

Globalization and Selecting the Best and the Brightest Immigrants

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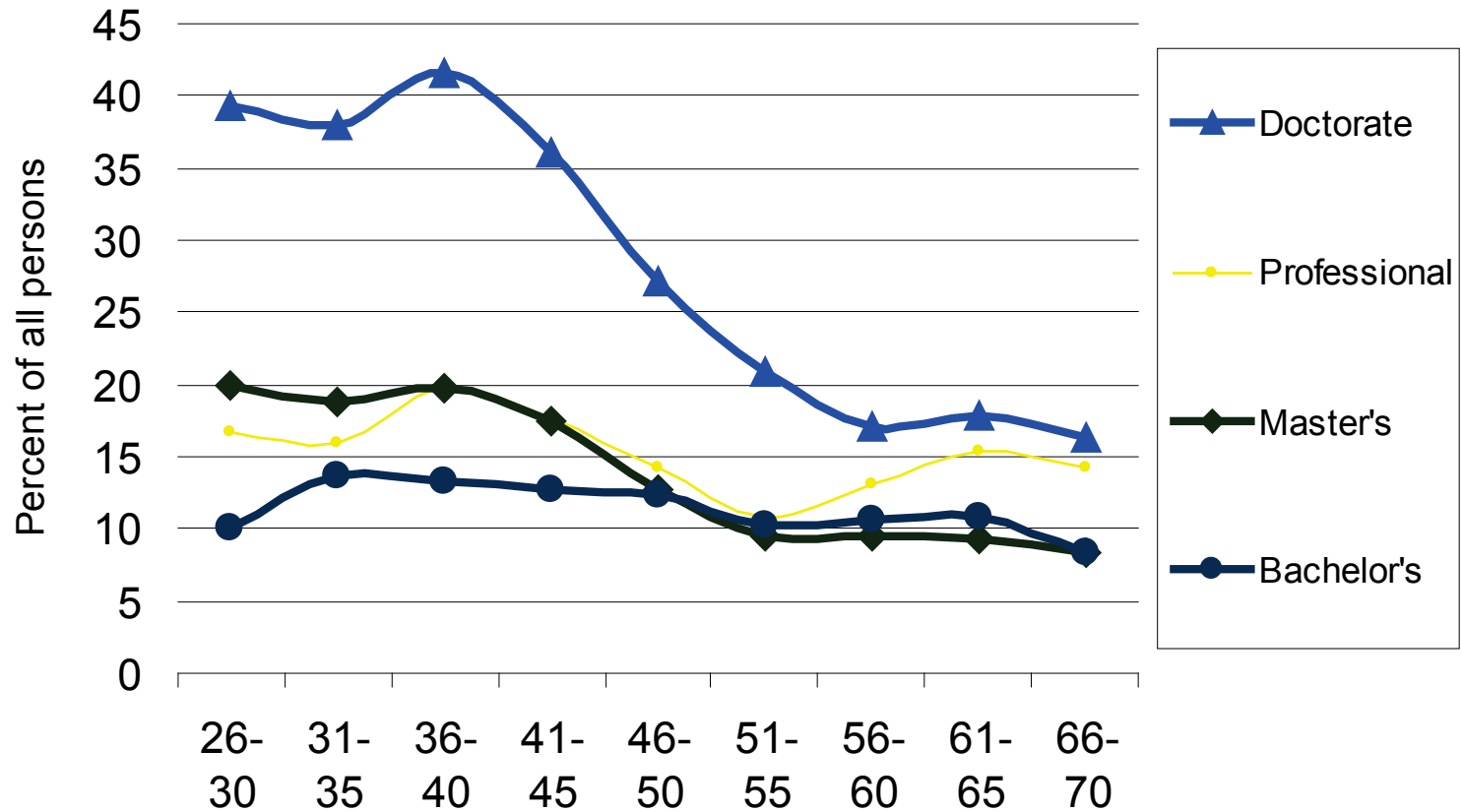
Synopsis

- Past skilled migration numbers have been generous, and the likely future is that the relative number of skilled immigrants will remain generous.
- Immigrants make solid contributions, but targeted policy is needed to attract the best and the brightest.
- The challenge is to create policies and incentives that are competitive and targeted to select the truly best and brightest.

Do we admit too few STEM workers?

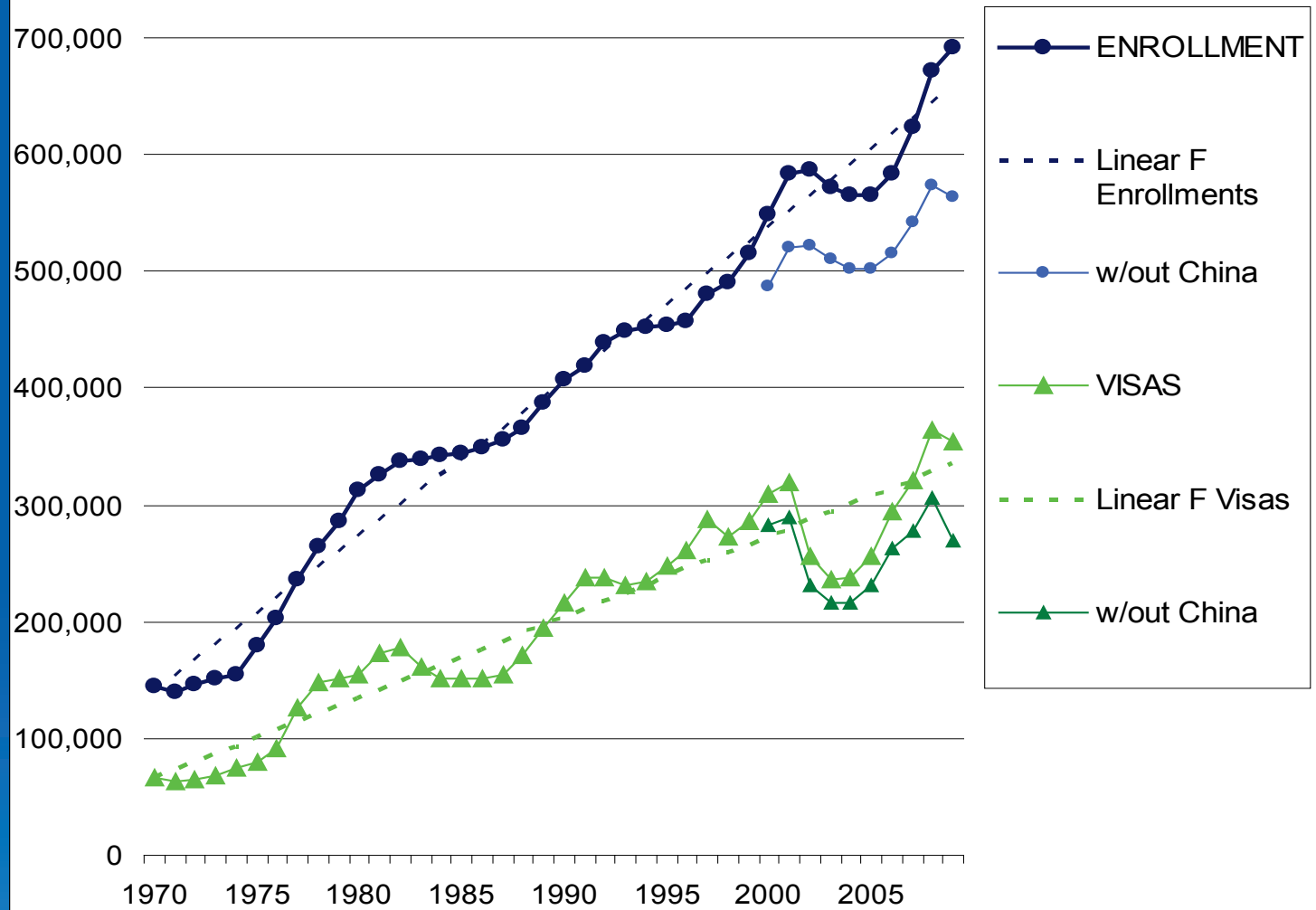
- Evidence of past shortages in STEM
 - If supply is inadequate, has high demand resulted in large wage gains?
- Evidence of numerical restriction
 - Are immigrant shares of skilled workers small?
- Projects of future shortages
 - Will current levels of STEM immigration meet projected employment?

Foreign-Born Share of Education and Age Group, 2003



Source: Lowell, tabulations NSCG03 microdata

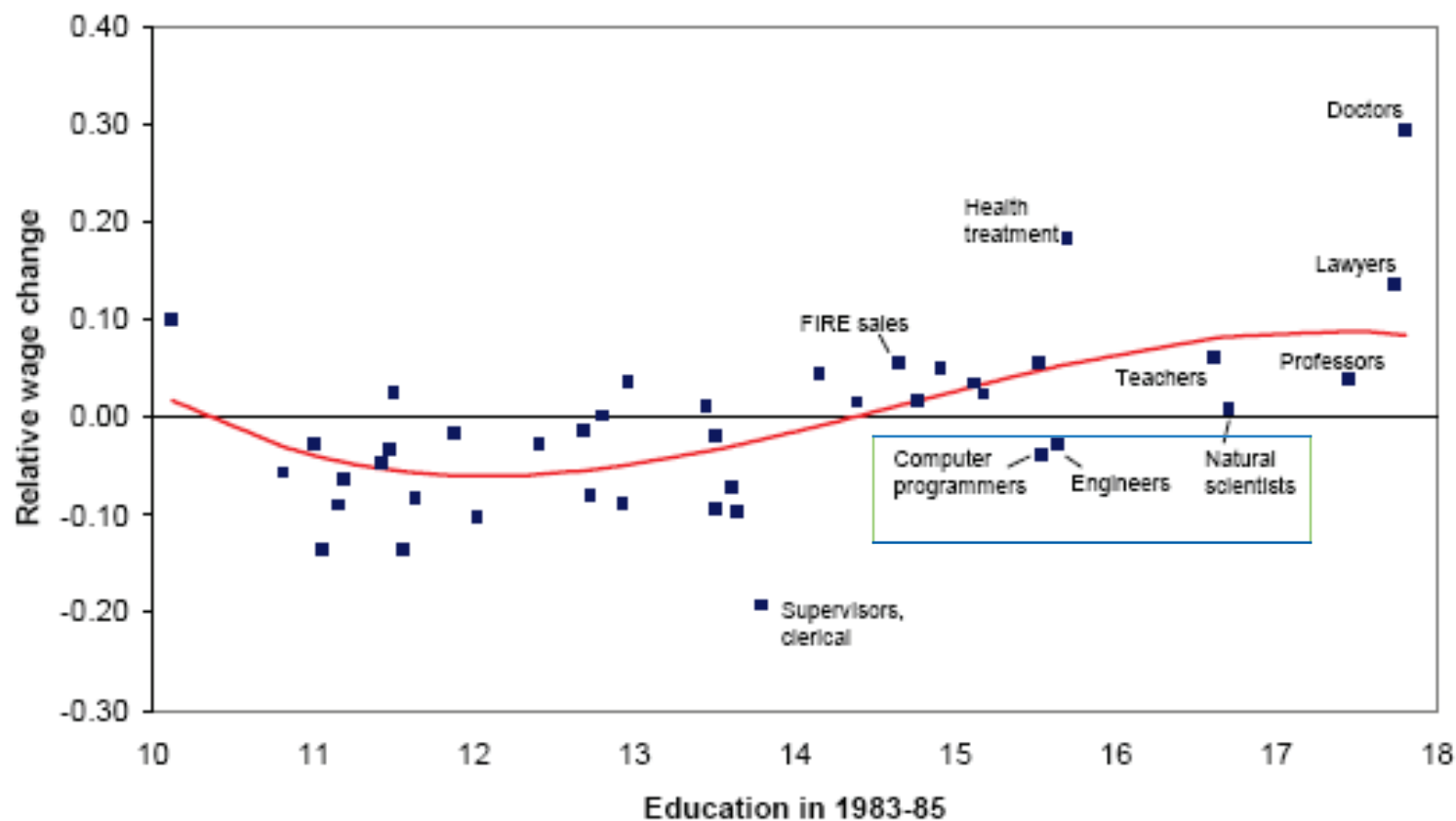
Foreign Student (F) State Visa Issuances & IIE Enrollments, All Fs & without China 2000-2009



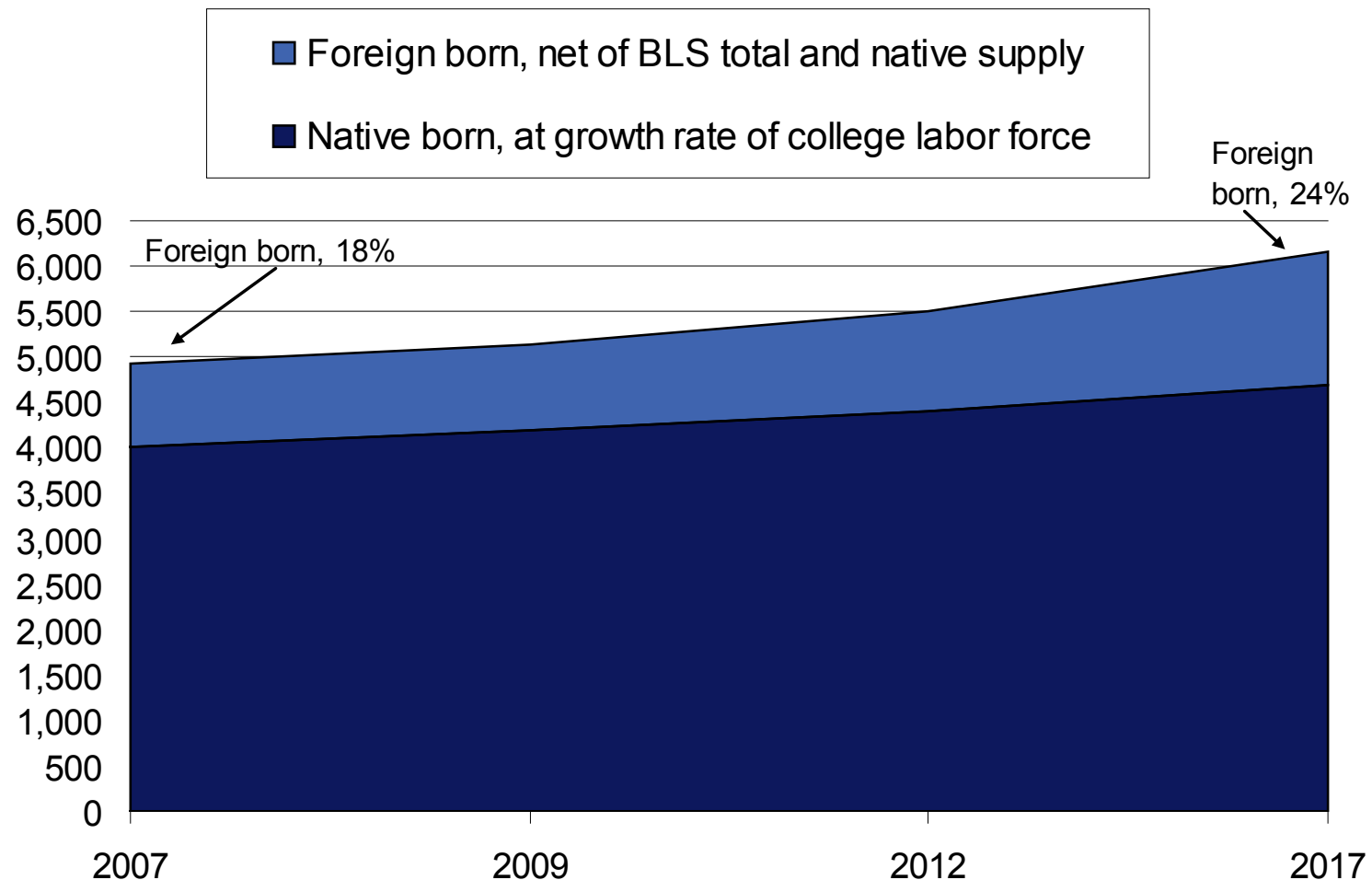
Source: State Dept., Open Doors

STEM workers experienced negative wage changes. “[This] is striking... These occupations had “by far the largest increase in “relative demand... it is difficult to understand”... Lemieux, T. “The Changing Nature of Wage Inequality.”

Figure 8: Relative Wage Change by Two-Digit occupation, 1983-85 to 2000-02



BLS projection computing & engineering jobs: estimated trend supply of natives and residual supply of immigrants (~ current avg inflow)



Source: BLS occupational projections and author's estimates

What Effect does Globalization have on Skilled Migration?

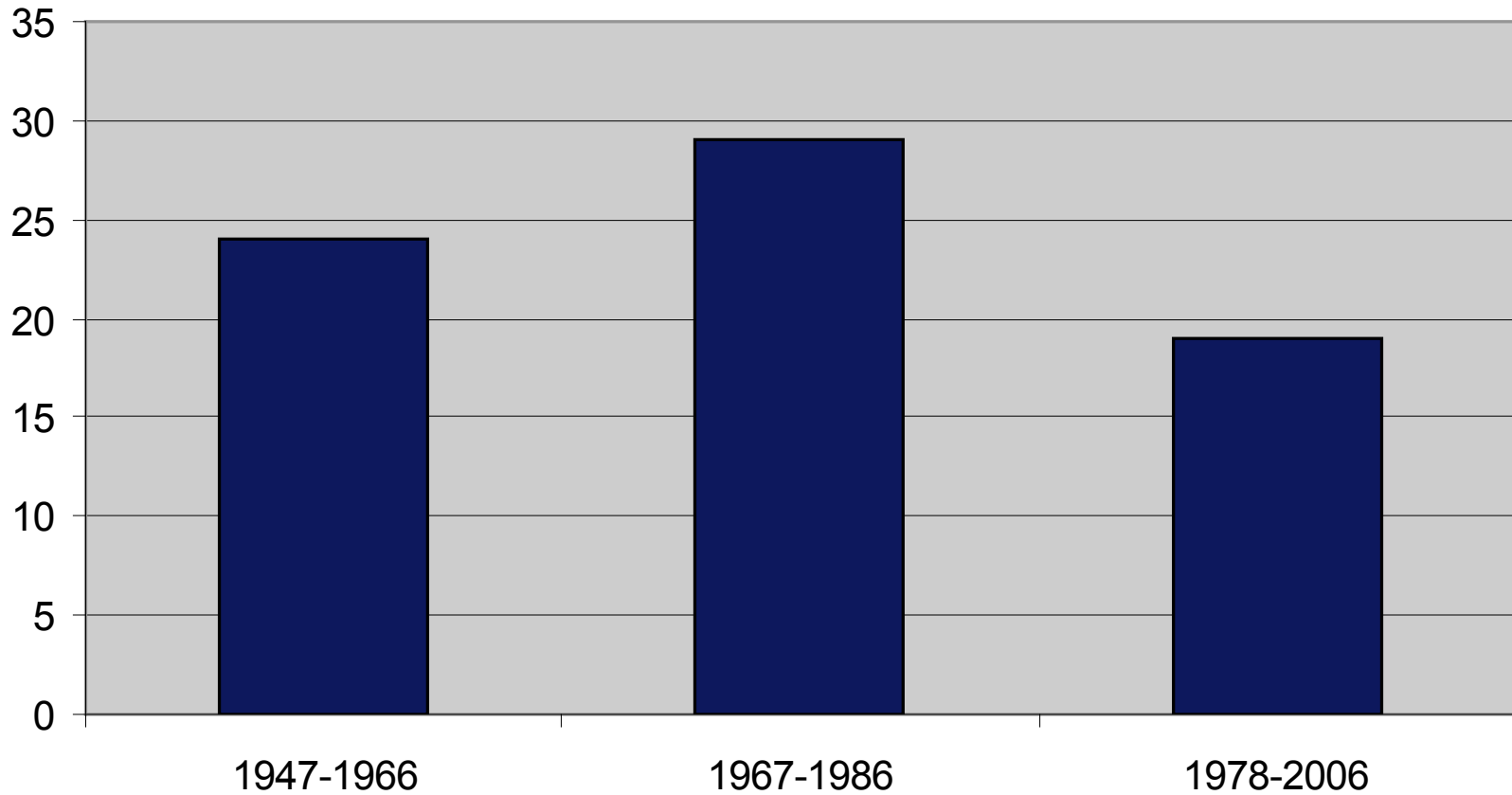
- Incentives and the drivers of migration
 - Do high costs & risks “select” for better STEM workers?
 - The elite – Nobel prize winners
 - The rest – STEM workforce

Nobel Prize Winners

- Nobel laureates are the cream of the crop.
 - Decline in immigrant share of Nobel prizes over time (globalization);
 - today, immigrants are less likely to be Nobel winners than natives.
- Hunter et al. 2009

Foreign-Born of Nobel Laureates

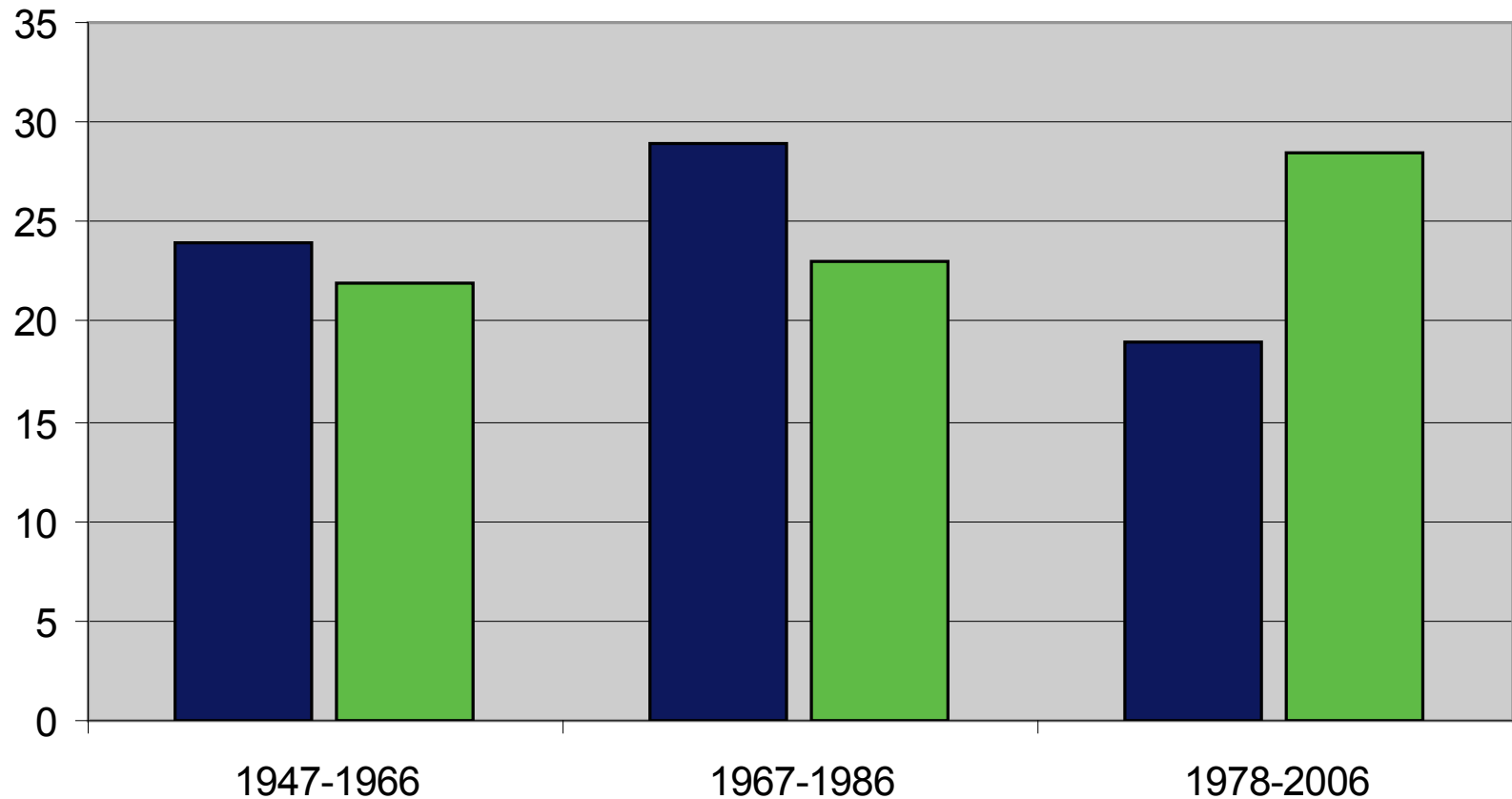
■ Percent of all laureates



Source: Hunter et al., 2009.

Foreign-Born of Nobel Laureates and STEM PhDs

■ Percent of all laureates ■ Percent of PhD STEM



Source: Hunter et al., 2009, and author's calculations 30 year old PhDs

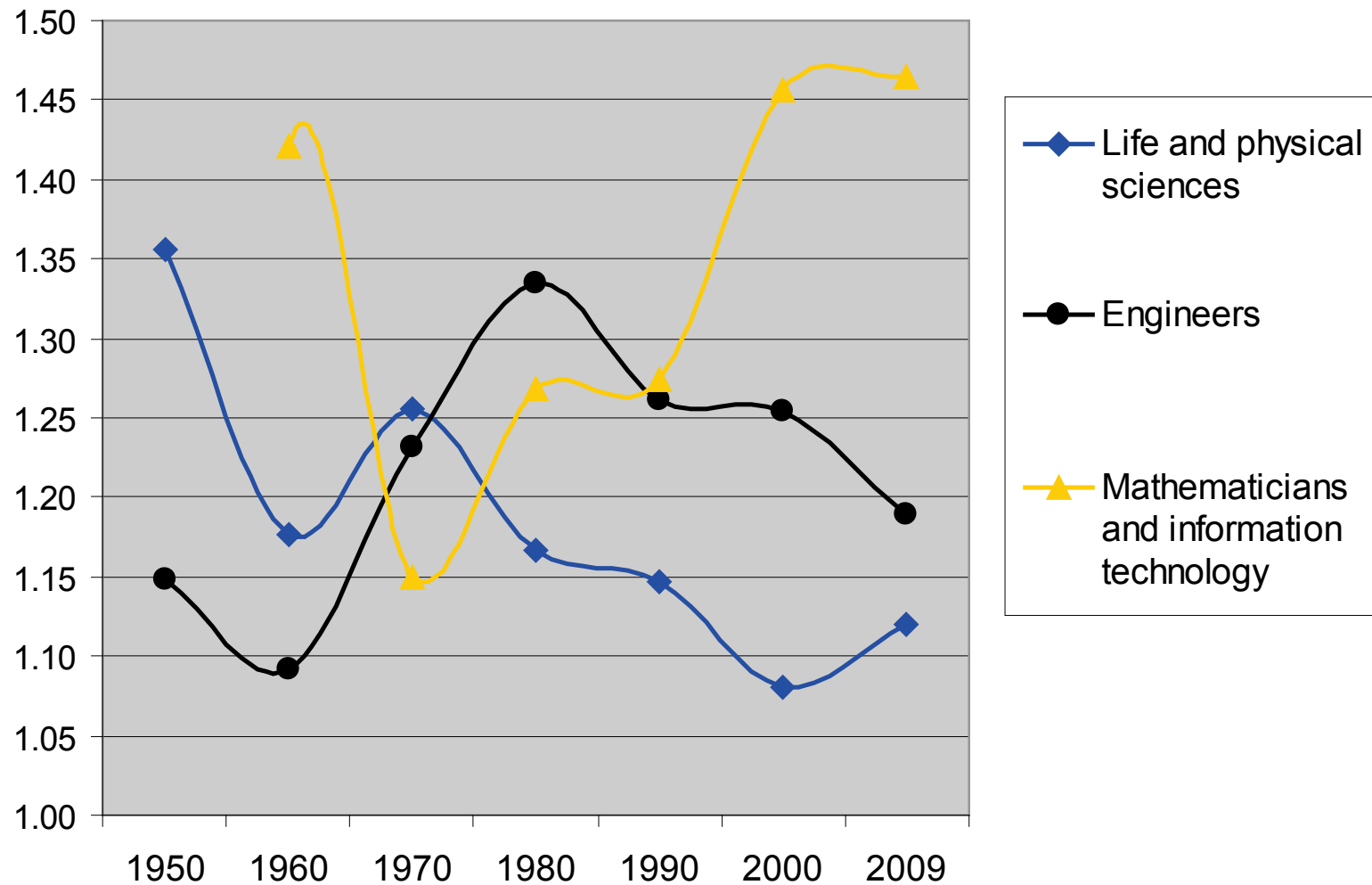
Foreign STEM workers

➤ Making migration pay

- Migrants are better educated than natives, in STEM foreign workers need the degree to compete;
- migrants advantage has lessened over time, both in terms of education & pay (globalization).

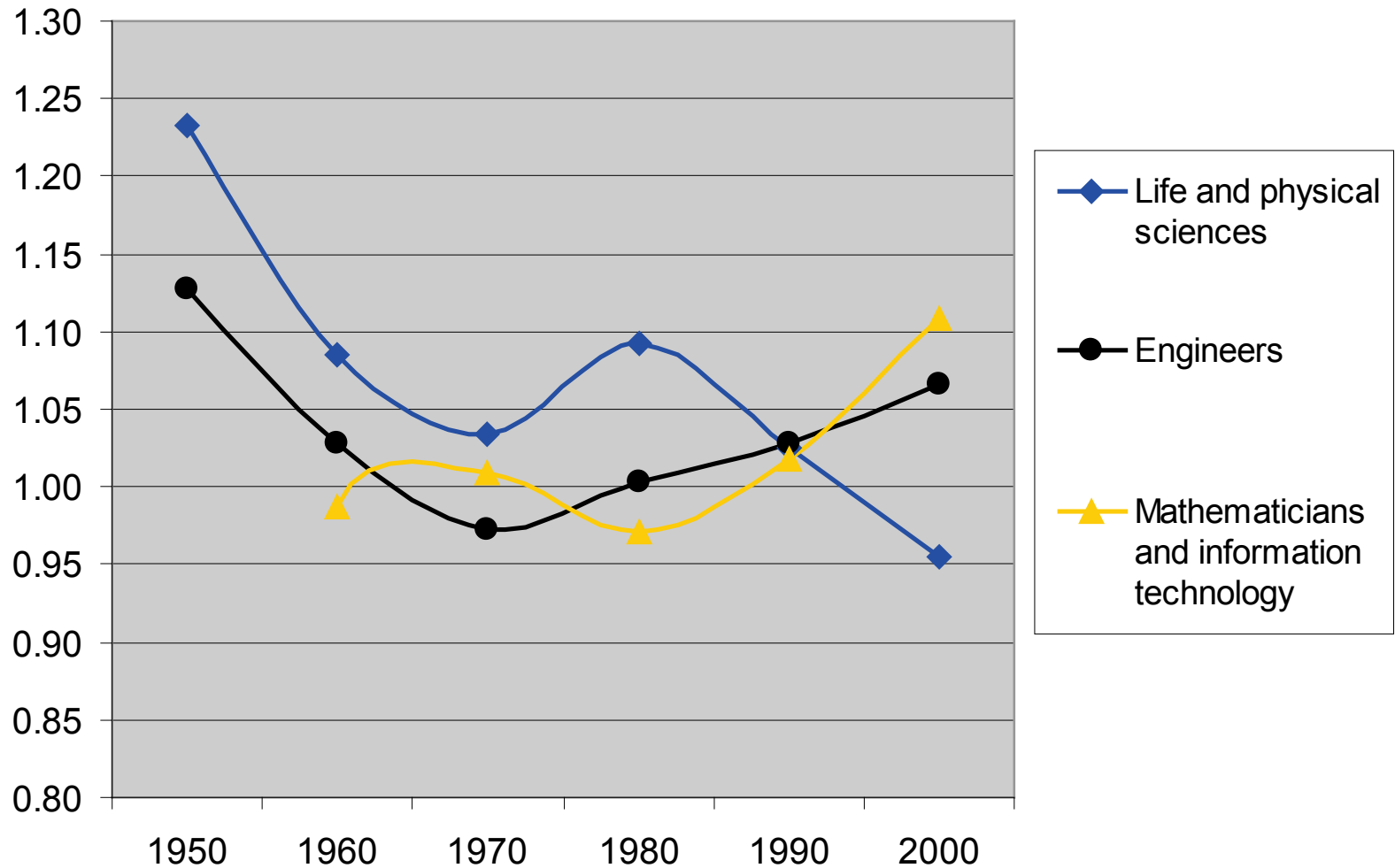
➤ Lowell, tabulations of US Census data

Comparative college education: ratio immigrant to natives BS+, 1950-2009



Source: US Census microdata

Comparative earnings: ratio foreign to natives, 1950-2000



Source: US Census microdata

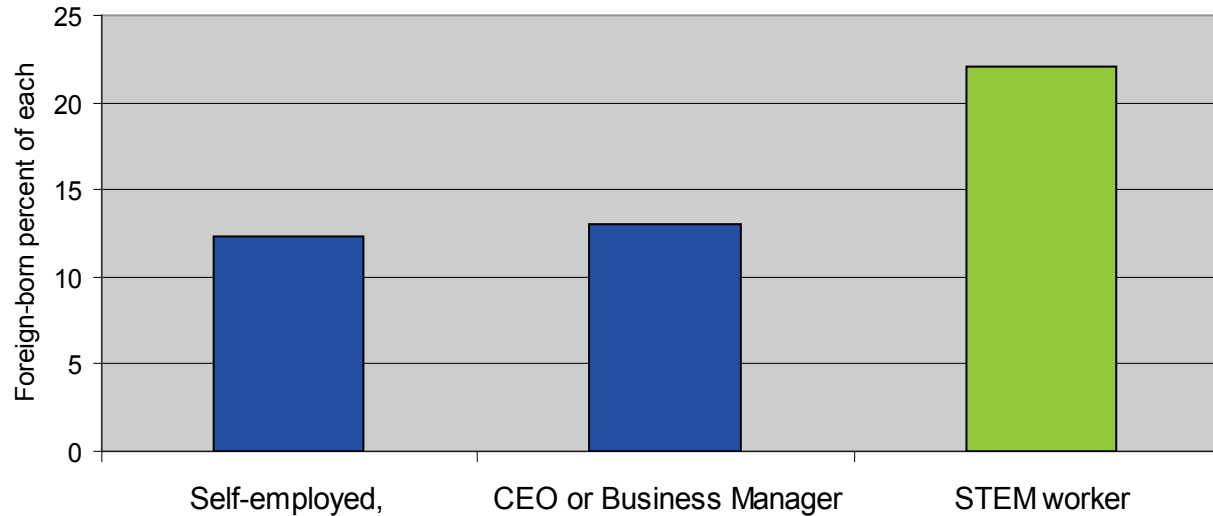
Are Immigrants uniquely Innovative?

- Do immigrants generate jobs, is the law of supply and demand old hat?
 - These data imply that a one percentage point rise in the share of immigrant college graduates in the population increases patents per capita by 6%. Hunt, 2008. “How much does Immigration Boost Innovation?”
 - We find that about 16% of the companies... had at least one foreign-born person among the founding team. This estimate is lower than that found in most previous studies. Hart et al., 2009. “High-tech Immigrant Entrepreneurship in the United States.”

Immigrant corporate leadership

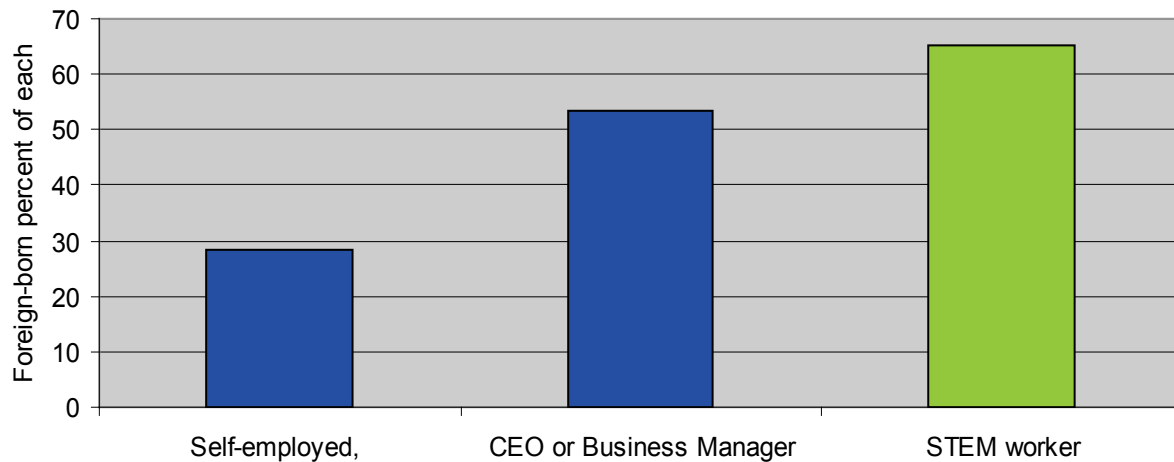
- Are immigrants more likely than natives to run their own or manage high tech business?
- How many STEM workers need be admitted to find these stars?

Foreign-born share of owners, top management and STEM workers in ICT industries, USA 2005-2007



Source: ACS microdata.

Foreign-born share of owners, top management and STEM workers in ICT industries, Silicon Valley 2005-2007



Source: ACS microdata.

PHILOSOPHIES OF ADMISSION

(1) Set large admission numbers & let the visa market self-regulate

Approach of Senate S.2611 and current round of reform

Assumes that STEM degree is a measure of quality

Assumes that employer sponsorship ensures quality

(2) Long-term strategies should target optimal numbers

A limited number of high quality workers are available abroad

High numbers can undermine domestic supply

High numbers may undermine the quality of foreign supply

(3) Long-term strategies should restrict numbers

The U.S. has an over-supply of highly skilled workers

Restricted supply of immigrants will boost wages & domestic supply

Domestic supply confers greatest competitive advantage