



The Consequences of the First Brain Drain in U.S. History

Monday, May 2, 2011

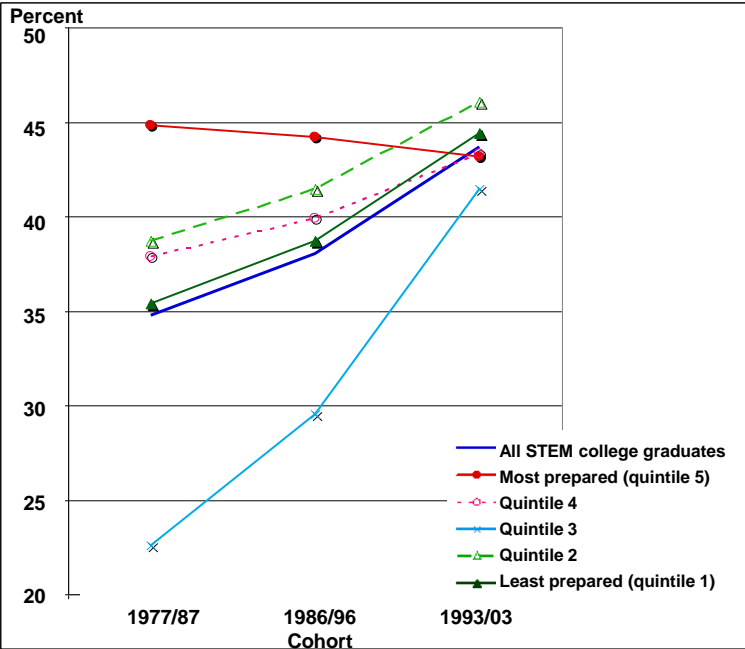
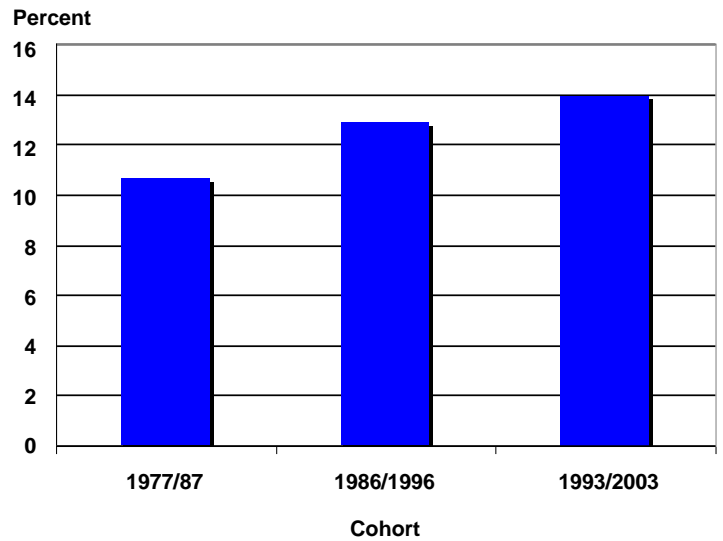
11:00 AM - 12:15 PM

Percent of STEM college graduates enrolled/employed in STEM ten years > graduation



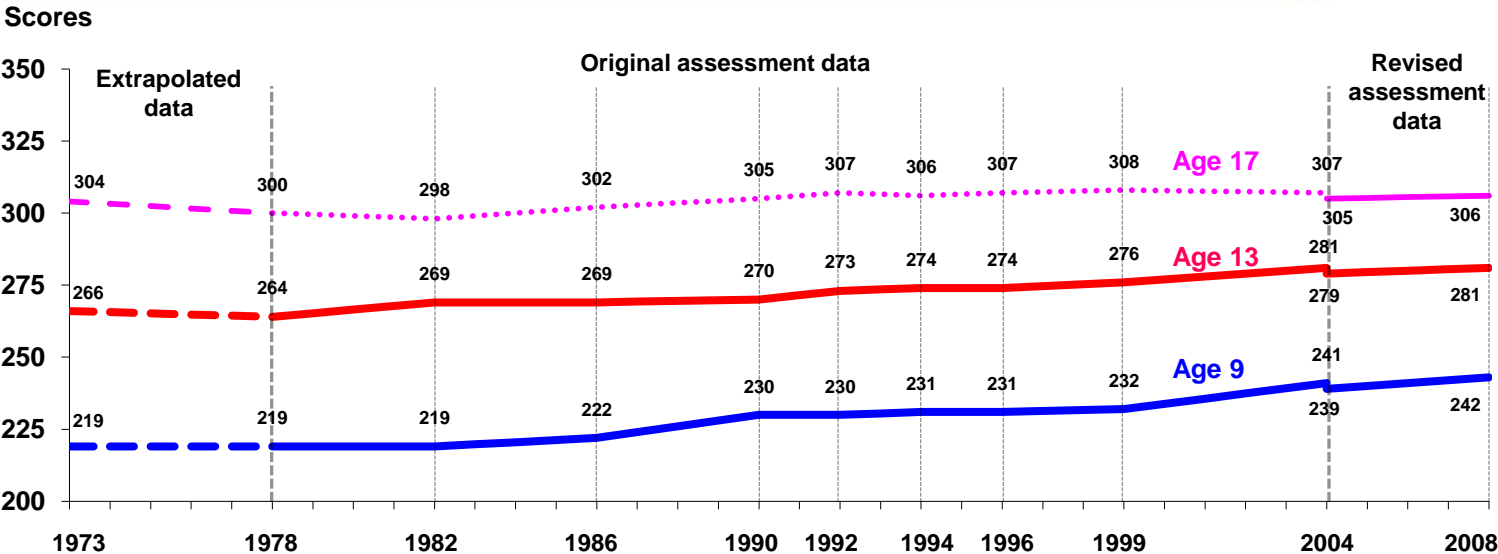
by level of STEM preparation (college GPA quintile)

Percentage of all employed college graduates working in a STEM field ten years after graduation



U.S. trends in student mathematics performance

National Assessment of Educational Progress (NAEP 2008)



Source: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1973–2008 Long-Term Trend Mathematics Assessments.

U.S. trends in student mathematics performance

National Assessment of Educational Progress (NAEP 2008)

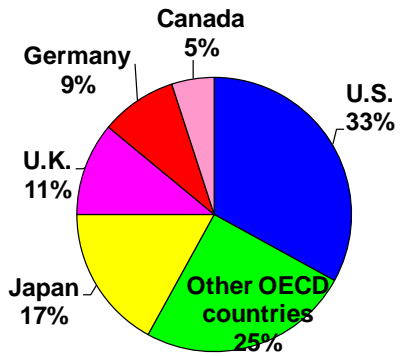
Changes since 1973

Age Group	White	Black	Hispanic
Age 9	△ 25 points	△ 34 points	△ 32 points
Age 13	△ 16 points	△ 34 points	△ 29 points
Age 17	△ 4 points	△ 17 points	△ 16 points

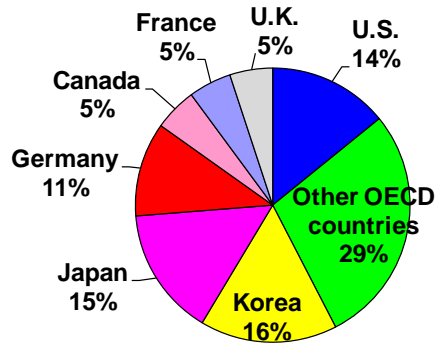
U.S. share of all OECD high-performing students:

Science, math and reading

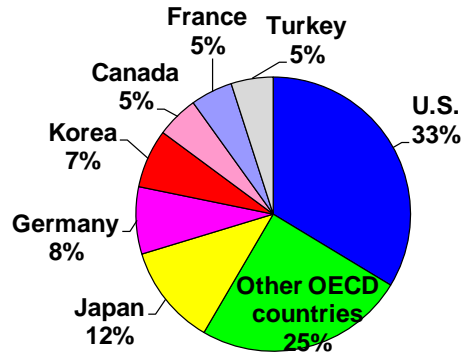
Science



Math



Reading



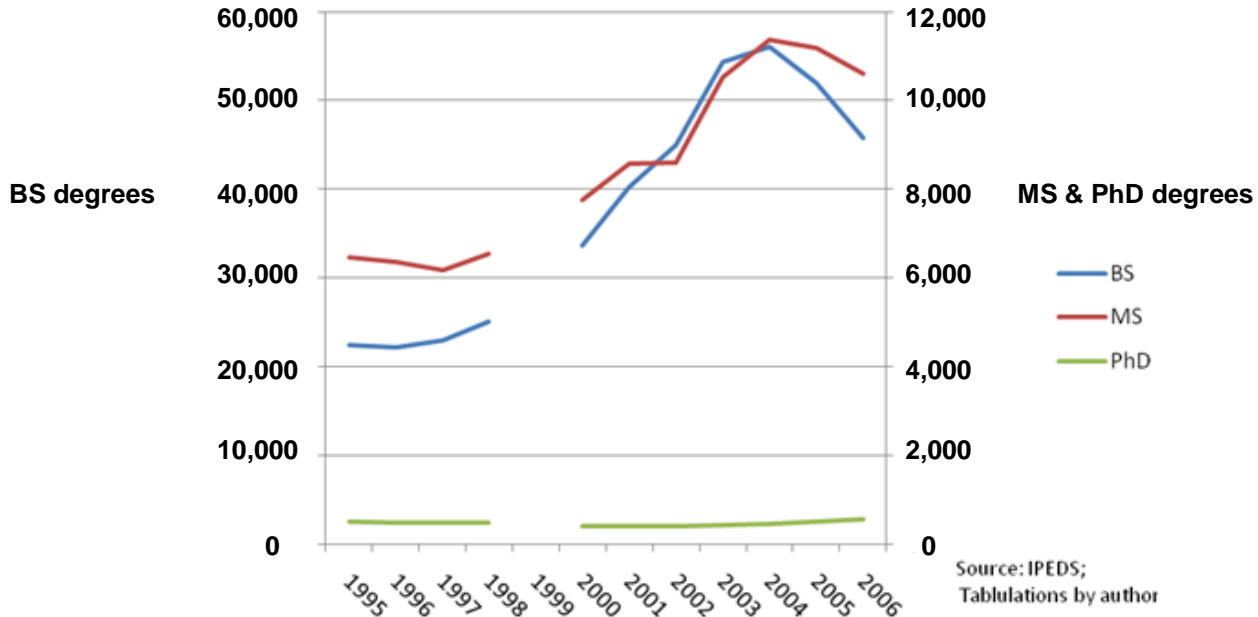
Source: These figures are reproduced from: Salzman and Lowell, 2008; "Making the Grade" Nature 453, 28-30].

Computer & information science graduates

U.S. citizen & permanent resident

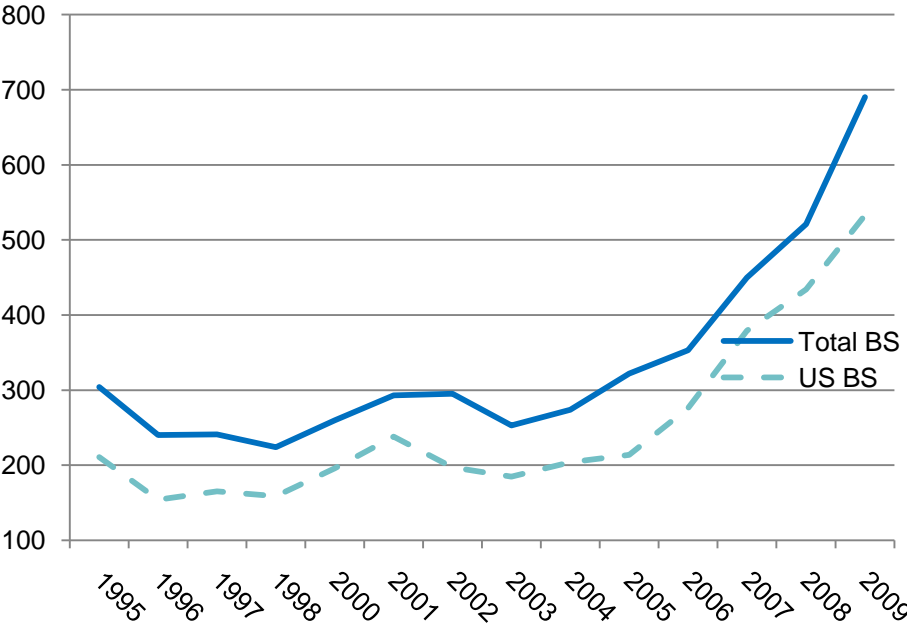
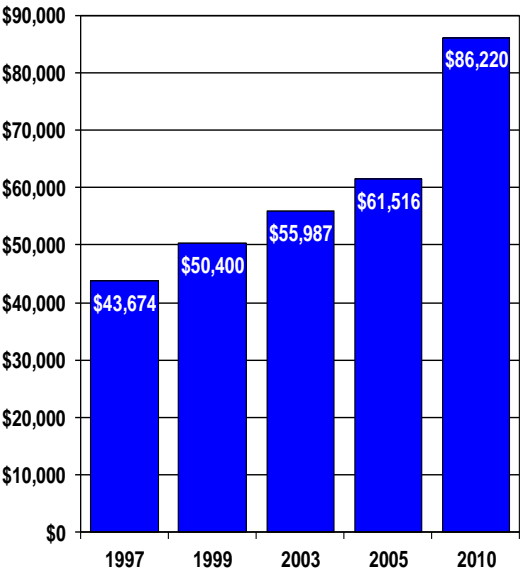


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Petroleum engineering starting salaries & graduates

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

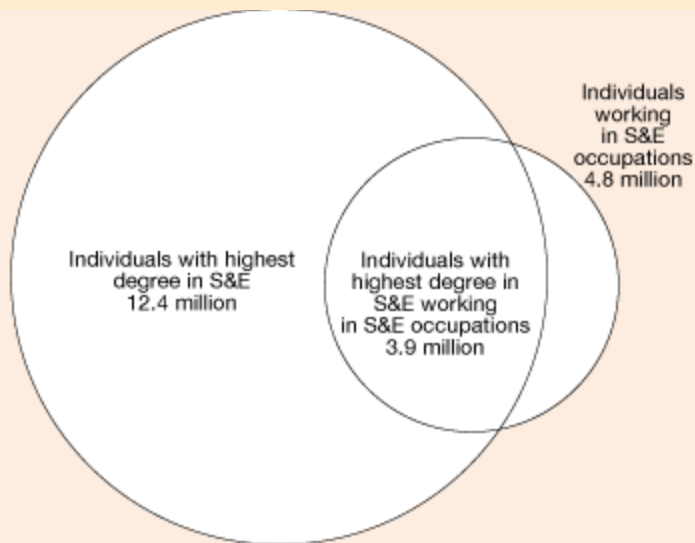


Source: IPEDS;
Tabulations: Kuehn & Salzman, 2010
Salary data from BLS & NACE

Intersection of highest degree in science & engineering and S&E occupation: 2006



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SOURCE: National Science Foundation, Division of Science Resources Statistics, Scientists and Engineers Statistical Data System (SESTAT) (2006), <http://sestat.nsf.gov>.

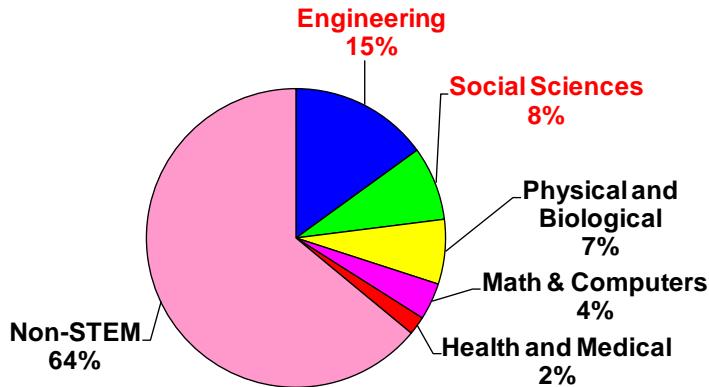
STEM managers by field of highest degree

1993--2003

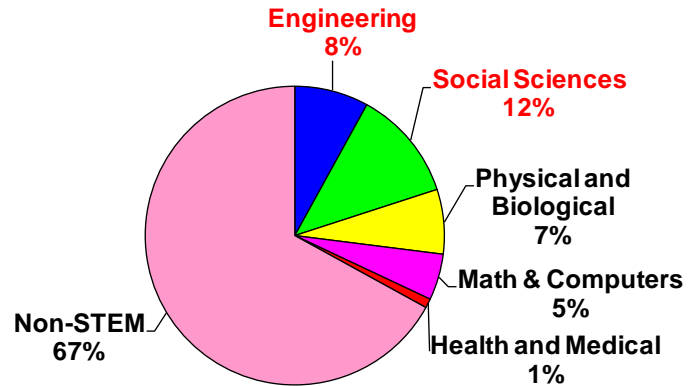


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1993

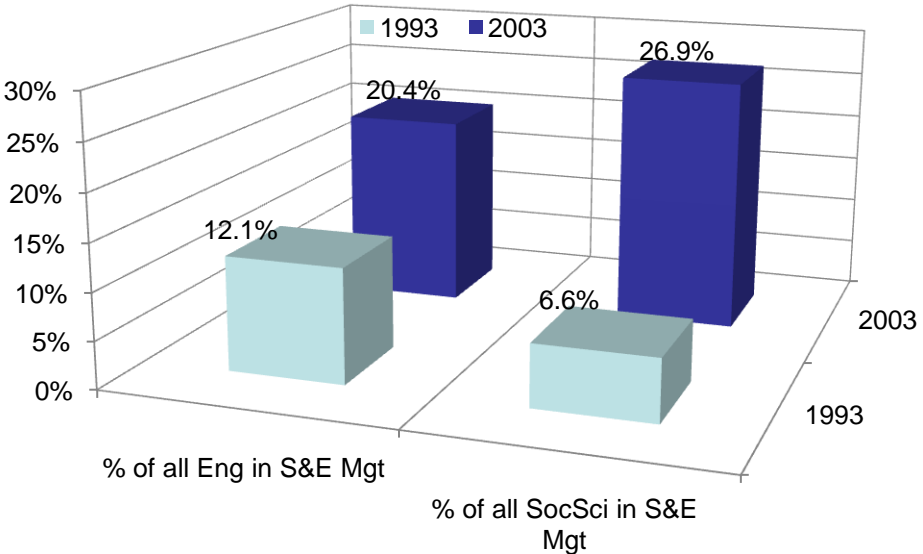


2003



S&E managers 1993 -- 2003

As percent of total engineers/social scientists

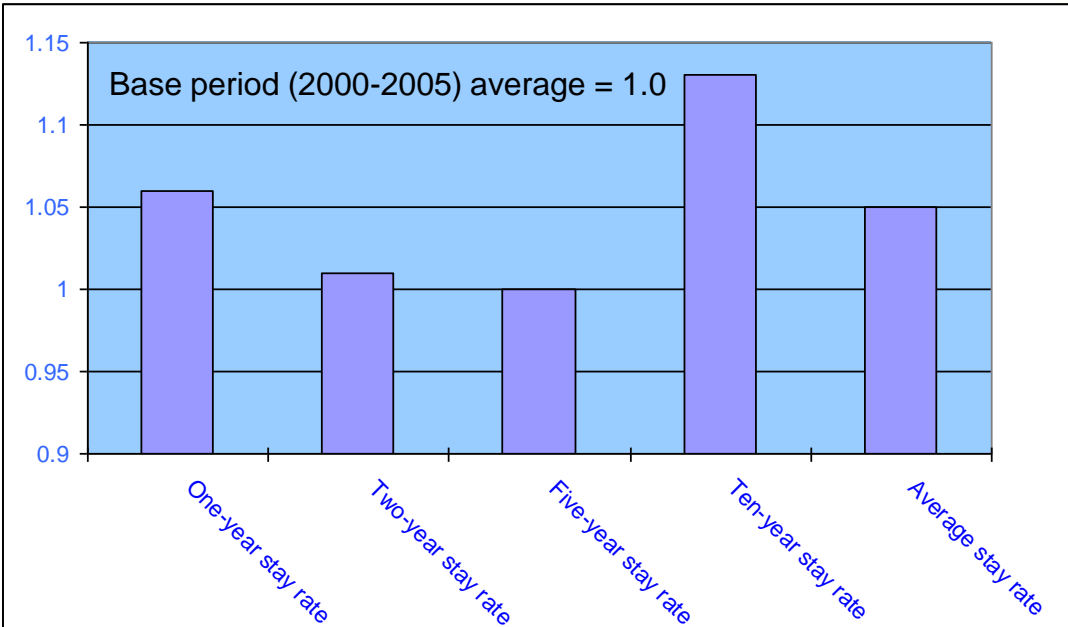


Source: These figures are reproduced from: Lowell, Salzman, Bernstein, and Busquets, forthcoming.

Brain drain?

Change in “stay rates” –temporary resident Ph.D.s

Comparison of doctorate holders in 2007 to average during 2000-2005



Source: Oak Ridge Associated Universities; Finn 2010.

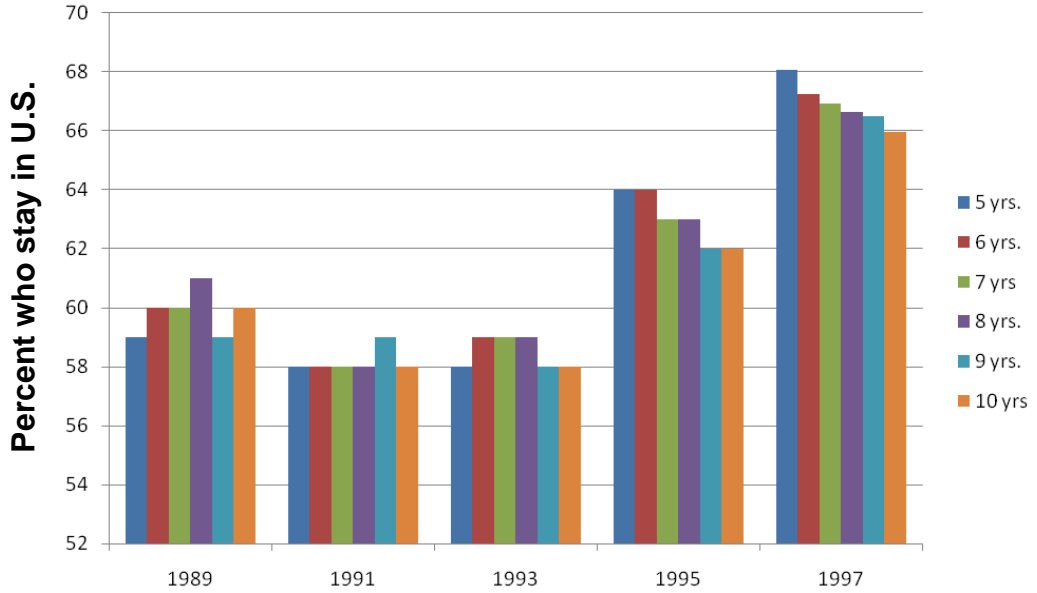
Brain drain?

Change in “stay rates” – temporary resident Ph.D.s

Comparison of doctorate holder stay rates 5 to 10 years post-Ph.D.



for Doctorates Awarded in 1989, 1991, 1993, 1995, and 1997



Source: Oak Ridge Associated Universities; Finn 2010.

Immigration yield for Top 10 H-1B employers

FY07-09



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H-1B Rank	Company	H-1Bs FY07-09	Greencard Apps FY07-09	Immigration Yield
5	Tata	2,368	0	0%
3	Satyam	3,557	37	1%
2	Wipro	7,216	125	2%
10	Accenture	1,396	28	2%
1	Infosys	9,625	476	5%
9	Intel	1,454	163	11%
8	IBM	1,550	382	25%
6	Deloitte	1,896	588	31%
7	Cognizant	1,669	702	42%
4	Microsoft	3,318	2,214	67%

Reasons to pursue U.S. higher education

	most important	important and most important
High-quality teaching	50%	83%
Cutting-edge research	43%	79%
Professionalism and work ethic	43%	81%
Better options after graduation	39%	80%
Desire to find a job and emigrate to the US	8%	18%
Family reasons	6%	16%

N=981

Survey in 2010 of nearly 1,000 Indians who are currently undertaking, or have completed, graduate study in the US.

Source: Kumar, Finegold, Winkler, 2011 "Will they return?" Report, School Management and Labor Relations, Rutgers University 2011.



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ST>RT-UPCHILE





2010



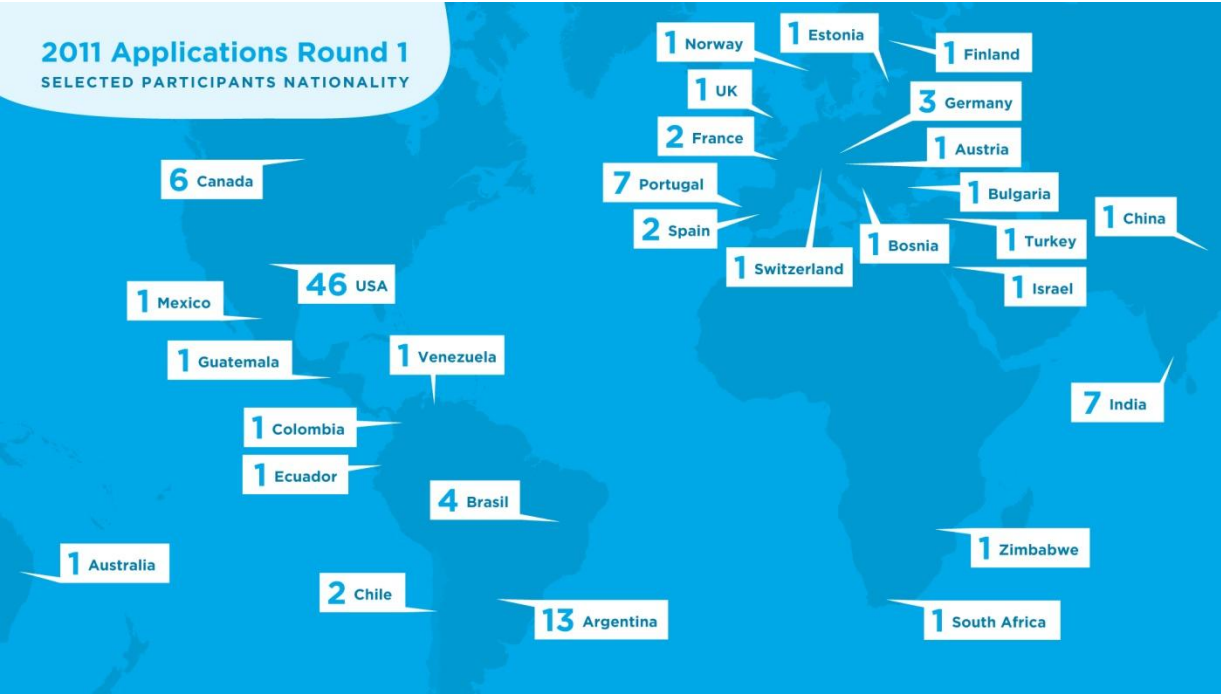
2011





2011 Applications Round 1

SELECTED PARTICIPANTS NATIONALITY





Chile aims to be Silicon Valley incubator

Forbes

Chile Wants to Borrow US Entrepreneurs for \$40,000

Bloomberg

Chile Offers Visas, \$40,000 Grant to Lure Overseas Startups, Boost Economy

TechCrunch

Chile's Grand Innovation Experiment

2010

AUG

SEPT

OCT

NOV

DEC

Bloomberg Businessweek

U.S. tech companies are flocking to Stgo

TechCrunch

Chop-Shop Workers and Bootstrappers: Chile Really Wants You

Le Point

La quête de start-up étragères

The Economist

(Blog) New Gold: Mining for entrepreneurs

BUSINESS INSIDER

Launching a Startup? Do It In Chile

EXAME

O grande experimento chileno com tecnologia

Inc.

The Silicon Valley of South America?

THE HUFFINGTON POST

Bring Back America's Spirit of Entrepreneurship

2011

JAN

FEB

MARCH

APRIL

Bloomberg Businessweek

Chile Seeks 300 Foreign Startups: Year Two

ksl.com

Utahns find it pays to open business in Chile

FINANCIAL POST

(Canada) Innovative innovation push

Xinhua, China

Chile creates South American Silicon Valley



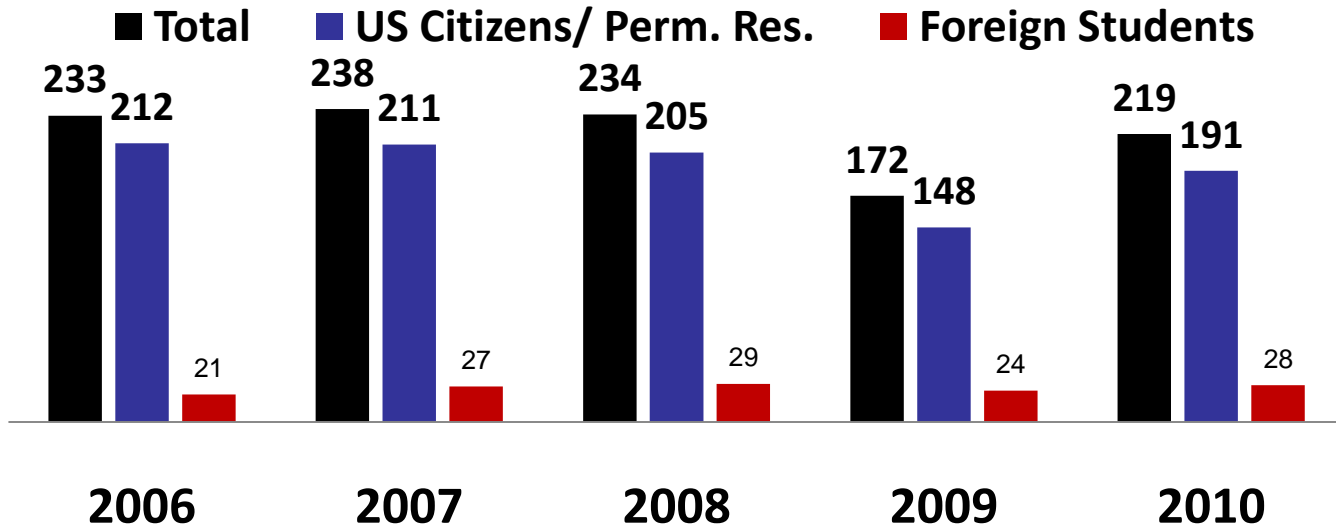
Nicolas Meunier
Amit Aharoni

Cruisewise
Start-Up Chile's first team
(September to January 2010)



ST>RT-UPCHILE

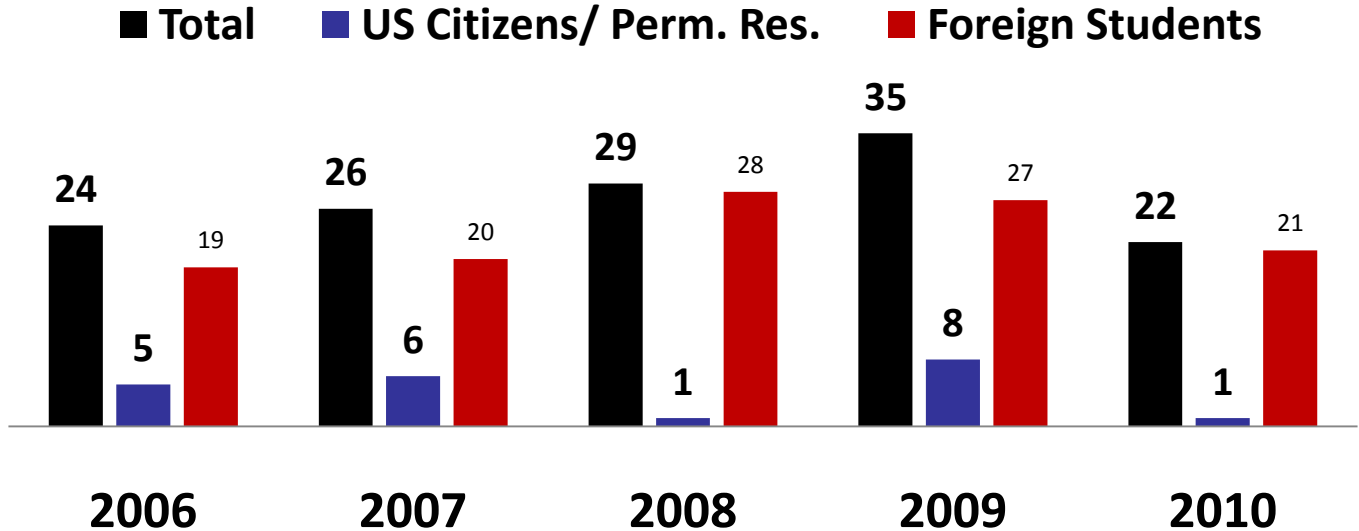
Jobs accepted in the U.S. by Anderson MBA graduates



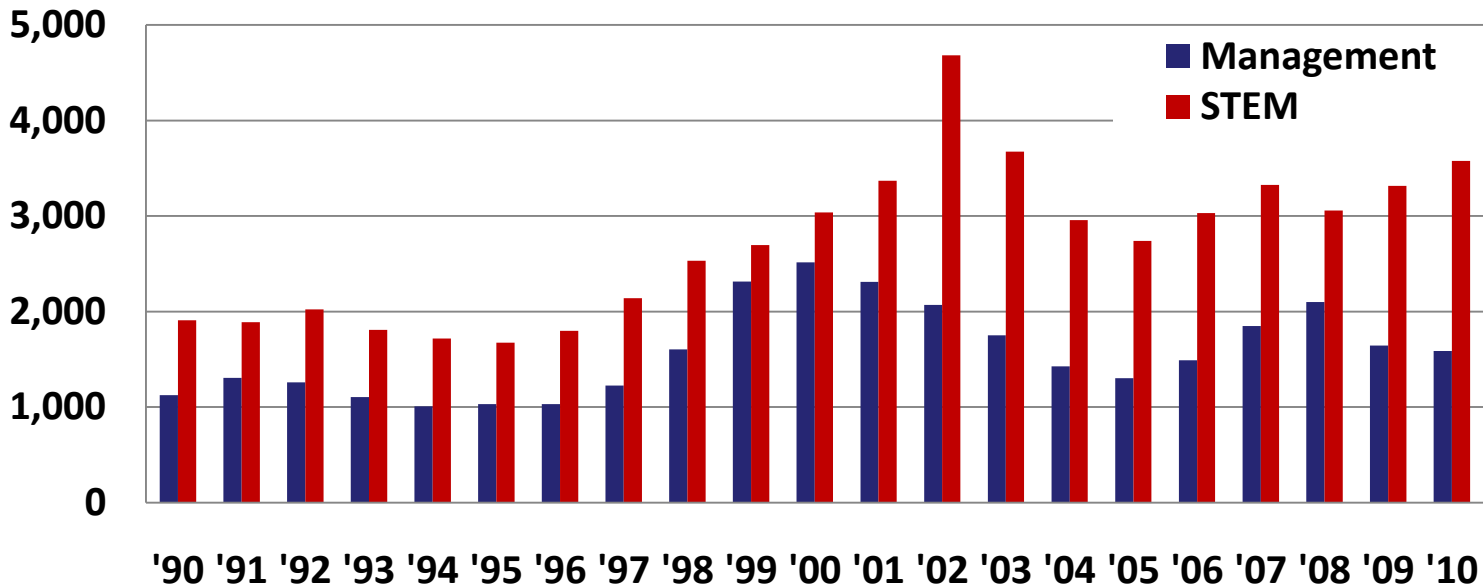
Jobs accepted outside the U.S. by Anderson MBA graduates



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UCLA applications from foreign students



UCLA total enrollment by foreign students

