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Supply Chain Resilience in an Era of Strategic Competition

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Supply Chain Resilience in an Era of Strategic Competition

May 2022

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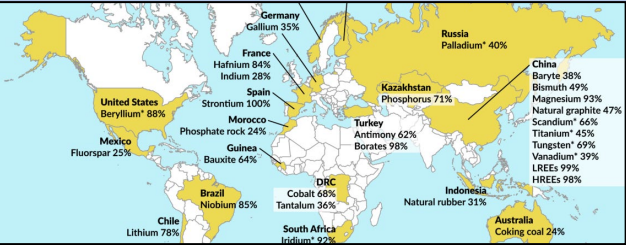
An Effectiveness Challenge in an Era of Efficiency

Domestic Risk Vectors

Growing adoption of dual-use, commercial technologies

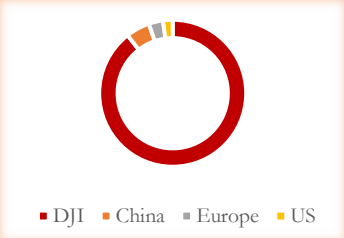


Growing reliance on complex, global supply chains



Adversarial Positioning

Asymmetric control over strategic value chains



Willingness to use supply chain leverage for coercive ends

Amid Tension, China Blocks Vital Exports to Japan

A New Framework for Supply Chain Assessment

Examples

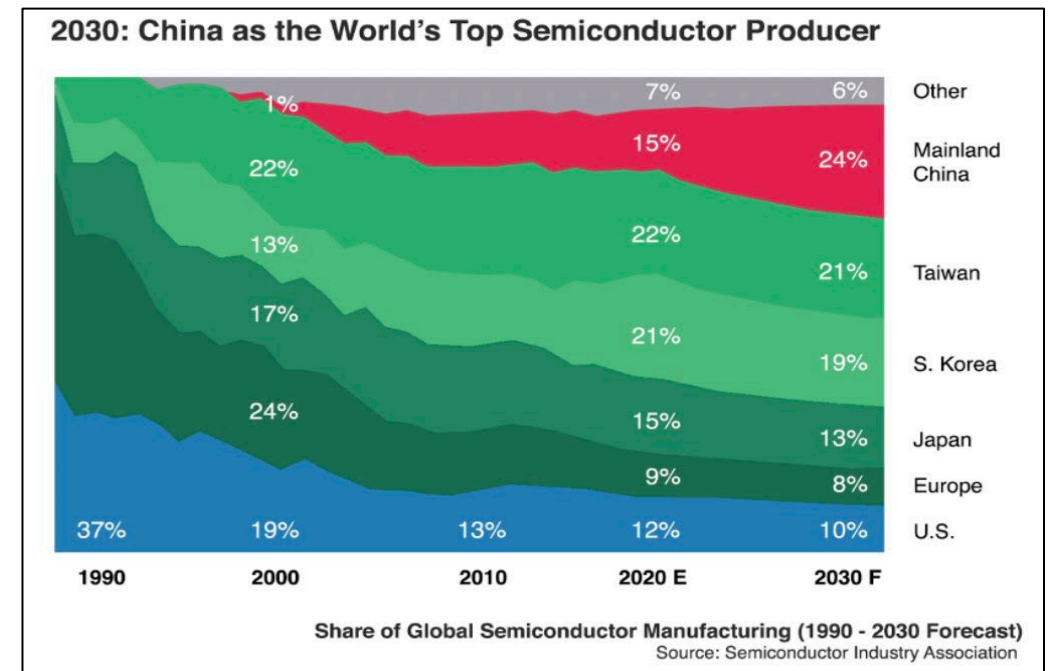
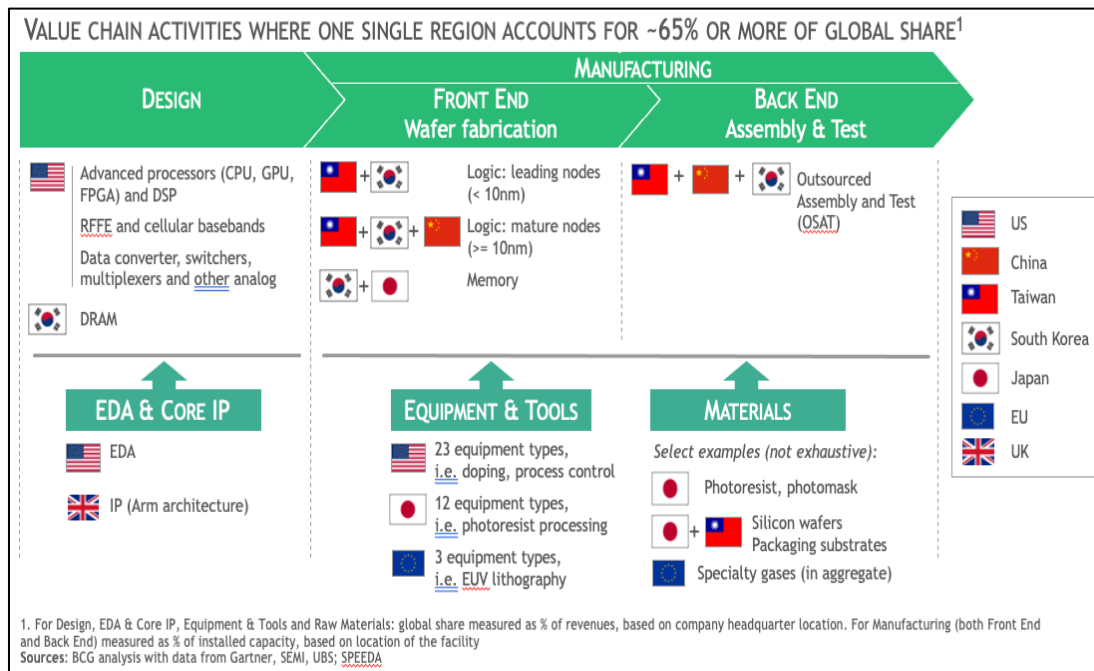
- Risk Factors**
- Expand the scope of risk factors to include provision of capital, as well as provision of goods and technology, beyond simply foreign ownership or control.
 - Expand the scope of risk factors to include sales as well as suppliers.

- A Chinese government guidance fund's investments in a semiconductor manufacturer
- A company's dependence on revenue from downstream Chinese companies.

- Risk Surface**
- Assess risks along an entire supply chain, from the upstream to the downstream.
 - Include screening against nth tier supply chain risks within the definition of program requirements.

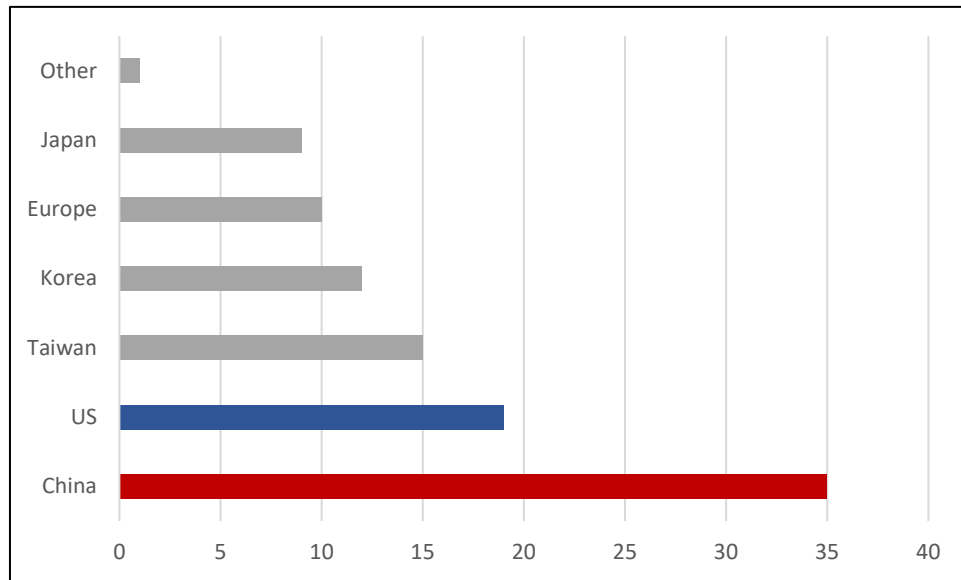
- Dependence on Chinese sources of silicon in a semiconductor manufacturer's supply chain

The Semiconductor Case: A Complex, Global Supply Chain

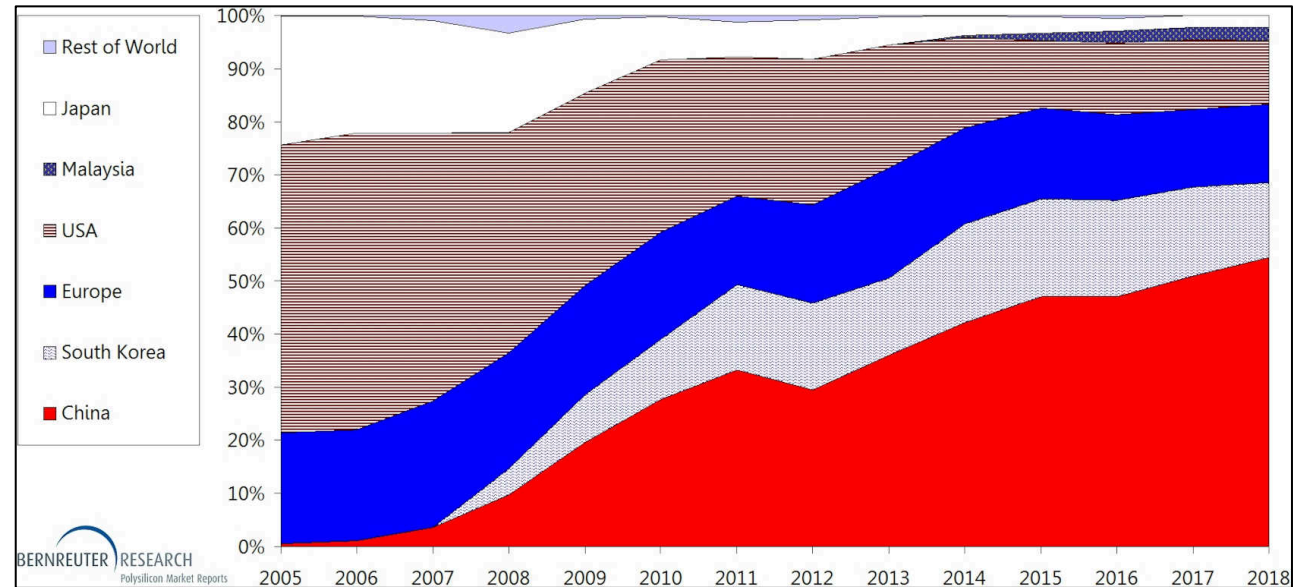


The Semiconductor Case: Underappreciated Dependence

Global Semiconductor Sales by Location of Assembly



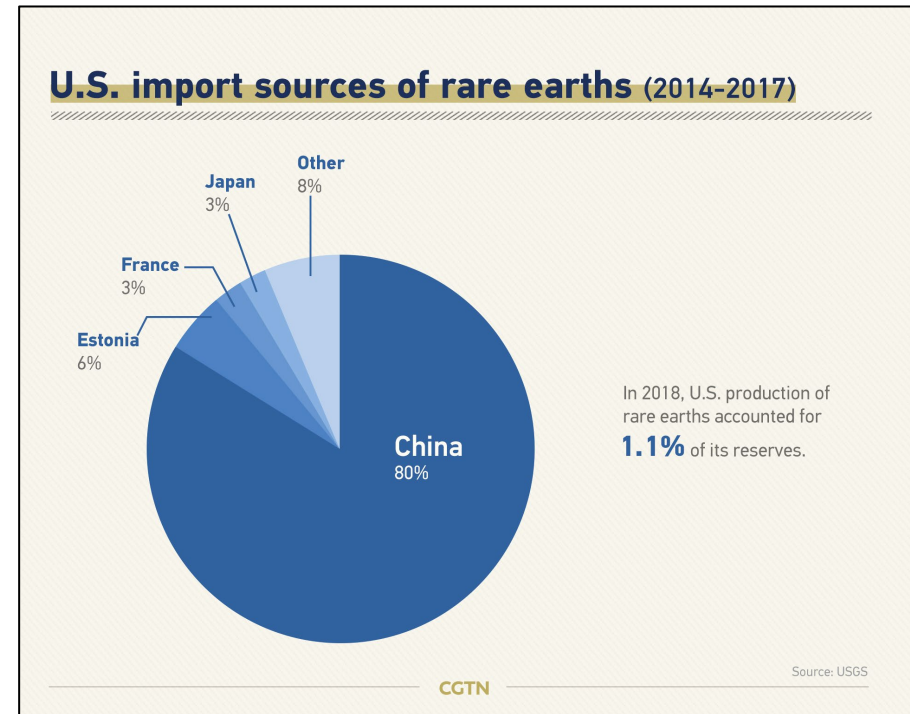
Market shares in global polysilicon production volume (2005-2018)



China's Military Civil Fusion Strategy

“If a company is heavily dependent on foreign countries for its core components, and if the ‘major artery’ of the supply chain is in the hands of others, it is like building a house on someone else's foundation. No matter how big and beautiful it is, it may not stand up to wind and rain, and it may be so vulnerable that it collapses at the first blow.”

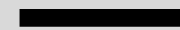
- Xi Jinping, 2016



A Risk-Informed Acquisition Process

- Defense**
- Extend the intelligence inputs guiding System Threat Assessment phases of the JCIDS process to include supply chain risks
 - Extend Capstone Threat Assessments and related foreign country- and system-specific inputs to address relevant adversarial influence over material inputs and supply lines
 - Broaden application of tools for foreign ownership, control, or influence (FOCI) review and related industrial base monitoring to address a wider set of influence vectors

- Offense**
- Investment all across the value chains of critical defense industries (e.g., expand the Trusted Foundry program to include electronic-grade silicon)
 - Public-private partnerships to guide private sector investments to encourage defense-relevant production
 - Enhanced regulation on the private sector to disincentivize dependence on, or technology sharing with China



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