

**Testimony of
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U.S.-China Economic and Security Review Commission**

**Hearing on
Chinese Investment in the United States:
Impacts and Issues for Policymakers**

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Thank you for inviting me to testify before the Commission. I appreciate the opportunity to appear before you today to discuss the impact of Chinese company investment in the United States. I am President of the Information Technology and Innovation Foundation. ITIF is a nonpartisan research and educational institute whose mission is to formulate and promote public policies to advance technological innovation and productivity. Recognizing the vital role of technology in ensuring American prosperity, ITIF focuses on competitiveness, innovation, and productivity issues, including in the context of trade and globalization.

INTRODUCTION

For many years, China has recycled the earnings from its large and sustained trade deficit with the United States into U.S. Treasury bills. But the last few years have seen a marked increase in the amount of inward foreign direct investment (FDI) from China to the United States, across a range of industries. While the underlying motivation for some of this investment is commercial, at least one-third is from Chinese state-owned enterprises, and it is likely that considerably more is guided and supported by the Chinese government, specifically targeting sectors that are strategically important for U.S. national security or economic leadership. Indeed, as China ramps up its so-called “indigenous innovation” strategy designed to slow down foreign companies in China and enable Chinese-owned firms to take global market share in advanced industries, there is a growing trend for China to have its firms acquire foreign technology companies, including in the U.S., in order to acquire badly needed know-how, compress innovation cycles, and develop indigenous supply chains for particular sectors. As such, policymakers should be under no illusion that many of these acquisitions are in the service of an overarching strategy to accomplish one, and only one thing: take U.S. technology capabilities so that Chinese firms can gain global market share at the expense of their foreign competitors, including U.S. firms. Without access to U.S. technology and know-how, the process by which China gains and ultimately surpasses the United States in technology capabilities will be delayed substantially.

To be sure, not all Chinese FDI is strategic or related to China’s indigenous innovation strategy. Indeed, much of it, particularly greenfield investment, is, at least on a deal-by-deal basis, a net positive for the U.S. economy. But the choice is not a binary one. As The Asia Society suggests, we have more options that just rolling “out the red carpet, or put[ting] up floodgates to hold it back.”¹ This should not be a debate about whether America’s historic openness to foreign direct investment has been beneficial, or whether it should or should not be changed writ large. What is needed is a nuanced discussion and approach that recognizes that some Chinese FDI is neutral or positive, but a significant share is harmful, because it is not based on market forces or commercial interests, but rather guided by a Chinese state that is intimately involved in directing and shaping economic outcomes well beyond what any other major economy does.

This goes to the heart of the difficulty of applying traditional, free-market, pro-globalization prescriptions to China (e.g., liberal FDI review). Indeed, any discussion of Chinese FDI needs to be grounded in two fundamental realities: First, the best way for China to help the U.S. economy is not through increased FDI, as many defenders of China argue, but rather to use these foreign exchange earnings to buy and import more American-made goods and services. Second, any analysis of Chinese FDI needs to be understood in the broader context of China’s indigenous innovation strategy, which is powered in large part by innovation mercantilist policies (trade-distorting and unfair policies such as forced technology transfer, standards manipulation, subsidies, intellectual property theft, etc.) to replace U.S. technology leaders with Chinese-owned ones.² In this sense, some Chinese FDI, especially acquisition of U.S. technology firms, large and small, undermines the principle of market-based trade and investment, and represents a direct challenge to U.S. technology leadership and jobs and national security interests. Thus, any policy response to this kind of

Chinese FDI needs to be grounded in the broader understanding and task of rolling back Chinese “innovation mercantilism.”

But this response will be difficult to enact as long as most U.S. economists, trade experts, pundits and policymakers view Chinese “industrial policy” as a problem only because it “distorts markets.” This market-distortion frame makes it seem as if China is creating some ripples in an otherwise smooth market pond—i.e., ripples that hurt both them and us, but ultimately resolve themselves as the two economies find a new equilibrium. This macro-economic framing misses what is at stake. These Chinese government policies are not so much market distorting as they are firm destroying; representing a coherent array of measures designed to attack U.S. companies with the goal of defeating them. Americans should be able to recognize the point of the competition. As former Procter & Gamble CEO Alan Lafley wrote in his business strategy book *Playing to Win: How Strategy Really Works*, “Winning is what matters—and it is the ultimate criterion of a successful strategy.” Indeed, in business strategy the goal is not to distort markets, but to gain competitive advantage, ideally by defeating one’s competitors. But in the United States most policymakers and experts worry about distorted markets, as if a level playing field is the end goal, while Chinese officials worry about attacking and defeating their business opponents so their companies can win and even dominate. In a *Harvard Business Review* article titled “Hardball: Five Killer Strategies for Trouncing the Competition,” the authors use terms like “relentless,” “uncompromising,” “ruthless,” and “playing rough,” to describe how firms need to act to be profitable.³ In describing companies that don’t play by these rules they write:

Softball players, by contrast, may look good—they may report decent earnings and even get favorable ink in the business press—but they aren’t *intensely* serious about winning. They don’t accept that you sometimes must hurt your rivals, and risk being hurt yourself, to get what you want. Instead of running smart and hard, they seem almost to be standing around and watching. They play to play. And though they may not end up out-and-out losers, they certainly don’t win.⁴

In contrast, hardball players play to win. The authors write, “In sports, after all, playing hardball means brushing back an aggressive batter with a 100-mile-an-hour pitch. It means bare-knuckle boxing, John L. Sullivan-style. It means giving someone a head fake in a pickup basketball game on a city court littered with broken glass—and leaving him sitting on his rear.”⁵ When it comes to the economic competition between China and the United States, the United States is playing recreational softball to China’s major league hardball. China is playing to win; America is playing to play. When China’s FDI technology firm acquisition strategy is seen in this light, it should be much more worrisome than some irritating market distortion.

My testimony today first lays out policy recommendations in five areas: 1) reforming the investment review process, including CFIUS; 2) insisting on mutual access and treatment; 3) developing stronger analytic competence within the administration; 4) rethinking antitrust to consider foreign innovation mercantilism; and 5) working with U.S. allies to coordinate measures to constrain mercantilist-inspired Chinese FDI. I then turn to the question of why inward FDI can benefit the U.S. economy as long as it is market-driven and based on commercial, rather than foreign government interests. Then I examine the conventional defenses offered in favor of Chinese FDI and why these arguments are flawed. Finally, I examine Chinese acquisitions of U.S. technology firms that have recently been competed or attempted, with a particular focus on semiconductor firms.

POLICY RECOMMENDATIONS

A policy that seeks a blanket denial of all Chinese investment in the United States would be a mistake because despite discomfort we have to accept that globalization is not going away. However, that does not mean, as many organizations that hew to the Washington trade consensus would have us believe, that we should simply turn a blind eye and accept all Chinese FDI except perhaps the most explicitly military focused.

However, given China's capabilities, intentions, and innovation mercantilist policies it is imperative that policy makers move beyond the Washington consensus, laissez faire position. And this means first and foremost rejecting the Washington trade consensus that holds that only companies compete, not countries, and that nations can be indifferent to their economy's sectoral mix.⁶ There should be no doubt that the United States as a nation is in fierce competition for global share in advanced industries and that losing this competition will mean tangible harm for the nation.

This means that U.S. policy needs to affirmatively work to limit unfair and inappropriate Chinese actions to gain technology advantage, including, but not limited to, investment reviews. More active screening, and where appropriate, rejection of Chinese investment in U.S. technology companies is not protectionist, despite what the defenders of Chinese FDI might claim. Rather, if done right, it is about building the capabilities and taking the actions to support liberal market principles, including an insistence on market-based FDI. To achieve this, there are a number of steps the U.S. government should take.

Reform CFIUS and Investment Review

According to the Foreign Investment and National Security Act (FINSA) of 2007 (P.L. 110-149), the Committee on Foreign Investment in the United States (CFIUS) may conduct an investigation on the effect of an investment transaction on national security if the covered transaction is a foreign government-controlled transaction (in addition to if the transaction threatens to impair national security, or results in the control of a critical piece of U.S. infrastructure by a foreign person).

CFIUS has worked fairly effectively in some technology areas, especially semiconductors as attempted acquisitions of Fairchild, Micron, GCS, Lumileds, Western Digital, and Aixtron have been stopped either formally or informally.⁷ However, it has not prevented all acquisitions. For example, a Chinese investor group bought Silicon Valley semiconductor firm ISSI in 2015.⁸ Moreover, Chinese firms are getting more sophisticated about attempted acquisitions, including hiring the best U.S. legal, financial, and public relations talent to advocate for their U.S. technology acquisitions, and obscuring their involvement in U.S. shell companies, as they did with the attempted acquisition of Lattice Semiconductor.⁹

As such, there is a need for CFIUS reform. Congress should, at a minimum, update the charter of CFIUS to address the realities of modern-age state capitalism.¹⁰ Other nations, and as noted particularly China, have put in place coordinated strategies to systemically target key defense and industrial technologies resident in U.S. enterprises and attempt to acquire them by having state-owned or-financed enterprises purchase the U.S. entity, using the veneer that these are "market-based" transactions. Because the threat to both the U.S. defense industrial base and the U.S. industrial base overall is systemic, the charter of CFIUS needs to be updated to allow reviewers to move beyond solely case-by-case examinations to allow them to assess and gauge systemic threats and examine covered transactions in a broader context. They have arguably done this in semiconductors, but they should expand that scope. CFIUS also needs greater capacity to review attempted acquisitions by Chinese firms of small and young U.S. technology firms that might reflect promising future technology capabilities for the nation.

Moreover, CFIUS reviewers often do not have adequate time to complete a serious analysis, having only 30 calendar days to approve transactions or move them to a second-stage investigation (although there is an ability to extend an investigation for 45 days on top of the original 30). Therefore, Congress should increase the time period permitted for the initial CFIUS review and also better equip CFIUS with additional personnel and financial resources to support more thorough reviews. Congress should also require mandatory notification for deals involving state-owned or state-financed entities by countries of concern such as China and Russia. It's also important that as CFIUS committees consider whether the entity in question will come under "foreign control" that they consider "non-traditional" forms of control, such as joint ventures or novel licensing transactions that seek to achieve the same effect as the outright acquisition of a U.S. company. For instance, Chinese acquirers may be exploiting a loophole in CFIUS by designing licensing transactions that, when combined with the associated follow-on agreements that utilize U.S.-based assets to operationalize the licensed intellectual property, are substantively the same outcome as if the Chinese company had simply purchased the U.S. business that holds the intellectual property (IP). CFIUS reform should make clear that these types of deals are "covered transactions" that could be investigated.

Finally, the CFIUS chair should be transferred from the Treasury Department to another department, perhaps the Department of Commerce. Treasury has an important role in tracking investment and other financial flows, but Treasury largely hews closely to the lines of the Washington trade consensus, seeing all or most inward FDI as an unalloyed good. Commerce is better suited to focus on the implications of a given foreign investment on the industrial economy and America's innovation system.

But while CFIUS reform is a minimum, Congress should move beyond the relatively narrow CFIUS process to create a more comprehensive foreign investment review process, as many other nations, including Australia, Canada, and the United Kingdom, have instituted. Indeed, a number of other nations take much more proactive measures to prevent the hollowing out of their key industries. For example, both Taiwan and South Korea have essentially banned Chinese acquisition of their domestic semiconductor firms. Under current law, CFIUS can only restrict investments that could adversely affect the United States' national security. As the civilian industrial base has become an ever-more central part of the defense industrial base, however, the current limitations on CFIUS need to be reexamined and a broader national interest standard established. To be clear, the goal of any foreign investment review scheme should not be to give in to domestic protectionist interests, but to effectively differentiate between foreign direct investment that operates according to market-driven principles and that which operates according to state-directed, mercantilist principles. In other words, when a Chinese company, backed and directed by the Chinese government, attempts to buy an American technology company with the main goal of expropriating its intellectual property and moving it (or the company's operations) to China, that is clearly not in the interest of the United States. It would be important for any such expanded regime to not apply to investments from allies who are designated by the U.S. government as operating largely according to market principles (e.g., nations like Canada, Germany, Mexico, etc.). Those would continue to operate under the current criteria of effect on national security. Rather, the more stringent review regime would be for nations that are not allies and most importantly that operate according to mercantilist principles.

To govern such a differentiated regime, we would call on the Office of the U.S. Trade Representative to prepare an annual global mercantilist index along the lines of ITIFs template report which identified a number of variables (e.g., tariffs, IP protection, foreign equity restrictions, etc.) and ranked nations accordingly.¹¹ Not surprisingly China was one of two nations, out of 55, that has ranked in the "high" category. In these cases, all inward FDI would at least be reviewed and potentially rejected if it is deemed to

harm U.S. innovation and competitiveness. If such a regime had been in place, for example, there would have been no justification for approving the Apex acquisition of the U.S. printer company Lexmark, given that Apex was accused of IP theft by U.S. printer companies and was backed by Chinese government money.

Some will argue that instituting such a regime would just be emulating the Chinese and thereby closing our economy. On the contrary, it is exactly the opposite. It is about working to ensure that China roll back its mercantilist policies. Indeed, if implemented properly it would be a measure to improve the integrity of the global trade and investment climate. Others will object that this will lead to overreach, perhaps blocking acquisitions of assets like hotels because of false concerns about knowledge transfer. But clearly the current CFIUS review process has proven itself highly sophisticated and mostly capable of effectively analyzing knowledge transfer risks. There is no reason to assume that a more encompassing review process would not also be of equal sophistication. But even if it were not, it would be better to make a few Type I errors (rejecting a hotel deal) than to make a large number of type II errors (not rejecting acquisition deals that take U.S. technology to China).

FDI is not the only way China has of obtaining U.S. technology. Theft is another way. Encouraging Chinese scientists currently employed at U.S. firms to return home is another. But perhaps the most effective is forced tech transfer from U.S. firms seeking market access in China. While a violation of the WTO rules, China pursues this policy largely with unwritten “administrative guidance” which makes current WTO disciplines largely toothless. Often China is able to succeed at this by focusing on second-tier players in any particular industry segment which, as McKinsey notes, “have less to lose than global giants—and everything to gain.”¹² In this case the losers are the leading U.S. firms and the overall U.S. economy. In theory CFIUS could be expanded to cover these forced transfers. However, unless our major allies, particularly Europe, Japan and South Korea also agreed to adopt such a provision concurrently such a step could backfire, with the Chinese government singling out U.S. firms for retaliation, including limiting market access, while getting needed technology from firms from other nations without such a regime.

Insist on Mutual Access and Treatment

It is clear that U.S. FDI in China faces significantly different conditions than Chinese FDI in the United States. In most cases, U.S. technology firms seeking market access in China must engage in a joint venture with a Chinese firm. As one industry article advising U.S. companies wrote, “To participate in China’s industry ecosystem, it is essential to establish connections with the stakeholders in China, such as government, customers, suppliers, and even competitors, and to seek opportunities in cooperation and development through mutual understanding and engagement.”¹³ With regard to the life sciences market in China, one industry analyst writes that, “To enter the Chinese market, you may come in by licensing an asset, which we have done, or you can create a joint venture, which we have also done. But you cannot go in by yourself.”¹⁴ And as the U.S. Congressional Research Service reports, “The OECD’s 2014 FDI Regulatory Restrictiveness Index, which measures statutory restrictions on foreign direct investment in 57 countries (including all OECD and G20 countries, and covering 22 sectors), ranked China’s FDI regime as the most restrictive, based on foreign equity limitations, screening or approval mechanisms, restrictions on the employment of foreigners as key personnel, and operational restrictions (such as restrictions on branching, capital repatriation, and land ownership).”¹⁵ Chinese investment in the United States faces vastly fewer restrictions.

Because of this steep divergence, Congress and the Trump administration should insist on a level playing field and mutual access should be one baseline. As a report on China acquisitions of German firms noted, the “EU should emphasize ...the need for mutuality: if Chinese firms are given free access to more and more ‘crown

jewels' of German industry, China... would have to further open up their FDI regime and the possibilities for M&A in their territories."¹⁶ In other words, as long as China restricts U.S. investment in China, largely in ways to take technology, the federal government should feel few constraints to use stricter investment review as a tool to achieve better behavior from the Chinese government.

Defenders of the Washington trade consensus object to such measures, believing that that the vast majority of Chinese FDI is good for America and we only hurt ourselves by limiting it. As The Asia Society writes, "were the United States to single out China for restrictive FDI treatment, it should expect the same treatment for U.S. firms in China."¹⁷ But this overlooks that U.S. firms already receive that treatment in China and that actions to insist on free trade and market-oriented investment are in the interest of the United States and the global trading system as a whole.

A related issue of mutual access and treatment relates to the technology licensing rules China imposes.¹⁸ Under Chinese contract law and import-export regulations, a foreign licensor into China is obligated to offer an indemnity against infringement to the Chinese licensee (e.g., the foreign licensor is required to indemnify (i.e., protect) a licensee against third-party infringement). But this legal obligation only attaches to the foreigner licensing the technology; the Chinese licensor has no such obligation. This creates a disequilibrium in cross-licensing. The foreign licensor has to offer something that the Chinese licensee does not, making it almost legally impossible for starts-ups to license their technologies in China, because no start-up would want to offer such insurance. A second provision in Chinese law holds that Chinese recipients of technology licenses are entitled to own the improvements they make on licensed technologies and to sell them in any market. Thus, U.S. firms cannot negotiate to say they will own any improvements, or that such improvements can or cannot be shared, or to stipulate that a license is only for the Chinese market and the licensor cannot export any product that makes improvements to the originally licensed technology. Put simply, U.S. companies are obligated to let Chinese firms own the improvements and to let them export to other markets.

To address this imbalance, the United States should enact a regime whereby if Chinese entities seek licenses in the United States, then the Chinese enterprise must license on the same terms by which foreigners are required to license into China. In other words, the U.S. Congress could enact legislation which would specifically require the Chinese licensee to offer an indemnity against infringement by the U.S. licensee and stipulate that the U.S. recipient of any technology licenses from Chinese entities are entitled to own the improvements they make and to sell them in any market. Another possible approach: Congress could pass a law requiring that the company whose original technology was improved by the Chinese receives an automatic exclusive license to use that improved Chinese technology in the United States, such that the Chinese entity does not have the right to sell that technology in the United States.

Finally, many experts argue that a key solution to this problem is for China and the United States to conclude a bilateral investment treaty (BIT). The idea is that if China commits to a regime where they must treat foreign, including U.S., firms fairly that this will solve many problems. But while a BIT may have some upsides, any clear-eyed view of it must recognize that is a two-edge sword. A strong investment treaty could make things better, but it would be very hard to get a strong treaty, it might not be enforced well, and it risks legitimizing China's practices that are not included in the BIT and setting a ceiling (a seal of approval). And perhaps most importantly, just as China's accession into the WTO severely limited the ability to impose unilateral sanctions against Chinese mercantilist practices (and the WTO regime provided itself incapable of stepping up the task), a China BIT would likewise tie the hands of the United States to use investment review

as a tool to respond to Chinese innovation mercantilism, while not constraining China which has shown that they do not believe they have to follow the spirit, if not the letter of their treaty commitments.¹⁹

Develop Stronger Analytic Competence Within the Administration

The United States largely continues to consider the challenge of foreign acquisition of U.S. technology on an ad hoc, case-by-case basis. There is no entity in government charged with thinking about this challenge from a holistic and strategic perspective that can think across agencies to analyze, understand, anticipate, and respond to these challenges. There is no entity analyzing China's capacity to absorb knowledge, to understand their determination to do something with it, to understand the source of their technology, and how determined their foreign technology partners are to help them. A glaring example of this is that it took the U.S. government four years to recognize that China had articulated, and then to get translated into English, its *National Medium- and Long-Term Program for Science and Technology Development (2006-2020)*, or "MLP" and even begin to understand what its implications might be for U.S. industry.

Part of this lack betrays a lack of imagination that other countries might possibly use these types of aggressive innovation mercantilist policies because the Washington consensus thinking is so prevalent in the United States that we would find the use of such policies unlikely or at least self-injuring. And part of this lack reflects a naïveté that holds that other nations, particularly China, simply cannot catch up to us. But the notion that China can't innovate is fundamentally wrong. The Chinese are strong innovators at cost innovation, supply chain innovation, and incremental innovation and are rapidly increasing their ability to absorb technical know-how. Indeed, the gap between the United States and China is closing and the learning curve for them has shortened because they have accumulated considerable knowledge and capabilities. As a result, thinking about these issues with a China of ten, five or even three years ago in mind is dangerous.

To remedy this deficiency Congress should require that the President establish a new National Industrial Intelligence Council stood up within the White House and charged with developing a better process and structure to understand the long-term implications on U.S. industries and companies of other nations' economic development strategies, so that the United States can respond more effectively. This group would develop a better process and structure to understand the long-term implications of China's economic development strategy on U.S. competitiveness. It would also develop approaches to better leverage intelligence assets to boost the competitiveness of U.S. companies. (This would not represent industrial espionage, but rather sharing public knowledge about the competitiveness plans of Chinese enterprises and industries.)

Rethink Antitrust to Take Into Account Foreign Innovation Mercantilism

Given that the Chinese have and are created large national champions in most export-based industries, competing with the Chinese in advanced industries will require even greater scale on the part of U.S. companies. This means that U.S. anti-trust authorities will need to assess mergers through the lens of whether they enable the combined companies to effectively compete with large Chinese champions.

Moreover, anti-trust authorities will need to be careful to ensure that their actions do not inadvertently provide opportunities for Chinese firms to acquire divisions of U.S. companies. We saw this with the U.S. Federal Trade Commission's recent requirement that semiconductor maker NXP divest of its RF power business as a condition for its \$11.8 billion acquisition of U.S.-based Freescale Semiconductor Ltd. This opened up the business for acquisition by the Chinese Jianguang Asset Management Co. Ltd. and just like that, U.S. technology capabilities went to China, courtesy directly of an action undertaken by the U.S. government. This was anything but pro-competition but reflected a lack of understanding of the new nature

of global competition in the technology industry.²⁰ Likewise it is ironic and troubling that U.S. chipmaker AMD created a joint venture with China's Nantong Fujitsu Microelectronics when AMD owes its very existence to the requirement by U.S. antitrust officials for Intel to license its core x86 technology to a U.S. competitor.²¹

These blinders on competition policy harken back to the 1950s and 60s when U.S. antitrust authorities forced U.S. technology firms to compulsorily license between 40,000 to 50,000 patents.²² Many of these patents ended up going to Japanese firms that were at the time significantly lagging behind their U.S. competitors, but with this technology gift from the U.S. government they rapidly caught up to and then exceeded U.S. firms, costing the U.S. economy hundreds of thousands of middle- and high-wage jobs. We saw this with AT&T where transistor technology was licensed to Sony. The forced licensing of RCA's color TV patents was the single most important factor in the Japanese taking the color TV market away from its inventor, the United States.²³ Similarly Xerox was forced to license its technologies, again handing Japanese copier firms the crown jewels. This aggressive competition policy enforcement blithely ignored the threat of global competition to the U.S. economy. With global competition, even more intense today, and U.S. leadership much weaker, we cannot afford to repeat the mistakes of the 1950s and 60s today.

Work With Our Allies to Coordinate Measures to Constrain Mercantilist-Inspired Chinese FDI

All of this gets to the critical need for the Trump administration to work with America's major allies to coordinate policies and actions against Chinese innovation mercantilism. For example, the Trump administration should work closely with our allies, particularly in Europe, to encourage them to also expand the scope of their national security screenings so that Chinese firms don't simply switch their focus to trying to acquire European tech firms and then come after U.S. firms in the marketplace.

THE BENEFITS OF FDI

Defenders of the Washington consensus on trade and investment like to portray any criticism of particular Chinese FDI investments as a wholesale rejection of FDI underpinned by economic ignorance. To be sure, in general foreign direct investment is a net plus to economies, including the U.S. economy. Foreign direct investment builds international linkages and knowledge networks that augment innovation both domestically and globally, particularly by fostering the international diffusion of technology, know-how, and best practices. Indeed, research shows that FDI can contribute significantly to regional innovation capacity and economic growth, in part through the transfer of technology and managerial know-how.²⁴ For example, Eaton and Kortum estimate that one-half of the productivity growth in OECD economies is derived from trade, licensing, and FDI.²⁵ Foreign R&D investment also has been shown to spur local companies in the receiving country to increase their own share of R&D, leading to regional clusters of innovation-based economic activity. This is particularly true for greenfield investment in new plants and other operations. Another channel through which a country's domestic firms benefit from inward foreign direct investment is competition.²⁶ The right level of competition from foreign firms (based on market forces alone, and not government action) pressures indigenous rivals to update their technology and production processes and to use their existing resources more effectively.²⁷ In other words, greater levels of inbound FDI force domestic companies to ratchet up their competitiveness, potentially spurring them to greater levels of innovation output that can benefit both domestic and global constituencies.

But as discussed below, the debate should not be about whether FDI is good or bad. It is almost always good if it is based on free-market forces and commercial interests. But it can often be harmful if it's based on

mercantilist forces and state interests. But rather the debate should be whether Chinese FDI is based on free-market forces and commercial interests. As I discuss below, this is not always the case.

ARGUMENTS MADE SUPPORTING CHINESE FDI

When it comes to assessing the impacts of Chinese FDI on the U.S. economy, the Washington trade establishment generally repeats the broad economic consensus on FDI and assumes that Chinese FDI is no different, and therefore labels any criticism as misguided or self-interested. Indeed, while most reports defending Chinese FDI will acknowledge that there may be isolated problems, particularly as it relates to FDI in defense-related enterprises, the general view is that Chinese FDI is an unalloyed good and more would be better. As one report on Chinese FDI states, “Whether a new facility or the acquisition of an existing one, these local operations pay local, state, and federal taxes, provide jobs, push innovation, build trade linkages, and, in the process, touch and improve the lives of countless Americans.”²⁸ Another states, “trade with China is getting plenty of attention on the campaign trail this year but is becoming less important. Meanwhile, investment from China is becoming more important but is largely ignored.”²⁹ Moreover, at the highest levels of the U.S. government, the government encourages Chinese FDI. The Joint U.S.-China press statement following the July 2014 Strategic and Economic Dialogue states, “The U.S. side welcomes Chinese enterprises’ investment in the United States and commits to maintain [an] open investment environment for various kinds of Chinese investors.”³⁰ Former Vice President Biden stated, “President Obama and I, we welcome, encourage and see nothing but positive benefit from direct investment in the United States from Chinese businesses and Chinese entities. It means jobs.”³¹ But as we will see, it’s not that simple. Some Chinese FDI does mean jobs. Some is neutral at best. And some ultimately will cost U.S. jobs (and technology leadership). Supporters make at least eight misguided arguments as to why increased Chinese FDI is good for the economy.

Claim 1: China Needs to Expand FDI to Rebalance Its Economy: China has pursued an export-led strategy for at least thirty years that has not only hurt the U.S. economy but destabilized the global economy.³² So in this context, many defenders portray the growth in Chinese FDI as positive for the United States and the world as it is supposedly different than China’s focuses on export-led growth. In a Center for Strategic and International Studies (CSIS) report on the topic, Charles Freeman and Wen Jin Yuan write, “From the government’s perspective, there are a number of reasons China is increasing its OFDI in the service sector, particularly in technological M&A. With an increasingly imbalanced economy, mounting inflationary pressure and growing criticism from the US and other countries over an undervalued renminbi (RMB), the Chinese government has initiated a comprehensive campaign to rebalance its economy.”³³ Brookings senior fellow David Dollar concurs, writing, “A few years ago China was largely using [its assets] to invest domestically and drive its growth. But when you invest at that level, what I think inevitably happens is you get very serious problems of excess capacity. And that’s what’s happening in China’s domestic economy now... There are lots of empty apartments, enormous excess capacity in steel and other manufacturing sectors. They’ve overbuilt infrastructure. ... So just think of there being a lot fewer good investment opportunities in China.”³⁴ Likewise, The Asia Society writes, “The competitive pressures arising from this rebalancing process will provide further incentives to managers to seek greater internationalization...”³⁵

But this view is wrong. First, China doesn’t need to rebalance between investment and consumption; it needs to rebalance between exports and imports. Nor does it need to rebalance in the sense of “moving up the value chain” away from low skill manufacturing to more productive sectors as Chinese officials claim. As ITIF and others have shown the surest way to grow an economy is not to spur the development of a few high-tech sectors, but to ensure that all sectors from agriculture to services are highly productive, in part through the use

of technology.³⁶ Even if growing high tech sectors were part of this, this does not justify mercantilist policies that hurt the United States and the world. But this gets to the problem: to the extent China is “rebalancing” its economy it is rebalancing from an export-led strategy of low-value added products to one of high-value added ones. If China was truly focused on rebalancing it would pursue an across the board productivity policy while rolling back the suite of policies that result in limited U.S. imports. In short, to truly rebalance its economy it needs to buy more U.S. goods and services and turn its trade surplus into a trade deficit. China could easily redeploy its “excess” savings for consumption and imports, rather than investment in U.S. Treasury bills and U.S. companies. Indeed, to characterize increases in FDI as rebalancing is to miss the point. This is in part just another vehicle to recycle earnings from the Chinese trade surplus back into the United States, in lieu of buying more actual U.S. goods and services.

Others argue that China is switching from recycling its dollars back to the United States from low interest rate Treasury bills to higher return FDI, just like any individual rational investor would do. But this ignores the fact that the returns to the Chinese economy from either approach are not real until they are translated into purchased foreign goods and services. Economies don’t consume money, they consume goods and services. In other words, unless the Chinese government decides it wants to spend more of the current account surplus on foreign goods and services, the higher returns they are getting are only paper. Moreover, to the extent Chinese companies are paying significant price premiums over market valuations that either means that commercial non-Chinese companies don’t know how to value US companies or that the actual Chinese returns are lower than they would otherwise be.

Claim 2: The United States Needs Chinese Capital: There has been a long-held argument by many defenders of the U.S.-China status quo that the imbalance in trade between China and the United States is a win-win because they get jobs and we get capital. This has been focused on with the purported benefits of the Chinese buying U.S. government debt to finance our budget deficit, but now with the rise of Chinese FDI. In both cases the argument is that America needs this capital to finance its economy. As Law professor Tim Bakken writes, in regard to the need for Chinese FDI: “As the Obama Administration illustrated, the U.S. will be increasingly reliant on foreign investment because as the U.S. continues to borrow and increase its debt, now about \$18 trillion, it will lack the resources to finance domestic investment.”³⁷ Peking University professor Mark Feldman argues that “The need for some \$8 trillion in investment over the next 15 years to modernize U.S. infrastructure should provide many opportunities for the U.S. Government to further demonstrate that Chinese investment is indeed welcome in the United States.”³⁸ Orville Schell of The Asia Society states that “the largest new pool of capital is built up in China and the United States is in debt, and to keep our economy vibrant we very much need foreign investment.”³⁹

But the United States does not need China to finance its debt. If China did not buy U.S. debt, interest rates could rise, giving Americans an incentive to save more. Or Congress could cut spending or increase taxes to reduce the debt. Moreover, eliminating the trade deficit with China would grow the U.S. economy, thereby reducing the federal budget deficit. Likewise, the United States doesn’t need China to finance its economy or infrastructure. Indeed, there is no shortage of capital in the United States, as good deals have access to deep capital markets. For example, with regard to infrastructure, the issue is not capital—indeed major infrastructure investment funds exist and are looking for deals. Rather, the problem is a lack of deals with an ongoing cash flow to pay back bond holders. Finally, the only reason China has so much capital is because the Chinese government has committed to an export-led strategy to sell more than it buys and then to use that money to both keep its currency low, and, increasingly, to buy foreign, including U.S. companies.

Claim 3: Chinese FDI Creates Jobs: Perhaps the most prevalent argument made by supporters of Chinese FDI is that it is needed to create jobs. Certainly many city and state officials believe this. As the *Wall Street Journal* noted, “The trend could bring much-needed jobs and investments to states hit by the recession, and they are pulling out all the stops to attract Chinese investment. That includes opening offices in China, offering preferential tax policies and hosting Chinese delegations.”⁴⁰

But leaving aside the fact that when the economy is not in recession the number of jobs is determined by the size of the labor force and by federal reserve monetary policy, it is important to distinguish between types of FDI. Most supporters of Chinese FDI lump all FDI together, not distinguishing between “greenfield” investment (e.g., establishing new production) or acquisitions (buying some or all of the assets of a U.S. company). In general, greenfield FDI advances U.S. economic interests as companies build new capacity and create jobs. But this depends in part on the market for that output. When Japanese auto companies began investing in the United States in the 1980s and 1990s they were building plants that largely substituted for Japanese imports, which on balance helped reduce the U.S. trade deficit. There is no evidence that any Chinese acquisitions substitute for Chinese production; why would it since production costs in China are around 20 percent of U.S. costs. Greenfield FDI that competes for market share with domestic producers has less net economic benefit as it replaces domestic-owned output with foreign.

Likewise, acquisitions may or may not advance U.S. economic interests, depending on the strategy and actions of the acquiring company. Indeed, one study of FDI into the United States found that “The acquisition of domestic firms by foreign interests appears to have little aggregate positive impact upon employment, while new plants, constructed by foreign concerns, have positive employment impacts on the foreign manufacturing sector in the United States.”⁴¹ This is logical because when a foreign company buys an American enterprise, it is at one level simply switching ownership. Net benefits depend on the capabilities the acquiring enterprise brings to the acquired firm.

So, what has been the pattern of Chinese FDI? According to the Rhodium Group, from 2002 to 2016, Chinese companies invested around \$100 billion in companies in the United States, with almost half of this (\$45.6 billion) taking place in 2016. However, just 8 percent of this financing went to greenfield investments, with the rest to acquisitions.⁴²

Finally, it’s important to understand that Chinese FDI is a form of recycling U.S. dollars that the Chinese economy accumulates through its systemic trade surpluses. China has really only two choices with what to do with these accumulated foreign reserves. It can open up its markets and purchase more foreign goods and services so that its trade is in balance or it can recycle the trade surplus reserves back into the United States. The latter, even if it is in the form of FDI, comes at the expense of greater imports from the United States, which would be an unalloyed good given the large U.S. trade deficit. Spending its reserves to buy U.S. companies simply postpones the day of reckoning when China must run a trade deficit with the world. For recycling that money into the United States, in the form of stock market purchases, government bond purchases, or direct acquisition of U.S. firms is no different in the sense that it allows the value of the RMB to remain lower than it would be otherwise, which in turn allows China to continue running trade surpluses. These investments, regardless of their type, are in essence promissory notes. China’s economy does not get anything of value from them in the short run, other than cash on its balance sheet. But that cash is worthless unless it is spent on buying U.S. goods and services. It would be akin to someone having a large bank account but being unwilling to spend that money. Their actual wealth would be no different than someone who has fewer assets but the same buying habits.

Claim 4: Chinese FDI Brings Technology and Other Benefits: Many defenders of Chinese FDI argue that Chinese firms bring other benefits than just jobs to the U.S. economy. As a report by the National Committee on U.S.-China relations writes, “foreign firms often bring technology and knowledge with them, leading to innovation and productivity spillovers to local economies. A famous historical example are production and management techniques that Japanese automakers brought with them in the 1980s, such as the “just in time” production model.”⁴³ This is true. When Japanese companies invested in largely greenfield facilities in America they brought “lean production” systems to the United States and that helped U.S. automakers companies as they now had an easier time learning these systems. But it’s important to realize that when the Japanese firms were investing in the United States in autos and related sectors their productivity was generally higher than American firms, so there was a lot for U.S. firms to learn. For China, the opposite is true, as virtually all Chinese firms are less productive than their U.S. counterparts. Chinese firms come here to learn from American firms, not teach them. Moreover, as Wang and Wang note, “The Chinese government has spared no effort in attracting FDI into China because foreign firms bring with them not only capital, but also technology, employment and other positive spill-over effects. Conversely, if Chinese firms going abroad intend only to bring back technology and resources, no wonder the host country is resistant to such investments.”⁴⁴

Even if they are not bringing new capabilities, what’s wrong with Chinese acquisitions of U.S. technology firms? Defenders will claim, rightly in most cases, that there is no evidence of Chinese buying U.S. firms and shutting them down and transferring the assets to China. An Asia Society report writes, “we do not find evidence of Chinese firms systematically acquiring technology assets and then moving capacities to China or other countries.”⁴⁵ But that’s not the point. As discussed below, the point is that they are often transferring the intangible assets to China: the technical knowhow, so that the Chinese-based establishments become more robust global competitors.

Claim 5: More Chinese FDI Will Spur Needed Reforms in China: Supporters of Chinese FDI claim that it is in U.S. interests because it will encourage liberalization in China, including more respect for intellectual property. As a report by The Rhodium Group states, “Embracing the FDI trend will also accelerate compliance with law-based innovation protections. The greater the value of IPR and other intangible assets on the balance sheets of Chinese firms, the more these firms will pressure Beijing for better protection of these assets in China and globally.”⁴⁶ Yet when China entered the World Trade Organization (WTO) to great fanfare in 2001, pundits and policymakers alike predicted already then that in doing so China would embrace market-based economic principles and commit to the core tenets guiding liberalized trade and globalization. And to be sure, China did reform thousands of domestic laws and has complied with many of its WTO commitments—such as joining the Information Technology Agreement (ITA) and reducing average tariffs on industrial products. But all too often, one step forward has been met with two steps backward, as China has erected new, often behind-the-border non-tariff barriers (NTBs) to more than compensate for concessions elsewhere. These have more than offset China’s apparent concessions.⁴⁷ As such, there is no reason to believe that somehow “this time is different,” and that expanded FDI will empower reform and reformers, especially with such a large share of Chinese FDI government-backed.

Claim 6: Chinese Acquisitions Are Beneficial Since U.S. Owners Voluntarily Choose to Sell: Some defenders of Chinese FDI argue that because the U.S. owners benefit by selling to a Chinese company that the deals must by definition be good for America. As the co-head of Global Mergers and Acquisitions at investment bank J.P Morgan Chase writes in the *Wall Street Journal*, “[U.S.] firms should seriously consider

whether a Chinese buyer's motives are any less suited to their best interests than a conventional competitor's. Given that Chinese companies generally have a longer investment time horizon, and are able to pay a premium as a result, their offers may be the best choice on the table."⁴⁸

But this logic fails to differentiate between societal and private gain. Clearly the owners of any U.S. company selling out to a Chinese firm benefit. They get an exit opportunity and often more money than they would if they sold to a firm that was making its calculus solely on commercial considerations. But if the result is the transfer of needed technology and know-how to China, the societal result could very well be negative as the United States loses high-value-added production. But that is not usually in the U.S. owner's calculation.

And to claim that such transactions are in U.S. interests because they are often the "best choice on the table" ignores that this is often the case because the Chinese government is kicking in the sweetener. For example, China-backed Canyon Bridge proposed a price premium of 30 percent in its proposal to acquire Lattice Semiconductor.⁴⁹ In these cases the price premium would reflect mercantilist rather than market economics, thus leading to allocation inefficiency. It would be no different than the Chinese subsidizing exports through government grants or tax incentives where U.S. consumers may benefit in the short run, but the U.S. economy is hurt in the medium- and longer-term.⁵⁰

Claim 7: Chinese FDI Should Be Treated the Same as FDI From Any Other Nation: Given that foreign direct investment is generally good for the U.S. economy, the most important question in evaluating the likely impact of Chinese FDI is whether it operates along the same lines as other nations' U.S. FDI. If it does, then all this concern is much ado about nothing. In other words, if Chinese firms are making these investments solely on commercial merits then America should welcome it. But if these are strategic investments to achieve government goals with government support and subsidies, that is something very different. Indeed, China differs in at least three key ways from many of the leading nations that invest in U.S. FDI (e.g., the United Kingdom, Japan, the Netherlands, Canada, Germany, Switzerland and France).⁵¹

First, in contrast to investment from these nations who are our military and diplomatic allies, China is not. China vies with the United States for global influence and their FDI can help them achieve that goal.

Second, much of Chinese FDI is from state-owned enterprises (SOEs) that often have different motives than simply maximizing profits. Rather, their investments are often to serve state goals. Chinese state-owned enterprises account for the majority of China's offshore foreign direct investment (OFDI) activity. In 2010, the SOE-share of China's outward FDI equaled 66.6 percent. In Europe, acquisitions from state-owned enterprises "account for a stunning 72% of the total deal value of all Chinese acquisitions ... in the period of 2002 to 2012."⁵² As one study notes, China's OFDI is "state-driven and centralized" and it's "probably historically unprecedented for the SOEs to invest on such a massive scale."⁵³ Within the United States, the share from SOEs is lower, but still significant. According to the Rhodium Group, from 2002 to 2016, of the 582 acquisition deals, about 20 percent (116) were made by government-owned corporations, accounting for about 30 percent of the total monetary value.⁵⁴ Information and communications technology (ICT) and electronics industries deals totaled roughly \$18 billion, with government-backed deals accounting for roughly \$5 billion of this amount. Moreover, the lines between public and private in Chinese firms is opaque, with many "private" firms have deep financial and other ties to the Chinese government.

The role of Chinese government money in U.S. deals is underreported in part because of the opaque nature of this support. As Wang and Wang note, many Chinese firms lack transparency, making it difficult for host

countries to know enough about the investing firm.⁵⁵ This was evident for example in the attempted purchase of German semiconductor equipment firm Aixtron by a Chinese investor where there were “a web of relations among the customer, the buyer, and the Chinese state.”⁵⁶ Moreover, the Chinese government channels funds to supposedly private investment bodies, making it look as if these deals are commercial.” Even the CSIS report admits that “in order to successfully lobby the Ministry (MIIT) and receive adequate financial resources, the private enterprises have to link corporate goals with national government initiatives, otherwise the Ministry will be reluctant to endorse the companies’ OFDI initiatives.”⁵⁷ This influence is clearly apparent in the semiconductor sector, where government-directed funds channeled from SOEs to private equity firms have played an important role in China’s pursuit of a number of foreign enterprises in the semiconductor sector, such as Spreadtrum Communications, RDA Microelectronics, and Micron.⁵⁸

The third major difference is that while many nations dabble in mercantilism, China specializes in it. As ITIF showed in its report “Contributors and Detractors: Ranking Countries’ Impact on Global Innovation,” of 56 nations, only Thailand did more on a per-capita basis to harm global innovation through innovation mercantilist policies than China.⁵⁹ In the last decade China has embraced a strategy of “indigenous innovation” that favors Chinese enterprises not only in the procurement activities of state-owned or state-influenced enterprises, but by any means possible, including forced technology transfer, intellectual property theft, joint ventures requirements, and other means. From semiconductors to e-commerce, Chinese President Xi Jinping has unabashedly trumpeted the goal of making China the “master of its own technologies,” and, to do so, the Chinese government is pursuing an aggressive by-hook-or-by-crook strategy that involves serially manipulating the marketplace and wantonly stealing and coercing transfer of American knowhow. It is in this context that at least some of China’s U.S. FDI needs to be evaluated, for the FDI strategy of acquiring U.S. technology firms is just one tactic in an overarching, long-term strategy designed to gain global self-sufficiency at least, and global dominance at most, across a wide array of technologies. As such, this differs fundamentally from the firm-led FDI from most U.S. trading partners.

A case in point is the recent efforts by Chinese solar companies to buy the bankrupt assets of U.S. solar companies. In this case, GCL-Poly Energy Holdings Ltd., one of China’s largest makers of solar equipment, bought the solar materials assets of bankrupt U.S. renewable energy company SunEdison Inc. for \$150 million.⁶⁰ GCL and other U.S. companies were put out of business because Chinese firms were selling solar panels below cost, in part because of Chinese government subsidies. In some cases, prices were depressed by 75 percent making it impossible for any company except government-backed ones to survive.⁶¹ This is a classic case of predation, something anti-trust authorities prohibit when firms do it: weaken your opponent by charging below price and then when they lose market share and money, come in and buy the assets at fire sale prices. As such, this kind of systemic behavior and policy differs fundamentally from the firm-led FDI from most of the U.S. trading partners.

Claim 8: Any Opposition to Chinese FDI Reflects Protectionism: Supporters of the Washington trade and investment consensus have long labeled any efforts to fight back against unfair and protectionist trade practices as protectionist. Now many likewise assert that any efforts to limit mercantilist-inspired inward foreign investment deals from China is also protectionist. The Asia Society writes that the increase in Chinese FDI is “certain to test American resolve to stand by its long-held notions about the virtues of unfettered flows of investment.”⁶² The co-head of Global Mergers and Acquisitions at investment bank J.P Morgan Chase writes in the *Wall Street Journal* that any concern about Chinese FDI represents “paranoia.”⁶³ But the implication is that Chinese FDI is no different than FDI from other nations, and therefore the only rational response is to welcome it. As described, this is not always the case.

Likewise, but not unexpectedly, the voices from China are that any policy regime other than virtual complete openness to Chinese FDI represents a dark plot by the Western hegemon to suppress the poor, struggling developing Chinese nation. An article in China's *Global Times* states, "It is clear that the U.S. wants to repress China's development of strategic industries."⁶⁴ But while this may whip up patriotic fervor, it is clearly not true. What the United States wants to repress, or at least should want to repress, is the development of China's strategic industry achieved through *unfair, mercantilist means*. If China seeks to gain global leadership through legitimate policies—such as investing in scientific research, supporting STEM education, having a strong patent system, etc., the likely American response would at worst be indifference and at best support.⁶⁵

TECHNOLOGY-BASED CHINESE FDI

A not insignificant share of Chinese FDI is in technology industries. According to Select USA, the top four industrial categories in terms of numbers for Chinese FDI projects from 2003 to 2015 were electronics, industrial machinery, software and IT services, and communications.⁶⁶ The Rhodium Group reports that over the last 16 years there was roughly \$18 billion of Chinese FDI into ICT and electronics industries deals, with most of that in just the last few years. Of the \$4.9 billion invested in electronics, \$4.2 billion was invested in 2016, with 99.99 percent of that going to buy U.S. firms.⁶⁷ Of the \$14.2 billion invested in ICT, 74 percent was made from 2014 to 2016, with more than 95 percent going to acquisitions.⁶⁸ These numbers would have been considerably larger if the federal government had not informally or formally blocked some deals through CFIUS.

Chinese firms are also actively buying up U.S. life science companies in part because biotech is one of the 10 industries targeted in China's "Made in China 2025" plan. As one Bloomberg study reports, Chinese firms announced more than \$3.9 billion in overseas acquisitions in the pharmaceutical, biotechnology and health care sectors in 2016, a ten-fold increase from 2012.⁶⁹ For example, Fosun Pharma acquired Ambrx Inc., a protein therapeutics R&D company in the United States. China National Chemical Corp., an SOE, is seeking to buy Swiss pesticide and seed maker Syngenta for about \$43 billion.

One area where the Chinese have been very active of late is in the semiconductor industry. Based on the 2014 National Guidelines for Development and Promotion of the IC Industry, China has developed a national integrated circuit (IC) plan that seeks to eliminate its trade deficit in integrated circuits (ICs) by 2030 and make China the world's leader in IC manufacturing by 2030. This includes IC manufacturing, design, packaging and test, materials and equipment.⁷⁰ As part of this plan, China wants 70 percent of the semiconductor chips used by companies operating in China to be domestically produced by the year 2025.⁷¹ Between national and provincial government funds, the industry is expected to be supported with as much as \$160 billion of government-backed funds.⁷² The direction is clear, as in statements such as "Make up our mind, push forward persistently; Focus on the bottleneck, innovation is the route; Stress the focal point, coordinate in development; Companies are the players, market is the direction; and Concentrate resources to make world-class companies" and "Set up state leading group for development of integrated circuit industry, push forward the coordination of works with an emphasis on top planning."⁷³

China justifies this innovation mercantilist plan on the basis that it needs to reduce imports since IC imports are China's biggest import. But this rationale is wrong on several levels. First, it fails to account for the fact that around half of these semiconductor imports are re-exported—with value-added during assembly and manufacturing—from China as part of global production networks for cell phones, tablets, and other electronic products. More importantly, the fact that China has a trade deficit in semiconductors is simply

irrelevant and not an acceptable rationale to justify an industrial development strategy that would seek to intentionally limit imports of foreign technology products. From 2002 through to the end of November 2016, China accumulated a \$3.5 trillion trade surplus in goods with the United States.⁷⁴

Chinese government leaders, including at MIIT, are well aware that they cannot meet the IC plan's objectives without buying up the expertise and knowledge they need through foreign acquisitions. Indeed, as a report from Bain Consulting counseling Chinese IC companies stated, "Since reaching scale through organic growth would be an almost insurmountable challenge, domestic Chinese players should look for partnerships (often with followers with strong IP that could benefit from funding and access to China's market) and takeover opportunities of companies looking to leave the industry or divest, both inside and outside of China."⁷⁵ Indeed this plan is self-reinforcing as one reason some foreign IC companies may seek to leave the market is that they understand how difficult it will be to access the Chinese IC market and more broadly to compete with these well-funded, government backed competitors. Better to sell out now while they can still command a nice price premium. Likewise, McKinsey writes, "We should expect China to continue to actively seek opportunities to acquire global intellectual property and expertise, usually with the intent of transferring them back home. What's still to be determined, however, is how global governments will react to proposed deals in light of the emerging policy and market changes."⁷⁶

That is why China has been on a global buying spree to buy companies all along the IC value chain. As the Mercator Center for Chinese Studies notes, "Since 2014, new policies by the Chinese government to promote the development of China's semiconductor industry have fueled a boom in acquisitions in this segment. The first major deals were completed in 2015, including the purchase of Integrated Silicon Solutions for about \$736 million. Total investment in semiconductors has reached more than \$1 billion, but semiconductor deals have received considerable scrutiny from the Committee on Foreign Investment in the United States (CFIUS), dampening the prospects for several announced acquisitions."⁷⁷ For example, China tried to buy its way into a leading U.S. semiconductor company, Western Digital. The Western Digital deal was the latest in a string of numerous acquisitions that Chinese firms have attempted along the semiconductor value chain.⁷⁸ Notably, China's Tsinghua Unigroup—a state-owned enterprise once headed by the son of former Chinese President Hu Jintao—bid \$23 billion last year for the Idaho-based Micron Technologies. That deal fell apart after Senators Orrin Hatch (R-UT) and Chuck Schumer (D-NY) raised national security concerns. So Unigroup pivoted, working through its Unisplendour subsidiary to try to acquire a 15 percent stake in Western Digital (which CFIUS rightly blocked). Interestingly, China's Ministry of Commerce then suddenly approved Western Digital's 2012 acquisition of Hitachi, Ltd.'s hard drive business—a deal that competition authorities in the United States, Europe, Australia and Japan all had studied and approved, but China had slow walked, thereby preventing Western Digital from achieving \$400 million in savings. Western Digital is now the third global information technology company to accept investments from Chinese state-owned corporations in order to win such antitrust regulatory blessing.

To defend against charges of inappropriate government subsidies the Chinese government claims that its China Integrated Circuit Industry Investment Fund Co. Ltd., the entity it established to fund Chinese IC firms, is actually a private sector entity operating according to market principles. In reality it is a fund established by MIIT, staffed in large part by former MIIT officials, and funded in significant part by Chinese SOEs including China Mobile, China Tobacco, and the China Development Bank, presumably because the latter were "asked" to do so by MIIT and the State Council.⁷⁹ MIIT presumably established the fund this way, as opposed to simply funneling subsidies through MIIT, in order to avoid any potential WTO challenge against unfair government subsidies. But this laundered money does not make it any less of a subsidy. Chinese

central government officials also supported the creation of a number of local semiconductor subsidy funds which also are used to subsidize foreign acquisitions. Thus, when Chinese officials assert that this is a new kind of IC strategy based not on government subsidies but on market principles, they are obscuring the fact that the new strategy is still based on government subsidies, but in this case usually in the form of equity investments that may or not get ever paid back. Indeed, many of these Chinese firms would be unable to acquire foreign IC firms without such subsidies as their balance sheets would be inadequate.

For example, Jiangsu Changjiang Electronics Technology Co. used \$300 million from the national IC fund to help pay for the \$780 million acquisition of Singapore's STAts Chip Pac Ltd., a leading provider of semiconductor packaging design assembly and test solutions.⁸⁰ The IC fund backed the buyout firm seeking to buy U.S.-based Lattice Semiconductor Corp.⁸¹ And they were purportedly behind the purchase of Germany Aixtron.⁸² In some cases, these deals are truly perverse, as in the case of Chinese firm Apex Microelectronics buying the U.S. printer company Lexmark. Prior to the acquisition, Apex had been accused of producing counterfeit printer cartridges and infringing the patents of U.S. printer companies, including Lexmark.⁸³ And despite having revenues about one-tenth those of Lexmark, Apex was able to purchase Lexmark at a 17 percent premium over listed stock price, in part because it received funding from the Chinese national IC fund.⁸⁴ Indeed, the company is now 5 percent owned by the IC fund.⁸⁵

This fund is also used subsidize Chinese semiconductor firms. For example, the fund bought several billion in new shares in the Semiconductor Manufacturing International Corporation, China's largest and most advanced semiconductor foundry.⁸⁶ It invested \$47 million in Chinese Centex networks, an Ethernet switching company.⁸⁷

China technology firms have one other advantage over U.S. firms; their ability to suffer losses in foreign markets, both for their investments and sales. As Wang and Wang write, "China itself is a huge market, which means that firms losing profits in overseas markets can be compensated by selling their goods in the domestic market. For instance, Chinese consumer electronics producer TCL has been losing profits in overseas markets, but it survives with the profits from selling in the domestic market."⁸⁸ This then explains the fundamental difference between state-backed and purely commercial FDI acquisitions. When a corporation from Canada, Germany or any other market-based economy looks to acquire a U.S. technology firm they have to balance the purchase price with the benefit to them, and in many cases acquisitions do not make financial sense. But when the principal goal is not profit, but national economic advancement and attaining military capabilities, many more deals make sense, especially when the Chinese government is footing at least part of the bill.

Thus, the main purpose of most Chinese technology companies buying U.S. technology companies is not to make a profit, but to take U.S. technology in order to upgrade their own technology capabilities. The Rhodium Group notes that in the aviation sector, "The dominant player is aviation conglomerate AVIC, which is looking to the US market to upgrade its technology and other capabilities."⁸⁹ Likewise, in the electronics and electrical equipment sector, "Chinese investors are drawn to the US electronics and electrical equipment sector for building their brands, expanding their sales and distribution channels, and upgrading their innovative capacity and technology portfolios."⁹⁰ Investments in pharmaceuticals and biotechnology are "often driven by upgrading technology (such as Wuxi's acquisition of AppTec, a laboratory services firm)."⁹¹ As one study of Chinese FDI estimated, 30 percent of the private firm deals and 46 percent of the SOE deals are motivated by technology acquisition.⁹² The authors go on to state that Chinese acquisition of overseas firms "has become the most widely used methods [of investing overseas] for Chinese firms, largely because it provides rapid access to proprietary technology..."⁹³

As noted above, this tech-based FDI is a component of the Chinese government's overarching indigenous innovation strategy. As the German Mercator Center for Chinese Studies notes:

Chinese high-tech investments need to be interpreted as building blocks of an overarching political programme. It aims to systematically acquire cutting-edge technology and generate large-scale technology transfer. In the long term, China wants to obtain control over the most profitable segments of global supply chains and production networks. If successful, Made in China 2025 could accelerate the erosion of industrial countries' current technological leadership across industrial sectors.⁹⁴

The report goes on to note that, "There are strong indications that the absorption of advanced technology is an increasingly prevalent motive for the state's push for outbound FDI. From this perspective, Made in China 2025 can be read as a grand strategy for technology-seeking investment."⁹⁵ As the report continues:

the Chinese state promotes investment in leading foreign technology enterprises with the aim of systematically acquiring cutting-edge technology and generating large-scale technology transfer. Since state-led FDI in high-tech sectors is a new phenomenon, its full extent and precise effects are not yet entirely clear. But it is a realistic scenario that the widespread technology absorption by China will contribute to the erosion of industrial countries' technological leadership in specific industries.⁹⁶

Likewise, as a report from a major IC conference in Shanghai noted, "clearly there will be a focus on [foreign] M&A [mergers and acquisitions] to achieve the rapid technological scale up necessary to realize the vision of the new national policy."⁹⁷

In other words, Chinese tech-based FDI acquisitions is just one tactic in a comprehensive strategy of global knowledge acquisition in order to catch and ultimately surpass current technology leaders, including the United States. As one study of Chinese acquisitions of German firms noted, "Cherry picking strategic assets of hidden champions, knowledge absorption, and gaining access to high-end markets are major strategic intentions behind the M&As."⁹⁸ The report goes on to note that "[what] most acquirers were targeting was the inherent knowledge of the target firms held by the employees in the form of engineering capabilities or process know-how, the knowledge embodied in its technological assets like products, machines and plants, the brand in terms of reputation and customer relationships as well as the worldwide distribution and service assets."⁹⁹ The report concludes that this is different than most FDI from other nations where the acquirer seeks integration, synergy, and efficiencies.

To be sure, some Chinese technology companies seek to be in the U.S. market for the same reason some U.S. companies seek to be in the Chinese market: to be able to better understand the domestic market and adjust their product offerings in response. But some do not.

FDI acquisition is not the only path to U.S. technology capabilities. For example, China is investing in U.S. research universities to gain access to their research, often with U.S. state government-backing. For example, Maryland is committing nearly \$600,000 over three years to build up the Maryland International Incubator, in a bid to attract high-tech companies from China and elsewhere to collaborate with University of Maryland researchers. Of the 18 companies in the incubator, nine are from China, with most of these being biotech companies.¹⁰⁰ In addition, Chinese firms have become investors in early stage U.S. technology companies.

These include the venture capital arms of Chinese Internet companies such as Alibaba or Tencent. The idea here is to invest in start-ups and use that as a way to bring technology and knowledge back to China. Indeed, at least a few Silicon Valley experts report that they are seeing a significant uptick in Chinese venture investment in Silicon Valley. This trend could very well increase in coming years as China sees that its traditional acquisition route becomes more difficult. We see this pattern in other nations as well. 40 percent of venture capital in Israel in 2015 reportedly came from China.¹⁰¹

In summary, both the issue of Chinese foreign direct investment and trade overall needs to be approached from a “third way” perspective: neither blithely embracing a free market economics ethos that turns a blind eye to foreign mercantilist competition nor trying develop a “fortress America.” However, with regard to Chinese FDI in U.S. technology industries fueled by Chinese government money and Chinese government strategy, more needs to be done to protect U.S. technology leadership and jobs.

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