

Biden's Chip War With China Is an Imperial Struggle for High-Tech Supremacy

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As these two states fight for dominion over global capitalism, it's time to unite for collective liberation.

Contents

- [The Microchip and the Military](#)
- [Turning a Profit, Exploiting](#)
- [Transforming the Kill Chain in](#)
- [Winning the Cold War But \(...\)](#)
- [Washington's Hubris in the \(...\)](#)
- [China's Assault on Washington'](#)
- [The Empire Strikes Back](#)
- [Biden's Chip War](#)
- [Internationalism From Below](#)

The rivalry between the U.S. and China has hit fever pitch. Whatever rapprochement seemed in the offing with Secretary of State Antony Blinken's scheduled summit with Xi Jinping in February was blown sky high when Washington's fighter jets shot down Beijing's balloon over the Atlantic Ocean. With each accusing the other of illegal surveillance and imposing sanctions, the much-anticipated summit has been postponed.

Despite their deep economic integration and record trade in goods of [\\$690 billion in 2022](#), the two powers are at loggerheads over everything from military supremacy in the Indo-Pacific to Russia's imperialist invasion of Ukraine, to trade and investment in the Global South. The U.S., of course, remains the world's dominant imperialist power, but now China poses a threat to its hegemony.

At the center of this conflict are microchips, which are as important to global capitalism today as oil. They are indispensable components of everything from mobile phones to cars, PCs, government computers, satellites, surveillance systems, tanks, warplanes and missiles. Without them, companies, states and militaries could not function.

The U.S. and its allies like Taiwan, South Korea, Japan and the Netherlands have dominated chip design and manufacturing. The Biden administration is determined to stop Beijing from developing its own chip industry and thereby [challenging U.S. hegemony](#).

Chris Miller's new book, [Chip War: The Fight for the World's Most Critical Technology](#), is the best account of the high-tech rivalry between the U.S. and China. Miller is an establishment academic at Tufts, Jeane Kirkpatrick Visiting Fellow at the American Enterprise Institute, an advocate of U.S. imperialism and fan of free market capitalism. *Chip War* has won praise from a ["who's who" list](#) of

the political, corporate and military establishment, from Larry Summers to Robert Kaplan and Admiral James Stavridis.

It chronicles the development of microchips in Washington's military-industrial complex, the pivotal role they played in defeating the USSR in the Cold War, and their centrality to today's inter-imperial conflict between Washington and Beijing. Despite its systematic bias in favor of the U.S., it is essential reading for the internationalist left to understand the centrality of high tech to today's inter-imperial rivalry between the U.S. and China.

The Microchip and the Military-Industrial Complex

As Miller documents, modern capitalism with its giant states and corporations needed greater and greater ability to "tabulate payrolls, track sales, collect census results, and sift through data on fires and droughts that were needed to price insurance policies." These tasks were initially performed by vast armies of human "calculators."

The Second World War drove the great powers to automate these tasks. But the mechanical devices they devised proved cumbersome and inaccurate. As an alternative, University of Pennsylvania researchers developed early computers that used vacuum tubes, but the tubes were enormous, slow and unreliable.

During the 1950s, as the Cold War was heating up, a collection of pioneering engineers at various companies and startups like Texas Instruments and Fairchild Semiconductor designed integrated circuits embedded in silicon chips to replace vacuum tubes, enabling them to make far smaller and more reliable computers.

After Moscow's Sputnik launch, the Defense Department, through its Defense Advanced Research Projects Agency (DARPA), turned to these corporations to develop chips and computers for their planes, missiles and spaceships. The companies built new fabrication plants (fabs) to manufacture computers for everything from Apollo II to the Minuteman missile.

In 1965, the Pentagon and NASA purchased over 72 percent of all chips. Thus, the U.S. state spurred the rise of the high-tech companies in Silicon Valley and the two have been tightly integrated ever since, fusing imperial policy, capitalist industry and the military.

Turning a Profit, Exploiting for Cheap Labor and Internationalization

Dissatisfied with the limits of government contracts, the companies realized that they could make enormous profits in the burgeoning consumer electronics industry, which quickly became the main purchaser of chips. Competition for profit and market share drove innovation, more efficient production processes and a quest for ever cheaper labor.

These companies raced to find new ways to embed more transistors in integrated circuits in silicon chips to increase their computational power. Gordon Moore, the co-founder of Fairchild and Intel, predicted the doubling of the numbers of transistors in chips every two years — so-called Moore's Law.

Innovate they did, with ever more complex technology at ever greater cost in capital investment. To cut labor costs, they built fabs away from union strongholds in the country's traditional industrial centers and employed women workers at low wages.

Their quest for cheaper labor drove them to relocate their fabs to Asian countries allied to the U.S. like Hong Kong, Taiwan, Malaysia, Singapore and South Korea. They paid mainly women workers at a fraction of the cost of U.S. labor. Thus, Miller observes, “the semiconductor industry was globalizing decades before anyone had heard of the word, laying the grounds for the Asia-centric supply chains we know today.”

The U.S. state encouraged this internationalization, including in Japan, its former enemy in the Second World War, but now its vassal in the Cold War. Washington saw the development of a Japanese electronics industry oriented toward the U.S. market as a way to bind the country, along with other Asian states, to its side against Mao’s China and the USSR.

Transforming the Kill Chain in Vietnam

The U.S. war in Vietnam accelerated all these developments. With its ground war failing, Washington turned to carpet bombing the country in a desperate attempt to crush the national liberation struggle.

But their guided munitions were still reliant on vacuum tubes and were therefore unreliable and inaccurate. To “transform the kill chain,” the U.S. contracted Texas Instruments to make guidance systems with chips instead of tubes.

While they were far more effective, they could not defeat the Vietnamese. Nevertheless, as Miller callously observes, “Vietnam had been a successful testing ground for weapons that married microelectronics and explosives in ways that would revolutionize warfare and transform American military power.”

The success of these weapons compelled the Soviet Union to create its own Silicon Valley — Zelenograd. But, as Miller smugly notes, it lacked the dense network of profit-driven companies that was the source of innovation in the U.S. and was therefore reduced to stealing and copying chips.

While this gave the U.S. the upper hand in the arms race, Washington worried that its defeat in Vietnam might lead its Asian vassals to drift into the orbit of China and the USSR. To prevent this, the U.S. fostered the continued development of the high-tech industry throughout the region.

“From South Korea to Taiwan, Singapore to the Philippines,” Miller writes, “a map of semiconductor assembly facilities looked much like a map of American military bases across Asia.... By the end of the 1970s, rather than dominoes falling to Communism, America’s allies in Asia were even more deeply integrated with the U.S.”

Winning the Cold War But Losing Tech Supremacy

The U.S. incorporated the industry’s breakthroughs to revolutionize its military and help it win the Cold War. In the 1970s, William Perry, undersecretary of defense in the Carter administration, implemented a new “offset strategy” to improve the quality and accuracy of the Pentagon’s missiles to counteract Moscow’s quantitatively bigger arsenal and force it into an unwinnable and burdensome attempt to keep pace.

The U.S., however, soon faced an unintended consequence of its internationalization of chip manufacturing: the creation of rival centers of the high-tech industry. The Japanese state bankrolled Sony, Nikon, and others that increased their market share at the cost of Silicon Valley’s companies.

By 1986, Japan produced more chips than the U.S. and was making 70 percent of the world's lithography equipment, which is essential to making semiconductors. The U.S. had become dependent on Japan right at the moment when Tokyo seemed ready to assert itself as a great power rival.

Not for the first or last time, the U.S. state and capital reasserted themselves against a challenger. Washington cut interest rates and taxes, and compelled Japan (along with other countries) to accept the "Reverse Plaza Accord," which devalued the dollar. As a result, U.S. corporations were to secure cheap loans and, based on the weakened dollar, sell their exports at competitive if not cheaper prices than their international competitors.

Micron, Intel, and others took full advantage, partially restoring U.S. tech dominance. Washington, through DARPA and NASA, aided them in the process, giving contracts to start-ups like QUALCOMM for space communication systems.

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Japan and its corporations soon were on the defensive. They were challenged at the high end by U.S. corporations and at the low end by the emergence of chip manufacturers in countries like South Korea, which bankrolled its own conglomerates like Samsung that made chips far more cheaply than Japan.

At the same time, Reagan's Second Cold War forced the USSR into high-tech arms race that it could not afford and could not win, especially amidst its decade-long occupation of Afghanistan. Finally, its empire fell in 1989 and the Soviet Union itself cracked up in 1991. Miller chalks the U.S. victory up to its technological prowess, boasting "the Cold War was over: Silicon Valley had won."

Washington's Hubris in the Unipolar Moment

The U.S. entered a new era of unrivalled hegemony — [the unipolar moment](#). To demonstrate its power, Washington put its high-tech weaponry on full display in the 1991 Gulf War, launching precision-guided cruise missiles and bombs that laid waste to the Iraq's military and infrastructure, casting what had been a relatively advanced society back to a [pre-industrial age](#).

Miller celebrates this barbarism, quoting *The New York Times's* boast that the war was a "triumph of silicon over steel" and another headline bragging "War Hero Status Possible for the Computer Chip." Triumphant, Washington adopted a new imperial strategy of superintending the world economy by incorporating states into a neoliberal world order of free trade globalization.

The U.S. used the International Monetary Fund, World Bank, World Trade Organization and UN to

enforce this order, deploying its military to conduct regime changes against any so-called rogue states and carry out so-called peacekeeping missions in countries like Haiti torn apart by free market policies. It pressured all the states of the world to slash their welfare states, reducing the role of government to enforcing the laws and norms of global capitalism.

The U.S. believed that its corporations could retain their technological superiority through globalization and innovation. It ignored China's state management of its economy and welcomed it into the World Trade Organization, naïvely believing that integration into global capitalism would lead it to adopt free market norms and democratize. Multinational corporations cared little about such niceties and were more interested in [exploiting China's cheap labor](#) and getting access to its market.

Contrary to Washington's hopes, globalization led to the relative decline of the U.S. tech industry. The U.S. retained its lead in the design of chips, but increasingly fabrication was done by TSMC in Taiwan and Samsung in South Korea. And some of the key tools like EUV Lithography, essential for making the highest end chips, were now manufactured by [ASML](#) in the Netherlands.

As a result, Miller documents, "U.S. fabs made 37 percent of the world's chips in 1990, but this number fell to 19 percent by 2000 and 13 percent by 2010." Most of the fabs that the U.S. now relied on were in Asian countries right next to China, which was quickly becoming a rival of the U.S.

China's Assault on Washington's High-Tech Fortress

Washington disregarded these problems until China's economic rise combined with U.S. defeats in Iraq and Afghanistan and the Great Recession led its relative decline as a superpower. The U.S. remains the dominant global power, but now in an [asymmetric multipolar world order](#) where it faces China and Russia as imperial rivals, as well as a [host of regional powers](#) that jockey between them.

While China has become the world's second-largest economy, it remains dependent on the U.S. and its allies for computer chips. "During most of the 2000s and 2010s," Miller observes, "China spent more money importing semiconductors than oil. High-powered computer chips were as important as hydrocarbons in fueling China's economic growth. Unlike oil, though, the supply of chips is monopolized by China's geopolitical rivals."

In 2015, Xi Jinping set China's sights on overcoming this dependency. In a stunning speech that Miller quotes, Xi exhorted Chinese tech executives and party officials to "assault the fortifications of core technology research and development." He launched projects like China 2025 that subsidize national high-tech champions and chip producers with the goal of reducing the country's share of imported chips from 85 percent in 2015 to 30 percent by 2025.

Xi encouraged Chinese corporations to form joint ventures with multinationals like IBM and QUALCOMM on the condition that they agree to transfer their tech in exchange for access to the Chinese market. He also pushed corporations to buy up or merge with high-tech firms in Asia, Europe and the U.S.

As a result of these efforts, China has built a high-tech ecosystem featuring corporations like Huawei, which began designing some of the world's most advanced chips for smart phones; became the second-largest customer for Taiwan's TSMC; and pioneered the next generation of telecom infrastructure, 5G, that it planned to sell to countries throughout the world.

"If the trends of the late 2010s were projected forward," Miller contends, "by 2030 China's chip

industry might rival Silicon Valley for influence. This wouldn't simply disrupt tech firms and trade flows. It would also reset the balance of military power."

The Empire Strikes Back

The Washington establishment realized it had suffered relative decline, become dependent Taiwan and South Korea for its chips, and faced China as a rival with an increasingly sophisticated high-tech industry deeply integrated with its military. Even tech executives, Miller writes, "privately ... feared that state-supported Chinese competitors would grab market share at their expense."

Thus, a new "Washington Silicon Valley Consensus" developed against China. The last three presidential administrations have shifted from D.C.'s previous strategy of engagement with China to a strategy of containment of China's rise, specifically in high tech. To use political scientists Henry Farrell and Abraham Newman's apt phrase, the U.S. "weaponized interdependence," targeting China's reliance on foreign chips.

As part of its "Pivot to Asia," the Obama administration in 2016 banned U.S. firms from selling semiconductors to China's ZTE, claiming the company had violated sanctions on Iran. Only an agreement with President Donald Trump to pay a fine to regain access to U.S. suppliers saved the company from total collapse, but the ban was a sign of things to come.

The Trump administration, which [reoriented U.S. imperialism](#) from the "war on terror" to great power rivalry with China and Russia, targeted Beijing's tech industry, specifically Huawei. Using national security as justification, the Commerce Department prohibited U.S. companies from selling chips, hardware and software to the company.

Soon, other corporations and U.S. allies caught on and began following suit. [Taiwan's TSMC](#) fell into line as did [Britain and others](#), restricting its access to high end chips and sabotaging its attempt to corner the market on 5G. The U.S. then blacklisted China's supercomputer manufacturers Sugon and Phytium and put restrictions on SMIC, its most advanced chip manufacturer.

Biden's Chip War

[The Biden administration](#) doubled down on Trump's strategy of great power rivalry but dispensed with his unilateral tactics for multilateral ones. It sustained the tariffs and bans against Chinese companies and paired them with a new industrial policy to restore domestic production of high technology and invest in chip research and development.

In a 2021 speech before CEOs at the White House Biden declared, "For too long as a nation, we haven't been making the big, bold investments we need to outpace our global competitors." Holding up a silicon wafer, he shamed the assembled bosses for "falling behind on research and development and manufacturing.... We have to step up our game."

To reverse the loss of domestic fabs, Biden cut a deal with TSMC to build a [\\$40 billion plant in Arizona](#). In exchange for tax breaks, [Samsung is slated to shell out \\$191 billion](#) to construct 11 new fabs in Texas. The administration's CHIPS and Science Act will plow [\\$280 billion](#) into funding more fabs and new research and design in specialized chips, artificial intelligence and robotics.

But even as Taiwan's TSMC and South Korea's Samsung build plants in the U.S., they are resisting becoming mere pawns of Washington and are at the same time constructing fabs in China. But none

of these are as advanced as the ones in their own countries. Both states are protecting their industries while playing the two great powers off against each other.

To box them in, Biden is expanding the number of [Chinese companies on the blacklist](#) to prevent the sharing of tech. Like Trump, he is using national security as an alibi to bully other countries' corporations to do the same in an attempt to shut off China's access to the most advanced chips, manufacturing tools and fabs.

That crackdown is only accelerating [China's drive to establish its own chip industry](#). And Washington's attempt to close China's access to TSMC is superheating the conflict between the U.S. and China over Taiwan, which Beijing views as a renegade province while the U.S. arms it to deter any Chinese attempt to take it over and lock in American hegemony over the Asia Pacific and its technology industry.

Thus, as Miller argues, "Taiwan isn't simply the source of the advanced chips that both countries' militaries are betting on. It's also the most likely battleground." With tensions escalating, Chinese government analysts "have publicly argued that ... 'we must seize TSMC'."

Internationalism From Below Against Imperialist Rivalry

While war is unlikely for now, it would be, as Miller points out, "naïve to assume that what happened in Ukraine couldn't happen in East Asia." Thus, "Balloongate" is no laughing matter; it is a symbolic war for now, but it could become a real one over Taiwan, and if that were to happen, it would wreck the world economy and threaten human civilization with nuclear annihilation.

The international left must oppose this intensifying inter-imperial rivalry and its chip war. We must reject Miller's framework — which he shares with the Biden administration — that backs the U.S. and its "democratic capitalism" against autocracies like China.

The U.S. and its multinationals preside over [robber baron era inequality](#) at home, [impose destitution on the Global South](#), and have proved ready to lay waste to countries that buck their rule from Vietnam to Iraq. At the same time, we must oppose China with its [deep inequalities](#), horrific oppressions like that of the [Uyghur people](#) and [imperialist ambitions](#).

We must reject nationalist allegiance to either state, and instead build international solidarity from below between workers, the oppressed and peoples in smaller nations like Taiwan. Activists in the U.S., China and the rest of the world have begun to blaze this trail.

Chinese international students — with the backing of U.S. activists — organized actions in support of the [Blank Paper protests](#) in China against zero-Covid lockdowns. Radicals throughout the world have supported Hong Kong's uprising, Uyghur struggles for self-determination and the Taiwanese people's efforts to avoid being caught in a conflagration between the two great powers.

The labor movement will be a key means to advance such solidarity. *Labor Notes* has in the past put [Chinese workers on tour in the U.S.](#), tech workers have built common fronts globally in [their industry](#) and Chinese students have joined their fellow American workers in [organizing campus unions and strikes](#) like the one in California.

Most importantly, the U.S. left must forge bonds with [the new Chinese left](#) to oppose the militarism of both Washington and Beijing. With these two states fighting for dominion over high tech and global capitalism, now is the time to unite popular struggles throughout the world for our collective

liberation from what Martin Luther King Jr. called the three evils of the system — racism, poverty and war.

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P.S.

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