

Miners Need to Concentrate (Bloomberg)

Which company produces more copper --BHP Billiton Ltd., the third-biggest miner of the metal and operator of its biggest pit? Or Aurubis AG, a recycler and smelter based on the outskirts of Hamburg, Germany?

- If you're talking about the big sheets of pink metal you find stacked in commodity warehouses, the answer is Aurubis, which produces about 1.2 million metric tons of such copper cathode a year. BHP's cathode output was just 785,000 tons last year. The majority of its copper production, about 795,000 tons, came in the form of concentrates, a muddy powder with about 25 percent copper content that's sold to smelters to be transformed into refined metal.

- The difference between the two products is worth watching: Despite tightening supply of many metallic ores, the world is facing a glut of smelters, which transform concentrates into refined metal. As a result, the Shanghai, London and Chicago metal prices tracked by commodity traders may prove an unusually poor guide to the profitability of big miners.

- Aluminum provides a good case study of how this works. Even after a 17 percent price recovery over the past year, the refined metal is still in a decade-long slump driven by the chronic oversupply of smelters in China. At the same time, the smelters' raw material, alumina, is suffering a global deficit, while the bauxite ore that's used to make alumina is attractive enough that Rio Tinto Group is spending \$1.9 billion developing a major new mine in Australia. Smelters may be struggling, but the rest of the aluminum supply chain is doing rather well.

- Copper Bottomed

- China copper treatment charges have plummeted in 2017.

- That dynamic is now repeating itself in copper. Chinese refiners alone added 1.9 million metric tons of copper production capacity over the past three years, according to Bloomberg Intelligence, equivalent to about one-twelfth of total demand for the metal. That oversupply of smelters, combined with stoppages this year at the world's two biggest copper mines, Escondida and Grasberg, have helped drive the treatment and refining costs charged to miners for processing concentrates to their lowest level in at least three years, according to data compiled by BI analyst Yi Zhu.

- Zinc may be the next shoe to drop. Chinese smelting capacity has risen by 1.4 million tons over the past four years, and treatment charges that were running above \$200 a ton 18 months ago slumped to \$40 a ton in December. Quite simply, there are too many smelters competing to process too small a supply of concentrates. Negotiations over annual contract treatment prices for 2017, which are generally done by this point, appear to have stalled as miners demand changes to contract structures that would move profits in their favor, while smelters dangle the risk of shutdowns if the prices are settled at unprofitable levels.

- A further glut could be looming in nickel, thanks to some governments' desire to move up the value chain from mining to the more sophisticated business of processing and refining. Indonesia is trying (with a notable lack of success) to build a fleet of nickel smelters following its 2014 ban on exports of unprocessed ores. The Philippines may get in on the act, with environment undersecretary minister Ipat Luna last week suggesting the government may consider a similar ore export ban to encourage more processing, compounding that country's chaotic approach to its nickel industry.

- Put together, these changes could represent a wholesale shift. Decades ago, BHP Billiton was a major steel producer, but it sold all its mills around 2000. Without the need to keep prices low for its own blast furnaces, the company was able to surf a once-in-a-generation price boom for the steel raw materials of coal and iron ore over the past decade.

- The base-metals industry could be headed in the same direction. As the breakneck expansion of Asian smelters makes refined product increasingly unprofitable relative to concentrates, don't be surprised if miners give up altogether on making metal.