

U.S.-China Semiconductor Competition Under Trump 2.0 — An Interview with Matthew Turpin

Authored by Fanny Chao

Interviewed by Fanny Chao and Chiang Min-yen

Introduction

Matthew Turpin, who served in the National Security Council under Trump and shaped the U.S.-China semiconductor competition strategy, is now a visiting scholar at Stanford's Hoover Institution, a senior advisor at Palantir, and the co-author of the book *Silicon Triangle: The United States, Taiwan, China, and Global Semiconductor Security*. Turpin remains a key figure in the U.S.-China semiconductor rivalry. DSET interviewed Turpin to assess various aspects of U.S. semiconductor policy. The interview, conducted on October 22, took place shortly before the U.S. presidential election. With the Republican Party assuming full control of government, Turpin's insights on U.S. competition strategies and policy tools are thought-provoking for Taiwanese readers.

Evaluating Tech Controls on China

DSET: In the face of such export controls, China's technology continues to advance. Huawei seems to have already produced 5-nanometer chips, and reports indicate that Xiaomi has successfully trial-produced 3-nanometer chips. Moreover, according to a recent on-site report by *CommonWealth Magazine* on Chinese AI companies, they believe that the actual impact of U.S. export controls is limited. On one hand, China can develop its own chip alternatives; on the other hand, the chip smuggling market allows these companies to still acquire relevant products. How do you assess the progress of China's technology? Do you think China still has the capability to compete with the United States in advanced technology fields?

Turpin: My sense is that at the scale they need the number of advanced chips, smuggling is actually quite difficult. To get them at the number that you need, you

could get hundreds or thousands, but it is much more difficult to get tens of thousands or hundreds of thousands. So, could we go down to a night market or whatever in Shenzhen, and find H-100 chips? Sure, I'm sure we could. Can we find 10,000 or 100,000 of them? No. But that's the scale needed. So, they're absolutely right, there are some available, and smuggling does work, but that is not a long term industrial level solution.

I think in many ways, what we're seeing is a desperate effort by Beijing and some of its corporate allies to portray export controls as ineffective and something that the U.S. government shouldn't even bother with. They don't work, so the U.S. just shouldn't even do it. There's an old saying in the U.S. Air Force that the flak is heaviest when over the target. So when the Chinese government complains the most about bringing up export controls over and over again, on the one hand saying that this is terrible and it must be relieved, and on the other hand saying it's not effective, you shouldn't even bother doing this, because we're getting around it and releasing a three nanometer chip. You should be a little suspicious of the time and energy they put into releasing all of that. Doing all that might be because you're actually making a difference, right? Because if they were actually being quite effective, they might not want to talk about it. So one of the reasons for talking about it is to feed a narrative that export controls don't work.

DSET: The U.S. has a tool box to address legacy chips. In *Silicon Triangle*, you mentioned anti-dumping and countervailing measures (AV/CVD). During Trump's term, Section 301 investigations were common, and former Congressman Mike Gallagher called for tariffs on products with China's legacy chips. Could you assess the applicability and impact of these tools?

Turpin: The process of an AV/CVD needs a company that's been harmed to bring a case. So let's imagine that China starts dumping DRAM chips to the United States, that means an American company would have to come to the U.S. government and accuse China for dumping in the U.S. market. Right now, that's like Micron. Yet, Micron is unlikely to do so because they fear retaliation in the Chinese market.

Section 301 investigation is also an option, it enables a broader set of actions. It's completely up to the executive branch of how it uses it. The President would have

wide authority to be able to do things. To impose Section 301, you have to do an investigation that is opened up in public comment for 6 months. So, let's say the administration starts on January 21, a few months before they even could start the investigation, the process takes at the fastest six to eight months. You could take an existing Section 301. There's a chance that we don't know all the investigations are ongoing now, so there may be some that will finish up and would be available to a new administration. (Note: According to media reports, the Biden administration plans to launch an investigation into China's legacy chips under Section 301 of the Trade Act before leaving office.)

For other options, you could change export control regulations relatively quickly, and impose those changes so you should block the export to certain components or software or spare parts. Also, if you find a connection with forced labor that could fall under the Uyghur Forced Labor Prevention Act, the customs department can block it at the border. There's a variety of options. All those things you'd have to investigate more thoroughly. Some of them are much quicker than others. Some of the burden of proof is relatively low.

My fear is, if you get to a point in time where it's a little bit too late, and then you need to think about it, okay, so what do you do afterward? It could be that there are still things that can be done. With tools like the executive order of the Office of Information and Communications Technology and Services (OICTS), you could prohibit the import of change-manufactured legacy chips. Which would force a company like Apple or any other ones that wanted to sell a job to the United States not to put those chips in and only rely on chips that are either from Japan, the U.S., Taiwan or Korea. You could do that. It might not be easy to do, but you could do it, which would then keep that market open.

Taiwan's Semiconductor Security

DSET: How do you assess the concept of "silicon shield", and its impact on the next administration's semiconductor cooperation policy with Taiwan? For instance, as supply chain security gains attention, might TSMC face more U.S. demands to expand facilities or to deepen ties with American suppliers?

Turpin: I think we should be very clear that Beijing doesn't wish to take Taiwan because of semiconductors. Semiconductors are not the reason why either Beijing covets Taiwan or is deterred from taking Taiwan. The Chinese Communist Party desires to take Taiwan because it is a threat to the legitimacy of the party. It demonstrates that the Taiwanese people can have a prosperous democracy without a Leninist Vanguard party leading them. The party is terrified of mainland Chinese learning that, in fact, you actually don't need a Leninist Vanguard Party that has a monopoly hold on power, you could actually have a multi-party democracy, and you could be prosperous. That's the reason why the party wants Taiwan. We should be very clear, semiconductors are not the reason. So the idea that there's a silicon shield that guards Taiwan is a myth. So, what do I think of the U.S. Taiwan relationship is likely going to continue to be the relationship we've seen over the past few decades. The U.S. has its own interests for why it wants to have a strong relationship with Taiwan, which is independent of the competition with China. We have our own interests in doing so, and that'll continue.

For TSMC's part, I would go back to the logic of what we discussed: if you're TSMC, and you're looking at the total available market for the kinds of chips you produce. And you do some back-of-the-envelope planning on, like, the number of fabs you need. It's really hard to understand how you would put that number in Taiwan, right? Given that your existing ones are all going to still run and you're going to upgrade them, they're going to continue to churn out advanced chips. The number of chips that the market will buy is going to exceed what you can produce in Taiwan. And so I would suspect to see TSMC say: once I have a footprint in Japan, Arizona and Europe that is functioning and able to grow, I'm going to grow that. Because, in fact, it's in my interest to be able to expand, to be able to service the market that's under demand. And if I don't do that, I'm going to get a competitor that will grow to be able to fulfill that need, and then I'm going to be under pressure, right? So I think from a commercial perspective of TSMC, it makes perfect sense to do this.