

Countering China's Economic Coercion: Lessons from Japan

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Abstract

Over the past two decades, China has shown a growing willingness and capacity to use its formidable economic clout to coerce countries toward its geopolitical aims. Beijing's coercive approach today is evolving—from mainly leveraging its large market and targeting smaller nations to deploying its export power against large economies—changes that demand a reevaluation and refinement of countermeasures to deter China's coercion. This paper explores Japan's response to China's 2010 rare earth elements (REE) export restrictions as an empirical case of the efficacy of deterrence by denial, and derives lessons and recommendations for U.S. policymakers.

Keywords: Economic coercion, geoeconomics, rare earth elements, deterrence by denial, supply chain resilience, industrial policy, national security, China, Japan, United States

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1. Introduction

How should the United States respond to China's economic coercion? Deterrence theory offers two basic options: punishment (retaliation) or denial (building resilience to persuade the adversary that its intimidation will fail). A strategy to counter China's economic coercion based on punishment alone presents several challenges—including that escalation could prove non-credible, since there are clear limits to how much of a cost Washington is willing to pay to respond to coercion in the economic domain. Deterrence by denial—reducing vulnerabilities to China's pressure—should therefore be central to any counterstrategy (Reynolds and Goodman 2023).

In formulating such a counterstrategy, the United States can benefit from the lessons of Japan's efforts since 2010 to build resilience following China's *de facto* embargo of rare earth elements (REEs) following an incident off the Senkaku Islands. Beyond the historical parallels, the Japanese experience is a valuable real-world test of deterrence by denial and a potential model for how the United States and its allies might “de-risk” economic relations with China more broadly.

Based on expert interviews and study of open-source and academic literature, this paper reviews Japan's REE-resilience efforts over the past 15 years and draws out relevant policy implications for the United States as it manages its own coercive challenge from Beijing.

2. Background

On April 4, 2025, two days after the Trump Administration raised the average tariff on Chinese goods to 74%, Beijing unleashed an economic salvo of its own. Amid a slew of tariffs, investigations, and blacklistings targeted at U.S. companies and products, China's Ministry of Commerce introduced new licensing requirements restricting the export of seven rare-earth elements and related compounds and magnets (Holland and Knight 2025a; Holland and Knight 2025b; Kennedy 2025; Bureau of Industrial Security and Import and Export Control 2025). The prospect of losing access to these minerals, which are embedded in technologies essential to America's modern military and civilian life, has alarmed U.S. officials and businesses (Bradsher 2025a; Baskaran and Schwartz 2025).

Beijing's April 2025 restrictions—along with its stringent additional export controls announced in October 2025—recalled its informal ban on REE exports to Japan in 2010 during a diplomatic standoff over the contested Senkaku Islands (known in China as the Diaoyutai). Although short-lived, that embargo alerted capitals worldwide to the perils of deeper economic ties with China and spurred a long-term effort by Tokyo to reduce its critical minerals reliance on China and enhance supply-chain resilience more broadly.

Particularly since Xi Jinping's rise in 2012, China's economic statecraft has become more coercive (Reynolds and Goodman 2023). For perceived slights against Chinese interests, countries and corporations alike have endured popular boycotts

on tourism and foreign goods, suspended loans and investments, and other economic penalties. Even before the April 2025 measures, the United States and its allies faced Chinese restrictions on critical inputs like gallium and germanium and REE-processing technologies (Merics 2022; Rosenberg et al. 2020; Xiong 2024).

Both China's willingness and its capacity to impose economic pressure have grown. In recent years, Beijing's "red lines" have expanded beyond traditional concerns around national sovereignty and security to include affronts to China's global image and Chinese companies overseas (Merics 2022; Rosenberg et al. 2020; Xiong 2024). Moreover, the country is now the world's second-largest economy, and after years of experimentation and reform, Beijing has broadened its economic arsenal (Medeiros and Polk 2025). Beyond its traditional playbook of restricting market access to China and threatening smaller nations, Beijing is now increasingly prepared to deploy its export power, including its stranglehold on production of critical minerals, and to do so against large economies, including the United States.

3. Methodology

This paper aims to develop policy-relevant insights for the U.S. and other governments looking to counter Chinese economic coercion, learning from Japan's experience following the 2010 incident. We address three central questions throughout this paper:

1. What measures did Japan take to reduce reliance on Chinese critical minerals and resist economic coercion, and to what degree of success?
2. How did Beijing counteract these efforts?
3. What actionable lessons can policymakers draw from the Japanese experience in responding to coercive threats?

To answer each of these questions, we adopted a case-study approach, combining desk research with targeted expert interviews to generate both empirical detail and interpretive insight. This dual method allowed us to capture not only the documented actions and policies of the Japanese government, but also the reasoning, constraints, and strategic thinking underlying them.

The desk research consisted primarily of open-source literature and data reviews, drawing on official government statements from Japan, China, and relevant allies, as well as peer-reviewed journal articles, think-tank reports, and media coverage. Sources were selected according to the credibility of their authors or institutions, as well as their ability to contribute to an accurate account of China's coercive behavior and Japan's response. To complement and deepen this research base, we conducted interviews with experts in economic coercion, critical minerals, and Japanese foreign and industrial policy. Interviewees included U.S. professors specializing in critical minerals and economic security, officials from Japan's Ministry of Economy, Trade, and Industry (METI) and Ministry of Foreign Affairs (MOFA), and former officials from the U.S.

departments of State and Commerce specializing in countering Chinese coercion and building supply-chain resilience, respectively. Interviews were conducted over the course of six months from March 2025 to August 2025, allowing us to gain insight across all stages of the paper's development.

In approaching this paper, deterrence theory served as a key conceptual lens. Traditional theory describes two potential responses to coercive measures: deterrence by denial and deterrence by punishment (Schelling 1981; Reynolds and Goodman 2023). Deterrence by denial includes measures aimed at making an adversary's objective unattainable. By contrast, deterrence by punishment describes measures that threaten major retaliatory action should the adversary choose to proceed. In examining the Japanese case, we determined whether actions should be considered denials or punishments under these definitions.

From there, we could make judgments as to which approach—deterrence by denial or punishment—tended to be a) preferred by the Japanese, and b) more successful. By analyzing Japan's countermeasures and the deterrence logic underpinning them, we extracted lessons that can inform future U.S. and allied strategy. We first drew out notable lessons learned from the Japanese case that could potentially be successfully adapted to other countries and conditions. Our expert interviews then offered clarity and additional insight on which lessons would be most useful and actionable for policymakers, allowing us to narrow our focus to six major takeaways. Though our recommendations could be used by any state looking to strengthen its deterrence strategy, we emphasized opportunities for the U.S. government to incorporate these lessons into its anti-coercion approach.

4. Case Study: The 2010 Senkaku Islands Incident

In September 2010, longstanding Sino-Japanese territorial tensions over the Senkaku Islands erupted when a Chinese trawler rammed two Japanese Coast Guard vessels during a pursuit off the islands' coasts. As administrator of the islands per a 1971 treaty, Tokyo arrested the trawler's captain and detained the crew, later turning the captain over to local prosecutors for potential indictment (Pamment et al. 2019; Iida 2017; Fravel 2016; Harry 2012). Although legally sound, the possibility of indictment threatened to upend informal bilateral understandings around dispute management in the Senkaku waters and treatment of Chinese-origin actors (Gupta 2010). Bilateral tensions quickly escalated, with a flurry of diplomatic demarches, anti-Japanese protests in China, and retaliatory steps by Beijing, including the arrest of four Japanese nationals (Pamment et al. 2019; Reynolds and Goodman 2023). Premier Wen Jiabao publicly warned, "If Japan clings to its course, China will take further action" (Johnson 2010).

For leaders in Tokyo, the most alarming Chinese measures involved REEs. Japan was then the world's largest producer of hybrid vehicles and second-largest manufacturer of permanent magnets, after China (Hurst 2011; Seaman 2010). Prominent Japanese companies depended on REEs for major product lines, including digital cameras,

flatscreens, and hybrid cars (Mazza et al. 2013). At the time, Toyota bought more neodymium than any company in the world (Ramsey 2011). In the run-up to the crisis, Japan used around 30,000 tons of REEs a year, roughly one-quarter of global production, sourcing around 90% of its supplies from China and accounting for nearly half of China's REE exports (Nikkei 2010; METI 2011).

On the day of Wen's warning, Japanese companies began experiencing disruptions in unprocessed REE imports from China (Nikkei 2010). The disruptions reportedly stemmed from new export licensing requirements, denials of export license applications by Chinese customs, and deliveries being stopped at bonded areas—including, in certain cases, the detainment of all ships bound for Japan (METI 2010a; Vekasi 2019). This informal embargo followed Beijing's announcement two months earlier of a 72% reduction of its global REE export quotas for the second half of 2010 (China Daily 2010). Chinese exports destined for Japan more broadly became subject to more frequent and intrusive inspections by China's customs officials, with about 30% of Japanese importers in one government survey reporting delays (Iida 2017; METI 2010a).

Whether these disruptions were an intentional move by Beijing remains uncertain. Some sources say the embargo was coordinated by the Ministry of Commerce at Wen's instruction, while others argue that local governments took matters into their own hands against the wishes of the center (Iida 2017; Klinger 2017). Regardless, the combined impact of the REE restrictions and arrests of Japanese nationals jolted Tokyo into action. Just three days after the embargo was imposed, the Chinese captain was released from custody (Pamment et al. 2019). Prosecutors openly admitted that the sudden pivot was made "in consideration of the Japan-China relationship" (Lah 2010). Beijing, however, seemed to be in no hurry to de-escalate. It was another two weeks after the captain's release before China freed the last of the four arrested Japanese nationals and around two months before Chinese customs fully resumed REE deliveries to Japan (Pamment et al. 2019). Over the next two years, Beijing also continued to cut production quotas while introducing specific quotas for heavy REEs, mining, and processing; began building an REE stockpile; and increased export and resource taxes on REEs—all of which further constrained global REE supplies (Andrews-Speed and Hove 2023; Kalantzakos 2017; Bartekova 2014; Phys Org 2012).

Japan's Response

Rather than retaliate against China for its coercion, Tokyo chose to build resilience. In fact, Japan's REE resilience efforts were already underway before 2010, prompted by the country's limited resource endowment and concerns about successive cuts to China's REE export quotas since 2006. Among other steps, Tokyo promulgated Measures to Secure the Stable Supply of Rare Metals in 2007, a Resources Security Directive in 2008, and a Strategy to Secure Rare Metals in 2009 (Nakano 2021; Uno

2012). Meanwhile, Japanese trading houses went abroad in search of new REE supplies. In 2009, Mitsubishi signed a deal to secure REEs from a Brazilian mine, while Sumitomo established a joint venture with Kazakhstan's state-owned nuclear company to extract REEs from uranium tailings (Proactive 2009; Sumitomo Corporation 2012).

The 2010 incident kicked those efforts into high gear. Days after the embargo began, METI announced Comprehensive Rare Earth Measures—based on the 2009 Strategy—with four main pillars: developing alternative materials and use-reduction technologies, promoting recycling, developing mines and obtaining mining rights, and stockpiling (NEDO 2023). A supplemental budget approved later that month allocated roughly USD 1.2 billion to the Measures (Iida 2017; Terazawa 2023; METI 2010b; METI 2010d). These policies signaled the start of a concerted, long-term, public-private endeavor to de-risk from Chinese REEs via three lines of effort: expanding and securing supplies, reducing demand, and strengthening international cooperation.

Expanding and Securing Supplies

The most visible initiative to secure more diverse sources of REE supplies was an aggressive push for new projects and partnerships overseas, backed by an array of state agencies. MOFA and the Japan International Cooperation Agency (JICA)—Japan's bilateral foreign assistance provider—worked to strengthen diplomatic ties with countries that held promising REE reserves (Vekasi 2019; METI 2010c). This included deploying missions to gather information on potential mines, leveraging technical and development assistance, and conducting high-level visits to strengthen bilateral ties and support private firms.

METI supplemented diplomacy with industrial policy, with its most prominent interventions being channeled through the Japan Oil, Gas, and Metals Corporation (JOGMEC), a government entity established in 2004 to ensure stable oil and mineral supplies (JOGMEC 2025). JOGMEC provides debt and equity financing across the supply chain in response to requests for support from producers, often in cooperation with trading companies, while seeking priority access to the REE output from those ventures (Vekasi 2022; 2023).

JOGMEC's most lauded effort has been its partnership with Japanese trading firm Sojitz and Australia's Lynas Rare Earths. In 2011, JOGMEC and Sojitz provided Lynas with USD 250 million in debt and equity financing from Japan's supplemental budget to support Lynas' mining and processing operations at Australia's Mount Weld and Kuantan, Malaysia, respectively. In exchange, Lynas committed to send 8,500 metric tons of REEs to Japan annually, with Sojitz acting as Lynas' sole Japanese distributor and agent (JOGMEC 2011). Due to this partnership and continued support, Lynas' refinery in Malaysia came online in 2011, and the Australian firm is now ramping up its production of magnet REEs, while promising to allocate 65% of the heavy REEs extracted from Mount Weld to Japan (Messecar 2024). In addition, Tokyo backed

research and development (R&D) efforts to support new mining and processing capabilities, including an initiative to study REE processing in Vietnam. Japan has also supported studies and expeditions involving JOGMEC, a public-private consortium, and the Cabinet Office to excavate heavy REE-rich deep-sea mud off the coast of Japanese islands—an effort that has made important strides in recent years (JOGMEC 2022; Nikkei Asia 2022; Nihei 2018; Baskaran and Schwartz 2025; Mitsui Kinzoku 2016).

Recent legal reforms have also augmented such diversification initiatives. Japan's 2022 Economic Security Promotion Act (ESPA) and a 2020 amendment to the JOGMEC Act provide USD 740 million and USD 770 million in grants and equity, respectively, to support exploration and feasibility studies, as well as the development of mines and refineries. The 2020 amendment also expanded JOGMEC's authorities, allowing it to fund up to 75% of a REE project using equity and to support a project from exploration through production (Nakano 2021; JOGMEC n.d.).

Japanese firms also independently worked to shift supply chains—whether mining (“upstream”), separation and processing (“midstream”), or manufacturing (“downstream”) capacities—away from China. Dozens of private ventures have emerged (and in some cases, collapsed) over the past 15 years (Schmid 2019).

Beyond diversification, Japan also sought to bolster stockpiling and ensure that REE assets remained in Japanese hands. In 2020, METI released a New International Resources Strategy, which expanded the country's stockpiling program to cover 34 metals, including REEs, and raised reserve targets from 60 days of domestic consumption to up to 180 days (Nakano 2021; METI 2020; IEA 2025). A 2022 amendment to Japan's Mining Act further required that entities wishing to mine REEs within Japan obtain a mining right from METI (Matsumoto and Otsuki 2023; Jones Day 2022). Recent reforms to Japan's Foreign Exchange and Foreign Trade Act also strengthened Tokyo's oversight of foreign investment in REE-related sectors (Hogan Lovells 2020; UNCTAD 2021; White & Case 2023; Armstrong, Solis, and Urata 2025).

Reducing Demand

Tokyo had also recognized the importance of demand destruction in reducing REE dependency well before 2010 and allocated financial resources accordingly, sometimes exceeding those for securing new supplies. This approach included initiatives such as the 2007 Rare Metal Substitute Materials Development Project and was reinforced by the 2010 supplemental budget, over half of which was appropriated toward recycling or developing alternatives and use-reduction technologies (Iida 2017).

In general, these demand-side programs fell into two categories. First, to support research into earlier-stage use-reduction technologies and alternative materials, METI allotted funds to the New Energy and Industrial Technology Development Organization (NEDO), which in turn either offered R&D subsidies to private firms or grants

to collaborations between industry and academia (METI 2010e). Such efforts complemented funding and research from other Japanese ministries and state research institutions (Hono, n.d.).

Second, METI directly funded private companies looking to scale up technologies or alternatives that would help lower REE consumption and promote recycling, with METI subsidizing up to half the project for small and medium-sized enterprises (METI 2010e). In February 2011, METI announced that it would back 160 projects from 110 firms with USD 450 million in seed money—to be matched by triple that amount in private investment—with the stated aim of reducing Japan's dependence on Chinese REE imports by one-third (Tsukimori 2011). Of those 160 projects, 80% promoted demand destruction (Vekasi 2019). Similar subsidy competitions occurred in 2009, 2016, and 2021 (Vekasi 2022). These two streams of government support helped catalyze breakthroughs—including EV and hybrid motor magnets with reduced REE content, alternatives to REE polishing agents, and more efficient recycling systems—and similar schemes across academia, industry, and municipalities.

Strengthening International Cooperation

International coalitions were also central to Japan's strategy. Encouraged by a 2012 World Trade Organization (WTO) appellate body ruling against China's export controls on certain raw materials, Japan, the United States, and the European Union (EU)—all facing REE import disruptions—jointly filed a WTO complaint that year challenging Beijing's export quotas and taxes on REEs and other critical minerals (Bradsher 2010). Both the panel and appellate body ruled against China's REE restrictions in 2014, and Beijing lifted the quotas and duties a year later (Associated Press 2015).

Japan also led international initiatives to fortify and raise global standards for critical minerals supply chains. In 2011, for instance, Japan, the United States, and the EU launched a trilateral conference to exchange information and research while coordinating their WTO case (NEC and NSC 2024; Nakano 2025; Vekasi 2022). Concerns about supply-chain resilience during the COVID-19 pandemic accelerated these efforts. New initiatives included the U.S.-Japan Competitiveness and Resilience Partnership; the Japan-Australia-India Supply Chain Resilience Initiative; the Group of Seven (G7) Critical Minerals Action Plan; and the Indo-Pacific Economic Framework's (IPEF) supply-chain pillar (White House 2022; Vekasi 2022; Australian Government Dept of Foreign Affairs and Trade 2022; Government of Canada 2025). Japan also participates in the U.S.-led Mineral Security Partnership (MSP), which promotes high-standard mining and under which JOGMEC pursued a Congolese minerals venture linked to the Lobito Corridor and signed a Critical Minerals Agreement (CMA) with the United States in 2023 (U.S. Department of State 2024; Nakano 2025). Table 1 summarizes Japan's principal countermeasures and their effectiveness.

TABLE 1. Japan’s Responses and Effectiveness

Major Actions	Results	Challenges
<i>Securing supplies</i>		
• Overseas diversification projects led by JOGMEC, including the 2011 partnership with Sojitz and Lynas. • State-backed efforts at home and abroad to improve REE mining and processing capacity. • Legal reforms to fund projects and expand state lending authorities, including the 2022 Economic Security Promotion Act. • Legal reforms to expand stockpiling and strengthen Japanese control over domestic REE resources and industries.	• Lynas avoided bankruptcy; its Malaysian refinery is online and ramping up production of magnet REEs. • Progress was made in developing new REE resources, including heavy REE-rich deep-sea mud off Japan’s coastline. • Dozens of Japanese-led private ventures emerged to shift REE supply chains away from China.	• Many private and state-backed Japanese ventures collapsed. • Chinese firms, led by Shenghe Resources, continue to take large stakes in foreign REE projects. • China has cornered the heavy REE market, used in high-tech and military applications, controlling 90% of production.
<i>Reducing demand</i>		
• Dedicated state funding for demand-reduction programs, sometimes exceeding that of supply-side initiatives, including the 2010 supplemental budget. • Allocation of funds to industry and academia via NEDO to subsidize earlier-stage use-reduction technology and alternative-materials R&D. • Multiple subsidy competitions by METI, matched by private investment, to scale promising demand-reduction technologies and alternatives.	• Japan’s REE consumption halved by 2013, and its REE dependence on China fell to 50% by the mid-2010s, down from 90% in 2010. • Breakthroughs emerged in REE and related technologies, including reduced-REE-content magnets in EV and hybrid motors, alternatives to REE polishing agents, and efficient recycling systems.	• Much of Japan’s demand-side success was due to firms reducing non-essential REE uses; further demand reduction will be more challenging. • Reducing demand may be harder for the United States, given Japan’s longer tradition of state support for recycling. • Japan’s demand-side progress has weakened: REE consumption is only down by 30% compared to 2010 levels, and reliance on Chinese REEs is at 60%.

TABLE 1. Continued

Major Actions	Results	Challenges
<i>International cooperation</i>		
• Challenged Chinese REE export restrictions at the WTO. • Led multiple international initiatives to fortify REE supply chains, including information-sharing, finance, crisis-response mechanisms, and efforts to raise global standards.	• The WTO ruled against China’s REE export restrictions in 2014; restrictions were lifted in 2015. • China’s share of global REE production fell from 97.7% in 2010 to approximately 70% in 2025.	• Beijing shifted to other methods of tightening its grip over REE production, including suppressing illegal mining, consolidating the REE industry, and instituting a new export-control regime.

Note: The table summarizes principal measures, outcomes, and challenges discussed in the article and should not be read as an exhaustive inventory of Japanese rare-earth or critical-minerals policy.
Source: Authors’ compilation based on sources cited in text.

Chinese Measures

As Japan worked to wean itself off Chinese REEs, Beijing did not sit still. The 2010 crisis and its aftermath had revealed that China’s grip on REE markets and prices was looser than expected, partly due to widespread illegal REE mining and smuggling. Such activities proliferated when REE prices spiked overseas in 2010 and 2011 but remained relatively low domestically (Yang 2024; Bartekova 2014). Small-scale producers, abetted by corrupt officials and crime rings, trafficked REEs to neighboring territories such as Hong Kong and Vietnam (Abraham 2017; Gholz 2014; Yang 2024).

Beijing sought greater control over REE production and exports to address these and other concerns, taking a variety of actions to address overcapacity, ecological and public health hazards, illegal mining, and underdeveloped downstream industries like magnet manufacturing (Yang 2024). The 2014 WTO decision also required that China find alternative means of exercising that control, aside from export taxes and quotas. Discouraging illegal mining and consolidating the REE industry were top priorities. Beginning in 2012, China introduced new mining qualifications, stricter environmental and production standards, and a product-tracing system, in part to weed out smaller or unauthorized operations (Yang 2024; Xin et al. 2019). By 2016, the country had merged 76 mining and processing firms into six state-owned enterprises (SOEs), and in 2021, Beijing further merged three of those SOEs and two research institutes into a massive conglomerate, the China Rare Earth Group (Vekasi 2022; Andrews-Speed and Hove 2023; Yang 2024; Bradsher 2025b). These consolidated SOEs would be the exclusive holders of future mineral rights and adhere to mandatory biannual production quotas that Beijing could flexibly adjust.

Beijing also strengthened its export controls, particularly through its 2020 Export Control Law and 2024 Regulations on the Export Control of Dual-Use Items. These policies unified China's previously fragmented export-control framework, especially around dual-use goods, by introducing a sophisticated, U.S.-inspired regime.

This regime included a tiered export-licensing system; extraterritorial powers to deter transshipment; new blacklists and stricter penalties to address noncompliance; and the capacity to impose temporary export controls, enabling swift retaliation (Kardon and McBride 2025). China also moved to reinforce and expand its position across REE supply chains. A shift toward more technologically complex downstream manufacturing was bolstered by the "Made in China 2025" strategy and the country's value-added-tax refund scheme, which makes REEs cheaper for China's downstream producers than for their overseas counterparts (Hui 2022). Chinese firms, led by Shenghe Resources, have also continued to take large stakes in foreign REE firms and projects (Schmid 2019; Reuters 2025).

The Aftermath

Japan's response in the aftermath of the 2010 incident made major headway in reducing reliance on Chinese REEs and critical minerals. By the mid-2010s, Japan had cut its dependence on China to around 50%, down from 90% in 2010 (Seaman 2012). While China managed to slow or reverse some of that progress, Japan's dependence on Chinese rare earth elements stood at around 60% in 2023 (Terazawa 2023).

Japan's supply-expansion efforts greatly supported this reduction, but perhaps the primary contributor to reduced reliance on China was Tokyo's demand-destruction efforts. Between 2010 and 2013, Japan reduced its consumption of all REEs by 50% (Institute for Rare Earths and Metals 2011; Wharton 2013). Though this progress slowed in the mid-2010s, total consumption of REEs remains down by nearly 30%, with elements such as europium and lanthanum down by 83% and 61%, respectively (Japan Society of Newer Metals 2025). These major cuts in REE use can be attributed to both Japan's substantial recycling efforts and its investments in R&D for use-reduction and alternative materials.

Beyond its impact in Japan, the 2010 incident awakened the international community to the dangers of overreliance on China for critical minerals. It set off a rare earth elements frenzy across the world. In 2010, China controlled 97.7% of global REE production, but this number had fallen to just shy of 70% in 2025 (Hart 2020). The decline is largely due to successful ventures in the United States, Myanmar, and Australia, which are rapidly expanding production to continue chipping away at China's dominance. Notably, however, China has strategically cornered the heavy REEs market, controlling 90% of production (Chou 2025). These heavy REEs are essential to producing high-temperature magnets used across the defense industry, making them critical for U.S. national security.

In the years following the 2010 incident, China shifted tactics and used denial of access to its large and growing market as its principal method of coercion (Reynolds and Goodman 2023). However, Beijing began wielding its export power again in 2023, introducing a series of restrictions on the sale of REEs and other critical minerals to the United States. This time, though, the restrictions were grounded in the 2020 Export Control Law, formalizing Beijing's coercive methods and providing a legal rationale for its retaliatory actions (Li 2025).

Beijing's success in 2025 in pressuring Washington through its near-monopoly over many critical minerals needed by the U.S. civilian and defense industries could encourage further coercive action of this kind. As a result, the United States would be wise to step up its efforts to reduce its vulnerabilities and build resilience.

5. Lessons Learned and Policy Implications

Our review of Japan's experience in responding to China's economic coercion following the 2010 Senkaku Islands incident offers several lessons and policy implications for the United States and its allies subject to similar coercion, particularly when it involves restricting the supply of critical goods and inputs.

Deterrence by denial is a vital element of an effective response to China's economic coercion.

The Japanese experience in responding to China's 2010 coercion attests to the efficacy of deterrence by denial. By significantly reducing Japanese demand for the minerals, securing alternative supplies, and enlisting international cooperation, Tokyo has blunted Beijing's ability to threaten disruption of REE flows. It is telling that China did not re-leverage its REE dominance even after Japan nationalized the Senkaku Islands in 2012 (Perlez 2012).

An interesting question is why Japan declined to retaliate against China's coercion in 2010, despite the fact that it had numerous sources of leverage, such as critical technologies and manufacturing inputs that China needed for its development. Perhaps Tokyo felt that it had other diplomatic and commercial interests at stake with China that would be at risk in an escalatory spiral of retaliation and counterretaliation. Or perhaps Tokyo assessed that retaliation would likely be ineffective, since China had access to alternative sources of supply of critical technologies and materials from the United States, Europe, Korea, or Taiwan, while Japan had limited ability to prevent backfilling by these alternative suppliers.

Deterrence by punishment might have more appeal to the United States in responding to China's economic coercion, since Washington, were it to retaliate, would theoretically have more ability than Tokyo to leverage the large U.S. market and control of certain key technologies to effectively deter Beijing, as well as more power to prevent backfilling by other countries. But as the Trump Administration's backdown

in the face of China's REE controls in 2025 showed, there are limits to U.S. credibility in the use of its leverage. And the alignment of allies to pressure China has proven challenging for Washington in practice (Allen et al. 2023). All of this suggests that bolstering resilience across critical supply chains must be a critical element of any credible and effective U.S. response to China's economic coercion.

Targeted and sustained government intervention is needed to rectify market failures.

Japan's experience demonstrates the importance of state intervention in securing critical supply chains. The significant reduction of the country's dependence on Chinese REEs resulted from a coordinated and intentional effort by the Japanese government. The economic rationale for intervention in REEs is particularly strong. Building REE supply chains requires that governments intervene to balance the benefits (e.g., national security, economic stability) and costs (e.g., environmental damage) that REE production can incur to society; to facilitate the coordinated expansion of upstream, mid-stream, and downstream capacities; and to ensure that REE producers have the requisite public goods, such as infrastructure, that they need to build successful and sustainable businesses (Eggert 2023; Juhász et al. 2024).

Governments must be prepared to shoulder real risk. The volatility of REE markets and production amplifies the already-high-risk nature of mining. Only some 1% of REE startups reach commercial production (Vekasi 2022). Instead of short-term solvency, the venture's long-term commercial potential and the importance of the REEs involved should be prioritized. By helping to provide certainty, absorb risk, and signal a venture's quality, the state can sustain and crowd in further financing for REE ventures. Consider Lynas, which required not one but two bailouts from Tokyo (in 2016 and 2019) (Reuters 2016; 2022). The more *laissez-faire* approach in the United States, conversely, led to Molycorp's demise amid collapsing REE prices (ironically, prompted by China resuming exports following the 2014 WTO decision) and repeat closures at Mountain Pass (in 2002 and 2015) (Gholz 2014; U.S. Department of Commerce 2022).

Given Japan's stronger tradition of public-private coordination (although, as discussed in point 4 below, this is less seamless than widely believed), Tokyo has an advantage over Washington in implementing the kind of interventions needed to build supply-chain resilience. JOGMEC's ventures were undertaken in conjunction with private trading houses, foreign firms, and research consortia, as were METI and NEDO subsidies. Such support was allocated following rigorous, technocratic evaluation, helping to limit risks. The United States would benefit from following a similar technocratic approach, insulating the process from the whims of politics. The U.S. government must first identify which sectors are critical and are suffering from clear market failures that undermine U.S. interests. The SCALE tool, launched by the Commerce Department in September 2024 to identify and raise awareness about a wide range of supply-chain vulnerabilities, is a noteworthy innovation in this regard (Crowell and

Moring 2025). The U.S. government should then empower agencies to provide long-term backing to critical and vulnerable industries. Equity stakes, price-stabilization measures, and volume guarantees may be appropriate in some cases to increase appetite for riskier, earlier-stage investments needed to jump-start industries with high upfront costs (Hafeez et al. 2025). Plans for a strategic investment fund—if properly structured—and the Defense Department's recent investment in MP Materials are steps in the right direction (MP Materials 2025; Henagan 2025b). The reauthorization and strengthening of the U.S. International Development Finance Corporation (DFC) and Export-Import Bank (EXIM) are also critical for this effort (Henagan 2025a).

Building resilience requires concerted efforts on both the demand and supply sides.

Commentary on U.S. overdependence on China for critical minerals understandably focuses on the need to find alternative supplies, but Japan's demand-destruction efforts were just as important. From 2010 to 2024, the country reduced its REE consumption by 30%. Domestic demand for magnet REEs like neodymium and praseodymium marked a steep initial decline—falling by over half in 2012—and has only returned to its original 2010 levels despite substantial demand growth globally (Japan Society of Newer Metals 2025; Firestone and Garofalo 2022).

A substantial portion of this demand destruction was because firms adjusted their production to reduce non-essential REE uses where losses in efficiency or sales were bearable. But such adjustments also benefited significantly from state-supported initiatives, such as recycling-promotion efforts and subsidies for alternative-use R&D (Gholz 2014; Gholz and Hughes 2021). Replicating Japan's demand-side results may be harder for the United States, given Japan's longer tradition of legislative and financial support for recycling (Bartekova and Kemp 2016). However, promising technological solutions are emerging across the United States that could reduce U.S. demand for Chinese critical minerals (Crebo-Rediker 2025). For example, Minneapolis-based Niron Magnetics has had early success in developing magnets without rare earth elements (Cummings 2025). Government funding to support the R&D behind these kinds of breakthroughs, in addition to supply-side innovations, should be part of any China de-risking strategy.

Building resilience is hampered by information gaps and lack of transparency.

Despite Tokyo's efforts to reduce demand for Chinese rare earth elements following the 2010 incident, METI officials acknowledged in interviews for this report that some Japanese companies later resumed their purchases from Chinese suppliers (TDK 2013; Kubota 2025). While lower prices of Chinese products created market incentives for this trend, the officials expressed concern that they were not communicating effectively with private companies about the risks associated with continuing to source from China. This highlights another challenge in responding to China's economic coercion:

information gaps within and between the government and the private sector. Supply chains for most sophisticated products are notoriously opaque (Baumgartner, Malik, and Padhi 2020). Companies typically have little visibility beyond their first- or second-tier suppliers. Even where they have information on their own supply chains, companies are reluctant to share this information voluntarily with the government, which has limited authority to compel such disclosure. Competitive interests and potential antitrust concerns also discourage companies from sharing information with each other, hampering potential industry-wide efforts to build resilience.

To enhance resilience efforts, the U.S. government should continue to increase transparency and information flows across critical supply chains. More comprehensive and publicly available mapping of supply chains for critical materials such as rare earth elements—where they are extracted and processed, what downstream products they are used in, etc.—would be valuable. To encourage investment, the Defense Department could be required to report regularly on the use of critical goods in U.S. and allied defense and civilian infrastructure, whether current supplies are sufficient to meet those needs, and China's control over relevant supply chains. The government could also maintain databases tracking the status of ventures globally in those industries, including notable acquisitions, and market and price trends. More broadly, the U.S. government should work to incentivize companies to engage in constructive dialogue on supply-chain issues facing their industry. As discussed in point 6 below, information-sharing with allies and partners is also important.

Strengthening supply chains requires cultivating a robust supporting ecosystem.

Building resilience is too often considered simply investing in nodes along the supply chain to keep that chain intact. The Japan experience makes clear that resilience requires cultivating an ecosystem where sufficient demand, human capital, technology, and resource endowments create a virtuous cycle incentivizing production. This is particularly true for REEs, where direct demand is small, and prices and production only adjust once demand crosses certain thresholds (Abraham 2017).

The production of REEs, and particularly permanent magnets, requires robust downstream demand from not only strategic applications but also non-defense sectors, which comprise the lion's share of total demand. The most promising prospect here is clean-energy technologies, such as electric vehicles (EVs) (Andrews-Speed and Hove 2023). Beyond the environmental benefits, clean energy is a promising sector for U.S. growth and jobs, and it strengthens the U.S. ability to produce increasingly sophisticated, dual-use magnets and control the intellectual property behind them. Although U.S. support for the sector today is declining, there is a strong argument that, to sustain a robust domestic REE industry, subsidies for R&D and commercialization in the clean-energy sector—issued through agencies such as the DFC, EXIM, and the Small Business Administration (SBA)—should instead be continued or even scaled up (United States Small Business Administration, n.d.).

That said, advanced countries such as the United States and Japan have tended to occupy the most downstream, high-value-added steps in production, as part of an on-going transition toward a more services-based economy. In the process, jobs in more upstream professions like mining and basic manufacturing have been offshored to China and other emerging economies. This transition has created a dire human-capital shortage in lower-value-added, upstream industries, such as those involving critical raw materials or heavy industry. In the case of REEs, 221,000 mining sector workers will retire by 2029, while the talent pool needed to replace them is shrinking; a robust REE industry will require up to five times as many workers. Therefore, the National Science Foundation (NSF) and the Education, Energy, and Defense Departments should scale up existing programs, while implementing new research grants, scholarships, and foreign exchange programs to cultivate expertise in critical disciplines at home while transferring relevant knowledge from abroad (White House 2025).

International cooperation is essential to building resilience.

From the beginning, a central element of Japan's response to China's economic coercion involved international cooperation. With few REE reserves of its own, Tokyo had little choice but to seek alternative sources of supply in other countries. But it also stepped up its efforts to collaborate with allies and partners on supply-chain resilience and anti-coercion initiatives more broadly, from information-sharing to joint project finance. Given its greater resource endowments and capacities, the United States may be tempted to believe it can go it alone in building supply-chain resilience. Rare earth elements are one sector that casts doubt on this notion. While forthcoming mine-to-magnet capacities at Mountain Pass and in North Carolina may satisfy the U.S. military's needs, the United States will also need access to far more REE capacity to ensure economic stability and reduce its dependence on China (White House 2024; Fickling 2025). This will require international cooperation.

Washington should take advantage of the advancements that its closest allies—particularly Japan, Australia, and Europe—have made in securing supplies of critical goods and innovating in critical supply chains. The recent U.S. rare earth partnerships with Australia and Japan are welcome developments and should be reinforced by further ramping up procurement, R&D, joint ventures, and academic exchanges in cooperation with allied firms and governments. Building on the good work done through IPEF, the MSP, the G7, and other regional and global initiatives, Washington should continue to pursue plurilateral agreements to facilitate information sharing, establish crisis-response mechanisms, and develop other tools to enhance supply-chain resilience. More ambitiously, the United States could explore shared emergency stockpiles that could be flexibly redirected to allies to provide immediate relief amid supply shocks.

Washington should also strengthen State Department and DFC capacities to enhance economic diplomacy with countries that have critical materials, including through infrastructure and other strategic investments. Japan's experience offers several

lessons—good and bad—in this regard. One is the importance of local buy-in from both governments and communities. Tokyo has worked hard to strengthen official relations with relevant partner countries, including through investment and foreign aid. Its record with local communities has been more mixed; the Lynas refinery in Malaysia, for example, has been plagued by public protests since 2012 (The Guardian 2012).

Finally, Japan's experience reminds us of the value of a robust multilateral framework for enforcing global trade rules. For all the WTO's flaws, its rulings against China in 2012 and 2014 did eventually compel Beijing to modify its policies (Wu 2014; Harvard Law 2011).

6. Conclusion

Economic coercion has become an increasingly important feature of international relations in the first decades of the 21st century. Since 9/11, the United States has increased its use of coercive economic tools, from financial sanctions to tariffs (Zarate 2013; Fishman 2025). But China's growing willingness and capacity to use its economic leverage to pressure other countries pose unique challenges for the United States and its allies, which face critical dependencies on China in areas such as rare earth elements and difficult trade-offs in effectively deterring Beijing's coercion.

Japan's experience over the past 15 years in making itself more resilient in the face of China's economic coercion following the 2010 Senkaku incident is a valuable real-world test of deterrence by denial and offers important lessons for how the United States and its allies might "de-risk" economic relations with China. Officials in Tokyo would admit that their efforts have taken many years and remain incomplete, and that Washington may need to consider broader and speedier responses. But studying the Japanese experience is a useful starting point.

The most important lesson for the U.S. government from Japan's approach is that a concerted, whole-of-society strategy is needed to respond to the risks posed by China's growing economic power and willingness to deploy it (both coercively and through inducements). This will require the U.S. government to intervene in the economy on both the demand and supply sides in ways that build resilience in critical sectors without unduly distorting market forces. This, in turn, requires a White House-led strategy that includes clear objectives, targeted tools, and limiting principles for intervention. White House coordination along three vectors—across the U.S. government, with the private sector, and with allies and partners—will also be essential for success.

Specific suggestions for how the U.S. government might move forward are included under the six lessons from the Japan experience above, but Washington should develop additional measures through internal policy deliberation and consultation with outside experts and the private sector.

Most academic and policy work to date on U.S. responses to China's economic coercion has been focused on secondary deterrence, that is, on how the United States should signal its support for allies and partners subject to intimidation by Beijing (Reynolds and

Goodman 2023). With Beijing's growing willingness to use coercive tools against the United States itself, further exploration of strategies and tools of primary deterrence that are most appropriate for the United States to protect its own interests would be valuable.

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