



OPINION

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The impact of Indonesia's government forcing downstream processing in the mining sector

Indonesia's recent ban on unprocessed mineral exports was an inspired attempt by the government to move national capabilities down the value chain and increase mining sector profitability, thereby benefiting the country's long term economic growth. The decision, however, has been met with controversy. Thousands of workers have lost jobs due to production slow-downs, export revenue has plummeted, and estimated infrastructure costs have ballooned to levels beyond interest for global investors.

Setting the stage

Indonesia is the largest economy in Southeast Asia and is one of the world's leading emerging markets. Due to its abundance of mineral resources, which include coal, copper, gold, bauxite, nickel and tin, Indonesia receives a substantial amount of revenue from mineral exports. This sector, alone, accounts for 11% of the country's GDP.

In 2009, the Indonesian Parliament passed a new mining law, Law No. 4 of 2009 on Mineral and Coal Mining, stipulating that mineral exports in the form of raw materials, excluding coal, would be prohibited, and companies must now process the ore locally. Many miners are faced with the challenge of understanding the law and the implications which are taking shape.

The regulation was designed to boost state income from downstream expansion by generating added value from higher priced finished goods. However, most miners are

concerned that the government is not doing enough to encourage them to build processing facilities, especially in areas which still need major investment in basic infrastructure such as roads and power plants.

Although investors and global mining companies have rated Indonesia as a highly attractive destination for coal and mineral prospects, there are negative views on Indonesia's policies and investment climate. For example, respondents to a Fraser Institute 2012/2013 Annual Survey of Mining Companies have given Indonesia their lowest rank among 96 locations included in the survey.

That's no surprise, given that the recent ban has already caused difficulties for workers, forcing them out of their jobs, and in many cases without severance pay (Gulf Times). The policy has wiped out the only revenue many of these companies and their employees have, making any further investment down the value chain practically difficult if not impossible.

At the same time, the 2009 Mining Law included another restrictive clause requiring that mining companies accelerate divestment of foreign shareholders to achieve majority Indonesian ownership within 10 years into commercial production. Although the law was enacted in 2009, companies have not done much to prepare, due mainly to uncertainty regarding interpretation and enforcement of its provisions. There has been widespread speculation, including from within the government, that the ban would

ultimately not be enforced. Many have criticized the legislation for its ambiguity, leaving the government with the need to make additional clarifications and regulations. In fact, President of Indonesia passed a last-minute regulation to ease the ban's impact for major mining companies like Freeport and Newmont, along with the other 66 companies that have said they would build new facilities. These firms were given a chance to export processed minerals on a temporary basis for a period of three years, until 2017, for copper and iron ore. This temporary relief was not applicable for companies involved in nickel and bauxite mining.

Outside Indonesia, industry experts doubted that the legislation would serve its intended purpose of attracting investment, and were certain that the government would not bring Indonesia's mining industry grinding to a halt with the introduction of a comprehensive ban. While the industry experts were right about the first point, they were wrong about the second. The government went ahead with the ban, leaving miners unprepared. Even those few companies which might have had sufficient capital to expand their infrastructure still had no way to build up their in-house expertise in order to run technically specialized ore processing facilities.

The challenge

The aim of the Mining Act was to capture a higher value for the exported product. While the strategic agenda

is laudable, the execution has not been without difficulties. Problems lie in several areas, including policy implementation and the industry's lethargy in adapting to new requirements. Far beyond these, however, are some much more fundamental issues:

- **Lacking basic infrastructure:** Facilities such as power stations, an electric grid, and roadways are greatly lacking in the areas where much of Indonesia's mining output originates. Mining operations over the past decade have moved increasingly inward, into the mountains and other remote areas, having already depleted the mineral resources of areas which are easily accessible.
- **Lacking sufficient capital:** The downstream processing business is capital intensive and is getting more and more expensive. Although technology has advanced in such a way as to improve yields and increase efficiency, the cost of a new facility can run to hundreds of millions of dollars. Major facilities often reach billions of dollars in capex. Long term financing from financial institutions is a potential option, however they would need a strong business model/offtaker or a guarantee, either from the government or from individual companies.
- **Lacking industry maturity:** Without a value-added industry that makes use of the processed commodities, it can be argued that there is no real advantage in processing the minerals. If Indonesia really wants to capture margin in the commodities value chain, it can be argued that developing a downstream industry for captive use of the refined metal may be of comparable importance to establishing a midstream presence in ore processing.

It is a well-known problem within the industry that for many mined products, ore processing offers smaller margins. Also, value add from processing varies from commodity to commodity. For copper, only 5-10% of value is realized in the smelting/refining stage while the number is more like 80% for bauxite. While there may be potential in some minerals, such as aluminum or nickel, Greenfield development projects are still going to be difficult in light of the national economic and governance challenges. And still, as it is with ore processing, capital costs are high, operating costs are high, and there is already a global excess in processing capacity. In a way, Indonesia had the best situation – leave the low value processing to other countries, and simply trade the ore for cash.

This strategy can work well when commodity prices are high. When prices fall, it tends to hurt, thus branching out into downstream processing makes sense only on the surface. When commodities prices are low, the entire industry hurts, not just the mines. The government's solution this time is to add a low value activity under the most difficult of circumstances – during an economic downturn, with insufficient infrastructure, while imposing tighter restrictions on foreign investment.

Nonetheless, there may be strategies for companies to cope with the new situation. For that to happen, however, the industry may need to reassess its business model, and along with that, its core mindset.

Industry mindset

Large mining companies generally have a strong balance sheet, access to public markets, and even leveraged financing to assist in the development of Greenfield projects. Small-to-midsized miners, on the other hand, rely heavily on offtake agreements to fund new mines. In an offtake agreement, a producer sells

potential future production at a price negotiated prior to the excavation of a mine. These agreements enable funding from financial institutions or, more often, from the offtakers themselves.

Also, the customers for the refined products are likely to be different from customers for the ore. Rather than competing in the mining segment in the value chain, Indonesian players would be competing in the refining segment of the business, which has different market dynamics.

Consequently, the funding model is likely to change. Offtakers will now be required to receive refined metal, effectively raising the price of the commodity. That creates a difficulty for offtakers, who often manage refinement themselves through separate locations where they benefit from economies of scale and centralized operations.

In other instances, mine owners turn to private capital, either from a private investor or from private equity, to finance mine development. These contracts are often negotiated with a high projected return for the investors. Now, with the mining companies unable to not only export their mineral ore, and instead being required to refine it, their returns are likely to fall significantly. In the meantime, private lending may contract while investors seek to understand the full impact of the new regulations.

Another major change to the business model will be found in the profit structure. Upstream companies have generally enjoyed higher operating margins, due mainly to the level of risk from exploration activities. Farther down the value chain, midstream processing requires higher capital, but yields smaller margins. For a metal ore refiner going upstream, the capital costs for Greenfield mines are up to tenfold lower than midstream facility costs, with approximately double the operating margin. Smelting is even more

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capital intensive, costing anywhere from fifty to a hundredfold that of a Greenfield mine. Even more, their operating margins are typically a quarter of those enjoyed in the upstream segment. (See figure below.)

While capital costs and expected returns are dependent on many factors - type of metal, scale, technology and ore purity - across the midstream segment as a whole, only a few best-in-class midstream companies can reach even high levels of returns on the order of what is typically enjoyed by an upstream company.

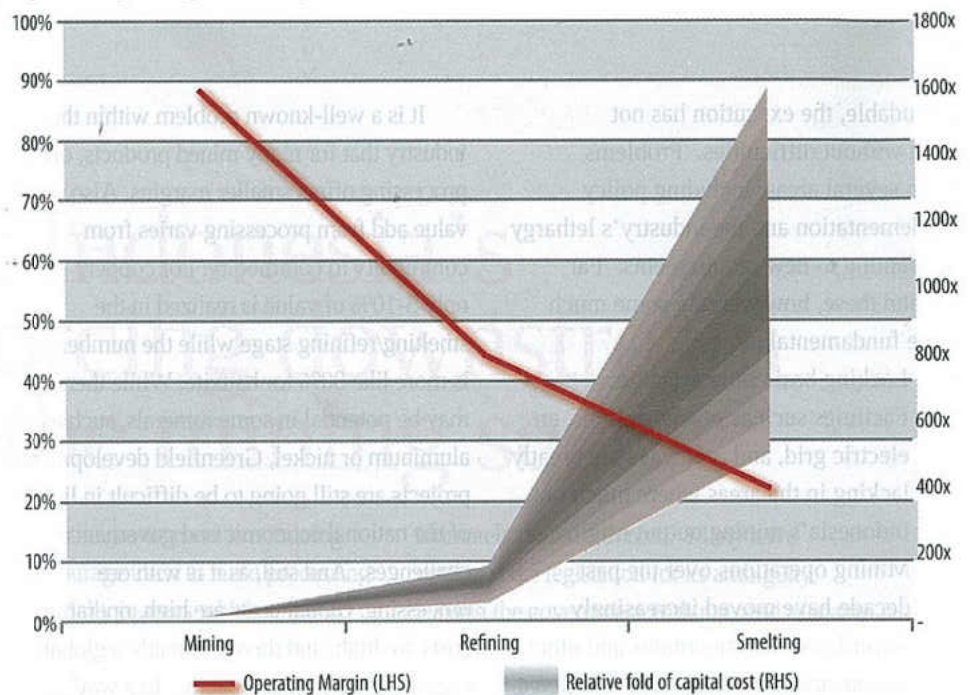
The compression of returns down the value chain is again a function of risk and technical expertise. Since metal ore refining and smelting companies do not take exploration risk, they are not awarded the higher returns, and of those that achieve high returns, they are typically best-in-class facilities requiring significant investment capital. While the financial result of combining upstream mining with midstream refining remains to be seen, financial benchmarks show us that this approach could be a problem.

Possible solution

In order to effectively implement the onshore processing requirement, further study may be needed to assess its economic benefits. The government may still be able to implement an agenda for value-added development through a win-win approach. For example, the government could modify its timeline, depending on the type of ore. If the economic benefit of one type of ore export is large, and the domestic processing capacity is small, the government could choose to delay requirements for that ore, enabling the sector more time to develop its processing capabilities. The government could also stage mineral processing requirements based on location, while planning improvements in infrastructure.

If the current policy remains, there may be strategies to soften its economic impact. For example, the government may consider

Operating Margin vs. Capital Costs in the Value Chain



Source: AWR Lloyd

establishing central refining facilities in an area which receives adequate water and power, and could provide refining services in exchange for a fee. This arrangement would allow small-to-mid sized companies to compete on exports, and could prevent individual miners from cutting corners in refinery construction and operations, ensuring proper waste disposal, amongst other benefits.

Other initiatives could support or encourage companies concentrated in different locations to co-invest and share in central refining facilities through the formation of regional cooperatives. This approach would allow them to aggregate the economy of scale required to earn more favorable returns.

These are a few strategies which can be employed to accommodate the 2009 Mining Law, but additional studies would be needed to determine which options are most economically favorable. With 2014 being an election year, the new president, upon taking office, will no doubt be lobbied by stakeholders from all sides of the debate. This situation should be one of the first issues for the new president to resolve. The greatest pressure the new president will face will be to get the country's growth back on track while reducing the growing trade deficit.

Therefore, a resolution is required. If the ban is upheld, investors will want to see decisive action before committing capital to long-payback ore processing projects. □

About AWR Lloyd

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