

Washington's China Policy Has Lost Its Wei

By Scott Kennedy

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THE ISSUE

The U.S. federal government is obsessed with the Chinese telecom giant Huawei. It has adopted a multipronged strategy to crush the company and decouple the Western world from China's telecom and semiconductor industries. Although well-intentioned, this effort could seriously harm the United States' economy and national security. The U.S. semiconductor industry, which is the bedrock of the U.S. economy, has thrived like never before in a globalized industry. The campaign to isolate Huawei and the greater technology decoupling enterprise threatens this historic success and accelerates China's technological independence. Decoupling would also harm the United States' military preparedness and reduce the costs of Chinese aggression, most importantly, with respect to Taiwan. The United States needs a different strategy, what I call "principled interdependence," to address the risks posed by Huawei and China's high-tech drive while also continuing to benefit from being part of a dynamic global economy. This approach does not require the United States to trust Huawei or China, but it does depend on the United States having greater confidence in itself and to more effectively work with friends and allies.

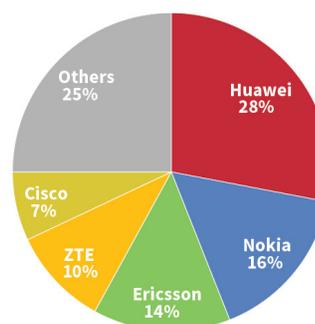
C ONFRONTING DANGER WITH A DANGEROUS APPROACH

It is a shame that the world cannot celebrate the rise of Huawei but instead needs to defend itself against it. The company appears to epitomize the benefits that result from the

blossoming of private enterprise and a long-term commitment to innovation. Their Shenzhen headquarters, which I have visited, is genuinely impressive. But there is much more to Huawei than its cultivated image. No one should minimize the dangers it presents to the United States. Huawei has stolen intellectual property and has benefited from [massive state largesse](#), allowing it to undercut competitors and rapidly expand its global market share (Figure 1). It has violated U.S. export control laws and trade sanctions against Iran. Perhaps most worrying of all are accusations that it has [facilitated](#)

[Chinese surveillance](#) at home and abroad—a danger that will be much harder to defend against as the world transitions to faster fifth-generation (5G) telecom networks.

Figure 1: Worldwide Total Telecom Market Share (2019)



Source: Stefan Pongratz, "Key Takeaways – The Telecom Equipment Market 1Q20," Dell'Oro Group, June 3, 2020.

As a result, over the last two years, the Trump administration has launched a multipronged attack against the company. On the legal front, the United States has sued the firm and sought to extradite a top executive to face criminal charges. On the commercial front, since last year the United States has taken steps to ban Huawei equipment in domestic telecom networks and campaigned to have its allies and others follow suit (Figure 2). It is now seeking to globalize these restrictions by requiring U.S. overseas diplomatic and military posts to be linked back home only over “clean paths,” that is, 5G telecom networks free of Chinese gear.

At the same time, Washington is trying to starve Huawei of components for its products. The initial “Entity List” restrictions put in place in May 2019 required U.S. firms to obtain a license to export domestically produced chips and software. In May 2020, the Commerce Department expanded these rules to require contract chip producers anywhere in the world who use U.S. semiconductor equipment and technology to acquire its approval before producing chips designed by Huawei’s subsidiary HiSilicon which then go into Huawei products. Because the United States is a leader in global chip equipment and design software business, it will be difficult for Huawei to find workarounds.

These actions have not gone without criticism. There is concern that there are still loopholes in the export controls that Huawei could exploit or that Beijing could retaliate against U.S. firms and their executives using the plethora

of explicit and hidden tools at its disposal. Although substantial, these are critiques about tactics and technique.

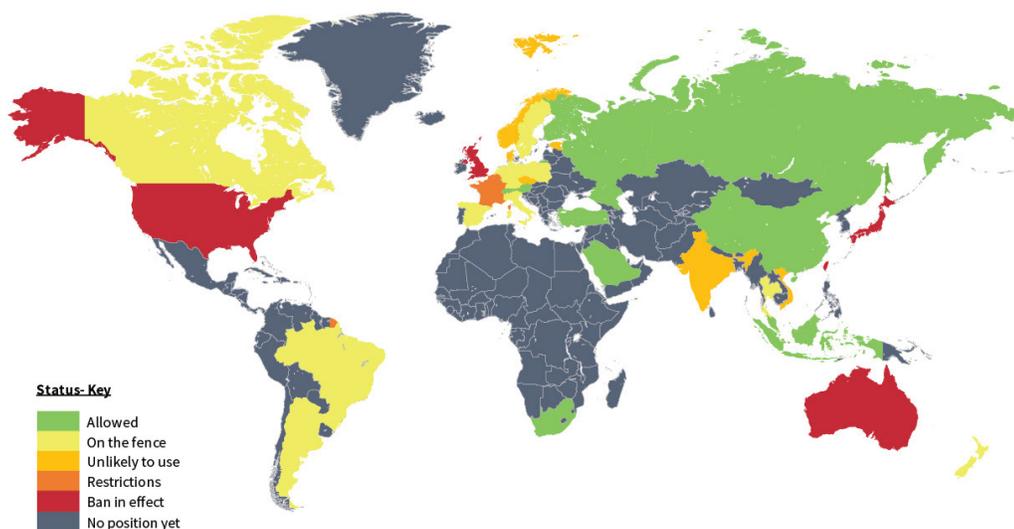
Actually, more worrisome is the entire approach. A strategy of high-tech decoupling meant to weaken and isolate China’s semiconductor and telecom sectors, in fact, is likely to result in the opposite of what its advocates seek to achieve. Such an approach would hurt the economies of the United States and its allies and damage U.S. national security as well.

SECTORAL DYNAMISM

The U.S. semiconductor industry, which is the bedrock of the U.S. economy, has thrived like never before in a globalized industry. According to the Semiconductor Industry Association, between 2000 and 2019, U.S. chip sales almost doubled from \$102 billion to \$193 billion and now claim 44.5 percent of the entire global market. Over the same period, domestic employment in the sector rose from 186,000 to 241,000—many working in the country’s **71 major commercial fabrication facilities** (fabs), which are spread across 18 states. The U.S. chip sector is bolstered by a leadership position in semiconductor equipment, the tools used to make and process wafers as well as test and assemble the final chipsets. According to the **U.S. International Trade Commission**, U.S. chip equipment firms, which have roughly 60,000 domestic employees, account for at least half of global production and in several areas are the only supplier. The United States is even more dominant in chip design software, controlling 80 percent of the global market.

The industry’s success (and the rise of chip firms such as Intel, Qualcomm, and Nvidia; equipment makers such as Applied Materials and LAM Research; and chip design software firms such as Synopsis and Cadence) has been intimately connected with the rise of the Asia-Pacific as a nexus of design, production, assembly, testing and consumption of chips and related downstream sectors—everything from smartphones and computers to telecom equipment and medical

Figure 2: Government Policies on Huawei 5G Equipment



Source: “How Huawei Landed at the Center of Global Tech Tussle: QuickTake,” Bloomberg News, July 15, 2020. <https://www.bloomberg.com/news/articles/2019-12-17/how-huawei-landed-at-the-center-of-global-tech-tussle-quicktake>.

Note: Government policies as of July 15, 2020.

devices. Chinese companies and consumers are deeply woven into this highly integrated network. China was the direct destination of \$8.8 billion of the U.S. chip sector's \$46 billion in exports in 2019; but if you include total sales from U.S. chip firms, the total was at least \$70 billion. Those chips go to downstream Chinese and multinational firms, which are often co-located in dense industrial clusters, facilitating the continuous improvement of products and services at declining costs for global consumers. At the same time, U.S. chip equipment firms export about 90 percent of their production, with the great majority going to East Asia, including \$3.6 billion to China.

In addition to hugely benefitting from access to the Chinese market, having Huawei and other Chinese ICT firms integrated into global production networks means they are part of U.S.-led ecosystems. Despite progress by Huawei and other Chinese firms, they are still dependent on U.S. and Western firms higher up the food chain. Many elements of this hierarchy have endured, with the semiconductor industry as its most crucial cog.

The campaign to isolate Huawei and the greater technology decoupling enterprise threatens all of this. As the United States leads an effort to close off global markets to Huawei and other Chinese firms, Beijing will certainly respond in kind, locking out U.S. firms in favor of their counterparts from Europe, South Korea, and Japan, partly out of spite, partly out of a need to have reliable suppliers. Moreover, as a result of these restrictions, China is accelerating its infamous "indigenous innovation" strategy like never before. China's chip industry is still several generations behind, but it is more likely to advance when deprived of external supplies. Rather than crushing China's high-tech designs, U.S. actions are fueling them.

The consequence will be slower global sales and a gradual loss of dominance for the U.S. chip industry. According to the Boston Consulting Group, a full decoupling with China would reduce the sector's revenue by 37 percent and lower its global market share to 30 percent; by contrast, China's market share would rise from 3 percent to 31 percent. And a weakened U.S. chip industry cannot but hurt the rest of the country's related sectors, including flagship companies and smaller suppliers as well as their employees.

One might think that the U.S. industry could prosper even more if it on-shored all of its manufacturing and locked Chinese competitors such as Huawei out of the West. But one industry insider told me the frank truth: "The idea that we can decouple from China and our industry will still be successful is not tethered to reality." A wholesale

relocation of fabs and the rest of the supply chain is entirely impractical. The costs would be prohibitive for both the initial move and the subsequent operations. A single advanced fab costs roughly \$10 billion to build and is not cheap to operate. And although China's growth is likely to slow because of debt and demography, no other combination of markets could make up for the lost sales if U.S. firms are shut out. This is why so few U.S. companies, particularly in high tech, are outright abandoning China.

NATIONAL SECURITY LOSSES

A smaller and relatively less dominant U.S. chip industry may be a reasonable sacrifice if crippling Huawei and tech decoupling were necessary to protect U.S. national security. But they are not; in fact, decoupling may have the opposite effect.

Most importantly, the United States' military preparedness would suffer. Over the last few decades, federal funding has stagnated, but U.S. industry has filled the gap and then some. Total semiconductor R&D by private firms in 2019 was almost \$40 billion, or nearly 20 percent of total sales. A less profitable U.S. chip industry means fewer funds available for R&D, and less R&D translates into less progress in accelerating computing power and developing new applications, including for the U.S. military and intelligence community. Conversely, as China fills some of the gaps created by the withdrawal of U.S. firms from their industry, China will have more resources available for their own civil-military fusion program.

The United States' openness to global talent, including from China, to work in the U.S. high-tech community has facilitated the country's innovation enterprise in both commercial markets and military applications in absolute terms and relative to China. Hundreds of thousands of Chinese students have obtained advanced degrees in U.S. universities; the great majority of them remain and help the United States maintain its advantage. In addition, having Huawei and other Chinese firms integrated into U.S.-led ecosystems is not just smart business, it also makes the United States safer. China is less likely to make radical advancements or place backdoors in its silicon when its products are rooted in our foundational technologies. And because of close commercial ties, the United States has greater visibility into the progress China does make.

Banning Huawei components from U.S. networks may reduce the risks to Chinese surveillance, but a singular focus on the supply chain may provide a false sense of security and result in the United States letting its

guard down to other cyber risks. Instead, there is a school of thought that effective cybersecurity begins with the assumption of “[zero trust](#),” viewing threats as possible from everyone and everywhere, regardless of the equipment. Having only U.S. or “trusted” suppliers will not on its own eliminate cyber risks. As a result, the benefits of building a “fortress” for safe networks may be overstated, especially if doing so distracts the United States from continuous monitoring and protection of networks and other emerging challenges.

Finally, the embeddedness of the United States’ economy, including in high tech, in the Asia-Pacific also raises the benefits of cooperation with its allies and raises the costs to China of greater aggression. Having a stake in each other’s success helps cement closer U.S. ties with South Korea, Japan, Taiwan, and ASEAN, and all of them with each other. A similar logic of shared interests because of economic interdependence has tempered China’s diplomatic and security behavior over the long run. Chinese actions in the South China Sea and elsewhere are deeply troubling, but fewer economic ties would lower the costs of such actions to China.

The taming benefits of interdependence apply most clearly to China’s relationship with Taiwan. The island’s economy has blossomed the last quarter century because of, not in spite of, the island’s economic integration with the mainland. Roughly 40 percent of Taiwan’s exports go to China, and cumulative Taiwan investment in China is over \$200 billion. All the while, the proportion of manufacturing jobs in Taiwan has held steady (26.5 percent).

If the new rules on chip sales are fully implemented and followed by further restrictions, Taiwan’s economy will suffer and the risk of cross-strait conflict will likely grow. The firm most immediately caught in the middle of this conflict is Taiwan-based [TSMC](#), the world’s largest chip contractor, who will soon have to stop doing business with Huawei, which currently counts for 12 percent of its revenue. Even if TSMC can [find other business in the short term](#) and can expand production in the United States over the longer term (an initial step is the proposed \$12 billion fab in [Arizona](#)), it still stands to suffer mightily over the long term if sales to Huawei and other Chinese customers dry up. Just about every major Taiwanese firm, from Foxconn to Acer to MediaTek, is highly dependent on the continuation of cross-strait commerce.

Close cross-strait economic ties are also vitally important to China. Not only do Taiwanese firms, such as Foxconn, employ millions of Chinese workers, but the island

also plays a crucial role in China’s tech sector. In chip production, even with the emergence of manufacturers such as Shanghai-based Semiconductor Manufacturing International Corporation ([SMIC](#)), TSMC is irreplaceable. This economic reality is a huge disincentive for China to openly use force against the island. A U.S. policy to strangle China’s semiconductor and telecom sectors, thereby decoupling China and Taiwan’s economies, [raises the security risks for Taipei](#), and hence, for the United States as well.

A BETTER WEI

A dash to comprehensive decoupling in high tech with China would do much more harm than good. Maintaining commercial ties, even in semiconductors and telecom, supports U.S. prosperity and safety. That said, because there are real risks from this connectivity, the U.S. needs a strategy that ameliorates these vulnerabilities while also preserving the relationship. The approach, what I call “principled interdependence,” would require U.S. policy toward Huawei and the related industries to shift along several dimensions.

Address the largest security risks with multiple tools and through coordinated action that has international legitimacy. The number one danger from Huawei comes from potential unauthorized surveillance by having its equipment in Western 5G networks. Hence, the U.S. ban on its equipment, as well as encouraging others to follow suit (as the United Kingdom most recently [announced](#)), may be entirely justified, particularly in government systems. That said, it is less clear that outright bans on non-5G equipment in all areas of commercial networks or handsets are justified. Everyone has a responsibility to achieve greater safety: Huawei must prove its equipment is trustworthy, network operators must certify that their networks are not compromised by the equipment they use, and governments must collect and share evidence about threats on an ongoing basis. Relatedly, such steps should be rooted in an international consensus, such as the [Prague Proposals](#) on ensuring security in the 5G era. Initiatives such as the “5G clean path” are likely to be ineffective because they smack of extraterritoriality in pressing other countries to adhere to U.S. demands for their own domestic networks.

Use export controls and investment restrictions to reduce national security risks, and use fair-trade tools to counter unfair commercial activity. Washington has for many years restricted a small subset of chip exports and investment with China. The legal limits have been steadily expanded, and the United States has even stepped in to block

some investment deals when Chinese state-backed companies have tried to acquire overseas chip firms and technologies. Such risk-based, targeted steps make sense. By contrast, the effort to deny Huawei components via the ongoing Entity List action is ill-advised. Although the Trump administration has offered vague [national security justifications](#), it seems that the true aim is to slow the company's push into 5G business and to generally weaken Huawei. But national security restrictions are a crude tool for addressing market distortions. Instead, the United States and other countries should use fair-trade tools to counter dumping and abuse of subsidies. Given Huawei's outsized market share in many jurisdictions, anti-monopoly lawsuits, accompanied by hefty fines and detailed requirements for changed behavior to continue business, may also be appropriate. The United States should also step up efforts to tighten multilateral rules on subsidies, including outlawing anticompetitive financing mechanisms from state-owned financial institutions. Importantly, both Huawei and its potential customers should be held accountable.

Diversify and compete, do not decouple. To reduce national security risks and promote healthy markets, the United States government, companies, and consumers should not be dependent on any single supplier or country, particularly when the overall bilateral relationship is deteriorating. But U.S. government actions to diversify and encourage alternatives still need to be rooted in market principles, not state fiat. It makes sense to encourage alternatives to Huawei, both in equipment and network architecture, such as the OpenRAN initiative. Yet it is critical not to rush toward any single solution; instead, the United States should require companies to win business through open competition. Monopolies are not good for the U.S. economy or its national security. Congress is considering several proposals to expand semiconductor R&D and manufacturing. Both make sense and appear to do so in a market-friendly way. Government R&D funds should fill critical gaps in commercial efforts, not replace them. Meanwhile, incentives for new chip fabs should be transparent, non-discriminatory, and oriented toward creating high-value jobs and advancing the technological frontier.

Applications matter as much as infrastructure. Diversifying suppliers and expanding domestic manufacturing for chips and network hardware is only fully justified if married to support for the industries and communities that will benefit from the faster computing power and greater bandwidth—telehealth, autonomous vehicles, advanced manufacturing, and virtual reality. The first leg of the 5G race is laying the pipes, but the ultimate victory in this marathon will go to those who invent and provide the myriad applications that will make societies more prosperous, safer, and secure. Facebook, YouTube, and Netflix won the 4G race; the United States needs to make sure their U.S. descendants in advanced services and the Internet of Things win in the 5G era.

HAVE CONFIDENCE IN THE UNITED STATES, NOT TRUST IN CHINA

A strategy of principled interdependence does not require the United States to trust Huawei or China but does depend on the United States having confidence in itself. The current road to outright decoupling is a race to the bottom, a chaotic and unprincipled slugfest, with the United States ending up as isolated as China. That translates into a poorer and more insecure United States that is less prepared to embrace the future. If the risks of remaining connected with China cannot be sufficiently ameliorated, then it would make sense to reduce the scope of the relationship. But given the huge costs, that should be the last option, not the first. ■

Scott Kennedy is senior adviser and Trustee Chair in Chinese Business and Economics at the Center for Strategic and International Studies in Washington, D.C.

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