The Chipmakers:
U.S. Strengths and Priorities in the High-End Semiconductor Workforce

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1: Foundations of Competitiveness	2: Applications and Implications	3: Policy and Strategy
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- **High-skilled immigration restrictions are inconsistent with efforts to reshore the semiconductor supply chain.**
- **Immigration reform should be coupled with broad investments in the pipeline of American engineering talent, starting in grade school and extending through graduate school.**

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I. Foreign talent has shaped the U.S. semiconductor industry

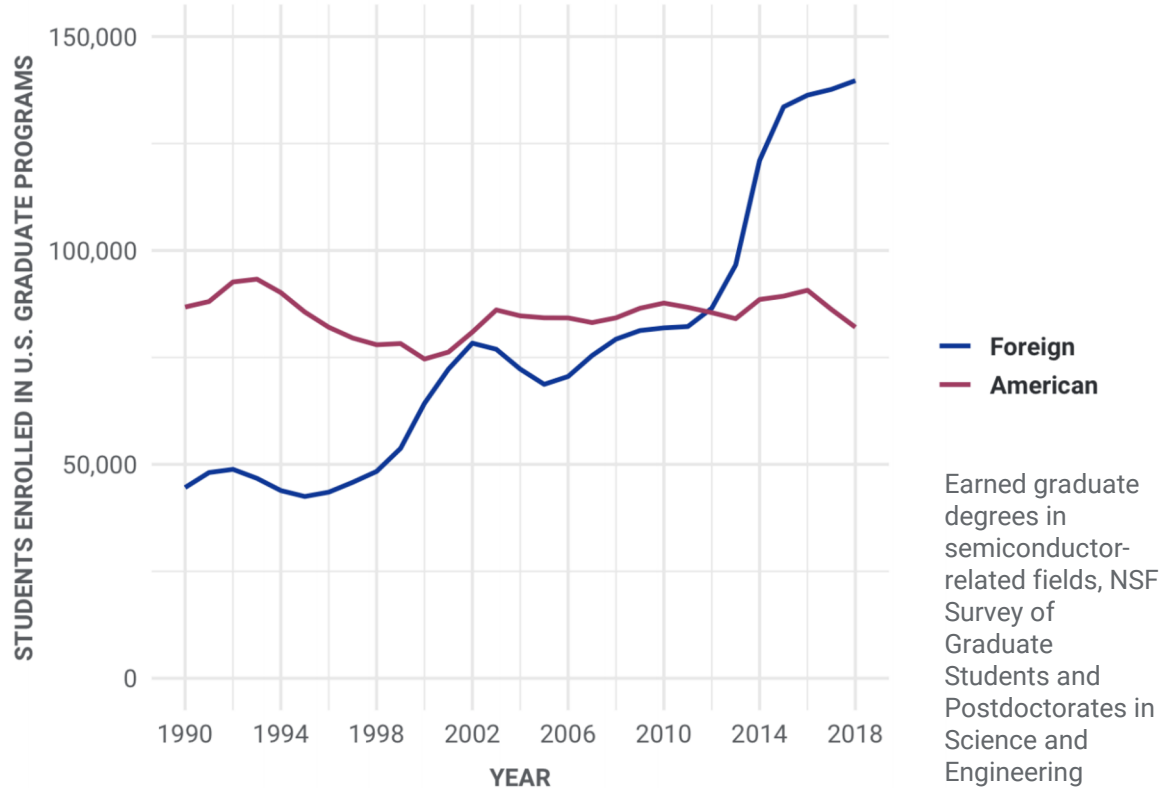# II. The United States is a semiconductor talent hub

More electrical engineering patent-holders immigrate to the United States than to any other country
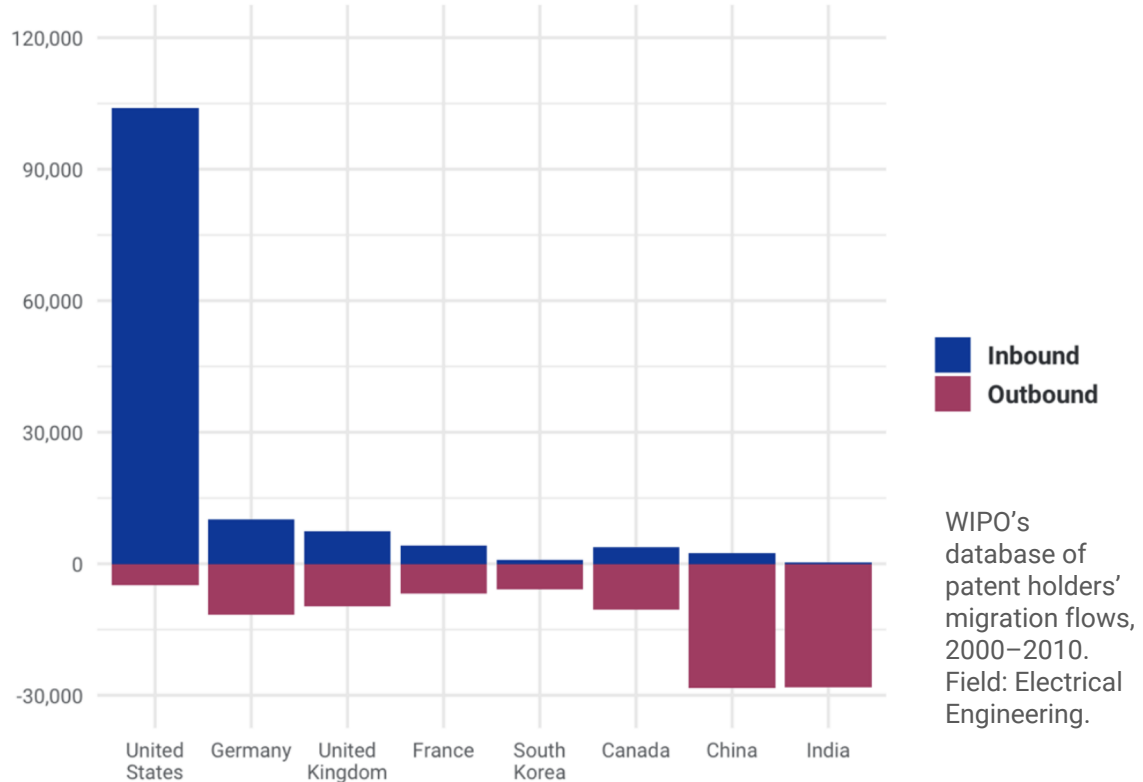
WIPO's database of patent holders' migration flows, 2000–2010. Field: Electrical Engineering.

III. Foreign talent flows through the U.S. university pipeline

**Foreign-born students outnumber Americans in semiconductor-related graduate programs 2:1**

Earned graduate degrees in semiconductor-related fields, NSF Survey of Graduate Students and Postdoctorates in Science and Engineering

IV. Foreign talent remains in the United States at high rates

Foreign-born PhD students stay in the United States after graduating

PhD graduates in semiconductor-related fields, NSF Survey of Earned Doctorates, 2002–2017
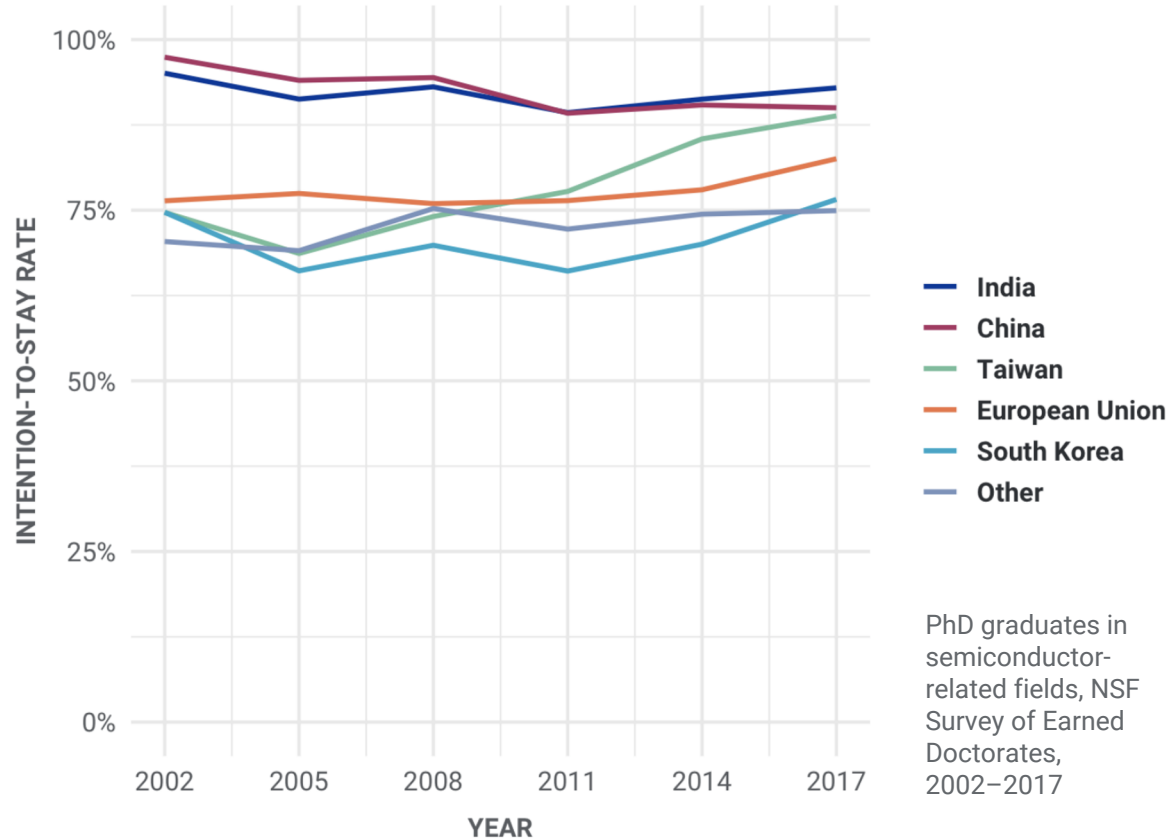
V. Key feeder disciplines vary across the supply chain

Green card applicants sponsored by fabs and SME firms come from a wide range of academic backgrounds
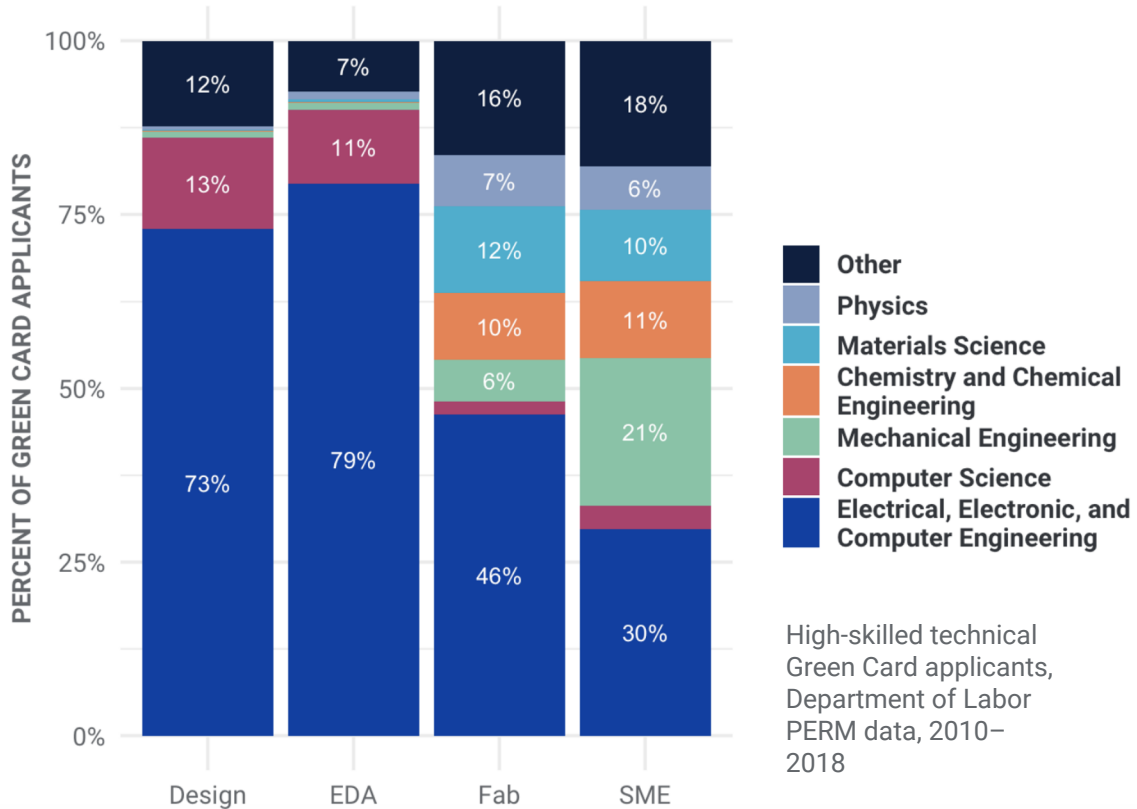
High-skilled technical Green Card applicants, Department of Labor PERM data, 2010–2018

VI. The United States should <u>protect</u> and <u>promote</u> its semiconductor talent advantage

Protect:
- Adopt targeted domestic protections against technology transfer efforts
- Share intelligence and coordinate policy with allies and partners

Promote:
- Invest in domestic education and research
- Retain and strengthen high-skill immigration pathways

Cross-cutting:
- Improve government data collection on the semiconductor workforce

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CSET Issue Brief

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