



Indo-Pacific Program



Advancing US-Japan Economic Security Partnership and Countering Chinese Economic Coercion

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Introduction

The global competition for leadership in advanced technology industries only continues to intensify, and China has become an increasingly fierce and capable competitor across a range of high-tech industries from artificial intelligence (AI), quantum computing, and semiconductors to biotechnology, electric vehicles (EVs) and batteries, and robotics. The Chinese government aggressively supports Chinese high-tech enterprises with a wide variety of policies, many of which are well-grounded within the norms of legitimate global economic competition, such as robust financing for research and development (R&D), R&D tax credits and investment incentives, public-private research partnerships, and extensive science, technology, engineering, and mathematics (STEM) education.

Yet China also deploys a suite of what the Information Technology and Innovation Foundation (ITIF) has deemed "innovation mercantilist" policies, such as massive industrial subsidization, currency manipulation, state-sponsored intellectual property (IP) theft, and forced IP or technology disclosure (or local production, often through compelled joint ventures) as a condition of foreign firms' access to the Chinese market. In international relations, China leverages its vast domestic market to exert economic coercion on foreign nations and their firms if they run afoul of Chinese Communist Party (CCP) prerogatives. Collectively, China's unremitting use of innovation mercantilism and economic coercion constitute a foundational threat to both the currently constructed global trade system and to the economic well being of Japan, the United States, and other allied nations. For this reason, the United States and Japan must make a concerted effort to mutually advance their economic security and counter Chinese economic coercion, while bringing other allied nations aboard the enterprise to the greatest extent possible.

China's Accelerating Advantages

The speed and extent to which Chinese enterprises have caught up to the global frontier in many advanced technology industries has been staggering. Last year, ITIF released its "The Hamilton Index, 2023" report, which examined 40 nations' global market share and location quotients (a concentration indicator which measures the contribution an industry makes to a nation's gross domestic product (GDP) compared to the share it contributes to the global economy) for 10 advanced-tech industries, including computers and electronics, electrical equipment, pharmaceuticals, motor vehicles, aerospace, information and communication technology (ICT) and information services, chemicals, and fabricated and basic metals.

China held just a 3.3 percent global market share across these 10 industries in 1995, but by 2020 China's share had ballooned 7.5-fold to 25.3 percent.¹ China's global market share for electrical equipment grew from a meager 3.75 percent in 1995 to 32.4 percent in 2020, while its share in machinery and equipment grew from 4.4 to 32 percent, and for computers and electronics from just 2.8 percent to 26.9 percent, an 859 percent increase. Meanwhile, China's location quotient (LQ) for these 10 industries in 2020 stood at 1.47, meaning these industries contribute about 50 percent more to the composition of China's economy than they do to the global economy on average, while the United States recorded an LQ of 0.87 and Japan posted a more-respectable LQ of 1.21.

But even that masks Japan's staggering overall loss of global market share in many of these advanced technology industries. From 1995 to 2020, Japan's global market share in the computer and electronics industry fell by 80 percent, from a share of 26.6 percent to 5.2 percent. Likewise, Japan's global market share in "other transportation" category (mostly the aerospace sector) fell 75 percent, from a 16.1 to 4 percent share, and in pharmaceuticals Japan's market share fell by 71 percent, from an 18.4 percent to 5.4 percent share. In total, Japan's share of the global market in these 10 industries fell 69 percent over that 25-year period, from 23.2 down to 7.2 percent. US global market share in the 10 industries declined more modestly, from 23.4 to 21.5 percent, but still fell by 8.2 percent overall. Such has been the extent of China's industrial growth that to match the advanced-industry share of China's economy, US output would have to expand by nearly \$680 billion, or 42 percent, in these industries.

Moreover, the reality is that China's growth in these industries has come at significant expense to other nations. For instance, from 2001 to 2023, the United States accumulated a \$6.4 trillion trade deficit in goods with China.² And America's goods trade deficit wasn't simply in low-value items like tchotchkes or toys: it included a \$2.175 trillion trade deficit in advanced technology products.³ Chinese import competition has also exerted a significantly deleterious impact on US employment, particularly in manufacturing: the so-called "China shock." The Economic Policy Institute (EPI) estimates that the growth of the US trade deficit with China between 2002 and 2018 was responsible for the loss of 3.7 million US jobs, with about three-fourths of US jobs lost—about 2.8 million in total—between 2001 and 2018 coming in manufacturing.⁴ Likewise, research has found some negative impacts of Chinese import penetration on total employment in Japan, especially for industries that have been faced with import competition directly.⁵

China's global trade surpluses represent one factor that have contributed to swelling the country's foreign currency reserves. In fact, China's stock of foreign currency reserves grew from a paltry \$212 billion in 2000 to \$4 trillion by August 2015 (and \$3.2 trillion today).⁶ For years, China's leaders were content to park this largesse into US Treasury bills, but in the mid-2010s the Chinese government got smarter with some of this money: it started allocating some of it to subsidize and build out domestic high-tech companies—or to acquire foreign technology companies. Indeed, by December 2020, one consultancy estimated that Chinese-government-guided strategic technology investment funds controlled more than RMB 4 trillion (\$610 billion) in capital.⁷ These funds were used in successful efforts to purchase "crown-jewel" Western technology companies such as German robot manufacturer Kuka and Italian machine tool maker Idra SL. It might have succeeded in capturing many others, such as German semiconductor maker Aixtron or America's Micron and Lattice Semiconductor, especially had Western policymakers not begun to significantly tighten their foreign inbound investment rules in the early 2020s.⁸

China's growing economic power has also enabled it to massively subsidize domestic firms across a range of high-tech industries, leading in many to overcapacity that has driven down prices and disadvantaged foreign firms that have to earn a market-based rate of return to compete. For instance, in the 2000s alone, China provided \$27 billion in subsidies for its steel industry. The subsidies helped China's share of world output grow from just 15 percent in 2000 to 50 percent by 2015, as America's share fell by half (from about 12 to 6 percent), Japan's by roughly equivalent amounts, and Europe's cratered from 22 to 10 percent. By 2018, two Chinese steel producers manufactured more steel than all Japan's firms combined.⁹ Elsewhere, China has provided at least \$170 billion in subsidies to its semiconductor industry and \$230 billion to its EV industry (with those subsidies sustaining more than 200 competitors in China's EV market).¹⁰

But China's strategy reached its apotheosis with solar panels. China's share of global solar panel production grew from just 5 percent in the mid-2000s to 67 percent by 2018, with Chinese solar output turbocharged by at least \$42 billion of subsidies from the years 2010 to 2012 alone.¹¹ This instigated a global glut that saw world prices for solar panels crash by 80 percent from 2008 to 2013, bankrupting most of the more-innovative foreign competitors and setting up Chinese producers for a final coup de grace: using their government-enabled profits to try to buy bankrupt US solar firms in order to strip out their remaining technology and send it back to China.¹²

Beijing Has Upended the Balance of Power

Put simply, the rapid growth of Chinese industry has significantly shifted the balance of power in the global economic and national security realms, significantly expanding China's range of motion in both economics and international affairs. Consider that in 1995 Chinese GDP stood at just \$734 billion, but by 2020 it had grown to 17.8 trillion. And while GDP measures differ, one study finds that when measured at purchasing power parity (PPP) exchange rates, China's economy overtook America's in 2016 and is now about 20 percent larger.¹³ A country's economic strength fundamentally underpins and informs its ability to exert its interests in international affairs. China's growing economic wherewithal has funded its ability to undertake a dramatic expansion of its military (notably its navy and nuclear arsenal), to pursue its Belt and Road Initiative (BRI), to expand its foreign aid funding, and again to condition foreign firms' access to Chinese markets to foreign nations and firms toeing the line on Chinese political interests. Australia found this out when the CCP sought to restrict Australian wine and beef sales to China after the then-Australian Prime Minister Scott Morrison called for an investigation into the origins of the COVID-19 virus.¹⁴

Through all this, it's imperative to recognize that China is unique in the global trading system: it simply does not conduct its trade and economic affairs the way market-based economies do. First, China seeks autarky and absolute advantage. It rejects the notion of "comparative advantage" on which the World Trade Organization (WTO) is predicated: the notion that nations should specialize in production of the goods or services where they enjoy the greatest specialization and trade for the rest. Rather, China seeks "absolute advantage": not to trade for airplanes, semiconductors, or pharmaceuticals but to lead globally in production of virtually every advanced technology. Second, the state and the market are formally joined, with companies effectively organs of the state (i.e., the CCP), just as the People's Liberation Army is an organ of the CCP. Indeed, under Article 19 of China's *Company Law*, all state-owned enterprises (SOEs) or private Chinese companies have a Chinese CCP cell that management must listen to, if not necessarily obey.¹⁵ Third, China today, like Germany in the 1910s, conducts "power trade"—that is, the intentional use of trade and trade policy designed first and foremost to increase national power while concomitantly decreasing the power of adversaries.¹⁶

Lastly, ITIF contends that Chinese economic policy toward foreign investors has evolved over the past four decades from a strategy of "attraction, to compulsion, to expulsion." In the 1980s, Deng Xiaoping crafted an attraction approach to entice foreign manufacturers to leverage China's then-low manufacturing labor wages (the so-called "China price," where it was about 30 percent less expensive to manufacture in China than most anywhere else in the world). This attracted a critical mass of foreign manufacturing to China and began to help build China's economy and foster an attractive domestic market ("a billion customers"). Upon becoming China's President in 2013, Xi Jinping introduced a more muscular approach, including the concept of "trading technology for market," requiring foreign firms to divulge IP or technology (or produce locally) as a condition of accessing China's marketplace.

But today, now that China has been able to cultivate credible, competitive domestic high-tech firms, China is increasingly turning toward "expulsion." Consider China's "de-IOE" campaign, where Beijing has instructed its

SOEs to wean themselves off of US software and service firms, chiefly from IBM, Oracle, and EMC.¹⁷ More recently, Document 79 required SOEs in finance, energy, and other sectors to replace foreign software in their IT systems by 2027.¹⁸ Elsewhere, China's Ministry of Industry and Information Technology has directly instructed Chinese automakers to avoid foreign semiconductors if at all possible.¹⁹ It's clear that in many advanced technology industries China wants to practice import substitution: replacing foreign suppliers with domestic ones.

In other words, China fundamentally seeks autarky and autonomy in critical advanced technology industries, such as semiconductors. And when 36 percent of US semiconductor industry sales, and over 30 percent of Japan's, go to China that makes it quite concerning that China should want nothing more than that share to become 0 percent. Indeed, China's "Made in China 2025" strategy called for the country to achieve 70 percent self-sufficiency in semiconductors by that year (it's probably at 30 percent today) and set self-sufficiency targets for a range of other sectors, from EVs and robots to machine tools.²⁰

How Can Japan and the United States Counter China's Strategy?

Clearly, Chinese economic strategies are fundamentally inconsonant with the commitments the country made to its global trade partners when it joined the WTO in 2001.²¹ So what should Japan, the United States, and allied nations do? First, they must reject the advice of economists such as Paul Krugman, who has written that, "The notion that nations compete is incorrect...countries are not to any important degree in competition with each other."²² That's dangerously wrong, and policymakers must recognize that China's practice of power trade and economic coercion constitutes a clear and present threat to their economic well-being.²³

As such, the G7 nations were well warranted at the May 2023 Hiroshima Summit to issue the first economic security and economic resilience joint statement, and to follow that in August 2023 with the Camp David trilateral dialogue (between Japan, South Korea, and the United States) on economic security.²⁴ For its part, Japan is to be applauded for pioneering the concept of economic statecraft, including enacting the recent Economic Security Promotion Act to enhance Japan's industrial and technological infrastructure and creating an economic division within its National Security Secretariat. Likewise, between the US-Japan Competitiveness and Resilience (CoRe) Partnership and the US-Japan Economic Policy Consultative Committee (the so-called "economic 2+2"), Japan and the United States enjoy a robust platform to collaborate on economic security. Yet there exist numerous opportunities to deepen the relationship, particularly with regard to accelerating the innovation potential of Japanese and US high-tech companies.

Both Japan and the United States have recently announced significant investments in their semiconductor industries, notably the \$52 billion US CHIPS Act and Japan's ¥4 trillion investments (\$26.7 billion) over the past three years. As the United States sets up its National Semiconductor Technology Center (NSTC) and launches a Semiconductor Manufacturing Digital Twin Institute as part of its Manufacturing USA network, Japanese firms should be strongly encouraged to participate. Likewise, Japan's Leading-edge Semiconductor Technology Center (LSTC) has partnered with IBM to launch Rapidus, a partnership seeking to produce 2-nanometer logic chips. In Al, America's Argonne National Lab and Japan's RIKEN laboratory have signed a memorandum of understanding establishing a cooperative relationship in support of AI research projects. Elsewhere, \$110 million in new AI research partnerships have recently been announced between Tsukuba and Washington universities and between Carnegie Mellon and Keio universities, with the latter effort focusing on AI for robots, autonomous AI symbiosis with humans, and AI for scientific and biomedical discovery. The United States and Japan could go further by deepening partnerships between the US and Japanese AI Safety Institutes, including by creating a mechanism to systematically track AI failures, vulnerabilities, and incidents by creating and exchanging information toward national AI incident and AI vulnerability databases.

Productivity growth has been a challenge for both Japan and the United States, especially for their small to mediumsized (SME) businesses. In fact, less than 10 percent of Japanese SMEs have adopted Al/Internet of Things (IoT) tools, and just 16 percent of all Japanese manufacturers have. To help one another, America's Manufacturing Extension Partnership (MEP) program and Japan's Kohsetsushi Centers should launch a joint initiative to exchange best practices and technologies to advance manufacturing digitalization. On the defense side of the equation, the United States should push for Japan to be invited into the AUKUS (Australia/United Kingdom/United States) Pillar II initiative, which focuses on the development and sharing of advanced tech (such as AI, drones, quantum, hypersonic, and cyberdefense) to advance joint warfighting capabilities.

To better counter Chinese economic predation, and particularly its state-directed efforts to pilfer foreign IP and technology (of both the commercial and defense variety), Japan, the United States, and other like-minded nations should step up coordination on their technology protection regimes. They should enhance information-sharing efforts to combat foreign economic espionage and IP, tech, and trade secret theft. They could do so by building on the "Five Eyes" alliance—a collaboration between Australia, Canada, New Zealand, the United Kingdom, and the United States to share signals intelligence—to make an advanced-technology allied group of nations that exchange intelligence on Chinese economic espionage activities. Further, most allied nations have elements of their trade law that provide relief when foreign companies attempt to sell products with pilfered IP (this is Section 337 under US trade law). Allied nations should coordinate such that when an infringing product is identified in one market, that product's market entry is blocked across all allied markets.

It's imperative that allied nations collaborate to the maximum extent possible regarding the promulgation and enforcement of export controls on advanced-technology products such as AI and semiconductors. ITIF has argued the United States should convene a group of the leading semiconductor-producing nations—such as Germany, Japan, South Korea, Taiwan, the Netherlands, and the United Kingdom—and outside the Wassenaar structure develop descriptions of both the semiconductor technologies and related items that warrant controls (beyond what already exists) as well as establish common licensing policies.²⁵ It appears the US approach toward export controls has been evolving beyond their use solely for national security rationales (i.e., beyond Wassenaar) to using controls to stymie Chinese industrial capability and maintain long-term US technological advantage. In contrast, Japan's policies, laws, and approach toward export controls have long been more oriented toward national security than commercial competitive concerns. As such, it's imperative the United States strive to achieve alignment and coordination with allies like Japan to ensure export controls, such as on critical chokepoint technologies like semiconductor manufacturing equipment, achieve the maximum desired impact.

Lastly, the only long-term way the United States and allied nations can get their enterprises out of the box that China wants nothing more than to significantly reduce their firms' share of the Chinese market is by building up the technology production ecosystems of other allied nations across the world. In other words, the United States and allied nations need to intentionally rearchitect the global economic gameboard—especially in the ICT industry such that in a decade much more of the world's desktops, tablets, mobile phones, servers, etc. are manufactured in locales such as Central or South America, Africa, or Southeast Asia. With a recent UBS report finding that 71 percent of US companies with manufacturing in China are either in the process of or planning to shift operations to other countries, the time is ripe to do so.²⁶

But if that's to be the case, then the United States (and Japan) must do far more to build allied markets through effective trade policy. Certainly this would require a rethink of the currently dominant narrative of US trade policy

(from both side of the aisle) but the reality is that the United States should join the Comprehensive and Progressive TranspacificTrade Partnership (CPTPP), reengage with theWTO Joint Initiative on E-commerce (including championing Japan's leadership with its Data Free Flow With Trust initiative), and pursue more free trade agreements, certainly with nations such as the United Kingdom. That's in addition to advancing the Indo-Pacific Economic Framework (IPEF) as comprehensively as possible. The US government must build up the economies of like-minded nations if Western firms are to have attractive and growing markets to sell their products and services into as an alternative to China, especially when—Trump, Biden, or Harris administration trade policies aside—the Chinese government has clearly indicated through policies such as Made in China 2025 that it wishes to substantially increase economic selfsufficiency and decrease imports of foreign technology. Lastly, there's great opportunity here for the United States and Japan, through their Development Finance Corporation (DFC) and Japan Bank for International Cooperation (JBIC), to collaborate to scale investment in infrastructure, energy, and rare earths/critical mineral supply chains in like-minded developing nations.

In conclusion, policymakers in Japan, the United States, and other allied nations must be clear-eyed that China has presently elected to pursue an economic growth strategy that is fundamentally inconstant with its WTO commitments and which is antithetical to the concept of mutually prosperous growth on which the WTO and extant global trade system was founded. As such, the Untied States and Japan are well justified to pursue a range of policies through which they can mutually reinforce their economic security and counter Chinese economic predation.

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