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The Top Five Global Miners Remain Sensitive To Environmental And Social Risks

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Key Takeaways

- The top five global mining companies continue to strengthen their balance sheets, and we expect them to withstand even a relatively severe downturn without undermining the ratings.
- While the miners' strong balance sheets mitigate short-term risks, their exposure to environmental and social risks is becoming more important for their credit quality.
- The miners' management teams and boards of directors are sensitive to these emerging risks, and have made tangible progress in addressing them over the past five years.
- They have so far have adopted different strategies toward coal ranging from complete disengagement to continued investments.

The top five global mining companies--Anglo American PLC, BHP Billiton Ltd., Glencore PLC, Rio Tinto PLC, and Vale S.A.--continue to strengthen their balance sheets, with most having reached or even exceeded their gearing objectives. This is thanks to a combination of favorable industry conditions and conservative financial policies. In contrast to several previous commodity cycles, these companies have so far refrained from undertaking large acquisitions or multiple ambitious greenfield projects, preferring to return cash to shareholders.

Therefore, in a hypothetical stress scenario we have run to evaluate how the top five miners would fare in a downturn, the miners remain resilient to a sharp decline in metal prices from as early as 2020, generating at least neutral free operating cash flow (FOCF) and maintaining credit metrics well in line with the current ratings.

However, at the same time, environmental and social risks are becoming increasingly important for mining companies' credit quality. The failure of Vale's Brumadinho dam in Brazil in January this year highlighted the severity of these risks in the mining sector. In addition to a low-probability, high-severity event like dam failure, the mining sector is exposed to longer-term environmental and social risks, such as the pressure to limit greenhouse gas (GHG) emissions, injuries to employees, and the impact on communities local to the mining sites.

While these risks are unlikely to have a material impact on the ratings on the top five mining companies over the next one-to-two years, their importance is growing in line with global regulators' and investors' increasing focus on this area with assets invested according to ESG-related strategies reaching $30 trillion in 2018. We therefore believe that miners' relative exposure to these risks, as well as managements' mitigation policies, will have more influence on the miners' competitive positions over the medium and long term.

The top five miners' management teams and boards of directors are sensitive to environmental and social risks, and have made tangible progress in addressing them over the past five years. Four out of the five companies have reduced their carbon dioxide (CO_2) emissions per ton of the copper equivalent production between 2014 and 2018 for example. (Copper equivalent production converts the production of all commodities into tons of copper, based on our long-term price assumptions.) On average, the companies reduced emissions by 6% annually, mostly as a result of asset disposals. As for social risks, we see an improving safety track record and continued engagement with local communities.

The Top Five Global Miners Will Perform Strongly This Year

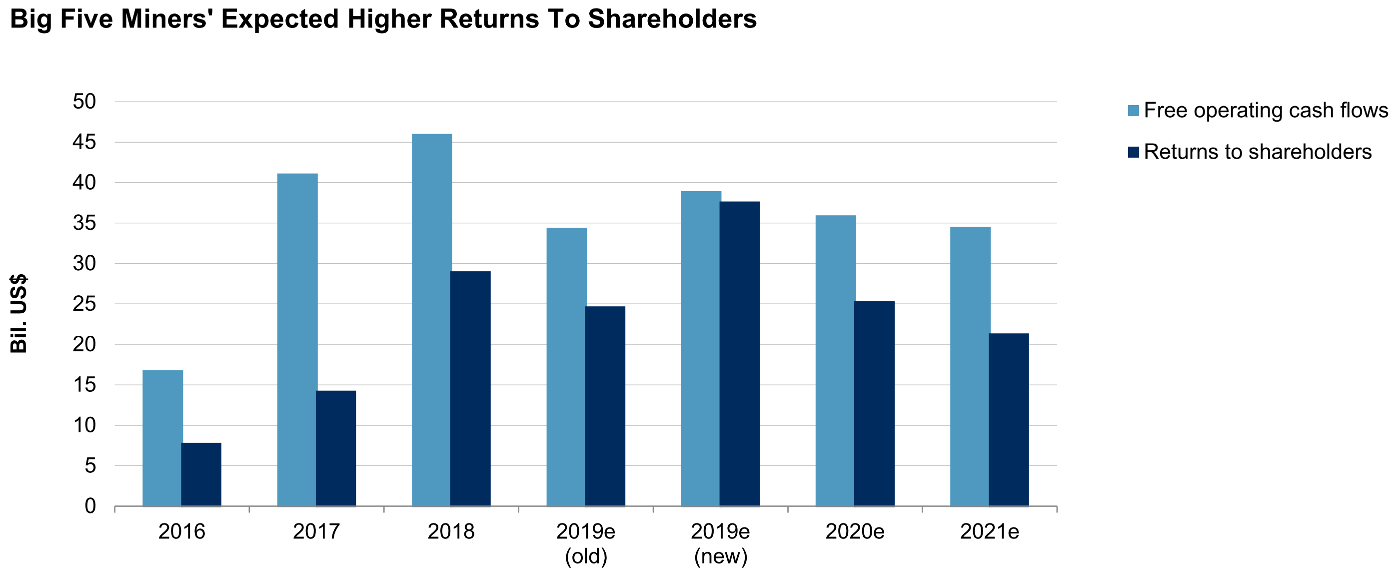
Despite growing concerns about global economic growth, commodity prices remain healthy in the first half of 2019. This is thanks to a limited increase in supply--and in some cases, production disruptions--and better demand for commodities than expected. We expect that the top five miners with exposure to iron ore and copper will report another set of very strong results this year.

The combination of supportive commodity prices and relatively cautious financial policies continue to translate into robust rating headroom for the top five global miners. Most of the companies have reached or even exceeded their gearing objectives. For example, as of Dec. 31, 2018, Rio Tinto had reported net debt of only $0.3 billion. In addition, we believe that the big five, like most other companies in the mining sector, will continue to focus on organic growth and improving their cost profiles, rather than engaging in multi-billion dollar acquisitions or risky greenfield projects.

The only company in the big five that carries a negative outlook is Vale. While Vale has significant financial headroom, similar to its peers, there are two things that may weigh on the ratings. First, our uncertainty about the amount of fines and litigation related to the Brumadinho dam failure, and second, ongoing operational risks in the dams that are scheduled for decommission.

While shareholder returns have increased considerably for the big five, their dividend policies are usually explicitly linked to FOCF generation and leverage, and we expect that returns can be scaled back in a less supportive environment.

Chart 1



e--Estimate. Source: S&P Global Ratings, company reports.

Notes:

- Shareholder returns include the distribution of divestment proceeds. For example, in 2018, Rio Tinto completed the divestment of its coal assets for more than $5 billion and BHP divested its shale assets in the U.S. for $10.2 billion.
- From 2020, shareholder returns only include cash flows from ongoing operations and no additional proceeds from divestments. Excluding Vale, we expect the miners to distribute close to 100% of their FOCF.

The Top Five Miners Are Well Prepared For The Next Downturn

Notwithstanding currently very favorable conditions, experience tells us that sooner or later, prices will run out of steam. This will be due to the mining industry's pronounced cyclicality, and possibly also to a policy change in China, an incipient trade war, or something else. We have therefore run a hypothetical stress scenario to evaluate how the top five miners would fare in a downturn.

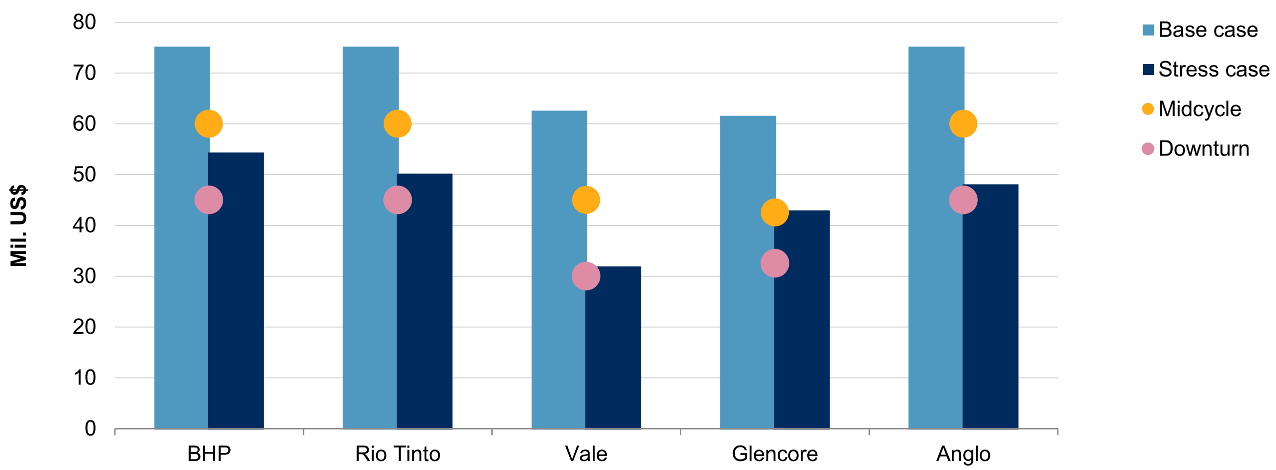
The starting point is our most recent base case for 2019 and 2020. This takes into account our current view on prices, production levels, and the companies' capital allocation frameworks. We then assume that a sudden shock in the Chinese economy will cause commodity prices to collapse for 12 months, from as early as the beginning of 2020. This stress scenario represents a more severe downturn than the last downturn in late 2015, as we assume that prices will remain at their trough levels in the fourth quarter of 2015 for 12 months. At the same time, we assume that companies use only part of their toolboxes to offset the drop in profits and cash flows. (See the

Appendix for the full list of our assumptions).

However, despite a significant decline in EBITDA in such a stress scenario, all five global miners will be able to maintain their leverage metrics in line with the current ratings. We also expect that FOCF should remain at least neutral thanks to moderate committed capital expenditure (capex), and we therefore believe that all five miners should be able avoid downgrades.

Chart 2

Expected Adjusted FFO-To-Debt For Existing Ratings And Under Our Stress Case Scenario In FY2020



FFO--Funds from operations. FY--Full year. Source: S&P Global Ratings, company reports.

Notes:

"Mid-Cycle" and "Downturn" should be seen as the commensurate credit metrics for the specific company under different market conditions. For example, we view funds from operations to debt of comfortably above 60% in the mid-cycle and of 45%-60% for a year or so during a downturn as commensurate with the 'A' rating on BHP.

Environmental And Social Risks Are Becoming More Important And Influencing Credit Quality

Two failures of dams owned by Vale and Samarco Mineração S.A.--a 50/50 joint venture between Vale and BHP--in the past four years have highlighted the severity of environmental and social risks in the mining industry. The realization of these risks can have a major social impact, including deaths, missing people, and major environmental damage. Such disasters have permanently displaced entire communities and critically impaired important natural resources like water. The companies themselves have lost production from the failed dams, will bear high remediation or rebuilding costs, and remain mired in legal proceedings that claim billions of dollars.

Importantly, in our view, a second dam failure in just four years involving Vale leaves the company highly exposed to any failure or underperformance in the environmental and social domains. We also believe that BHP and even miners that have not been involved in any disasters in the past five-to-10 years will face higher pressure, scrutiny, and potential sanctions related to environmental and social risks from regulators and investors.

In addition to these types of low-probability, high-severity catastrophes, the mining industry is increasingly exposed to intrinsic and longer-term environmental and social risks, such as the pressure to limit GHG emissions, injuries to employees, and the impact on communities local to the mining sites. In fact, we see environmental and social risks for metals and mining companies as among the highest across all sectors.

We don't expect these long-term risks to have a major financial impact on the five largest miners or lead to rating changes over the next one-to-two years. This is because of a significant financial cushion in the current ratings and the size and diversity of the miners' operations. In addition, while these risks are increasing, we believe that the top five miners are well positioned to manage and mitigate them in the future, as they:

- Lead the industry on many environmental and social indicators;
- Have assets with generally better cost profiles and efficiency than the industry average; and
- Have solid financial cushions and diversity of operations that should allow them to optimize their portfolios by selling assets with higher environmental, social, and governance (ESG) risks, where needed.

Nevertheless, we believe that the importance of these risks is growing. Companies' relative exposure to these risks and their strategies to mitigate them will therefore inform our competitive position assessments over the long term. This is especially true for the highly rated largest global miners that are currently able to mitigate many of the shorter-term risks--such as a cyclical downturn--thanks to their reduced leverage and low costs.

Management teams will need to address the following long-term risks:

Companies with relatively higher environmental and social risks may face higher financing costs, lower equity valuations, and overall, poorer access to banking and capital markets. We see a growing number of investors taking ESG factors into account. Assets invested according to ESG-related strategies reached $30 trillion in 2018, according to estimates by The Global Sustainable Investment Alliance. Moreover, a Morgan Stanley study suggests that millennial investors are nearly twice as likely to invest in companies and funds that meet their environmental and social values than the rest of the individual investor population. In addition, we see a number of pension funds, financial institutions, and insurance companies, notably in Europe, completely disengaging from the coal sector or companies with significant ESG deficiencies.

Regulations globally may evolve in a way that would impose taxes or additional costs on companies that lag behind their peers on environmental and social responsibility. Carbon tax is one example. So far, it is only in place in Europe and Japan, and is relatively low, but it is being discussed in several other markets and may increase. This may be especially significant if such measures are adopted on a country or regional level, rather than globally, severely disadvantaging some assets and producers.

The frequency and severity of the financial consequences of ESG-related breaches, or a perceived lack of focus on communities or employee safety, have surged due to more decisive action and litigation across all sectors. This trend is likely to continue, in our view, and may be particularly strong in commodities, judging by the aftermath of BP PLC's Macondo well blow-out in the U.S. Gulf of Mexico for example.

The exact impact of the environmental and social risks on the five global miners in the long term will depend on how global regulations and investor preferences evolve. We also believe that the ultimate impact will crucially depend on the strategies that management teams adopt in response.

Greenhouse gas and other environmental risks

In our view, long-term environmental risks for miners stem mainly from GHG emissions, waste, water, and air pollution. We focus our analysis of relative GHG emissions on scope 1 emissions--direct emissions by a company--and scope 2 emissions--indirect GHG emissions from the consumption of purchased electricity--that all miners disclose consistently. We do not take into account scope 3 emissions--all indirect emissions not included in scope 2 that occur in the value chain of the reporting company, including both upstream and downstream emissions. Scope 3 emissions also include the potential for certain metals to contribute to emissions reduction due to their role in light-weighting vehicles or battery production. This is because reporting is often inconsistent and may be subjective, as the same metal can be used very differently.

We see the following factors, in order of importance, as influencing miners' exposure to GHG risks:

Commodity exposure. A company's environmental impact measured through CO2 emissions, waste, or land use per ton of copper equivalent or per dollar of revenue, is to a large extent determined by the physical and chemical properties of the commodity production process. In that respect, Al or ferroalloy producers would always compare unfavorably to iron ore producers due to high amounts of electricity needed to produce the former. Equally, given the role of coal in global warming and also the negative publicity around this commodity, it will always weigh significantly on the producer's environmental profile.

Quality of assets. Unsurprisingly, large, low-cost assets with high-grade reserves generally generate lower emissions per unit of production. This is one of the reasons why we generally expect to see a positive correlation between ESG metrics and profitability and financial performance in the mining industry.

Management's strategic choices. Decisions on new investment projects, acquisitions, and disposals influence a company's position on the first two factors and therefore are an important driver. Examples are Rio Tinto's disposal of coal assets and BHP's spin-off of South32, a metals and mining company headquartered in Australia.

Operating management of the assets. Companies may gradually improve the environmental footprint of their assets by improving their efficiency, that is, increasing production using the same amount of energy. Another important factor is the reduction of methane leakage in coal and oil assets. Equally, we see some of the players investing in the electrification of the trains and trucks used to transport the ore to reduce emissions. Finally, investing in renewables or buying renewable power on long-term contracts is an increasingly popular way to reduce scope 2 emissions.

Based on the aforementioned factors, when assessing the long-term risk for major miners, we don't just look at the company's absolute amount of emissions, but also focus on the trend in emissions intensity--emissions per ton of copper equivalent produced--and take into account the commodity exposure. Given the diversity of the global miners, we base our analysis on copper equivalent production. While this approach has its limitations, such as sensitivity to the price assumptions used, this allows us to account for changing volumes and product mix.

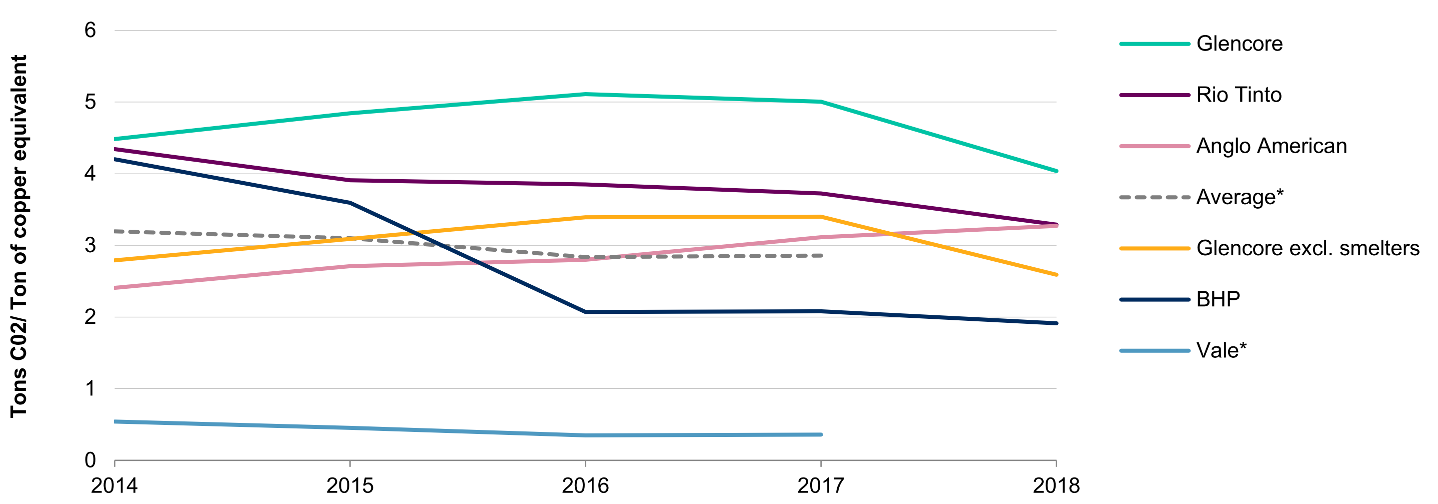
Four out of the top five global mining companies reduced their emissions intensity over 2014-2018. On average, they reduced scope 1 and 2 emissions by 7% annually. Asset sales, such as BHP's spin-off of South32, or Rio Tinto's disposals of coal and some aluminum assets, were the key drivers behind this trend, but higher efficiency also helped.

Glencore has the highest absolute scope 1 and scope 2 emissions of the top five global miners, as well as the highest emissions intensity, due notably to ferroalloy, and, to a lesser extent, to copper and coal exposure. The company has much bigger stand-alone smelting and refining activities compared to peers and also processes third party material. For comparison purposes, we also look at Glencore excluding emissions from stand-alone smelters and refineries, such as the Ferroalloys smelters and metallurgical assets, which gives a lower emissions intensity figure. Both emissions figures are decreasing moderately for example as a result of wind-down of operations at Sherwin Alumina in 2016 and reductions in coal seam emissions at Australian coal underground sites.

Rio Tinto achieved a meaningful reduction in emissions intensity over 2014-2018 partly due to the disposal of copper assets. Some 56% of Rio Tinto's emissions are in the aluminum segment, which is very energy-intensive. However, we note that 71% of Rio Tinto's electricity consumption comes from renewables, notably hydro. Anglo American emissions stayed relatively flat over the period. BHP achieved the greatest reduction in absolute emissions and emissions intensity with the spin-off South32, which mostly owns emissions-intensive assets, such as aluminum, manganese, and nickel. BHP is now on par with Vale and well below other peers due to the notably high share of iron ore in its commodity mix.

Chart 3

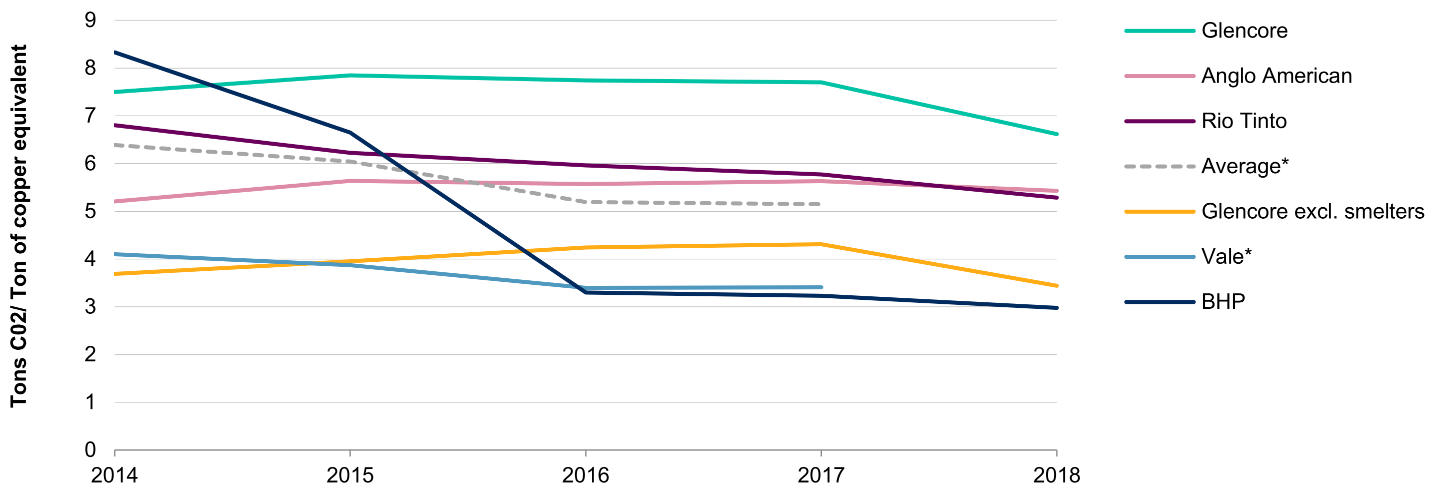
Scope 1 Emissions Per Copper Equivalent Production



*2018 data not available. Source: S&P Global Ratings, company reports.

Chart 4

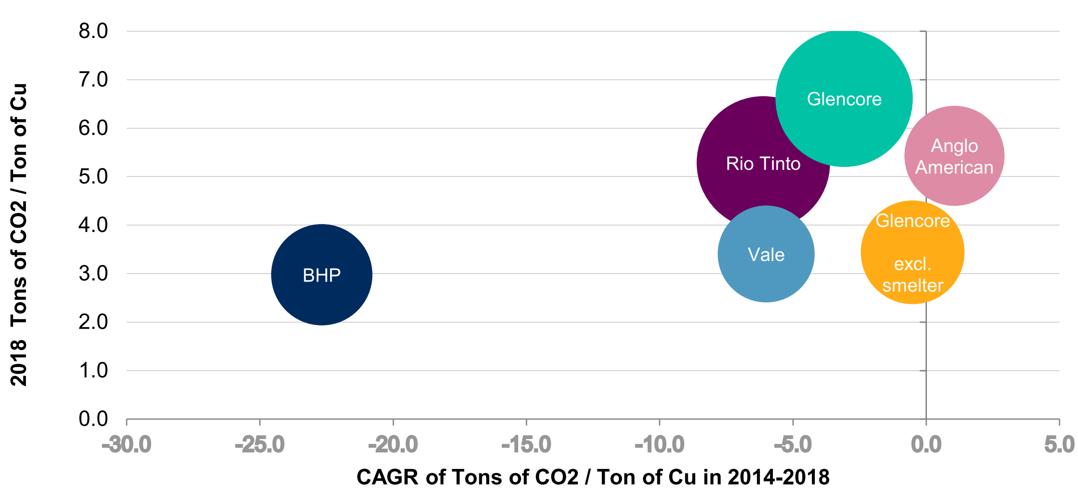
Scope 1 And 2 Emissions Per Copper Equivalent Production



*2018 data not available. Source: S&P Global Ratings, company reports.

Chart 5

Scope 1 And 2 Emissions Intensity Between 2014 And 2018



Bubble size represents absolute CO2 emissions. Source: S&P Global Ratings, company reports.

Risk related to waste is high on everyone's agenda after the Samarco and Vale dam failures. However, the only quantitative metric that all five miners report consistently is the total amount of waste. We do not see this as a useful indicator because we consider that the nature of the waste and how it's recycled or stored are much more important. Water use is arguably less present on investors' radars in our view. Yet water use is also critical for the industry, and we believe that pressure on the miners will increase in terms of competition for water and pressure to avoid the pollution of water. One example is the desalination plant that BHP and Rio Tinto built in the Escondida mine in Chile.

Social risks

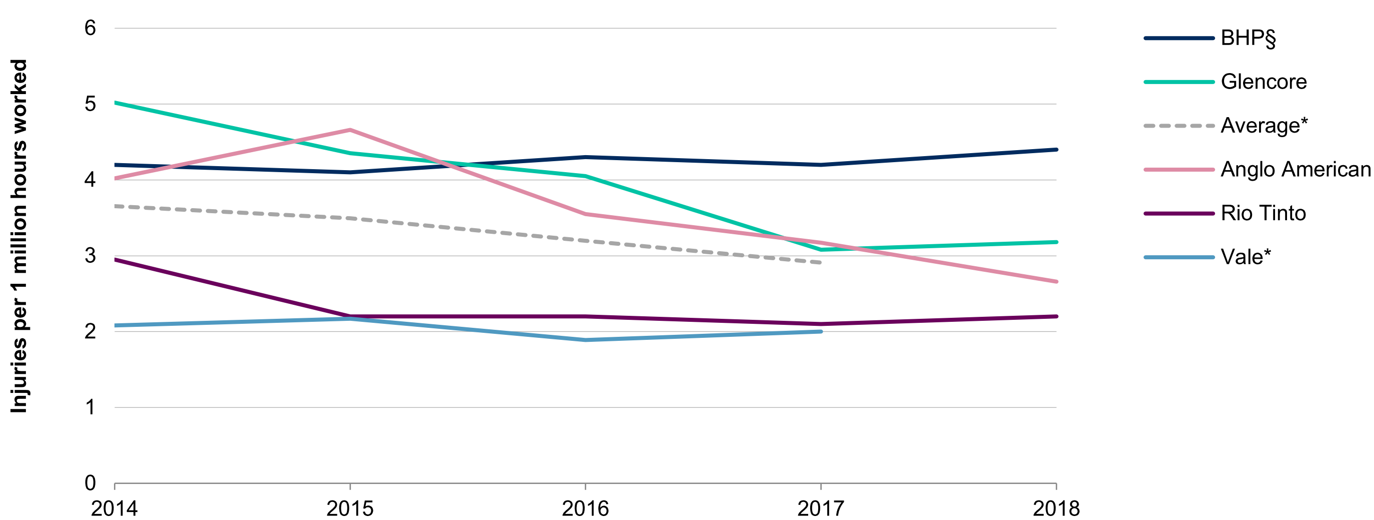
Social risks for metals and mining entities mainly stem from the sector's exposure to safety management and social cohesion.

Safety management is a key risk due to the heavy use of large and dangerous equipment, as well as the fact that some mining sites are located in remote and sometimes hostile environments. To assess safety management, we look at the total recordable injury frequency rate (TRIFR) indicator. This is also part of our assessment of the efficiency of the company's operations.

Safety is very high on managements' agendas and we believe it has been improving overall. Rio Tinto and Vale come out on top, with TRIFR well below the industry average. Anglo American and Glencore also demonstrate consistently positive dynamics. For BHP has the TRIFR metric been relatively stable since 2014, at about four, which is the industry average.

Chart 6

Total Recordable Injury Frequency Rate



*2018 data not available. §BHP's total recordable injury frequency rate is stated in units of per million hours worked. BHP adopts the US Government Occupational Safety and Health Administration guidelines for the recording and reporting of occupational injury and illnesses. Source: S&P Global Ratings, company reports.

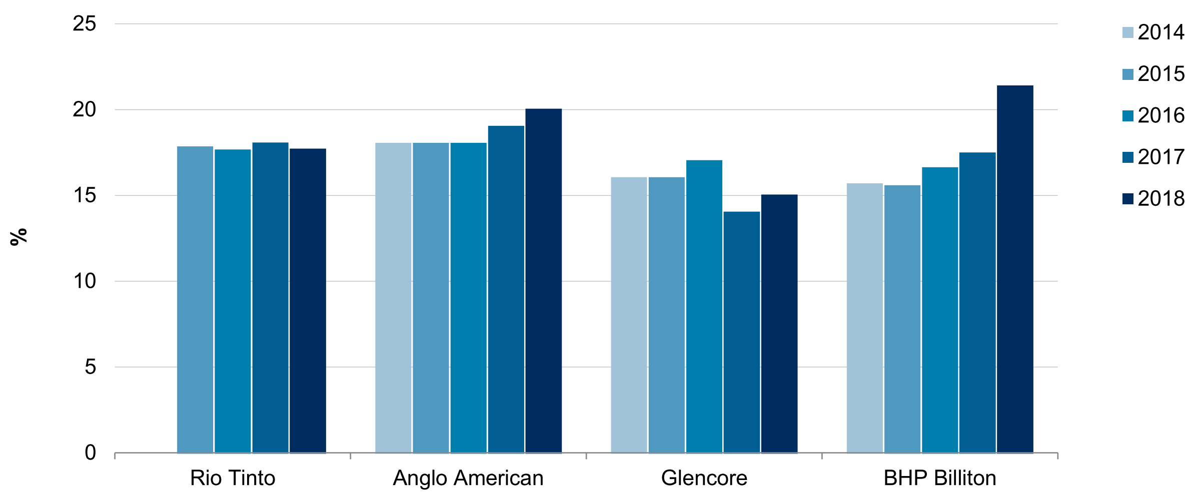
We define social cohesion as a social license to operate, due to miners' land use and the disruption that mining sites can create for local communities. Maintaining social cohesion adds to miners' costs. At the same time, poor management of this risk leads to conflicts with communities, strikes, and license suspension or termination.

While social cohesion is critical for miners' competitive position, quantitative data that would allow us to benchmark the five major miners are limited, and we therefore have to rely on the companies' track records in managing their impact on local communities and indigenous populations. One example of the delicate relationship between the mining industry, communities, and the government is South Africa. In 2012, industrial unrest in the platinum mines escalated into clashes between the miners and the police, with tragic consequences for the miners, with 34 killed and more than 80 injured.

While gender diversity is not at the top of miners' list of social risks, in our view, it has been increasing in importance for investors in recent years. So far, the proportion of female workers remains quite low at all five companies, at around 15%-20%. Nevertheless, the share has been increasing as a result of policies being implemented. For example, Rio Tinto aims to increase the share of female graduates to 50% in its 2019 intake. Only BHP has about 50% of women in its board of directors, with its peers lagging behind.

Chart 7

Female Share In Workforce



Source: S&P Global Ratings, company reports

Thermal Coal: Invest Or Divest?

As coal-fired power plants are heavy air polluters, coal has been at the center of the environmental debate for the mining industry for some years. On the one hand, governments are increasingly limiting coal-fired electricity production and incentivizing greener forms of energy. On the other hand, many investors, banks, and insurers, notably in Europe, are reducing their exposure or completely disengaging from the coal sector. Some are not financing any new coal investments. Others go as far as not investing in companies that have any coal exposure.

While there is a broad consensus on the role of coal in GHG emissions and climate change, it remains the largest source of electricity and the second-largest source of primary energy in 2018, according to IEA. What's more, most of the forecasters recognize that the amount of coal consumed globally will not decline materially in the next 15-20 years due to consumption in emerging markets. This view is supported by a 0.7% increase in coal consumption in 2018. Continued reliance on coal is driven by significant installed capacity, more than 110 gigawatts of new coal power capacity under construction, as well as coal's relatively low cost compared to other forms of energy, which is particularly important for the developing markets.

Stable coal demand in the short-to-medium term should support prices and good cash flow generation from low-cost coal assets. At the same time, we believe that coal miners could be negatively affected as a growing community of investors takes a more active stance against investments in the coal industry.

Over the past five years, we have seen the top five global miners adopting very different strategies toward coal:

- Rio Tinto has completely exited coal operations, which in our view was partly driven by long-term environmental risks.
- BHP and Anglo American have reduced their exposure to coal through disposals for Anglo American, and as part of the spin-off of South32 for BHP. Both companies remain important producers of coal, with a 35% share of EBITDA for Anglo American and 19% for BHP in 2018, although in Anglo American's case, a very large portion is metallurgical coal.
- Vale has broadly maintained its coal production, but coal is a minor commodity for the company, contributing only about 1% of EBITDA.
- Glencore is the only company that has made meaningful acquisitions in coal, including buying some of Rio Tinto's assets. Coal was contributed 33% of Glencore's EBITDA in 2018. That said, Glencore has recently committed to limit coal capacity at its current level.

We believe that longer-term credit risks stemming from the environmental footprint of coal should be taken into account in our assessment of a company's competitive position and financial risk profile, in addition to the financial returns investments in coal will generate. Maintaining or increasing of coal exposure may affect a company's access to financing and equity valuation if the number of ESG-focused investors continues to increase.

Equally, there is a risk of additional costs related to carbon taxes, long-term reduction in valuations for coal assets, and an inability to fully exploit the mineral reserves (so-called stranded assets) due to a reduction in demand or investor pressure. We see Glencore's recent public commitment to limit coal capacity at current levels as indirect confirmation of such risks. Having said that, the assets that Glencore acquired recently so far have very strong profitability, while about 15-20 years of relatively stable coal demand should be enough to exhaust most of the acquired reserves.

Appendix: Stress Scenario Assumptions

We used our assumptions consistently across the five different companies. In our stress scenario, we assumed that dividend distributions would be the only variable across the companies, in line with their existing financial policies.

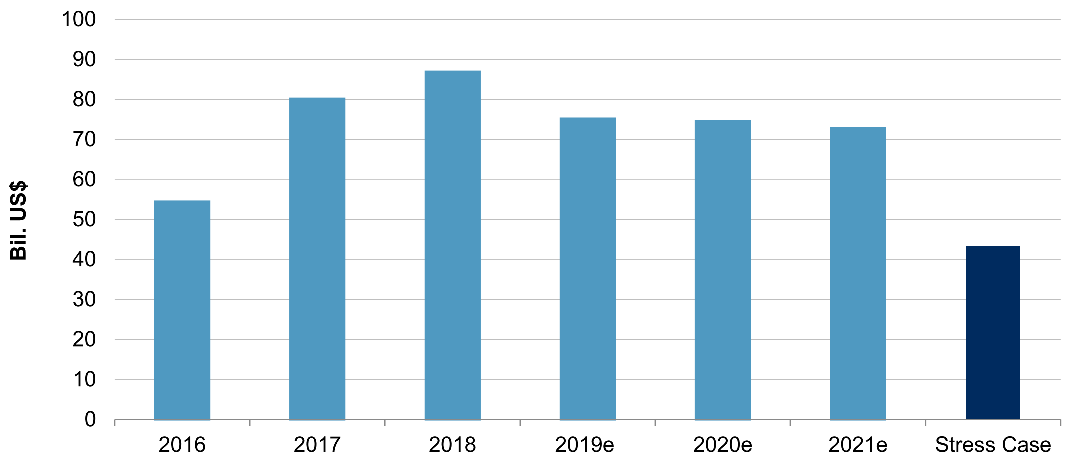
Our other assumptions include:

- Prices: The fourth quarter of 2015 represents a trough for prices in the mining industry in the past few years. We assume that prices will fall by 10% below the average prices in the fourth quarter of 2015, and will remain unchanged for one year. This assumption ignores the fundamentals of the specific commodities. We assume that these price levels, which may not be sustainable for some players, will not trigger the closure of less-competitive mines.
- Volumes: No changes from the existing base case.
- Exchange rates: Historically, there has been a negative correlation between commodity prices and exchange rates. In our stress scenario, we assume rates in line with the rates in the fourth quarter of 2015. In practice, the additional 10% haircut to prices may lead to slightly more supportive exchange rates.
- Capex: In line with the companies' existing guidance. We did not adjust our figures according to the exchange rate assumptions.
- Dividends: In the past few years, the major mining companies have adopted new dividend policies. In most cases, the policies guide a minimum payout that can be topped up with available unallocated FOCF. As part of our price stress analysis, we assume that the companies will pay the same dividend for the previous year (2019), in line with our base case. Unless we outline any other assumption, we assume that the dividend paid in the second half of 2020 (the tested year) will reflect the company's financial policy. For example, if a company has a minimum distribution of 40%, we assume that the interim dividend will be 40% of the half-year net income.
- Divestments: We assume that proceeds from potential divestments are distributed to shareholders, with a neutral impact on credit metrics.
- BHP: According to BHP's capital allocation framework, absolute net debt could range between $10 billion and $15 billion. The results of the test do not change if we use $15 billion, compared to the mid-cycle level in the chart above.
- Glencore: Given the company's acquisitive nature, we maintain our assumption of small acquisitions under the stress case. At the same time, we assume a positive contribution from a material working capital inflow driven by the lower commodity prices. As in the case of BHP, we analyzed Glencore's ability to pass the test under the full range of its adjusted net debt of $10 billion-$16 billion.
- Vale: Our current forecast includes lower iron ore shipments following the dam failure. In our

view, postponing the stress case from 2020 to 2021 or beyond would have a positive impact on Vale's results depending on the company's ability to ramp up its iron ore production and further reduce its debt. Our base case includes a few billions in relation to Samarco Mineração S.A.--a joint venture between Vale and BHP--and dam failures.

Chart 8

Aggregated EBITDA: Base Case And Stress Case



e--Estimated. Source: S&P Global Ratings, company reports.

Note:

The forecast for 2019 assumes iron ore prices of $75 per ton for the rest of the year, compared with a spot price of about $100 per ton. As a result, we can see material upside to our figures.

This report does not constitute a rating action.