

MOODY'S

INVESTORS SERVICE

RATING METHODOLOGY

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Rating Methodology

Surface Transportation and Logistics

This rating methodology replaces the *Surface Transportation and Logistics* methodology published in May 2019. 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 freight transportation services to businesses via trucking or railroad operations. It also applies to logistics companies related to the transportation sector that are primarily engaged in providing services such as supply chain management, freight brokerage and warehousing.

Examples of freight shipped by railroads include coal, chemicals, grain, motor vehicles and parts, and petroleum products, as well as intermodal freight (transportation of shipping containers and truck trailers). Trucking companies generally haul a more limited range of freight than railroad operators, including, for example, food, consumer products, and building materials, as well as intermodal freight. Logistics operations are different from those of transportation providers but have similar revenue drivers, because these operations support or facilitate the transportation services provided by trucking and railroad operators.

Companies that are primarily engaged in providing rail transportation for passengers are covered under a separate methodology.¹

*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.

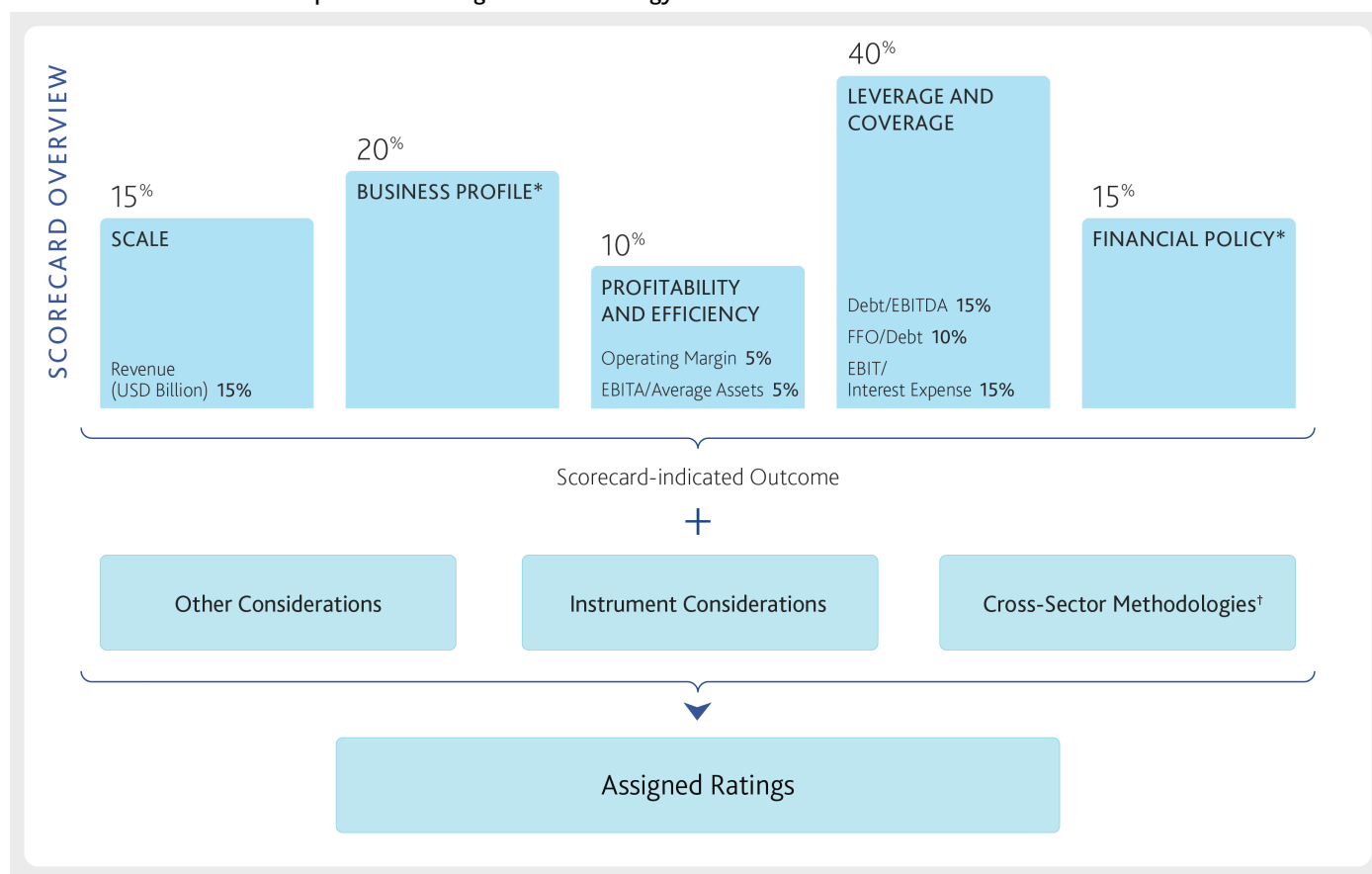
Rating approach

In this rating methodology, we explain our general approach to assessing credit risk of issuers in the surface transportation and logistics 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 surface transportation and logistics companies, which includes the use of a scorecard.² 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 surface transportation and logistics 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

Surface transportation and logistics 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

Surface transportation and logistics scorecard

SCALE (15%)		BUSINESS PROFILE (20%)		PROFITABILITY and EFFICIENCY (10%)		LEVERAGE and COVERAGE (40%)		FINANCIAL POLICY (15%)	
Revenue (USD Billion) ^[1] (15%)		Railroads (20%)	Trucking and Logistics Companies (20%)	Operating Margin % ^[2] (5%)	EBITA / Average Assets ^[3] (5%)	Debt / EBITDA ^[4] (15%)	FFO / Debt ^[5] (10%)	EBIT / Interest Expense ^[6] (15%)	Financial Policy (15%)
Aaa	≥ \$50	Direct owner of a transcontinental railroad system that has exclusive access and control of all aspects of railroad operations.	Extremely strong and sustainable market positions and extremely high entry barriers; sales are extremely well diversified among many major countries or regions with minimal concentration in any one country or region; multiple service offerings provide an extremely high degree of diversification; extremely large, diverse base of high-quality customers; and direct owner of all critical assets.	≥ 40%	≥ 30%	≤ 0.5x	≥ 65%	≥ 15x	Expected to have extremely conservative financial policies (including risk and liquidity management); very stable metrics; essentially no event risk that would cause a rating transition; and public commitment to a very strong credit profile over the long term.
Aa	\$25 - \$50	Direct owner of a transcontinental railroad system that shares access with other railroads.	Very strong and sustainable market positions and very high entry barriers; sales are well diversified among many major countries or regions with a modest concentration in one country or region; multiple service offerings provide a very high degree of diversification; large, diverse base of high-quality customers; and direct owner of most critical assets, relies on third-party resources to support a limited portion of the business but has substantial control over those resources over the long term.	30% - 40%	20% - 30%	0.5x - 1.5x	45% - 65%	10x - 15x	Expected to have very conservative financial policies (including risk and liquidity management); stable metrics; minimal event risk that would cause a rating transition; and public commitment to a strong credit profile over the long term.
A	\$10 - \$25	Direct owner of a sizable national railroad system that is required to provide very limited access to other railroads and that controls substantially all aspects of railroad operations.	Strong and sustainable market positions and high entry barriers; sales are diversified among many countries or regions with moderate concentration in one country or region; multiple service offerings provide a high degree of diversification, but some concentration in one or two segments; large, diverse base of high-quality customers; direct owner of most critical assets, relies on third-party resources to support a material portion of the business but has substantial control over those resources over the long term.	20% - 30%	15% - 20%	1.5x - 2.5x	30% - 45%	5x - 10x	Expected to have predictable financial policies (including risk and liquidity management) 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.

SCALE (15%)		BUSINESS PROFILE (20%)		PROFITABILITY and EFFICIENCY (10%)		LEVERAGE and COVERAGE (40%)		FINANCIAL POLICY (15%)	
Revenue (USD Billion) ^[1] (15%)		Railroads (20%)	Trucking and Logistics Companies (20%)	Operating Margin % ^[2] (5%)	EBITA / Average Assets ^[3] (5%)	Debt / EBITDA ^[4] (15%)	FFO / Debt ^[5] (10%)	EBIT / Interest Expense ^[6] (15%)	Financial Policy (15%)
Baa	\$5 - \$10	Direct owner of a railroad system that covers a very large but less-than-national region that is required to provide very limited access to other railroads and that controls substantially all aspects of railroad operations.	Moderately strong and sustainable market positions and moderately high entry barriers; sales are diversified among several countries or regions with fairly significant concentration in one country or region; multiple service offerings provide a fairly high degree of diversification, but some concentration in one or two segments; large, diverse base of high-quality customers; direct owner of most critical assets, relies on third-party resources to support a material portion of the business but has substantial control over those resources.	10% - 20%	10% - 15%	2.5x - 3.5x	20% - 30%	3x - 5x	Expected to have financial policies (including risk and liquidity management) that balance the interests of creditors and shareholders; some risk that debt-funded acquisitions or shareholder distributions could lead to a weaker credit profile.
Ba	\$2.5 - \$5	Direct owner of a railroad system that covers a large region; or an operator that has long-term concessions that guarantee exclusive access to a railroad system that covers a large region and these concessions can be terminated only under extreme circumstances; or a short line operator that owns multiple railroads in a large number of states or provinces.	Fairly stable market positions due to limited number of significant competitors and some entry barriers; sales are diversified among a few countries or regions with significant concentration in one country or region; multiple service offerings but some concentration in one or two business segments; fairly large, diverse base of high-quality customers; direct owner of some critical assets, but relies on third-party resources to support a material portion of the business but has substantial control over those resources.	5% - 10%	5% - 10%	3.5x - 4.5x	12.5% - 20%	2x - 3x	Expected to have financial policies (including risk and liquidity management) that tend to favor shareholders over creditors; above-average financial risk resulting from shareholder distributions, acquisitions or other significant capital structure changes.
B	\$0.75 - \$2.5	Operator with access to another railroad system via long-term, nonexclusive concessions with limited competition from other operators; these concessions can be terminated under limited circumstances and termination is unlikely over the near term; or a direct owner of a small regional railroad.	Very competitive and fragmented market and few entry barriers; sales are diversified among a few countries or regions with highly significant concentration in one country or region; multiple service offerings but a very high degree of concentration in one business segment; customer base includes high-quality customers but a significant concentration in certain industries; relies primarily on third-party assets, but has substantial control over those resources over the short term.	2.5% - 5%	2.5% - 5%	4.5x - 6x	5% - 12.5%	1x - 2x	Expected to have financial policies (including risk and liquidity management) that favor shareholders over creditors; high financial risk resulting from shareholder distributions, acquisitions or other significant capital structure changes.

SCALE (15%)		BUSINESS PROFILE (20%)		PROFITABILITY and EFFICIENCY (10%)		LEVERAGE and COVERAGE (40%)		FINANCIAL POLICY (15%)	
Revenue (USD Billion) ^[1] (15%)		Railroads (20%)	Trucking and Logistics Companies (20%)	Operating Margin % ^[2] (5%)	EBITA / Average Assets ^[3] (5%)	Debt / EBITDA ^[4] (15%)	FFO / Debt ^[5] (10%)	EBIT / Interest Expense ^[6] (15%)	Financial Policy (15%)
Caa	\$0.25 - \$0.75	Operator with access to another railroad system via short-term or long-term nonexclusive concessions with moderate competition from other operators and the concessions can be terminated at the railroad owner's discretion.	Highly competitive and fragmented market and very limited entry barriers; sales are concentrated in one country or region; one predominant service offering with ancillary revenue from other services; small customer base with significant reliance on individual customers; or relies primarily on third-party assets, and has only limited control over those resources over the short term.	1% - 2.5%	0% - 2.5%	6x - 9x	0% - 5%	0.5x - 1x	Expected to have financial policies (including risk and liquidity management) that create elevated risk of debt restructuring in varied economic environments.
Ca	< \$0.25	Operator with access to a single rail line with limited customers via short-term nonexclusive concessions and these concessions can be terminated at the rail line owner's discretion.	Extremely competitive local market and essentially no entry barriers; one predominant service offering; very small and highly concentrated customer base; or relies exclusively on third-party assets and has little control over those resources over the short term.	< 1%	< 0%	> 9x	< 0%	< 0.5x	Expected to have financial policies (including risk and liquidity management) that create elevated risk of debt restructuring even in healthy economic environments.

[1] For the linear scoring scale, the Aaa endpoint value is \$70 billion. A value of \$70 billion or better equates to a numeric score of 0.5. The Ca endpoint value is zero. A value of zero equates to a numeric score of 20.5.

[2] For the linear scoring scale, the Aaa endpoint value is 60%. A value of 60% or better equates to a numeric score of 0.5. The Ca endpoint value is 0%. A value of 0% or worse equates to a numeric score of 20.5.

[3] For the linear scoring scale, the Aaa endpoint value is 50%. A value of 50% or better equates to a numeric score of 0.5. The Ca endpoint value is (5)%. A value of (5)% or worse equates to a numeric score of 20.5.

[4] For the linear scoring scale, the Aaa endpoint value is zero. A value of zero equates to a numeric score of 0.5. The Ca endpoint value is 12x. A value of 12x or worse equates to a numeric score of 20.5, as does a negative Debt/EBITDA value.

[5] For the linear scoring scale, the Aaa endpoint value is 80%. A value of 80% or better equates to a numeric score of 0.5. The Ca endpoint value is (5)%. A value of (5)% or worse equates to a numeric score of 20.5.

[6] For the linear scoring scale, the Aaa endpoint value is 20x. A value of 20x or better equates to a numeric score of 0.5. The Ca endpoint value is zero. A value of zero or worse equates to a numeric score of 20.5.

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 (15% weight)

Why it matters

Scale is an important indicator of the overall depth of a company's business and its success in attracting a variety of customers, as well as its resilience to shocks, such as sudden shifts in demand or rapid cost increases.

A large revenue base can lead to economies of scale, for example in terms of equipment costs, as well as a stronger pricing position with customers. Large-scale companies within the industry generally have more flexibility to manage their businesses under different demand and cost scenarios, an important consideration for the surface transportation and logistics industry, which is exposed to economic cycles. Larger companies also generally have greater access to the capital markets, critical for asset-intensive companies such as railroad and trucking companies, which need frequent access to capital markets in order to make sizable investments in their businesses.

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 surface transportation and logistics company greatly influences its ability to generate sustainable earnings and operating cash flows. We break out the scorecard definitions by railroad companies and by trucking and logistics companies based on the different characteristics of the two sub-sectors.

Core aspects of a railroad operator's business profile are its control of the railroad system it operates and its geographic presence. A railroad that fully owns its network typically has greater operational control and less exposure to competitive pressures or changes in its cost base than a railroad that purchases access to its networks through concessions. Network ownership typically protects an operator's market position, because it is unlikely that a new entrant will invest the sizable capital necessary to replicate existing railroad infrastructure. Also, concessions can be terminated or renegotiated with less favorable terms, whereas ownership provides greater certainty. Geographic diversity is also important because a railroad that offers service over a broader geographic region typically has access to more customers, has the potential to transport a more diverse freight mix compared to a railroad restricted to a concentrated region, and is more essential to a region's broader transportation infrastructure. Geographic diversity can also help mitigate the effects of regional economic downturns or weakness in a particular freight category.

Core aspects of a trucking and logistics company's business profile include its market position; barriers to enter the market in which it operates; diversification by geography and service offering; the quality and diversity of its customer base; and its degree of control over its assets. A company's market position is an important indicator of its likely resilience during economic downturns and to intensifying competition. Barriers to entry tend to be lower for trucking and logistics companies relative to railroads, so any protection a trucking and logistics company has from new entrants, such as established customer relationships, is likely to help mitigate the industry's typically high competitive pressure.

Given the industry's high economic cyclicity, geographic diversification can insulate a trucking and logistics company from regional downturns, and a comprehensive span of service offerings typically limits vulnerability to weakness in demand for any one service. Providing multiple services also generally enables an operator to appeal to a broader range of customers and helps a company meet the different transportation needs of a particular customer (e.g., a customer that needs both intermodal services as well as traditional truckload services). A diversified customer base with high credit-quality supports predictability and stability of cash flow.

Companies that control the trucking assets, either through direct ownership or through relationships with third-party carriers, are more likely able to convince their customers that they have the trucking capacity to meet their customers' transportation needs, particularly when demand is high during times of robust economic growth.

How we assess it for the scorecard

We assess the business profile of railroad companies and of trucking and logistics companies based on the different characteristics of the two sub-sectors.

In assessing a railroad operator's business profile, we consider whether the company is the direct owner of its railroad systems or operates under concessions, as well as the breadth of its geographic footprint. A direct owner of a railroad system generally receives a higher score for this factor than a concession-based operator. For railroad operators that rely on concessions, we also typically assess the length and degree of exclusivity of the concession agreement. We evaluate the geographic footprint in terms of presence on different continents, countries, and regions within a country.

For trucking and logistics companies, we generally assess the company's market position relative to its competitors and the overall competitiveness of the market. We also consider whether barriers to entry are meaningful. We may also consider the extent to which technological change has or could have an effect on a company's market position, and meaningful technological developments may affect the score for business profile either positively or negatively.

We also assess a trucking and logistics company's geographic diversification. Companies whose revenue is broadly diversified among countries or companies that have a nationwide presence in a large country typically score higher for this factor than those whose revenue is regionally concentrated. In addition, we consider whether the company offers a broad or limited range of service offerings, as well as whether it relies heavily on any one product line for the majority of its customers and revenue. In our assessment of the customer base, we typically consider the breadth of customers. We may also consider the typical length of a customer relationship, customer credit quality and the typical contract structure, including for example the tenor and likelihood of renewal.

In assessing a trucking company's control of assets, we generally consider whether the company owns its critical assets or relies on third-party resources, including trucks and other transportation assets, as well as drivers. For companies that rely on third-party resources, we typically consider the company's degree of control over the resources, whether contractual or otherwise, as well as the length of the contracts.

Generally, we do not expect a given company's business profile to exactly match each of the attributes listed for a given scoring category. We typically assign the factor score based on the alpha category for which the issuer has the greatest number of characteristics. However, there may be cases in which one characteristic is sufficiently important to a particular issuer's credit profile that it has a large influence on the factor score.

Factor: Profitability and Efficiency (10% weight)**Why it matters**

Profits matter because they are needed to generate sustainable cash flow and maintain a competitive position.

This factor comprises two sub-factors:

Operating Margin

Operating margin is a strong indicator of a company's competitive strength, operating efficiency and effectiveness of management. We use operating income, a measure or estimate of profitability before interest, taxes, and unusual items but after depreciation, because reinvestment is essential for a company to maintain its market position.

EBITA / Average Assets

The ratio of earnings before interest, taxes and amortization to average assets (EBITA/Average Assets) is an indicator of a company's ability to generate a meaningful return relative to the level of investment in its asset base. It is useful in assessing a company's investment decisions over time, a critical consideration in this capital-intensive sector.

How we assess it for the scorecard

Scoring for this factor is based on two sub-factors: Operating Margin; and EBITA/Average Assets.

OPERATING MARGIN:

The numerator is operating income, and the denominator is revenue.

EBITA / AVERAGE ASSETS:

The numerator is earnings before interest, taxes and amortization (EBITA), and the denominator is total assets averaged over the past two years.

Factor: Leverage and Coverage (40% weight)**Why it matters**

Leverage and cash flow coverage measures provide important indications of a surface transportation and logistics company's financial flexibility, which is critical to its ability to adapt to changes in market conditions in this highly cyclical sector. Companies need financial resources to invest in infrastructure, equipment and facilities as well as to make strategic investments to acquire new businesses, diversify product lines or expand into developing geographic regions.

This factor comprises three quantitative 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 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.

EBIT / Interest Expense

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

How we assess it for the scorecard

Scoring for this factor is based on three sub-factors: Debt/EBITDA; FFO/Debt; and EBIT/Interest Expense.

DEBT / EBITDA:

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

FFO / DEBT:

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

EBIT / INTEREST EXPENSE:

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

Factor: Financial Policy (15% weight)**Why it matters**

Financial policy encompasses management and board tolerance for financial risk and commitment to a strong credit profile. It is an important rating determinant, because it directly affects debt levels, credit quality, the future direction for the company and the risk of adverse changes in financing and capital structure.

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 the ratings of 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. Liquidity management³ is an important aspect of overall risk management and can provide insight into risk tolerance.

How we assess it for the scorecard

We assess the issuer's desired capital structure or targeted credit profile, its history of prior actions, including its track record of risk and liquidity management, and its 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 or regulatory pressures. Considerations include a company's public commitments in this area, its track record for adhering to commitments and our views on the ability of the company to achieve its targets.

When considering event risks in the context of scoring financial policy, we assess the likelihood and potential negative impact of M&A or other types of balance-sheet-transforming events. 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 may also consider negative repercussions caused by shareholders' willingness to sell the company.

We also consider a company's and its owners' past record of balancing shareholder returns and debtholders' interests. A track record of favoring shareholder returns at the expense of debtholders 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.

Regulatory Considerations

Companies in the surface transportation and logistics sector are subject to varying degrees of regulatory oversight. Effects of these regulations may entail limitations on operations, higher expenses and investments, and higher potential for technology disruptions and demand substitution. Regional differences in regulation, implementation or enforcement may advantage or disadvantage particular issuers.

Our view of future regulations plays an important role in our expectations of future financial metrics as well as our confidence level in the ability of an issuer to generate sufficient cash flows relative to its debt burden over the medium and longer term. Regulatory considerations may also play a role in our assessment of an issuer's business profile, because how a company responds to regulation could affect its market position. In some circumstances, regulatory considerations may also be a rating factor outside the scorecard, for instance when regulatory change is swift.

Environmental, Social and Governance Considerations

Environmental, social and governance (ESG) considerations may affect the ratings of issuers in the surface transportation and logistics sector. For information about our approach to assessing ESG issues, please see our methodology that describes our general principles for assessing these risks.⁴

Trucking companies and railroad operators consume significant amounts of diesel fuel, and growing concerns about the environmental impact of diesel engine emissions could prompt additional regulatory and legal action, including bans on certain vehicles. Requirements

to upgrade fleets to comply with new emission standards could continue to increase costs. As a highly competitive business with low barriers to entry, trucking companies are particularly sensitive to such increases.

Many railroad operators transport freight such as coal, crude oil and fracking sand, products vulnerable to a reduction in demand due to environmental regulation. Natural disasters and rail accidents (e.g., a derailment of a rail car carrying hazardous materials) can lead to significant cleanup costs and liability claims.

Technological Evolution

Technological development could affect this industry in several ways. For trucking and logistics companies, technology can affect how companies offer their services and the types of trucks that they use to provide services. In the railroad sector, technological developments are more likely to be aimed at improving the safety and efficiency of operations.

Technology may advantage or disadvantage certain companies in the trucking and logistics industry, and could over time have a greater effect on the ability of all companies in this sector to compete. For example, a company that invests in a technology platform that more efficiently matches freight demand from customers with transportation capacity offered by truck carriers could develop a competitive advantage, especially if the platform becomes more pervasive in the truck transportation market.

Trucking and logistics companies typically rely on automotive technology developed by companies in other industries, as opposed to investing heavily in their own research and development, and as such most trucking companies have access to similar vehicle technology. Over time, technological innovation, particularly with regard to electric or autonomous vehicles, could affect a trucking company's competitive position.

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.

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.

Excess Cash Balances

Some companies in this sector may maintain cash balances (meaning liquid short-term investments as well as cash) that are far in excess of their operating needs. This excess cash can be an important credit consideration; however, the underlying policy and motivations of the issuer in holding high cash balances are often as or more important in our analysis than the level of cash held. We have observed significant variation in company behavior based on differences in financial philosophy, investment opportunities, availability of committed revolving credit facilities and shareholder pressures.

Most issuers need to retain some level of cash in their business for operational purposes. The level of cash required to run a business can vary based on the region(s) of operation and the specific sub-sectors in which the issuer operates. Some issuers have very predictable cash needs and others have much broader intra-period swings, for instance related to mark-to-market collateral requirements under hedging instruments. Some companies may hold large levels of cash at times because they operate without committed, long-term bank borrowing facilities. Some companies may hold cash on the balance sheet to meet long-term contractual liabilities, whereas other companies with the same types of liabilities have deposited cash into trust accounts that are off balance sheet. The level of cash that issuers are willing to hold can also vary over time based on the cost of borrowing and macroeconomic conditions. The same issuer may place a high value on cash holdings in a major recession or financial crisis but seek to pare cash when inflation is high. As a result, cash on the balance sheet is most often considered qualitatively, by assessing the issuer's track record and financial and liquidity policies rather than by measuring how a point-in-time cash balance would affect a specific metric.

Across all corporate sectors, an important shareholder-focused motivation for cash holdings, sometimes over very long periods, is cash for acquisitions. In these cases, we do not typically consider that netting cash against the issuer's current level of debt is analytically meaningful; however, the cash may be a material mitigant in our scenario analyses of potential acquisitions, share buybacks or special dividends. Tax minimization strategies have at times been another primary motivation for holding large cash balances. Given shareholder pressures to return excess cash holdings, when these motivations for holding excess cash are eliminated, we generally expect that a large portion of excess cash will be used for dividends and share repurchases.

By contrast, some companies maintain large cash holdings for long periods of time in excess of their operating and liquidity needs solely due to conservative financial policies, which provides a stronger indication of an enduring approach that will benefit creditors. For instance, some companies have a policy to routinely pre-fund upcoming required debt payments well in advance of the stated maturity. Such companies may also have clearly stated financial targets based on net debt metrics and a track record of maintaining their financial profile within those targets.

While the scorecard in this methodology uses leverage and coverage ratios with total (or gross) debt rather than net debt, we do consider excess cash holdings in our rating analysis, including in our assessment of the financial and liquidity policy. For issuers where we have clarity into the extent to which cash will remain on the balance sheet and/or be used for creditor-friendly purposes, excess cash may be considered in a more quantitative manner. While we consider excess cash in our credit assessment for ratings, we do not typically adjust the balance sheet debt for any specific amount because this implies greater precision than we think is appropriate for the uncertain future uses of cash. However, when cash holdings are unusually large relative to debt, we may refer to debt net of cash, or net of a portion of cash, in our credit analysis and press releases in order to provide additional insight into our qualitative assessment of the credit benefit. Alternatively, creditor-friendly use of cash may be factored into our forward view of metrics, for instance when the cash is expected to be used for debt-repayment. We may also cite rating threshold levels for certain issuers based on net debt ratios, particularly when these issuers have publicly stated financial targets based on net debt metrics.

Even when the eventual use for excess cash is likely to be for purposes that do not benefit debtholders, large holdings provide some beneficial cushion against credit deterioration, and cash balances are often considered in our analysis of near-term liquidity sources and uses. Such downside protection is usually more important for low rated companies than for highly rated companies due to differences in credit stability and the typically shorter distance from potential default for issuers at the lower end of the ratings spectrum.

Liquidity

Liquidity is an important rating consideration for all surface transportation and logistics 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.⁵

Additional Metrics

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

For example, free cash flow is not always an important differentiator of credit profiles. Strong companies with excellent investment opportunities may demonstrate multiyear periods of negative free cash flow while retaining solid access to capital and credit, because these investments will yield stable cash flows in future years. Weaker companies with limited access to credit may have positive free cash flow for a period of time because they have curtailed the investments necessary to maintain their assets and future cash-generating prospects. However, in some cases, free cash flow can be an important driver of the future liquidity profile of an issuer, which, as noted above, can have a meaningful impact on ratings.

Non-wholly Owned Subsidiaries

Some companies in the surface transportation and logistics sector choose to dilute their equity stake in certain material subsidiaries, for example through an initial public offering, which may in some cases negatively impact future financial flexibility. While improving cash holdings on a one-off basis, selling minority interests in subsidiaries may have a negative impact on cash flows available to the parent

company that may not be fully reflected in consolidated financial statements.⁶ The parent's share of dividend flows from a non-wholly owned subsidiary are reduced, and minority stakes can increase structural subordination, since dividend flows to minority interest holders are made before the cash flows are available to service debt at the parent company. While less frequent, sale of a minority stake may be accompanied by policies protective of the subsidiary that further limit the parent's financial flexibility, for instance restrictions on cash pooling with other members of the corporate family, limitations on dividends and distributions, or arms-length business requirements. Minority stakeholders may have seats on the board of the subsidiary. In many cases, we consider the impact of non-wholly owned subsidiaries qualitatively. However, in some cases we may find that an additional view of financial results, such as analyzing cash flows on a proportional consolidation basis, may be very useful to augment our analysis based on consolidated financial statements. When equity dilution or structural subordination arising from non-wholly owned subsidiaries is material and negative, the credit impact is captured in ratings but may not be fully reflected in scorecard-indicated outcomes.

For companies that hold material minority interest stakes, consolidated funds from operations typically includes the dividends received from the minority subsidiary, while none of its debt is consolidated. When such dividends are material to the company's cash flows, these cash flows may be subject to interruption if they are required for the minority subsidiary's debt service, capital expenditures or other cash needs. When minority interest dividends are material, we may also find that proportional consolidation or another additional view of financial results is useful to augment our analysis of consolidated financials. We would generally also consider structural subordination in these cases.⁷ When these credit considerations are material, their impact is captured in ratings but may not be fully reflected in scorecard-indicated outcomes.

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 surface transportation and logistics 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.⁸ For example, price controls, onerous taxation and high distributions can have a negative effect on an issuer's underlying credit profile.

Cyclical Sectors

Scorecard-indicated outcomes in cyclical sectors including the surface transportation and logistics sector may be higher than the rating at the top of the economic cycle and lower than the rating at the bottom of the cycle. While using annual financials in the scorecard typically provides very useful insights into recent or near-term results, ratings may also reflect our expectations for the progression of yearly results over a longer period that may include a full economic cycle. However, cyclicity itself poses many different types of risks to companies, and cycles do not reverse themselves with predictable regularity. A cyclical sector may also be affected by a secular decline or expansion. These considerations may be incorporated qualitatively in ratings.

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,⁹ 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,¹⁰ 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 adjustments¹¹ 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

Quantitative factors are scored on a linear continuum. For each metric, the scorecard shows the range by alpha category. We use the scale below and linear interpolation to convert the metric, based on its placement within the scorecard range, to a numeric score, which may be a fraction. As a purely theoretical example, if there were a ratio of revenue to interest for which the Baa range was 50x to 100x, then the numeric score for an issuer with revenue/interest of 99x, relatively strong within this range, would score closer to 7.5, and an issuer with revenue/interest of 51x, relatively weak within this range, would score closer to 10.5. In the text or table footnotes, we define the endpoints of the line (i.e., the value of the metric that constitutes the lowest possible numeric score, and the value that constitutes the highest possible numeric score).

Exhibit 4

Aaa	Aa	A	Baa	Ba	B	Caa	Ca
0.5-1.5	1.5-4.5	4.5-7.5	7.5-10.5	10.5-13.5	13.5-16.5	16.5-19.5	19.5-20.5

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 5

Scorecard-indicated outcome

Scorecard-indicated outcome	Aggregate numeric score
Aaa	$x \leq 1.5$
Aa1	$1.5 < x \leq 2.5$
Aa2	$2.5 < x \leq 3.5$
Aa3	$3.5 < x \leq 4.5$
A1	$4.5 < x \leq 5.5$
A2	$5.5 < x \leq 6.5$
A3	$6.5 < x \leq 7.5$
Baa1	$7.5 < x \leq 8.5$
Baa2	$8.5 < x \leq 9.5$
Baa3	$9.5 < x \leq 10.5$
Ba1	$10.5 < x \leq 11.5$
Ba2	$11.5 < x \leq 12.5$
Ba3	$12.5 < x \leq 13.5$
B1	$13.5 < x \leq 14.5$
B2	$14.5 < x \leq 15.5$
B3	$15.5 < x \leq 16.5$
Caa1	$16.5 < x \leq 17.5$
Caa2	$17.5 < x \leq 18.5$
Caa3	$18.5 < x \leq 19.5$
Ca	$19.5 < x \leq 20.5$
C	$x > 20.5$

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.¹²

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.¹³

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.¹⁴

Key rating assumptions

For information about key rating assumptions that apply to methodologies generally, please see *Rating Symbols and Definitions*.¹⁵

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.¹⁶ 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](#) A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.
- [2](#) In our methodologies and research, the terms "scorecard" and "grid" are used interchangeably.
- [3](#) Liquidity management is distinct from the level of liquidity, which is discussed in the "Other considerations" section.
- [4](#) A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.
- [5](#) A link to a list of our cross-sector methodologies can be found in the "Moody's related publications" section.
- [6](#) For example, in the case of an equity stake reduction in a subsidiary down to 75%, in the parent's financial statements, all revenue and EBITDA of the subsidiary would typically still be consolidated at the group level.
- [7](#) Proportional consolidation brings a portion of the minority subsidiary's debt onto the balance sheet, but this debt is structurally senior to debt at the parent company, because it is closer to the assets and cash flows of the minority subsidiary.
- [8](#) 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.
- [9](#) 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.
- [10](#) 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.
- [11](#) 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.
- [12](#) 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.
- [13](#) 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.
- [14](#) A link to a list of our sector and cross-sector rating methodologies can be found in the "Moody's related publications" section.
- [15](#) A link to *Rating Symbols and Definitions* can be found in the "Moody's related publications" section.
- [16](#) A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.

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