Semiconductor Security Under Trump 2.0 — An Interview with Jimmy Goodrich

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Introduction

Jimmy Goodrich is a senior advisor for technology analysis at the RAND Corporation, senior associate at the Center for Strategic and International Studies, and nonresident fellow at the University of California Institute on Global Conflict and Cooperation. With nearly two decades of experience in the technology sector, Goodrich has established himself as a leading expert on the intersection of technology, geopolitics, and national security. As the former Vice President for Global Policy at the Semiconductor Industry Association, he led global policy and supply chain initiatives as well as efforts to successfully secure $52 billion in funding for the CHIPS and Science Act. Prior to his role at the SIA, Goodrich also directed China policy at the Information Technology Industry Council and worked in China's technology sector for seven years. Ahead of Trump's inauguration, DSET had the opportunity to speak with Goodrich, whose extensive experience and insights continue to shape critical conversations on Taiwan-US economic security cooperation.

U.S. Tech Policy Toward China:

DSET: How do you think the Biden and Trump administrations will differ in their approaches to China tech policy? What do Trump's cabinet picks suggest about trade and export control policies?

Jimmy Goodrich: There is bipartisan consensus amongst D.C. policymakers that China is one of the most important strategic challenges facing the U.S. and its allies.

While we don't know what the final cabinet will look like, the nominees include known China hawks like Marco Rubio and Mike Waltz. Even those with finance

backgrounds have expressed strong stances on China, particularly on tariffs, in op-eds and podcasts.

President Trump's cabinet picks reflect his preference for hearing from different personalities with different views. He likes having different ideas put forward and debated to see who can win based on the merits of their argument.

With six to eight years to think about how to respond, China is more prepared than in Trump 1.0. They have doubled down on dual circulation and a fortress economy. They have developed a big toolkit of regulations, including counter-sanctions, sanctions-blocking rules, restrictions on rare earth and materials, and their own Unreliable Entity List. They've already sanctioned Micron and threatened an investigation into Intel. We're all focused on Trump, but don't forget China has a say in everything too.

The Future Prospects of the CHIPS Act

DSET: Do you expect Trump, with a Republican Congress, to push for a second CHIPS Act?

Jimmy Goodrich: There is strong bipartisan support for enhancing U.S. domestic semiconductor production. There is also strong support for participation by foreign-invested enterprises. Let's not forget, the Trump administration invited TSMC to build a fab in Arizona. Congress and the administration said this should not only be about American companies. And frankly, the U.S. has no choice but to work with Taiwan, given its leading role in cutting-edge chipmaking.

But on both sides of the aisle, politicians and experts want to see more investment in the U.S. TSMC's investments here are fantastic, but they want more advanced technology to be produced at a larger scale in Arizona. TSMC has already committed to several expansions, but can more be done, and how?

When the tax credit for the CHIPS and Science Act expires in a few years, I'm hoping that Republicans will support its renewal. They generally support tax policy incentives. But we need to see how current projects pan out to know whether there will be a CHIPS 2.0.

DSET: How do you think Trump's "America First" agenda will play into whether a second CHIPS Act or other policies favor American companies?

Jimmy Goodrich: My understanding of "America First" does not mean the U.S. doesn't work with allies. For instance, the Trump administration worked with the Netherlands to coordinate export controls on extreme ultraviolet lithography.

The difference between the Biden and Trump administrations is that the Biden administration has allies first and America as equal, whereas the Trump administration always has America at the core of their interests. When interests align, they're willing to work together. When interests don't align, they're willing to use U.S. leverage more forcefully than the Biden administration.

Trump's Tariff Policies

DSET: Do you think tariffs could be implemented against Taiwan to attract not only TSMC but also Taiwanese firms in advanced packaging, materials, and server assembly supply chains to the U.S.?

Jimmy Goodrich: There is no doubt that we'll see increased usage of tariffs. That said, there is more bipartisan consensus around the usage of tariffs than you'd expect. The Biden administration did not fundamentally roll back the tariffs on China. They also imposed or increased tariffs on strategic items such as electric vehicles and semiconductors from the PRC.

The semiconductor industry is really complex. Design, front-end, back-end, and integration often occur in different countries. A simple tariff on Taiwan to force more production in the U.S. wouldn't necessarily work. There may not be as many chips flowing into the U.S. from Taiwan as you'd think. For instance, many of them might be assembled in Malaysia then integrated into a product in Mexico that is ultimately imported to the U.S. in an AI server.

Challenges in Export Controls

DSET: What do you see as the primary gaps in U.S. unilateral export controls?

Jimmy Goodrich: Successive administrations have issued hundreds of pages of regulation on both unilateral and multilateral controls to expand the scope of technology subject to control, but it is still narrow compared to the overall scope of U.S.-China trade in semiconductors.

A big deficit lies in oversight and implementation. Huawei managed to gain access to TSMC, and Chinese AI companies have either smuggled in tens, if not hundreds, of thousands of GPUs or used large data centers outside of China. Furthermore, public reports from Bloomberg and SemiAnalysis show Huawei has built up a large network of production facilities. A recent SemiAnalysis piece showed how somebody can connect two fabs as a way to possibly avoid export controls

China is agile in responding to US export control restrictions. It should be assumed that any country will have a counter-strategy to any U.S. action, but the U.S. response has been pretty slow or inadequate. The Biden administration said this third round of controls has addressed the circumvention, but the jury's still out on whether or not it will. It's a big question. Does the U.S. government have enough resources to do what SemiAnalysis called the "whack-a-mole game"?

There are increasing calls from Republicans to strengthen implementation and oversight of the regulations. The House Foreign Affairs Committee and the Select Committee on China have issued statements about this over the last few months. This will be a space to watch.

DSET: When evaluating whether the scope of export controls should include legacy chips, what considerations should factor into the discussion?

Jimmy Goodrich: Export controls, China's domestic market, and China's pre-existing stated objective to build a self-sufficient fortress economy based on dual circulation have all led China to rapidly expand the pace of its capacity addition in front-end semiconductor manufacturing, primarily for 200-300mm legacy logic or foundational semiconductors. These go into electric vehicles, solar panels, IoT devices, etc. Even an advanced server will have foundational semiconductors fabricated on larger feature sizes that do things like regulate the power and temperature of the server.

China is building the largest number of foundational semiconductor fabs, with over 40 planned or under construction. In steel, aluminum, shipbuilding, LED displays, electric vehicles, and batteries, we've seen big Chinese boosts in capacity not necessarily aligned with market demand that create pressure on incumbents outside of China, who don't have access to the same state capital or subsidies and just cannot compete. This is what market analysts and some in Washington are concerned about.

It is already impacting Chinese companies. An article in Caixin this year said even SMIC is facing pressure from Chinese startup foundries that are undercutting them on pricing. The question is if or when will it impact companies outside China. Right now, we're seeing more domestic capacity being filled by domestic companies. But at some point, will they export? That has been the story of every other industry.

Furthermore, this could lead to dependence. If China does dump products in overseas markets, then Ford Motor or Toyota could become dependent on the Chinese market for these foundational chips. There are arguments for and against whether it is happening. But it has happened in many other sectors, so the concern is warranted.

The solutions to this challenge are complicated. The first difficulty is that China's self-sufficiency in mature node chips is much stronger than it is in the advanced chips. They have an increasingly competitive semiconductor equipment industry and a materials industry that can provide most of the technology needed down to 90nm. That still means China has foreign dependencies for 65-28nm mature nodes, but China is making progress. The second difficulty is that there is a larger set of countries that can make equipment and materials that feed into the foundational chip market, making allied coordination more complex.

DSET: In practice, U.S. extraterritorial controls prevent major Taiwanese semiconductor firms from conducting business with Huawei, reducing the incentive for the Taiwanese government to strengthen its domestic export controls. What are your insights regarding this gap between the U.S. and Taiwan in strategic approaches to technology export controls?

Jimmy Goodrich: The U.S. has the most aggressive export control regime with regards to the PRC. If Taiwan is falling short in any area, many other countries are too. That said, what Taiwan does matters significantly to the security of the global semiconductor ecosystem.

Taiwan has a stronger focus than the U.S. in some ways but weaker focus in others. Taiwan is very focused on preserving the security of its own industrial base–perhaps more so than the U.S. On the flipside, Taiwan is less concerned than the U.S. about the export of its technology to the PRC in ways that could be misused.

Many years ago, Taiwan established explicit rules about what Taiwanese companies could and could not do in China. The preeminent goal was preserving Taiwan's global leadership. They did not want TSMC, UMC, or Powerchip to offshore critical capability while building factories in China. The N minus two then N minus one rules required companies to build at least one fab in Taiwan for every fab built in China. Fabs in China had to be a certain number of technology generations behind those in Taiwan, and any investment in China had to be approved.

In addition, Taiwan has a very robust regime preventing the theft of intellectual property and talent by China. Taiwan strengthened its economic security and trade secrets protection laws, and its Ministry of Justice has aggressively pursued violations. Taiwan is one of the only countries to completely prohibit investment by Chinese chip design firms. They have also made headhunting on behalf of Chinese companies illegal. These are all things the U.S. can learn from Taiwan.

Surprisingly however, Taiwan's government currently has a laissez-faire approach toward high technology dual-use trade with China. Unlike the U.S., Taiwan has not created an entity list, maintained an end user list, or established a military end use rule requiring Taiwanese companies to determine whether the items they sell could end up in the Chinese military. The perspective in Taiwan has been to "睜一隻眼閉一隻眼 (turn a blind eye)."

The recent example of Bitmain and TSMC is just the tip of the iceberg. Several years ago, it was reported that Taiwanese companies were producing for a PLA-owned company. The Washington Post also investigated the export of machine tools from Taiwanese companies to China and Russia. Taiwan lacks strong enforcement or

even in some cases regulation of dual use technologies that could be used for military systems in China. While Taiwan observes the Wassenar Arrangement, many now perceive that as insufficient on its own without stronger end-use and technology-based controls outside the scope of these arrangements.

Ironically, Taiwan has the most to lose from that weakness. Taiwan is directly staring down the military threat from China more so than than any other country. Many policy analysts in D.C. are perplexed that the Taiwanese government and society haven’t paid attention to this.