

Online Press Conference will begin Wednesday, April 24th at 11:30 AM

GUESTWORKERS IN THE HIGH-SKILL U.S. LABOR MARKET: Analysis of Supply and Employment Trends of the IT Workforce

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Full report available at:

<http://bit.ly/guestworkers>

OR:

<http://www.epi.org/publication/bp359-guestworkers-high-skill-labor-market-analysis>

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Findings and conclusions are those of the authors.

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Key Questions:

- Is there a shortage of STEM workers in the U.S.?
- What is the impact of high-skill guestworker visa programs?

The Issues

- Are there enough high-performing/STEM-educated students?
- How large is the flow of high-skill guestworkers? And what are the characteristics of these workers?
- What are the employment and wage trends in the IT labor market?

Findings

- Ample supply of STEM graduates
 - ❖ Only one of every two STEM graduates employed in a STEM job
 - ❖ Computer Science and Engineering produce 50 percent more graduates than hired

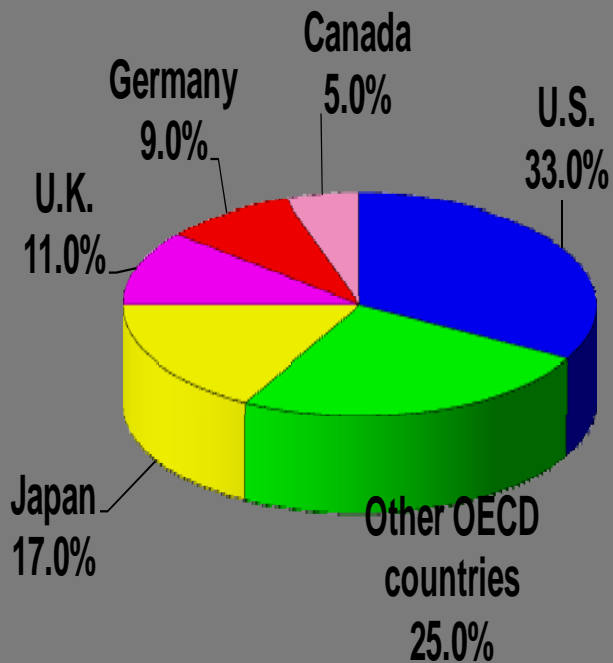
- Supply is responsive to demand
 - ❖ When wages increase, so does the number of graduates
 - ❖ When wages stagnate, so does the number of graduates

Does the U.S. lack
STEM-potential
Students

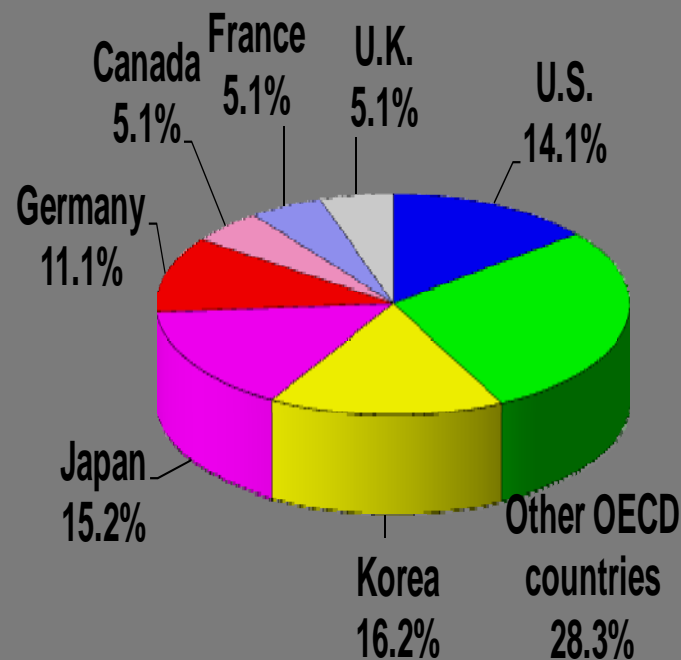
Don't students in the U.S. lag the
world in performance?

U.S. Has Largest Shares of Global Supply of High-Performing Students

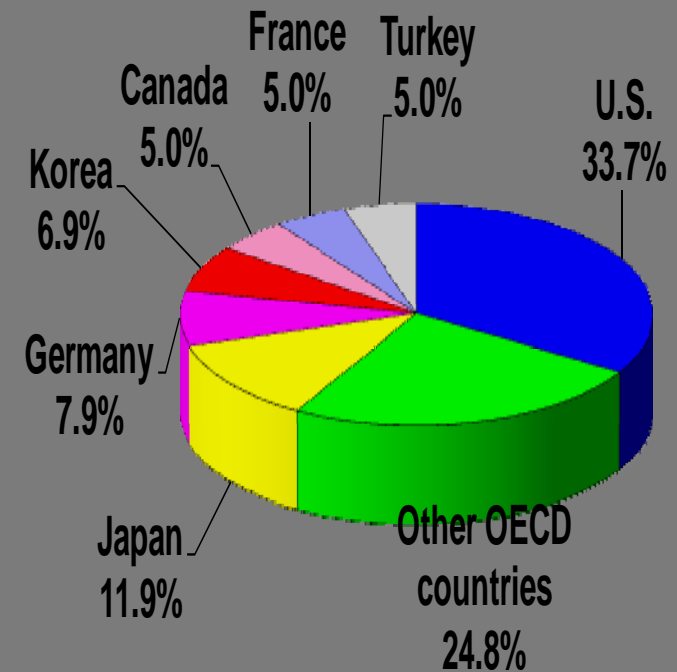
Science



Math



Reading



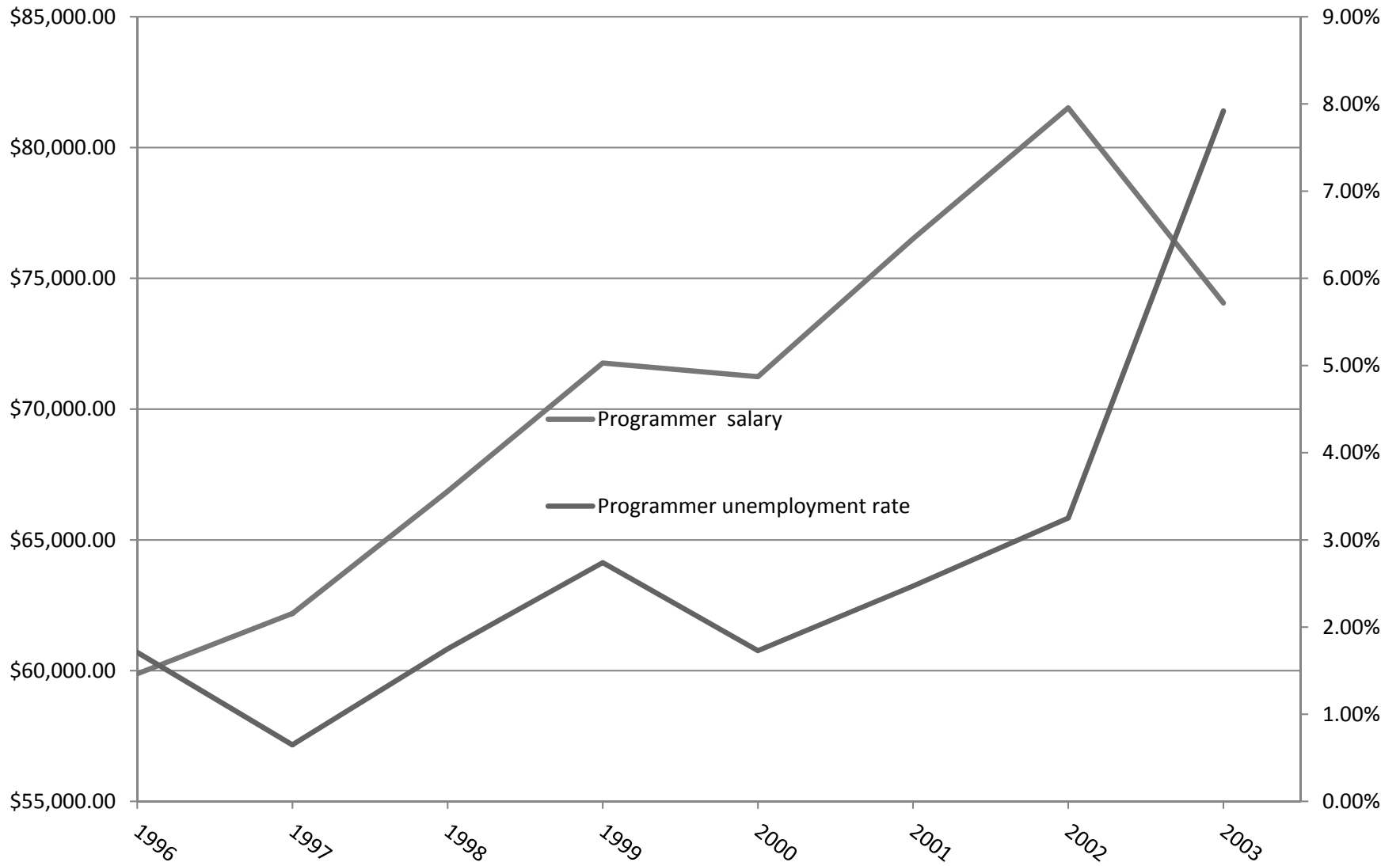
Source: These figures are reproduced from: Salzman and Lowell, 2008; "Making the Grade" Nature 453, 28-30].

But do STEM labor markets
work?

Can STEM employers really find
workers?

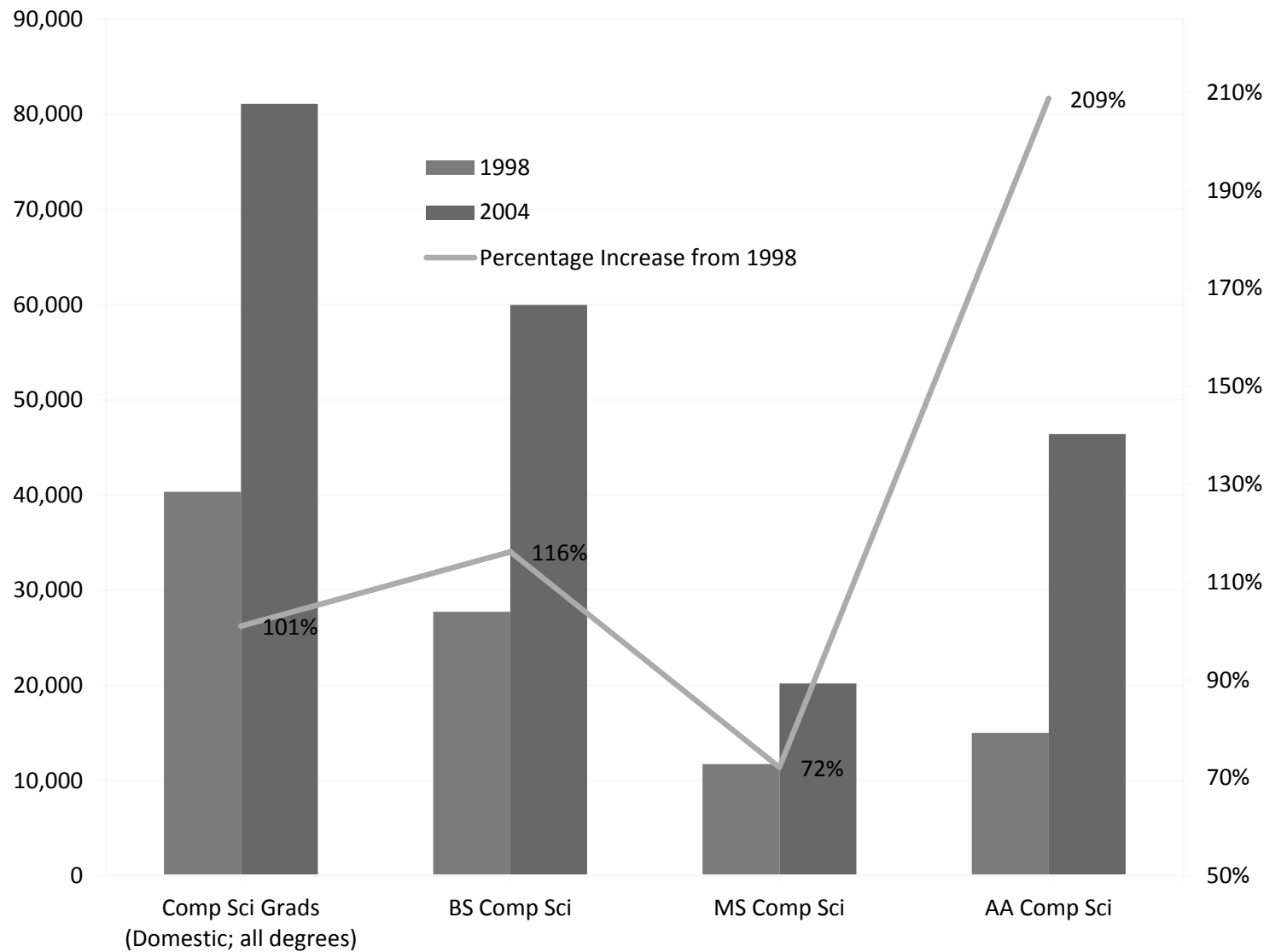
Graduates Respond to Wages:

Computer Science Graduates

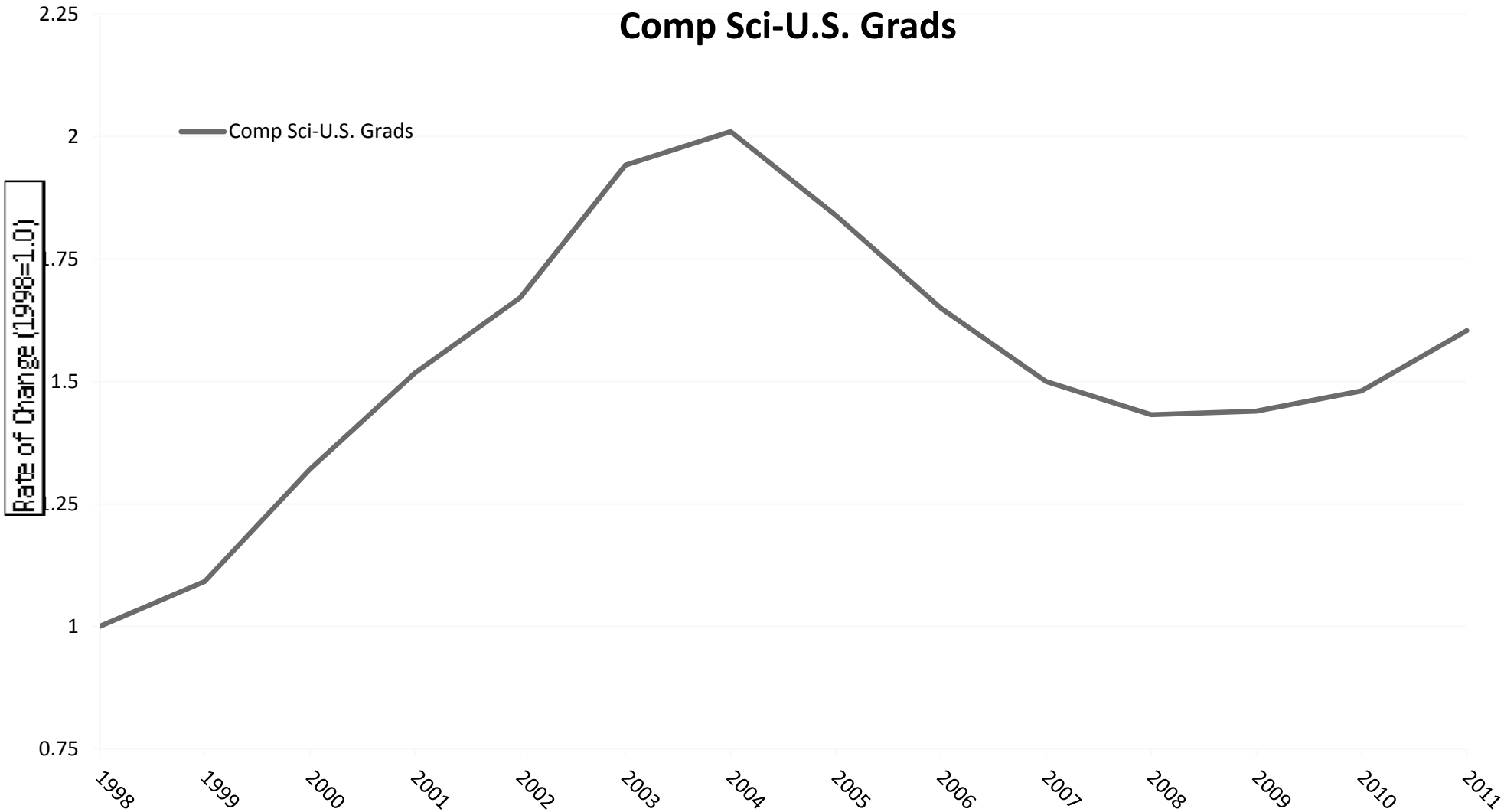


Graduates Respond to Wages:

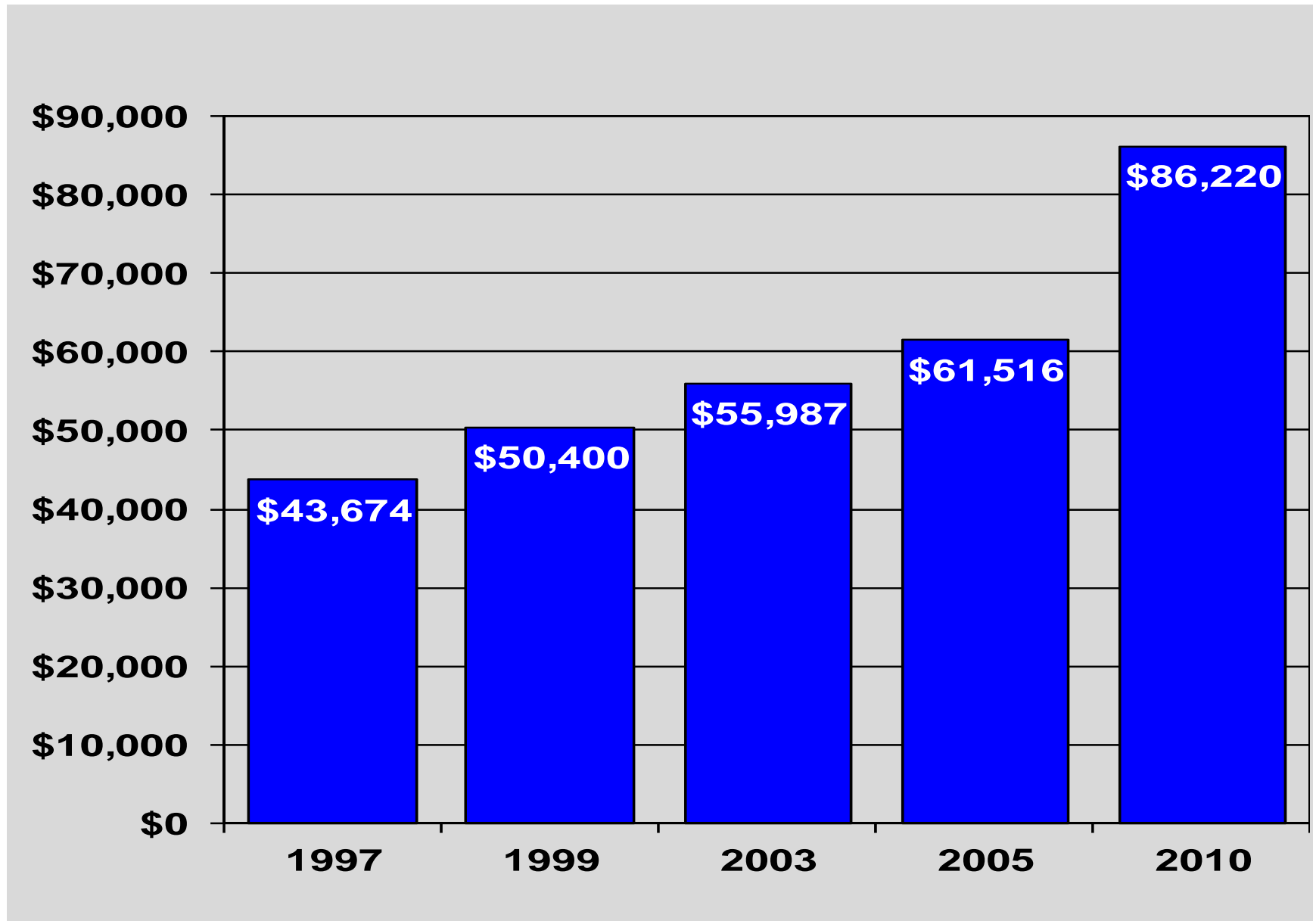
Computer Science Graduates



Comp Sci-U.S. Grads



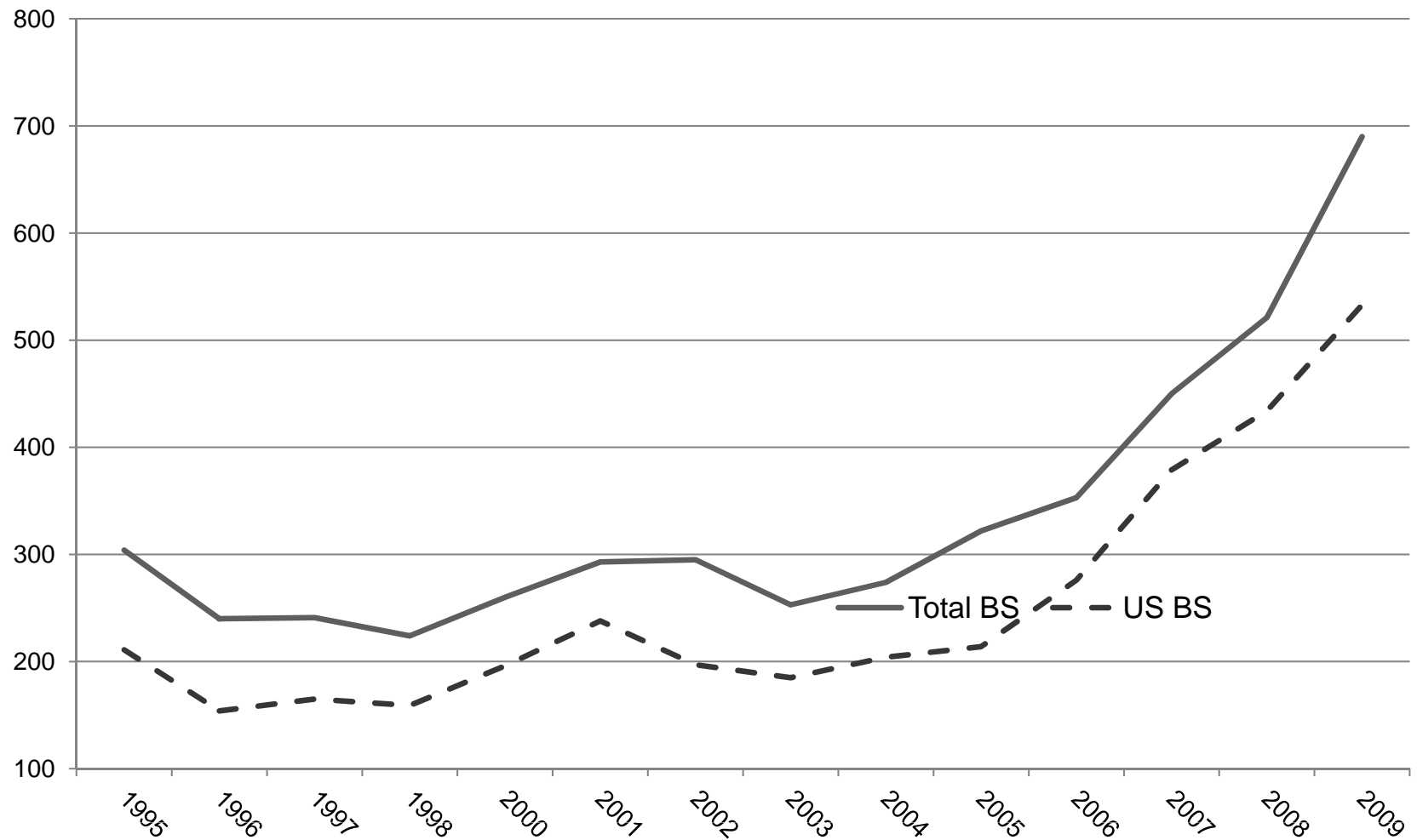
Petroleum Engineering Starting Salaries



Source: IPEDS;
Tabulations: Kuehn & Salzman, 2010
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Tabulations: Kuehn & Salzman, 2010
Salary data from BLS & NACE

Petroleum Engineering Graduates

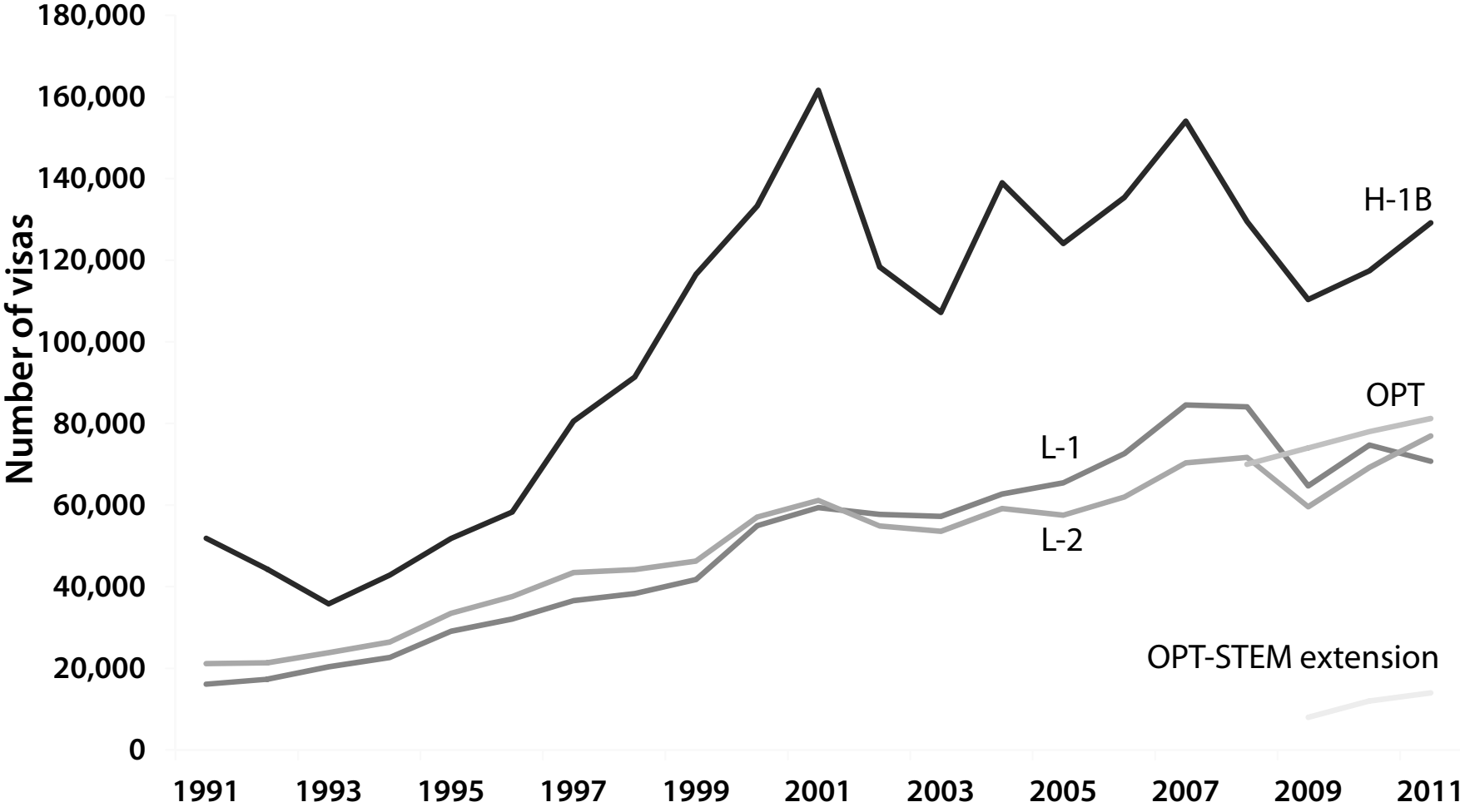
Total and U.S. [citizen & perm. resident] grads



What is the Impact of High-Skill Guestworkers?

- How many?
 - H-1B....but also L, OPT, OPT STEM-extension, and others
- Concentrated in IT industry

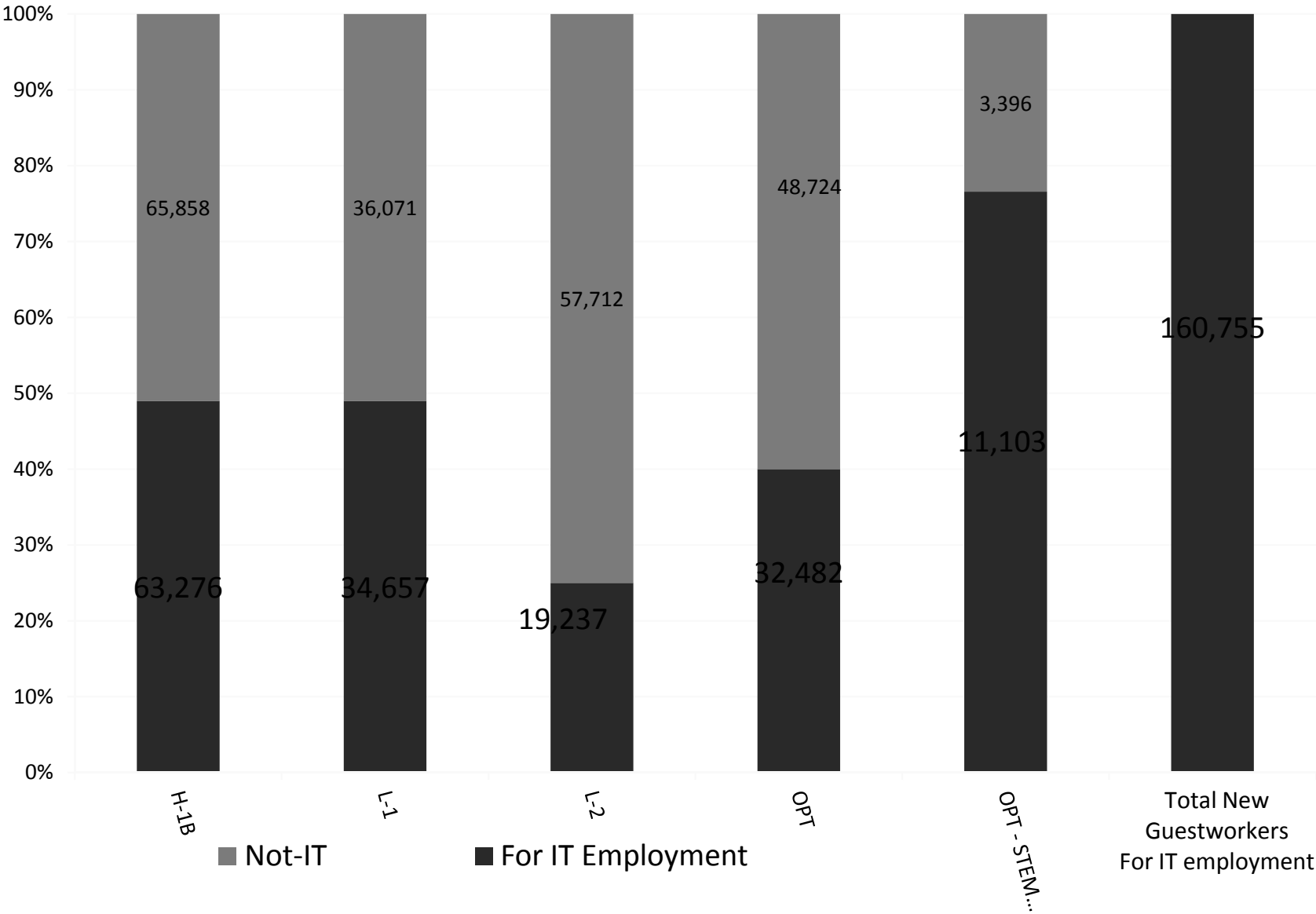
Guestworker visas issued annually, by program or visa category, 1991–2011



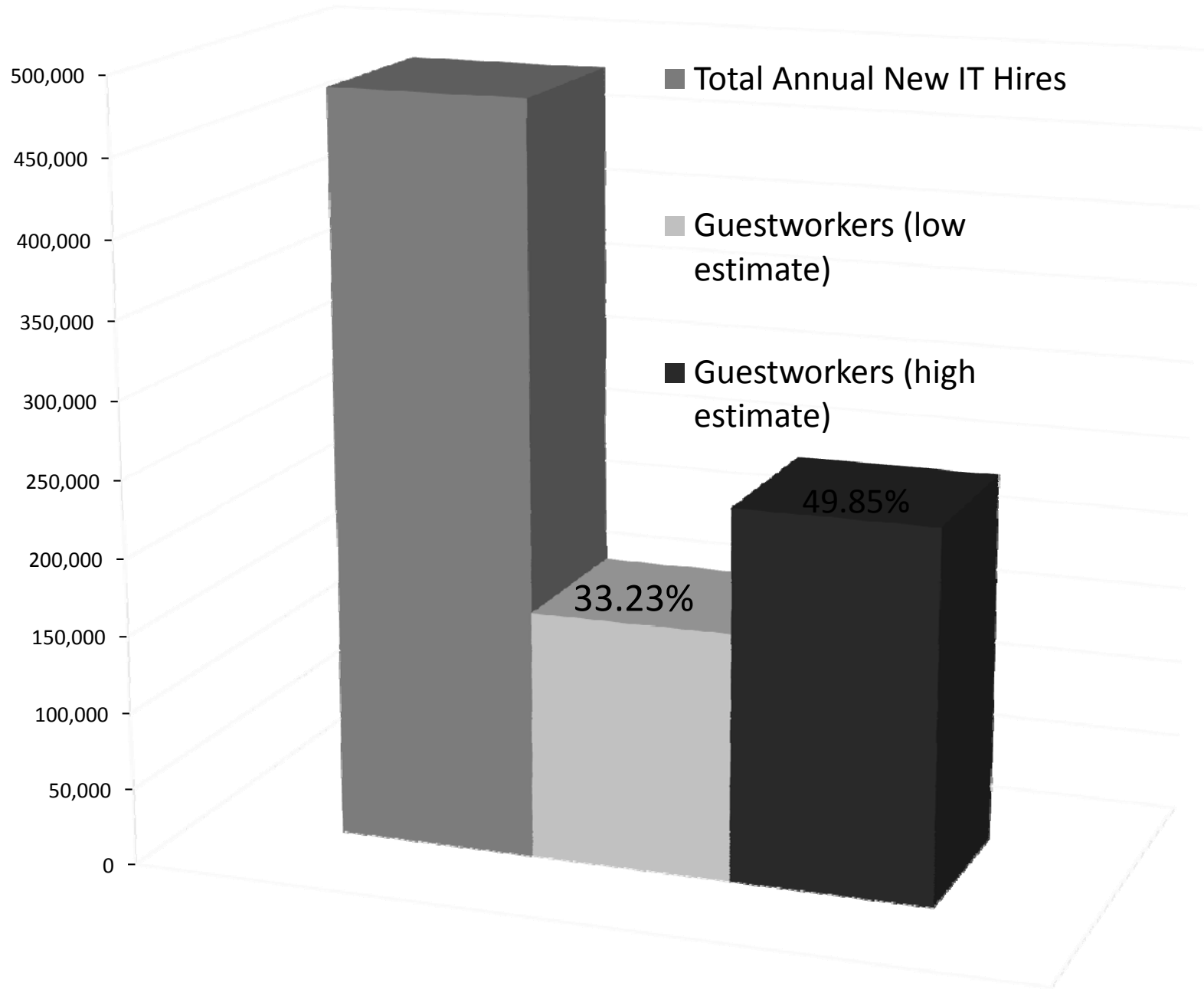
Note: Optional Practical Training (OPT) visa numbers for 2009, 2010, and 2011 are estimated based on the 2008 total reported by the Department of Homeland Security. The initial OPT estimates use the OPT-extension ratio to initial OPT in 2008, and the OPT-STEM extension statistics for 2007–2013 are used to estimate 2009, 2010, and 2011 initial OPT visas.

Source: Department of State (2012) and Department of Homeland Security (2008 and unpublished DHS data)

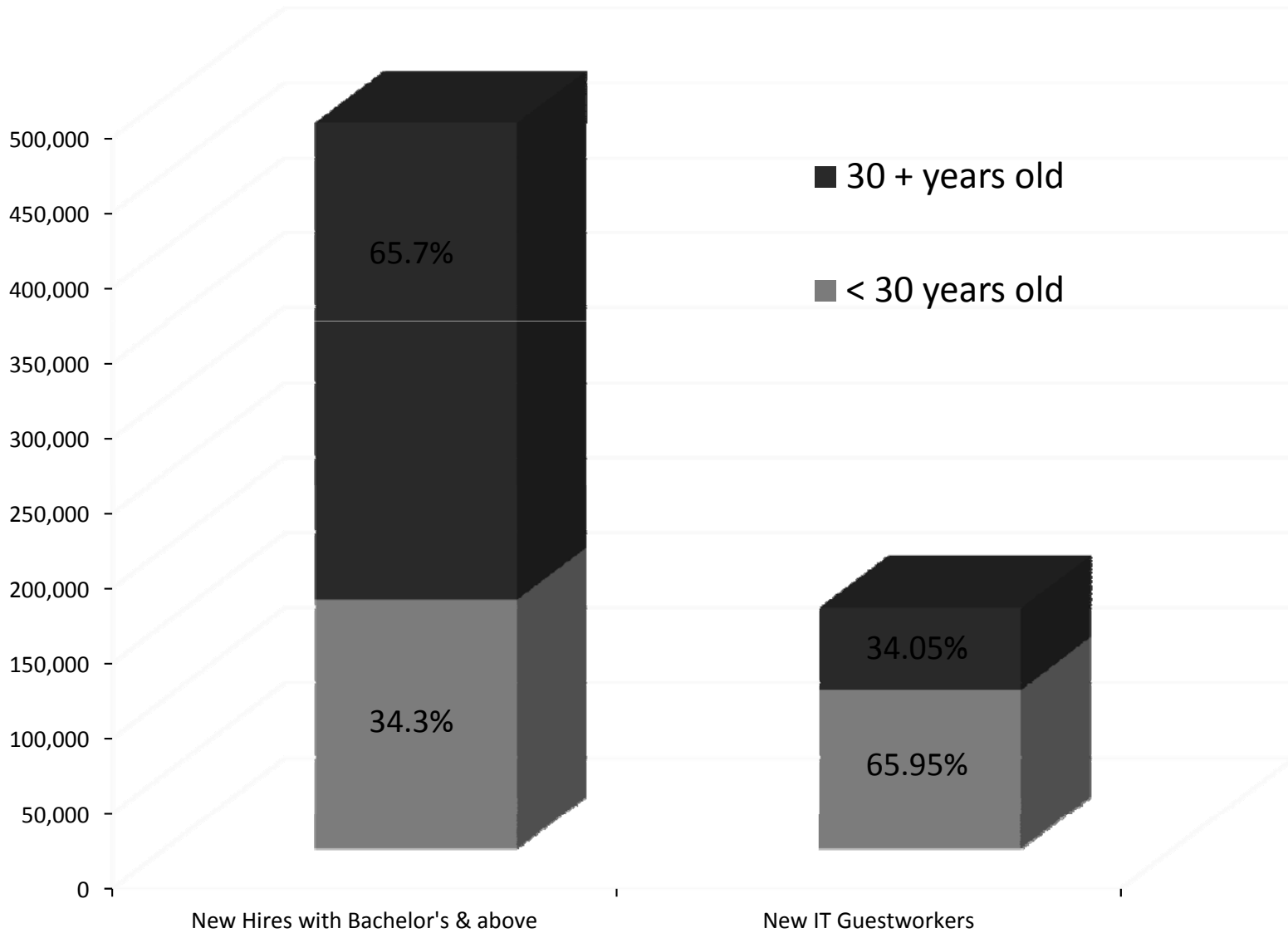
Annual Guestworker Population: Estimated Total and Certified for Employment in IT, FY2010-2011



Guestworkers and New Hires in IT



New Hires in IT (2010) and Qualified IT Guestworkers

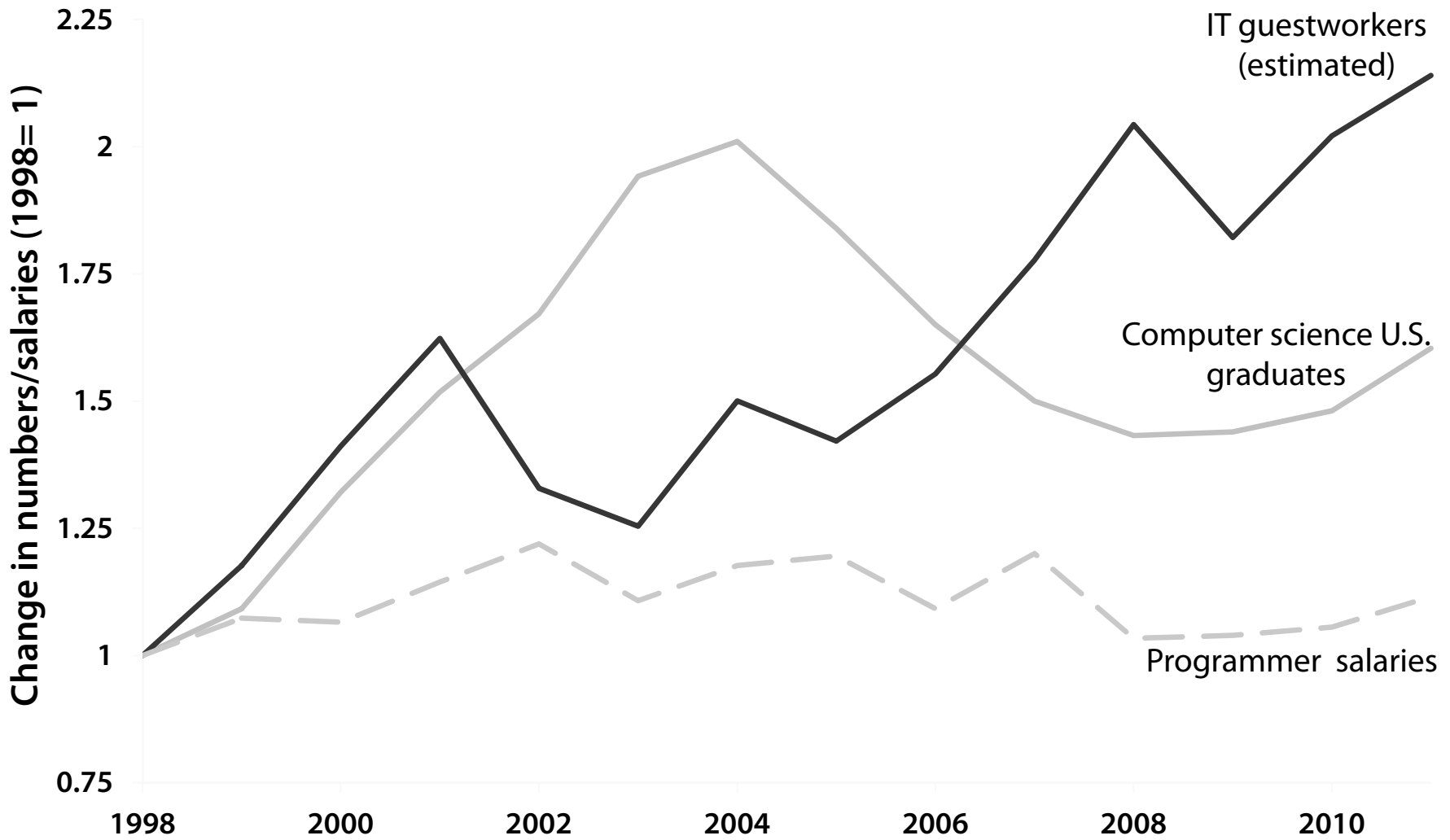


New IT Hires/Guestworkers Ages 30 and below



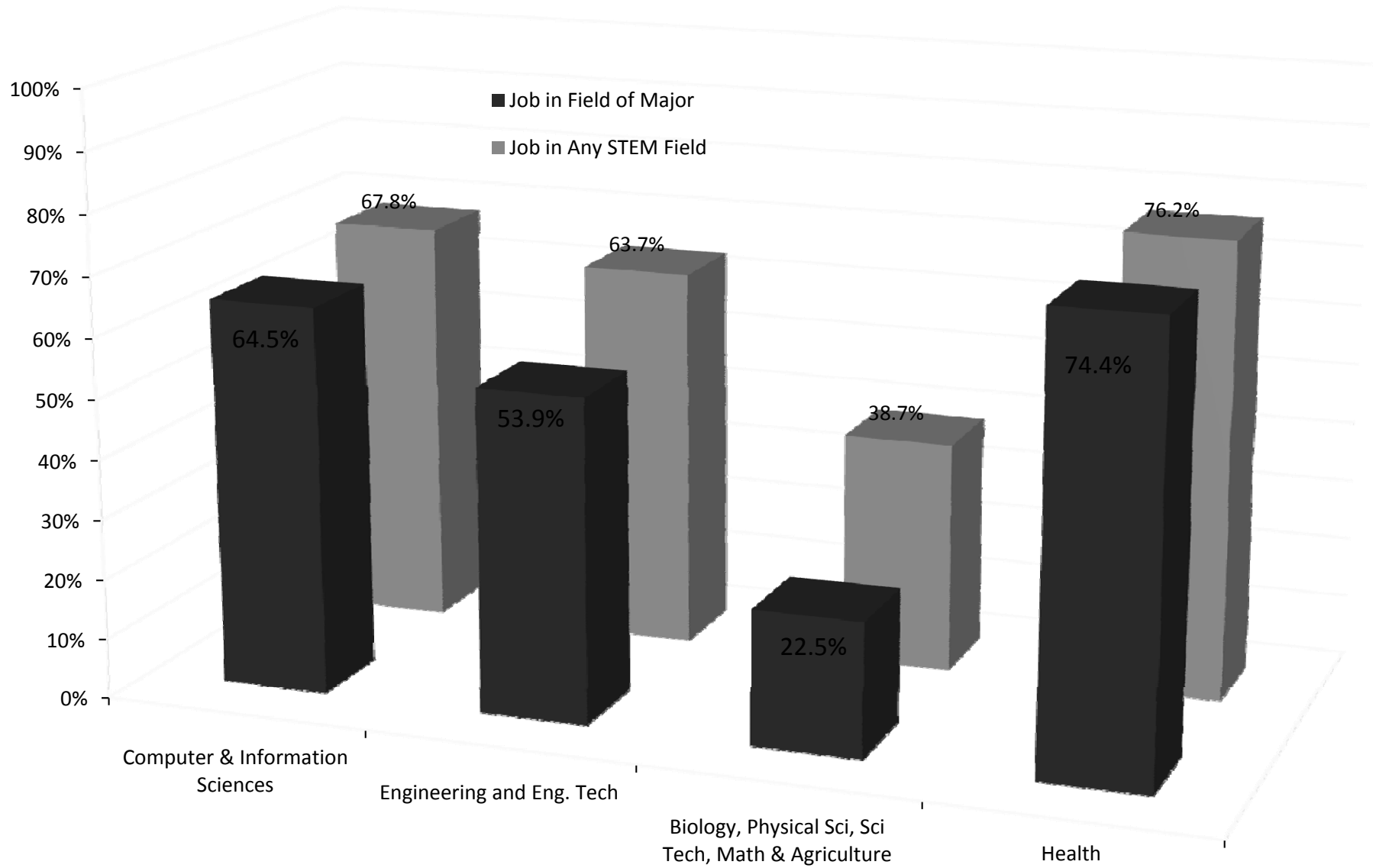
What's happening
in the IT labor market?

Change in programmer salaries and in numbers of U.S. STEM-related graduates and IT



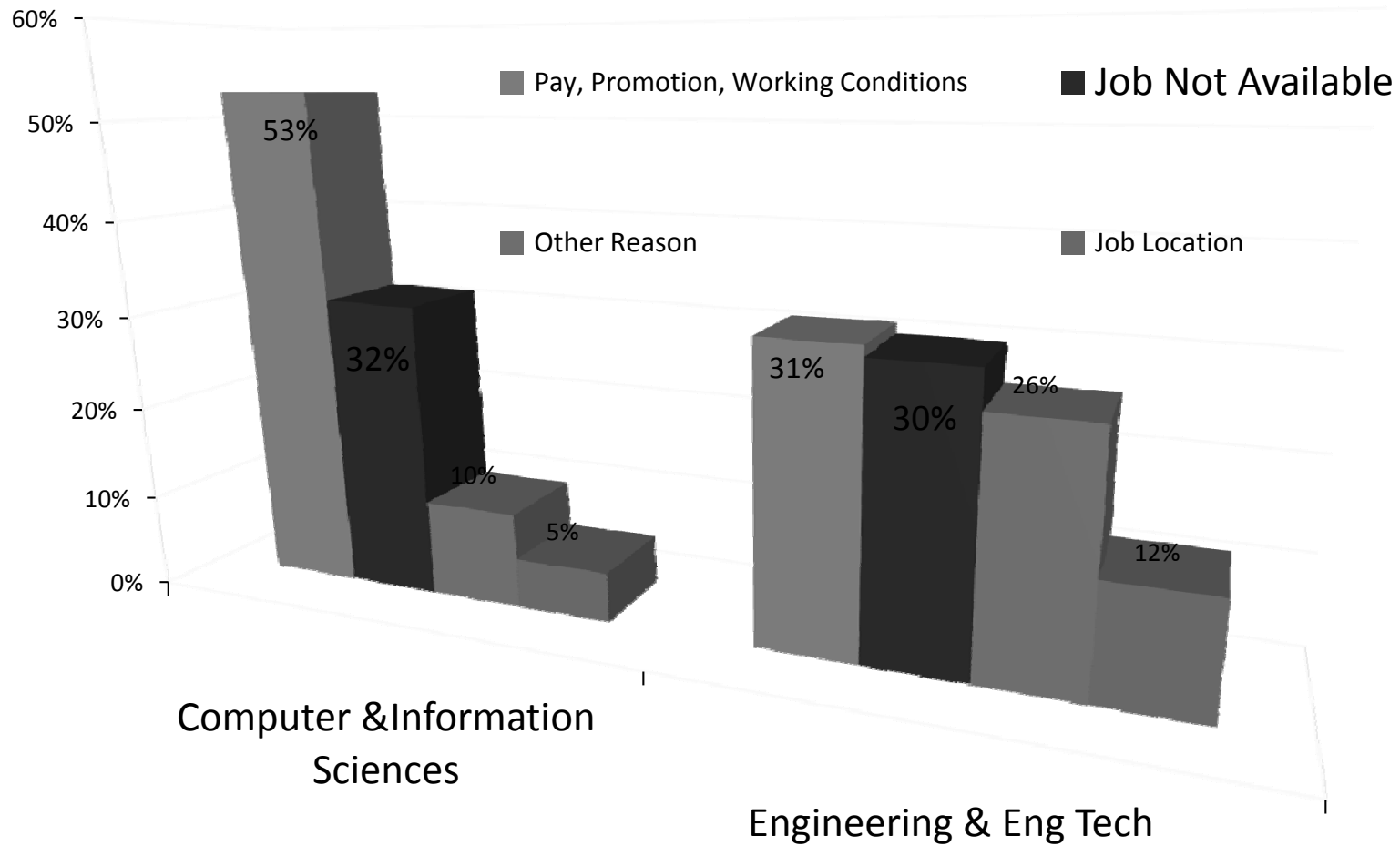
Are there enough IT graduates
for industry?

Occupational Field of STEM College Majors One Year After Graduation, 2009



Primary reason not working in field of college degree

(for those working in job outside their field of major one year after graduation, 2009)



Conclusions

- STEM supply is responsive to market signals (wages)
- Guestworker flows are large and increasing
- Wages stagnate in labor markets with large guestworker in-flows
- Two labor markets:
 - Domestic – increase/decline in response to wages
 - Guestworker – plentiful at wages too low to significantly increase domestic supply

QUESTIONS: online, on phone, by email: HSalzman@Rutgers.edu / lowellbl@georgetown.edu / dan.p.kuehn@gmail.com

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