

As The U.S. Charts Its Economic Course, It May Take A Cue From China's Playbook

By Drew Bernstein

America's Great Leap into Industrial Policy

Recently, the G8 Summit hit on a few interesting aspects of how the global economy has shifted. What stands out to me is the parallels between the two most powerful countries in the world. If imitation is the sincerest form of flattery, then China's government should be blushing over America's recent embrace of industrial policy. While politicians dating back to Alexander Hamilton have seen the virtues of protecting American domestic manufacturing, Washington's policy consensus in recent decades has emphasized the role of free markets in spurring trade and innovation.

That has changed dramatically under the emerging "Bidenomics" doctrine that favors protecting America's technological and economic leadership through the muscular encouragement of onshore production and limiting China's access to advanced technologies. The administration has laid out markers of "must-win" industries essential to American prosperity.

"We need America to dominate in certain areas of technology—critical minerals, electric vehicle batteries, semiconductors, artificial intelligence," Commerce Secretary Gina Raimondo said recently. "The most important thing we can do to compete with China is invest in America."

As a former venture capitalist, Raimondo knows that some \$240 billion in VC money was invested in America's innovation sector in 2022 alone. But in its two signature industrial policy pieces of legislation, the Biden administration has bolstered private risk capital with directed investments funded by taxpayers.

- The CHIPS and Science Act, signed into law on August 9th, 2022, provides \$280 billion over five years to fund research and manufacturing of semiconductors, advanced computing, energy storage, and nuclear physics. \$39 billion of that is dedicated to expanding domestic semiconductor manufacturing. Companies must commit not to expand advanced chip manufacturing in China for the next decade to qualify.
- The Inflation Reduction Act was signed only days later, on August 16th, 2022, with an estimated \$394 billion in tax breaks to encourage clean energy transition – everything from subsidies for purchasing electric vehicles and heat pumps to inducements to build new solar and battery manufacturing facilities in the U.S. These incentives have set off a green gold rush and could end up costing anywhere between \$240 million and \$1.2 trillion, according to Brookings Institute's estimates.

Concurrently, the U.S. has sought to restrict China's access to the advanced technologies required to be at the cutting edge of semiconductors, AI, and supercomputing. In October of

2022, the Biden administration banned the shipment of advanced GPUs, logic, and memory chips using American technology to China. It also convinced the Dutch government to restrict sales by ASML, the world's most advanced chip making equipment supplier, to China in March of 2023.

In many ways, these U.S. policies mirror 2015's Made in China 2025 policy, which sought to vault China to become self-sufficient in technologies ranging from robotics to biotechnology and AI. This is notable at a time when investors are questioning whether China is unavoidable or uninvestable. From my experience, and what I see in the market, it's unavoidable. As the two countries continue to cooperate with one another, we have seen increased reforms and mutual learning on both sides which has spurred more listing activity domestically while others strategize to list in the U.S. market.

Lessons to Learn

The flurry of initiatives reflects a growing bipartisan premise that America must take bold steps to protect its technological lead and manufacturing base or fall behind as a hollowed-out, second-rate power. But this raises the question: Given these differences, what lessons can America draw from China's experiences with industrial policy?

China's government has long outspent America in supporting sectors it believes will define the trajectory of the global economy while drastically reducing its dependence on foreign suppliers of advanced technologies. The Chinese government funnels about 1.7% of GDP toward industrial subsidies, tax credits and rebates, funding for commercial R&D, and below-market credit – or about \$300 billion per year.

The Chinese government has also provided an estimated \$1-2 trillion in funding to 1,500 to 2,000 incubator funds to promote next-generation technologies. According to the Center for Strategic and International Studies, when you add grants of free land and other incentives, the total amount of support could be as high as 5% of GDP.

In some cases, these efforts have paid off handsomely. Two examples:

- In electric vehicles and batteries, China has been able to leverage the scale of its domestic market and government support to capture 60% of the world's supply of EV batteries, with one supplier, CATL taking 35% of the global market. Domestic carmakers now control nearly 80% of China's EV market and aim to become a major force in EV exports in the years to come.
- Another big win has come in the solar industry, where China commands over 80% share of all the stages of solar panel manufacturing, from polysilicon production to modules, according to the IEA. The growth and efficiency gains of China's solar sector have been a net positive for renewable energy, driving down the cost of solar energy to be the cheapest source of electricity in many parts of the world.

It is worth noting that China implements its industrial policy in the context of a planned economy, with a vast apparatus of government bureaucrats dedicated to overseeing their implementation from the central government down to the local level.

Key Takeaways

1. Avoid picking winners.

China had dozens of companies fiercely competing for market share in the solar and EV industries. In 2010, 96% of the demand for solar products came from outside China, meaning Chinese suppliers needed to match global quality standards and pricing to compete. Many Chinese solar manufacturers also went public in the United States, forcing them to meet investor expectations for profitability and capital allocation. Similarly, in the EV sector, many players, including Li Auto, NIO Inc., and Xpeng Inc., are listed on NYSE or NASDAQ, while market leader BYD Company boasted Berkshire Hathaway as a major shareholder until recently. Exposure to the discipline of global financial markets can help counteract bureaucratic coddling.

2. Choosing the companies likely to win in the marketplace becomes exponentially more difficult the closer you move to the technology frontier.

Industry experts and VCs bet their careers and billions of dollars on which approach to AI, quantum computing, energy storage, or nuclear fusion is likely to bottle lightning. What hope do government officials have of making better picks? Open AI's recent breakthrough with ChatGPT was initially funded by a non-profit that morphed into a joint venture funded by Microsoft, following an approach initially dismissed by many AI experts as a dead end. In many cases, even the brightest minds in an industry diverge on how technology will evolve. For this reason, investments in fundamental research or broadly available incentives are preferable to picking individual winners.

Jake Sullivan, Biden's National Security Advisor, has spoken about "crowding in" private investment rather than replacing it. Targeted public investments can "unlock the power and ingenuity of private markets, capitalism, and competition to lay a foundation for long-term growth." Having private capital alongside government investment provides essential validation.

3. Play to your strengths.

China's industrial policy scored tremendous advances in GDP growth and lifted hundreds of millions of its citizens out of poverty by identifying industries where it could play catch up and leverage its inherent advantages. Those advantages included a massive, disciplined workforce, a willingness to invest in world-class infrastructure, and government officials whose prestige and career advancement were directly linked to meeting development targets. As China's population grows older, wealthier, and more educated, this formula must be overhauled to take the country to the next level of prosperity and address the spiking levels of youth unemployment.

Similarly, the United States has an opportunity to design an industrial policy that plays to our strengths. America has many of the world's leading universities and research institutions, dense networks of technology companies and providers of risk capital, and a free and open society that remains a beacon to many of the best technical minds from around the world. A recent study by MarcoPolo underscored that point, finding that while 29% of the authors of papers presented at a recent high-level AI conference got their undergraduate degrees in China, more than half had gone on to do post-graduate work and live and work in the U.S.

Increasing barriers to education and employment for overseas scientists and entrepreneurs would be self-defeating. America will win the innovation race by continuing to offer the opportunity to work on the most exciting projects in each technical field and provide an environment where it is easy to launch, fund, and grow new companies and production facilities.

4. Move beyond zero-sum thinking.

Most importantly, an American industrial policy should be designed to create multiple winners and grow the size of the overall pie available to countries with common interests. The illusion of total self-sufficiency is a path to impoverishment. This is well illustrated by China's challenges in developing an indigenous semiconductor industry. The combination of technical complexity and capital intensity makes it impossible for any country to dominate the semiconductor supply chain. This will be equally true for many other technologies that will transform society in the coming decades.

"Bidenomics" focus on encouraging a resurgence in manufacturing on American soil and constraining China's ability to develop contains two significant risks. This may alienate allies in the European Union who complain about being shut out of clean energy incentives and decide to impose similar restrictions on their own sizable green energy transition plan. Secondly, the heightened technological rivalry with China could spiral into outright economic warfare with highly unpredictable spillover effects.

A broader vision for industrial policy would include leveraging the American ingenuity to address the destabilizing impacts of a changing climate, food insecurity, and displacement. It would recognize Americans' need for a more resilient supply chain while permitting a role for knowledge transfer, comparative advantage, and market access. And it would necessarily encompass an essential seat at the table for China, given that progress on the most profound issues facing humanity is unlikely to occur without the participation of the world's second-largest economy.

China has demonstrated that industrial policy can be an effective tool for shaping engagement with the global economy. But its recent moves to develop fully indigenous advanced technologies have been less successful. Cutting off America's economy from the world would be a sure path to becoming a second-rate power. Both the United States and China can continue to learn from another while finding new ways to both compete and cooperate.

[Read it Online](#)