CRA Conference at Snowbird - Plenary Session II

The Information Technology Workforce*

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* This work was done in collaboration with Lawrence Burton, Senior Analyst, Division of Science Resources Statistics, NSF.
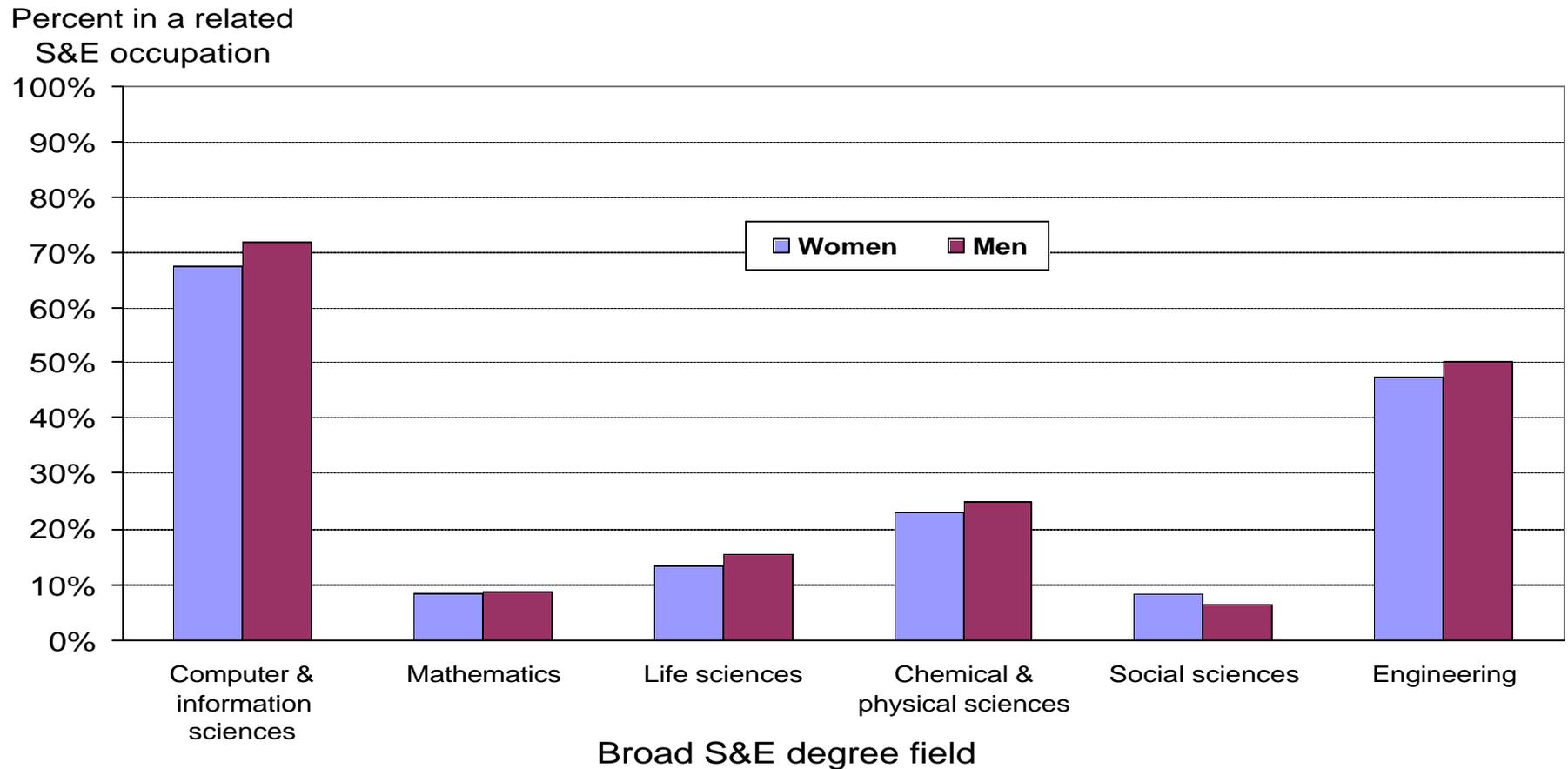
What the employment numbers show

Department of Labor predicts:

- 75% increase in high-skill IT jobs between 2000 and 2010 (1.6M new jobs)

- 15% increase in jobs overall

Source: Daniel E. Hecker, "Occupational Employment Projections to 2010", *Monthly Labor Review*, Nov.2001

Employed persons with S&E degrees who are in a related S&E occupation, by broad field of S&E degree and gender: 1999

Percent in a related S&E occupation

Women Men

Broad S&E degree field

Computer & information sciences · Mathematics · Life sciences · Chemical & physical sciences · Social sciences · Engineering

NOTE: No difference by gender is statistically significate in any broad field. Persons with multiple degrees in different S&E fields appear in each of those degree fields in this figure.
SOURCE: National Science Foundation/Division of Science Resources Statistics, SESTAT (Scientists and Engineers Statistical Data System), 1999.

Persons in S&E occupations with a degree in a related S&E educational discipline, by S&E occupation and gender: 1999

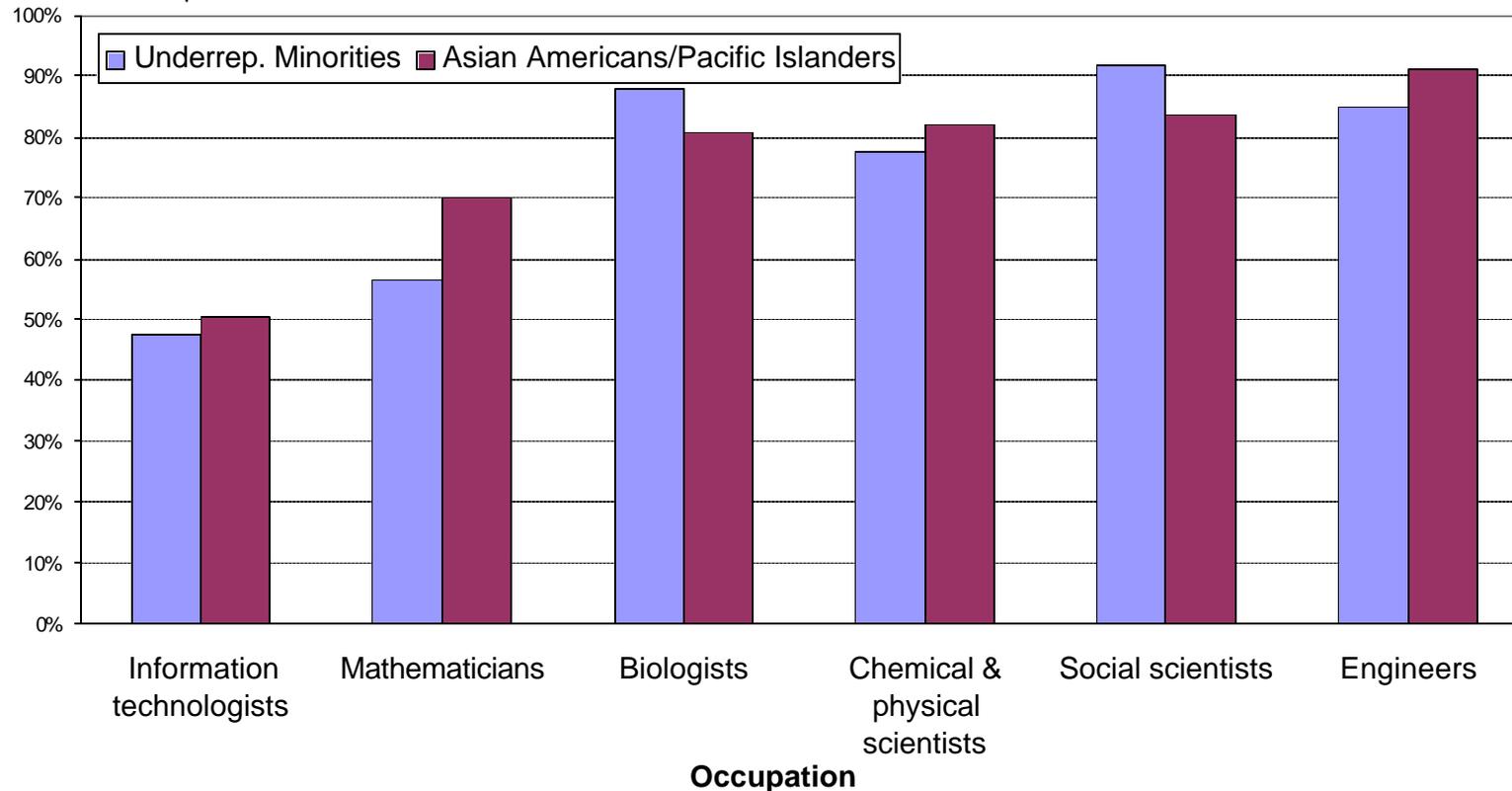Percent with a degree in a related S&E discipline
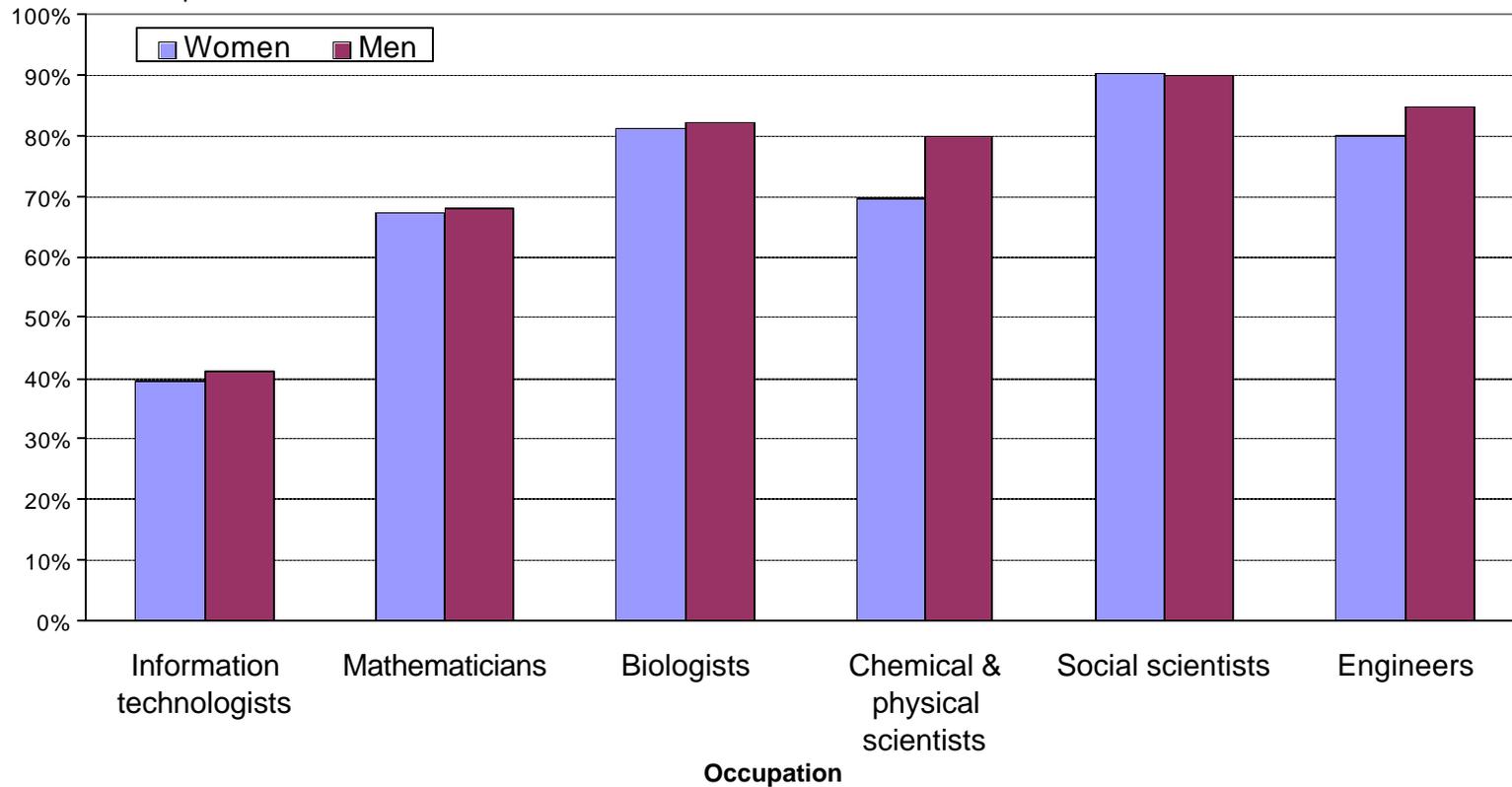
NOTE: Differences for men and women in chemical and physical sciences and engineering are statistically significant.
SOURCE: National Science Foundation, Division of Science Resources Statistics, SESTAT (Scientists and Engineers Statistical Data System), 1999.

Persons in S&E occupations with a degree in a related S&E educational discipline, by S&E occupation and selected race/ethnicity: 1999

Percent with a degree in a related S&E discipline

Legend: ☐ Underrep. Minorities ☐ Asian Americans/Pacific Islanders

Occupation (x-axis): Information technologists, Mathematicians, Biologists, Chemical & physical scientists, Social scientists, Engineers

NOTE: Differences are statistically significant only for engineers.
SOURCE: National Science Foundation, Division of Science Resources Statistics, SESTAT (Scientists and Engineers Statistical Data System), 1999.

Degree field background of college graduates in IT occupations, by sex and underrepresented minority status: 1999

Degree field	Total	Female	Male	Underrep. Minorities
Number	1,293,000	345,800	947,200	99,400
	Percent			
Computer/information science	41%	40%	41%	48%
Engineering	19%	8%	23%	16%
Social sciences	15%	19%	13%	14%
Mathematics	13%	16%	12%	12%
Business	12%	12%	13%	13%
Physical science	6%	3%	7%	3%
Life science	4%	5%	4%	3%
All other	13%	19%	11%	14%

NOTE: Details total more than 100% since some people have multiple degrees in different fields; multiple degrees in the same field are counted once in this table. Underrepresented minorities are Hispanics, Blacks, and Native Americans.

SOURCE: NSF/SRS, SESTAT (Scientists and Engineers Statistical Data System), 1999.
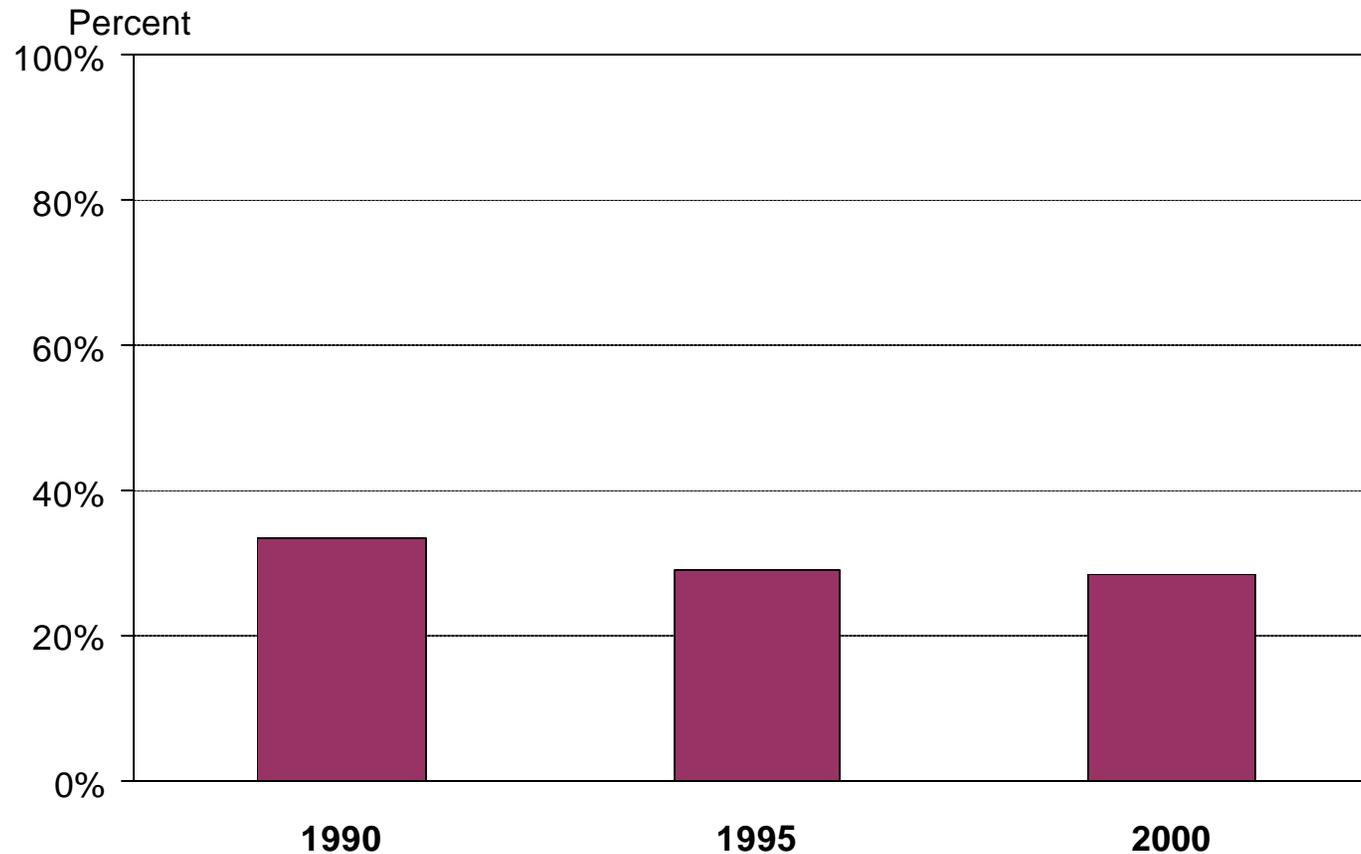
College graduates in IT occupations, by citizenship status
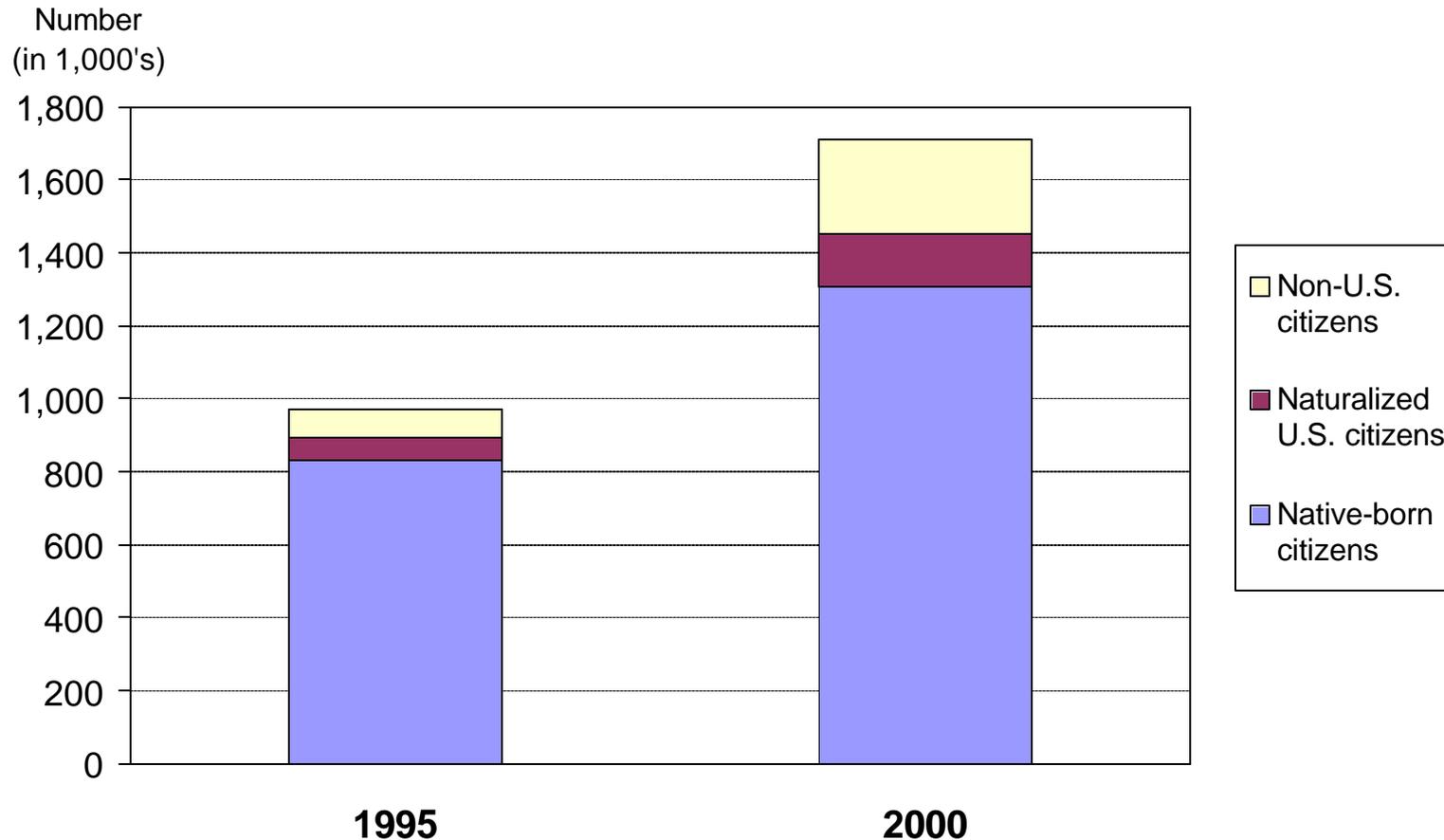
NOTE: Numbers are estimates of computer programmers and computer systems analysts and scientists with at least a bachelor's degree.
Annual estimates are averages of 12 months.
SOURCE: U.S. Bureau of the Census, Current Population Survey.

Women as a percent of IT workers with college degrees

Percent

NOTE: IT workers are computer programmers and computer systems analysts and scientists with at least a bachelor's degree. Annual estimates are averages of 12 months.
SOURCE: US Bureau of the Census, Current Population Survey.

Issues and Concerns

1. According to the Census, women are becoming less represented in high-skill IT jobs;

2. Many CS departments are at or near peak capacity;

3. How can Department/Colleges of CS best co-exist with Colleges of IT?