability of demand for services provided. We consider a number of issues that may bear on the need for the service including but not limited to demand stability, service offering differentiation, and importance to customers.

<u>Demand Stability</u>. The most essential services tend to show steady demand with little volatility through the business cycle. Services that exhibit steady and predictable demand profiles entail lower risk. We consider whether a company has a long history of steady demand and an established track record for repeat customer business through industry and economic cycles.

<u>Service Offering Differentiation</u>. A firm that can demonstrate the uniqueness of its service offerings may be more likely to retain and grow its customer base than a company whose service offerings are perceived by customers to be undifferentiated. The strongest form of differentiation is attributable to unique or hard to replicate assets, know-how or reputation, which can provide the firm with pricing power and margin preservation. Solid differentiation could result in high revenue visibility, strong margins, and stable cash flows. Moreover, the superiority of a service offering in one business segment could enhance the company's position in related lines of business. On the other hand, companies whose service lines are not differentiated are not expected to have the same capacity to protect their revenue base and typically will have more volatile cash flows than providers of unique or high value-added services.

<u>Importance to Customer</u>. We assess how important a service is to customers and evaluate the extent to which demand for the service is likely to be maintained over time, considering the risk of technology or business practice changes that may affect demand.

Lower risk is associated with services that are indispensable to the customer perhaps due to legal requirements, industry practice, enduring business necessity or basic human needs. Impediments that discourage customers from taking on the task themselves are also considered.

COMPETITIVE PROFILE:

The scoring of this sub-factor is based on a qualitative assessment of the competitive environment in which a service provider operates. We consider a number of aspects within an issuer's competitive landscape with particular emphasis on diversity, the nature of competition, and market share. We assess the most prominent characteristics for each issuer, often by evaluating a company relative to its most direct competitors.

Diversity. We assess the number of significant business segments, the range of services offered, and end market and customer diversity. Companies with multiple business segments and a wide range of services tend to exhibit greater stability in operating results when compared to competitors with a narrower business focus. Conversely, companies that serve only one market may be more vulnerable to competitive pressures and experience greater volatility in earnings and cash flows. Geographic diversity is also important, as a company with a narrow or regional focus can be affected negatively by both regional economic events and local tastes and preferences, whereas such risk is mitigated in companies with offerings that span many regions.

Nature of Competition. Companies that operate within an oligopoly or have established significant barriers to entry typically face less competitive pressure and command greater pricing power. Barriers to entry may include high customer switching costs and unique assets or proprietary technologies that reduce the threat of new entrants.

Market Share. Large market share suggests a sustainable business position with greater ability to weather volatile market conditions. Market share that is protected by patent and unique licensing restrictions, technological advantages, or strong brands can underpin a strong competitive profile.

Factor: Profitability (10% weight)

Why it matters

Profits matter because they are necessary to maintain a business's competitive position, including sufficient reinvestment in marketing, research, facilities and human capital. Sustained high profitability is generally a strong indicator of substantial competitive advantages, particularly if combined with evidence of a stable or rising market share.

How we assess it for the scorecard

EBITA MARGIN:

We use the ratio of earnings before interest, taxes and amortization to revenue (EBITA Margin).

Factor: Leverage and Coverage (40% weight)

Why it matters

Leverage and coverage measures are indicators of a company's financial flexibility and long-term viability, including its ability to adapt to changes in the economic and business environment within the segments in which it operates.

The factor is comprised of three sub-factors:

Debt / EBITDA

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

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.

RCF / Net Debt

The ratio of retained cash flow to net debt (RCF/Net Debt) is an indicator of a company's cash generation (before working capital movements and capital expenditures, and after dividend payments) relative to its net debt (total debt minus cash and cash equivalents).

How we assess it for the scorecard
Scoring for this factor is based on three sub-factors: Debt/EBITDA; EBITA/Interest Expense; and RCF/Net Debt.

DEBT / EBITDA:

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

EBITA / INTEREST EXPENSE:

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

RCF / NET DEBT:

The numerator is retained cash flow, and the denominator is net debt (total debt minus cash and cash equivalents).

Factor: Financial Policy (10% weight)

Why it matters
Management and board tolerance for financial risk is a 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.

Many service companies have historically used acquisitions to spur revenue growth, expand business lines, consolidate market positions, advance cost synergies or seek to access new technology. The impact of an acquisition on a rating depends on the company's existing capital structure and the extent to which it is changed by the acquisition.

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 and industry 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 debt holders' 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 business and consumer service sector. 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 service 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 companies in highly seasonal operating environments where working capital needs must be considered, 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.

Seasonality

Seasonality is an important driver of customer demand and can cause swings in cash balances and working capital positions for issuers. Higher volatility creates less room for errors in meeting customer demand or operational execution.

Parental Support

Ownership can provide ratings lift for a particular company in the business and consumer service 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, when 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 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 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.

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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