Confluence INVESTMENT MANAGEMENT

# Bi-Weekly Geopolitical Report

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## Mineral Commodities in the World's New Geopolitical Blocs

For many years, we've discussed how the United States has been backing away from its historical role as global hegemon, setting the stage for deglobalization and a fracturing of the world into separate geopolitical and economic blocs. In our *Bi-Weekly Geopolitical Report* from May 9, 2022, we provided a detailed, comprehensive forecast of which countries are likely to end up in either the U.S.-led or China-led bloc, which countries will lean toward one or the other, and which ones will try to be neutral. As a follow-up to that analysis, this report looks at the distribution of key mineral resources among those camps and what the different endowments might mean for geopolitics, the global economy, and financial markets in the future.

With China and Russia becoming ever more threatening from a military and geopolitical standpoint, and with the coronavirus pandemic demonstrating the vulnerability of supply chains even in peacetime, investors have become more sensitive to the security of commodity supplies and the way nations might try to monopolize or weaponize them. As such, we conclude with a discussion of the ramifications for investors.

**The Good…**

In our May report, we developed a method to systematically assign most of the world's 200 or so countries into the different blocs mentioned above. In this analysis, we tally the reserves and recent production of key minerals in each of these blocs, based on industry and government data. Our analysis shows the U.S.-led bloc has ample supplies of several key minerals, from traditional industrial metals like copper and nickel to some of the most important materials for the evolving "battery age," including lithium. We explore the landscape for a few of these minerals below.

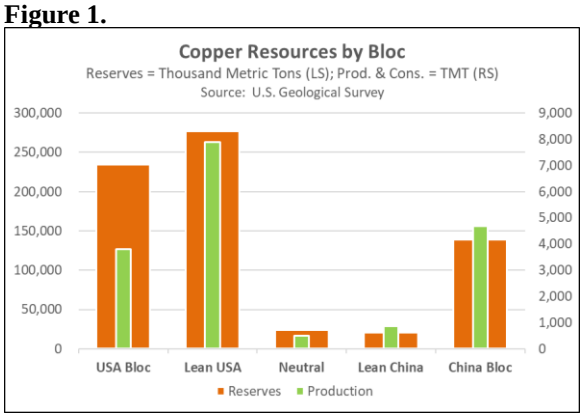
***Copper.*** The U.S.-led bloc enjoys an especially good supply position in copper. Indeed, copper is probably the best example of a key mineral in which the U.S. bloc has secure supplies. As shown by the copper-colored bars in Figure 1 on the next page, the U.S. bloc alone accounts for 33.7% of the copper reserves identified for specific countries by the U.S. Geological Survey (in the USGS data, specifically identified reserves make up the vast majority of the global total). These reserves are mostly located in Australia, Mexico, and the U.S. Since our analysis assigns Chile and Peru to the U.S.-leaning bloc, the 39.8% of global reserves that they have are also considered safe supplies for the U.S. and its friends. As shown by the green bars in Figure 1, the U.S. and U.S.-leaning blocs also dominate copper mine production, accounting for a combined 65.9% of global output in 2020. In contrast, the China-led bloc is endowed with only about one-quarter of global copper reserves and output, mostly in Russia, Azerbaijan, and China.

- It's hard to find comprehensive, reliable, country-by-country data on the consumption of mine output, but these figures suggest the U.S. and U.S.-

leaning blocs have plenty of copper resources to meet their needs.

- The China bloc's limited reserves and output suggest it is relatively dependent on outside supplies. This makes it difficult for the China bloc to use copper supplies for leverage in its geopolitical competition with the U.S. For the U.S. economy, that's a positive because copper is such a fundamental mineral for industrial uses ranging from electric motors and wiring to roofing and plumbing.

**Figure 1.**




***Nickel.*** Similarly, the U.S. and its closest friends alone account for about one-third of the world's nickel reserves and mine output, mostly because of big deposits in Australia, Canada, and the Philippines. As shown in Figure 2, the main difference with copper is that neutral Indonesia and China-leaning Brazil are important players in the nickel market. Since nickel is a key material for products ranging from stainless steel to batteries, we suspect China and its friends will focus on securing Indonesian and Brazilian supplies to make up for their relatively limited supplies of the metal.

***Lithium.*** Perhaps surprisingly, lithium is another example of a mineral in which the U.S. and U.S.-leaning blocs seem to have a safe supply. U.S. officials, economists, and media pundits have warned about insecure supplies of the exotic minerals needed to build the electrified world of the future, but as shown in Figure 3, our analysis reflects that the U.S. and its friends control three-fourths of the world's lithium reserves and mine production. The problem is that the lithium in the U.S. bloc is concentrated in Australia, while the lithium in the U.S.-leaning bloc is all in Chile. Since China and its friends have relatively little domestic lithium available, they will likely focus on peeling Chile away from the U.S.-leaning bloc in peacetime and may try to interdict maritime lithium shipments to the U.S. bloc in wartime.

**Figure 2.**

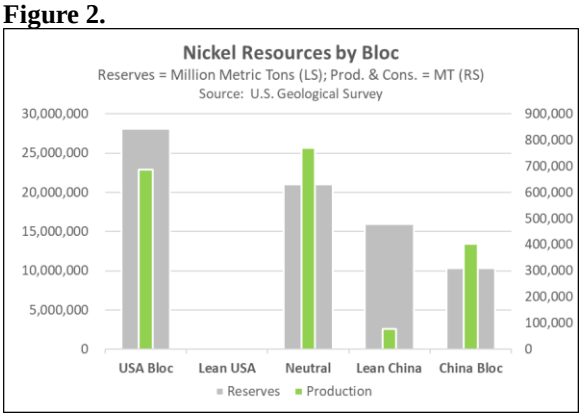
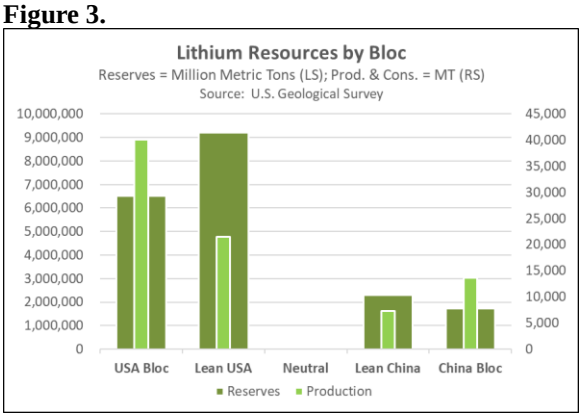



**Figure 3.**

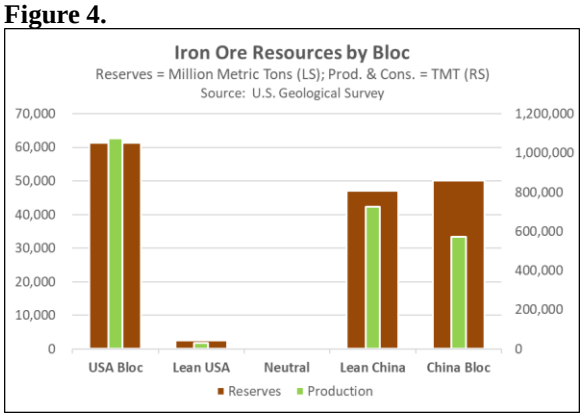



## The Bad…

The examples above are useful reminders that the U.S. and its friends enjoy relatively secure supplies of some key minerals. However, the situation is less positive with other important minerals. One example of this is iron ore. In this instance, the problem

isn't that the U.S. and its friends don't have sufficient supplies. As shown in Figure 4, the U.S. bloc has a lot of iron ore, and it's widely distributed among countries like Australia, Canada, Sweden, and the U.S.

**Figure 4.**



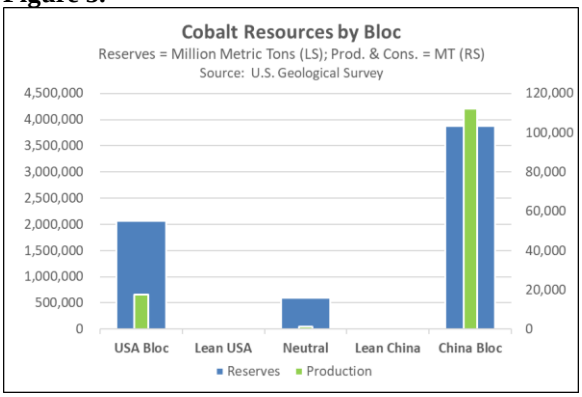

The problem is that the rival China-led and China-leaning blocs also seem to have plenty of iron ore. These iron deposits are widely distributed among countries like Russia, China, Kazakhstan, and Iran. In other words, iron ore probably can't be used for major geopolitical advantage by either the U.S. side or the China side. Iron is not only fundamental to the traditional steelmaking industry, but it is also potentially useful in utility-scale batteries. Either way, our analysis suggests it will be neither a constraint nor a source of leverage in the U.S.-China geopolitical competition.

**And the Ugly…**

Unfortunately for the U.S., its partners, and the investors who depend on them, the distribution of other key minerals is much less advantageous than it is for copper, nickel, lithium, and iron ore. Our analysis shows that several key metals or materials of the future are virtually monopolized by China and its partners. Just as significant, the world's most important mineral fuels are likewise concentrated in the rival China-led or China-leaning blocs.

***Cobalt.*** Although the U.S. bloc holds 31.5% of global cobalt reserves and accounts for 13.4% of cobalt mine production, those figures pale in comparison with the China bloc (see Figure 5). The China bloc alone holds 59.3% of global reserves, including major deposits in the Democratic Republic of Congo, Russia, China, and Papua New Guinea. Even more notable, those countries accounted for 85.7% of global output in 2020. Since cobalt is essential for many advanced aerospace, energy, and information technology products, the China bloc's cobalt riches will likely provide an important advantage in those sectors. The bloc could also potentially hamstring the U.S. bloc's progress in those sectors if it restricts access to its cobalt supplies.

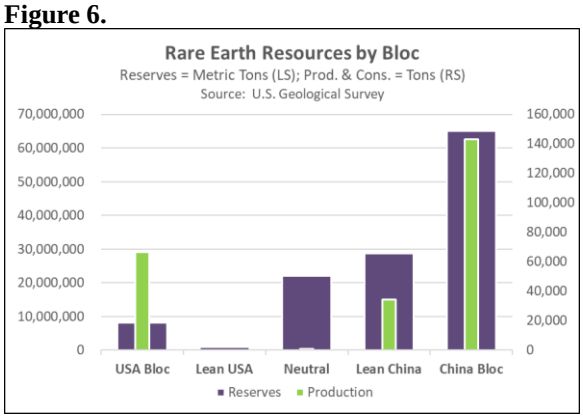
**Figure 5.**




***Rare Earths.*** As widely discussed among government officials, economists, and investment strategists, the situation with rare earths is potentially even more concerning. The U.S.-led and U.S.-leaning blocs together only hold 7.2% of the world's rare earth reserves, and they only account for 27.1% of world output (see Figure 6). Most of these resources are in Australia, Denmark, the U.S., and Canada. A significant amount of rare earths could also be available from the countries we identify as neutral (particularly Vietnam), but about three-fourths of the world's rare earths are in the China-led and China-leaning blocs. China and Russia make up most of that

amount, but China-leaning Brazil, India, South Africa, and Myanmar also hold much of this resource. China and its bloc also control most of the world's competitive rare earth refining and processing capacity. Since rare earths are critical in high-tech industries like smart phones, digital cameras, computer hard disks, fluorescent and light-emitting-diode (LED) lights, flat screen televisions, computer monitors, and electronic displays, China is in a better position to capitalize on those industries and stifle their development in the U.S.-led and U.S.-leaning blocs.

**Figure 6.**

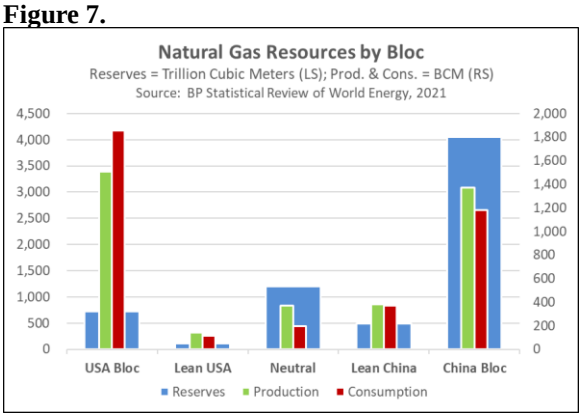



***Natural Gas.*** To really see how the U.S. and its partners could be at a disadvantage in the commodity markets, it's best to look at mineral fuels. In part, that's because of the extensive country-by-country data on both production and consumption available in the *BP Statistical Review of Energy*. These figures show that the U.S. bloc is vulnerable in two important ways: 1) it produces much less natural gas than it consumes, requiring imports; and 2) the bloc has only a small share of world proved reserves of gas, meaning it will likely require even more imports in the future. In contrast, China and its partners produce more gas than they use and also have the vast majority of the world's reserves. As Russia showed leading up to and during its invasion of Ukraine, this puts China and its friends in a strong position to engage in energy blackmail against the West.

- **Reserves.** Taken together, the U.S.-led and U.S.-leaning blocs hold only 12.8% of the world's natural gas reserves (see Figure 7). Most of that is in the U.S., but other big gas fields are in Australia, Canada, and Norway, as well as in U.S.-leaning Egypt and Malaysia. The China-led and China-leaning blocs hold 69.0% of gas reserves, mostly in Russia, Iran, Turkmenistan, and the China-leaning countries of the Middle East.

- **Production & Consumption.** The data show that the U.S.-led and U.S.-leaning blocs together account for 43.8% of global gas output, but the figure isn't as reassuring as it may seem at first glance. That's because these countries also account for 53.0% of global gas usage. Their production shortfall is made up by imports from the neutral, China-leaning, and China-led blocs. Those supplying countries account for 56.2% of global gas production, but only 47.0% of consumption.

**Figure 7.**




***Crude Oil.*** Finally, an even starker disparity can be seen in the realm of crude oil. As with natural gas, the U.S. and its friends produce far less oil than they consume, and they hold only a small share of the world's reserves. In contrast, China and its friends

produce less than they consume and hold the majority of reserves. Compared with natural gas, oil is easier to transport around the world by sea, so it may seem that the U.S.-led and U.S.-leaning blocs could readily balance their markets by trading oil among themselves. However, China will still likely derive an economic advantage from having access to low-cost oil from places like Russia and Iran.

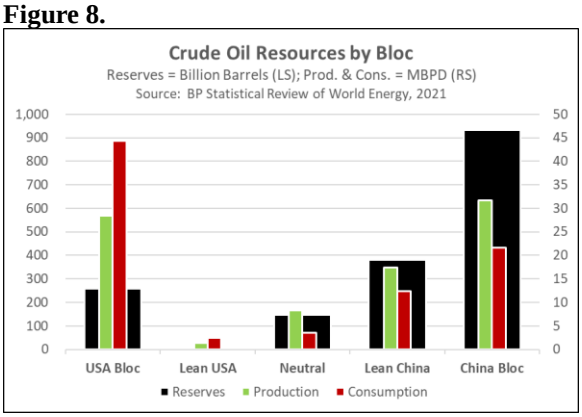
- **Reserves.** The U.S.-led and U.S.-leaning blocs together hold 15.4% of the world's oil reserves (see Figure 8), with most of that in Canada, the U.S., Norway, and Mexico. In contrast, the China-led and China-leaning blocs hold 76.1% of oil reserves. Moreover, those reserves are widely distributed among countries like Venezuela, Iran, Iraq, and Russia, as well as among China-leaning countries like Saudi Arabia and Libya. Since many of these countries are pariahs from the perspective of the U.S. and its friends, they can't be considered reliable sources of supply.

- **Production & Consumption.** Similar to the situation with natural gas, the U.S.-led and U.S.-leaning blocs together account for 34.2% of global oil production, but the figure isn't reassuring because these countries also account for 55.5% of global oil consumption. Their production shortfall is made up by imports from the neutral, China-leaning, and China-led blocs. Those supplying countries account for 65.8% of global oil output, but only 44.5% of consumption.

## Ramifications

We conducted similar analyses for many minerals beyond those described here, but the overall picture remained the same. For some minerals, reserves and production are widespread and plentiful, suggesting a relatively benign supply outlook for the U.S., its friends, and other countries around the world. This group of minerals includes copper, nickel, lithium, and rock phosphate (used to produce fertilizer). The situation is more balanced for other commodities, such as iron ore and bauxite (the key input for aluminum). The situation is much less benign for other minerals, especially those involved in energy, energy storage, and some aspects of information technology. Deglobalization and the fracturing of the world into separate geopolitical and economic blocs will likely have a significant, disruptive impact on the markets for these minerals.

**Figure 8.**




Commodities that are less evenly distributed around the world will likely become pawns in the intensifying geopolitical competition between the U.S. and China. Minerals found and produced mostly in China or the China-led bloc – such as crude oil, natural gas, cobalt, and rare earths – could be hoarded by Beijing or embargoed to undermine the U.S. and its partners. In our view, the loss or potential loss of these China-controlled supplies will likely buoy the prices of these minerals and their substitutes, keeping inflation higher than it otherwise would be and weighing on U.S. corporate profits and stock values. The implication is that U.S. investors should probably consider increasing their exposure to these commodities, while ratcheting back

their exposure to companies that would be hurt by rising commodity prices.

On a more positive note, we would emphasize that prolonged commodity supply disruptions have historically also prompted new innovation, the development of substitutes, and increased efficiency. In World War II, for example, Germany's loss of oil supplies prompted it to develop and boost synthetic fuel production, while the U.S.'s loss of Malaysian rubber supplies prompted it to implement a massive rubber recycling program. Despite the possible future headwinds for the overall economy and financial markets in the West, we think that select firms in sectors like alternative energy, commodity recycling, and advanced materials could become more valuable in the future.

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