

From Volume to Value: The \$20 Billion Commercial Payoff in Metals and Mining

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For decades, metals and mining companies succeeded through a simple, relentless formula: maximize volume and minimize cost. This production-centric model worked in a world of predictable demand and stable long-term contracts.

Global economic shifts, price volatility, and the “financialization” of metal markets have ushered in a new era. To capture the best prices and protect profit margins, metals and mining companies can evolve from producers into market players engaged in commercial and trading activities.

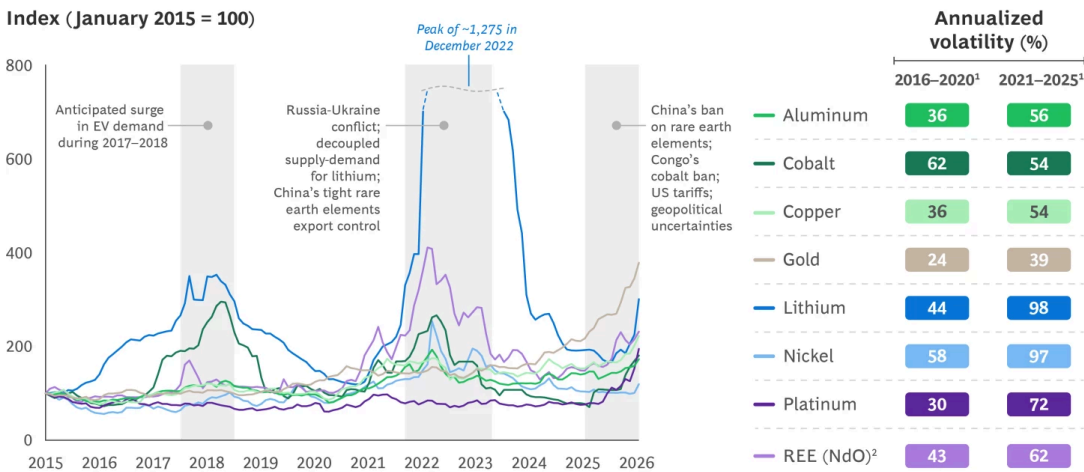
By actively managing different sales, marketing, optimization, and trading levers, companies can pursue a potential \$20 billion annual value pool while limiting their downside risks.

Volatility and Liquidity Are Here to Stay

Volatility used to come and go in the metals market. Today, it defines the market. Between 2021 and 2025, average annual price swings for key metals surged by 22 percentage points compared with the prior five-year period. Commodities like lithium and nickel now regularly experience volatility levels between 65% and 100%. These two elements are crucial for the production of batteries and steel and in defense and aerospace industries. The future depends on them. (See Exhibit 1.)

EXHIBIT 1

Volatility in the Metals Market Has Spiked in Recent Years



Sources: S&P Global Market Intelligence; BCG analysis.
 Note: Indices are showing monthly average prices (set to 100 on January 2015). EV = electric vehicle.
¹Annualized standard deviation of daily percentage changes in prices.
²Rare earth elements neodymium oxide.

The causes of volatility are well known—geopolitical tensions, national stockpiling of critical minerals, the energy transition, and increased defense spending. Additionally, ore quality is declining amid rising mine-development lead times, and refining capacity is concentrated in select countries. Most of these forces are unlikely to subside any time soon.

At the same time, the market is becoming more liquid. Trading volumes on the Shanghai Futures Exchange now broadly rival the London Metal Exchange, with daily activity reaching nearly 1 million lots. This liquidity contributes to the volatility by allowing market prices to become more responsive to short-term supply and demand dynamics and macro events.

For traditional metals and mining companies, volatility threatens their business model by eroding margins and destabilizing cash flows. Meanwhile, companies such as Glencore and Trafigura, the two largest global metal traders, have been confidently operating for years in both physical and financial metals markets. They are often able to absorb and exploit price and volume shocks through hedging, shifting their portfolios, and holding inventory until the market improves.

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There is no reason traditional mining and metals companies cannot play the same game (without needing to become fully fledged traders). By building capacity to navigate these swings,

companies can create downside protection and outperform the industry average. With a capital-light approach, they can typically add 1 to 4 percentage points on their return on capital employed and improve free cash flows by 15% and more. For selected activities, they can achieve double the returns of the rest of the business.

Transitioning to Commercial Excellence

A new copper or iron ore mine can take 25 years from discovery to first production. In contrast, commercial optimization generates immediate value by locking in gains, minimizing price shocks, and capturing margins that currently leak to third-party traders.

This transition to commercial excellence also reshapes the internal culture. A commercial focus demands accountability and rewards performance. Employees shift their focus from cutting costs to maximizing the value of every decision. Such agile environments, in turn, attract talent, including tech and AI specialists essential for modern operations.

Physical assets yield higher returns through better visibility. Real-time data reveals how ore quality and impurities impact pricing, allowing the firm to optimize the entire value chain, including usage of additionally sourced third-party material. This approach extracts profit even from lower-grade products that a traditional producer might overlook.

Such agility extends to the C-suite. Real-time market intelligence provided by commercial units shapes M&A and investment choices, which prevents overinvesting at the peak of a cycle—the industry's greatest mistake.

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For mining and metals companies wishing to become more commercially savvy, there's good and bad news. Companies can unlock values without massive capital investment—but the transition requires an often difficult shift in mindset.

The mining and metals business has historically been built on engineering and volume. Commercialization requires that executives put greater emphasis on value. This transition requires new skills and capabilities. A mining and metals company that fully embraces commercialization would look something like this:

Sales and Marketing Mastery. A sophisticated sales team extracts more value from the existing portfolio through value-in-use pricing. They offer value-added products and use “break-bulking” to meet specific customer needs. They also make smart portfolio decisions about which customers and channels to serve, and when. These actions turn a standard commodity into a more specialized, customer-tailored, higher-margin product.

Supply Chain Optimization. Breaking down silos between operations and commercial units reveals hidden value. Integrated teams optimize mine and mill yields to match market demand. They also source third-party ore to blend with their own, ensuring every shipment meets the most profitable specifications.

Trading and Origination. Physical assets provide the foundation for trading profits. Companies use their own flows to capture global arbitrage opportunities across time and location, and they blend varying ore grades to hit specific customer targets. They actively manage risks and opportunities by hedging and optimizing forward positions in financial markets.

Proprietary Trading. Proprietary trading is an option as companies gain greater commercial sophistication. By exploiting inefficiencies between physical and financial markets or among different financial markets, this strategy turns superior market intelligence into a direct additional source of profit. It will typically represent only a small part of overall commercial activity for incumbent players. (See Exhibit 2.)

The Strategic Spectrum: Deciding Where to Play

In reality, mining and metals companies are likely to become more commercially oriented in a series of steps. (See Exhibit 3.) Each step represents a higher degree of market integration and profit potential, as follows:

1. **Outsourced Sales.** Third-party agents manage every transaction. The miner avoids overhead but loses market control and customer insight.
2. **Classical Sales.** An internal team sells whatever the mine produces. These firms accept market prices and rely mostly on long-term contracts with limited flexibility.
3. **Marketing Excellence.** This model prioritizes the customer. Miners charge premiums by matching their specific ore grade to a buyer's technical needs and react to selected profitable short-term market opportunities.
4. **Integrated Optimization.** Operations and commercial units are synchronized in real-time. The company reroutes shipments and adjusts mine plans to capture the highest margins available, enabled by strong optimization across the full value chain.
5. **Asset-Backed Trading.** Physical shipments provide a foundation for market arbitrage. The company sources significant third-party material flows, blends different ores, and uses financial tools to secure profits across global locations.
6. **Merchant Trading.** The trading desk leads the strategy. A small number of physical assets and significant commodity offtake contracts serve as tools to support market positions and provide deep market intelligence.

Operating in New Ways Requires a New Operating Model

Most mining and metals companies today are closer to the start of their commercialization journey than the end. The goal is not necessarily to reach the merchant-trading step but rather to treat commercial activities like a business instead of a function, with P&L responsibility and strong performance-based pay. This requires more than a new team of sales executives and traders. It requires a new commercially focused operating model supported by new tech and tools. (See Exhibit 4.)

The operating model breaks down along five dimensions:

Vision and Ambition. Define the commercial mandate. Transition from a production-led company to a market-facing player that prioritizes margin over volume and empowers the commercial organization to make sourcing, production, marketing, and investment decisions.

Governance and Setup. Establish clear decision rights for the commercial organization on volume and price risks and markets and channels. Define who approves trades, sets risk limits, and

commits the company to long-term hedges.

Business Processes. Integrate commercial insights into the integrated sales and operations planning process. Ensure data moves without friction among mine operations, conversion assets, logistics, and the commercial teams.

Teams and Structures. Create a distinct commercial vertical team with clear accountabilities for sales, marketing, trading, origination, and market intelligence and analytics. This team should be steered centrally but be located close to the market and customers. Link these activities to the mining and conversion assets teams.

People, Culture, and Capabilities. Foster a margin-focused mindset. Hire specialists in risk management and market analysis to replace traditional order takers. Build new hard and soft capabilities to create a performance culture focused on margin rather than volume.

In addition, companies should work on strengthening a set of four enablers that bring the operating model to life.

Performance Management. Update performance evaluation and measurement to reflect the new focus on value. Track margin by customers and products.

Data Integrity. Enable near real-time visibility on inventory, contract performance, and price and risk exposure.

Systems and Tools. Deploy a robust commodity trading and risk management platform. Use advanced AI models to predict supply shocks and price dislocations and to support pricing, hedging, and portfolio optimization.

Stakeholder Engagement. Tell your story. Communicate to investors, partners, and employees the value of the commercial shift. Ensure that the commercial, asset, finance, and risk functions are in alignment.

Companies should not do everything at once but can start with pilots to demonstrate value especially to the board of directors and senior leaders. Once a commercial team has proven its abilities, it can work on building out the full operating model.

Mining once centered on engineering. Today, market swings can determine success. A sudden price drop can erase years of hard work at the mine. This reality demands a change in mind and approach.

Leaders who pivot from volume to value can turn market volatility into a \$20 billion payoff while building a more resilient company. The next generation of winners will master the market just as they mastered the mine.

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