# Metals and Mining Rating Methodology

Corporates

28 June 2022


**Contacts**

**Olaf Tölke**
Managing Director
+49 69 6677389-11
o.toelke@scoperatings.com

**Tommy Träsk**
Director
+49 69 6677389-36
t.traesk@scoperatings.com


**Call for comments**

Scope welcomes market participants' comments on its proposed methodology.
Please send your comments by 31 July 2022 to consultation@scoperatings.com.

# Table of Contents

## 1. Introduction

This methodology supplements Scope's Corporate Rating Methodology for the rating of metals and mining companies. Our Corporate Rating Methodology lays down the key principles and criteria which we apply when assigning ratings to corporate issuers and their debt instruments.

Metals and mining companies are entities that generate most of their revenue and cash flow from one or more of the following activities: the mining of metals and minerals; the collection and recycling of scrap for metal production; the smelting and refining of metals; the processing of metals into semi-finished, finished or engineered metal products; as well as the distribution and physical trade in metals and minerals. These criteria are applicable globally.

The introduction of this methodology will not impact existing credit ratings that will fall into scope of this methodology.

## 2. The metals and mining industry

Metals and mining companies rated under these criteria can be broadly divided into five categories. It is common for companies to be vertically integrated and appear in more than one of the below segments.

**Mining**

Mines typically have a very long lifespan from initial prospecting to reclamation and restoration of the mine. A new mining project can easily take over 10 years from the discovery of an ore deposit to commissioning. Mining is a capital-intensive process, and the extraction and processing of metals and minerals containing ore from the earth's crust is typically done through either open pit or underground mines, together with adjacent ore processing facilities. The economics of a mine depends largely on the ore grade and the presence of valuable by-products in the ore; the size (mine life) and depth of the ore body; the presence of water, electricity, and transportation systems near the mine; as well as tax and royalty regimes. A mining company is normally fully exposed to the price of its commodity, although the price impact in the short term can be hedged in the futures market or through off-take agreements.

**Smelting and refining**

Smelting and refining can take place either close to the mine, in areas with abundant and cheap sources of electricity (e.g. hydropower) or close to the end-markets of the refined commodity. Aluminium smelters are typically located close to the source of electricity due to the high power-intensity of the refining and smelting process. Steel plants are usually located either close to sources of iron ore or steel scrap, or close to end-markets. Like in mining, revenue and earnings can be volatile in smelting and refining, although margins are lower and less volatile than for mining companies. The age and technology of both plant and equipment can have a significant impact on costs in this segment. In some cases, producing metal from scrap can have advantages (cost, flexibility) over the production of primary metal.

**Metal processing**

The processing of metal is a margin business that typically takes place close to the end-market of the product or is integrated with a steel mill, for example. Metal processors normally produce output to order and can manage the price risk exposure through contracts with suppliers and customers or through hedging. Margins are therefore low, but relatively stable. Volume risk can be mitigated through long-term supply contracts for some products, whilst other are spot-traded. Margins are typically higher for value-added products, such as alloyed or engineered products.

**Distribution and trading**

A large part of the globally traded metal is bought and sold via intermediaries. Whenever possible, metal producers, however, prefer to develop relationships directly with end-customers, thereby generating more stable business and higher prices and margins. Some of the major steel producers have their own distribution businesses that sell both own and third-party products. Whereas a distributor will hold significant stocks of metal, a pure trader typically only holds pre-sold or hedged inventory. The trader normally enters into back-to-back trades between suppliers and customers of metals and minerals, and may also arrange the financing and transportation of the material from the supplier to the customer. Distributors and traders may own logistics assets (warehouses, storage facilities, vessels, vehicles, etc.) that allow them to generate additional value. The trader is rarely exposed to price risk (apart from basis risk) but remains exposed to operational and counterparty risks. Margins are therefore very thin, but stable (unless the trader takes speculative positions).

**Scrap collection and recycling**

These businesses are normally located in areas of high consumption of metals that offer a large and consistent supply of scrap, predominantly steel, copper and aluminium. Some steel and aluminium producers have their own captive scrap collection and recycling business to cover their need for raw materials. Some countries generate more scrap than they consume, such as Germany, the Netherlands, and the European Union as a whole, making them large exporters of scrap.

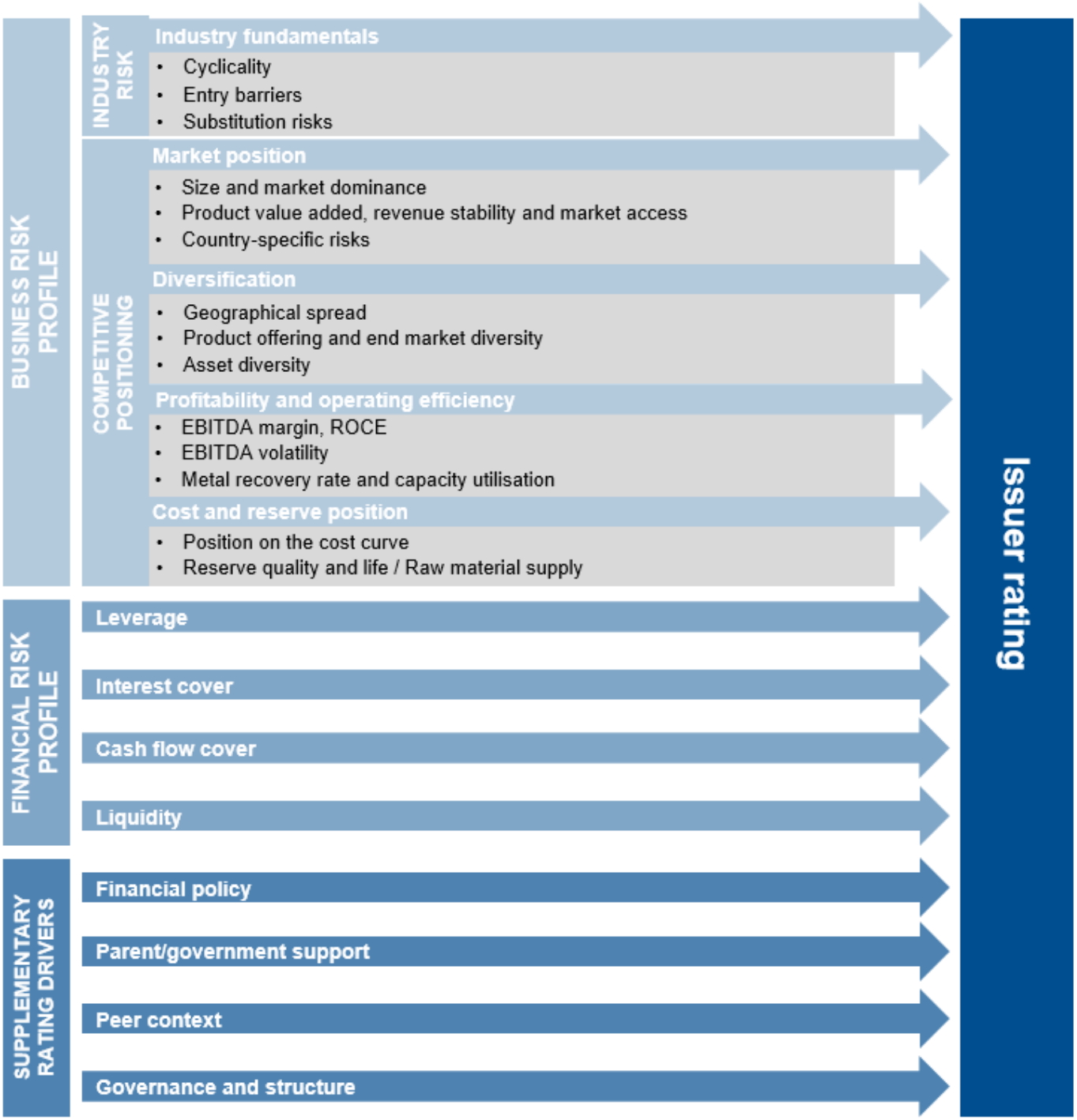
Metals and minerals are generally considered commodity products with limited differentiation and in which brands are non-existent. Producers may still compete based on reliability of supply and short delivery times. Ores differ based on their metal content. Processed metal products can be differentiated, with alloyed and engineered products commanding significant premiums to commodity grades. Certain industries require very high precision in the composition of materials and the reliability of supplies, such as aviation or automotive, and therefore have strict pre-qualification requirements for their suppliers.

Cost position is central to success in the industry. A strong balance sheet and liquidity position are important to manage cyclical swings and the long lead time to develop new mines and processing plants. Size and diversity are additional key rating drivers, providing economies of scale and helping to mitigate single-asset and country risks.

Industry concentration is higher upstream (mining, smelting and refining) than downstream, but with minor price-setting capacity even by the largest producers due to the commoditised nature of the industry.

## 3. Rating drivers

**Figure 2 – General rating drivers for metals and mining companies**



## 3.1 Business risk profile

When evaluating a company's business risk profile, we analyse industry-level dynamics and risks as well as company-specific rating drivers. The company-specific rating drivers, such as market position, diversification and profitability, are assessed within the context of the relevant industry. The relevant industry can be global, regional or national, depending on the competitive landscape, the cost of transporting the products over long distances and the presence of trade barriers. For the most basic, commodity-grade metals, the relevant industry is global.

We also capture environmental, social and governance (ESG) factors that have a material credit impact under the business risk assessment, notably as part of the assessment of operating efficiency and country risk. ESG factors are particularly important to the metals and mining industry because of their significant impact on the environment and hazardous working conditions. Energy transition is also having a significant impact on the supply-demand balance of metals and minerals.

### 3.1.1 Industry fundamentals

The metals and mining industry is highly cyclical, with significant volatility in revenue, earnings, cash flow and leverage metrics over a cycle. The industry faces high entry barriers as it is highly capital-intensive (with significant variation across the value chain). Technology, product quality, reliability of supplies, customer acceptance, strict environmental standards and regulatory approvals also contribute to these entry barriers.

We assess the industry risk of metals and mining companies by examining the following industry characteristics:

- Cyclicality
- Entry barriers
- Substitution risks

**Cyclicality**

The metals and mining industry is highly cyclical. The demand for products is closely linked to general economic growth rates. Many end-user segments for metals and mining products are cyclical, including automotive, capital goods, building materials, and engineering and construction. The materials are used to a large extent in the production of discretionary consumer and capital goods. Lead times for new investments in metals and mining processing facilities are very long, which tends to add to overcapacity at cyclical lows and product shortages at cyclical highs. This amplifies the industry cyclicality and results in high volatility in market prices for metals and minerals over an economic cycle. Minor metals that are derived only as a by-product in the mining of major metals can experience extreme price swings, since the supply of these metals is dependent on the pace of mining of another metal and does not itself adjust to the demand. Macroeconomic developments also drive changes in exchange rates, energy prices and freight rates, all of which can have a significant effect on the cost position and profit margins of a metals or mining processing operation. The impact of industry cyclicality will be higher upstream than downstream, given the higher investment requirements and longer investment lead times in mining.

**Entry barriers**

The industry's high capital-intensity and long lead times for new investments provide for substantial barriers to entry, particularly in the upstream segments. High-grade mine resources are also increasingly scarce and often located in remote areas, lacking in electricity, water or skilled labour, and in countries or regions with a high country risk (political instability, less developed legal and regulatory systems, etc.).

Entry barriers to metal processing are generally a function of the technological complexity and value-added nature of the process, the importance of economies of scale, as well as quality assurance and just-in-time delivery. Trade barriers, such as tariffs, duties and anti-dumping legislation are also important when we assess country risk and entry barriers. Geographical proximity of a company's assets and its customers lowers the risk of trade barriers and the cost of transportation.

Consequently, we assess entry barriers as medium (upper end) for the industry as a whole.

**Substitution risk**

Substitution risk levels differs from product to product, with plastic replacing glass and metal in packaging, aluminium replacing steel in motor vehicles, thermal coal giving way to cleaner fuel alternatives, palladium increasingly replacing platinum in catalytic converters, for example. The substitution risk is considered low for the industry as a whole, however, with most metals and minerals seeing a growth in demand over the long term.

The increasing focus on sustainability has significant implications for the industry and the risk of substitution. Certain products, such as thermal coal or uranium, are becoming less likely to be mined, whilst others, such as metals and minerals used in renewable energy technologies or natural building materials, are likely to see increased demand. Metals and minerals are also likely to be sourced closer to end-markets, given the high cost and negative environmental impact of transporting products over long distances. Common building environmental certifications, such as BREEAM, require that stones are sourced from quarries close to the construction site. Technologies are also evolving, providing more efficient and environmentally friendly ways of mining and refining metal, such as mining and processing mechanisation and digitalisation, inert anode technology in the production of aluminium, and the use of dry tailings technology to avoid tailings dam disasters.

**Figure 3 – Industry matrix for metals and mining companies**

| Entry barriers / Cyclicality | Low | Medium | High |
|---|---|---|---|
| **High** | CCC/B | B/BB | BB/BBB |
| **Medium** | B/BB | BB/BBB | BBB/A |
| **Low** | BB/BBB | BBB/A | AA/AAA |

### 3.1.2 Competitive positioning

We assess the competitive position of metals and mining companies by examining the following business risk drivers:

- Market position
- Diversification
- Cost and reserve position
- Profitability and operating efficiency

Our assessment of each business risk driver is shown in Figures 4 to 8. The main default drivers (cost and reserve position; profitability and operating efficiency) have a more granular assessment at the lower end of the rating scale than the other two risk drivers (market position and diversification).

**Market position**

A strong market share in a particular metal or product category is seen as positive but given the commoditised nature of the industry, even the largest players are price-takers. Benefits of a strong market share typically include economies of scale, greater flexibility to adjust overall production and capacity to fluctuations in demand, better control over distribution channels, greater purchasing power with key suppliers, greater capacity to invest in R&D and to capture organic or inorganic growth opportunities. Smaller companies may still have a strong regional or niche market position or may be better able to serve nearby customers with smaller batches of specialised products in a timely manner.

**Figure 4 – Market position assessment**

| Market position | A and above | BBB | BB | B and below |
|---|---|---|---|---|
| **Turnover** | >EUR 10bn | >EUR 1bn | >EUR 100m | <EUR 100m |
| **Market dominance** | Top five global producer in chosen metals, market dominance | Top 20 global producer in chosen metals, or strong global niche market position or regional market dominance | Dominant local market position, or small player in global market | Domestic/local player |
| **Product value-added*** | High share of specialised or high value-added alloyed or engineered products | | Basic commodity products of low value-added | |
| **Revenue stability and market access** | High share of long-term customer contracts, with cost pass-through mechanisms where necessary. Large orderbook (>1 year of production) | | Mostly spot market sales | |
| | Mines or processing plants close to end-markets, often within the same country or customs union; good transport links to end-markets; direct customer relationships; own distribution or retail network, or branded products | | Mines and processing plants far from end-markets and subject to import restrictions in the destination countries; transport links are constrained, unreliable or subject to significant swings in freight costs over a cycle; high dependency on distributors | |
| **Regulatory, legal and political risk** | Neutral: assets mostly located in low-risk regions/countries (for example, the European Union, the United States, Canada or Australia) | | Negative: assets located in high-risk countries/regions | |

*Relevant to steel and aluminum production and metals processing where value is added to the material through alloying, rolling, extrusion, heat treatment, coating, etc.

Higher value-added or customised products typically provide higher margins, lower competition, stronger and more durable customer relationships. Some industries and product segments with high requirements in terms of product quality and reliability of supply require suppliers to meet strict pre-qualification requirements. These segments' suppliers may benefit from long-term contracts, higher margins and greater stability in demand. The level of value added is normally measured by comparing revenue per tonne of producers of similar products.

Captive distribution companies or trading businesses help with market access. Direct customer relationships are beneficial since they lead to higher margins and deeper, more stable and longer customer relationships.

Regulatory, legal and political risks can be important rating factors for metals and mining companies, particularly for entities exposed to a single country. Our assessment focuses on the stability of political systems and institutions; the sophistication and transparency of legal systems and regulatory frameworks; trade policy and the history of trade disputes and barriers; transparency and predictability around tax and royalty regimes; workforce unionisation; the history of labour disputes and strike action; economic prosperity (GDP/capita); and growth prospects. This rating factor is scored neutral or negative, with a neutral assessment indicating no material risk factors, or sufficient geographic diversification to mitigate country-specific risks. We assess country risk based on World Bank data (see Governance Risk under Scope's Sovereign Rating Methodology) and its own observations of risks facing an issuer. The level of rating impact is determined by the likelihood of the risks materialising, the damage they could inflict on the business, and the disparity between the issuer rating with and without such risks materialising.

**Diversification**

We assess diversification in the metals and mining industry across three dimensions: i) geography; ii) product offering and end-markets; and iii) assets.

**Figure 5 – Diversification assessment**

| Diversification | A and above | BBB | BB | B and below |
|---|---|---|---|---|
| **Geographical** | No single country accounting for more than one-third of earnings* | No single country accounting for more than half of earnings | Operations in more than one country, but high dependency on a single jurisdiction | Single country operator |
| **Product offering and end-markets** | Highly diversified product slate. No single metal or mineral accounts for more than one-third of earnings*. High end-market diversity | Producer of several metals or minerals with different end-markets. No single metal accounts for more than half of earnings | Producer of at least two metals or minerals with different end-markets | Single metal or mineral producer |
| **Assets** | No single mine or processing plant accounts for more than one-third of earnings* | No single mine or processing plant accounts for more than half of earnings | Multiple mines or processing plants, but with high dependency on a few assets | Single mine or processing plant operator |

*Measured by EBIT, EBITDA or net profit. In case a split by earnings is not available, we can also use revenue or asset value.

The location of a company's assets is central to assessing geographical diversification. Country risk is typically high in the mining industry, and this risk can be effectively mitigated through diversification across multiple countries. The imposition of trade barriers or changes in taxation or royalty regimes can happen overnight and significantly change the economics of a metals and mining company.

Diversification across multiple metals is also beneficial, since this provides more options in managing the asset mix over time by investments focused on metals with the greatest long-term growth potential. The price of most metals tends to follow economic cycles, however, so diversity is less effective in reducing portfolio cyclicality.

Customer concentration is rarely an issue for large global metals and mining companies but can be a negative rating factor for smaller regional players, where the competitive advantage lies in proximity to clients. End-market diversity can be important since economic cycles may impact different industries in different ways. For example, Covid-19 has driven down the demand for new cars and airplanes, but less so for metals used in the food, pharmaceutical and construction industries. Overreliance on any one end-market or client will therefore be seen as a potential risk factor. Customer diversity is considered a supplementary rating factor since this information is not always readily available.

Asset diversity is very important, since operational issues with one single mine or processing plant are quite common in the industry.

**Profitability and operating efficiency**

We use EBITDA margin as the primary measure of profitability and operating efficiency for metals and mining companies. However, since the level of the EBITDA margin vastly differs for the different activities that metals and mining companies undertake (given different levels of capital-intensity), we also look at the return on capital employed (ROCE) to facilitate a comparison across the entire spectrum of companies covered by this methodology. We assess the volatility in EBITDA, which is primarily driven by fluctuations in prices and volumes; foreign exchange rates; and the cost of fuel, chemicals and other raw materials used in the mining or production process. Our analysis also considers hedging activities to mitigate some of this volatility. We favour variable cost structures (such as a steel mini-mill versus a blast furnace operation), the ability to adapt to market conditions during downturns, as well as the ability to continuously reduce operating costs through productivity measures. Average volatility has a neutral impact on the overall profitability and operating efficiency assessment, whereas very high or low volatility compared to industry peers may result in a one-notch upward or downward adjustment of the score.

**Figure 8– Profitability assessment by activity and operating efficiency**

| EBITDA margin | A and above | BBB | BB | B | CCC and below |
|---|---|---|---|---|---|
| **Mining** | >35% | 25 to 35% | 15 to 25% | <15% | EBITDA insufficient to cover maintenance capex |
| **Smelting and refining** | >15% | 10 to 15% | 6 to 10% | <6% | |
| **Processing** | >10% | 7 to 10% | 4 to 7% | <4% | |
| **Distribution** | >4% | 3 to 4% | 2 to 3% | <2% | |
| **EBITDA volatility*** | Below average | | Above average | | Top 5% |
| **ROCE**** | >9% | 9 to 6% | 6 to 3% | 3 to 0% | <0% |
| **Operating efficiency** | Neutral: modern plant and equipment, power stations, transportation infrastructure, etc; high standards in terms of efficiency, environmental footprint and health and safety; tried and tested mining and processing methods | | Negative: aged plant and equipment, power stations, transportation infrastructure, etc., which require significant investment to maintain adequate standards in terms of efficiency, environmental footprint and health and safety | | Very negative: plant and equipment at the end of their economic life |

*Measured by the coefficient of variance. **ROCE is defined as EBIT divided by total assets. Scope typically considers a long-term average (five years or more) when assessing profitability measures.

Operating efficiency is measured by the age of the plant and equipment and technology used in ore and metal processing and the level of mechanisation in the mining process and can be quantified in terms of capacity utilisation of plant and equipment or ore/metal recovery rates. Reliable plant and equipment operating at a high level of capacity utilisation as well as high recovery rates in ore processing will result in a high score in this assessment. Complex ore bodies can require frequent and costly adjustments or modifications to ore-processing equipment, which may negatively affect recovery rates, production volumes and mine economics. Underground mining is more complex and expensive than open-pit mining, and more at risk of unforeseen geological conditions, operational disruption or mine accidents. Larger and more diverse companies typically have a greater flexibility in operations and have the option of temporarily closing some plants and furnaces when demand is lower and restarting the facilities when demand recovers. This rating factor is scored neutral, negative or very negative, with a neutral assessment indicating no material risk factors or sufficient asset diversification to mitigate asset-specific risks. A negative assessment will typically lower overall profitability and operating efficiency assessment by at least one notch and a very negative assessment by several notches. When determining the number of notches, we consider the extent to which the weak operating efficiency is already reflected in the other profitability metrics.

Metals and mining operations with good environmental, health and safety standards are often synonymous with high efficiency.

### Cost and reserve position

**Figure 6 – Cost and reserve position assessment**

| | A and above | BBB | BB | B | CCC and below |
|---|---|---|---|---|---|
| **Position on cost curve*** | First quartile | Second quartile | Upper third quartile | Lower third or upper fourth quartile | Lower fourth quartile |
| **Reserve life**** | >20 years | >10 years | >5 years | 2-5 years | <2 years, and low replacement ratio |
| **Reserve quality**** | Mines are mostly surface or open pit. Reserves are uniform with stable ore grades and geology, well understood, and unlikely to require change in extraction method over time. Reserves are largely developed. Good track record in reserve replacement | | Mines are mostly deep underground and reserves are complex, not well understood and/or may require change in mining method and/or processing plant and equipment over time. Reserves are largely undeveloped. | | Very high cost and complex reserves |
| **Raw material supply** | Reliable and readily available feedstocks and other raw materials, including electricity, water, and chemicals. No over-dependency on any one supplier | | Unreliable or costly supply of feedstocks and other raw materials, including electricity, water, and chemicals. Water or electricity supply may be subject to meteorological conditions | | Very high risk of disruption to critical feedstocks |
| | Fully integrated from mining to refining and processing. Captive power supplies | Significant backward integration | Partial vertical integration, part of ore supplied from own mines or scrap sourced through own network | Limited or no vertical integration, with high reliance on third-party vendors for key inputs | |

*The cost curve shows cost per tonne of production on one axis and cumulative quantity of production on the other. The cost curve may sometimes be based on incomplete data and estimates. When a cost curve is not available, this assessment is substituted by the profitability assessment.
**Relevant only to mining

Given the commoditised nature of the metals industry, cost and reserve position are normally the most important rating drivers for metals and mining companies. The cost position of a mine depends largely on the ore grade and presence of valuable by-products in the ore; the size (mine life); the depth and complexity of the ore body; the presence of water, electricity, and transport systems near the mine; as well as tax and royalty regimes. The cost position in smelting, refining or processing of metals is more a function of the age and technology of the plant and equipment, location, access to cheap energy and other raw materials.

Reserve life is important in mining, since this is a measure of the sustainability of cash flow over the long term. When considering reserve life, we focus on proven and probable reserves. It is also important to understand the cost position of the reserves since this will impact future profitability, and the extent to which reserves are developed since undeveloped reserves require capital expenditure outlays and time to bring to production. The remaining life and likelihood of the renewal of permits and licenses can also be a consideration.

Ore bodies are not always uniform and well surveyed. This can result in surprises, such as sudden changes in ore grades and characteristics, which may require costly changes in mining or ore-processing methods, or in a worst-case scenario render a mine uneconomical.

Many metals and mining companies rely on a single utility provider for their entire power or water supply. In these situations, it is critically important to maintain a good working relationship with the supplier, as the stability of the mining operations or of the processing plant depends on the utility supply. Similarly, a processing plant may be configured to process a very specific ore grade, without which the plant may be rendered worthless.

A vertically integrated operator has greater control over the value chain from mining to distribution. This can reduce many risk factors, for example, those related to ore or power supply, processing and market access.

## 3.2 Financial risk profile

A company's financial risk profile assessment reflects its short- to medium-term financial flexibility and viability. A company with a strong financial risk profile is better able to manage the negative effects of economic cycles, industry dynamics, regulatory changes, and a sudden drop in revenue. Financial flexibility during an economic downturn is an important rating driver for metals and mining companies, given the importance of continued investment in the business, even under worsening economic conditions. Our assessment of a company's financial risk profile follows our Corporate Rating Methodology.

Liquidity is also assessed as part of the financial risk profile and is particularly important for non-investment grade issuers that may not have unfettered access to bank and capital markets.

In our forward-looking data, we make assumptions about future production volumes and commodity prices. Our future commodity price assumptions are normally based on futures prices, on commodity exchanges, or on prices provided by reliable price-reporting agencies (adjusted for premiums or discounts reflecting geographical location, grade of material, impurities, moisture content and delivery terms) and represent a 'market consensus' view of future prices for those commodities. We update our price assumptions when there is a significant change in futures prices. Swings in spot prices rarely trigger a revision in our long-term price assumptions.

### 3.2.1 Credit metrics

Our general assessment of credit metrics (leverage, interest cover and cash flow cover) is outlined in our Corporate Rating Methodology.

Given the strong cyclicality in the metals and mining industry and the significant volatility in earnings and cash flow over a commodity price cycle, we are mindful of the phase in the cycle when assessing credit metrics. The credit metrics outlined in the Corporate Rating Methodology provide an indication of ratios that are expected to be maintained in a mid-cycle scenario under normal market conditions. We often take guidance from a company's 'over the cycle' leverage targets when assessing financial ratios and consider long-term average (five years or more) credit metrics. We determine where we are in the price cycle by observing long-term price trends, the profitability of producers across the cost curve at a given point in time, as well as futures prices.

We will normally treat metal-streaming facilities as accounted for under International Financial Reporting Standards, with any financial liability or prepayment added to Scope-adjusted debt.

### 3.2.2 Liquidity

Our general liquidity assessment is outlined in our Corporate Rating Methodology.

For metals and mining companies with large metals derivative books, we assess the risk to liquidity of large margin calls triggered by commodity price swings. For liquidity to be assessed adequate, liquidity sources need to also cover margin calls under a commodity-price stress scenario.

## 3.3 Supplementary rating drivers

### 3.3.1 Financial policy

Our assessment of supplementary rating drivers is described in our Corporate Rating Methodology.

### 3.3.2 Parent/government support

Some metals and mining companies are owned and controlled by a government or government-related entities (wholly or partially). In these cases, the rating may be influenced positively or, less commonly, negatively by actual or potential interventions by its shareholders. This can manifest positively through more conservative financial policies and lower shareholder distributions than what is common for privately owned entities and would be reflected in the financial risk or financial policy assessments. Less often, a rating may be uplifted based on potential extraordinary support from its shareholders in the form of equity injections or liquidity support, if and when needed.

Our assessment of supplementary rating drivers is described in our Corporate Rating Methodology and our assessment of government support is described in our Government Related Entity Methodology.

### 3.3.3 Peer context

Our assessment of supplementary rating drivers is described in our Corporate Rating Methodology.

### 3.3.4 Governance and structure

Our assessment of supplementary rating drivers is described in our Corporate Rating Methodology.

### 3.3.5 Additional methodology factors - environmental, social and governance assessment

During the corporate rating process, we implicitly capture ESG factors that have a material credit impact. We conduct an explicit corporate governance assessment during the corporate rating process (see Section 3.3.4). By nature, credit ratings only incorporate factors related to credit quality. We only capture ESG-related factors if they influence the rated entity's cash flow profile and its overall credit quality directly or indirectly. If rating factors linked to ESG-relevant topics have a material impact on an issuer's credit quality, we highlight these factors as such. Contrary to ESG ratings, which are normally based on quantitative scores for different rating factors, the assessment of ESG drivers in credit ratings are mostly qualitative and reflect an opinion in a relative context.

## 4. Issuer rating

The final issuer rating is based on a combination of our business and financial risk analyses on the one hand, and the potential effects of supplementary rating drivers on the other. The rating committee decides on the relative importance of each rating driver.

In general, business risk and financial risk profiles are weighted equally for BB/BBB rated companies. The analysis of investment grade companies (rated BBB- and above) focuses more on the business risk profile. B (and below) ratings are usually assigned with a stronger focus on the financial risk profile. Depending on size, outreach, cash flow volatility and the vulnerability of the rated entity, we focus on the weaker risk profile. The weighting between the business risk and financial risk profiles may be adjusted for specific business models and markets.

Our assessment of the corporate issuer rating is described in our Corporate Rating Methodology.

## 5. Additional methodology factors

For further details on how we incorporate rating Outlooks for corporate debt ratings, short-term ratings, recovery analysis and individual instrument ratings or rating categories, see our Corporate Rating Methodology.

## 6. Appendix 1 – Definition of key financial performance indicators used in this methodology

When assessing metals and mining companies, we use the metrics (and their definitions) as outlined in the Corporate Rating Methodology.

The following additional metrics are also used for metals and mining companies:

| **ROCE (%)** | |
|---|---|
| Profitability measure | This ratio measures how efficient a company is at generating earnings from its assets. It is a useful measure since it allows comparison between companies with varying business mixes and capital intensity (e.g. upstream vs downstream vs trading/distribution).<br><br>Total assets are normally used as reported, whereas EBIT may be adjusted for significant, exceptional and non-recurring items. |
| $\frac{\text{EBIT}}{\text{Total assets}}$ | |

## 7. Appendix 2 – Commodity trading

For metals and mining companies engaged in commodity trading activities at a material level (>20% of EBITDA), we also assess the price, credit and operational risk exposure that this activity entails. A favourable assessment would entail back-to-back trading with low price risk (other than basis risk) evident through low earnings volatility; a focus on physical trading; a credit risk systematically monitored and managed by letter of credit; credit insurance; non-recourse sale of receivables or similar; and a track record of low credit losses and few operational risk incidents. An unfavourable assessment would entail significant proprietary trading with unhedged price risk exposures evident in material earnings volatility and/or value at risk; a track record of significant credit losses; and frequent and/or material operational risk incidents.

For a favourable assessment we would also expect the company to have information systems that record trades and mark open positions to market (ideally in real time) and allow for aggregate risk exposures to be effectively monitored using for example value at risk, complemented by stress testing and/or sensitivity analysis. A large trader would be expected to have an independent risk management organisation, with necessary skill, tools and authority to effectively monitor and enforce trading rules, risk limits and guidelines. A positive assessment is more likely under a clear separation between front and back-office functions and clear risk limits for individual business units and the group, and a culture and track record of adherence to the rules and guidelines.

For companies that engage in significant trading in third party liquid physical commodities, we will typically deduct up to 80% of the related inventories from its adjusted debt, provided all the following conditions are met:

- The commodities are pre-sold or hedged (i.e. not subject to price risk); and
- The commodities are not for own processing/use; and
- The commodities are relatively liquid; and
- The commodities are intended to be liquidated within 30 days.

The level of adjustment depends on the liquidity of the commodities in question and the level of flexibility we consider the company has in reducing trading volumes, without compromising its business franchise.

## Scope Ratings GmbH

**Headquarters Berlin**
Lennéstraße 5
D-10785 Berlin

Phone +49 30 27891 0

**Frankfurt am Main**
Neue Mainzer Straße 66-68
D-60311 Frankfurt am Main

Phone +49 69 66 77 389 0

**Paris**
23 Boulevard des Capucines
FR-75002 Paris

Phone +33 6 62 89 35 12

**Oslo**
Karenslyst alle 53
N-0279 Oslo

Phone +47 21 62 31 42

**Madrid**
Paseo de la Castellana 141
E-28046 Madrid

Phone +34 91 572 67 11

**Milan**
Via Nino Bixio, 31
20129 Milano MI

Phone +39 02 30315 814

## Scope Ratings UK Limited

**London**
52 Grosvenor Gardens
London SW1W 0AU

Phone +44 20 7824 5180

info@scoperatings.com
**www.scoperatings.com**

## Disclaimer