MOODY'S
INVESTORS SERVICE

RATING METHODOLOGY
15 June 2021

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Rating Methodology

Shipping

This rating methodology replaces the *Shipping Methodology* published in December 2020. 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 waterborne ship transportation services, including container liner operators, liquid and dry bulk carriers, specialty carriers, diversified shipping companies, inland river barge service providers and privately managed ferry operators.[1]

Passenger cruise operators, shipbuilders and ferry operators that are part of a mass transit system are all rated using different methodologies.[2]

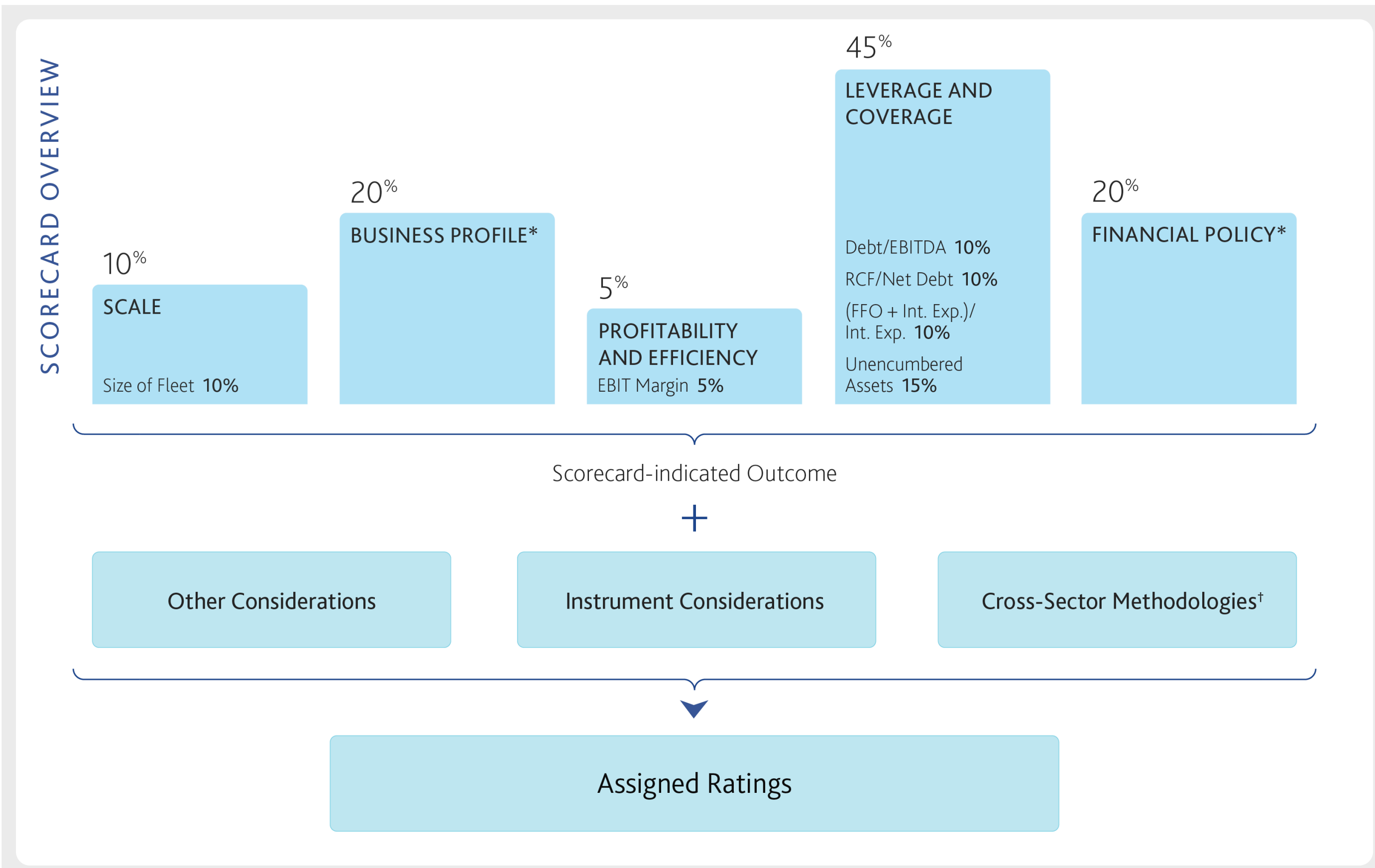
*The determination of a company's primary business is generally based on the preponderance of the company's business risks, which are usually proportionate to the company's revenues, earnings and cash flows.

Rating approach

In this rating methodology, we explain our general approach to assessing credit risk of issuers in the shipping 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 shipping companies, which includes the use of a scorecard.[3] 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 shipping 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

Shipping 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
Shipping scorecard

	SCALE (10%)	BUSINESS PROFILE (20%)	PROFITABILITY and EFFICIENCY (5%)	LEVERAGE and COVERAGE (45%)				FINANCIAL POLICY (20%)
	Size of Fleet (number of ships)[1] (10%)	**Business Profile (20%)**	**EBIT Margin[2] (5%)**	**Debt / EBITDA[3] (10%)**	**RCF / Net Debt[4] (10%)**	**(FFO + Interest Expense) / Interest Expense[5] (10%)**	**Unencumbered Assets (15%)**	**Financial Policy (20%)**
Aaa	≥ 1,200	Expected to have consistent and extremely high positive cash flow, supported by extremely stable revenue, margins and long-term contracts; and barriers to entry are unassailable.	≥ 60%	≤ 0.5x	≥ 70%	≥ 25x	Nearly all assets are unencumbered, at least 95% of fleet.	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 very strong credit profile over the long term.
Aa	800 - 1,200	Expected to have consistent and high positive cash flow, supported by highly stable revenue, margins and long-term contracts; and barriers to entry are extremely high.	35% - 60%	0.5x - 1x	50% - 70%	15x - 25x	Extremely high level of unencumbered assets, typically 90%-95% of the fleet.	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 strong credit profile over the long term.
A	500 - 800	Expected to have consistent positive cash flow, supported by stable revenue, margins and long-term contracts; and barriers to entry are very high.	25% - 35%	1x - 2x	35% - 50%	7x - 15x	Very high level of unencumbered assets, typically 80%-90% of the fleet.	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.
Baa	250 - 500	Expected to have positive cash flow in most years, supported by moderately stable revenue, margins that are higher than peers, and primarily long-term contracts; barriers to entry are high.	18% - 25%	2x - 3x	25% - 35%	4.5x - 7x	High level of unencumbered assets, typically 60%-80% of the fleet.	Expected to have financial policies (including risk and liquidity management) that balance the interest of creditors and shareholders; some risk that debt-funded acquisitions or shareholder distributions could lead to a weaker credit profile.
Ba	100 - 250	Expected to have varying or weak levels of cash flow, driven by somewhat elevated volatility of revenue or margins or moderate scale; mix of short-term and long-term contracts; moderately high barriers to entry.	12% - 18%	3x - 4.5x	15% - 25%	3.5x - 4.5x	Significant level of unencumbered assets, typically 30%-60% of the fleet.	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.

	SCALE (10%)	BUSINESS PROFILE (20%)	PROFITABILITY and EFFICIENCY (5%)	LEVERAGE and COVERAGE (45%)				FINANCIAL POLICY (20%)
	Size of Fleet (number of ships)[1] (10%)	**Business Profile (20%)**	**EBIT Margin[2] (5%)**	**Debt / EBITDA[3] (10%)**	**RCF / Net Debt[4] (10%)**	**(FFO + Interest Expense) / Interest Expense[5] (10%)**	**Unencumbered Assets (15%)**	**Financial Policy (20%)**
B	50 - 100	Expected to have very weak or negative cash flow in most years, driven by modest scale or by highly volatile revenue or weak margins during those years; largely short-term contracts with some spot-rate business; or moderate barriers to entry.	6% - 12%	4.5x - 6x	10% - 15%	2.5x - 3.5x	Moderate level of unencumbered assets, typically 10%-30% of the fleet.	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.
Caa	10 - 50	Expected to have negative cash flow, driven by consistently weak revenue and margins or small scale; primarily spot-rate business; or barriers to entry are extremely low.	3% - 6%	6x - 8x	5% - 10%	1.5x - 2.5x	Low level of unencumbered assets, typically 5%-10% of the fleet.	Expected to have financial policies (including risk and liquidity management) that create elevated risk of debt restructuring in varied economic environments.
Ca	<10	Expected to have extremely negative cash flow or very small scale; essentially all spot-rate business; or barriers to entry are essentially non-existent.	< 3%	> 8x	< 5%	< 1.5x	Almost all assets are pledged as collateral (i.e., fewer than 5% of vessels are unencumbered).	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 1,600. A value of 1,600 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 85%. A value of 85% 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.
[3] For the linear scoring scale, the Aaa endpoint value is zero. A value of zero or better equates to a numeric score of 0.5. The Ca endpoint value is 10x. A value of 10x or worse equates to a numeric score of 20.5, as does a negative Debt/EBITDA value.
[4] For the linear scoring scale, when net debt is positive, the Aaa endpoint value is 100%. A value of 100% 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. When net debt is negative and RCF is positive, the numeric score is 0.5. When net debt is negative and RCF is negative or zero, the numeric score is 20.5.
[5] For the linear scoring scale, the Aaa endpoint value is 40x. A value of 40x 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 (10% 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.

Larger shipping companies typically have greater capacity to offer more frequent and reliable services to a wider variety of customers. They generally benefit from important economies of scale, for example, from lower costs of port operations, cargo loading services, insurance and funding. Larger shipping companies may also benefit from steeper discounts on new port buildings they lease or purchase, and on dry-docking expenses. A larger fleet generally allows for greater flexibility to react to external conditions, including shifts in global trade, transportation patterns and regulation.

A larger fleet also provides greater operational flexibility, allowing a company to sell, temporarily idle or renovate ships at its discretion. Fleet size generally corresponds to the type of business in which a shipping company operates. For example, container liner operators typically have more ships than bulk operators. A larger fleet size may also indicate a greater diversification of a company's business segments, geographic footprint and client base.

How we assess it for the scorecard

Scale is measured (or estimated in the case of forward-looking expectations) by a company's fleet size, which is the number of vessels (both owned and chartered) in its fleet.

Factor: Business Profile (20% weight)

Why it matters

The business profile of a shipping company is important because it greatly influences its ability to generate sustainable earnings and operating cash flows. Core aspects of a shipping company's business profile are its revenue and margin stability and the extent to which the company benefits from contractual arrangements or barriers to entry. These aspects typically have a considerable impact on the strength of a company's cash flows, which can help it absorb volatility through economic and industry cycles.

The ability to maintain strong revenue and margins is an important indicator of the extent that a shipping company is insulated from short-term economic or industry disruptions. Companies with a high proportion of recurring revenue, for example from long-term contracts, also typically benefit from lower revenue volatility and greater predictability of cash flow.

High barriers to entry may reinforce a company's market position and help protect revenue and margins. For example, favorable industry regulations, including cabotage laws or high capital spending requirements, create entry barriers for new competitors.[4]

The type of business in which a shipping company operates provides important indications of its revenue volatility and the predictability of its cash flow because contractual arrangements tend to vary based on the business type. For example, container shipping companies operate under predominantly short-term contracts and as a result, their revenue and cash flows generally tend to be volatile. Tanker operators tend to have longer term contracts, including contracts for the life of the vessel, which lend stability to their revenue and cash flows. Some tanker operators offer spot charters, in which they lease their vessels for a short period or a limited number of trips. These operators may be exposed to revenue volatility because of the short-term nature of such operations.

How we assess it for the scorecard

Scoring for this factor is based on a qualitative, forward-looking assessment of a shipping company's contractual arrangements and the extent of barriers to entry, as well as how its business profile affects the consistency and strength of its cash flow and the stability of its revenue and margins. We typically consider free cash flow in our assessments; however, we may also consider other bases of cash flow (e.g., cash flow from operations minus capital expenditures).

In assessing contractual arrangements, we typically assess their maturity and the extent to which the shipping company can pass through fluctuations in operating costs, such as fuel and port fees.

We typically consider the types of businesses in which a shipping company operates. Companies that operate in businesses with predominantly short-term contracts typically receive lower scores for this factor than companies operating in businesses with longer-term contracts.

In assessing barriers to entry, we typically consider whether the legal, contractual or competitive basis for these barriers is lasting or temporary, and the extent to which they are meaningful in protecting the shipping company's revenue and cash flow from competition by new entrants. For example, the Jones Act, which regulates maritime commerce in the US, limits transport between US ports to US shipping companies.

We also typically consider a shipping company's business diversification because companies operating in multiple lines of business are more likely to have stability of revenue over time than companies that are concentrated in a single business line. Companies also may have non-shipping businesses that may add to revenue and cash flow stability.

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 company has the greatest number of characteristics. However, there may be cases in which one characteristic is sufficiently important to a particular company's credit profile that it has a large influence on the factor score. For example, significant market exposure in a segment where market conditions do not support longer-term contracts may limit a company's score to B or lower even if the company benefits from high barriers to entry.

Factor: Profitability and Efficiency (5% weight)

Why it matters

Profits matter because they are needed to generate sustainable cash flow and maintain a competitive position. Profitability is a key indicator of a shipping company's operating efficiency and flexibility.

The cost structure of a shipping company can be divided into two broad categories: (i) voyage expenses such as fuel costs, commissions and port or canal fees, and (ii) vessel operating expenses, which include the hiring of crews and the maintenance of vessels.

The key determinants of a shipping company's profitability are the efficiency of its vessel management, including participation in shipping pools or vessel-share agreements,[5] the quality of maintenance and the overall cost of funding. In some cases, shipping companies may be able to increase profitability by passing through some voyage expense costs to customers (e.g., through vessel charters).[6]

How we assess it for the scorecard

EBIT MARGIN:

We use the ratio of earnings before interest and taxes (EBIT) to revenue.

In assessing this sub-factor, we typically adjust financial statements for capitalized dry-docking costs, which we view as an operating expense and as an operating cash flow item.

Our use of EBIT rather than EBITDA as the profitability measure reflects the capital-intensive nature of this sector and the need for a shipping company to reinvest in its business to maintain its market position.[7]

Factor: Leverage and Coverage (45% weight)

Why it matters

Leverage and cash flow coverage measures provide important indications of a company's financial flexibility and long-term viability.

This factor comprises four 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.

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 equivalents).

(FFO + Interest Expense) / Interest Expense

The ratio of funds from operations plus interest expense to interest expense ((FFO + Interest Expense)/Interest Expense) is an indicator of a company's ability to meet its interest obligations before investments in working capital, dividends and capital expenditures.

Unencumbered Assets

The level of unencumbered assets, reflecting the value of a shipping company's vessels or other fixed assets, such as ports, that have not been pledged as collateral relative to the total value of vessels in the fleet and other fixed assets, is an important indicator of financial flexibility. Shipping is a very capital-intensive industry. Shipping companies often provide their vessels as collateral in order to access debt funding. Secured lending and leasing have been important elements of shipping company financing, particularly during periods where access to unsecured funding is limited or expensive. Where valuation-related information is not available, the number of vessels relative to the size of the fleet is also an important indicator of financial flexibility.

A company with substantial unencumbered assets is typically more likely to be able to obtain new or amended financing arrangements than a company that has pledged a substantial portion of its fleet as collateral or whose fleet has limited value as collateral.

How we assess it for the scorecard

Scoring for this factor is based on four sub-factors: Debt/EBITDA; RCF/Net Debt; (FFO + Interest Expense)/Interest Expense; and Unencumbered Assets.

DEBT / EBITDA:

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

RCF / NET DEBT:

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

(FFO + INTEREST EXPENSE) / INTEREST EXPENSE:

The numerator is FFO plus interest expense, and the denominator is interest expense.

UNENCUMBERED ASSETS:

In assessing a shipping company's level of unencumbered assets, we typically consider the percentage of its vessels that are pledged as collateral relative to total value of vessels and other fixed assets. In assessing the value of assets pledged as collateral, we typically consider the book value of assets, and if available, their market values. Where such information is not available, a shipping company's score may be adjusted to reflect the number of ships that are unencumbered relative to the size of the fleet. Our scoring typically also reflects the effect of any negative pledges in the company's credit agreements on its financial flexibility.[8] Depending upon the extent to which negative pledges exist, we may revise downward our assessment of the level of a shipping company's unencumbered assets.

Factor: Financial Policy (20% 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 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 management[9] is an important aspect of overall risk management and can provide insight into risk tolerance.

Companies may use acquisitions to spur revenue growth, expand business lines, consolidate market positions, advance cost synergies or seek access to new technology.

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 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 shipping sector are subject to varying degrees of regulatory oversight. Effects of these regulations may entail limitations on operations, higher costs, 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 a shipping company's business profile. 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 shipping sector. For information about our approach to assessing ESG issues, please see our methodology that describes our general principles for assessing these risks.[10]

Shipping companies may face environmental risks related to air pollution, including greenhouse gas emissions, water pollution (e.g., from oil spills), sound pollution as well as cleanup and other remediation costs. For example, evolving regulatory frameworks for marine sector air and water emissions or other environmental or safety standards may require substantial investment to retrofit, upgrade or phase out ships to comply with standards.

Business decisions regarding whether to retrofit or replace ships are more difficult where environmental regulations are evolving or there is limited clarity into future mandates. Companies subject to international regulation or those operating in developed markets have typically faced more stringent regulation that provides greater clarity into environmental requirements and timing for compliance, reducing the risk of unexpected costs. Companies operating in jurisdictions with less rigorous standards may face lower regulatory costs but possibly higher cleanup risks. Accidents may prompt regulators to accelerate existing phase-out schedules for older ships or technology (e.g., tanker hulls), placing significant pressure on companies to accelerate investment in new technology. The exposure to these risks typically varies based on a shipping company's business focus. For example, stringent fire safety regulations that apply to liquid bulk carriers, compared with regulations that apply to container ships or dry bulk carriers, reflect the substantial environmental and safety impact of accidental oil or other chemical spills.

Social considerations that are relevant to shipping companies relate primarily to health and safety risks posed to ecological systems, coastal populations and industry workers.

Governance considerations that are relevant to shipping companies primarily relate to a company's ownership structure, especially where that ownership structure is complex or opaque, related-party transactions, and domiciles of convenience. We may consider these and other areas in our assessment of how corporate governance affects a shipping company's credit profile.

ESG considerations may play a role in our assessment of a company's business profile due to the potential of these issues affecting a company's cash flow stability and its ability to execute on contracts or meet customer requirements.

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 the 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 certain leverage and coverage ratios with total (or gross) 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. In cases where we believe that cash on the balance sheet does not confer meaningful credit support, we are more likely to cite gross debt ratios in our credit analysis, press releases and rating threshold levels.

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 shipping companies, although it may not have a substantial impact in discriminating between two issuers with a similar credit profile. Liquidity can be particularly important for non-investment grade shipping companies where issuers typically have less operating and financial flexibility. 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.[11]

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 shipping 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.[12] The parent's share of dividend flows from a non-wholly owned subsidiary is 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.[13] 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 types of event risks include M&A, asset sales, spin-offs, litigation, pandemics, significant cyber-crime events and shareholder distributions.

Parental Support

Ownership can provide ratings lift for a particular company in the shipping 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 Baseline Credit Assessment or the rating.[14] For example, price controls, onerous taxation and high levels of distributions can have a negative effect on an issuer's underlying credit profile.

For more information, see our cross-sector methodologies that discuss, respectively, support considerations in the absence of legally binding arrangements and government-related issuers.[15]

Other Institutional Support

In some countries, large shipping industry issuers have received government or banking support in the event of financial difficulties because of their overall importance to the functioning of the economy. In Japan, our corporate ratings consider the support that has operated there for large and systemically important organizations. Over the years, this has resulted in lower levels of default than might otherwise have occurred. Our approach considers whether the presence of group and banking relationships may provide support when systemically important companies encounter significant financial stress.

Cyclical Sectors
Scorecard-indicated outcomes in cyclical sectors 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, cyclicality 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.

Seasonality
Seasonality is an important driver of customer demand and can cause swings in cash balances and working capital positions for issuers. For example, the volume of crude oil shipments decreases as refineries shut down for seasonal maintenance, and containership volumes increase in the third quarter with the shipment of goods for the holiday season. Higher volatility creates less room for errors in meeting customer demand or operational execution.

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,[16] 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,[17] 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[18] 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	$x \le 1.5$
Aa1	$1.5 < x \le 2.5$
Aa2	$2.5 < x \le 3.5$
Aa3	$3.5 < x \le 4.5$
A1	$4.5 < x \le 5.5$
A2	$5.5 < x \le 6.5$
A3	$6.5 < x \le 7.5$
Baa1	$7.5 < x \le 8.5$
Baa2	$8.5 < x \le 9.5$
Baa3	$9.5 < x \le 10.5$
Ba1	$10.5 < x \le 11.5$
Ba2	$11.5 < x \le 12.5$
Ba3	$12.5 < x \le 13.5$
B1	$13.5 < x \le 14.5$
B2	$14.5 < x \le 15.5$
B3	$15.5 < x \le 16.5$
Caa1	$16.5 < x \le 17.5$
Caa2	$17.5 < x \le 18.5$
Caa3	$18.5 < x \le 19.5$
Ca	$19.5 < x \le 20.5$
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.[19]

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.[20]

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.[21]

Key rating assumptions

For information about key rating assumptions that apply to methodologies generally, please see *Rating Symbols and Definitions*.[22]

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 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.[23] 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 rating 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 credit 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 Liner ships typically carry goods on established sea lanes and operate on fixed schedules. Bulk carriers typically carry unpackaged dry goods (e.g., coal, iron ore, or grains) or liquids (e.g., chemicals, oil or liquified petroleum gases). Specialty carriers include transporters of liquified natural gas.

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

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

4 Cabotage laws typically regulate domestic sea transportation within a jurisdiction (e.g., within coastal waters) and may restrict the participation of foreign shipping companies within these markets.

5 A shipping pool is an arrangement among the owners of a group of vessels that are operated as a unified fleet, with pooled earnings distributed among the owners. In a vessel sharing agreement (VSA), multiple ship owners designate a number of their vessels to operate a liner service for a particular route. A shipping alliance reflects the pooling together of multiple VSAs on a global scale.

6 When a vessel is time chartered, the charterer normally bears all voyage costs, including fuel costs, and the vessel operator bears only vessel expenses.

7 We often consider depreciation as a reasonable proxy for maintenance capital spending.

8 A negative pledge in one credit agreement typically prohibits a shipping company from pledging ships or other assets as collateral for another credit agreement.

9 Liquidity management is distinct from the level of liquidity, which is discussed in the "Other considerations" section.

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

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

12 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.

13 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.

14 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.

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

16 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.

17 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.

18 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.

19 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.

20 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.

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

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

23 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.

REPORT NUMBER 1276306

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