Metals and Mining

Critical assets support credit quality

January 14, 2025

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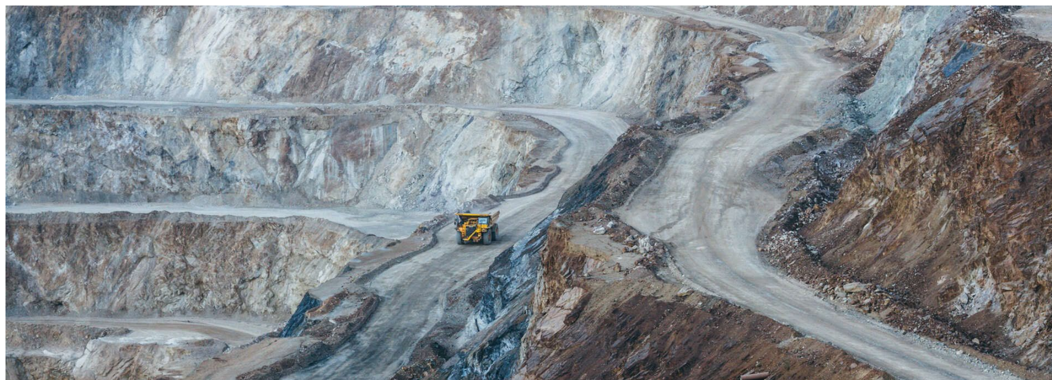

What's changed?

Metals stay solid in an unsteady world. Hard assets—like mines, mills, furnaces, and smelters—are increasingly important amid rising global tensions. The acquisition of United States Steel Corp. by Nippon Steel Corp. is being blocked because of potential risks to U.S. national security and supply chains.

Sustained inflation could support higher prices. The 20% spike in producer prices for 2021-2022 included high metals prices, and the PPI now shows input costs holding at elevated levels.

What are the key assumptions for 2025?

Price assumptions hold steady amid economic headwinds, but costs stay high. Our price assumptions have mostly held steady in 2024, with minor upward revisions to reflect tight markets despite slowing economic growth. Margins and returns face perennial pressure from declining ore grades for miners and heavy reinvestment to maintain a large asset base.

Financial discipline prevails. Outstanding debt is at a decade low, M&A is cautious and disciplined, and shareholder payouts often vary with unstable cash flows. As such, financial policies have sparked stronger credit ratings around the world in the last few years.

What are the key risks around the baseline?

Financial policies loosen or large spending consumes cash flow. Ambitious debt-funded corporate development or large capital blowouts on important projects could consume the financial buffers that companies have spent a decade building.

Disruptions hit assets. Scrutiny on these heavy assets can lead to unexpected political, regulatory, or community factors that affect operations.

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Ratings Trends: Metals and Mining

Chart 1

Ratings distribution

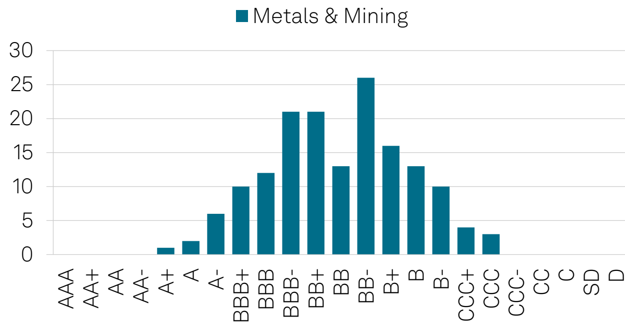


Chart 2

Ratings distribution by region

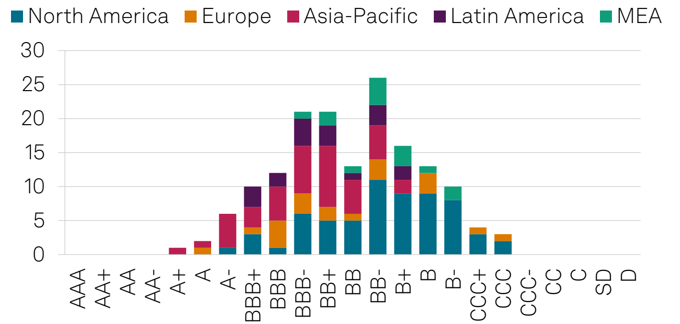


Chart 3

Ratings outlooks

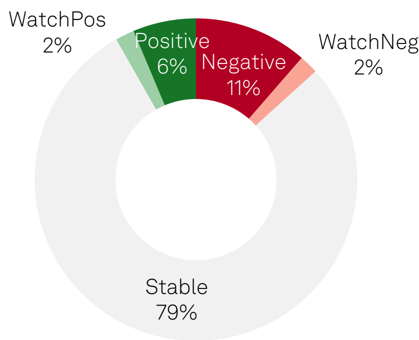


Chart 4

Ratings outlooks by region

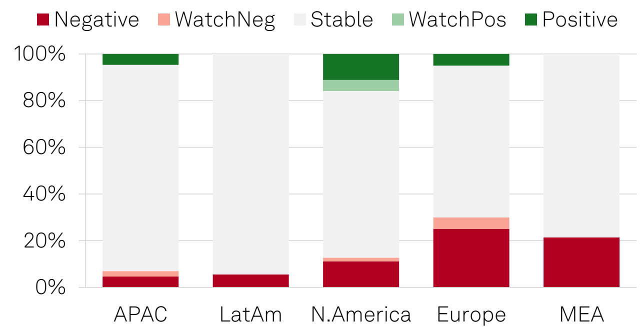


Chart 5

Ratings outlook net bias

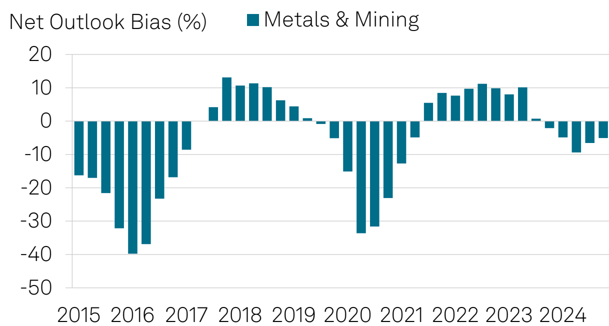
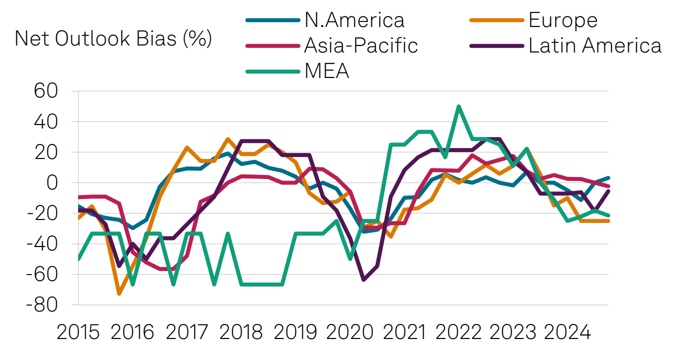


Chart 6

Ratings net outlook bias by region



Source: S&P Global Ratings. Ratings data measured at quarter-end.

Industry Outlook

Ratings trends and outlook

Credit quality holds up as prices settle down. The ratings outlook bias in global metals and mining is modestly negative after balanced upgrades and downgrades in 2024. Earnings and cash flow are lower for a second consecutive year after a windfall in 2022, so flexible shareholder return policies are kicking in, preserving cash, and supporting credit quality. Total debt in the sector is lower than five years ago, and profits are about 20% higher since the 2021-2022 inflation spike. Many issuers now use variable mechanisms to distribute excess cash flow to shareholders during market peaks and cut back as cash flows shrink in a downturn. This has reduced the capacity or willingness to deploy cash for large corporate developments, and provides some balance sheet protection for projects underway through lower dividends.

The favorable outlook bias in steel and aluminum moderates. We still have positive outlooks on a few large names globally (ArcelorMittal S.A., BlueScope Steel Ltd.) after we upgraded others in 2024 (Gerdau S.A., Tata Steel Ltd.). We believe that the strong interest among several competitors in acquiring United States Steel Corp. (BB-/Watch Pos/--) in the last 18 months highlights the strategic importance of U.S.-domiciled assets, including some of the industry's oldest coal-burning blast furnaces. U.S. trade barriers have held longer than any in the past few decades, and they are set to hold for another four years, at least. The start of the Carbon Border Adjustment Mechanism in January 2026 is set to support European steel markets, potentially by making carbon-intensive steel from blast furnaces in Asia more expensive in the EU and providing some price cover for European producers.

Global forces reshape steel and aluminum. Blast furnace steel producers in North America have been rationalizing decades-old capacity, investing in next-generation assets, reducing emissions, and boosting credit quality. Even with a surge of electric arc furnaces to consume scrap and encroach on their markets, the remaining coal-fired blast furnace steelmaking facilities in North America have emerged as scarce and strategically important assets.

Aluminum products for transportation and packaging have a good long-term demand trajectory, which prompted the concurrent construction of two the of the world's largest downstream aluminum rolling mills in the U.S. Primary aluminum production in North America relies mostly on smelters with abundant low-cost electricity, such as in Quebec, where 90% of the metal is exported to the U.S. Aluminum rolling mills, however, can be furnished with scrap metal, which is cheaper than primary metal because of much lower energy costs.

Chinese steel producers reduce output and increase exports. In a strong signal of weaker domestic economic conditions in China, S&P Global Commodity Insights forecasts steel production to decrease 1.1% year on year in 2024, reaching slightly over 1 billion metric tons, while exports rise about 20% from 2023 to 100 million metric tons, which dwarfs most countries' domestic production. A surge in imports from China into places like Vietnam, Indonesia, Saudi Arabia, and Brazil can disrupt those markets or cause trade friction, but their ambitious infrastructure plans and domestic steel deficits mean they are less likely to impose anti-dumping tariffs, in our view.

Margins remain weak for Brazilian steel producers. Although the Brazilian government implemented quotas to help domestic players compete with large and cheap imported Chinese steel, this support did not offset the impact on margins. Pronounced lower imports only appeared in late 2024, which could help price adjustments in 2025.

However, the main point of economic attention is the high and rising interest rate in the country, which could weaken consumption that remained resilient in 2024, especially for the real estate, automotive, and home appliance sectors. Real rates are approaching 9%, which can hit consumer spending and steel company volumes in the early months of 2025.

We upgraded Gerdau recently thanks to its sound geographic diversification and very low debt levels, keeping credit metrics consistent despite weakness in the Brazilian market. On the other hand, we downgraded Companhia Siderugica Nacional (CSN) amid large capital expenditure (capex) and interest burden, while cash generation declined.

Lithium producers face headwinds following a collapse in prices. Spodumene prices falling towards $800 per tonne from more than $6,000 in late 2022 has tested the profitability of all but the lowest cost producers. Accordingly, some higher cost mines have been shuttered, and near-term expansion plans have been shelved. Nevertheless, the energy transition and associated demand for battery electric vehicles means producers remain bullish over the long-term prospects for lithium. Reflecting this positive sentiment Rio Tinto plc accelerated its move into lithium in 2024 by proposing to acquire Arcadium Lithium plc for US$6.7 billion while also announcing its plans to spend $2.5 billion expanding the Rincon project in Argentina.

Main assumptions about 2025 and beyond

1. Prices stay firm at supportive levels.

Balanced markets in most mined metals rely on outright tight supplies instead of producer discipline, like in previous cycles. An economic downturn could push prices lower for all metals, but high production costs for marginal producers should quickly tighten markets with curtailments.

2. Costs keep rising.

Cash production costs can set metal prices in a downturn, and producer cost profiles can define credit strength at all points in the cycle. Even with metals prices that are 30%-40% higher than 10 years ago, margins and returns are steady because of cost inflation and relentless capex requirements.

3. Financial discipline holds.

Lower shareholder distributions buffered a decline in cash flows in 2023 and 2024. Debt-funded mergers and acquisitions (M&A) have been minimal, but the pressure to recast business risks and opportunities could prompt big moves.

Higher costs underpin higher prices. We raised several metal price assumptions earlier in 2024 due to entrenched higher costs that require higher clearing prices. Mine-by-mine data for 2023 demonstrated a rise in the cash production costs of most metals. For example, we raised our third-year price assumption for gold three times in the last year, and our base-case assumption is above $2,000 per ounce for the first time ever. Using cash cost data from S&P Global Commodity Insights, unit costs for the 90th percentile of global metallurgical coal rose 45% to $200/tonne from $140/tonne in 2018. By comparison, that 90th percentile cost for iron ore rose only 20% over five years to $90/tonne. Hence, the dollar value of the fuel/energy component in a unit of steel has risen twice as fast as the metal component over the last five years, which is important considering potential costs for carbon emissions, as well as local factors like pollution.

In 2024, we raised the third year of our three-year price assumptions for metallurgical (met) coal by 25% to $200/tonne, but our iron ore assumption still averages $100/tonne, as it has for several years. Further, our price assumptions reflect the fact that unit cash costs for the 90th percentile

of global copper rose 27% to $2.69 per pound (lb) in 2023 from $2.12/lb in 2018, while nickel cash costs rose 56% in the same period.

Compared to base and precious metals, steel and aluminum have excess capacity around the world and a propensity to overproduce from time to time to cover high fixed costs, pressuring prices and earnings. As such, we rely more on constraints like availability of energy or raw materials inputs to support our assumptions, rather than producer discipline to balance supply and demand.

The American Iron and Steel Institute reports that the U.S. mill utilization rate was about 75% in early December 2024, dropping for three consecutive years after peaking at 81% in 2021. This also highlights the sensitivity of the U.S. steel industry (and especially blast furnace producers) to changes in output and efficiency. A utilization rate above 80% is a good indication of a cyclical profit peak for steel producers in the U.S., and a utilization rate near 70% likely wipes out earnings and cash flow. For example, at peak utilization of 80% in 2021 and 2022, Cleveland-Cliffs Inc. and U.S. Steel combined generated almost $10 billion of EBITDA both years and a margin of about 18%. At a utilization of about 76% in 2024, combined run-rate, last-12-months EBITDA is 80% lower at only $2 billion, with a 7%-9% EBITDA margin.

Most mining companies are signaling continued capital restraint, particularly for M&A. Transactions have been cautious and infrequent, and include little new debt, suggesting a persistent gap in valuation between buyers and sellers. Steelmakers, however, have shown more willingness to stretch to acquire assets. Cleveland-Cliffs in late 2024 closed the acquisition of Canadian steelmaker, Stelco Inc., funding the acquisition with $2.8 billion of incremental debt. Nucor Corp. continues to acquire steel-adjacent manufacturing businesses as part of its commercial strategy focused on megatrends.

Credit metrics and financial policy

Even when market conditions are fairly stable, cash flows and credit ratios in metals and mining are volatile and vary highly across issuers, depending on product mix, cost profile, capital spending, and debt loads. A decade-long shift in financial policy to emphasize free cash flow and return on capital from mining, with less debt usage despite steadily lower interest rates. Consequently, we expect median debt to EBITDA in global metals and mining to finish 2024 around 2.1x, compared with 3.1x in 2019. In addition, variable shareholder returns policies coupled with the sector's more robust balance sheets should support credit metrics through weaker price cycles.

The metals and mining industry benefits from major barriers to entry that stem from resource scarcity and the capital intensity of the assets, which support credits with hard asset value. Mines need heavy capital (and operating) spending to sustain output, while steel blast furnaces and aluminum smelters are heavy assets with their own large capex needs (sometimes including mining). Innovations—like electric arc furnaces (EAFs) used in minimills to produce steel; solvent-extraction and electrowinning (SX-EW) used to produce copper from low-grade deposits; or high-pressure acid leach (HPAL) used to extract nickel from laterite ores—can cause a step-change in production costs, profitability, and competitive balance. However, these highly unusual technological breakthroughs are rare and challenging to achieve. For example, significant resources are being devoted to the development of low-carbon “green steel”, but there are few signs of a commercial product emerging.

Large greenfield asset construction in metals and mining has been rare in North America in the last few decades, except for fast-growing EAF mills, which benefit from relatively new technology that consumes scrap metal from the world’s largest, most advanced scrap basket. As such, debt

in the American steel industry could increase, as competitors add assets and prune some steelmaking capabilities.

Key risks or opportunities around the baseline

1. Mines receive extraordinary demands that affect profitability.

Mines are unique assets, and governments and citizens around the world demand they build and maintain long-term facilities for health, education, and infrastructure.

2. Capital investments take longer and cost more.

Outlays for large metals facilities are usually in the billions of dollars. The size and complexity of these assets has caused cost overruns and startup delays.

3. Metals enable megatrends, like the energy transition.

The energy transition and investments in manufacturing are important for metals demand. The availability of key metals is vital to next-generation renewable energy technologies.

Miners face continually rising costs to sustain and grow production, partly because ore grades tend to decline with the age of an ore body. In addition, friction around mining operations is fairly common, and public scrutiny of mining operations or financial demands could be rising with consideration of environmental and social effects.

Irrespective of negotiated arrangements, numerous local issues can arise for these unique, critical assets. For example, copper mines in Peru and Panama stopped output because of social unrest. Alcoa Corp. is reworking its bauxite mining plan in Western Australia to address a change in its permitting approvals. Disruptions can also be financial if governments adjust ownership, taxes, or royalties over the life of an asset.

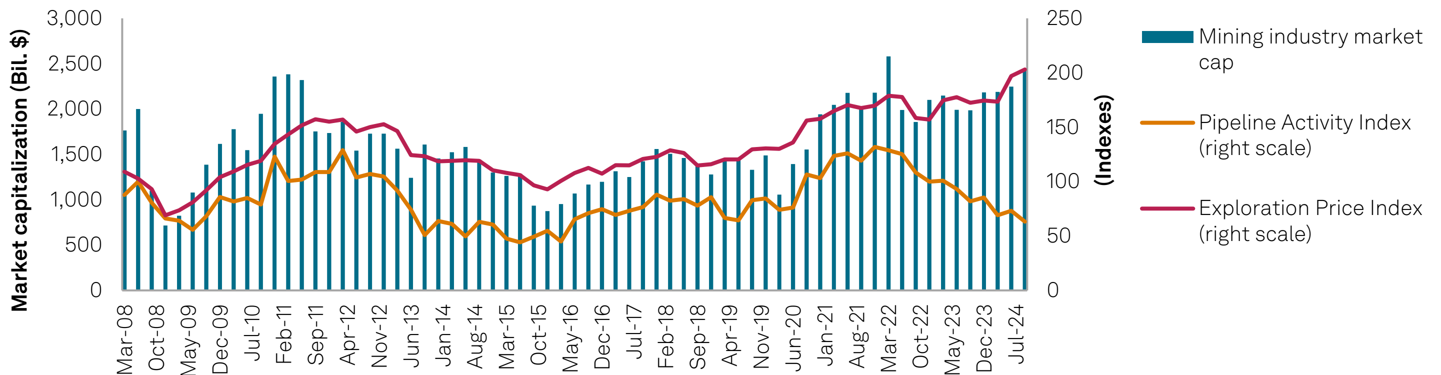
New mines are often more remote and more difficult to operate, as the world's easiest and most economically attractive deposits are already being mined. As such, miners face a continual grind on capital and operating costs to advance mines and support incremental processing with generally declining ore grades. Copper output appears unlikely to grow substantially for any sustained period, which incentivizes production from smaller, high-cost assets. Nickel, by comparison, has been adding large sources of new material from laterite deposits in Indonesia that are processed using HPAL. Such innovations can cause a step-change in the world’s economically mineable reserves, as seen with SXEW for copper. At the same time, HPAL innovations in Indonesia are adding low-cost new output to a saturated market, pushing down prices and profits for higher-cost nickel mines.

Metals consumption is rising due to population growth, economic expansion, and the energy transition. The transition to renewables requires critical raw materials, like copper, lithium, cobalt, and nickel, while steel and aluminum helps construct renewable energy assets. Even with growing demand for metals like copper and nickel, exploration activity in mining has declined since the 2022 spike in prices and profits, while the mining industry’s market cap remains near all-time highs.

The S&P Global Market Intelligence Pipeline Activity Index (PAI) is an overall measure of the exploration sector (see chart 7). S&P Global Commodity Insights recorded fewer initial resource announcements and lower significant drill results in 2024. That lower exploration pipeline also coincides with intractably higher costs for the inputs to exploration, such as labor, equipment, and consumables.

Chart 7

Pipeline Activity Index and mining industry market capitalization, 2008–current



As of Oct. 22, 2024. The quarterly Pipeline Activity Index is calibrated so that June quarter 2008 = 100. The quarterly Exploration Price Index is the average of the monthly Exploration Price Index, which is calibrated so that May 2008 = 100.
Source: S&P Global Market Intelligence.

Related Research

- Bulletin: United States Steel Corp. And Nippon Steel Corp. Remain On CreditWatch Following Lawsuits Over Blocked Merger, Jan. 8, 2025
- Full Analysis: Rio Tinto PLC, Dec. 20, 2024
- Research Update: Cameco Corp. Outlook Revised To Positive From Stable On Durable Uranium Demand; 'BBB-' Rating Affirmed, Dec. 19, 2024
- Tear Sheet: Nucor Corp., Dec. 10, 2024
- Bulletin: Anglo American PLC's Sale Of Its Remaining Coal Assets Is A Major First Step Toward Its New Stand-Alone Strategy, Nov. 26, 2024
- Asian Steelmakers' China Strains Will Roll On, Nov. 6, 2024
- S&P Global Ratings Metal Price Assumptions: Prices Hold Steady Despite Headwinds, Oct. 16, 2024
- Trade Tensions Won't Tarnish China Steel Exports, Oct. 15, 2024
- Research Update: Posco Holdings And Posco 'A-' Ratings Affirmed On Likelihood Of Disciplined Financial Policy; Outlook Stable, June 24, 2024
- Research Update: Kinross Gold Corp. Outlook Revised To Stable From Negative; Ratings Affirmed On Strong Gold Prices And Debt Reduction, July 16, 2024

Industry Forecasts: Metals and Mining

Chart 8

Revenue growth (local currency)

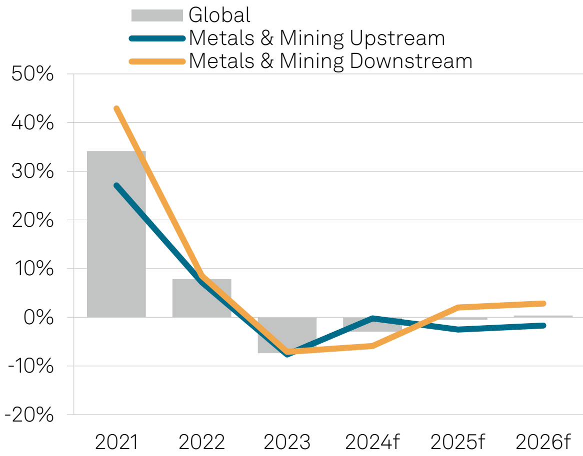


Chart 9

Capex Growth

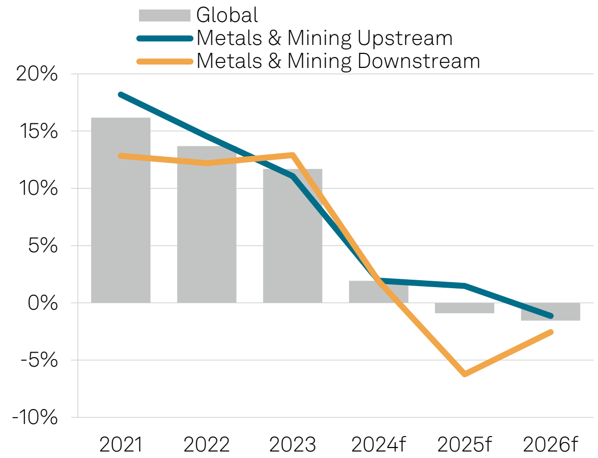


Chart 10

Debt / EBITDA (median, adjusted)

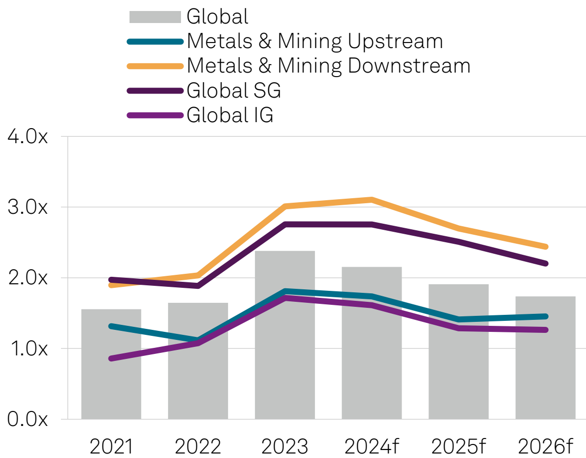
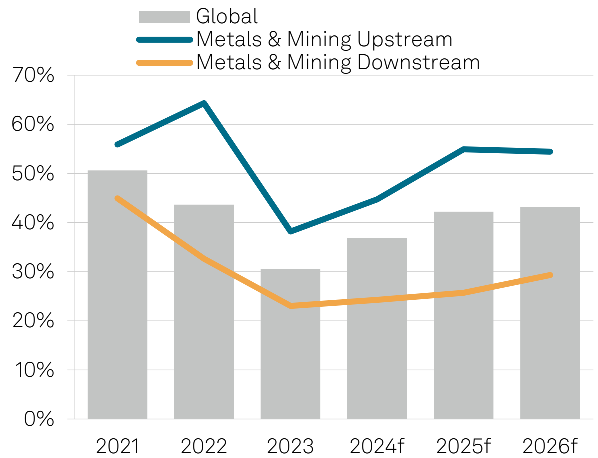


Chart 11

FFO / Debt (median, adjusted)



Source: S&P Global Ratings. f = Forecast.
Revenue growth shows local currency growth weighted by prior-year common-currency revenue share. All other figures are converted into U.S. dollars using historic exchange rates. Forecasts are converted at the last financial year-end spot rate. FFO—Funds from operations.

Cash, Debt, And Returns: Metals and Mining

Chart 12

Cash flow and primary uses

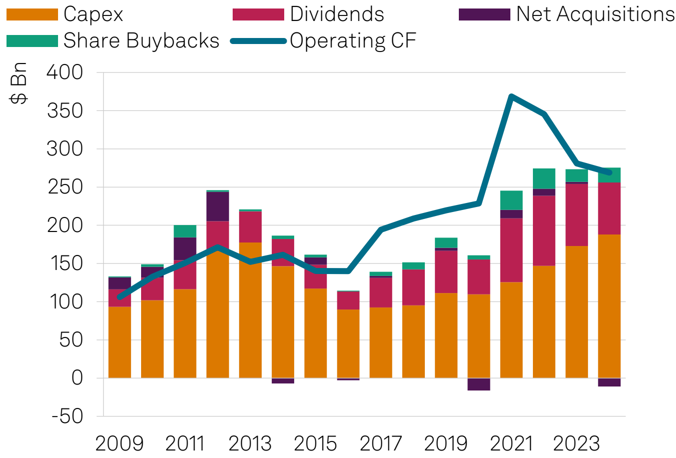


Chart 13

Return on capital employed

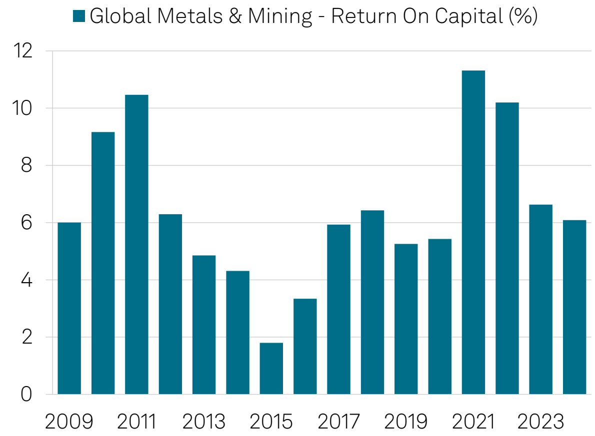


Chart 14

Fixed- versus variable-rate exposure

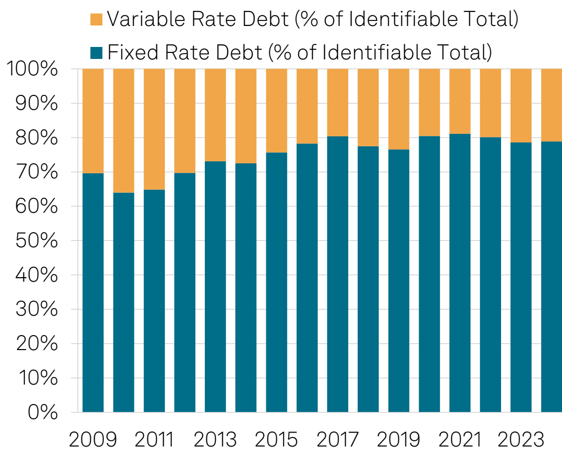


Chart 15

Long-term debt term structure

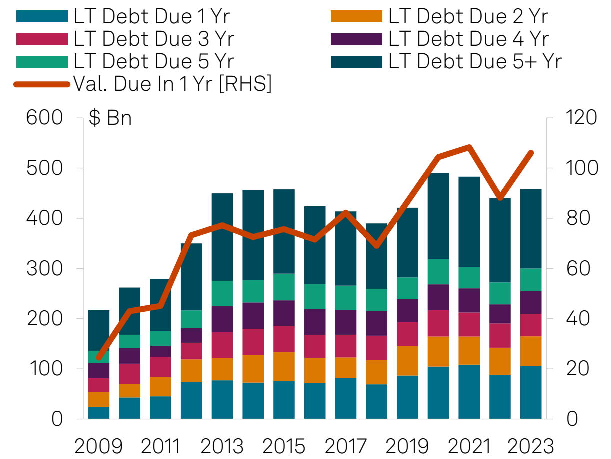


Chart 16

Cash and equivalents / Total assets

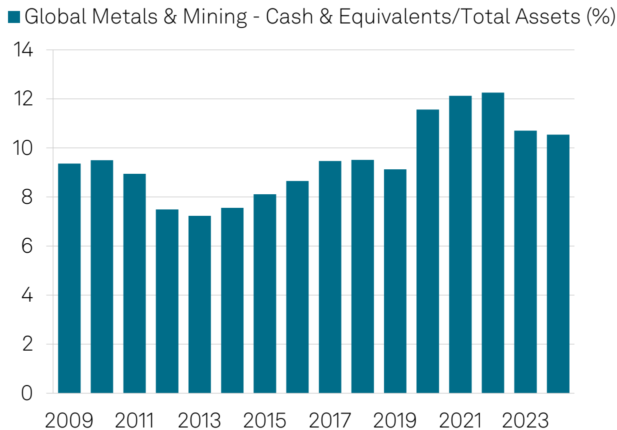
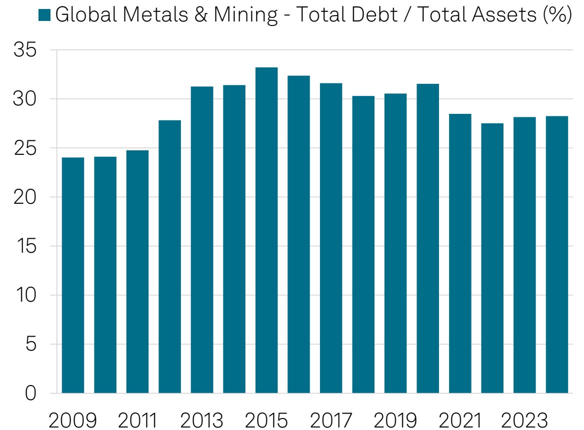


Chart 17

Total debt / Total assets



Source: S&P Capital IQ, S&P Global Ratings calculations. Most recent (2024) figures use the last 12 months' data.

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