SEMICONDUCTOR TECHNOLOGY & RESEARCH ADVANCEMENT (STAR) ACT - H.R. 802

Ensure the U.S. remains a competitive destination to invest in semiconductor research, design, and manufacturing

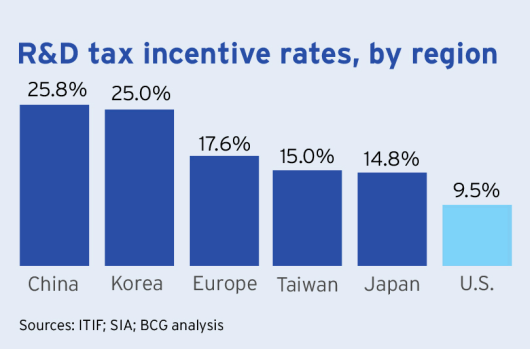
Importance

Chip leadership is critical to ensuring U.S. economic and national security, and it produces a multiplier effect in driving innovation and growth throughout the economy, including technologies of the future such as AI. A globally competitive tax code is key to ensuring the U.S. remains the leader of the chip industry and remains an attractive destination for companies to invest and innovate. For the U.S. semiconductor industry, this requires targeted tax policies to spur investment in the core activities of chip research, design, and manufacturing.

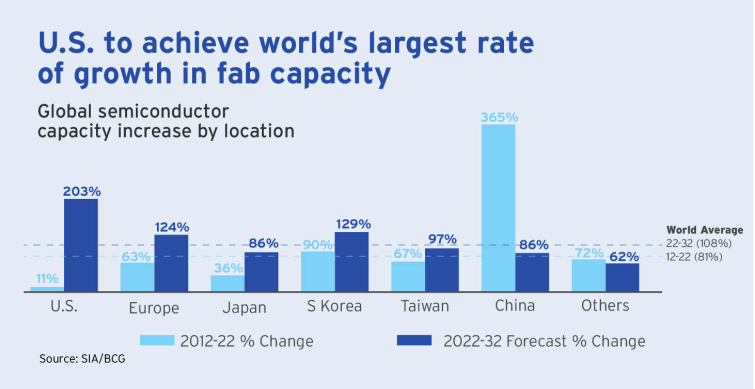
Driving technological change in the industry requires companies to develop more complex designs and process technologies, as well as introduce advanced production machinery capable of manufacturing cutting-edge chips. The ability to innovate and produce state-of-the-art semiconductors requires U.S. chip companies to invest billions of dollars in R&D annually – on average 20% of revenue – to maintain technology and market leadership, with an additional 20% of revenue on average re-invested in capital expenditures.[1]

Challenges

1. **Chip Design and Other Critical Research & Development.** The U.S. continues to trail the incentives offered by global competitors for innovation in chip design and R&D investments. Despite the essential nature of chip design, only 27% of global chip design activity is conducted in the United States.[2] Meanwhile, global competitors increasingly offer strong incentives for companies to make R&D and chip investments on their shores, including China's 220% "super deduction" for semiconductor R&D.[3] **In fact, the U.S. is the only major semiconductor region without a targeted, enhanced tax incentive for semiconductor design or R&D, placing us last among major semiconductor regions in overall R&D tax incentives.** While competitors overseas continue to incentivize domestic chip research and design, innovation costs are rising with each new generation of technology. Foreign competition, particularly from Chinese design firms seeking to displace U.S companies, underscores the importance of ensuring the U.S. remains a competitive destination for companies to invest in chip design and R&D.



2. **Manufacturing.** Governments around the world have heavily invested in the development of their own semiconductor manufacturing industries, resulting in an unlevel playing field for investment in the U.S. Before the U.S. took steps to incentivize domestic chip manufacturing, heavy overseas subsidies created a significant cost disparity in which it cost 25-50% more to build and operate a fab in U.S. than abroad.[4] As a result, the U.S. share of global fabrication capacity declined from 37% in 1990 to 10% in 2022.[5] Incentives, such as the advanced manufacturing investment credit **(IRC §48D)** have helped start to reverse the decades-long decline in U.S. semiconductor manufacturing capacity, with the U.S. projected to triple its manufacturing capacity between 2022 and 2032. **However, this credit is set to expire in 2026, thereby threatening the ability to make sustained, long-term investments in U.S. chipmaking capacity.**



Recommendation

The highly impactful **advanced manufacturing investment credit** (IRC §48D) should be **extended** beyond 2026 to incentivize the continued buildout of long-term domestic manufacturing capacity[6] and **expanded** to include chip design and other R&D by passing the Semiconductor Technology Advancement and Research (STAR) Act (H.R. 802).[7] Passing this legislation would help to level the playing field between the U.S. and global competitors and ensure the U.S. continues to grow its manufacturing capacity and retains its first-mover advantage in chip design and R&D.

[1] SIA, "2024 Factbook," May 2024. https://www.semiconductors.org/wp-content/uploads/2024/05/SIA-2024-Factbook.pdf
[2] BIS, "Assessment of the Status of the Microelectronics Industrial Base in the United States," December 2023. https://www.bis.doc.gov/index.php/documents/technology-evaluation/3402-section-9904-report-final-20231221/file
[3] PWC, "People's Republic of China, Corporate – Deductions," June 2024. https://taxsummaries.pwc.com/peoples-republic-of-china/corporate/deductions
[4] SIA/BCG, "Government Incentives and U.S. Competitiveness in Semiconductor Manufacturing," September 2020. https://www.semiconductors.org/wp-content/uploads/2020/09/Government-Incentives-and-US-Competitiveness-in-Semiconductor-Manufacturing-Sep-2020.pdf
[5] SIA/BCG, "Emerging Resilience in the Semiconductor Supply Chain," May 2024. https://www.semiconductors.org/emerging-resilience-in-the-semiconductor-supply-chain/
[6] The credit has proven to drive private investment and provide significant economic, national security, and supply chain benefits, and the Joint Committee on Taxation estimates the cost of a 10-year extension to be only $8.445 billion. Congressional Budget Office, "Budgetary Outcomes Under Alternative Assumptions About Spending and Revenues," May 2024, citing Joint Committee on Taxation estimates. https://www.cbo.gov/system/files/2024-05/60114-Budgetary-Outcomes.pdf.
[7] H.R. 802. https://www.congress.gov/bill/119th-congress/house-bill/802