

Where do Faculty Receive their PhDs? A Comparison Across Six Disciplines

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Abstract

This paper studies the doctoral origins of faculty at top research universities and liberal arts colleges across six different disciplines: chemistry, economics, english, history, mathematics and sociology. The results show that in general, a large proportion of faculty receive their doctorates from a select group of top PhD granting institutions within their field. However, these concentration ratios vary significantly across discipline as well between research universities and liberal arts colleges.

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1. Introduction

For most faculty members advising their undergraduate students about entering PhD programs in the arts and sciences, there is a consensus that attending a highly rated institution is paramount to landing a prestigious academic job upon graduation. However, the empirical evidence to support this claim is not extensive, and there is relatively little systematic research analyzing this issue.¹ This study looks at the doctoral origins of faculty at top research universities and liberal arts colleges for six different disciplines (chemistry, economics, english, history, mathematics, and sociology). The purpose of the analysis is to see whether the concentration of doctoral schools is different between liberal arts colleges and research universities (where the goals and missions of the schools may be different), as well as across various fields of study.

2 Data and Methodology

Information was primarily obtained through the Internet websites maintained by the respective institutions. It is now customary for colleges and universities to provide information on their faculties on the web, including information such as year hired, dates and places of degrees earned, as well as areas of research specialty. I have chosen to focus on the top 25 research universities and liberal arts colleges, as compiled in the 2004 U.S. News and World Report rankings. I have included in the database only faculty members holding permanent positions at the rank of assistant, associate, or full professor. I have excluded individuals holding temporary and adjunct positions, emeriti faculty, and individuals whose doctoral school could not be identified. The resulting data set includes non-missing information for slightly over five thousand faculty members in six departments at fifty leading colleges and universities.

¹ Pieper and Willis (1999) study the doctoral origins of economics faculty at all economics PhD granting institutions.

To examine the issue of concentration of doctoral schools, I have used the most recent U.S. News and World Report rankings of doctoral programs in the sciences, social sciences and humanities to indicate whether the doctoral school is a top 10 program, top 20 program, or a program ranked outside of the top 20.² Separate rankings are obtained for each of the six disciplines studied.³

3 Results and Discussion

Table 1 shows the results for doctoral origins of faculty in six departments at the top 25 research universities. Economics is by far the most concentrated of the disciplines, with over 67 percent of faculty receiving their doctorate from a top 10 ranked economics PhD program and almost 82 percent of faculty receiving doctorates from a top 20 ranked school. The next most concentrated discipline is history, where the analogous top 10 and top 20 numbers are 58.9 percent and 74.9 percent. Chemistry and Mathematics are the least concentrated of the disciplines, with each having approximately half of their faculties' doctorates coming from a top 10 U.S. PhD program. One possible explanation for the lower numbers in the sciences (especially Mathematics) is the significantly higher number of foreign PhDs that obtain jobs at highly rated U.S. institutions.

The same percentages are calculated for the liberal arts colleges and are presented in Table 2. It is interesting to note that the order of the degree concentration is quite different. For the liberal arts colleges, English and History are the two departments with the highest percentage of professors receiving PhDs from top ranked institutions. Economics is now only the third most concentrated discipline, with 45.8 percent of faculty receiving doctorates from top 10 economics

² The U.S. News ranking of PhD programs is not conducted every year for each discipline. The most recent rankings for the sciences were conducted in 2002 and the latest rankings for the social sciences and humanities were conducted in 2001.

³ The correlations between various ranking schemas are quite high. For a discussion of the rankings of schools by publication counts, see Scott and Mitias (1996) or Dusansky and Vernon (1998).

PhD programs. Sociology has the lowest percentage of faculty receiving doctorates from the top PhD programs in sociology.

Table 3 calculates by discipline the percentage differences between concentration ratios at top research universities versus top liberal arts colleges. The numbers show that within each discipline the concentration ratios at the liberal arts colleges are all lower than the analogous number for research universities. This is not surprising, given that the research universities will tend to emphasize the value of publishing more than at the liberal arts colleges, which will place relatively more emphasis on the quality of teaching. While the concentration of the best scholars in the field may be more skewed towards the top PhD granting institutions, the best teachers may be more evenly distributed across all tiers of graduate programs. Note, however, that the differences between concentration ratios between the top research universities and liberal arts colleges varies significantly by department. For economics and sociology, elite research universities are significantly more concentrated by faculty with doctorates from top 20 schools than are the elite liberal arts schools. The percentage differences are 22.5 and 26.7, respectively. Meanwhile, the analogous numbers for History and English are only 3.5 percent and 2.6 percent, respectively. The sciences fall in the middle, with differentials of 5.9 percent for Chemistry and 8.2 percent for Mathematics. The reasons for these disparities are unclear, but though it is interesting to note that the two social sciences have the largest differences, while the two humanities⁴ have the smallest differences, with the two sciences falling in the middle.

This study shows that graduates from the top rated PhD programs continue to hold an overwhelming share of faculty positions at leading colleges and universities, but there is a fair amount of variation by field as well by institution type. The reasons for these disparities are unclear but merit further investigation. A closer look at the academic labor market for different disciplines would be a worthwhile exercise.

⁴ Many historians would classify themselves as humanists, but others would fall within the realm of social scientists.

References

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Table 1: Percentage of Faculty with Doctorates from Top Graduate Programs
Sample of U.S. News Top 25 Research Universities

<u>Subject</u>	<u>Doctorates from Top 10 School</u>	<u>Doctorates from Top 20 School</u>
Economics	67.3	81.9
History	58.9	74.9
English	57.1	70.2
Sociology	55.6	74.0
Chemistry	50.9	64.8
Mathematics	50.0	62.4

Table 2: Percentage of Faculty with Doctorates from Top Graduate Programs
Sample of U.S. News Top 25 Liberal Arts Colleges

<u>Subject</u>	<u>Doctorates from Top 10 School</u>	<u>Doctorates from Top 20 School</u>
English	53.2	67.6
History	51.6	71.4
Economics	45.8	59.9
Chemistry	40.1	58.9
Math	36.0	54.2
Sociology	30.9	47.3

Table 3: Percentage of Faculty with Doctorates from Top Graduate Programs
Difference Between Research Universities and Liberal Arts Colleges

<u>Subject</u>	<u>% At Research Universities - % at Liberal Arts Colleges</u>	
	<u>Doctorates from Top 10 School</u>	<u>Doctorates from Top 20 School</u>
Sociology	24.7	26.7
Economics	21.5	22.0
Math	14.0	8.2
Chemistry	10.8	5.9
History	7.3	3.5
English	3.9	2.6