

◆ Notes On Graduate Education ◆

The Graduate School - University of Washington

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PhD Career Paths at UW—An Update

Background

In response to widespread concerns regarding the availability of data on PhD employment, the UW Graduate School in 1997 began systematically surveying advisors of UW doctoral recipients regarding the current employment of their former students. The survey time span covered ten years—PhDs awarded from 1986 to 1996. The findings of that survey were published in 1998¹. This report covers the second survey cycle, representing degrees awarded from 1989 to 1999. The eight-year overlap of the surveys affords the opportunity for a limited analysis of career mobility.

As in the previous study, the ten-year cohort is divided into an “early career” group consisting of those persons awarded degrees in the last four years, and a “mid-career” group of those awarded degrees in the previous six years.

The overall response rate for this cycle was 70%, a 10% decline from the earlier survey. The Graduate School intends to continue this survey approximately every two years.

Interesting information is also available from the UW Educational Assessment Office’s “Graduate Survey”². This questionnaire is mailed directly to UW degree recipients approximately 11 months following graduation. The 1999 survey results mark the first year that data were available reflecting enhancements requested by the Graduate School to break out master’s and doctoral recipients and to provide more depth regarding employment. These data are available on the Web at <http://www.washington.edu/oea/0007.htm>

PhD Production

National statistics reveal that PhD production has leveled off following sharp increases during most of the latter part of the Twentieth Century. The number of doctorates awarded in 1999 declined 3.6% from the previous year. This is the largest one-year decline since the 1970’s.

In contrast, PhD production at UW continues to grow, reaching 521 in 1999. For that year, the UW ranked 13th among top doctorate-granting institutions in the U.S.

An increasing fraction of doctorates awarded nationally

go to women (42.7%) and international students (23%). This trend is mirrored at UW where in 1999 45% of PhDs were awarded to women and 22% to international students. The proportion of PhD degrees awarded nationally to minorities has nearly doubled in the past ten years. This is also true at UW where in 1999 13% of degrees were granted to minority students.

PhD Employment Prospects

Several years ago the national media portrayed dreary prospects for PhD employment. It was widely (and accurately) reported that many doctoral recipients, faced with a shortage of faculty positions, were finding employment in business or other “non-traditional” sectors, or were locked in successive or long-term postdoctoral positions.

More recent sources report some improvement in this situation, probably attributable to a decline in PhD production and a better economy. One of the products of the attention being paid to PhD production has been a critical examination of the doctoral education process. Notable examples include the Re-envisioning the PhD project coordinated at UW³ and the recently released study “At Cross Purposes: What the experiences of doctoral students reveal about doctoral education”⁴.

As noted in our previous report, unemployment among PhDs remains below the unemployment rate for the general populace. Of the entire ten-year cohort only 48 (1.5%) were unemployed. This is nearly the same rate (1.2%) as in the 1996 survey cycle. The 1999 survey respondents were asked whether the unemployed PhD was seeking employment. Nearly half were not seeking employment.

There have been small reductions in the percentage of respondents employed in temporary, part-time, or positions unrelated to the PhD. These decreases are most pronounced in the sciences.

Employment Sector

Nationally, the percentage of PhD recipients working in business/industry or self-employment has increased from 17% of the total in 1979 to 28% in 1999. Twenty-five percent of our early career cohort and 23% of the mid-career group are in business/industry or self-employment. The number of UW respondents employed in non-faculty jobs increased slightly from the 1996 survey. Business/industry and self-

employment rates were considerably higher in some disciplines, 30% in the sciences and 54% in engineering fields.

Demographic differences by employment type are probably attributable to differing demographic profiles in the respective disciplines. Overall, women were more likely to be employed by colleges and universities and less likely to be employed in business/industry. In contrast, minorities and international students were more likely to be employed in business/industry than in academia.

The survey shows that the UW is a major employer of our PhD recipients. Ten percent of the entire cohort is employed by UW, mostly in non-tenure (38%) and post-doctoral (25%) positions.

Location of Employment

Considering U.S. citizens and permanent residents only, 42% of the respondents are employed in Washington State. Considering all respondents, 36% of the early career cohort are employed in Washington State. The percentage of mid-career PhDs employed in Washington State (31%) is slightly lower, reflecting the national trend observed in "Doctorate Recipients from United States Universities: Summary Report 1999"⁵ of recipients returning to birthplace areas for permanent employment.

Postdoctoral Positions

The role of the postdoctoral appointment has changed in the last twenty years. The Survey of Earned Doctorates reports that the proportion of PhDs choosing postdoctoral appointments climbed from 20% in 1979 to 30% in 1999. These positions are held mainly by those receiving degrees in the life and physical sciences. Eighteen percent of the UW early career cohort were in postdoctoral positions. Surprisingly, 5% (80) of the mid-career group were still holding postdocs. Of the entire cohort, 327 reported having held two postdocs and 80 reported three or more.

Career Mobility

There were 1,864 individuals who were surveyed in both UW cycles. Of those, 702 (38%) had changed positions. Of those who changed positions, 21% changed to a tenure-track position, 17% changed to a business/industry position, and 14% changed to a non-tenure track position. Twenty-five percent left a postdoctoral position. Of those who changed positions, 147 changed employment location. Over half of those changing location moved outside of Washington State to another location within the U.S. Fifteen percent moved out of the country and 30% moved from elsewhere to Washington State.

References

- ¹Graduate School, University of Washington, *PhD Career Paths*, (http://www.grad.washington.edu/stats/phd_survey/1996/index.htm). 1998.
- ²Kourenina, L., McGhee, D. 1999 *University of Washington Graduates, One Year After Graduation: Methodology and Response Frequencies* (www.washington.edu/oea/0007.htm). 2000. Educational Assessment Center, University of Washington
- ³*Re-envisioning the PhD* (<http://depts.washington.edu/envision/>). Funded by the Pew Charitable Trusts, Jody Nyquist, principal investigator.
- ⁴Sanderson, A., B. Dugoni, T. Hoffer, and S. Myers. 2000. *Doctorate Recipients from United States Universities: Summary Report 1999* (<http://www.nsf.gov/sbe/srs/nsf01314/start.htm>).. Chicago: National Opinion Research Center.
- ⁵Golde, C.M. & Dore, T.M. (2001). *At Cross Purposes: What the experiences of doctoral students reveal about doctoral education* (www.phd-survey.org). Philadelphia, PA: A report prepared for the Pew Charitable Trusts.

An expanded version of this report (including figures and detailed tables) is available on the Web at:

http://www.grad.washington.edu/stats/phd_survey/

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All figures based on the University of Washington Graduate School's 1999 Ph.D. Employment Survey, unless otherwise noted.

PhD Production: UW vs. National

1999 National PhD production is down 3.6% from 1998

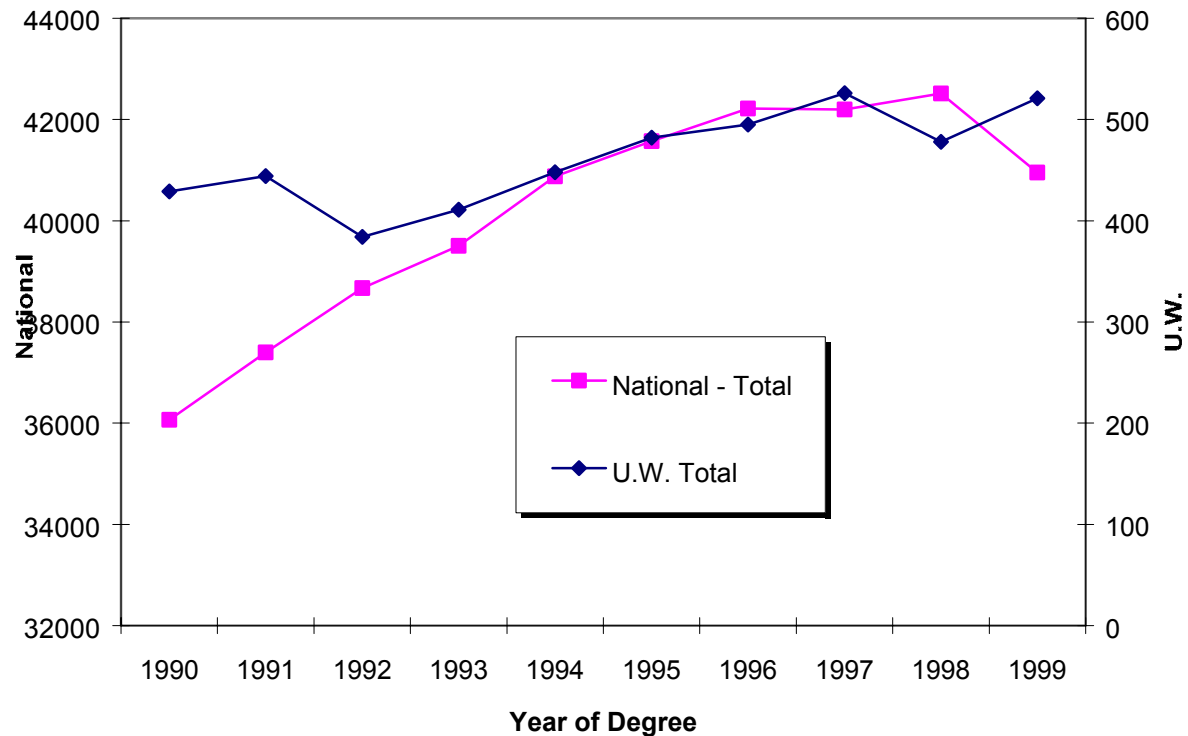
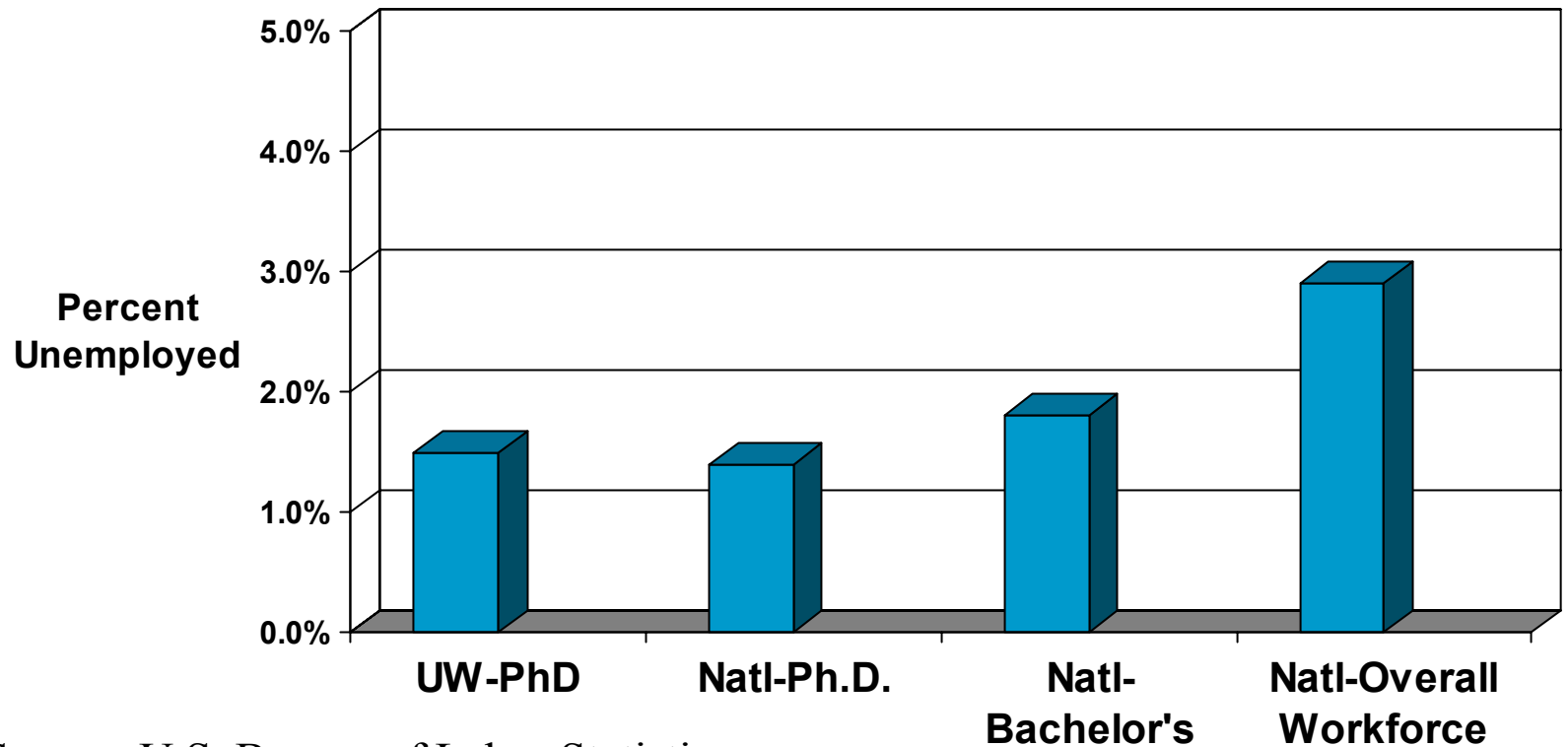


Figure 1

Unemployment Rates

National* vs. UW



* Source: U.S. Bureau of Labor Statistics

Figure 2

Temporary/Part-time/Unrelated

| Item | 1999 Survey | 1996 Survey |
|------------------|-------------|-------------|
| Part-time | 2.7% | 3.6% |
| Temporary | 3.7% | 4.6% |
| Unrelated to PhD | 2.5% | 2.4% |

Mid-Career Cohort Only

| Item | 1999 Survey | 1996 Survey |
|------------------|-------------|-------------|
| Part-time | 1.9% | 2.9% |
| Temporary | 1.2% | 2.1% |
| Unrelated to PhD | 2.5% | 2.6% |

Figure 3

Employment Type - Early Career

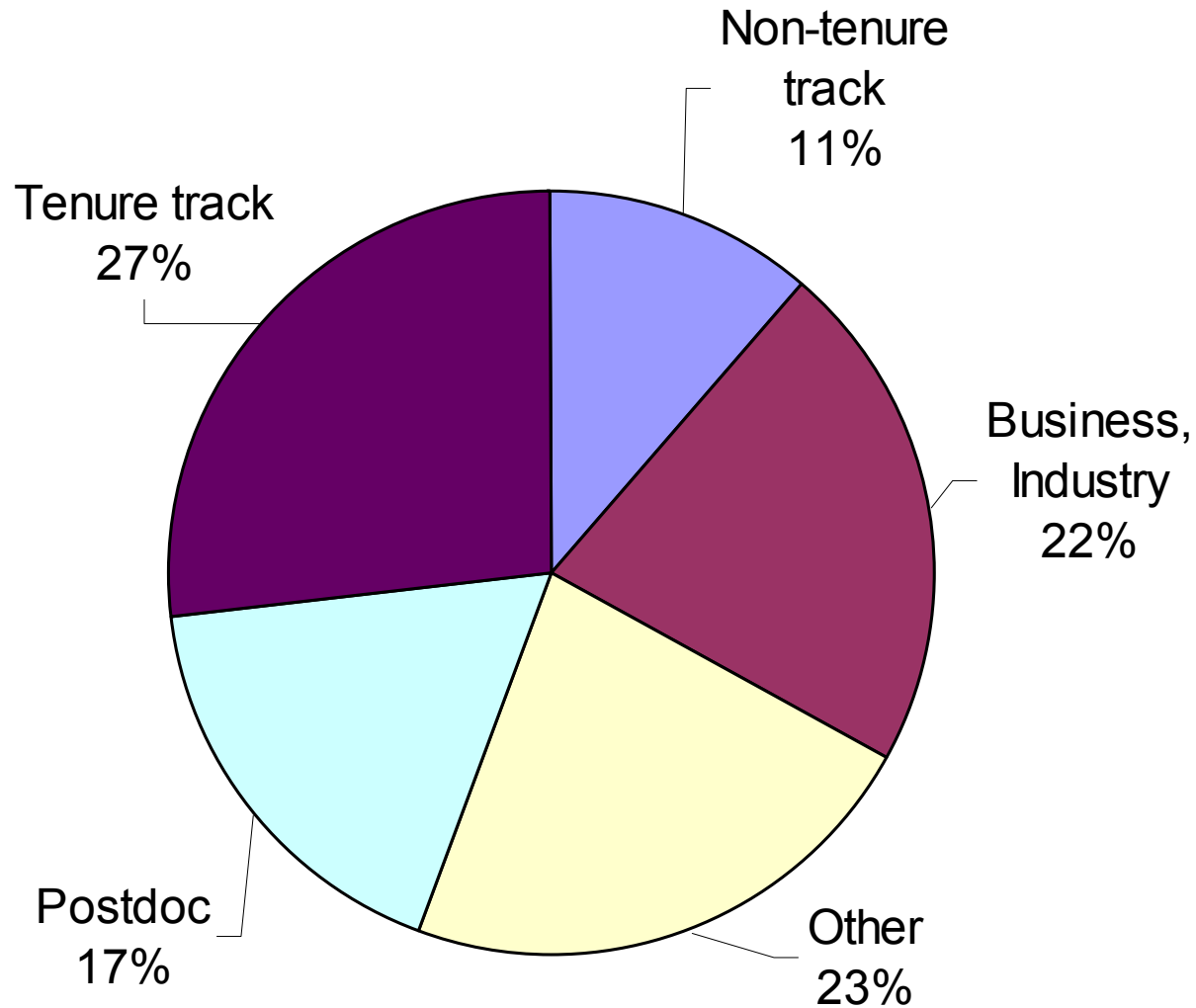


Figure 4

Employment Type, Mid-Career

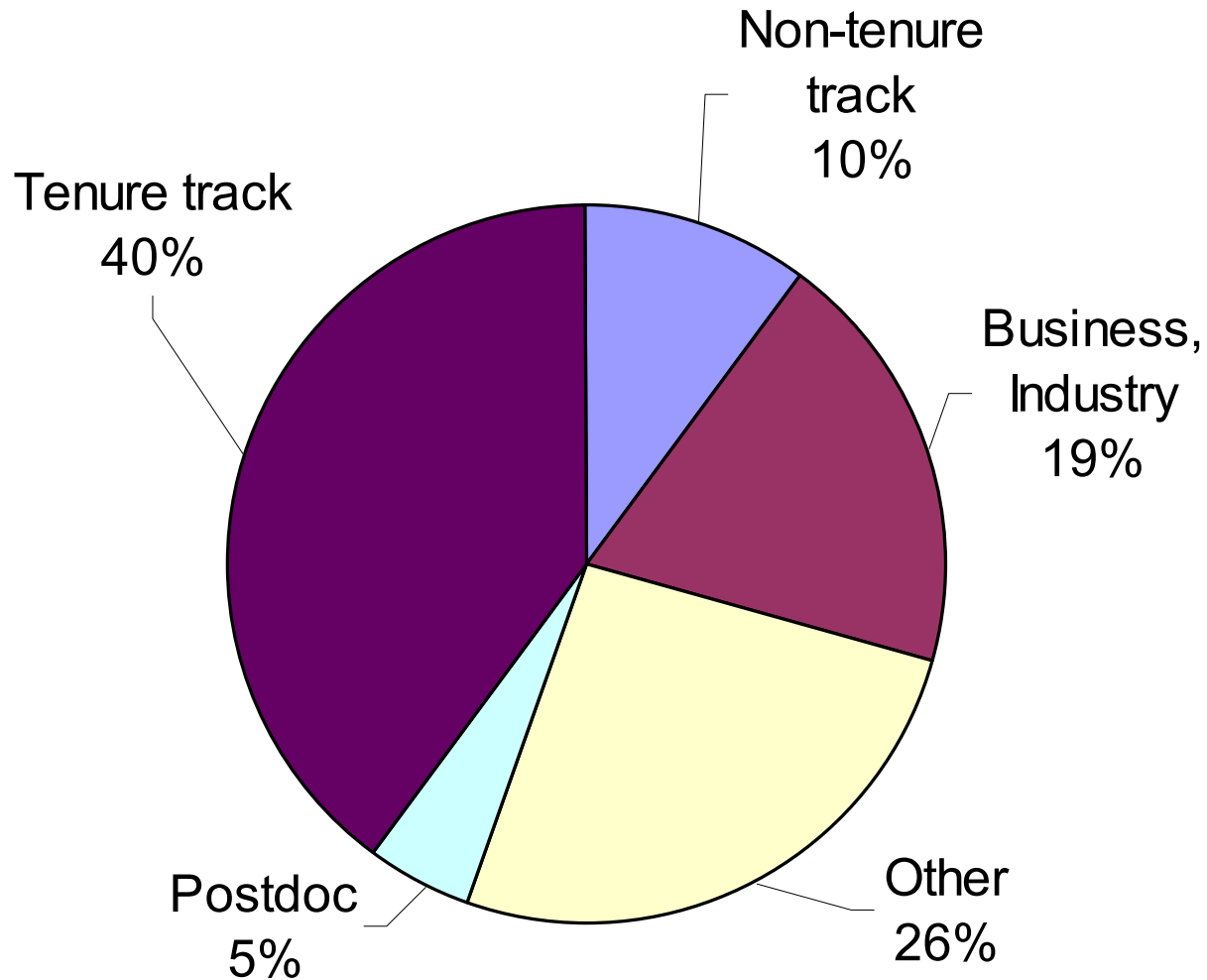


Figure 5

Small Increase in Non-Faculty Jobs

Employment Type - 1996 Survey vs. 1999

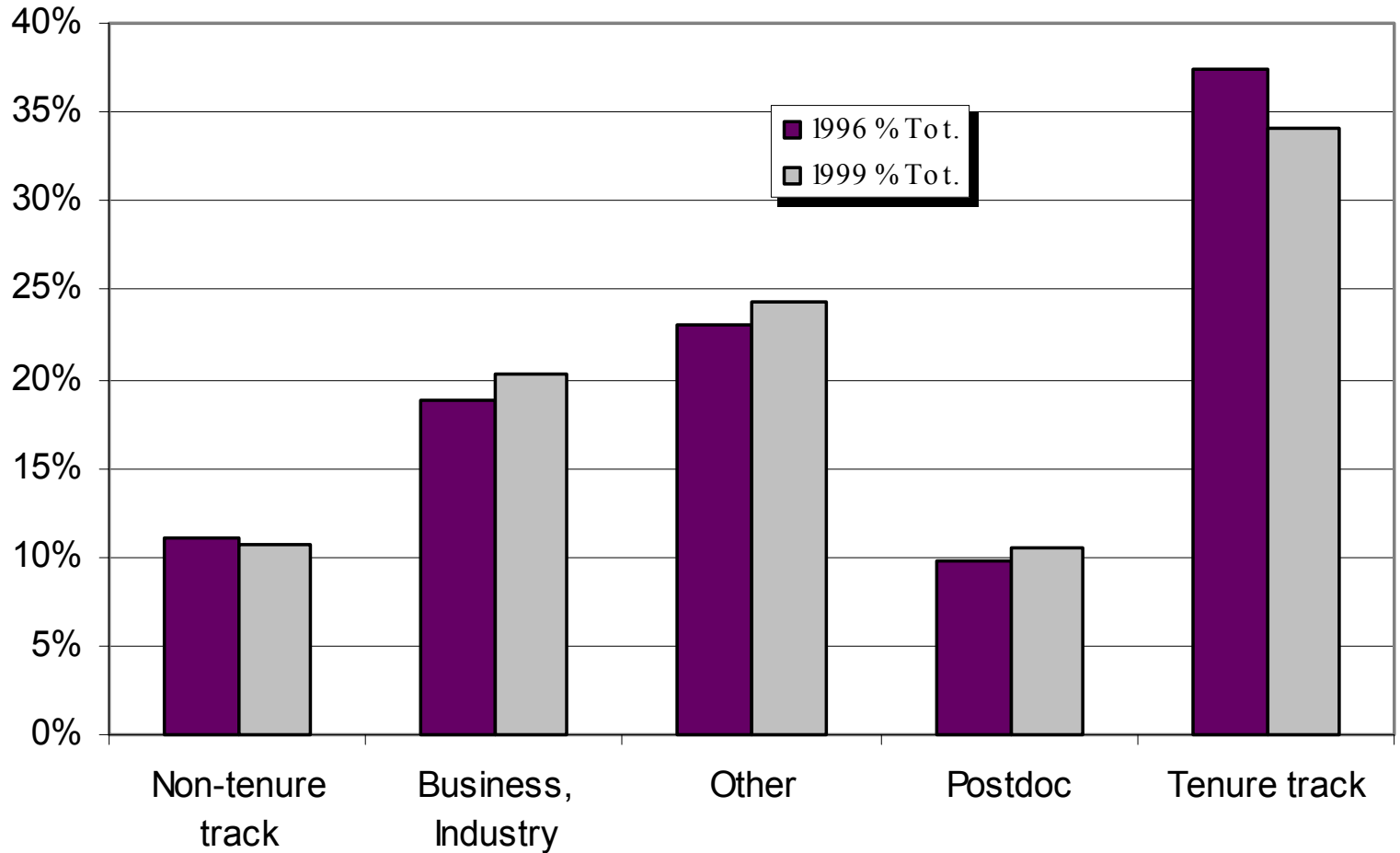


Figure 6

Employers by Gender – Entire Cohort

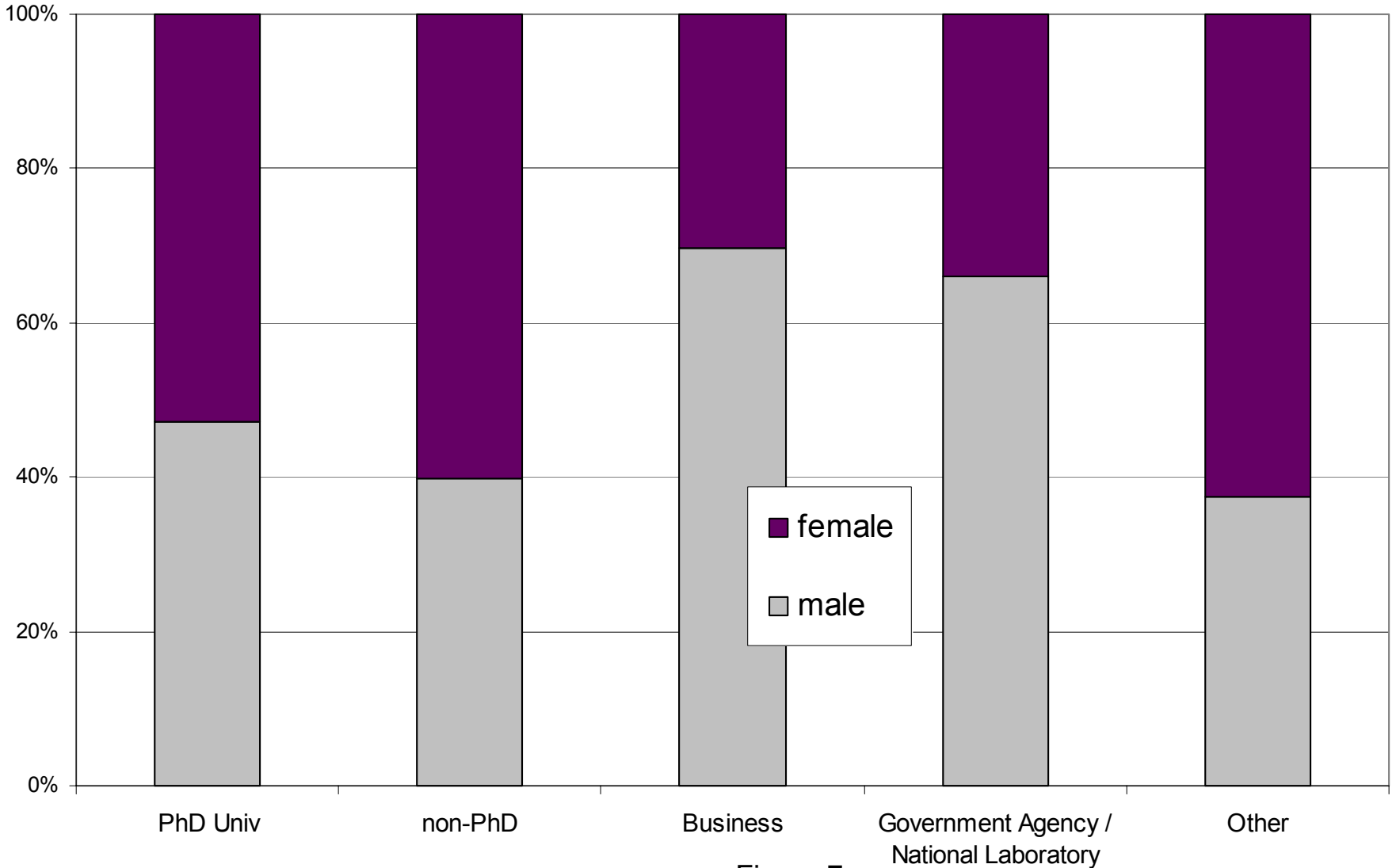


Figure 7

Employers by Ethnicity – Entire Cohort

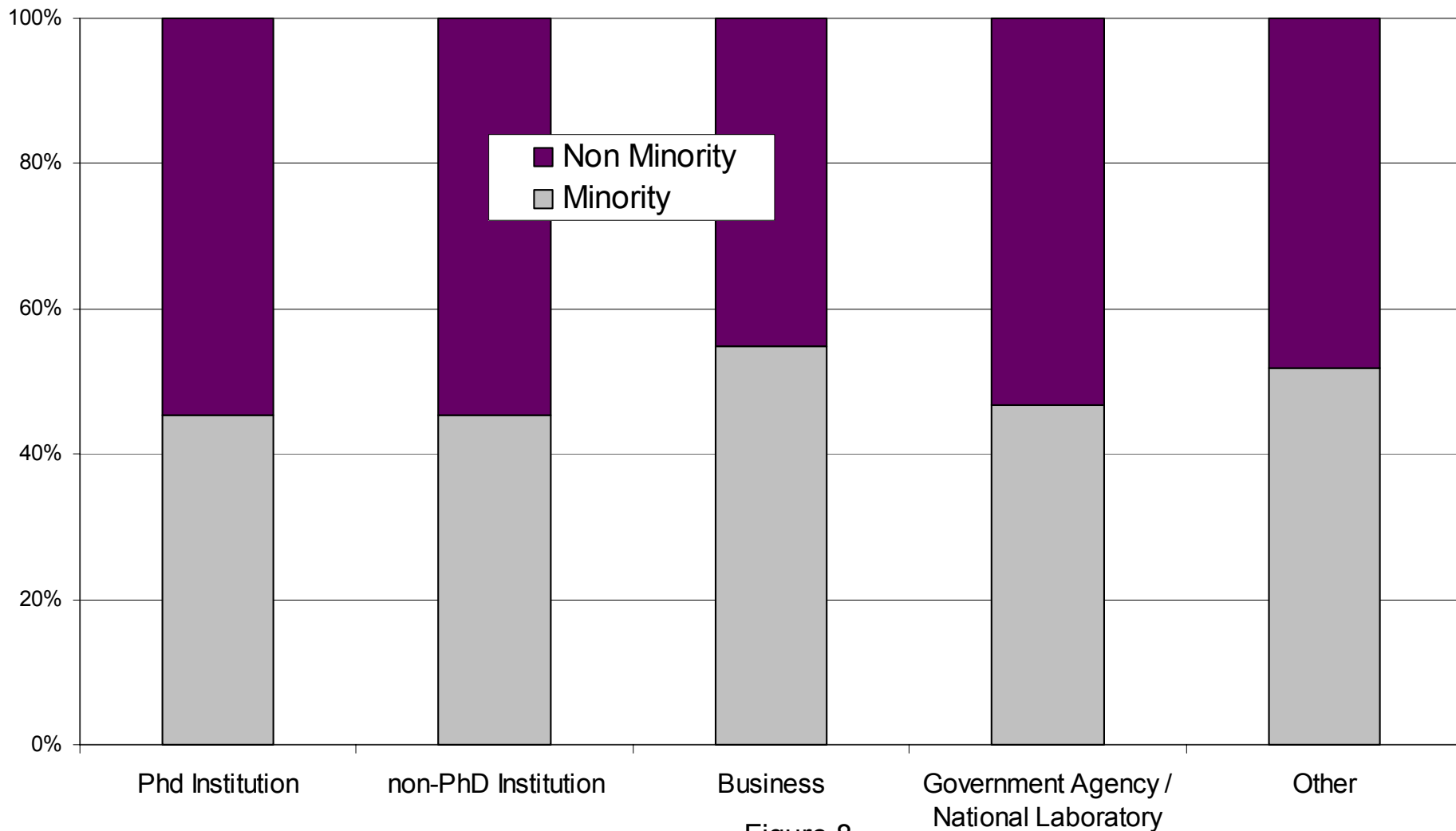


Figure 8

Employers by Nationality – Entire Cohort

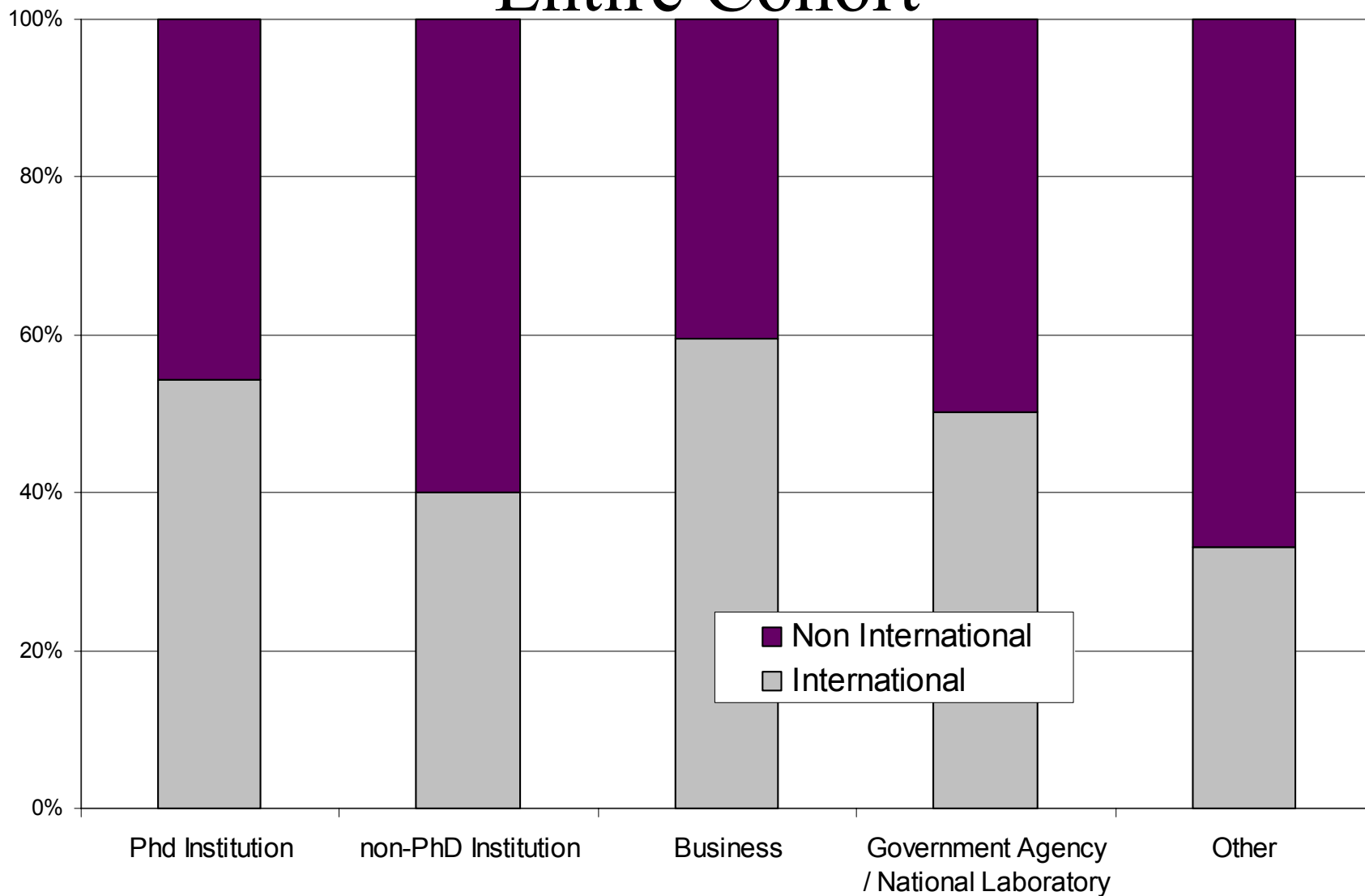


Figure 9

10% Employed by UW

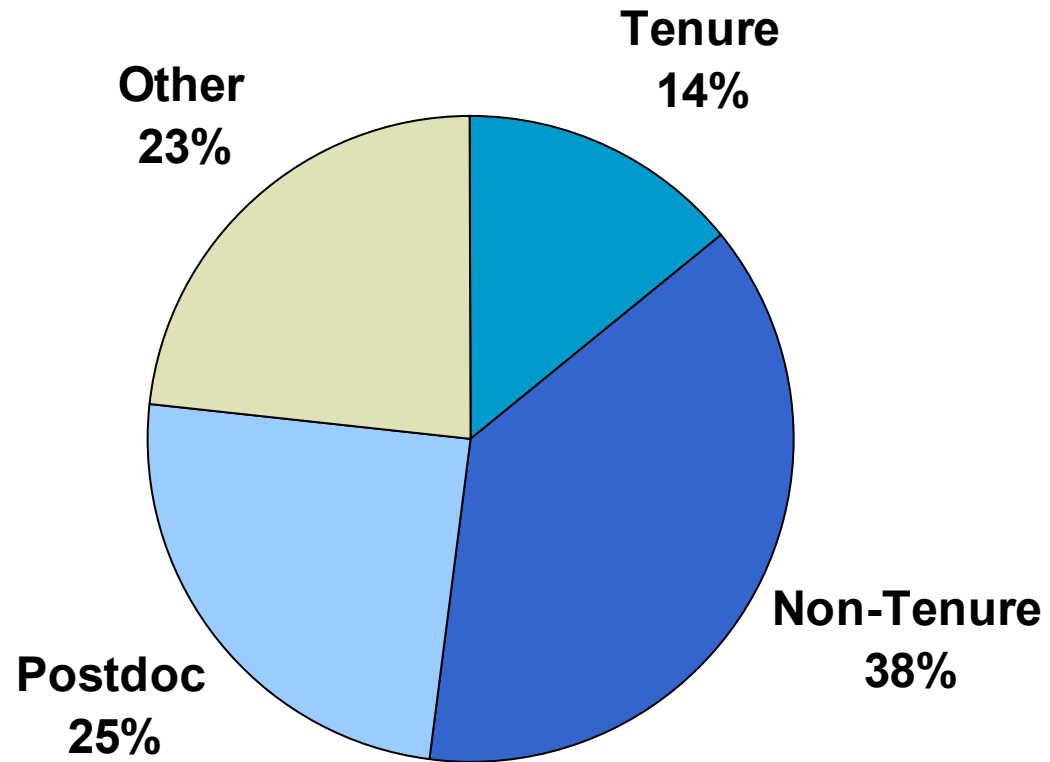


Figure 10

Employment Location - U.S. Citizens Only

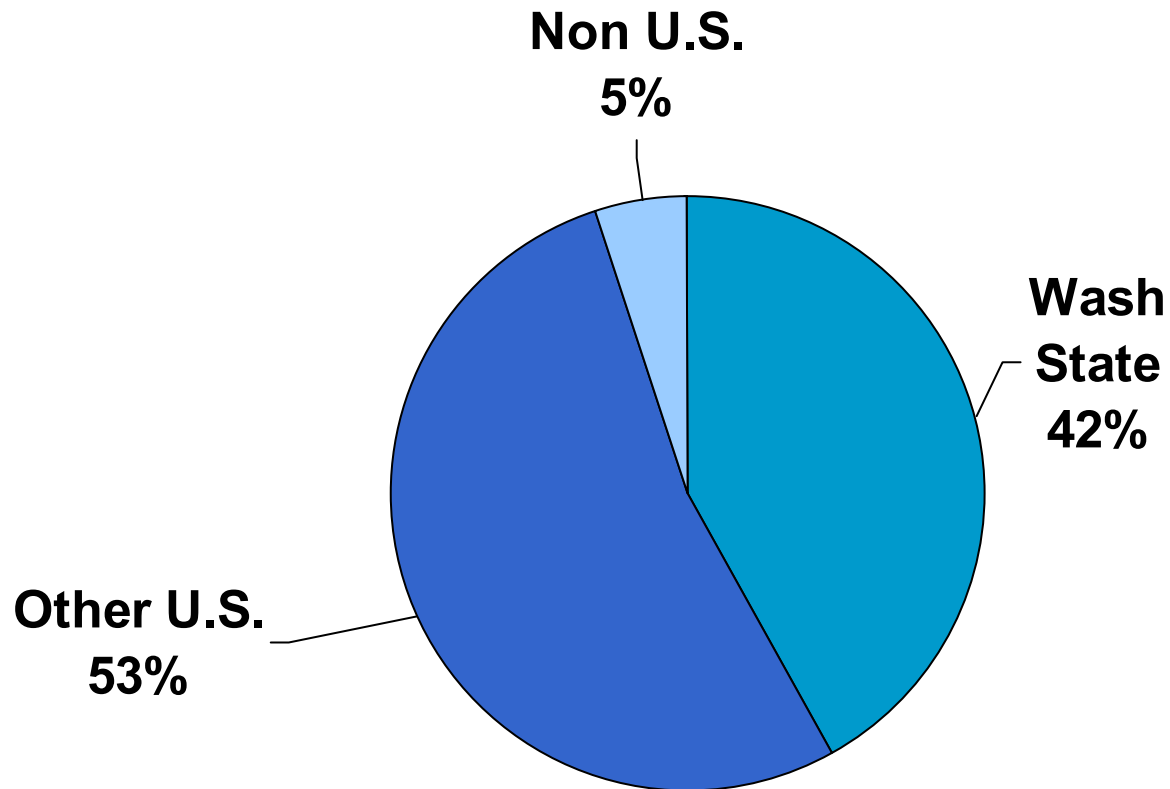


Figure 11

Mid-career Still in Postdoc: 87

(84 in 1996)

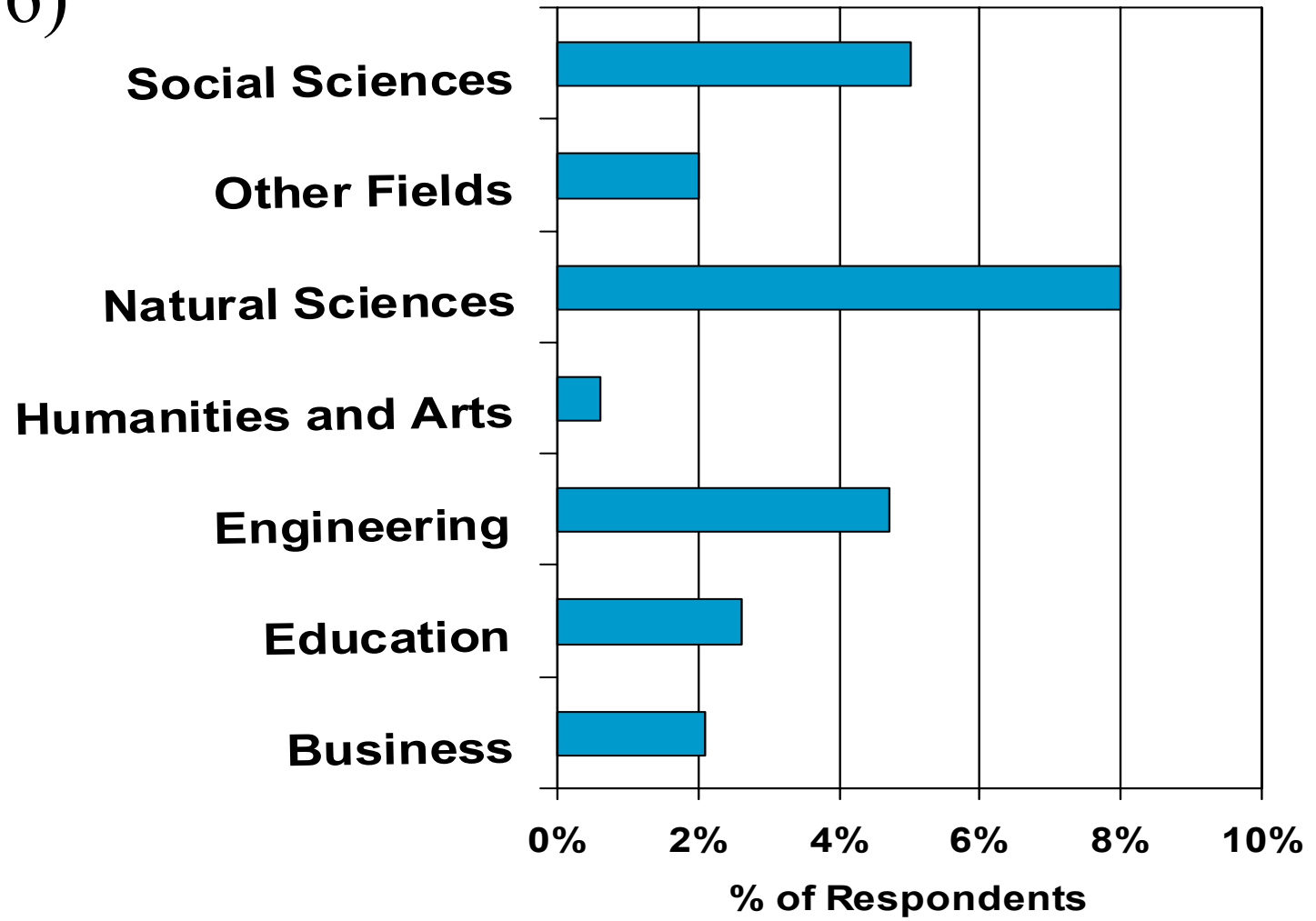


Figure 12

Postdoc Appointments by College – Early and Mid-Career Cohorts

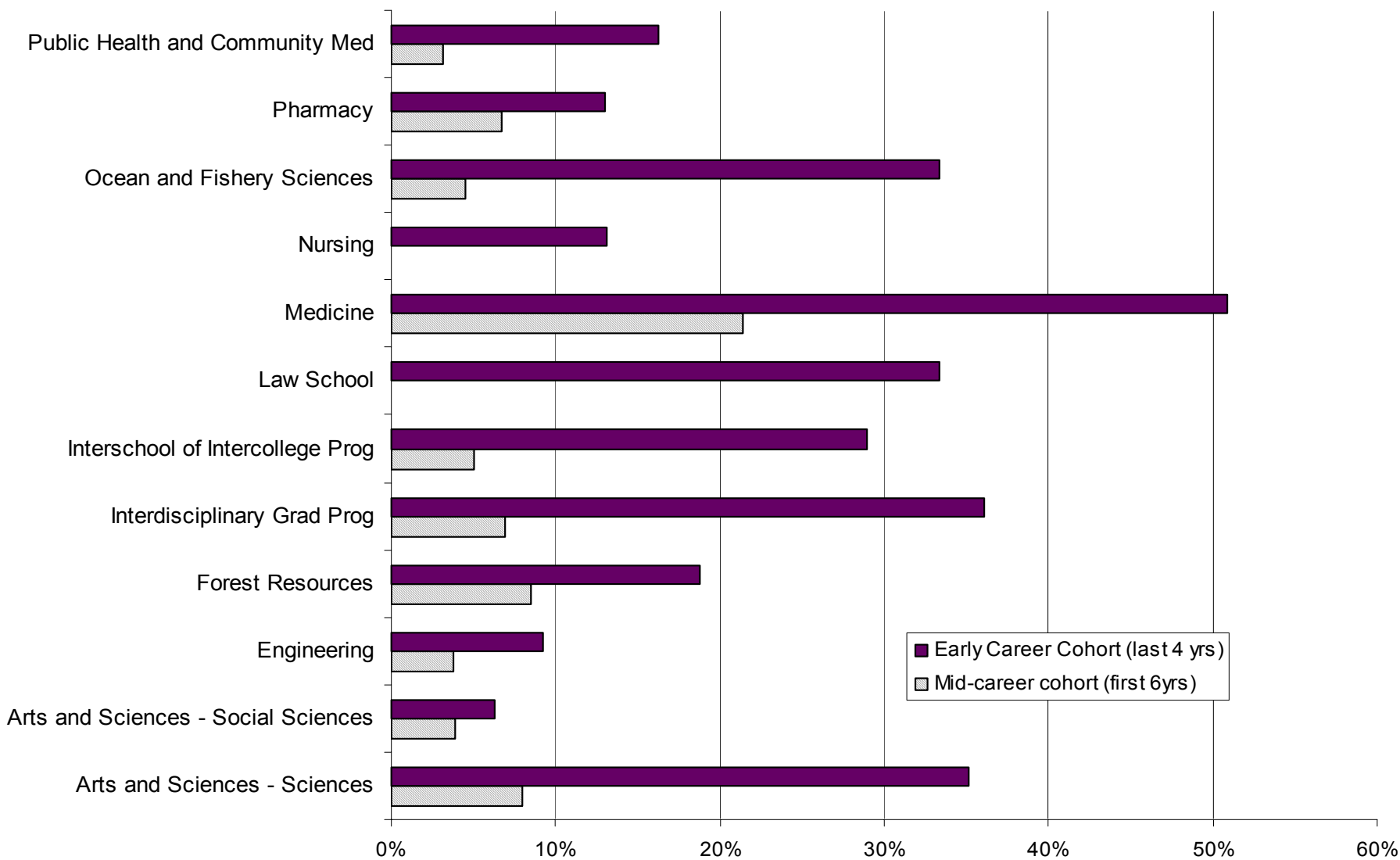


Figure 13

Number of Postdoctoral Appts

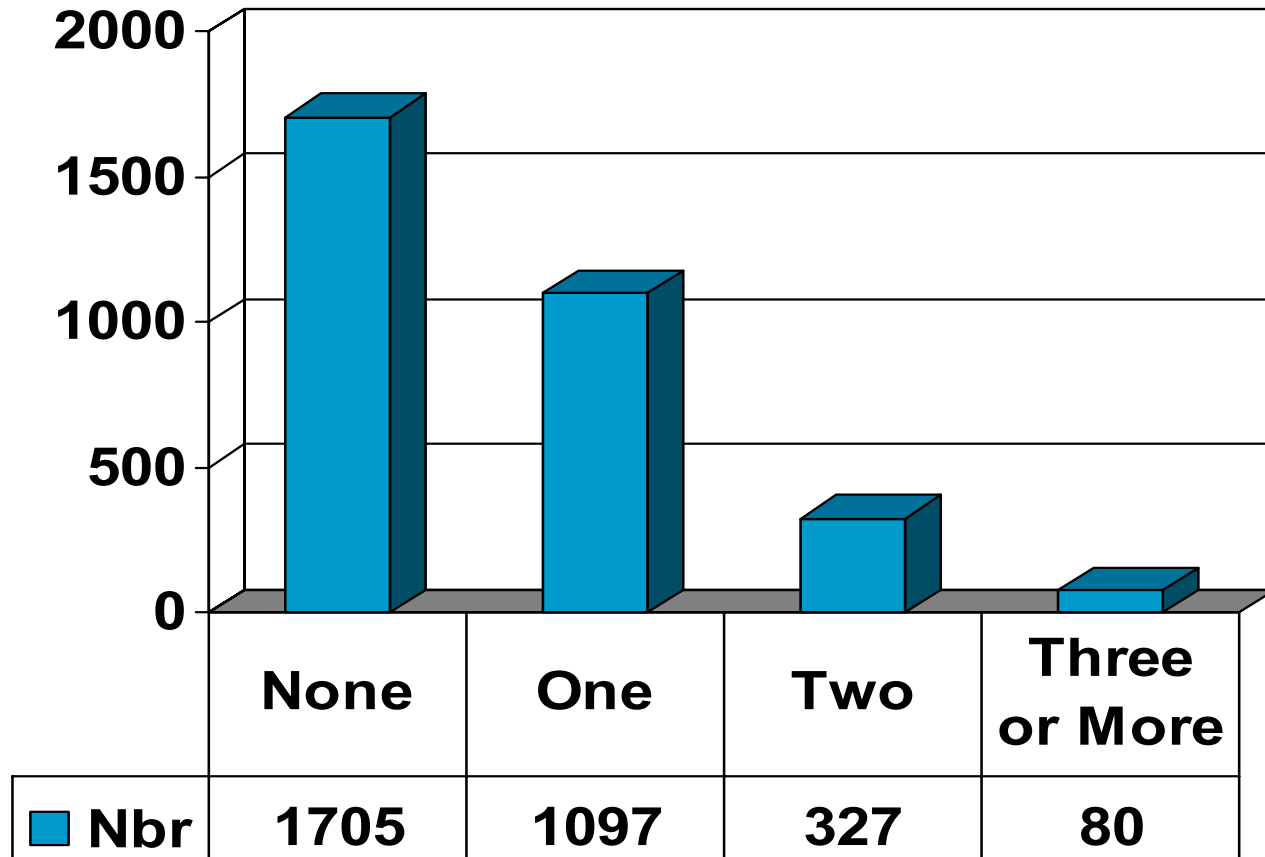


Figure 14

Employment Location Change

147 changed employment location to:

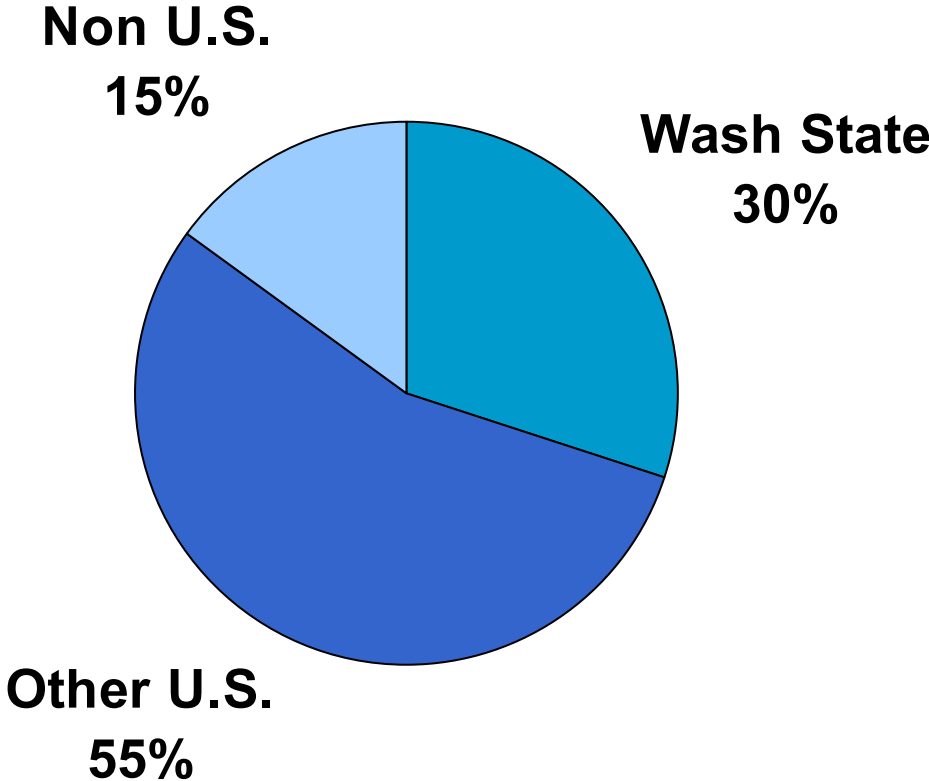


Figure 15