Newsletter

The Deep Dive: Microchips Macroeconomics

By Supernews Daily · 6/20, 16:28 EDT

Supernews Feature Article

U.S. National Security Policy's Negative Impact on Nvidia's Global Sales

There are over one trillion microchips made every single year worldwide, and with the AI revolution underway, there doesn't seem to be any slowing down. This relationship between advanced microchips and artificial intelligence has been especially profitable for Nvidia, which has emerged as the world's leading AI chipmaker. While originally founded to develop graphics processing units for the video game industry, Nvidia's GPUs have become a cornerstone of modern AI development. Such innovation has led to a jaw-dropping surge in investments in the company, with Nvidia just crowned the most valuable company in the world. But at the same time, Nvidia now finds itself trapped in the middle of a new Cold War, as the world's competing superpowers vie for technological dominance.

As Jacob Helberg, a commissioner for the U.S.-China Economic and Security Review Commission, told CNBC, "In areas of advanced computing that have significant spillover effects on the development of artificial intelligence and things like large language models, which have potent military applications, we are going to see a bifurcation into a Chinese led technology world and American led technology world." Essentially, Nvidia is being forced to navigate between the Scylla of U.S. export restrictions and the Charybdis of China's burgeoning domestic competition.

It's taking a toll on the technological powerhouse, which has suffered some bruises. In October last year, President Biden announced new rules aimed to curtail the workarounds companies like Nvidia and Intel made to distribute chips to China. Soon after, Nvidia issued an 8K Report detailing how this new shift in policy could threaten Nvidia's longterm product development and force the company to relocate certain operations.

The H20 chip, Nvidia's most advanced offering tailored for the Chinese market, has also seen a tepid reception. That's led to an oversupply, forcing Nvidia to offer discounts exceeding 10% compared to Huawei's competing product. This pricing strategy highlights Nvidia's struggle to maintain its foothold in a market that once contributed significantly to its revenue. The U.S. sanctions, which have barred Nvidia from exporting its most advanced GPUs to China, have forced the company to innovate within constraints, developing chips like the H20 that comply with regulatory limits.

Gordon Chang, author of *The Coming Collapse of China*, spoke to Supernews about the effects these policies have. “Nvidia certainly is caught between China and the United States,” he said, “and we can see this in its results… in the fourth quarter, which ended January 28th, they had $1.9 billion in China sales which was 9% of their totals. You compare that to the previous quarter where they had $4 billion in China sales, which was 22% of their sales. That was a result of President Biden's additional restrictions on chip sales… so it's clear that Nvidia is being hurt by this.” Chang explained that, “there'll be a less profitable market, because the chips that it is allowed to sell have thinner margins,” since Nvidia has to sell less powerful chips that Huawei is better able to compete against.

“Nvidia lost its number one spot in the Chinese AI chip market to a local competitor. So clearly China is doing something right.”

Gordon Chang X @GordonGChang

Huawei, leveraging its domestic advantage and government support, has ramped up production of its Ascend 910B chip, which reportedly outperforms Nvidia's H20 in several key metrics. This has led to a significant increase in demand for Huawei's chips, particularly among state-affiliated buyers, further eroding Nvidia's market share. Chang believes this could indicate a turning point. “Nvidia lost its number one spot in the Chinese AI chip market to a local competitor. So clearly China is doing something right," he said.

The Chinese government's directive for tech giants like Alibaba, Baidu, and Tencent to prioritize local AI chips over foreign ones adds another layer of trouble for Nvidia. While this policy has not been strictly enforced, it signals a clear intent to bolster domestic semiconductor capabilities and reduce reliance on U.S. technology. The move is part of a broader strategy under President Xi Jinping's leadership to achieve technological self-sufficiency and mitigate the impact of U.S. sanctions. This Xi Jinping-led campaign to eliminate American technology, known as "Delete A", highlights the intensity over the high-end chip war on a macro level.

The Biden administration's export controls aim to protect American national security by limiting China's access to cutting-edge AI technology. However, these measures have also spurred China's domestic semiconductor industry to accelerate its development. Companies like Semiconductor Manufacturing International Corp. (SMIC) are increasingly incorporating homegrown equipment into their production lines, striving to reduce dependence on American tools and technologies. This push for self-reliance is evident in China's substantial investment in semiconductor production capacity, which is set to outpace the rest of the world combined this year. "One can argue about the economic utility of this," Gordon Chang told Supernews, "but they view it as a national security matter. So they'll continue to do this regardless of whether we consider they're successful or not."

Nvidia's efforts to navigate these turbulent waters reflect the broader challenges faced by global tech companies caught in the crossfire of U.S.-China tensions. The company's strategic decisions, from price adjustments to the development of compliant chip models, have been a delicate balancing act. Nvidia CEO Jensen Huang has acknowledged the critical importance of the Chinese market, warning that there is no contingency plan if access to this market is lost.

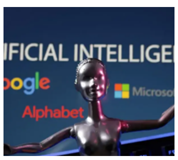
As a consequence, though, the U.S. and China are increasingly ring-fencing their technological domains, and in the end companies like Nvidia could suffer from this competition. This "two tech stack divide" poses significant challenges for companies like Nvidia, which must adapt to a fragmented market while continuing to innovate and compete. While the international competition will lead to heightened governmental support, with the U.S. government subsidizing tech companies over $100 billion and China building 30 new facilities to support its own supply chain, the fragmented and tightening market also leaves potholes in the road ahead for the semiconductor industry.

Nvidia has found innovative workarounds in the meantime to still access Chinese markets. Employed by Chinese firms to access advanced AI chips, many of them are still in fact doing business with Nvidia. ByteDance, for instance, has been renting Nvidia's top-tier H100 chips from Oracle's U.S.-based data centers, exploiting a loophole in the export restrictions. This arrangement allows ByteDance to develop sophisticated AI models in the U.S. and potentially transfer the technology back to China, thereby circumventing the intended impact of the sanctions. It appears the U.S. Commerce Department is aware of the situation however, and this circumstance, like the updated restrictions on chip sales in October, may be accounted for soon.

Zooming out, Nvidia's situation in China is a microcosm of the broader geopolitical and economic forces reshaping the global technology industry. The company's strategic responses to U.S. sanctions and domestic competition, and innovative workarounds with Chinese firms highlight the complexities of operating in a highly politicized environment. As the U.S. and China continue to fight for technological supremacy, companies like Nvidia will need to navigate an increasingly intricate landscape, balancing regulatory compliance with market demands and competitive pressures. “Of course, we want American companies to lead in innovation,” U.S. Commerce Secretary Gina Raimondo told CNBC, “but national security comes first.” The risk for Nvidia is that having national security come first could push them out of first.

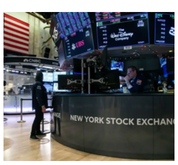
can trust.

Read Next



Why it's Time to Take AI Profits Off the Table

Consumers Charge Up the Debt

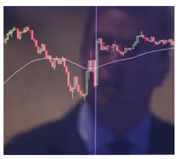


Don't Fight the Fed & Don't Crash the Tesla

Your Skyrocketing Utility Bill is About to Go Higher

Another S&P 500 Record & Tesla Stock Zooms Higher

Let the Good Times Roll for Tesla and the U.S. Economy

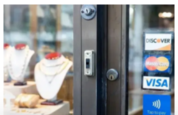


Will the Nasdaq and S&P 500 Bull Run Continue?

The Biden Short Squeeze

Most Read

Biofuel Stocks Plunge; Neste, Green Plains Face Losses

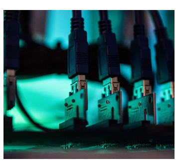


Consumers Charge Up the Debt

Tell me about the markets today

re, Skydance Merger Monday

Bitcoin Drops 5% to $54,400 on Mt. Gox and German Sales Fears



CD&R, Permira Eye €2B Buyout of Exclusive Networks