
REPORT

China Raises Threat of Rare-Earths Cutoff to U.S.

Beijing could slam every corner of the American economy, from oil refineries to wind turbines to jet engines, by banning exports of crucial minerals.

BY KEITH JOHNSON, ELIAS GROLL | MAY 21, 2019, 4:39 PM

With a simple visit to an obscure factory on Monday, Chinese President Xi Jinping has raised the specter that China could potentially cut off supplies of critical materials needed by huge swaths of the U.S. economy, underscoring growing concerns that large-scale economic integration is boomeranging and becoming a geopolitical weapon.

With the U.S.-China trade war intensifying, Chinese state media last week began **floating** the **idea** of banning exports of **rare-earth** elements to the United States, one of several possible Chinese responses to U.S. President Donald Trump's decision to jack up tariffs on hundreds of billions of dollars' worth of Chinese goods and blacklist telecoms maker Huawei.

U.S. oil refiners rely on rare-earth imports as catalysts to turn crude oil into gasoline and jet fuel. Permanent magnets, which use four different rare-earth elements to differing degrees, pop up in everything including ear buds, wind turbines, and electric cars. And China dominates their production.

“It would affect everything—autos, renewable energy, defense, and technology,” said Ryan Castelloux, the founding director of Adamas Intelligence, a strategic metals consultancy. China supplies about 80 percent of the rare-earth elements imported by the United States, which are used in oil refining, batteries, consumer electronics, defense, and more.

Those concerns became a lot more tangible this week when Xi, accompanied by his point man for U.S. trade talks, **visited** a facility in the heart of China’s rare-earths industrial complex. Xi **called** for a new “Long March,” a reference to one of the founding epics of the Chinese Communist Party, in its economic war with the United States. “There is always some degree of misinterpretation, but with the timing [of Xi’s visit] it’s our view that the optics suggest what they suggest, and that it is indeed” a veiled threat, Castelloux said.

This wouldn’t be the first time China has used its dominant position in rare earths as geopolitical leverage. In 2010, China sharply limited rare-earth exports to Japan, a big consumer, while the two countries were sparring over disputed islands. The embargo won China some short-term victories but also drove other countries to reassess and reduce their reliance on critical materials that Beijing controls.

“One takeaway from the Japan embargo is that China’s

reputation as a stable producer suffered,” said Sagatom Saha, an independent energy policy analyst who’s **studied** the issue. “I’d be surprised if there were an outright embargo. It would be a drastic measure that would permanently raise alarm bells in global national security circles to achieve a small goal to which it could apply other tools, or even possibly wait out, given Trump’s fickleness.”

But if China does reach for what Castelloux calls the “nuclear option,” it would hammer big chunks of the U.S. economy, though the exact magnitude of such a move is difficult to estimate. The mere threat of China turning off the tap of **critical industrial materials** highlights a vulnerability that is increasingly worrying analysts and policymakers in Washington, Beijing, and other capitals. Globalized supply chains offer flexibility and lower costs for consumers of a wide range of products. At the same time, the central position of the U.S. dollar and U.S. financial system has streamlined trade and fueled growth. But at times of geopolitical tension, those same efficiencies can suddenly become deadly vulnerabilities—for all countries.

In the last 20 years, the United States has used its dominance of the global financial system to punish its adversaries by blocking them from carrying out transactions with U.S. banks, even if that means browbeating allies in the process. Now, with the prohibition of U.S. firms doing business with Huawei and other Chinese firms, Washington is testing whether it can use critical American technology used by companies the world over in a similar fashion.

Henry Farrell, a political scientist at George Washington University, calls this “weaponized interdependence,” a phrase he **coined** with co-author Abraham Newman. Globalization has created global economic networks of engineering centers, manufacturers, and suppliers, and countries are now examining these networks to find their weak points and exploit them for geostrategic gain.

Washington’s move against Huawei marks “the opening of a new and much more dramatic stage” in using these tools as part of a conflict that has been brewing between China and the United States for decades, Farrell said.

But whether it’s Chinese threats of withholding critical raw materials or U.S. bans on technology exports, the strategy is fraught with uncertainty and risks. Huawei spends an estimated \$11 billion every year on goods from U.S. companies, and it is unclear whether the Trump administration will remain committed to a policy with severe knock-on effects for major American firms such as Qualcomm, Broadcom, and Google. That’s one reason the United States has allowed a 90-day window for U.S. companies to adjust to the new rules—a window that it may extend.

But just as the U.S. moves, meant to punish China, could damage American firms, they could also accelerate the very Chinese policies the Trump administration has sought to derail. China has high-profile plans to increase domestic semiconductor and high-tech manufacturing, and the conflict over Huawei is likely to accelerate those plans, with the possibility of more rapidly eroding U.S. dominance of the global chip market.

“China is looking to be more self-sufficient, or at least less reliant on U.S. components,” said Dexter Thillien, an analyst at Fitch Solutions.

China’s stranglehold on rare-earth elements and other critical minerals and U.S. leverage of its dominance of crucial sectors are hardly new. Countless countries have used a dominant position to wield outsize power in the past.

Treeless ancient Egypt was dependent on Levantine cedar for all the pharaoh’s ships. Middle East Bronze-age societies were beholden to middlemen who could supply tin from as far away as Britain to make bronze weapons. British forces in the U.S. Revolution found themselves suddenly cut off from Spanish-controlled sources of antimalarial quinine, with disastrous effects. In World War I, with demand for explosives skyrocketing, Germany found itself cut off from vital supplies of Chilean nitrates. And, most famously, Japan’s dependence on U.S. oil exports (and the eventual U.S. embargo on sales to Japan) led to Tokyo’s attack on Pearl Harbor and lunge to Southeast Asia in late 1941.

But China’s control of rare-earth processing, as well as its dominant position in other critical minerals like cobalt (used in batteries), gives it potentially even greater leverage than those countries enjoyed in the past. The one mine in the United States producing rare-earth minerals **is itself reliant** on China for processing the material it pulls from the ground into usable end products.

If China were to take the drastic step of banning or limiting exports of rare-earth elements and advanced materials, there’s

not a whole lot the United States could do in the short term. For some imports, especially for permanent magnets, there are alternative suppliers in Australia. But even they **face challenges** to keep doing business and could lose their ability to process the raw materials so needed by the U.S. economy.

“Then the Plan B for the U.S. would no longer be viable—that’s where it finds itself between a rock and a hard place” with the China pressure, Castelloux said.

In the longer term, any Chinese move to restrict access to critical materials would likely accelerate nascent U.S. efforts to bolster its own economic independence. In late 2017, the Trump administration **jump-started** efforts to ameliorate U.S. reliance on imported critical minerals. This month, Congress jumped on board, with a **bipartisan bill** that could help spur mining of U.S. rare-earth elements and other critical minerals, a first step toward addressing a long-recognized weakness.

“A lot of people are waking up to the China challenge. Global interdependence is a strength, but is also proving to be a weakness,” said Ashley Feng of the Center for a New American Security. “Lawmakers are asking a lot more questions about how to reduce that economic interdependence, and I expect to see some concrete action.”

Update, May 22, 2019: This post has been updated to reflect Abraham Newman’s role in coining the term “weaponized interdependence.”

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