MOODY'S INVESTORS SERVICE

RATING METHODOLOGY
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Rating Methodology

Trading Companies

This rating methodology replaces the *Trading Companies* methodology published in June 2016. We have reordered and have made editorial updates to various sections of the methodology, and we have changed the presentation of the scorecard. We have removed outdated information. These updates do not change our methodological approach.

Scope

This methodology applies to general and commodity trading companies globally. The companies have a wide range of products and business models.

We define trading companies as companies that are primarily* engaged in the trading of commodities or goods, which for Japanese trading companies can include a wide range of products. Commodity trading companies typically have substantial physical inventories of commodities, logistics assets and varying degrees of vertical integration and investments in manufacturing or processing operations.

General trading companies share some characteristics with commodity trading companies but tend to have more diversified global investments at many different points in various global production and supply chains.

General trading companies (GTC)

These essential Japanese trading companies (or as they are referred to in Japan, "sogo shosha") have an important position in the Japanese economy and very close relationships with key domestic banks and the broad credit environment in Japan has tended to be supportive of such prominent companies. These credit considerations are not fully reflected in the characteristics scored in the scorecard, which is designed to apply globally. However, our ratings incorporate these favorable credit considerations as part of our qualitative assessment of each company.

Like commodity trading companies, general trading companies have global operations and often operate in numerous sectors. While they have large businesses based on moving products and commodities to their major end markets, these transactions are usually on a back-to-back basis and are unlikely to be speculative in nature. They can also differ from

*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.

commodity trading companies in their degree of vertical integration within their cross-global supply chains, where they not only move products, but often own upstream investments or have at least a material stake. These entities seek to add value at multiple points in the production and supply chain, as well as, in many instances, providing the logistics to go to market. Such companies usually seek out global opportunities through their vast information gathering and intelligence networks and are capable of investing large sums quite rapidly in traditional as well as new sectors. As such, they tend to be very dynamic and constantly shift their business mix over time, making their business profiles sometimes hard to pin down.

These companies are generally active traders in the markets in which they operate and move in and out of investments in these markets frequently, recycling their investments as they see shifting opportunities for profits (and losses). Also, they tend to be exposed to global cyclical and economic risks, especially in their resources investment activities. In order to offset these risks, many of these companies have long-term off-take contracts – for example in the coal and liquefied natural gas (LNG) sectors. However, such risk mitigation measures are generally limited to a part of their portfolio and do not cover all risks, such as price risks (e.g., for coal or iron ore).

At the same time, this group of companies usually carries a large proportion of highly liquid stock and short-term investments, as well as cash and this acts as a strong liquidity buffer that can be used in times of stress to rapidly pay down debt. Due to the diversity of their long-term investments, it is expected that they will also be able to sell – at any time – a portion of their portfolio, or at least a number of intermediate or larger scale investments, should they need to. Financial leverage can be offset to an extent by this financial and operating flexibility.

Commodity trading companies (CTC)

Our definition of commodity trading companies includes companies that are involved in the sourcing, handling, transportation, and merchandising of commodities. Additionally, these companies have significant investments in logistics assets (silos, warehouses, storage tanks, port facilities, etc.) that enable them to extract additional value versus brokers or agents. Moreover, these companies differ from most corporate issuers in their extensive use of derivatives (both on and off-exchange futures and options) and varying levels of proprietary trading to enhance margins. These commodities primarily fall into three areas: agriculture, energy and metals. In addition, many of these companies have very liquid but more volatile balance sheets relative to other industrial companies. Hence, we adjust certain financial metrics to make them more comparable to other industrial companies and reduce the volatility of these metrics (see the appendix, “Additional financial adjustments for commodity trading companies”).

The larger companies have a global infrastructure to support their activities, which include investments in related businesses that provide a significant degree of vertical integration. These investments include backward integration into mines (ores, coal, etc.) or farms/plantations (sugar, ethanol, palm oil, etc.), as well as forward integration, primarily in processing agricultural commodities into value-added products (oils, flour, chocolate, etc.).

The highly volatile nature of commodity prices combined with the large volume of materials handled by these companies can lead to extraordinary demands on capital over a relatively short period of time. Hence, pro-active management of liquidity can be a key rating consideration.

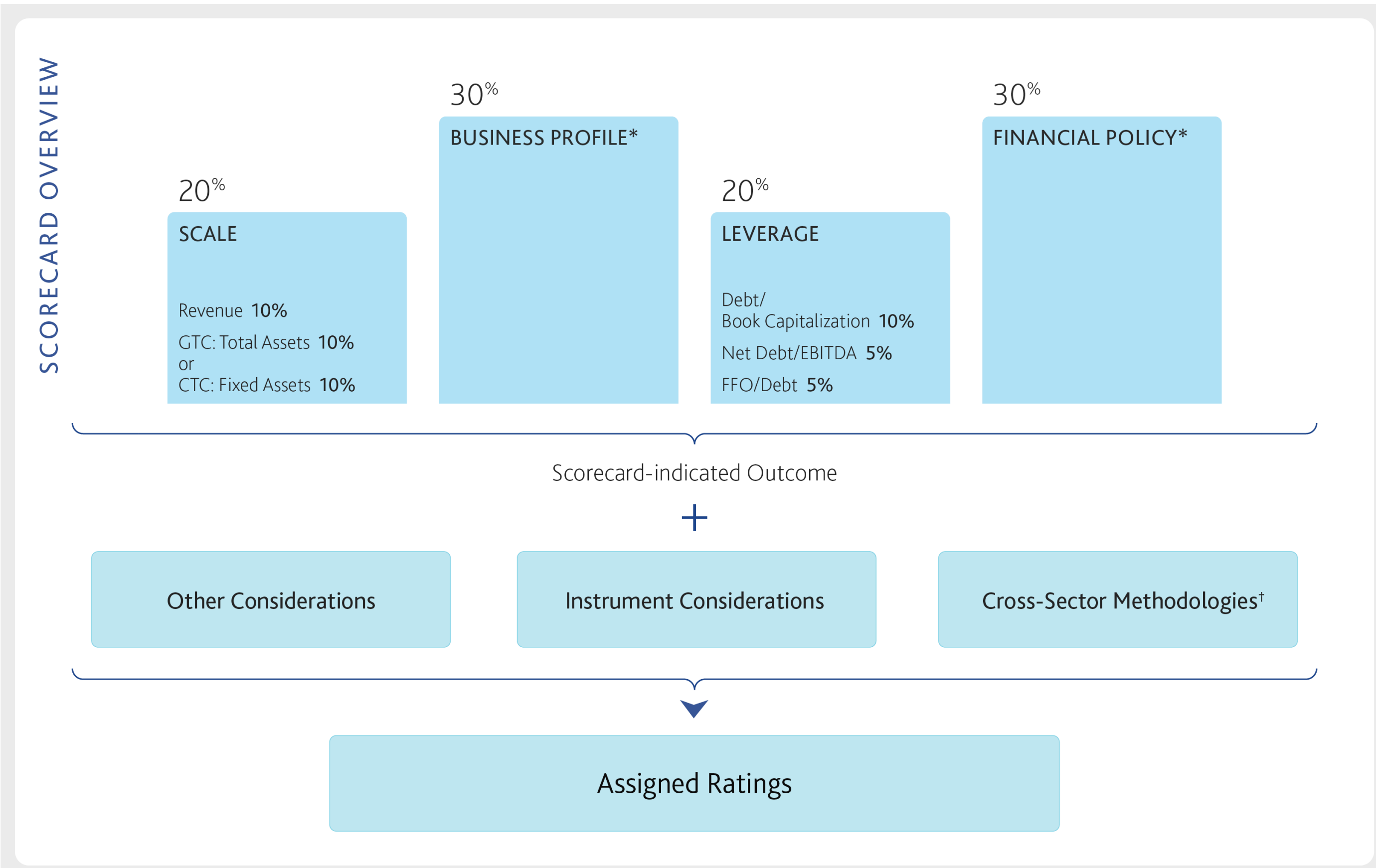
Rating approach

In this rating methodology, we explain our general approach to assessing credit risk of trading companies 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 trading 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 trading companies 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

Trading companies 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

Trading companies scorecard

	SCALE (20%)			BUSINESS PROFILE (30%)	LEVERAGE (20%)				FINANCIAL POLICY (30%)
	Revenue (USD Billion)	GTC: Total Assets (USD Billion)	CTC: Fixed Assets (USD Billion)	Business Profile	Debt / Book Capitalization[3]	GTC: Net Debt / EBITDA[4]	CTC: Net Debt / EBITDA[4]	Funds from Operations / Debt	Financial Policy
GTC Weight	**10%**	**10%**	**0%**	**30%**	**10%**	**5%**	**0%**	**5%**	**30%**
CTC Weight	**10%**	**0%**	**10%**	**30%**	**10%**	**0%**	**5%**	**5%**	**30%**
Aaa	≥ $250	≥ $200	≥ $75	**GTC**: Highly diversified global operations. No concentrations in geography, end-market or customer. Expected to have extremely stable and high earnings evidenced by ROA of at least 10% across the economic cycle. Extremely strong vertical supply chains and long-term contractual off-take. Extremely strong and publicly articulated risk management in place with superior track record. No proprietary trading in commodities or derivatives. **CTC**: No merchandising activities. All trading tied to vertically integrated businesses. Geographically diverse sales. Long history of an extremely diverse product portfolio. Number one global market shares across all businesses as evidenced by operating margins of at least 15% on a sustainable basis. Competitors are significantly smaller in size. Use of derivatives tied directly to physical positions and logistical assets. No proprietary trading.	< 25%	< 0.5x	< 0.5x	≥ 100%	Expected to have extremely conservative financial policies; very stable metrics; public commitment to very strong credit profile over the long term. Long history of stable financial policy.
Aa	$100 - $250	$150 - $200	$30 - $75	**GTC**: Highly diversified global operations. No concentrations in geography, end-market or customer. Expected to have very stable and high earnings evidenced by ROA of at least 6% across the economic cycle. Very strong vertical supply chains and long-term contractual off-take. Very strong and publicly articulated risk management in place with superior track record. No proprietary trading in commodities or derivatives. **CTC**: Minimal merchandising activities. Geographically diverse sales. Long history of an extremely diverse product portfolio. Leading global market shares across all businesses as evidenced by operating margins of at least 10% on a sustainable basis. Competitors are significantly smaller in size. Use of derivatives tied directly to physical positions and logistical assets. No proprietary trading.	25% - 35%	0.5x - 1.5x	0.5x - 1x	50% - 100%	Expected to have very stable and conservative financial policies; stable metrics; minimal event risk that would cause a rating transition; public commitment to strong credit profile over the long term. Long history of stable financial policy.

	SCALE (20%)			BUSINESS PROFILE (30%)	LEVERAGE (20%)				FINANCIAL POLICY (30%)
	Revenue (USD Billion)	**GTC: Total Assets (USD Billion)**	**CTC: Fixed Assets (USD Billion)**	**Business Profile**	**Debt / Book Capitalization[3]**	**GTC: Net Debt / EBITDA[4]**	**CTC: Net Debt / EBITDA[4]**	**Funds from Operations / Debt**	**Financial Policy**
GTC Weight	**10%**	**10%**	**0%**	**30%**	**10%**	**5%**	**0%**	**5%**	**30%**
CTC Weight	**10%**	**0%**	**10%**	**30%**	**10%**	**0%**	**5%**	**5%**	**30%**
A	\$50 - \$100	\$100 - \$150	\$10 - \$30	**GTC**: Highly diversified global operations. Multiple business segments and a wide range of service in all segments. Some concentration in geography, end market or customer. Expected to have stable and very strong earnings with very low volatility across the economic cycle. Strong vertical supply chains and long-term contractual off-take. Strong and publicly articulated risk management in place with good track record. No proprietary trading in commodities or derivatives. **CTC**: More significant merchandising operations but largely supporting vertically integrated businesses. Largest region accounts for less than 40% of total sales. Long history of a diverse product portfolio. Leading global market share in all major product lines. Few competitors of similar size & many smaller competitors. Vast majority of derivatives tied directly to physical positions and logistical assets. Minimal use of proprietary trading. Management policies prevent individuals from incurring proprietary trading risk. Compensation policies do not provide any benefit to individuals for incurring proprietary trading risk.	35% - 45%	1.5x - 3x	1x - 2x	25% - 50%	Expected to have predictable financial policies that preserve creditor interests. Although modest event risk exists, the effect on leverage is likely to be small and temporary; strong commitment to a solid credit profile. History of stable financial policy.
Baa	\$20 - \$50	\$50 - \$100	\$5 - \$10	**GTC**: Global operations with strong diversification. Multiple business segments and a wide range of service in most segments. Moderate concentration in geography, end market or customer. Expected to have robust earnings with low volatility. Expected to have degree of volatility in cash flow across the cycle but capable of being offset by asset recycling.[1] Very good vertical supply chains and long-term contractual off-take. Strong risk management in place with good track record. Minimal proprietary trading in commodities. No proprietary trading in derivatives. **CTC**: Majority of business is tied to merchandising and has a good global logistics infrastructure. Largest region accounts for less than 50% of total sales. Long established market positions across a moderately diverse product portfolio. Leading global market share in key segments. Few larger competitors & many smaller competitors. Derivative primarily used to support physical positions or logistical assets. Proprietary trading is tightly controlled by established policies and tight limits for all individuals. Management is unable to expand risk limits without Board approval. Compensation policies discourage individuals from incurring proprietary trading risk.	45% - 55%	3x - 4.5x	2x - 3x	15% - 25%	Expected to have financial policies that balance the interest of creditors and shareholders; some risk that debt funded acquisitions (in the case where we do not expect offsetting investment type cash inflows) or shareholder distributions could lead to a weaker credit profile. Expectation for stable financial policy.

	SCALE (20%)			BUSINESS PROFILE (30%)	LEVERAGE (20%)				FINANCIAL POLICY (30%)
	Revenue (USD Billion)	GTC: Total Assets (USD Billion)	CTC: Fixed Assets (USD Billion)	Business Profile	Debt / Book Capitalization[3]	GTC: Net Debt / EBITDA[4]	CTC: Net Debt / EBITDA[4]	Funds from Operations / Debt	Financial Policy
GTC Weight	**10%**	**10%**	**0%**	**30%**	**10%**	**5%**	**0%**	**5%**	**30%**
CTC Weight	**10%**	**0%**	**10%**	**30%**	**10%**	**0%**	**5%**	**5%**	**30%**
Ba	$10 - $20	$25 - $50	$1 - $5	**GTC**: Broad continental[2] presence with some regional presence. Several business segments with broad service offerings in many segments. Moderate concentration in geography, end market or customer. Moderate expected volatility in results. Expected to have volatility in cash flow across the cycle but capable of being offset by asset recycling. Good vertical supply chains, some long-term contractual off-take. Good risk management in place with good track record. Minimal proprietary trading in commodities. No proprietary trading in derivatives. **CTC**: Majority of business is tied to merchandising and it has adequate logistics assets. Largest region accounts for less than 65% of total sales. Moderately diverse product portfolio. Established & stable market positions globally. Many larger competitors & many competitors of similar size. Derivatives largely used to support physical positions or logistical assets. Proprietary trading is controlled by established policies and strict risk limits. Management has limited ability to expand risk limits without Board approval. Compensation policies provide limited incentives for proprietary trading risk.	55% - 65%	4.5x - 6x	3x - 4x	7.5% - 15%	Expected to have financial policies that tend to favor shareholders over creditors; above average financial risk resulting from shareholder distributions, acquisitions (in the case where we do not expect offsetting investment type cash inflows) or other significant capital structure changes. Expectation for stable financial policy.
B	$1 - $10	$10 - $25	$0.25 - $1	**GTC**: Broad continental presence. Operates in a few business segments with broad service offerings in at least one key segment. Significant concentration in geography, end market or customer. Expected to have volatility in earnings and cash flow across the cycle but capable of being offset by asset recycling. Some vertical supply chains and degree of long-term off-take. Sufficient risk management in place with adequate track record. Small proprietary trading in commodities. No proprietary trading in derivatives. **CTC**: Merchandising is largest business and has good regional logistics assets. Largest region accounts for less than 90% of total sales. Limited product portfolio. Established & stable market positions in more than one region. Significantly larger competitors and many competitors of similar size. Substantial use of derivatives to support merchandising/trading that is not tied to the company's logistical assets. Proprietary trading is controlled by established policies and risk limits. Management has some discretion over risk limits (or risk limits are set at elevated levels). Compensation policies provide incentives for traders to take risk, but discourage excessive risk.	65% - 75%	6x - 7.5x	4x - 6x	0% - 7.5%	Expected to have financial policies that favor shareholders over creditors; high financial risk resulting from shareholder distributions, acquisitions or other significant capital structure changes. Potential for adverse changes to financial policy over time.

	SCALE (20%)			BUSINESS PROFILE (30%)	LEVERAGE (20%)				FINANCIAL POLICY (30%)
	Revenue (USD Billion)	GTC: Total Assets (USD Billion)	CTC: Fixed Assets (USD Billion)	Business Profile	Debt / Book Capitalization[3]	GTC: Net Debt / EBITDA[4]	CTC: Net Debt / EBITDA[4]	Funds from Operations / Debt	Financial Policy
GTC Weight	**10%**	**10%**	**0%**	**30%**	**10%**	**5%**	**0%**	**5%**	**30%**
CTC Weight	**10%**	**0%**	**10%**	**30%**	**10%**	**0%**	**5%**	**5%**	**30%**
Caa	$0.5 - $1	$1 - $10	$0.1 - $0.25	**GTC**: Regional operator within a single country or continent. Substantial concentrations in geography, end market or customer. Expected to have high volatility in cash flow across the cycle. Very limited potential for flexibility in asset recycling. Minimal vertical integration or long-term contractual off-take. Inadequate risk management with minimal track record. Material proprietary trading in commodities. Small proprietary trading in derivatives. **CTC**: Merchandising is largest business and has limited regional logistics assets. Largest region accounts for less than 95% of total sales. Two or three main products. Established & stable market position in one region. Most competitors are significantly larger and few competitors of similar size. Majority of derivatives used to support merchandising / trading that is not tied to the company's logistical assets. Proprietary trading is controlled by established policies and risk limits. Management has substantial discretion over risk limits (or risk limits are set at excessive levels). Compensation policies do not discourage traders from taking excessive risk.	75% - 90%	7.5x - 9x	6x - 8x	-4% - 0%	Expected to have financial policies that create elevated risk of debt restructuring in varied economic environments. Adverse changes to financial policy likely.
Ca	< $0.5	< $1	< $0.1	**GTC**: Wholly localized and concentrated operations within one country. No vertical integration or long-term contracts. Expected to have extremely high volatility in both earnings and cash flow. Inadequate risk management with poor track record. Material proprietary trading in commodities. Material proprietary trading in derivatives. **CTC**: Merchandising is largest business but has no logistics assets. Largest region accounts for ≥ 95% of total sales. One main product. Established but volatile market position in one region. Smallest company in market or region. Vast majority of derivatives used to support merchandising / trading that is not tied to the company's logistical assets. Proprietary trading is not controlled by established policies and risk limits. Management has substantial discretion over risk limits (or risk limits are set at excessive levels). Compensation policies do not discourage traders from taking excessive risk.	≥ 90%	≥ 9x	≥ 8x	< -4%	Expected to have financial policies that create elevated risk of debt restructuring even in healthy economic environments. Adverse changes to financial policy likely.

[1] The term *asset recycling* in this context refers to the process of general trading companies (and some others) routinely investing and subsequently divesting assets. This regular turnover may involve large scale assets that are non-core to the company's operations but such activities form an ongoing part of the company's expected business operations. In times of financial stress, for example, a trading company which has diverse assets in numerous sectors may choose to liquidate one or several assets in order to alleviate some aspects of its financial position, for example high leverage or weak liquidity.
[2] The term *continental* refers to the American, European and Asian continents.
[3] When debt is zero, the score is Aaa. When debt is positive and book capitalization is negative, the score is Ca.
[4] When net debt is negative and EBITDA is positive, the score is Aaa. When net debt is negative and EBITDA is negative, the score is Ca.
Source: Moody's Investors Service

Sector overview

General trading companies:

The business model of general trading companies is highly complex involving a diverse array of earnings in many segments, but these businesses are uniquely shaped to include both traditional trading on the one hand and long-term business investment on the other. Their credit profiles overall are hybrids, lying between that of a corporate and financial institution. As such, a higher level of leverage can be reconciled with a higher rating than would be the case for most purely nonfinancial corporate entities.

General trading companies' earnings and cash flow streams are generally divided into three categories: (i) earnings from trading activities, (ii) dividend income from non-controlling interest in investments and (iii) earnings from manufacturing, sales, and financial services mainly conducted by their subsidiaries in which they have controlling interests.

Trading is their fundamental business and remains an important part of their overall business model. Not only do they act as an intermediary for exports, imports, and domestic commercial transactions, they also provide various services such as gathering and dissemination of information, logistics (distribution of products downstream), and financial functions (extend credit management) to help facilitate commercial transactions. In general, the trading business is low-risk, low-return.

In addition to the trading business, they are actively engaged in business investments by generally acquiring minority stakes. General trading companies typically shift and grow their businesses outside traditional trading to long-term investments. They effectively invest in all sectors of the value chain, from upstream to downstream, in order to capture a diverse array of earnings opportunities in each segment. For example, in the LNG business, they help develop gas fields, produce (liquefy) gas, transport LNG and supply gas to users.

The investment business has become a critical part of their business model, since profits from investment activities generate much higher returns compared with traditional trading businesses.

However, those investments are characterized as long-term, less liquid and as having higher risk profiles compared with the trading business. Also, general trading companies have made large investments in the resources and commodities sectors such as iron ore, coal, copper, aluminum, and natural gas, which face cyclical downturns. Therefore, risk management is very important; but due to limited public disclosure, it is challenging to compare and quantify their risk management capabilities. The earnings from their subsidiaries in which they have controlling interests also provide meaningful contributions to their overall profitability. These subsidiaries range from manufacturing to services to leasing, and have different business risk profiles and margins, depending on the type of businesses.

One of the challenges is that earnings from their trading business and those from investment activities (both controlling and non-controlling interest) are difficult to de-compose, since their trading business becomes a part of their value chain. Also, their EBITDA tends to be volatile when compared with other corporations, as they are regularly selling and buying the assets as a part of their investment activities.

Derivatives are mainly used to hedge market risks related to their exposures such as foreign currency exchange rates, interest rates and commodity prices. Their involvement in proprietary trading is very limited.

Due to the nature of the finance function performed by general trading companies such as leasing and captive finance related businesses, as well as providing short-term financing associated with their trading business, general trading companies are typically highly levered as measured by net debt to EBITDA.

However, this high leverage is partially mitigated by their ability to reduce investments, as the majority of their investments are discretionary, and they have the financial flexibility to stop these investments during periods when the operating environment is uncertain or challenging, such as in a financial crisis. Also, the larger companies have an ability to rapidly liquidate a large portfolio of short-term, but high-quality assets such as inventory and receivables.

Finally, liquidity management is also very important for general trading companies. They generally hold large amounts of cash, which is enough to cover short-term debt obligations. Also, they tend to have committed lines of credit mainly from Japanese banks.

Commodity trading companies:

Trading companies are characterized by relatively thin margins, stable demand and volatile credit metrics. In general, these companies make extensive use of derivatives to reduce their exposure to changes in commodity prices and “lock in” their margins. However, they also engage in proprietary trading activities to enhance margins. Specific business and competitive risks vary depending on the commodities sold and the countries in which they operate. The companies can be divided into two segments:

» Larger more diversified companies with vertically integrated operations and investments

» Smaller merchandisers with more limited assets and very limited vertical integration

Logistics assets are important: For traders of most commodities (crude oil and related petroleum or natural gas products, along with electrical energy, can be exceptions), logistics assets are required to support the merchandising of commodities. These assets include silos, storage tanks, rail cars, barges, ships and port facilities. These assets can be owned or leased, but typically a company must increase its storage and logistics assets to generate sustainable sales growth.

Use of derivatives: Another unique aspect of this industry is the extensive use of derivatives to limit price risk, as well as the large dollar value of forward purchase and sale contracts these companies enter into. The use of derivatives is so extensive that most companies have direct access to several exchanges around the world.

Proprietary trading: These companies utilize the knowledge they garner from purchasing and selling physical commodities to take long, short or spread positions on specific commodities. The degree of proprietary trading is highly dependent on management's risk tolerance, the compensation structure and the adherence to specific controls (VaR limits, etc.). Many companies have traders that are highly compensated based on their ability to generate profits. Hence, we focus on risk management practices and the controls that are in place at these companies.

Liquidity: Liquidity is of paramount importance for these companies as it can greatly impact their ability to take on additional business, especially when commodity prices are rising or are at elevated levels. Additionally, the market's perception of a company's liquidity can greatly impact its ability to hedge its price exposure on commodities where there is significant basis risk relative to exchange-traded options. Companies in this industry must proactively manage their liquidity to a much greater degree than companies in other industries.

Vertical integration: Most larger companies in the industry are vertically integrated through wholly-owned operations that produce the commodity, or process it into value-added products (which can also be an exchange-traded commodity - soybean oil, soybean meal, flour etc.). We believe that vertical integration provides greater “optionality” and greater stability in margins over time.

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

Large revenues and assets are typically indicative of a more sustainable business position that enables a company to have a greater influence over business trends and pricing, and to weather the vagaries of economic cycles and support a stable or growing market position. Scale also can be an indicator of greater resilience to changes in product demand, geographic diversity, cost absorption and bargaining strength with customers and suppliers.

Revenues

Size in this sector implies ability to benefit from economies of scale in sourcing and distribution of products on a preferred basis. Size also tends to be indicative of a more diversified portfolio of commodities and vertically integrated businesses.

Total Assets (General Trading Companies)

General trading companies are involved in trading businesses that result in highly liquid trade receivables and inventories that may represent a material portion of the total balance sheet. These companies are also often involved in long-term, illiquid business investments along with their trading businesses. Higher levels of total assets tend to be associated with a more diversified portfolio, large operating franchises, as well as the potential for larger cash generation through divestments.

Fixed Assets (Commodity Trading Companies)

Fixed assets is another indicator of scale. Higher levels of fixed assets investment tend to be consistent with a more stable performance for commodity trading companies, including earnings and cash flow performance. Fixed assets is a relatively stable indicator of scale compared to total assets, which is impacted by seasonal volume and commodity price changes.

How we assess it for the scorecard

Scoring for this factor is based on our assessment of a company's revenue and assets. In assessing assets, we use different scoring criteria for general trading companies and commodity trading companies, in recognition of differences in their respective business models.

REVENUES:

Scale is measured (or estimated in the case of forward-looking expectations) using total reported revenue in billions of US dollars. For commodity trading companies, our forecasts recognize that commodity prices vary over time and generally do not reflect commodity prices that are viewed to be unsustainably high or low.

ASSETS

TOTAL ASSETS (GENERAL TRADING COMPANIES):

We use total assets balance sheet data for the latest fiscal year-end.

FIXED ASSETS (COMMODITY TRADING COMPANIES):

We use unadjusted gross property, plant and equipment (PP&E). We did not choose to use net PP&E in the scorecard because most merchandising assets are depreciated well before the end of their useful life. Therefore, in most cases the gross number best reflects the level of assets in service.

Factor: Business Profile (30% weight)

Why it matters

The business profile of a trading company provides important indications of the strength of the company's global presence, the diversity of its products, its long-term competitiveness, the stability of its performance, its long-term viability and its risk profile.

Our assessment includes: geographic, operational and product diversity; competitive advantages; durability of its market share and customer relationships; the stability of performance over time; the competitive landscape in each key market; the threat posed by potential new entrants or technological change; the degree to which products or services are differentiated; growth strategy; and risk profile. The company's risk profile considers a broad range of issues, including the perceived likelihood that the company might undertake sizable or frequent acquisitions in new markets that would raise business risk, exposures to volatile commodity prices, and management's policies and practices concerning proprietary trading. For commodity trading companies, we also consider the level of vertical integration, the percentage of sales and earnings that arise from merchandising activities and the evolution of the company's business over time.

How we assess it for the scorecard

The scoring of this factor is based on a qualitative assessment of the business profile of each company, including its overall market position, product, operational and geographic diversity, expected growth prospects and stability of cash flows.

We generally do not expect a given company's business profile to exactly match each of the attributes 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, such as the company's risk profile, competitive position or stability of performance, is sufficiently important to a particular company's credit profile that it has a large influence on the factor score. We use different scoring criteria for this factor for general trading companies and commodity trading companies, in recognition of the differences in their respective business models and the resulting differences in their competitive landscapes.

General trading companies:

We view general trading companies that are more highly diversified and that have strong vertical supply chains, in which they can add material value at successive stages of the production chain (not simply conveyance or logistics), as those best equipped to maintain a strong business model with resilient and high earnings and low volatility through the economic cycle. Companies that score low on this factor are those that are not globally diverse, have little or no ability to add value within a vertical supply chain and are perceived as having greater vulnerability to adverse consequences in areas that include proprietary trading and use of derivatives.

Commodity trading companies:

Our qualitative assessment of a commodity trading company's business profile considers the nature of risks related to business activities, the competitive landscape, the diversity of the business, market shares, as well as other considerations. Our risk assessment considers business activities, including merchandising, proprietary trading positions, policies, and controls. Additionally, management's track record of adhering to its policies, changing those policies when appropriate and proactively addressing potential future concerns is important in this assessment. Our assessment of a company's risk profile also incorporates the evolution over time of various characteristics, including its risk management systems and policies, as well as our view of the level and quality of disclosure.

We consider a number of aspects in assessing the competitive landscape with particular emphasis on diversity, the nature of competition, companies with distinct competitive advantages and the economic benefit these advantages provide. We assess these characteristics partly by evaluating companies relative to their direct competitors.

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

Strong market share in a company's key markets suggests a sustainable business position with greater ability to weather volatile market conditions. Market share that is protected by the size or characteristics of logistics assets, government regulations, contractual agreements or unique licensing restrictions can underpin a high market share. To the extent that a company has high market shares across its major businesses, it should be able to generate higher margins and returns than its competitors.

Factor: Leverage (20% weight)

Why it matters

Leverage ratios are useful indicators of a company's financial flexibility and long-term viability. Strength in this area is an indicator of a greater ability to make new investments, weather the vagaries of the business cycle and respond to unexpected challenges. Companies with stronger leverage metrics typically have easier access to external funding and are better prepared to absorb the negative impact from volatile commodity prices and large shifts in consumer demand.

Debt / Book Capitalization

The ratio of total debt to book capitalization (Debt/Book Capitalization) is a measure of balance sheet leverage that indicates how much of a company's capital structure is composed of debt and debt-like obligations. Companies frequently use this ratio to set the range of leverage in which they choose to operate, which also provides an indication of management's risk tolerance and a reference point for comparing the capital structures of companies within the industry.

Net Debt / EBITDA

The ratio of net debt (total debt minus cash and cash equivalents) to earnings before interest, taxes, depreciation and amortization (Net Debt/EBITDA) is an indicator of debt serviceability and financial leverage.

For general trading companies: The EBITDA for general trading companies normally includes equity income as these investments are part of their fundamental business operations. This tends to be volatile as equity income can fluctuate with investments and divestments. Generally, the companies are highly levered, due to the nature of the finance function performed by general trading companies, such as engaging in leasing and captive-finance-related businesses, as well as providing the short-term financing associated with their trading businesses. The companies also tend to maintain significant cash balances, so we use net debt for this ratio. General trading companies are engaged in finance-related businesses such as providing short-term financing to their customers, as well as engaging in leasing and captive-finance-related businesses. These attributes give general trading companies a financial profile – and leverage – more akin to a hybrid between a corporate and a financial institution.

For commodity trading companies: While this metric varies greatly depending on commodity prices, we expect companies will target an average range over time, irrespective of commodity prices. We use net debt for this ratio since most companies carry large cash balances to insulate against commodity price volatility and seasonal changes in working capital. In addition, we may reduce debt to reflect a certain amount of Readily Marketable Inventories (RMI), which can be monetized to reduce leverage. The level of RMI is determined for each company based on its product and business mix. Please see the appendix, "Additional financial adjustments for commodity trading companies" for more information.

FFO / Debt

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

How we assess it for the scorecard

Scoring for this factor is based on three sub-factors: Debt/Book Capitalization; Net Debt/EBITDA; and FFO/Debt.

DEBT/BOOK CAPITALIZATION:

The numerator is total debt, and the denominator is book capitalization.

NET DEBT/EBITDA:

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

In assessing this sub-factor, we differentiate between general trading companies and commodity trading companies, in recognition of differences in their respective business models.

General trading companies: We may make adjustments to gross/net debt to exclude captive-finance-related obligations . However, these companies' businesses are complex and intertwined, and captive-finance-related debt is often not separately disclosed.

Commodity trading companies: We make several adjustments that address specific characteristics of this industry sector (e.g., readily marketable inventory and time charters). Please see the appendix.

FFO/DEBT:

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

Factor: Financial Policy (30% weight)

Why it matters

Our view of management and board tolerance for financial risk is a rating determinant because it directly affects debt levels, credit quality, and the risk of adverse changes in financing and capital structure.

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

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

General trading companies have historically frequently used acquisitions as a continuous and ongoing feature of their unique business model, in order to spur revenue growth, expand business lines, consolidate market positions, advance cost synergies, seek to access new technology, or move into or out of (in the latter case, via divestments) dynamic opportunities that they may identify across the globe due to their broad footprints and diverse exposures. The impact of an acquisition on a rating will partly depend on the company's existing capital structure and the degree to which it is changed by the acquisition.

How we assess it for the scorecard

We assess the issuer's desired capital structure or targeted credit profile, history of prior actions and adherence to its commitments. Attention is paid to management's operating performance and use of cash flow through different phases of economic cycles. Also of interest is the way in which management responds to key events, such as changes in the credit markets and liquidity environment, legal actions, competitive challenges, and regulatory pressures.

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

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

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.

Aside from the financial ratios included in the scorecard, other financial measures can provide useful indications of a company's relative credit strength and how this changes over time. For example, Net Debt/Net Working Capital provides an indication of how much of the balance sheet debt is financing relatively liquid assets and can be a useful credit indicator in some cases for commodity trading companies. For most pure commodity merchandising/trading companies, this metric is below 1.0x. For the large, vertically integrated companies, this ratio can be between 1x-2x as they have a much larger investment in fixed assets or affiliate investments. These typical ranges can change when commodity prices are at peak or trough levels.

Management Strategy

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

Environmental, Social and Governance Considerations

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

Among the areas of focus in corporate governance, for example, are audit committee financial expertise, frequency and level of Board oversight on the company's trading risks, the incentives created by executive compensation packages, related party transactions, interactions with outside auditors, and ownership structure.

Financial Controls

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

Liquidity

Liquidity is an important rating consideration for all trading companies, although it may not have a substantial impact in discriminating between two issuers with a similar credit profile. Liquidity can greatly impact a company's ability to enter into forward purchase or sale contracts, participate in private or over-the-counter contracts or options for the purchase or sale of commodities, absorb reasonable increases in commodity prices or cover price exposure on commodities for which there is no viable futures market, and ratings can be heavily affected by extremely weak liquidity. We form an opinion on likely near-term liquidity requirements for these companies based on current commodity prices, potential supply or demand disruptions and a reasonable range of economic forecasts. Companies are expected to maintain a cushion of excess liquidity to handle commodity prices that are subject to a substantial variability. Our analysis also considers liquid assets and headroom under financial covenants. For more details on our approach, please see our liquidity cross-sector methodology.[3]

Event Risk

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

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

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

Other Institutional Support
Our ratings for the trading companies in Japan consider the unique nature and supportiveness of the Japanese system. We consider the characteristics of each trading company in Japan and make a qualitative assessment of elements that could be beneficial, including the size and prominence of the company, its importance as a domestic employer and contributor to the economy, its importance within a group of related companies (sometimes referred to as the "Keiretsu system") and the strength of its key banking relationships.

In considering the credit benefit for each trading company in Japan, we would not attribute any lift for the supportiveness of the Japanese system that brings a rating higher than the government bond rating, since the credit quality of the government is meaningful for the credit strength of the banking system and any related domestic companies that could be involved in supporting a trading company. Our ratings for the trading companies in Japan also consider that support will not be endless and is less likely to be provided when a company has questionable viability rather than being in need of temporary liquidity assistance. Intrinsic credit quality matters in Japan as it does in the rest of the world.

Using the scorecard to arrive at a scorecard-indicated outcome

1. Measurement or estimation of factors in the scorecard

In the "Discussion of the scorecard factors" section, we explain our analytical approach for scoring each scorecard factor or sub-factor,[5] and we describe why they are meaningful as credit indicators.

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

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

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

2. Mapping scorecard factors to a numeric score

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

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

Exhibit 3

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

Source: Moody's Investors Service

3. Determining the overall scorecard-indicated outcome

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

Exhibit 4

Scorecard-indicated outcome

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

Source: Moody's Investors Service

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

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

Assigning issuer-level and instrument-level ratings

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

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

Key rating assumptions

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

Limitations

In the preceding sections, we have discussed the scorecard factors and many of the other considerations that may be important in assigning ratings. In this section, we discuss limitations that pertain to the scorecard and to the overall rating methodology.

Limitations of the scorecard

There are various reasons why scorecard-indicated outcomes may not map closely to actual ratings.

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

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

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

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

General limitations of the methodology

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

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

Appendix: Additional financial adjustments for commodity trading companies

In addition to our standard analytical adjustments to financial statements, we may make additional adjustments to the financial statements of commodity trading companies. This appendix provides insights on adjustments we make to improve the comparability of data and provide more meaningful financial metrics.

Time charters: The leasing of vessels for the transport of commodities is a necessary part of this business. Ready access to suitable ships allows companies to take advantage of short-term price inequalities in the market and generate higher profits in the logistics/distribution business. However, due to the nature of the commodity trading business, a firm cannot utilize 100% of its ships' capacity for its own products and typically seeks to lease out the unused capacity. Some firms manage their exposure by hedging their projected requirements for the following periods as there is a very liquid futures market for time charters. Other firms have chosen to become brokers – leasing a much greater number of ships than they can utilize, and sub-leasing the vast majority of their shipping capacity and making this a profit center. To the extent that a company has a meaningful amount of time charters that do not meet the accounting definition of a lease and thus does not capitalize them in accordance with US GAAP or IFRS, we would make adjustments similar to our treatment of leases.[13]

Readily marketable inventories (RMI): The vast majority of the inventory held by these companies is typically either fully hedged or contractually sold and the turnover of inventory is fairly rapid[14] (excluding inventories specifically held to take advantage of the futures versus cash price differential). Accordingly, companies could in theory liquidate a portion of their inventory to reduce debt. However, we do not believe that companies can monetize a large percentage of their RMI without adversely impacting their business – reducing future profitability or raising concerns among trading partners or counterparties (potential for increased collateral requirements in OTC trades). Hence, we may view a smaller portion of RMI as benefiting liquidity than total reported RMI.

For trading companies, commodity price volatility creates even greater volatility in financial metrics based on net debt. We have found that using a conservative value for RMI as a deduction to debt provides some stability to the companies' net debt financial metrics, enabling us to communicate a reasonable range for these financial metrics where the rating of the company would likely remain stable, as well as the values for these metrics that could cause us to move the rating for the company up or down. We do not use the RMI numbers generated by the companies as they would provide too large of an adjustment to net debt, allowing debt to increase substantially without a meaningful change in these financial metrics.

We make estimated adjustments for RMI that are typically between 20%-50% of total inventory depending on the proportion of the company's revenue base and inventory that is tied to their merchandising/trading operations. On a case-by-case basis and depending on the specific circumstances and market outlook for a particular commodity or basket of commodities, a higher percentage adjustment could be contemplated (than the 20%-50% range cited above), if we have sufficient insight into the specific risks. Generally, such an adjustment would be no higher than 75% of the inventory concerned. The RMI adjustment is subtracted from debt in the calculation of commodity trading companies' Net Debt/EBITDA and Funds from Operations/Debt metrics in this methodology.

Moody's related publications

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

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

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

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

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Endnotes

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

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

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

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

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

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

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

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

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

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

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

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

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

14 This adjustment is typically not suitable for other commodity industries as they do not have their entire inventory hedged or contractually sold.

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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