Brain Freeze

Restrictions on International Students, the STEM workforce, and US economic growth

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July 23, 2025 • NASEM Summit

International Student Exclusion Policy

Mass visa cancellation

17 country visa ban

Seizures and detention

International Student Exclusion Policy

Mass visa cancellation	**17 country visa ban**	**Seizures and detention**
Mass contract breach	**NSF/NIH funding ↓½**	**Tax status, endowments**

International Student Exclusion Policy

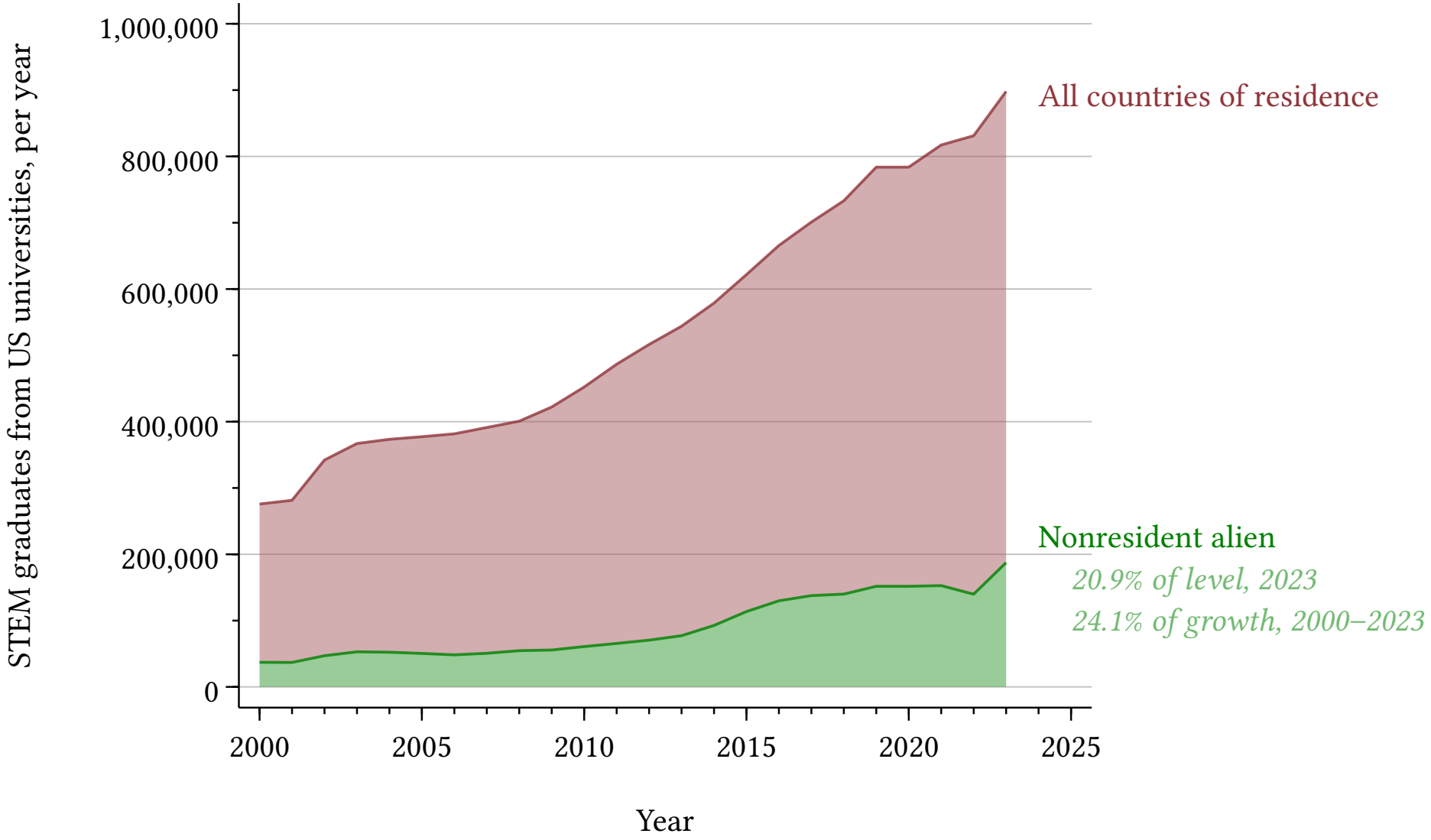
Mass visa cancellation	17 country visa ban	Seizures and detention
Mass contract breach	NSF/NIH funding ↓½	Tax status, endowments
Termination of OPT	H-1B wage priority	End ‘Duration of Status’

International students are *"bad for the American dream, for American kids who want to go to a nice university but can't because their spot was taken by a foreign student."*

"This idea that American citizens don't have the talent to do great things, that you have to import a foreign class of students…to do these things? I just reject it. I just think we should invest in our own people."

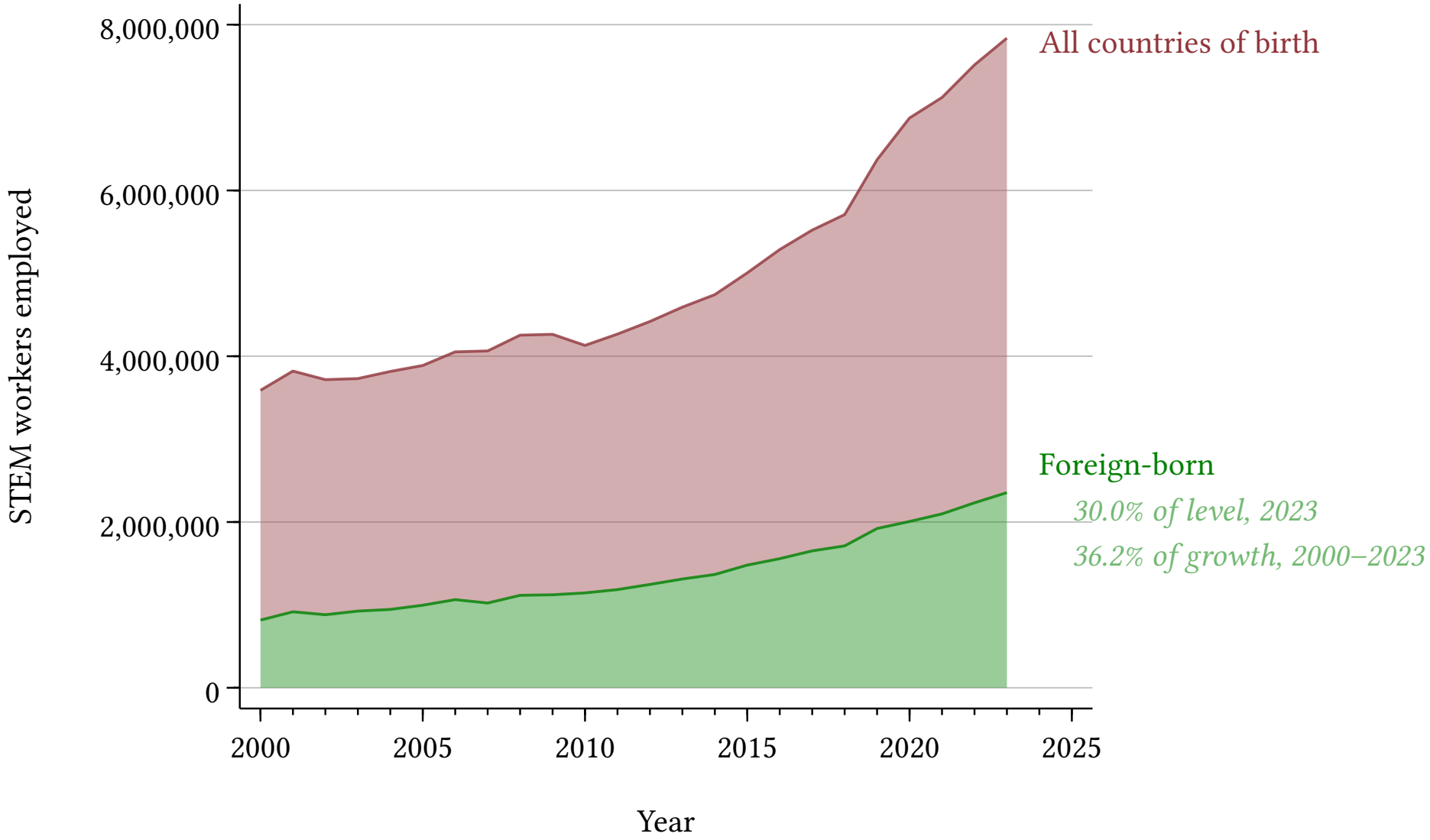
High-skill STEM graduates (*flow*)

All degrees, bachelor's+



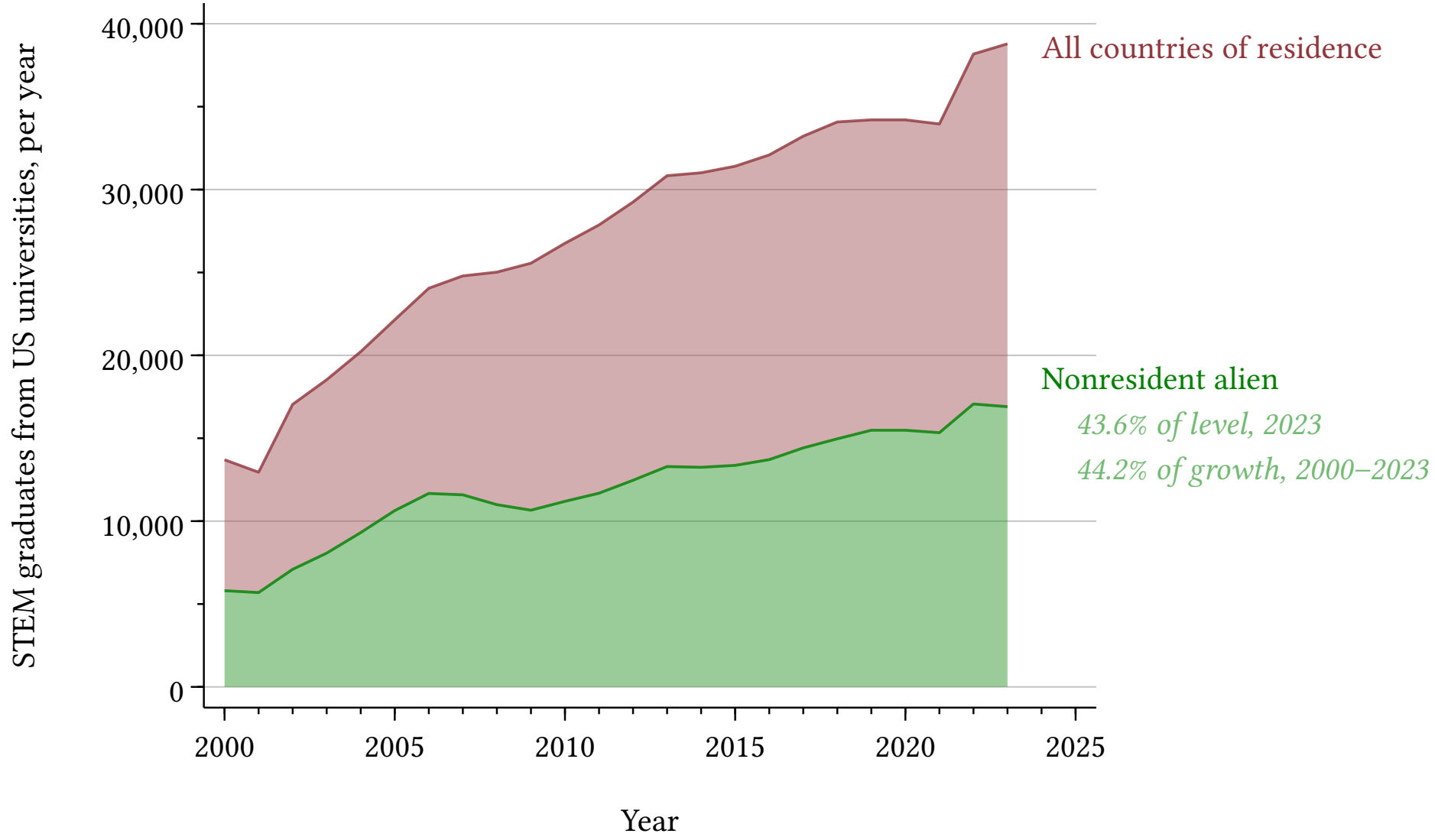
High-skill STEM workers (*stock*)

All degrees, bachelor's+



High-skill STEM graduates (*flow*)

PhD only



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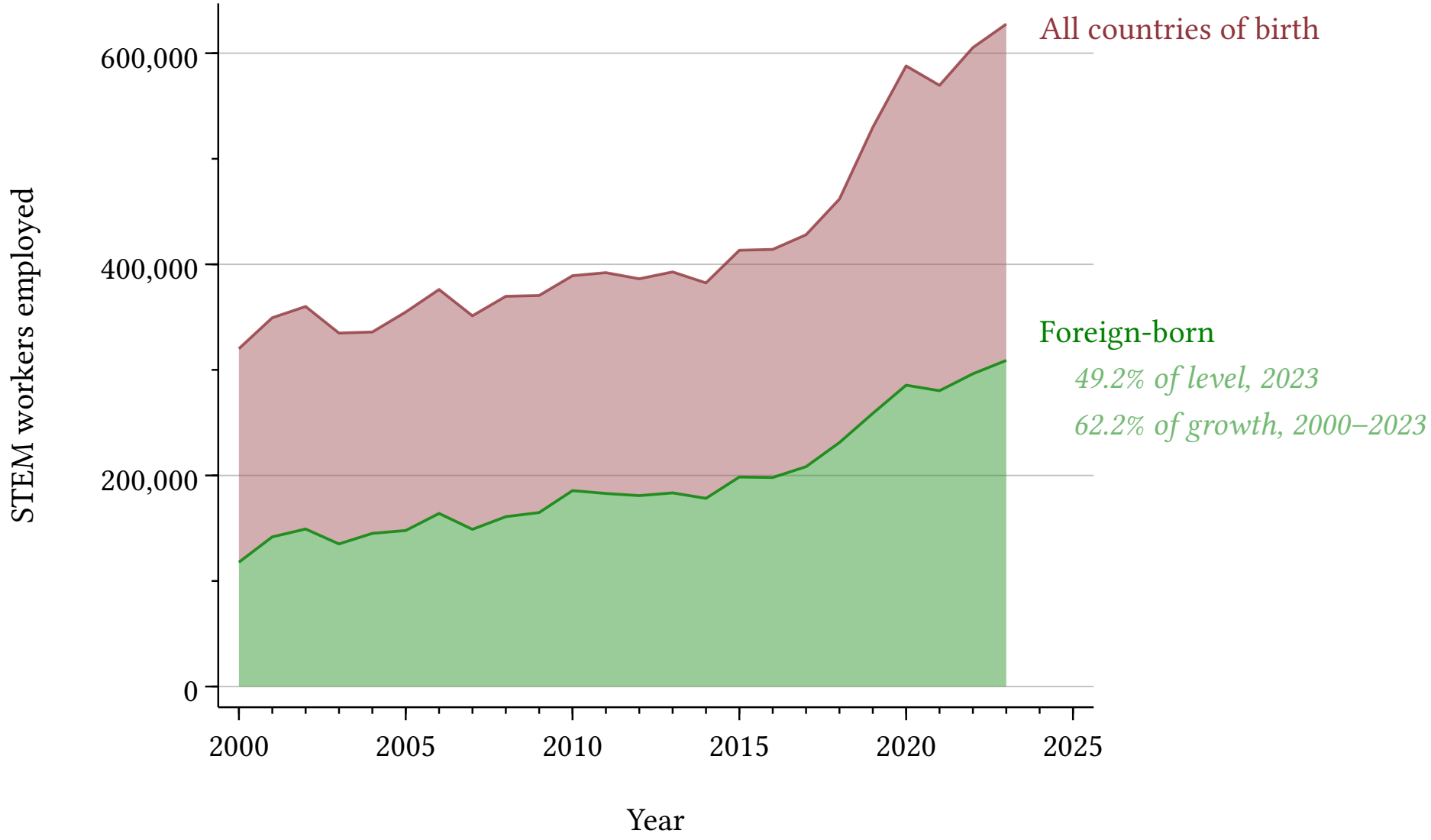

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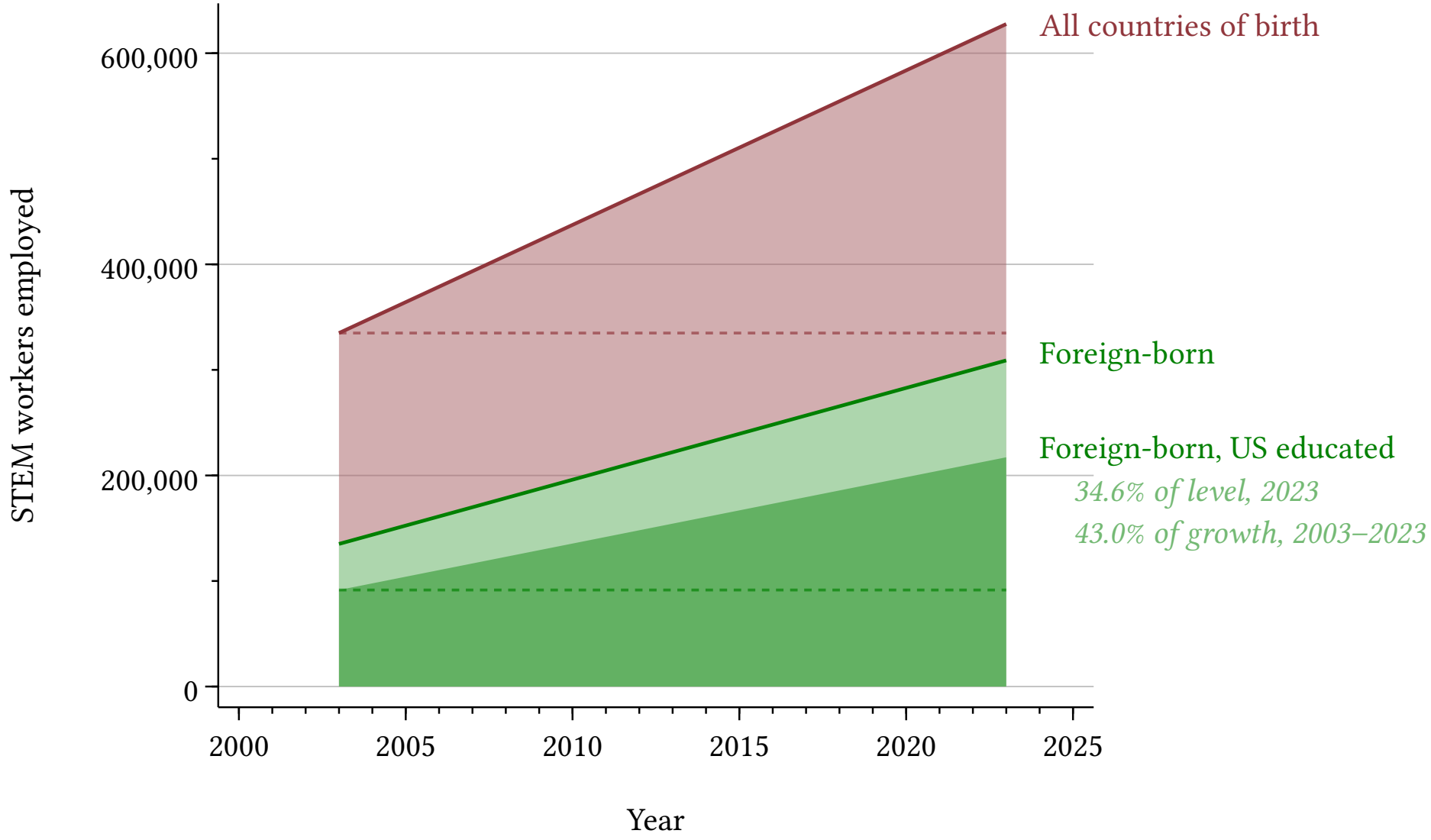
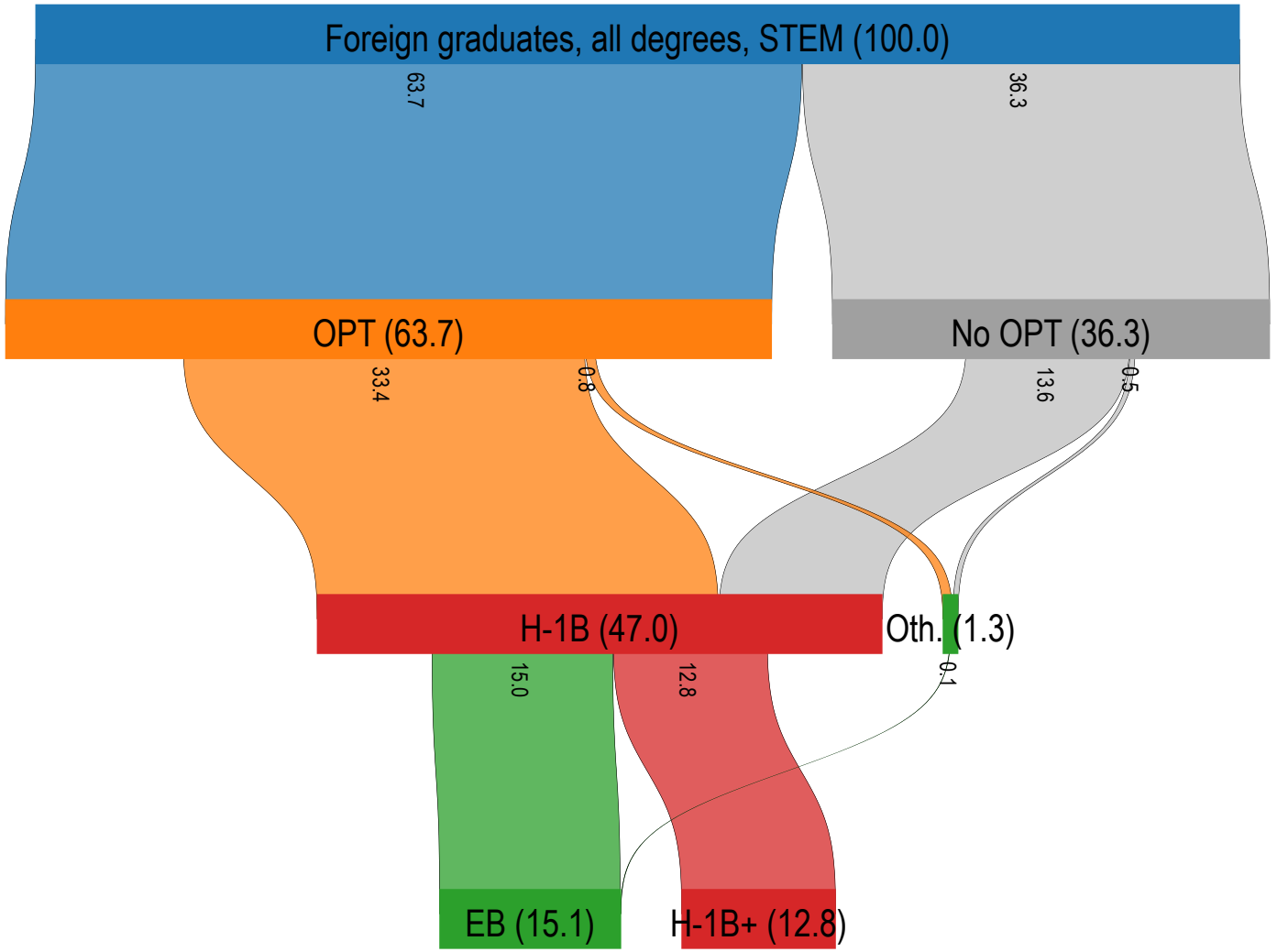


	Total employed		Foreign-born, US deg.		Scenario: Int'l grads down ⅓	
	2003	*2023*	*2003*	*2023*	***Level***	***Growth***
STEM, all deg.	3,730,767	7,837,989	532,311	1,464,701	**-6.2%**	**-7.6%**
STEM master's	1,049,766	2,339,946	225,688	659,446	**-9.4%**	**-11.2%**
STEM PhD	334,926	627,638	91,477	217,226	**-11.5%**	**-14.3%**

The ‘front door’ STEM pipeline



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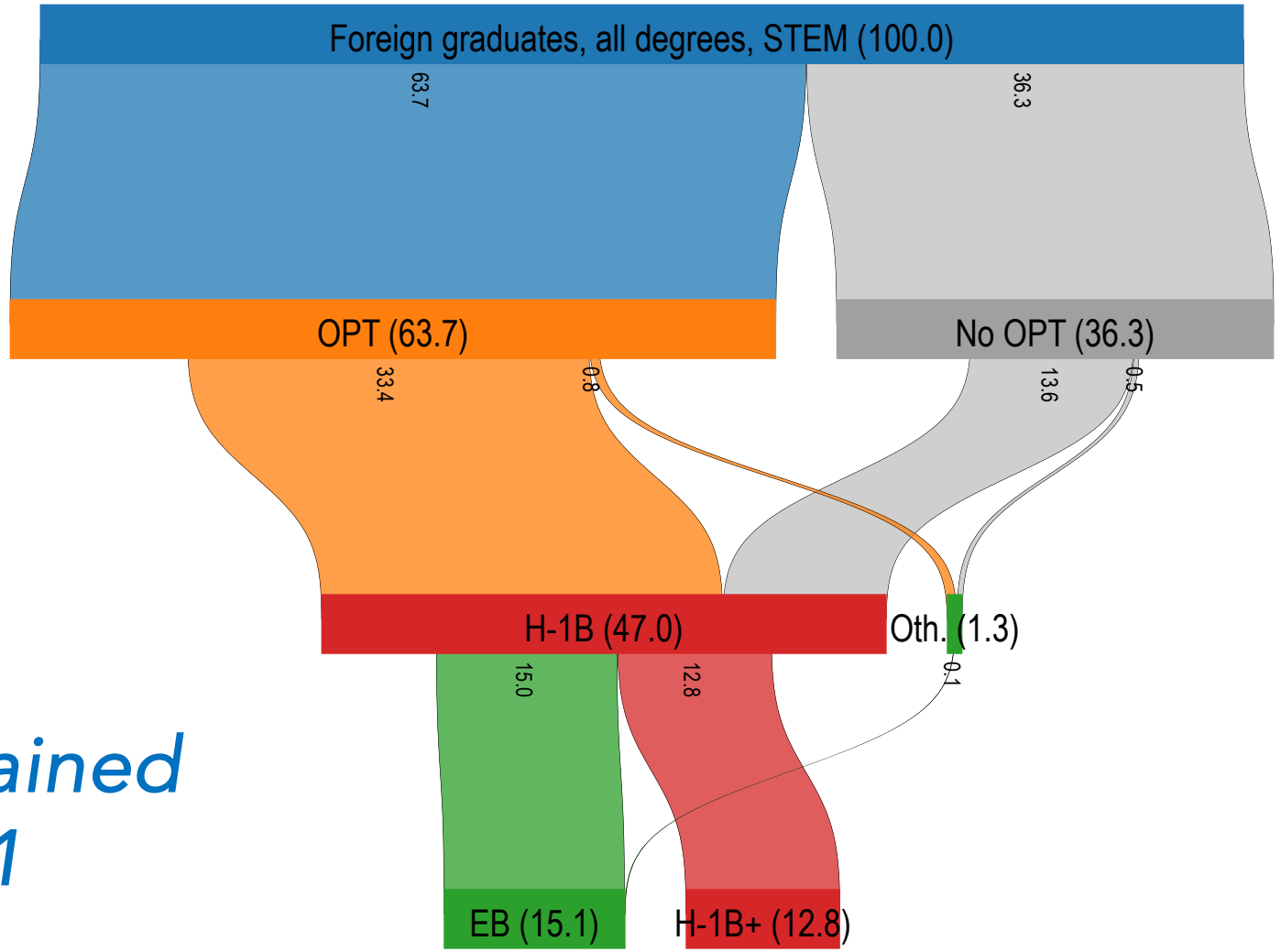
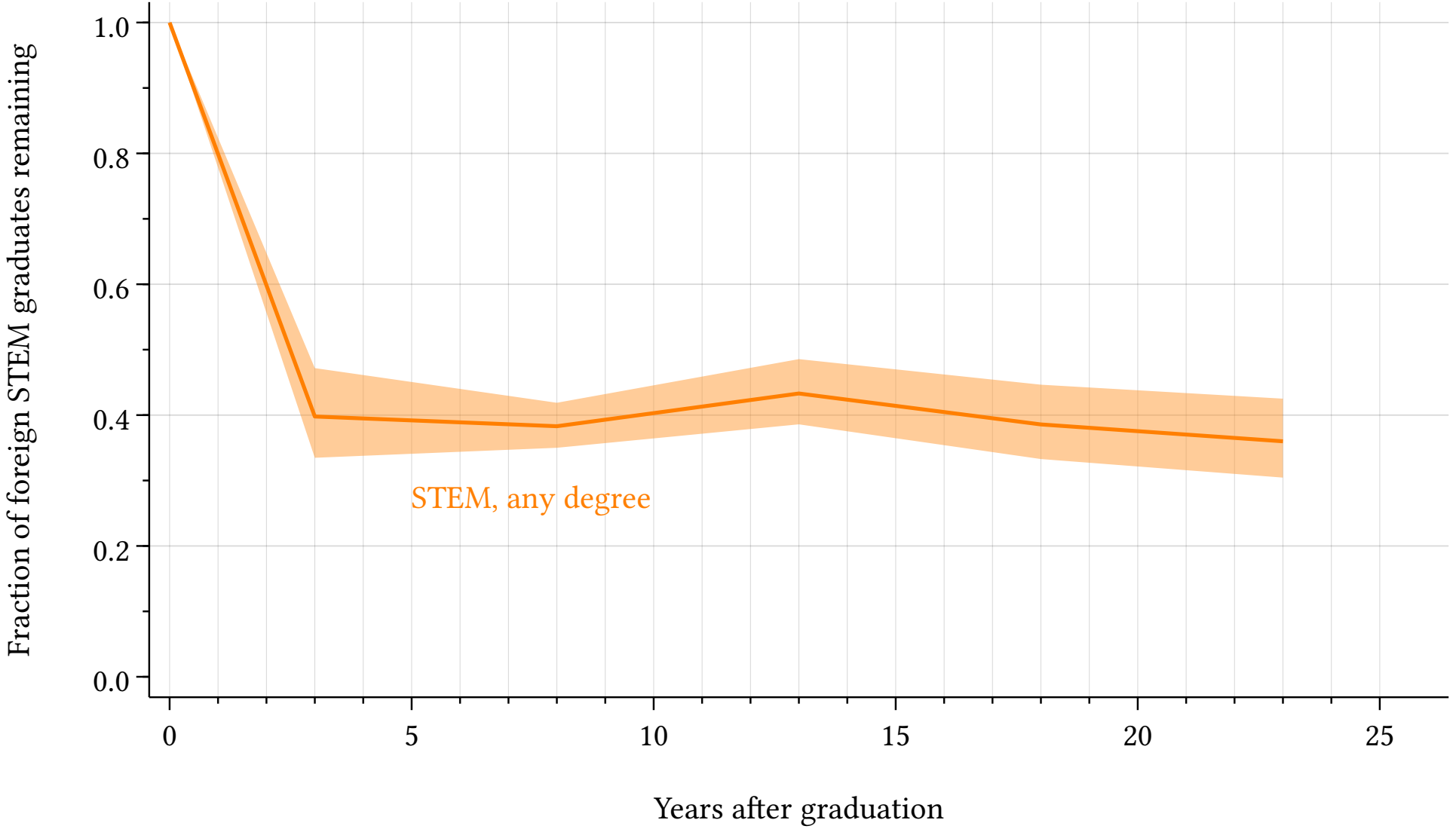


→ *78% retained in year 1*

US retention of int'l STEM graduates



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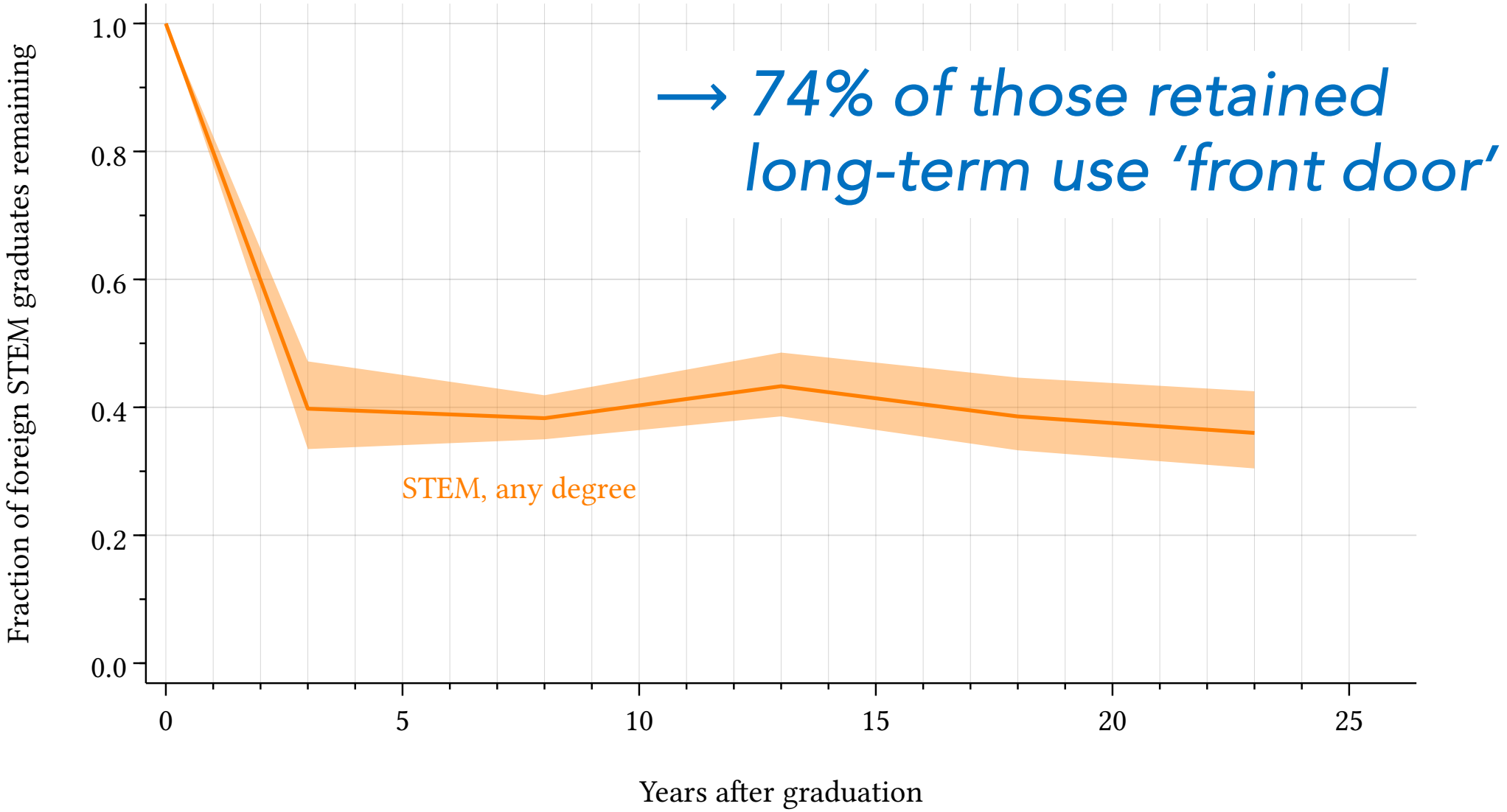
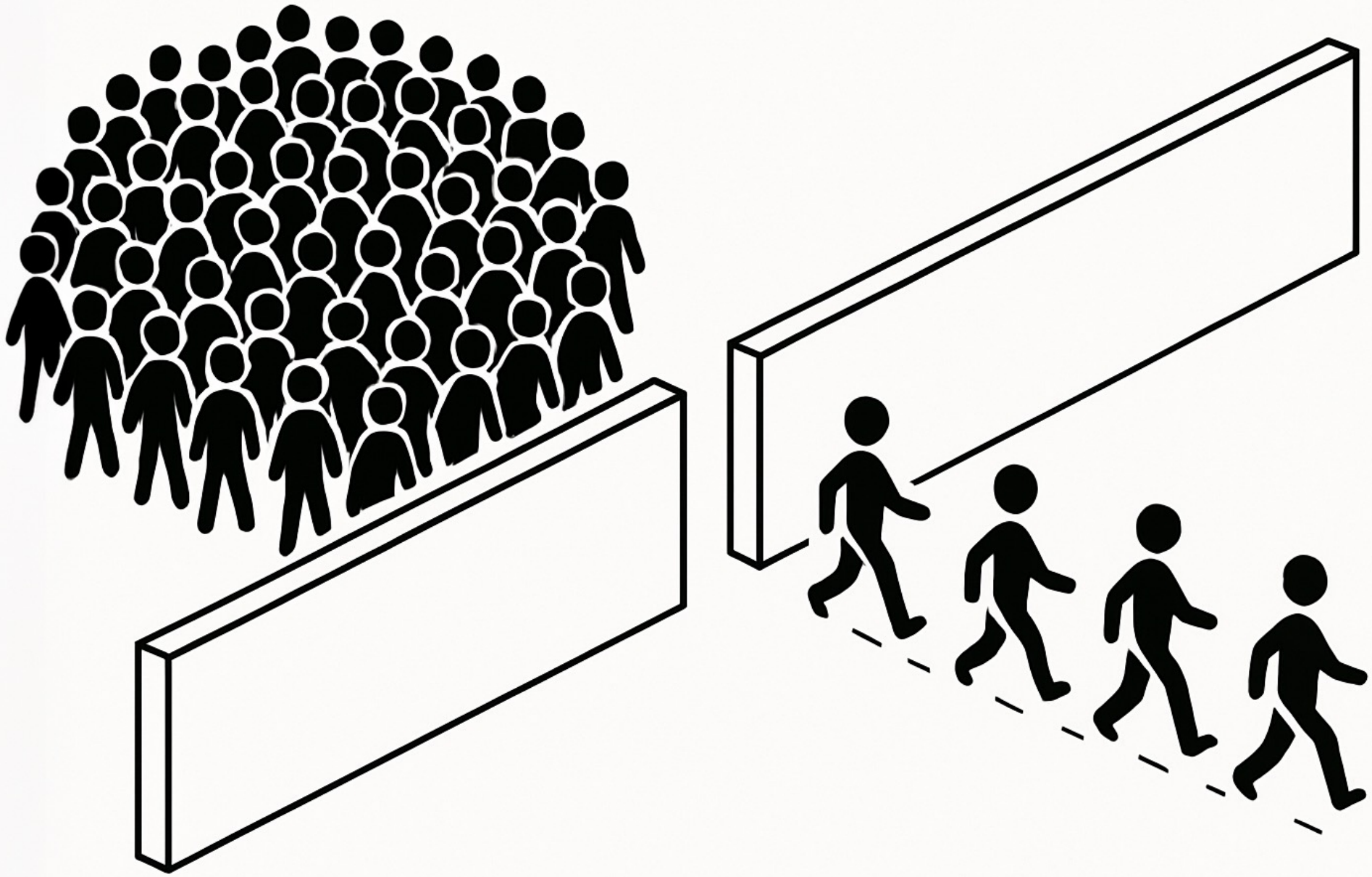
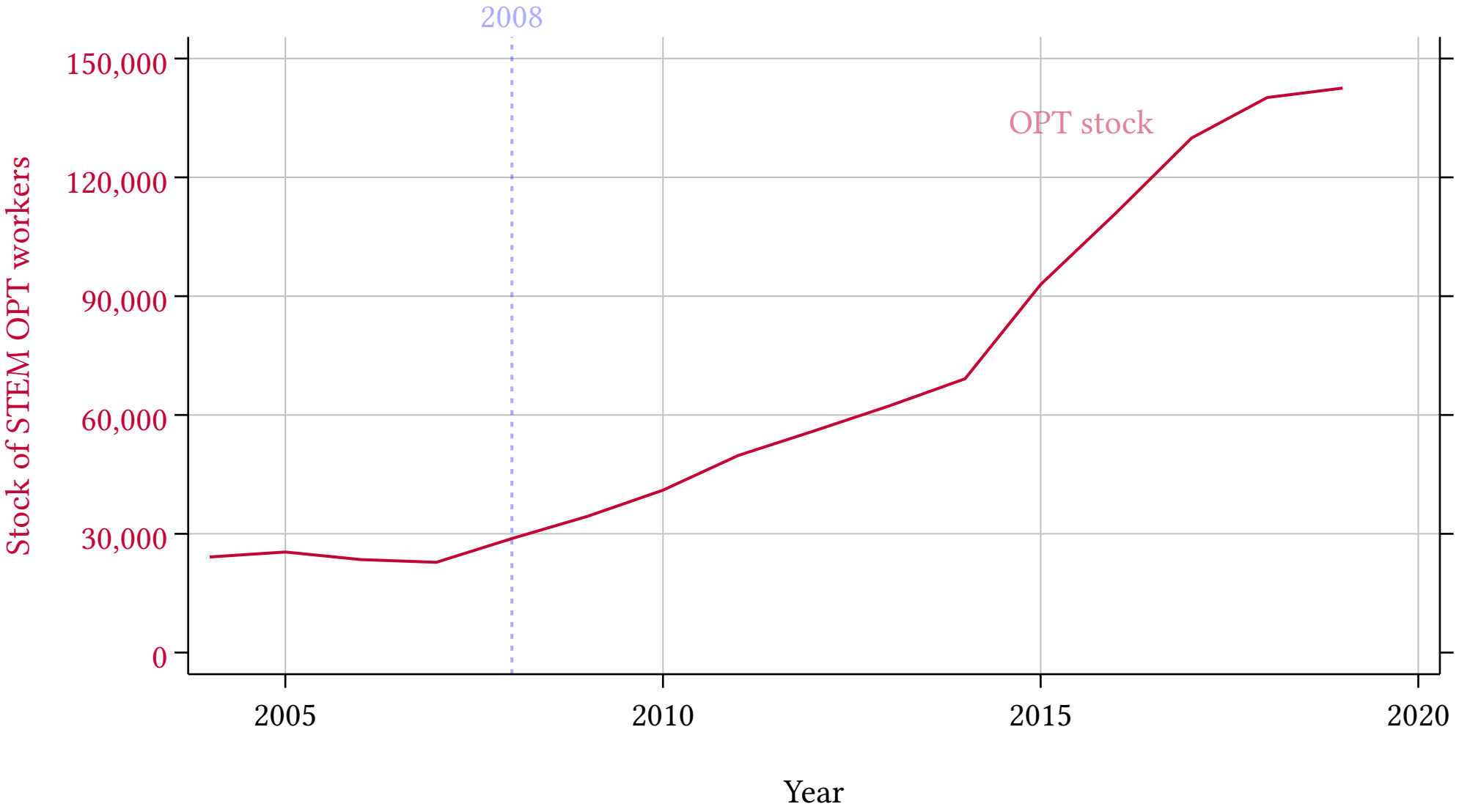




Non-US graduates are not substitutes



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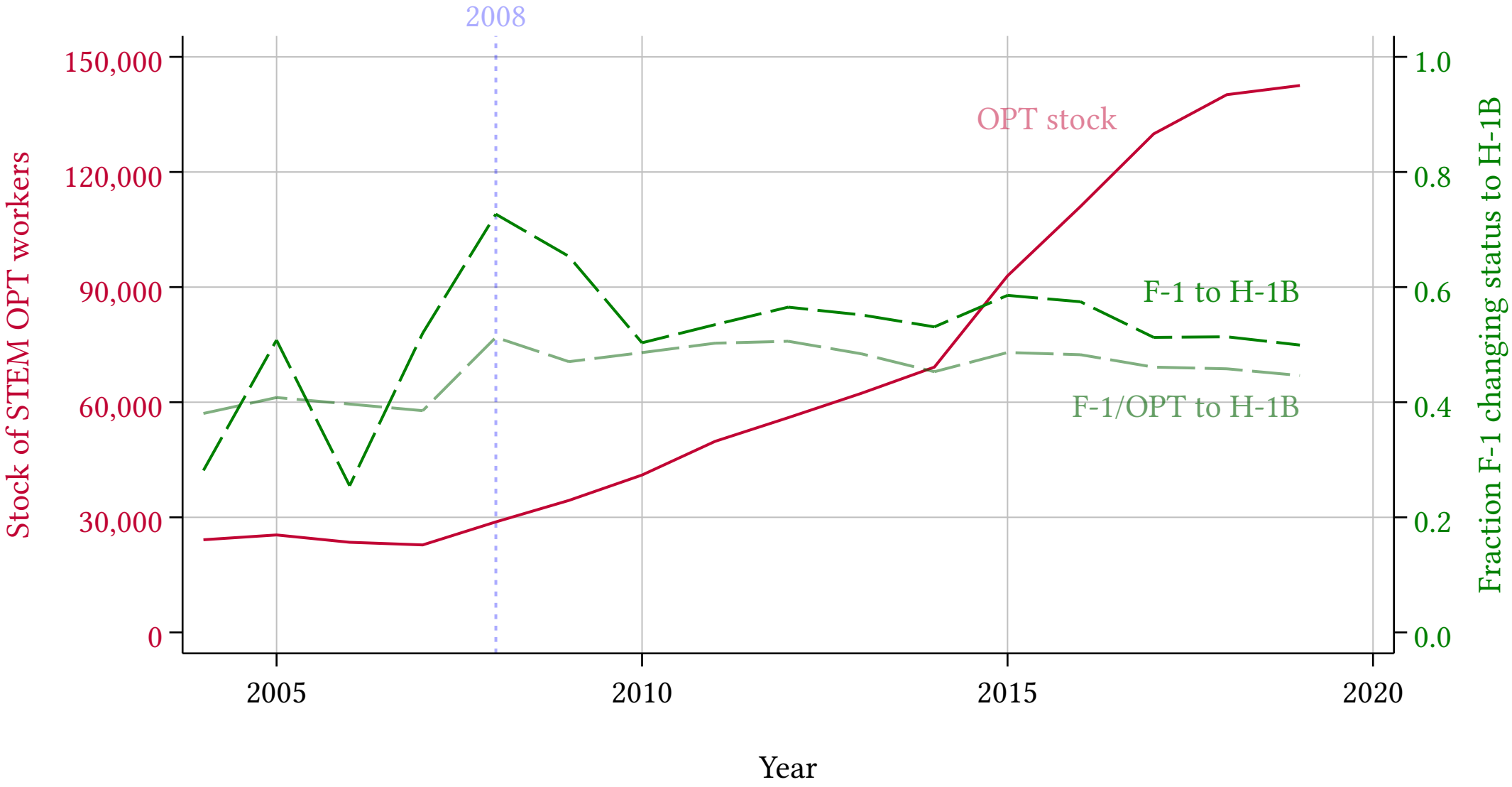

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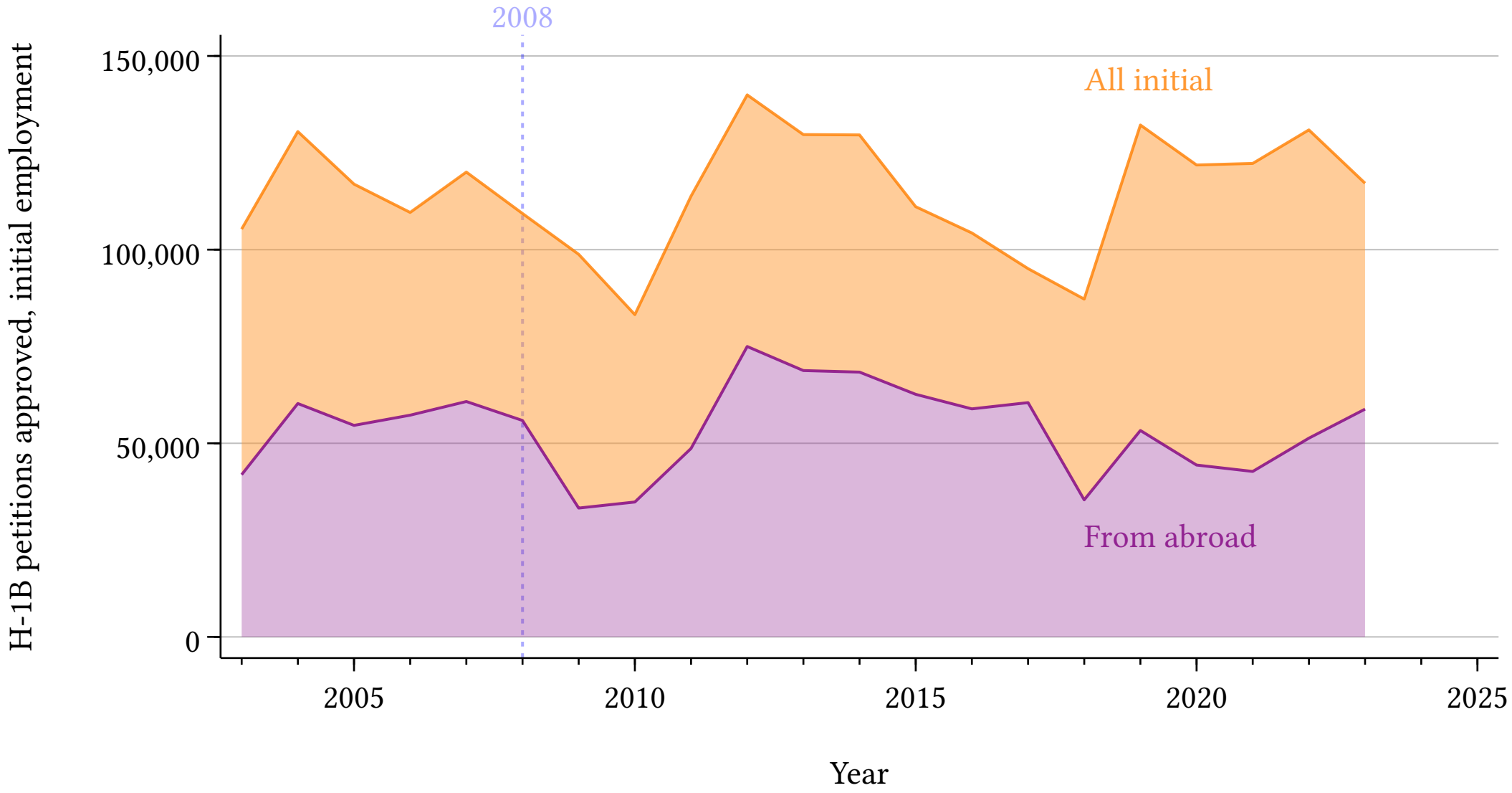

US natives are not substitutes

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One lost international student ⟶
0.62–0.93 lost domestic students

ELSEVIER

Journal of Public Economics

Volume 156, December 2017, Pages 170-184

Do international students crowd-out or cross-subsidize Americans in higher education?

☆

Kevin Shih ✉

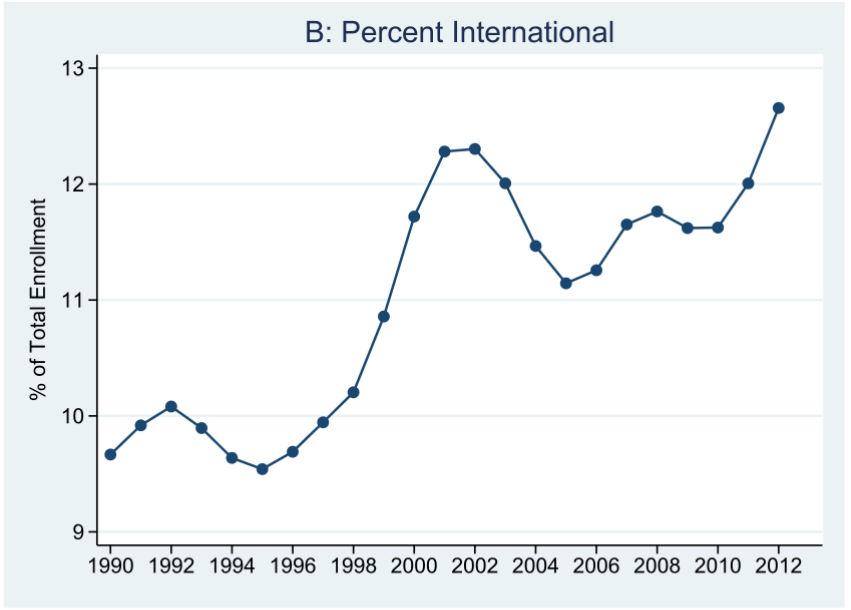
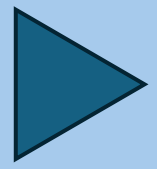
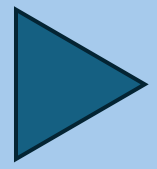


Fig. 3. Trends in international graduate enrollment in the U.S., 1990–2013. Note: Series constructed from IPEDS Fall Enrollment Surveys, 1990–2013. Figures above include total international graduate enrollment (in Panel A) and international graduate enrollment as a percent of total graduate enrollment (Panel B).

1/3 fewer int'l STEM students



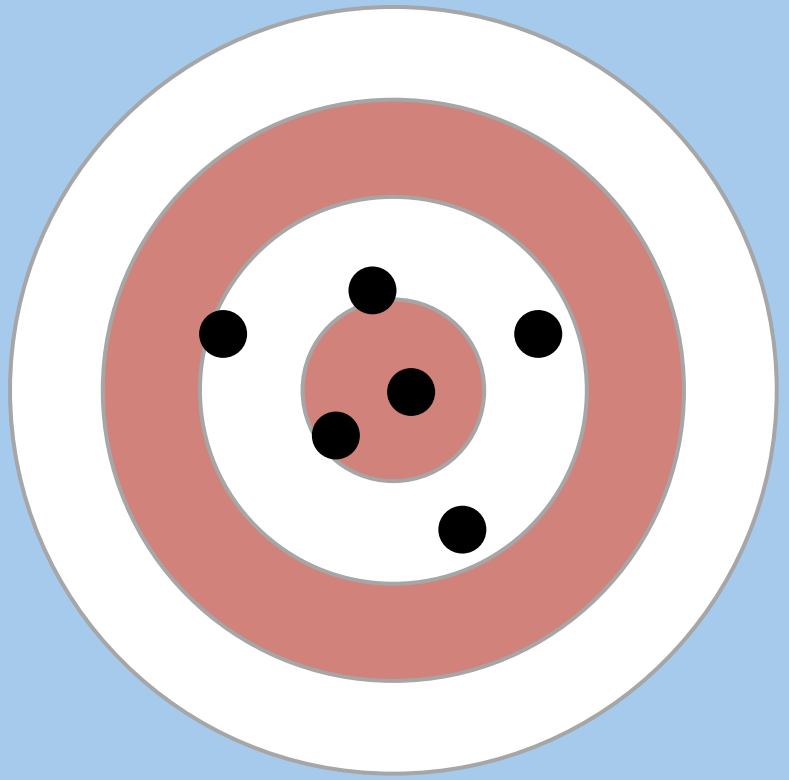
6.2% fewer high-skill STEM workers



Growth, productivity?

Precisely wrong

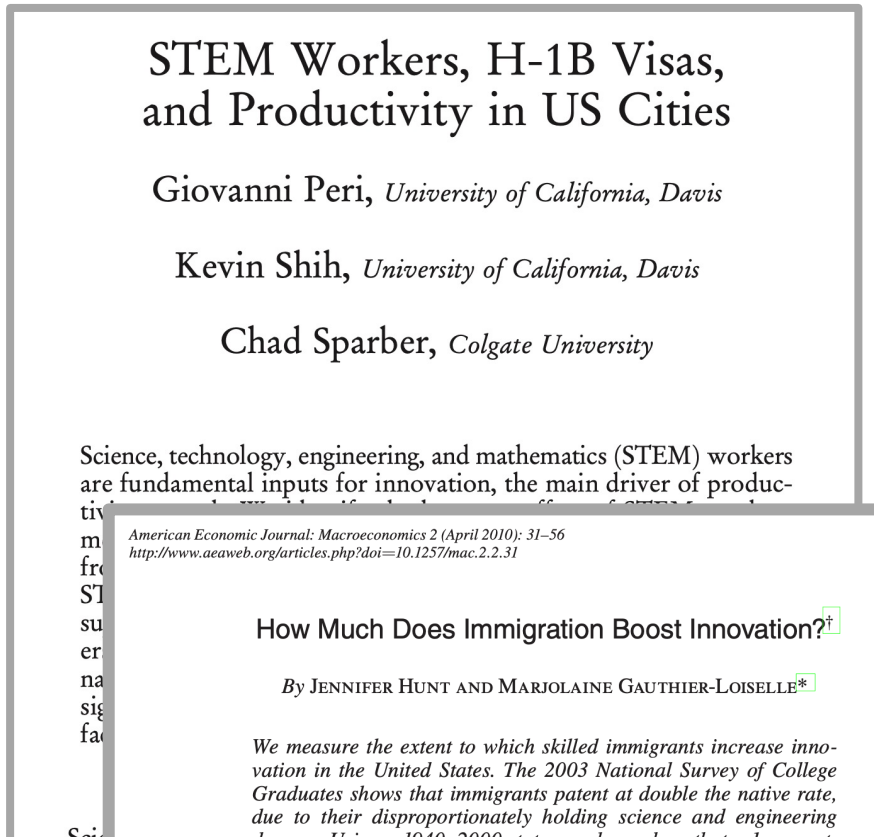
Imprecisely right



Lost productivity and growth

6.2% fewer high-skill STEM workers ⟶

- 0.079–0.158 pct. points lower productivity growth



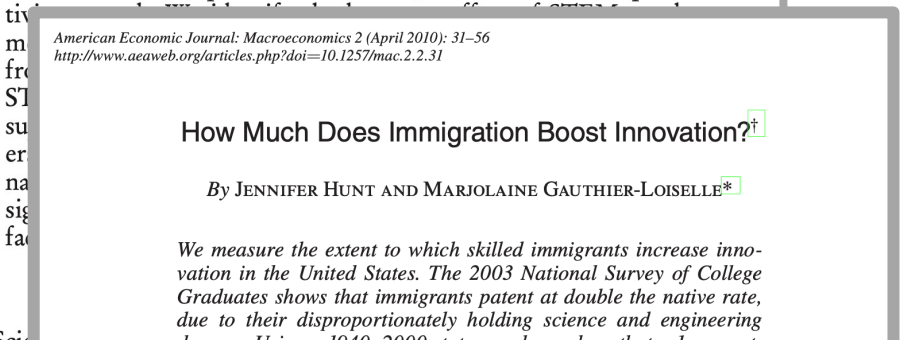
STEM Workers, H-1B Visas, and Productivity in US Cities

Giovanni Peri, *University of California, Davis*

Kevin Shih, *University of California, Davis*

Chad Sparber, *Colgate University*

Science, technology, engineering, and mathematics (STEM) workers are fundamental inputs for innovation, the main driver of produc-



American Economic Journal: Macroeconomics 2 (April 2010): 31–56
http://www.aeaweb.org/articles.php?doi=10.1257/mac.2.2.31

How Much Does Immigration Boost Innovation?†

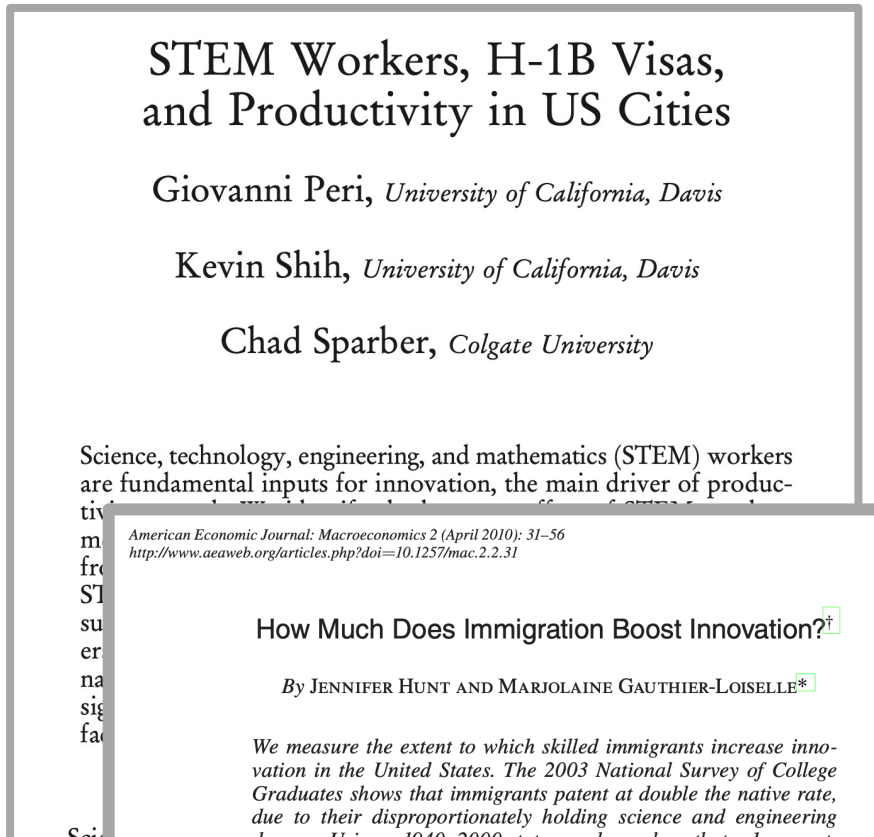
By Jennifer Hunt and Marjolaine Gauthier-Loiselle*

We measure the extent to which skilled immigrants increase innovation in the United States. The 2003 National Survey of College Graduates shows that immigrants patent at double the native rate, due to their disproportionately holding science and engineering

Lost productivity and growth

6.2% fewer high-skill STEM workers ⟶

- 0.079–0.158 pct. points lower productivity growth
- **$220–439 billion lost per year after 10 years**
- GDP of So. Carolina, Utah



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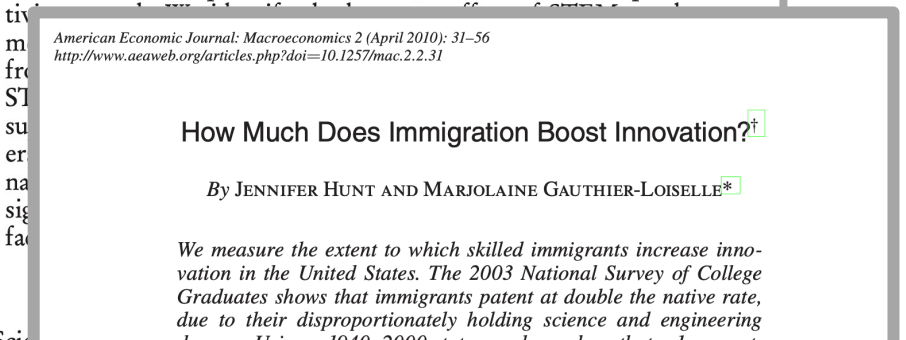

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