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Targeted and Precise?

How AI Industrial Controls Imperil Innovation

BLUF

In response to perceived existential risks posed by China's rapid development of artificial intelligence technologies, the U.S. has adopted broad tariffs and industrial policies that promote protectionism and stifle innovation. This evidence-based assessment finds that investing in infrastructure and facilitating AI diffusion are far more effective than industrial controls at achieving U.S. artificial intelligence objectives.

BACKGROUND

Amidst the global race for artificial intelligence leadership, rising isolationism and protectionism poses a dire threat to the U.S. innovation ecosystem. While the dominant policy discourse promotes broad industrial and trade restrictions to mitigate security risks posed by China, less attention has been given to the potential negative effects of this strategy on the American research and development ecosystem that has underpinned U.S. global leadership since WWII.

Even when intended to promote U.S. strategic competition, too-broad regulations stifle innovation by imposing barriers to entry for new competitors, with disproportionate negative impacts falling on firms with less access to capital and who abide strictly by the law. For the U.S. to win the AI race, it must return to evidence-based economic strategies that promote technological dynamism and acceleration.

1.1 The U.S. Innovation Ecosystem

United States global leadership was built on public-private cooperation and a steady climb up the economic value ladder. After securing international manufacturing dominance by the end of World War II, American firms localized high-value, low-hazard activities such as research and development (R&D) and outsourced low-value, labor-intensive tasks like mining and manufacturing to its allies and partners.

Prioritizing operations higher on global value chains allowed American technology firms to increase profitability without significant public investment or regulatory intervention. Political stability, free trade, deep partnerships, and strategic global investments enabled the United States to surpass the technological capacities of all other countries in the system and attract unprecedented ideas and investment into its orbit.

For America's allies and partners, this innovation ecosystem doubled global life expectancy and lifted billions of people out of extreme poverty while raising overall quality of life, reducing working hours, and improving equality and social mobility. As a result, global conflict has declined remarkably, particularly between liberal democracies.

For these reasons, innovation stagnation in the United States is not a hypothetical or distant concern – it is a direct threat to U.S. national security, economic stability, and global prosperity. The more resources that are applied to this effort, and to building strong coalitions that multiply gains and protect shared spoils, the more equipped the U.S. and the world will be to combat geopolitical malfeasance, prevent wars, and forge a brighter path for humanity.

1.2 American Industrial Policy Objectives

For policymakers, the U.S. "winning" the global technology race comprises gaining dominance over a range of strategic investments that yield dividends in both conflict and peacetime, and then leveraging those innovations for public good at home and to promote U.S. values abroad. Legislators must ensure these needs are met while providing sufficient incentives for firms to cooperate with – and even promote – regulations that impact their bottom line.

Within this strategic competition framework, a successful industrial policy strategy for critical technology development:

1. Maximizes innovation sector investment,
2. Aligns the ensuing benefits with the public interest,
3. Mitigates the risk of exploitation by adversaries, and
4. Furthers U.S. and allied AI leadership.

CEO of Scale AI Alexandr Wang and American Enterprise Institute fellow Klon Kitchen testify during a House Armed Services hearing. (Photo by Drew Angerer/Getty Images)

1.3 Maximizing AI Infrastructure Investment

The first priority for U.S. industrial policy in AI must be to maximize state investment in the underlying energy, data, and labor infrastructure supporting AI innovation, either through fiscal incentives or reducing regulatory barriers.

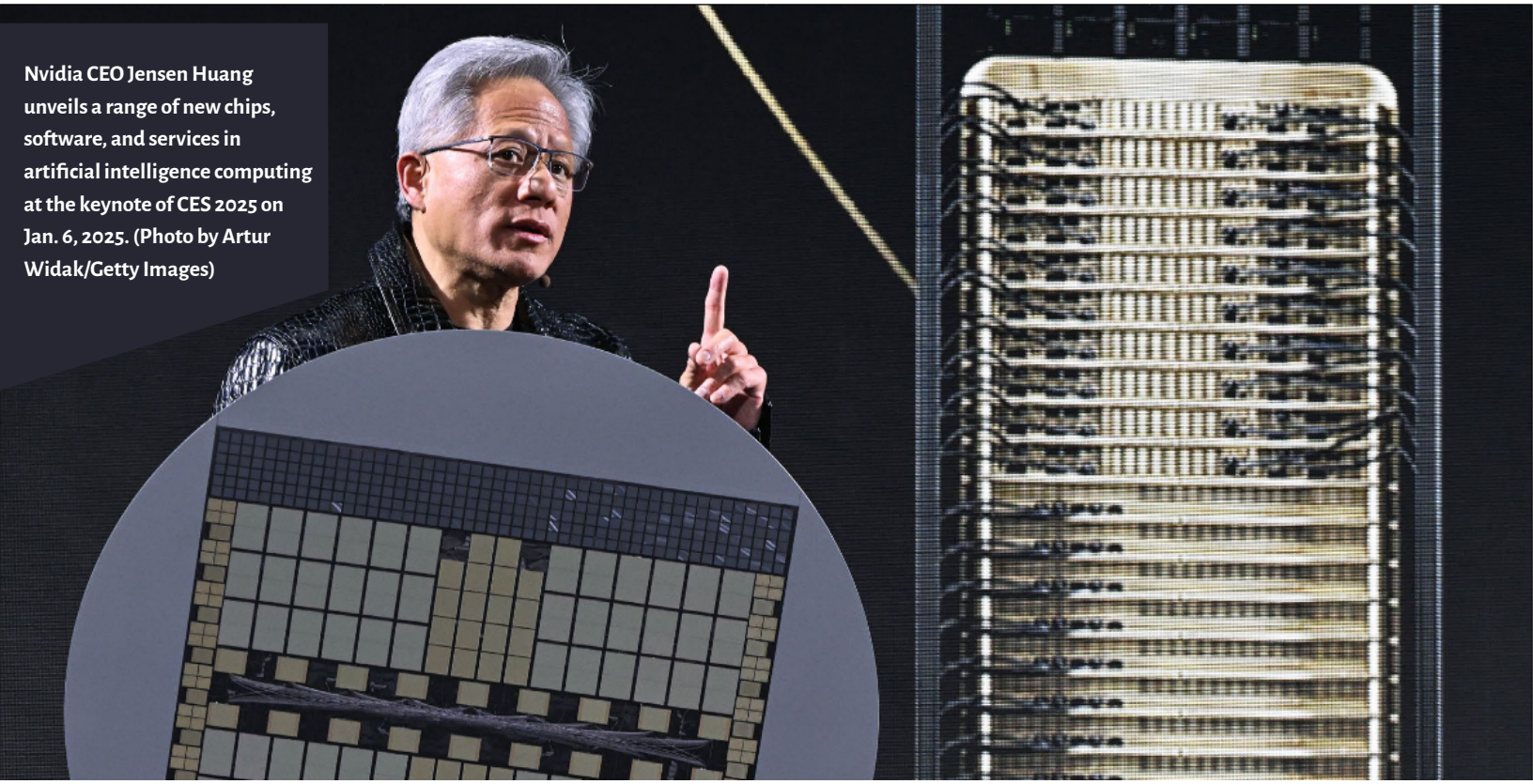
Corporate taxes support the next generation of innovators through health care, defense, infrastructure, and education.

Targeted fiscal mechanisms – such as subsidies, public-private partnerships, and tax incentives – ensure that additional revenues are strategically reinjected into America's AI ecosystem, accelerating industry growth and innovation.

Low corporate taxes and high tax credits and subsidies make private sector R&D more lucrative in the United States than in any other country. Though public investment as a function of GDP has declined, total U.S. investment has increased exponentially, with corporate spending now comprising nearly 80% of the U.S. total. These private sector R&D expenditures result in far more cost-effective and market-oriented innovations than those of the public sector.

However, state and private sector investments have overwhelmingly prioritized software R&D over nearly all other activities on technological supply chains for decades. This has led to the near-extinction of innovation in America's raw materials, manufacturing, and energy sectors, driving a perilous decline in innovation dynamism and economic diversity across the U.S. technology sector. Software firms maintain risky dependencies on China to meet their needs, with excess capital driving rentiership and bureaucratic bloat.

To solve this problem, Washington must invest not only in cutting-edge AI software but also in the foundational data, energy, and expertise that underpin the critical technology sector. Energy generation, transmission grids, data networks, and connecting infrastructure must expand rapidly to meet America's AI objectives. As the Semiconductor Industry Association projects that 80% of new technical jobs will go unfilled by 2030, job training programs are urgently needed to meet labor shortages in the AI hardware manufacturing, materials, data, and energy industries.



Nvidia CEO Jensen Huang unveils a range of new chips, software, and services in artificial intelligence computing at the keynote of CES 2025 on Jan. 6, 2025. (Photo by Artur Widak/Getty Images)

1.4 Streamlining Industrial and Trade Controls

To further their contributions to American security, prosperity, and public good, technology firms receive generous state incentives that allow them to innovate more broadly and ambitiously than through private investment alone.

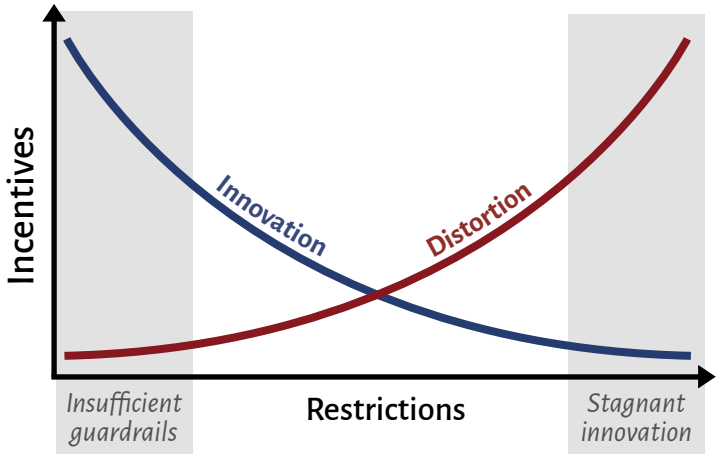
In return, **legislation, regulation, and executive orders** aim to prevent bad actors from exploiting American innovations and international collaborations, gain an asymmetric advantage over the state, or pose threats to U.S. national security.

However, if this web of policies and trade controls become too prohibitive to navigate, firms will find loopholes in industry restrictions or relocate to secure ongoing shareholder returns. **For this reason, U.S. industrial policy must ensure that a broad range of firms are incentivized to cooperate with the guardrails imposed by federal and state legislatures.**

The final major risk of industrial policy is **market distortion**. Even when incentives and restrictions are evenly balanced, industrial policies and other government interventions impose complex and unpredictable effects across the economic system. These practices greatly hamper innovation.

For this reason, while a minimum level of regulation is necessary to prevent exploitation by adversaries and rent-seeking firms, industrial policies should target **only critical technologies with significant and understood national security risks,** and maximize the ability of commercial innovators to collaborate and take risks. If not, the friction produced by overlapping and successive waves of intervention will rapidly drive diminishing returns in AI innovation.

Industrial Policy Effects on Free Markets



1.5 Promoting U.S. Innovation Diffusion with Allies and Partners

Innovation diffusion is the process by which new technologies are spread internationally and applied to new sectors. As free trade is the second-largest contributor to innovation dynamism behind technology-sector investment, **it is far more cost-efficient to facilitate trade in critical technologies with allies rather than stifle the free trade of other nations.**

While the U.S.-China trade deficit decreased from $382 billion in 2022 to $295 billion in 2024, this was not the result of U.S. tariffs or export controls. Rather than penalizing China, these tariffs raised costs for domestic producers and importers and diminished U.S. economic well-being by 3 percent. The same is true in China; according to the International Monetary Fund, Beijing's approximately 5,400 subsidy policies from 2009 to 2022 had "insignificant effects" on export prices and volumes.

Notable critiques of international trade mechanisms are that they are slow, inefficient, and unable to benefit from privileged U.S. intelligence like their domestic equivalents. However, partner-selective mechanisms like the EU-U.S. Trade and Technology Council can coordinate regional trade and investment strategies and share the bureaucratic burden of industrial policy enforcement without unnecessarily magnifying national security vulnerabilities.

A required precursor of the success of this strategy is to avoid duplicating policies and practices that the U.S. condemns of China. Market competition is beneficial internationally as well as domestically, and actions taken to grant U.S. firms a significant undue advantage over their international partners and allies will slow innovation and degrade trust.