MOODY'S
INVESTORS SERVICE

RATING METHODOLOGY
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TABLE OF CONTENTS

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Rating Methodology

Oilfield Services

This rating methodology replaces the *Oilfield Services* methodology published in August 2021. While this methodology reflects many of the same core principles as the 2021 methodology, we have made some changes to the scorecard. We have introduced a single set of Business Profile factor scoring descriptions that apply to all oilfield services companies, and we have increased the weight of the factor. We have also increased the weight of the Financial Policy factor. We have eliminated the EBIT/Assets sub-factor in the Profitability and Efficiency factor and reduced the weight of the factor. We have also changed some sub-factor thresholds. In addition, this updated methodology provides more detail regarding other considerations that may be important for companies in this sector.

Scope

This methodology applies to companies globally that are primarily* engaged in providing oilfield services. Oilfield services companies are a diverse group of companies that provide products and services used in the exploration and production of oil and natural gas, including contract drilling companies, offshore support companies, seismic data providers and companies that manufacture equipment used by oilfield services companies.

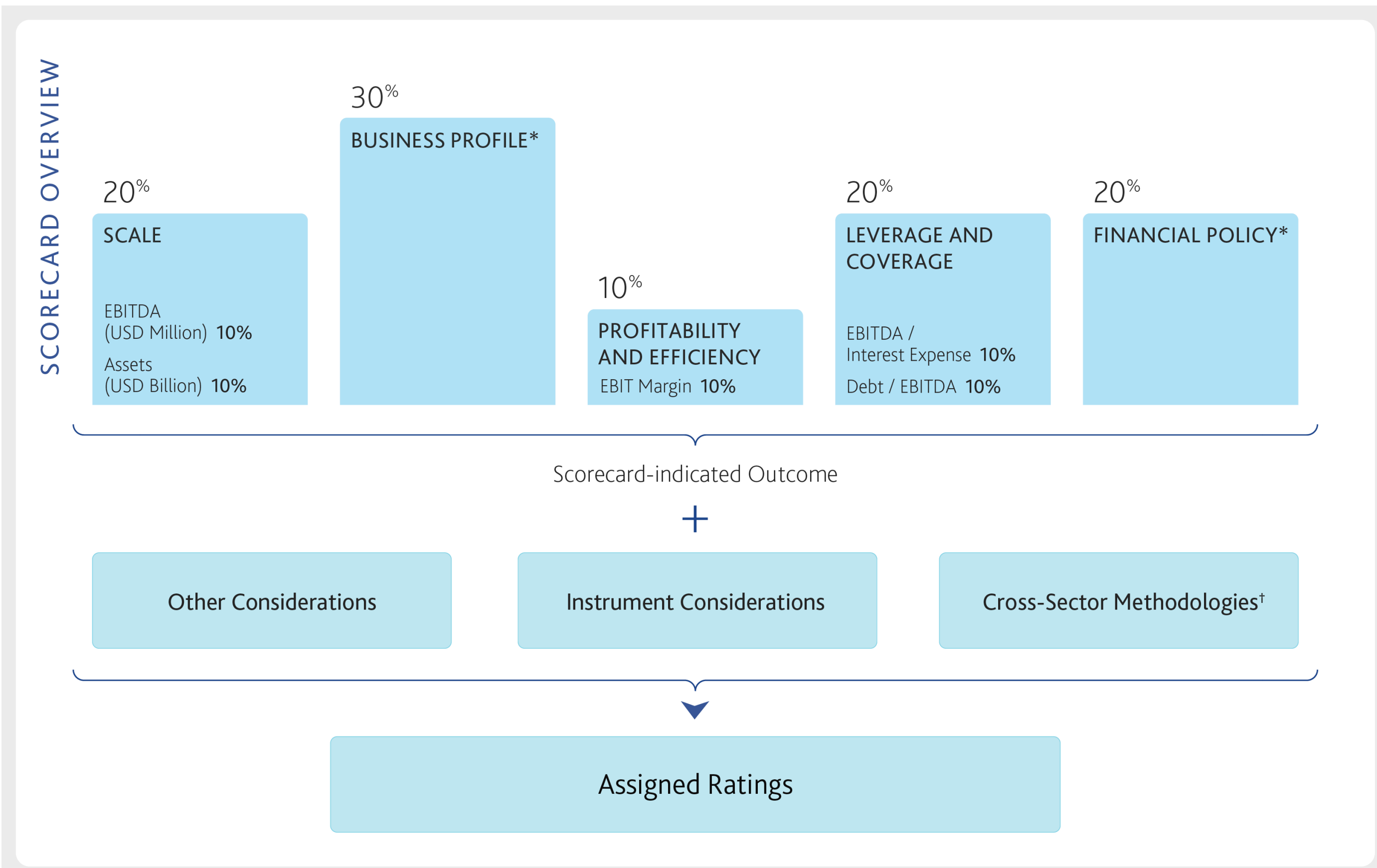
*The determination of a company's primary business is generally based on the preponderance of the company's business risks, which are usually proportionate to the company's revenues, earnings and cash flows.

Rating approach

In this rating methodology, we explain our general approach to assessing credit risk of issuers in the oilfield services 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 into 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 oilfield services companies, which includes the use of a scorecard.[1] The scorecard-indicated outcome is not expected to match the actual rating for each company. For more information, see the "Other considerations" and "Limitations" sections.

Exhibit 1
Illustration of the oilfield services 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

Oilfield services 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

Oilfield services scorecard

	Weight	Aaa	Aa	A	Baa	Ba	B	Caa	Ca
Factor: Scale (20%)									
EBITDA[1] (USD Million)	10%	≥ $20,000	$10,000 - $20,000	$2,500 - $10,000	$1,000 - $2,500	$400 - $1,000	$100 - $400	$25 - $100	< $25
Assets[2] (USD Billion)	10%	≥ $100	$50 - $100	$20 - $50	$8 - $20	$4 - $8	$2 - $4	$0.5 - $2	< $0.5
Factor: Business Profile (30%)									
Business Profile	30%	Extremely stable EBITDA through the industry cycle; and global industry leader with operations in all major oil-and-gas producing countries; and provides an extremely diverse range of products and services to an extremely wide range of customers; and operates latest-generation equipment or has consistently demonstrated superior technological capabilities that result in unparalleled and sustainable barriers to entry; and very long track record of exceptional operational performance; and exceptionally strong contractual revenue protections.	Very stable EBITDA through the industry cycle; and global industry leader with operations in numerous countries and in all major oil-and-gas producing regions; and provides a very diverse range of products and services to a very wide range of customers; and operates latest-generation equipment or has consistently demonstrated superior technological capabilities that result in extremely high barriers to entry; and long track record of exceptional operational performance; and very significant contractual revenue protections.	Stable EBITDA through the industry cycle; global competitor with operations in multiple countries and most major oil-and-gas producing regions; provides a diverse range of products and services to a wide range of customers; operates mostly latest-generation equipment or has mostly demonstrated leading-edge technological capabilities that result in very high barriers to entry; long track record of very strong operational performance; significant contractual revenue protections.	Modest EBITDA volatility through the industry cycle; global competitor with operations in a few countries and several major oil-and-gas producing regions; provides a diverse range of products and services to a moderately diversified customer base; operates mostly latest-generation equipment or has demonstrated strong technological capabilities that result in high barriers to entry; long track record of above-average operational performance; moderate contractual revenue protections.	High EBITDA volatility through the industry cycle; regionally diversified within a major oil-and-gas producing country; provides multiple products and services to a somewhat concentrated customer base; operates new and older equipment or has average technological capabilities, resulting in some barriers to entry; somewhat limited operating track record; some contractual revenue protections.	Very high EBITDA volatility through the industry cycle; operations in a limited number of regional markets within a country; provides a small number of products and services to a small number of customers; operates older equipment or has average or weaker-than-average technological capabilities, resulting in low barriers to entry; limited operating track record; very limited contractual revenue protections.	Very high EBITDA volatility through the industry cycle; operations in a single regional market; relies on a single product or service to a few customers; operates older equipment that is near the end of its useful life or has dated or unproven technological capabilities; short and inconsistent operating track record; no contractual revenue protections.	Extremely high EBITDA volatility through the industry cycle; or operations in a single small regional market; or relies on a single, niche product or service to one or two customers; or operates equipment that is in imminent need of replacement or has no technological capabilities; or weak or no operating track record.
Factor: Profitability and Efficiency (10%)									
EBIT Margin[3]	10%	≥ 40%	30% - 40%	20% - 30%	15% - 20%	10% - 15%	5% - 10%	2.5% - 5%	< 2.5%
Factor: Leverage and Coverage (20%)									
EBITDA / Interest Expense[4]	10%	≥ 30x	20x - 30x	10x - 20x	7x - 10x	4x - 7x	2x - 4x	1x - 2x	< 1x
Debt / EBITDA[5]	10%	≤ 0.5x	0.5x - 1x	1x - 2x	2x - 3x	3x - 4x	4x - 6x	6x - 8x	> 8x

	Weight	Aaa	Aa	A	Baa	Ba	B	Caa	Ca
Factor: Financial Policy (20%)									
Financial Policy	20%	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.	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.	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.	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.	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.	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.	Expected to have financial policies (including risk and liquidity management) that create elevated risk of debt restructuring in varied economic environments.	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 $40 billion. A value of $40 billion 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.
[2] For the linear scoring scale, the Aaa endpoint value is $150 billion. A value of $150 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.
[3] For the linear scoring scale, the Aaa endpoint value is 70%. A value of 70% 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.
[4] 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 0x. A value of 0x or worse equates to a numeric score of 20.5.
[5] For the linear scoring scale, the Aaa endpoint value is 0x. A value of 0x 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.
Source: Moody's Investors Service

Discussion of the scorecard factors

In this section, we explain our general approach for scoring each scorecard factor or sub-factor, and we describe why they are meaningful as credit indicators.

Factor: Scale (20% weight)

Why it matters

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. Companies with larger scale generally have more flexibility to manage their businesses under different demand and cost scenarios, an important consideration in an industry that is highly cyclical. They also tend to have greater access to capital markets, which provides the ability to adapt to competitive forces by undertaking major capital investment projects.

How we assess it for the scorecard

Scoring for this factor is based on two sub-factors: EBITDA and Assets.

Scale is measured (or estimated in the case of forward-looking expectations) using earnings before interest, taxes, depreciation and amortization (EBITDA) and using total assets.

Factor: Business Profile (30% weight)

Why it matters

The business profile of an oilfield services company is important because it greatly influences its ability to generate sustainable earnings and cash flows. An oilfield services company with a stronger business profile has a leading and sustainable market position, is less vulnerable to fluctuating industry conditions in a particular region, has greater earnings consistency and predictability, and has less exposure to cash flow volatility. Core aspects of an oilfield services company's business profile are its earnings stability, geographic, product and customer diversity and market position, equipment and technological capability, operating track record and contractual revenue protections.

EBITDA Stability

The consistency and predictability of an oilfield services company's earnings is an important indicator of its ability to maintain debt service payments. Oilfield services companies' earnings can be volatile, reflecting industry and macroeconomic cycles. Exploration and production (E&P) companies hire oilfield services companies to support the discovery, development and production of oil and gas resources. E&P companies typically manage reduced cash flows during downturns in hydrocarbon demand by decreasing capital spending on new projects and applying downward pressure on oilfield services companies' pricing, which can have a dramatic effect on the earnings and cash flows of oilfield services companies.

Oilfield services companies whose activities are predominantly related to oil and gas production tend to experience more stable demand than companies involved in exploration, drilling and completion activities, because production activities support current cash flow generation. On the other hand, exploration, drilling and completion activities involve significant cash outflows that E&P companies may suspend during downturns.

Diversity and Market Position

The geographic and product diversity of an oilfield services company and its market position are important because the ability to provide a diverse range of products and services to a wide range of customers expands revenue sources and boosts pricing power, which help maintain a company's cash flow through industry downturns. Companies that have market leadership positions or protected niches often have demonstrated the ability to provide best-in-class products and services and to attract and retain customers. The biggest and most diversified oilfield service companies are better able to provide products and services to large, multi-national E&P customers as well as national oil companies, which typically have large and stable capital expenditure budgets. Conversely, companies that provide standard or undifferentiated products and services and that have a limited geographic footprint are likely to experience greater competition and cash flow volatility.

The diversity of an oilfield services company's operations, products and services, and customers is an important credit consideration. Diversification can reduce the impact of shifts in local market supply and demand, regulatory changes, competitors' actions, weatherrelated events and other market developments that could cause earnings erosion or volatility. A strong market position also allows an oilfield services company to hire superior talent and to negotiate better terms with suppliers and customers.

Companies with greater diversity and stronger market positions also have increased flexibility to adjust their geographic focus or product offerings in response to changes in market demand and economic and regulatory environments. Conversely, concentration in a limited number of geographic areas, product types and customers can expose an oilfield services company to risks related to changes in those markets and customers.

Equipment and Technological Capability

Equipment and technological capability are important because oilfield services companies that invest in and use the latest-generation equipment or have leading-edge technological capabilities often have a significant competitive advantage over competitors that employ older equipment or dated technology. Many oilfield service offerings are commodity-like, and product and service differentiation can be difficult to attain because competition is largely based on price (e.g., hydraulic fracturing services in North America). On the other hand, some oilfield services involve technological capabilities that can differentiate a service provider from its peers and are key to E&P customers reaching their hydrocarbon development objectives. For example, providers of drilling rigs have invested in rigs and automation designed for drilling in US shale basins to minimize drilling times, automate repeatable processes and accommodate pad drilling, resulting in safer operations, quicker drilling times and lower well-drilling costs.

An oilfield services company with technological advantages can benefit from reduced competition that results from high barriers to entry, and it can compete for business by offering new products and expanding to new markets. Additionally, technology leadership can support higher and more stable profit margins. Oilfield services companies that fail to keep their equipment and technological capability current risk losing business as their competitive position deteriorates.

Track Record

The operating track record of an oilfield services company can provide important indications of its ability to deliver consistent and strong performance, which drives earnings and cash flows.

Contractual Revenue Protections

Customer contracts that include commitments for future equipment purchases (i.e., a backlog) or equipment leases are important because they provide an oilfield services company greater clarity into future revenue and can partially mitigate exposure to volatility in demand. Contracts for future services can provide some clarity on future revenue, but such contracts have typically extended for three years or less in the oilfield services sector in North America. Customers in some international regions enter into longer contracts.

How we assess it for the scorecard

In our overall assessment of an oilfield services company's business profile, we qualitatively consider its EBITDA stability, geographic, product and customer diversity, market position, equipment and technological capability, operating track record and contractual revenue protections.

Companies with greater EBITDA stability, stronger market positions, operations in several major oil-and-gas producing countries, product line and customer diversity, a fleet of the latest-generation equipment, leading-edge technological capabilities and contractual revenue protections typically receive higher scores for this factor.

Companies that provide services related to the production of oil and gas generally receive higher scores than companies that rely on services related to exploration and drilling, which can be subject to oil producers' capital spending cuts during downturns in commodity prices.

Generally, we do not expect a given company's business profile to exactly match each of the attributes listed for a given scoring category. The factor score is typically 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.

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. Most oilfield services companies have large investments in fixed assets that are necessary to maintain and grow market share. The fixed assets require ongoing maintenance spending and need to be replaced or upgraded on a regular basis to invest in new technology and to offer a competitive service. However, high fixed costs cause greater margin volatility in a cyclical industry. Companies with greater profitability and capital efficiency are better positioned to maintain investment levels throughout the industry cycle.

This factor comprises one sub-factor.

EBIT Margin

The ratio of earnings before interest and taxes to revenue (EBIT Margin) provides insight into the profitability of an oilfield services company's operations. We use EBIT Margin, rather than earnings before interest, taxes, depreciation and amortization (EBITDA) margin, as an indicator of profitability because EBIT Margin better reflects the ongoing need of an oilfield services company to reinvest in property, plant and equipment in order to maintain its production profile and competitiveness. EBIT Margin includes the cost of depreciation, which serves as a proxy for maintenance capital spending.

How we assess it for the scorecard

Scoring for this factor is based on one sub-factor: EBIT Margin.

EBIT MARGIN:

The numerator is earnings before interest and taxes (EBIT), and the denominator is revenue.

Factor: Leverage and Coverage (20% weight)

Why it matters

Financial leverage and coverage measures are indicators of a company's financial flexibility and long-term viability. Financial flexibility is critical to oilfield services companies to maintain their fleets and service equipment and to have access to the capital markets for large capital investments that are needed from time to time.

The factor comprises two sub-factors.

EBITDA / Interest Expense

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

Debt / EBITDA

The ratio of total debt to EBITDA (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.

How we assess it for the scorecard

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

EBITDA / INTEREST EXPENSE:

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

DEBT / EBITDA:

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

Non-standard adjustments

In addition to our standard financial statement adjustments,[2] we adjust certain metrics of oilfield services companies that primarily provide seismic services to reflect our view that spending related to multi-client surveys is an operating cost that should be expensed when it is incurred. In multi-client surveys, a company develops a library of seismic data and seeks to sell that data to multiple prospective customers. We adjust assets to remove the amount of multi-client survey expenditure that has been capitalized, and we reduce EBIT and EBITDA by the amount incurred in the period. We also adjust EBIT to exclude amortization of capitalized multi-client expenditures.

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 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 management[3] is an important aspect of overall risk management and can provide insight into risk tolerance.

Oilfield services companies have historically used acquisitions to spur revenue growth, expand capabilities and product offerings, consolidate market positions, and replace and upgrade equipment. Acquisitions can have an important impact on an oilfield services company's credit profile, depending in part on the existing capital structure and the extent to which it is changed by the transaction.

Oilfield services companies have encountered requests for increased shareholder distributions during periods of peak profitability, potentially at the expense of investment in offshore drilling rigs and pressure pumping equipment. Oilfield services companies' decisions regarding shareholder distributions compared with investment in equipment provide insight into financial policies.

How we assess it for the scorecard

We assess the company'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.

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.

Environmental, Social and Governance Considerations

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

Companies in the oil and gas sector are exposed to significant risks from the global effort to curb greenhouse gas emissions. Oilfield services companies generally face environmental risks similar to those of the exploration and production (E&P) companies that are their customers. E&P companies hire oilfield services companies to discover, develop and produce oil and natural gas resources. A dampening of oil demand due to the increased adoption of alternative energy sources would reduce service demand and weaken the pricing power of oilfield services companies.

Stricter environmental policies and regulations can also lead to higher costs for oilfield services companies. The severity and immediacy of these risks depends on the extent of the carbon emissions curbs and the timing of their implementation. In addition, the specific mechanisms used to curb carbon emissions may affect individual regions and companies differently. Oilfield services companies have historically been able to pass on incremental environmental or regulatory costs to customers.

Demographic and societal trend risk for oilfield services companies is closely linked to carbon transition risk. The increasing social awareness of climate change and negative views of traditional fossil fuel industries have triggered policy shifts that encourage investment in renewable energy sources and accelerate the decarbonization process. Earnings from existing projects may be affected where policy changes or company decarbonization efforts shorten the expected life or profitability of such projects.

Oilfield services companies are generally indemnified by their E&P customers for most drilling and other services-related activity, and particularly for high-risk endeavors, thereby minimizing their exposure to potential legal claims or regulatory penalties. Nevertheless, a catastrophic oil spill or similar event could expose an oilfield services company to substantial financial liability. At a minimum, such events could temporarily impair an oilfield services company's ability to operate, tarnish its reputation and have a negative effect on its credit profile.

The long-term nature of carbon transition risks may mean that they are not fully reflected in our published scorecards. Forward-looking inputs to our published scorecards are typically based on our near-term projections, in part because we may not have sufficient visibility into an issuer's future results beyond this horizon that would enable us to accurately incorporate these risks in assessing scorecard factors and sub-factors, especially quantitative factors. Like other long-term risks that may not be captured in a near-term forward view, carbon transition risks may be incorporated qualitatively outside the scorecard, based on our view of trends that extend beyond the horizon for which more precise projections are practicable. As a result, carbon transition risks may, over time, cause our ratings to be lower than scorecard-indicated outcomes for some companies in this sector.

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

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.

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, auditor's comments in financial reports and unusual restatements of financial statements or delays in regulatory filings may indicate weaknesses in internal controls.

Liquidity

Liquidity is an important rating consideration for all oilfield services 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]

Liquidity is especially critical for speculative grade issuers, which typically have less operating and financial flexibility. Our analysis may include the monitoring of bank covenants and compliance cushions to assess whether the company is likely to require covenant relief in the event of even a modest industry downturn or an issuer-specific decline in performance.

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.

Event Risk

We also recognize the possibility that an unexpected event could cause a sudden and sharp decline in a company'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, shareholder distributions, litigation, pandemics, significant cyber-crime events, geopolitical conflicts, oil spills and other environmental disasters.

Regulatory Considerations

Companies in the oilfield services 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. In some circumstances, regulatory considerations may also be a rating factor outside the scorecard, for instance when regulatory change is swift.

Parental Support

Ownership can provide ratings lift for a particular company in the oilfield services 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.[6] For example, price controls, onerous taxation and high distributions can have a negative effect on an issuer's underlying credit profile.

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.

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,[7] 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 metrics,[8] 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[9] 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	Aggregate numeric score
Aaa	x ≤ 1.5
Aa1	1.5 < x ≤ 2.5
Aa2	2.5 < x ≤ 3.5
Aa3	3.5 < x ≤ 4.5
A1	4.5 < x ≤ 5.5
A2	5.5 < x ≤ 6.5
A3	6.5 < x ≤ 7.5
Baa1	7.5 < x ≤ 8.5
Baa2	8.5 < x ≤ 9.5
Baa3	9.5 < x ≤ 10.5
Ba1	10.5 < x ≤ 11.5
Ba2	11.5 < x ≤ 12.5
Ba3	12.5 < x ≤ 13.5
B1	13.5 < x ≤ 14.5
B2	14.5 < x ≤ 15.5
B3	15.5 < x ≤ 16.5
Caa1	16.5 < x ≤ 17.5
Caa2	17.5 < x ≤ 18.5
Caa3	18.5 < x ≤ 19.5
Ca	19.5 < x ≤ 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 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.[10]

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.[11]

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.[12]

Key rating assumptions

For information about key rating assumptions that apply to methodologies generally, please see *Rating Symbols and Definitions.* [13]

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.[14] 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 into ratings and to take the most forward-looking perspective that visibility into these risks and mitigants permits.

Ratings reflect our expectations for an issuer's future performance; however, as the forward horizon lengthens, uncertainty increases and the utility of precise estimates, as scorecard inputs or in other considerations, typically diminishes. Our forward-looking opinions are based on assumptions that may prove, in hindsight, to have been incorrect. Reasons for this could include unanticipated changes in any of the following: the macroeconomic environment, general financial market conditions, industry competition, disruptive technology, or regulatory and legal actions. In any case, predicting the future is subject to substantial uncertainty.

Moody's related publications

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

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

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

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

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Endnotes

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

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

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 rating methodologies can be found in the “Moody's related publications” section.

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

6 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.

7 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.

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

9 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.

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

11 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 rating methodologies and a link to *Rating Symbols and Definitions* can be found in the “Moody's related publications” section.

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

13 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.

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

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