

Why the CHIPS Act Remains Vital

Congress's passage of the CHIPS for America Act is central to ensuring the United States can meet its future semiconductor needs. The act authorizes the Department of Commerce to administer funding, likely around \$39 billion, in incentives for chipmakers to build fabrication facilities (fabs) on American soil, including grants for semiconductor manufacturing equipment (SME) or fab investment through 2026. CSET research has found that the CHIPS Act could enable the United States to reshore capacity for nearly all of its leading-edge logic demand through 2027.

The CHIPS Act is vital to securing the United States' leadership in the advanced semiconductor production ecosystem, which is important given these chips' roles in artificial intelligence (AI) applications and other strategic technologies. Disruptions from global chip shortages and supply chain risks stemming from dependence on Taiwan and South Korea present important challenges. In the long-term, China could threaten U.S. global leadership, and might use advanced chips to develop technology in ways that do not align with U.S. values.

Reshoring U.S. chipmaking capacity with CHIPS Act funding is essential to mitigating global supply chain risks. Increasing domestic chip production with manufacturing incentives could help prevent future disruptions to advanced semiconductor access. But to fully capitalize on the CHIPS Act's potential, policymakers need to strike the right balance in distributing these incentives among leading-edge logic, DRAM, and legacy logic chips to best serve U.S. interests. **CSET research suggests allocating CHIPS Act funding along the following lines:**

1. **Leading-edge logic manufacturing should receive the highest proportion of CHIPS Act incentives given its strategic importance and disruption risks to foreign imports.** Leading-edge chips are predominantly used in servers, supercomputers for cloud computing, and consumer electronics. **\$23 billion** for leading-edge logic could reshore enough capacity to meet the entirety of U.S. demand through 2027.

This incentive amount could support four new U.S. chip fabs for the firms who meet all U.S. leading-edge logic demand: Intel (25 percent of demand), Samsung (20), and TSMC (55). Distributing incentives proportionally would mean one fab for Intel, one for Samsung, and two for TSMC. These incentives will boost an American firm – Intel – and guard against supply disruptions to Taiwanese TSMC and South Korean Samsung, who are both critical to U.S. industry.

2. **Leading-edge DRAM manufacturing should be the second priority for CHIPS Act incentive allocation.** Attracting a DRAM chip manufacturer would boost U.S. capacity from near-zero and reduce reliance on South Korean, Taiwanese, and Chinese manufacturing capacity. With \$5-10 billion in federal incentives, the United States could likely attract a new American fab that could remain near the leading-edge for years to come.
3. **Legacy logic chips should receive any remaining CHIPS Act incentives (\$4-9 billion).** These chips have wide-ranging and important applications, including in some sensitive national security

applications and in automobiles. Incentives could help cheaply build two to five additional legacy logic fabs or upgrade existing fabs and equipment. The most sensitive demand for U.S. legacy logic could be met with two fabs.

Without CHIPS Act incentives, the United States will struggle to keep up with China, South Korea, Taiwan, and other places that heavily subsidize semiconductor manufacturing. To augment the impact of CHIPS Act funding, CSET research suggests the United States needs to limit the attractiveness of offshoring with regulatory reforms and by helping chipmakers meet talent needs. Efforts should include eliminating redundancies between state and federal permitting regulations for high-tech facilities by streamlining environmental, health, and safety regulations. Infrastructure investments targeting utilities, transportation, and supply chain networks to attract semiconductor manufacturers will also help.

Furthermore, based on CSET estimates about potential new fabs, **CHIPS Act funding could create 27,000 new jobs or more over the next decade in the semiconductor and related component manufacturing industries.** This will create lower-skilled jobs for U.S. labor in the near term with roles at new fabs, like inspectors, testers, sorters, samplers, and weighers, as well as higher-skilled jobs for which the U.S. will likely struggle to meet demand. Long-term investments in STEM education and engineering graduate study will help meet future demand for highly skilled U.S.-born talent in semiconductor-related fields.

In the meantime, to satisfy current demand for highly skilled labor and ensure the CHIPS Act's success, **the United States should explore highly skilled work visa programs for at least 3,500 Taiwanese and South Korean workers.** The Partner with Korea Act could create 15,000 E-4 highly-skilled work visas for South Koreans; amending it to include Taiwanese workers would help meet labor needs and help train the next generation of U.S. chipmakers.

Ultimately, CHIPS Act funding and reshoring may help the United States succeed in long-term strategic competition with China. Reshoring chipmaking capacity keeps the U.S. at the center of the semiconductor ecosystem, and could increase the likelihood that American and allied SME firms remain at the leading edge over the longer term. Incentivizing new U.S. fabs, decreasing the attractiveness of offshoring, and securing skilled foreign labor access while investing in domestic education and retraining can help maintain future U.S. primacy.

Coupling CHIPS Act incentives with efforts to prevent China from producing cutting-edge chips will help to cement U.S. semiconductor leadership. The United States and several allies and partners—South Korea, Taiwan, Japan, and the Netherlands—presently lead the world in many parts of the semiconductor supply chain, but China aims to boost its domestic production and lessen foreign dependence. Collaborating with allies to protect semiconductor supply chains from Chinese access and promote development on friendly shores could help uphold U.S. economic and national security benefits for the foreseeable future.

For more information:

- See: [Sustaining U.S. Competitiveness in Semiconductor Manufacturing](#)
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