CSET CENTER for SECURITY and EMERGING TECHNOLOGY

Summary of Preserving the Chokepoints

U.S. competitiveness in the semiconductor manufacturing equipment industry is a key strategic asset. Offshoring of SME production from the United States removes an important source of leverage over China and makes the United States more dependent on other countries for access to some of the most important inputs to semiconductor manufacturing.

U.S. firms have offshored SME production for many reasons, including foreign acquisitions, proximity to customers in East Asia, and access to new STEM talent.

Recommendations

Establish a new multilateral regime for controlling SME exports. Unilateral export controls increase the risk of offshoring. The United States, Japan, and a handful of other allies are currently discussing the establishment of a new multilateral regime for controlling SME and other advanced technologies. Such a regime is urgently needed.

Avoid unilateral export controls on SME. Conventional unilateral controls typically will not prevent U.S. firms from shipping SME to China from their overseas manufacturing sites. Extraterritorial controls like the foreign-produced direct product rule can prevent this in the short run, but such controls create incentives to design out U.S.-origin technologies over the long run.

Fund the CHIPS for America Act. Proximity to chipmakers in East Asia—SME firms' largest customers—has been a key motivator of offshore manufacturing among SME firms. Reshoring chipmaking capacity to the United States could therefore indirectly draw SME firms to invest in the United States.

Promote onshore SME production through workforce investments, highskilled immigration, and direct incentives. Congress should pass the green card cap exemption for PhD holders in certain STEM fields, as stipulated in the America COMPETES Act of 2022. Congress should also consider tax credits for SME firms such as the Advanced Manufacturing Investment Credit (AMIC) and those in the FABS Act.

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