Staying at the Top: The Ph.D. Origins of Economics Faculty

Preliminary—Do not distribute or cite

Todd R. Jones*
Georgia State University

Arielle Sloan
Unaffiliated

February 2020

Abstract

Academic origins in economics departments, defined as the universities at which tenure-track faculty completed their doctoral studies, may have implications on how the department's undergraduate and PhD students are trained and placed, as well as the type of research produced. In this project, we use roster data on the academic origins of all tenure-track faculty at 89 U.S. economics departments with graduate degrees. We use these data to document patterns in academic origins across several dimensions, including department ranking, gender, rank (Assistant, Associate, Full Professor), and geography. We find that 1) over half of the faculty of each of eight top departments received their PhD from one of these same universities; 2) the majority (over 75%) of the top-25 departments have more than 50% of their faculty come from top-10 universities; and 3) over half of Harvard and MIT faculty received their PhD at either Harvard or MIT. The first and third findings are typically even more pronounced for female faculty.

* We would like to thank Leah Boustan, Paul Goldsmith-Pinkham, Barry Hirsch, Weixiang Pan, and EconTwitter for useful feedback. We would especially like to thank Andrew Langan for providing data.

1. Introduction

Each Fall, universities across the world post openings for faculty positions in economics departments (McFall et al. 2014). An applicant's success in this market depends in part on his or her ability to correctly judge which of these postings are an appropriate "fit" for their qualifications (Cawley 2018). Numerous considerations factor into the determination that an applicant and a position make a good fit, such as a candidate's research background, the position's teaching load, and the needs of the program's faculty (Cawley 2018). But most of these considerations take time and research to evaluate--time that applicants do not have when faced with many options and looming deadlines. An initial filtering process must be used.

One possible method (among many) of filtering through faculty postings is to compare the academic ranking of one's PhD program to the rankings of hiring university programs of interest. Numerous academic rankings systems exist, from the popular U.S. News rankings to the international THE-QS World University Rankings (Jones 2011; Morse, Krivian, and Hines 2019). Although these rankings use different metrics, they each attempt to quantify the quality of education that a university provides (Jones 2011; Morse, Krivian, and Hines 2019). Because these rankings are often, if not always, publicly accessible, it is relatively easy to make quick comparisons of the rankings of doctoral alma maters and hiring departments.

The difficulty lies in assessing whether two rankings are close enough to be considered a rough "fit" for a candidate. It is clear that a typical candidate from a bottom-50 program would not be as competitive for a position at a top 10 program. But would a typical candidate from a top 20 program find success teaching at top 10 program? And would a

typical candidate from a bottom 50 program be competitive for a position at a program ranked 55?

In this paper, we describe the doctoral origins of economics faculty at 89 of the 96 U.S. News-ranked university programs from 2017 based on novel faculty roster data. We find that graduates of top economics doctoral programs, particularly Harvard and MIT, have a substantially larger presence in the departments in our sample than graduates of lower-ranked programs. For instance, graduates from the top 15 PhD programs make up well more than half of faculty in the sample. We also find some unique outliers--a few top universities with larger proportions of female faculty members (Maryland, Carnegie Mellon, and Rochester), faculty from non-top-8 schools (Chicago and Yale), and international schools (Columbia). We note that some schools have particularly high proportions of faculty from other schools (e.g., Harvard and MIT from each other, Clemson from Chicago, UC-San Diego from UC-Berkeley, Cornell from Northwestern). Finally, when we restrict the sample to women, we strikingly find that an even greater concentration of faculty at the top PhD programs who graduated from the top PhD programs. Female graduates of the top PhD programs are not found in greater proportions as are men down in the distribution, perhaps due to the relative lack of women attending such programs.

We also find relatively little "upward mobility," meaning that it is rare to teach at a department ranked higher than one's PhD program. Why might it be the case that graduates from the top-ranked PhD programs do disproportionately well in the job market? We posit three hypotheses. First is selection. Top-ranked PhD programs likely get many of the very best students in the world, so it would make sense that they would secure positions at the top departments. Second is department value-added. It may be the case that the very best departments train their students much better than lower-ranked departments, giving them a much higher level of the skills that the market values.

Third is networks. The faculty advisors at top departments are more likely to be well-known in the profession and may be able to exert influence in their students' behalf. We are agnostic to which of these explanations is correct, but it is likely that it is some combination of all three.

One way to view the patterns that we document is that they are evidence of lack of "intellectual diversity" among top departments.[1] The top schools send their students to the top schools. If students follow from the "ideology" of their professors, then these ideologies will tend to be perpetuated.

Researchers have studied how these rankings comparison lines are drawn in other fields, such as history, business, and computer science (Clauset, Arbesman, and Larremore 2015). But to our knowledge, economists have only dabbled with the question. For example, Colander (2015) evaluates Ph.D. origins of faculty from the top five economics programs in the U.S. and found that Harvard and MIT often hired each other's former students. Langan and Boustan (2018) describe how female economics PhD graduates enjoyed uneven rates of success in academia across several metrics relative to men. McFall et al. (2014) study the application and hiring process among new economics job market candidates from 2007 to 2010. To our knowledge, we are the first to focus on the PhD origins of all economics faculty from all ranked programs. Our study serves to help applicants better understand the academic mosaic of different departments and to get a sense of where they might feel most comfortable applying to and working in long term.

2. Description of Data

We were provided with 2017 faculty data from 130 economics programs by Andrew Langan (2019).[2] We compared these data to 2019 faculty roster data that we collected from

[1] Colander (2015) makes this point as well.

[2] One department uses data from 2016.

the websites of the top 25-ranked universities during Fall 2019.[3] Finding these data to be comparable, we utilized the 2017 dataset, which we focus on throughout the remainder of the paper. We restrict our attention to tenure-track faculty.

This dataset catalogues faculty members by name, position title, gender, and PhD-granting university. We matched these 2017 data to 2017 economics program rankings from the U.S. News & World Report ("Best Economics Schools", 2017) and excluded data from programs with either unlisted rankings or no rankings. A total of 138 departments appear in this ranking, but 42 are considered not ranked.

We only include data from each university's main economic department and not on any programs or departments combining economics with other fields. Moreover, we only include data on professors who could be reasonably identified as holding current assistant, associate, or full (including chaired) professor status within the economics department. We exclude from the sample individuals who are listed only as adjunct, visiting, graduate student, as staff or as administrators, or as affiliates from other departments. All tenure-track professors identified were catalogued by name, position title, gender and PhD-granting university (see Langan 2019; Langan and Boustan, 2020 for more details).

In order for the figures to have a unique value on the x-axis, we give each department a unique ID to break the ties (within a tie, the ID is assigned alphabetically by school name) (Table 1). We further restrict the sample by dropping observations from the three departments for which we are (currently) missing a significant amount of data and

[3] Between September 5, 2019 and October 25, 2019, we visited the faculty websites of the top 25-ranked economics departments from 2017 U.S. News rankings to gather publicly-accessible data regarding all tenure-track professors listed as employed there. Boston College and Pennsylvania State University were tied at rank 25, so random selection was used to identify the 25th school in this study (Boston College).

dropping the relative small number of observations missing PhD of origin.[4] This leaves us with a sample of 89 departments and 2,667 individuals.

3. Sample Characteristics

Figure 1 shows that university economics departments with higher rankings tend to have larger faculties in school year than lower-ranked universities, with the steepest drop in faculty size between ranks 1 and 25. Princeton, for example, has 62 faculty members, while Johns Hopkins has only 18. The proportion of women on faculty rosters is relatively constant across departments, generally hovering around 20% (Figure 2).

Higher-ranked universities typically have a higher proportion of full professors and a lower proportion of associate professors than lower-ranked universities, in which proportions of assistant, associate, and full professor were more equal (Figure 3). This trend appears to be driven by male professors; ratios of the three faculty ranks are more equal throughout the distribution among female faculty. Also of note is that there are disproportionately fewer full professors among women versus men.

4. Results

Higher-ranked university departments place more faculty than lower-ranked departments (Figures 4, A.1). Moreover, higher-ranked departments both bring in professors from the highest-rank programs (Figure 5) and place students at higher-rank programs on average than lower-rank universities (Figure 6). For example, 366 (14% of

[4] These schools are CUNY Graduate School and University Center, University of Illinois—Chicago, and Claremont Graduate University. We additionally exclude departments outside of the top 25 for which more than 15% of observations have missing PhD: University of Texas--Austin, University of Nebraska--Lincoln, Texas A&M--College Station, and University of Florida. University of Michigan--Ann Arbor was originally missing PhD for most of it observations, but we filled them using information the other dataset; it now is missing PhD for about 24% of observations; we keep it in the sample. After dropping observations as described above, 2% of all observations are missing PhD. In future versions, we plan to include many or all of the above the schools after collecting the missing information.

all professors in our data set) receive their PhDs from Harvard or MIT, placing on average at top 25 departments. Conversely, only 7% of all professors in our data set come from a university department ranked 50-90 (excluding not ranked, which is often international), and on average, these individuals take positions at bottom 50-ranked schools. Figure 7 demonstrates that the success of professors in finding a placement ranked higher than their doctoral alma mater is sporadic.

Figures 8-12 show that the vast majority of professors at higher-ranked universities come from higher-ranked departments. Harvard and MIT are the least academically diverse of the top 8 universities (Figure 12), with over 50% of faculty coming from Harvard or MIT. The most academically diverse are Yale and the University of Chicago; 40% and 35% of their professors, respectively, come from either international Ph.D. programs or from U.S. programs outside of the top 8.

These trends generally hold for male faculty (Figures 13, 15) and for faculty split by assistant, associate, and full professor status (Figures 17-19, A.2-A.4), but are more pronounced among female faculty (Figures 14, 16).

Some universities have high percentages of faculty from specific universities (Table 2). At eight of these universities, at least ⅕ of faculty received their doctorates from Harvard; at six, at least ⅕ came from MIT. Interestingly, several California schools had high percentages of faculty from theirs or other California schools, and some more specific one-on-one school affiliations appear to be present as well. For example, 17% of Cornell faculty received their doctorates from Northwestern University, and 33% of Clemson faculty from the University of Chicago.

5. Discussion and Conclusion

We find that graduates of highly ranked doctoral economics programs are far more common on faculty rosters than those of lower ranking, especially for graduates from

top-25 schools. In doing so, we confirm the findings of Colander (2015) that elite economics programs generally hire from their own or similarly ranked programs. We go beyond that finding to show that this pattern extends to most universities and across faculty rosters, but to a lesser degree for the lowest-ranked schools (Figure A.1).[5]

We also find that, while male graduates of top universities are found—in gradually descending proportions—at universities of all rankings (Figures 13, 15; these figures are restricted to men), female graduates of those universities are more commonly found teaching at top universities (Figures 14, 16; restricted to women). There is a particularly high concentration of female Harvard and MIT graduates among female faculty at the top 10 departments; this rapidly drops off after the top 10. It may be that female applicants are in demand and there are too few of them. This is a real possibility given recent media coverage about low female representation in doctoral economics programs and the need to increase the proportion of women in the economics workforce (Wolfers 2018).

Finally, we show that some universities have strong hiring ties to other universities that are not strictly based on rank. While a number of universities hire from Harvard and MIT, other hiring ecosystems and relationships appear to exist—some California schools tend to hire from each other, for example, and some schools hire from specific programs that they do not have regional ties with (Clemson from the University of Chicago, for example). As has been suggested in other fields, program ties may stem from shared research interests, geographic preferences of graduates, networking, or other factors that rankings alone do not appear to account for (Clauset, Arbesman, and Larremore 2015).

[5] Clauset, Arbesman, and Larremore (2015) found similarly for computer science, history, and business programs.

Thus, applicants for faculty positions may, in addition to thinking about ranking, also want to consider some of these university-specific ties in the application process.

References

"Best Economics Schools." *U.S. News & World Report*. Last modified 2017. Accessed January 13, 2020. https://www.usnews.com/best-graduate-schools/top-humanities-schools/economics-rankings.

Cawley, John. "A Guide and Advice for Economists on the U.S. Junior Academic Job Market: 2018-2019 Edition." (2018). Accessed January 13, 2020. https://www.aeaweb.org/content/file?id=869.

Clauset, Aaron, Samuel Arbesman, and Daniel B. Larremore. "Systematic inequality and hierarchy in faculty hiring networks." *Science Advances* 1, no. 1 (2015): e1400005. Accessed January 13, 2020. doi: 10.1126/sciadv.1400005.

Colander, David. "Intellectual Incest on the Charles: Why Economists are a Little Bit Off." *Eastern Economic Journal* 41, (2015): 155-159. Accessed January 13, 2020. doi:10.1057/eej.2014.78.

Jones, Thomas. "University Rankings -- What Do They Measure?" *Research Trends.* Last modified March 2011. Accessed January 13, 2020. https://www.researchtrends.com/issue22-march-2011/university-rankings-%E2%80%93-what-do-they-measure/.

Langan, Andrew. "Female Managers and Gender Disparities: The Case of Academic Department Chairs." *Unpublished Working Paper* (2019).

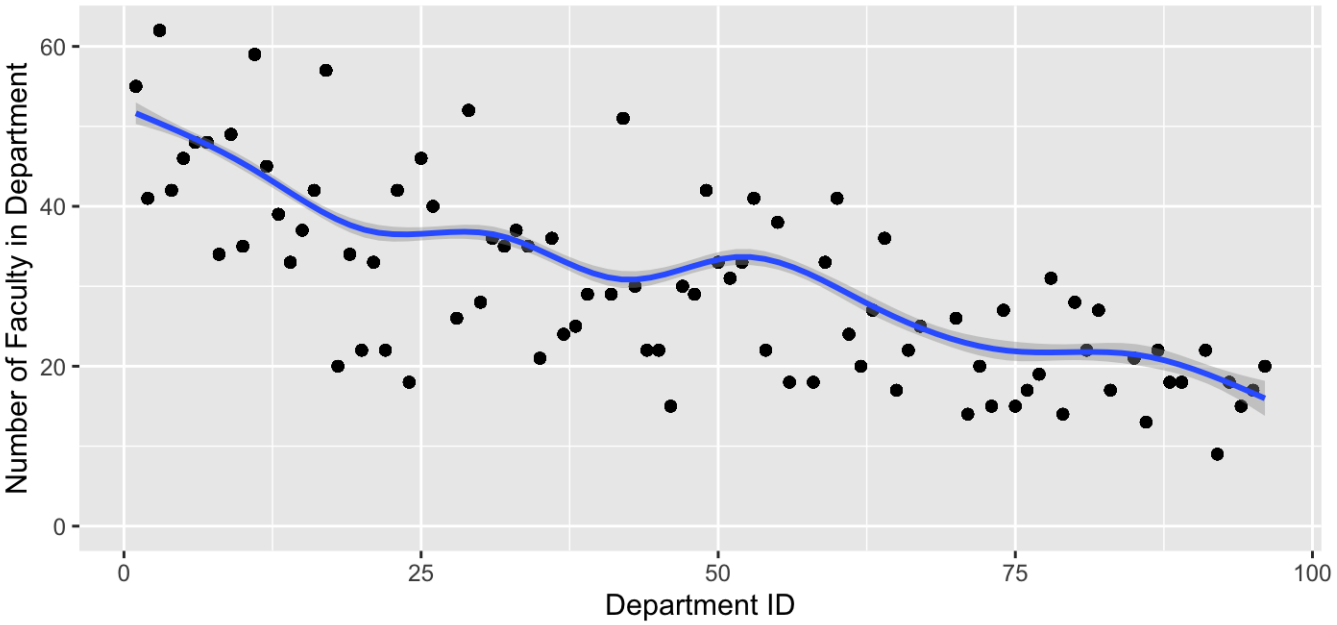
Langan, Andrew, and Leah Boustan. "Variation in Women's Success Across PhD Programs in Economics." *Journal of Economic Perspectives* 33, no. 1 (2019): 23-42. Accessed January 13, 2020. doi: 10.1257/jep.33.1.23.

McFall, Brooke H., Marta Murray-Close, Robert J. Willis, and Uniko Chen. "Is it all worth it? The experiences of new PhDs on the job market, 2007-2010." NBER Working Paper No. 20654 (2014). Accessed January 13, 2020. doi: 10.3386/w20654.

Morse, Robert, Alexis Krivian & Kenneth Hines. "Methodology: Best Social Sciences and Humanities Schools Rankings." U.S. News & World Report. Last modified March 11, 2019. Accessed January 13, 2020. https://www.usnews.com/education/best-graduate-schools/articles/social-sciences-and-humanities-schools-methodology.

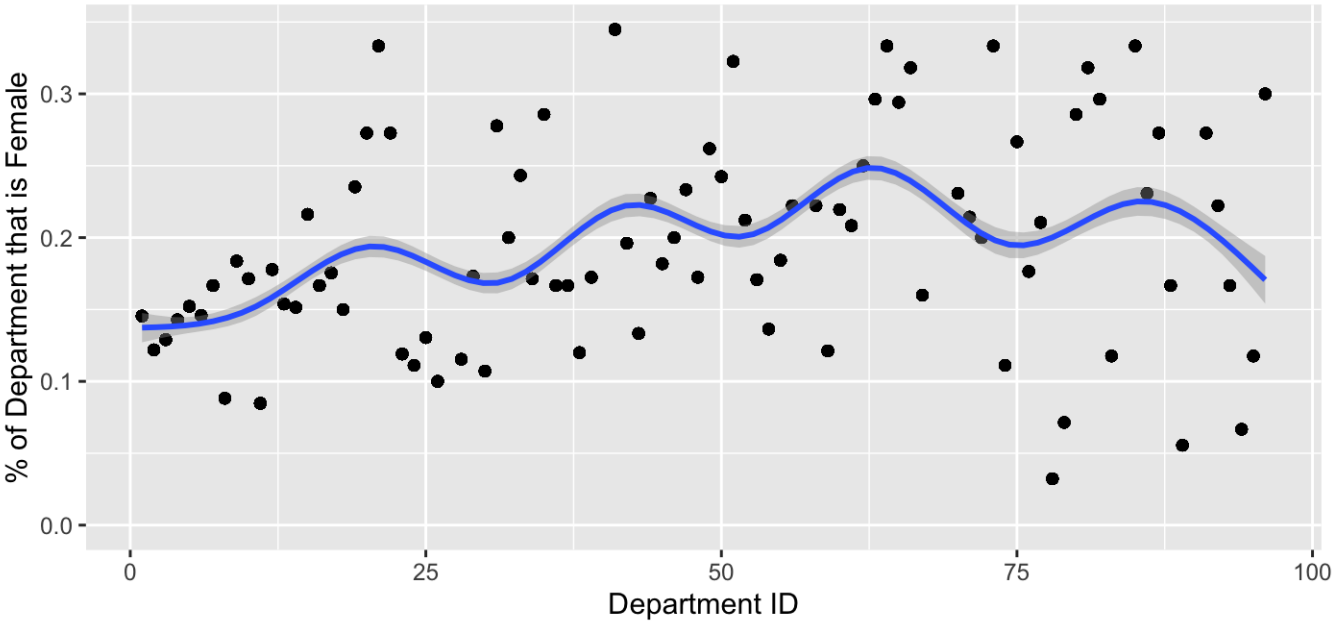
Wolfers, Justin. "Why Women's Voices Are Scarce in Economics." *N.Y. Times* (February 2, 2018), https://www.nytimes.com/2018/02/02/business/why-womens-voices-are-scarce-in-economics.html.

Figure 1: Number of Faculty by Department



Notes: This figure displays the number of faculty by department, which is ordered according to ID (see Table 1).

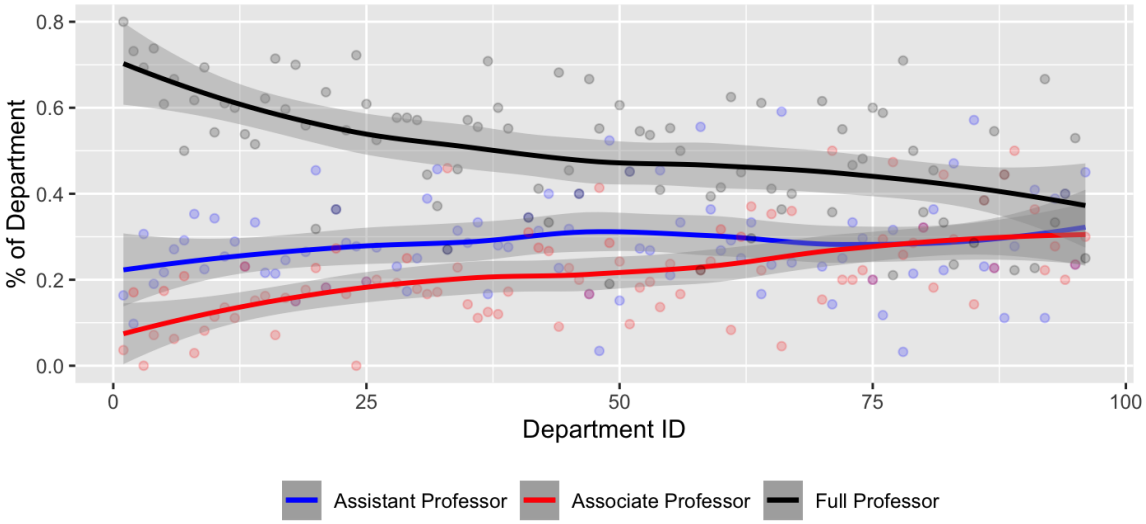
Figure 2: Percent of Faculty Who Are Female, by Department



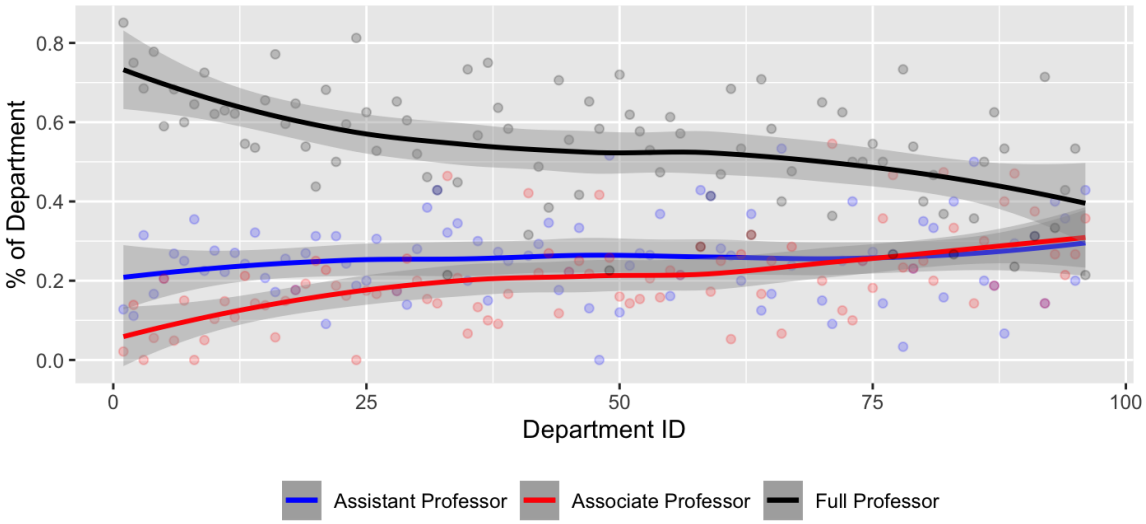
Notes: This figure displays the percentage of faculty who are female by department, which is ordered according to ID (see Table 1).

Figure 3: Percent of Faculty Who Are Assistant, Associate, and Full Professors, by Department

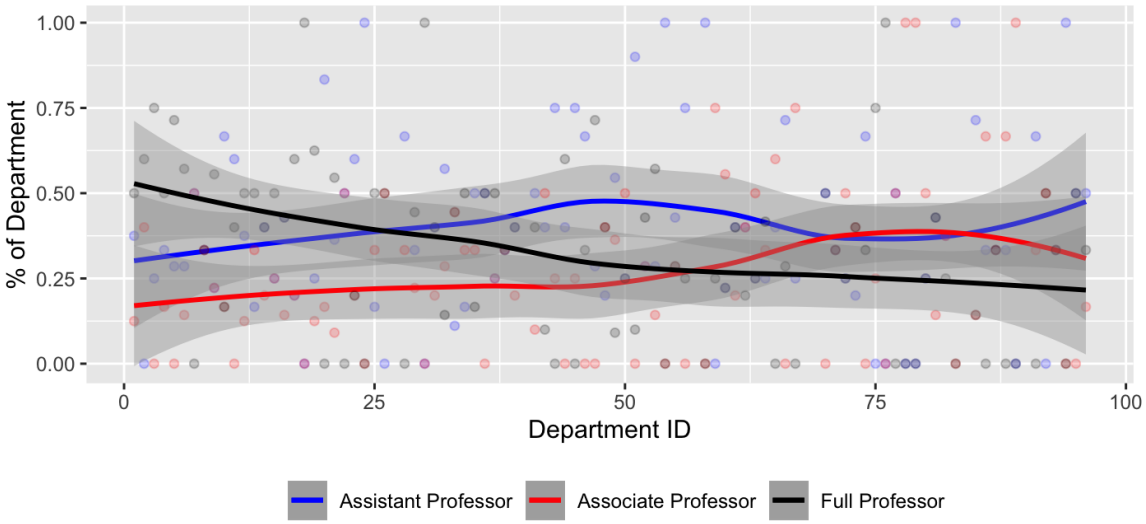
(a) Full Sample



(b) Male Only

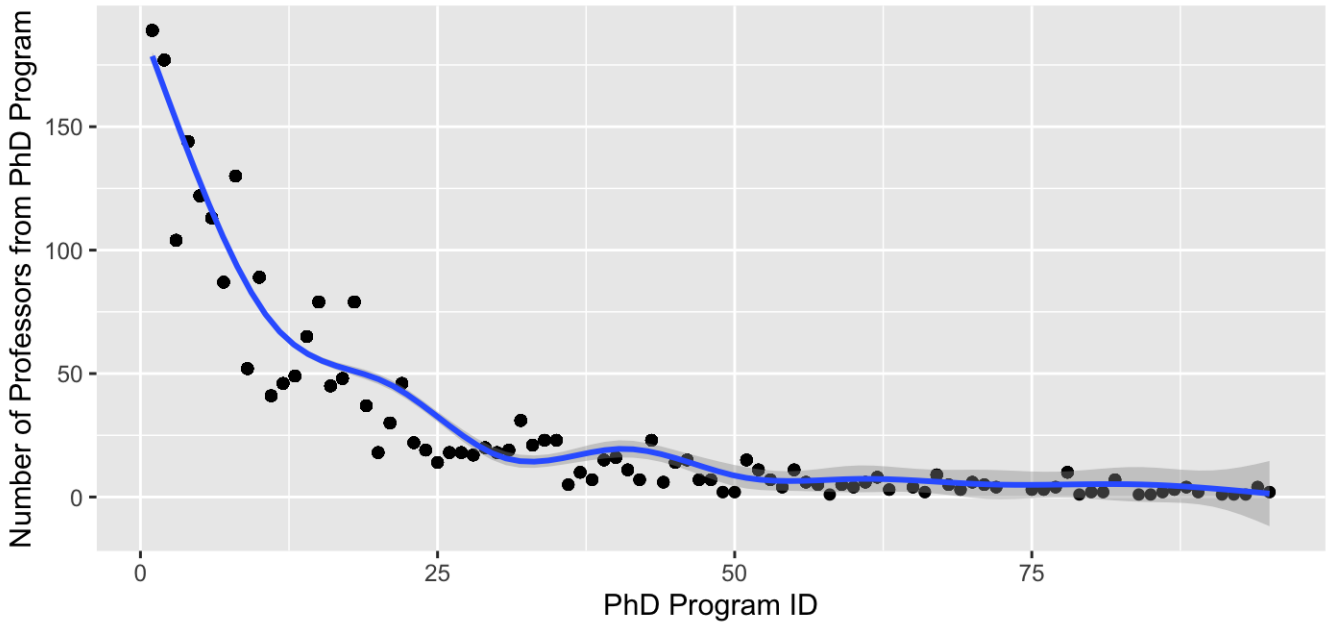


(c) Female Only



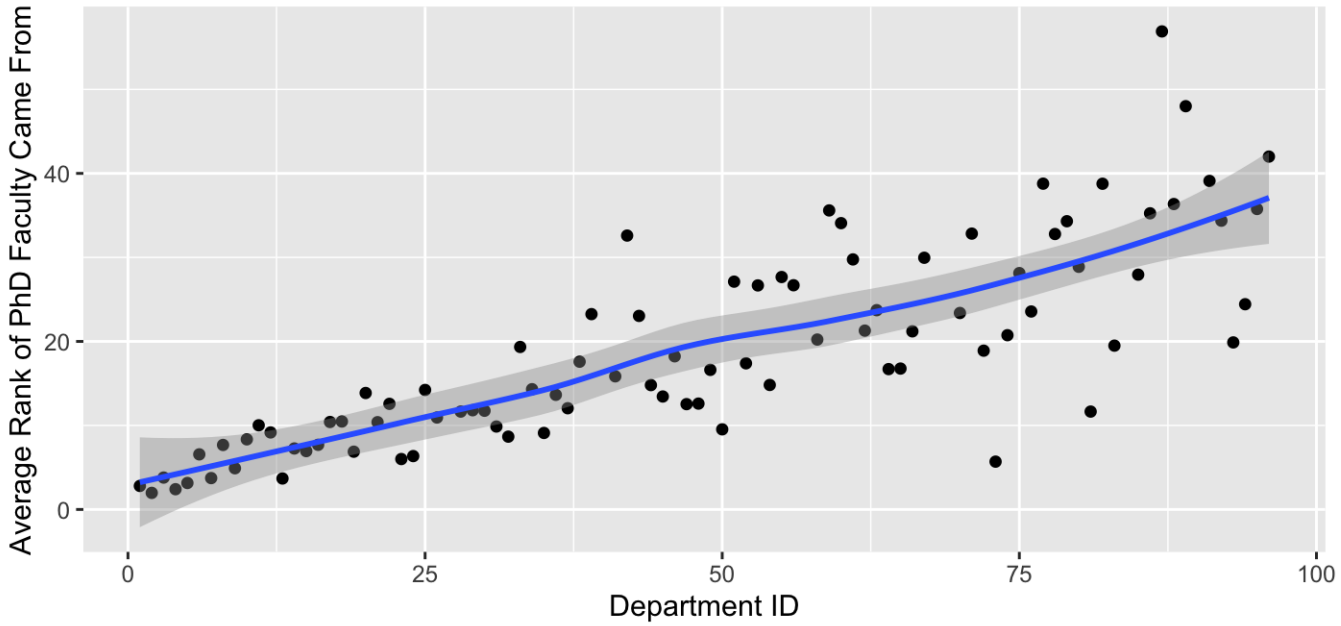
Notes: This figure displays the percentage of faculty who are an assistant professor (blue), associate professor (red), and full professor (black) by department, which is ordered according to ID (see Table 1). Panel (a) shows the full sample; Panel (b) restricts the sample to male; and Panel (c) restricts the sample to female.

Figure 4: Number of Faculty (in Sample) Produced, by PhD Program



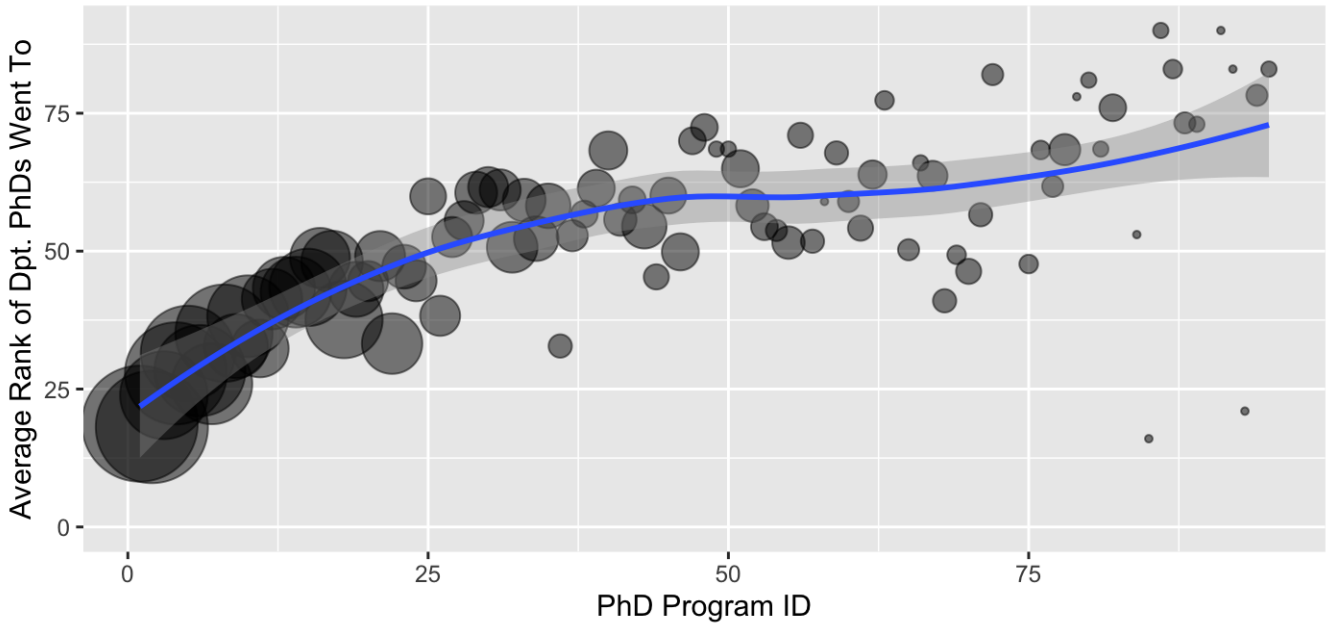
Notes: This figure displays the number of faculty produced by PhD program, which is ordered according to ID (see Table 1). In other words, this displays how many graduates of a given PhD program are now faculty members at departments in the sample. PhD programs are limited to those in Table 1.

Figure 5: Average Rank of PhD Programs of a Department's Faculty, by Department



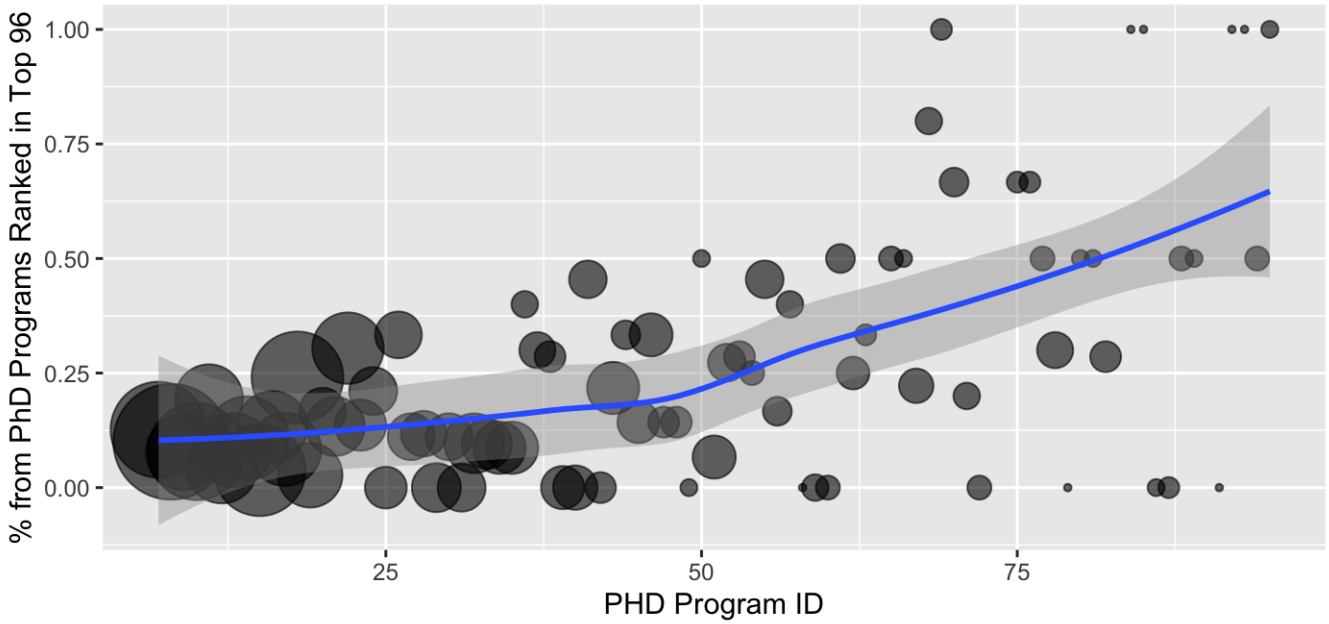
Notes: This figure displays, for a given department, the average rank of the PhD programs faculty members attended. Departments are ordered according to ID (see Table 1). It is restricted to those who went to ranked PhD programs.

Figure 6: Average Rank of Department a PhD Programs' Graduates Went To, by PhD Program



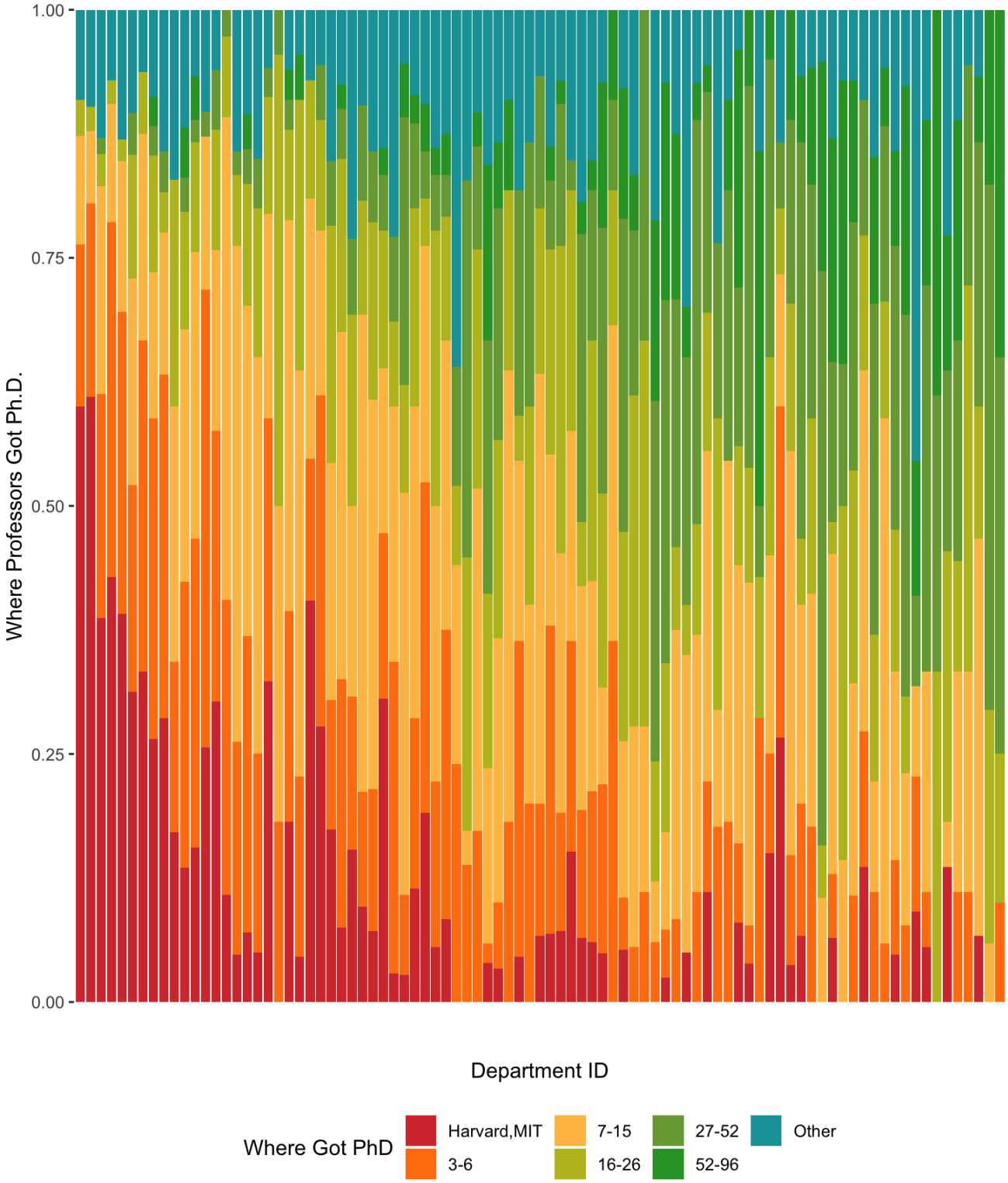
Notes: This figure displays the average department rank that graduates of a particular PhD program went to. PhD programs are ordered according to ID (see Table 1), and are limited to those in Table 1. PhD programs are weighted by number of graduates (in the sample).

Figure 7: Percentage of a PhD Programs' Graduates Who Went to Higher-ranked Department, by PhD Program



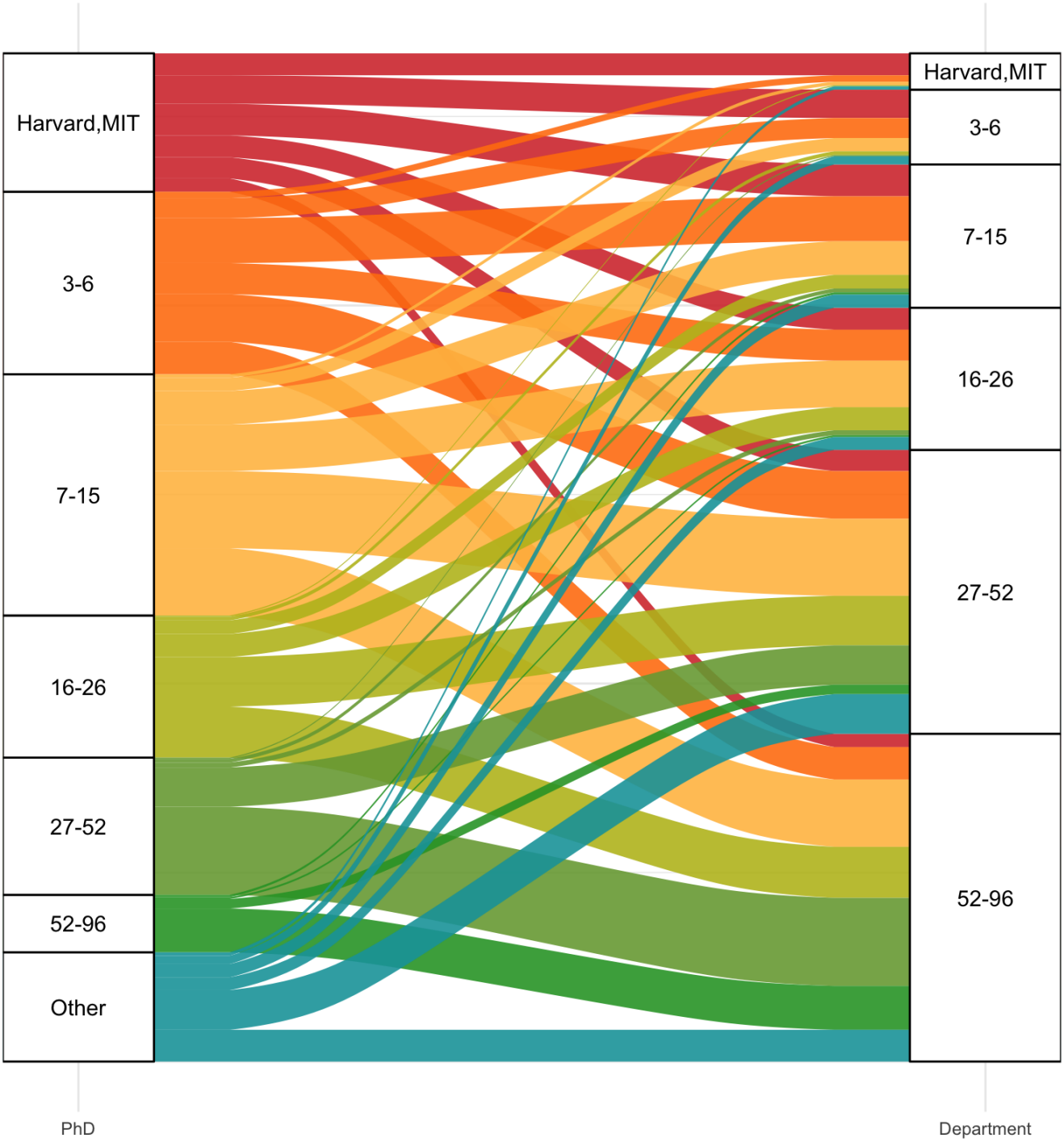
Notes: This figure displays the percentage of a PhD programs' graduates (in the sample) who went to a higher-ranked department than their PhD program. PhD programs are ordered according to ID (see Table 1), and are limited to those in Table 1. Because by definition those who graduate from the top-ranked PhD programs cannot go to a department ranked higher than theirs, they are excluded. PhD programs are weighted by number of graduates (in the sample).

Figure 8: % of Dpt. Faculty from Different Tiers of PhD Program, by Department



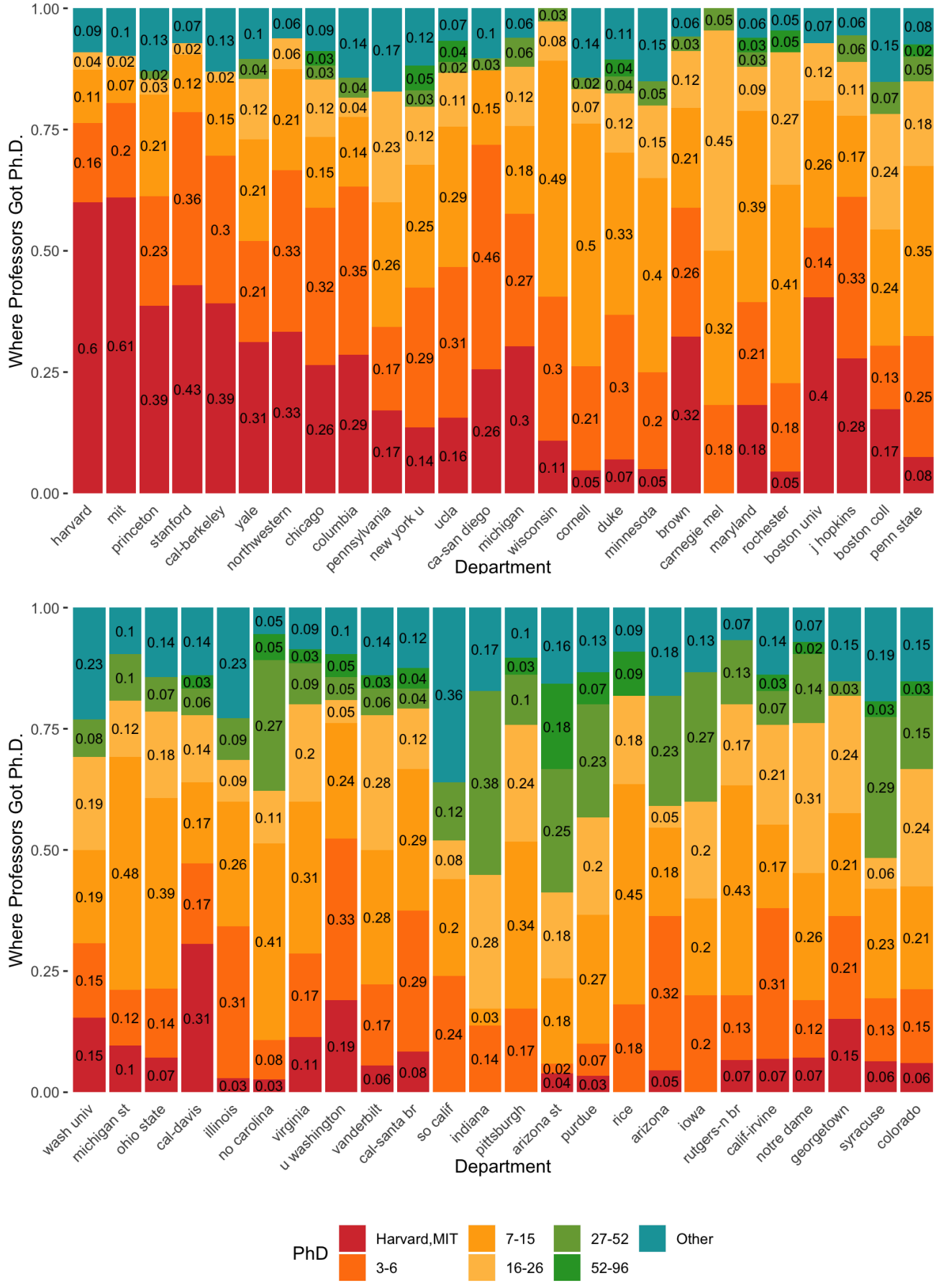
Notes: This bar chart displays the percentage of a department's faculty that came from groupings of PhD program rankings. Each row is a department, and the colorings of the row represent the percentage of faculty that come from the particular PhD program group. Departments are ordered according to ID (see Table 1)

Figure 9: Flows From PhD Programs (Left) to Departments (Right), by Category



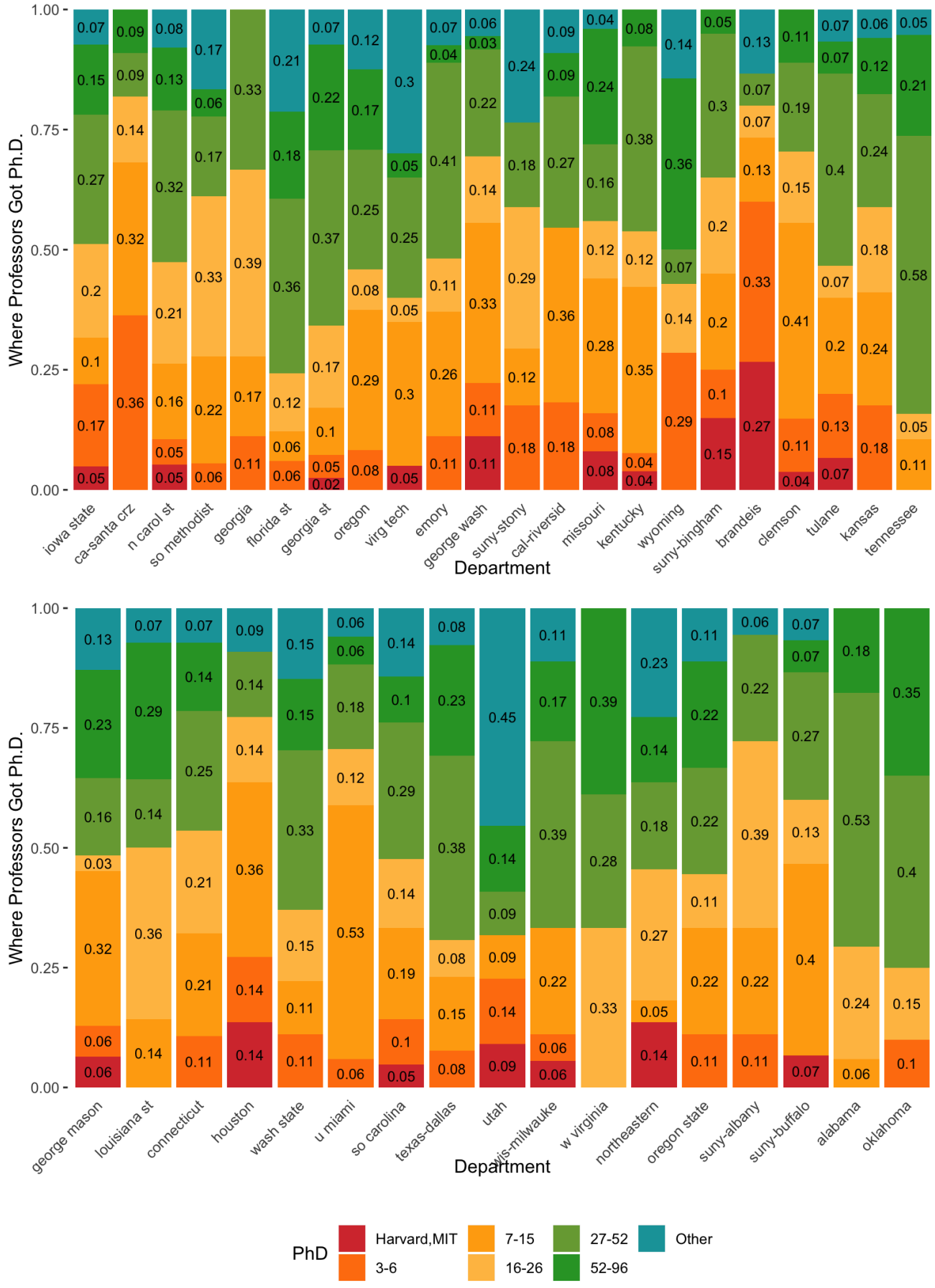
Notes: This Sankey diagram shows flows from PhD programs (left) to departments (right). The width of the flow represents the number of individuals going from one group to another.

Figure 10: % of Department Faculty from Different Tiers of PhD Program, Dpts. 1-26 and 27-52



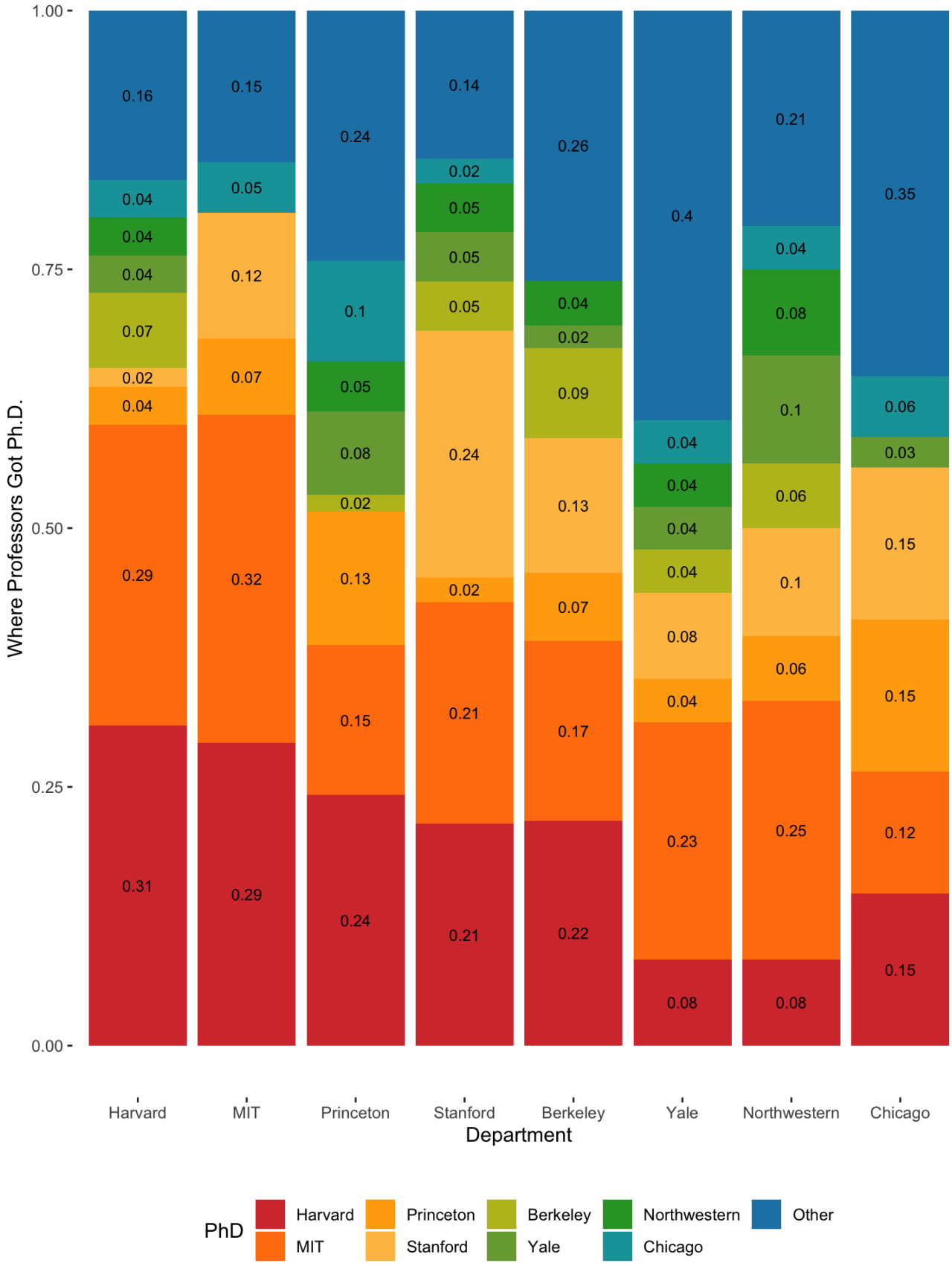
Notes: This figure displays the percentage of a department's faculty that came from groupings of PhD program rankings. Each row is a department, and the colorings of the row represent the percentage of faculty that come from the particular PhD program group. Panel (a) shows department withs IDs 1-26, while Panel (b) shows departments with IDs 27-52.

Figure 11: % of Department Faculty from Different Tiers of PhD Program, Dpts. 53-77 and 78-96



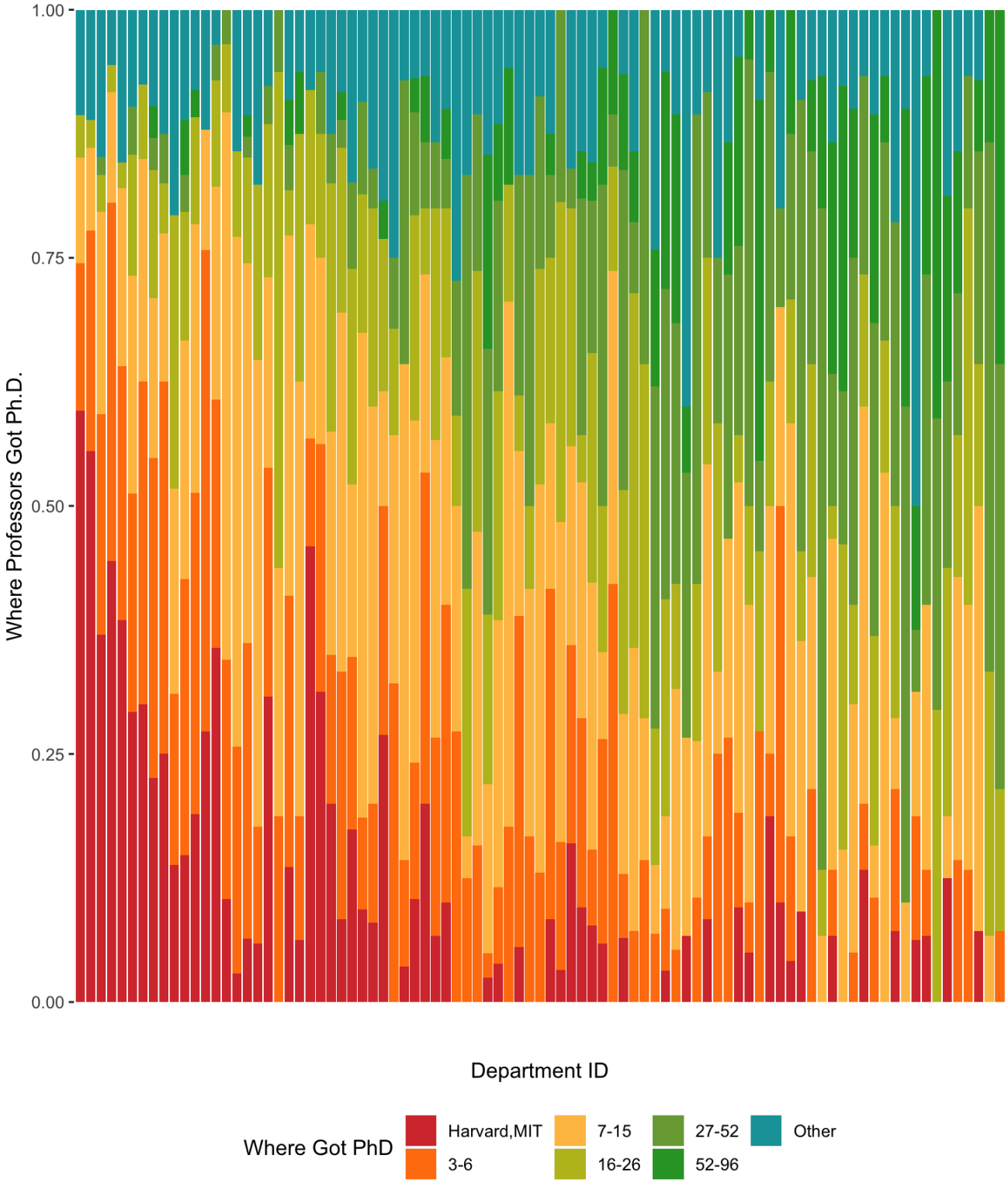
Notes: This figure displays the percentage of a department's faculty that came from groupings of PhD program rankings. Each row is a department, and the colorings of the row represent the percentage of faculty that come from the particular PhD program group. Panel (a) shows department withs IDs 53-77, while Panel (b) shows departments with IDs 78-96.

Figure 12: PhDs of Faculty of Top 8 Departments



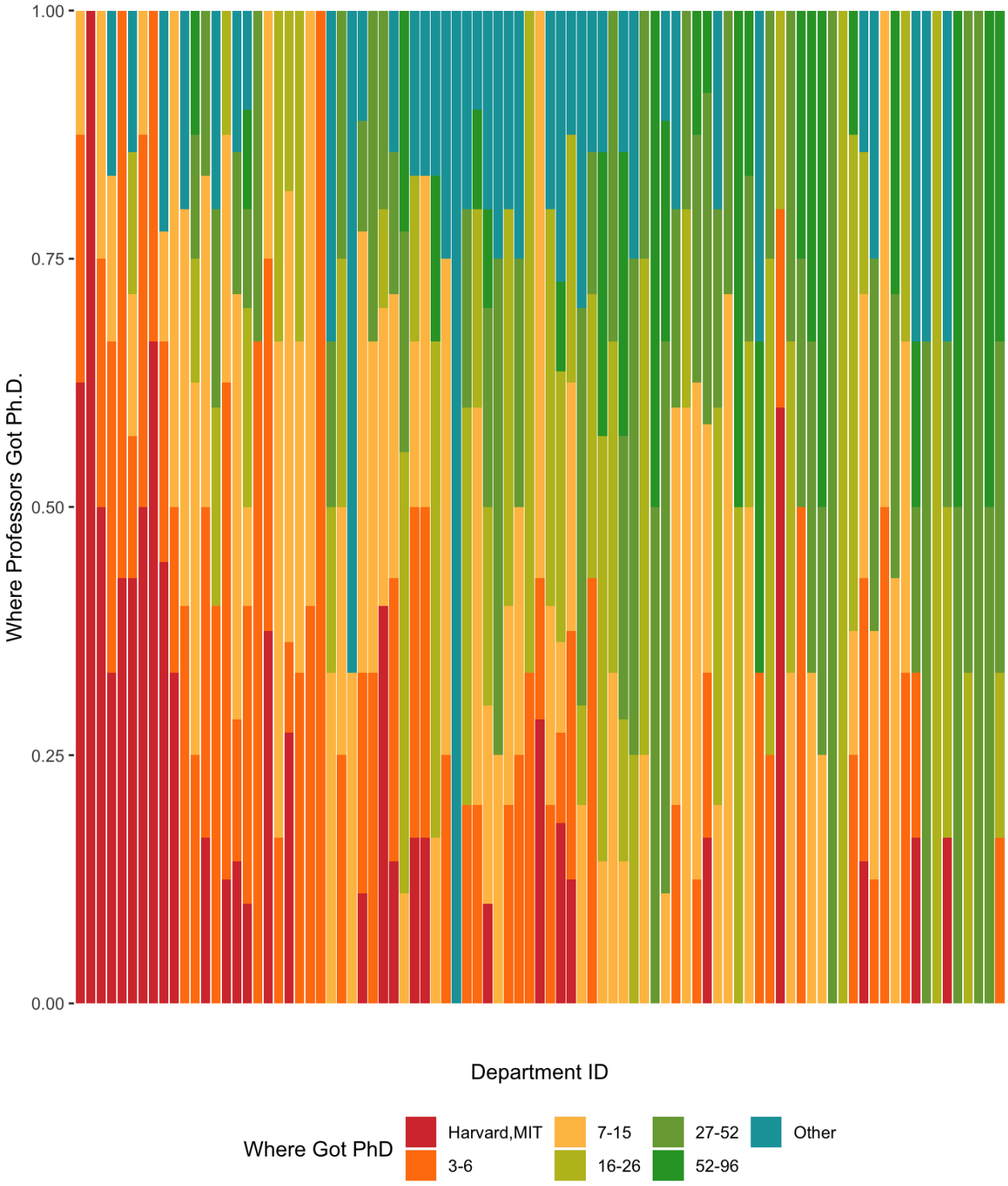
Notes: This figure displays the percentage of a department's faculty that came from groupings of PhD program rankings. Each row is a department, and the colorings of the row represent the percentage of faculty that come from the particular PhD program.

Figure 13: % of Dpt. Faculty from Different Tiers of PhD Program, by Department, Male



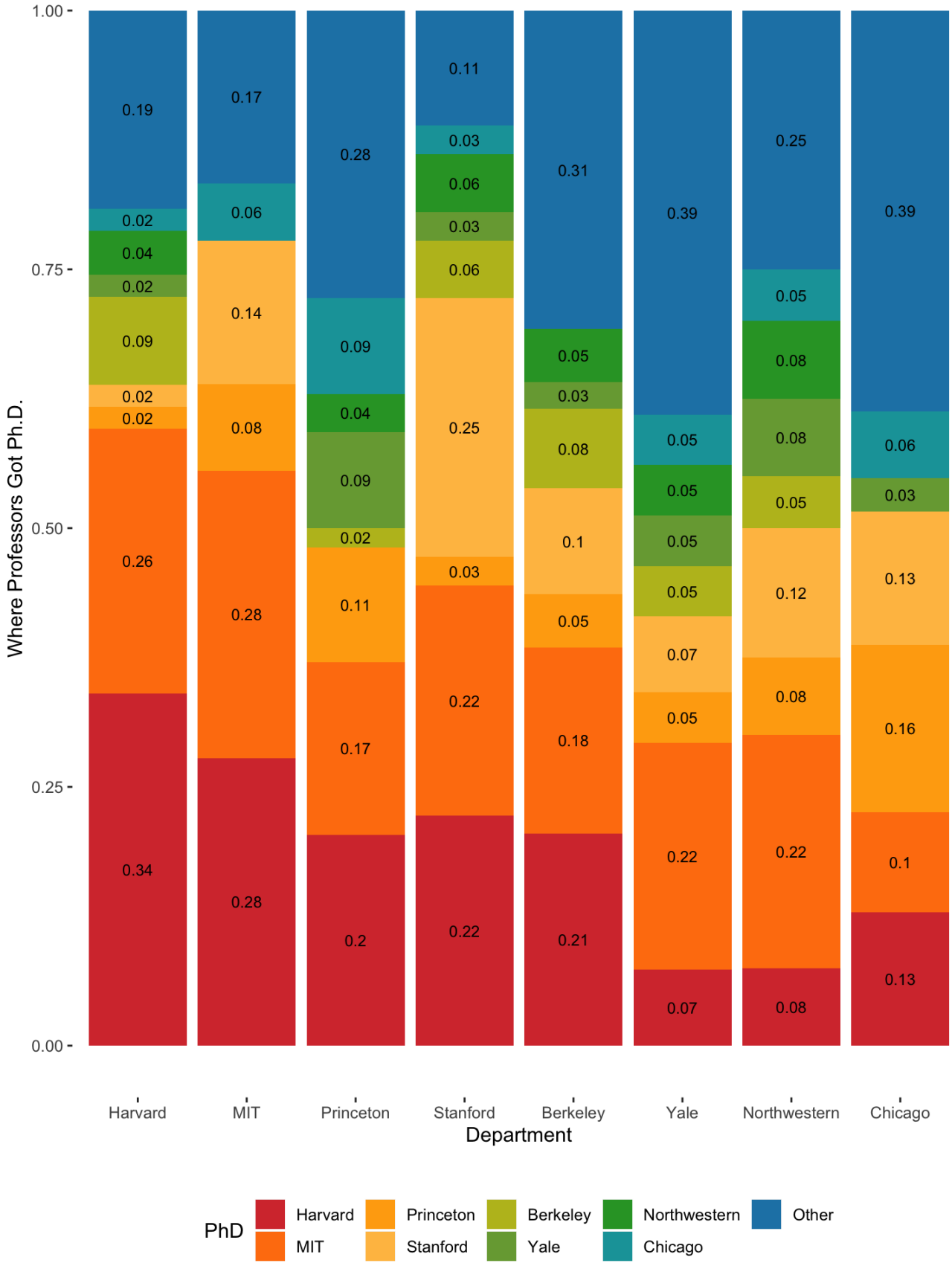
Notes: This bar chart displays the percentage of a department's faculty that came from groupings of PhD program rankings. Each row is a department, and the colorings of the row represent the percentage of faculty that come from the particular PhD program group. Departments are ordered according to ID (see Table 1). The sample is restricted to men.

Figure 14: % of Dpt. Faculty from Different Tiers of PhD Program, by Department, Female



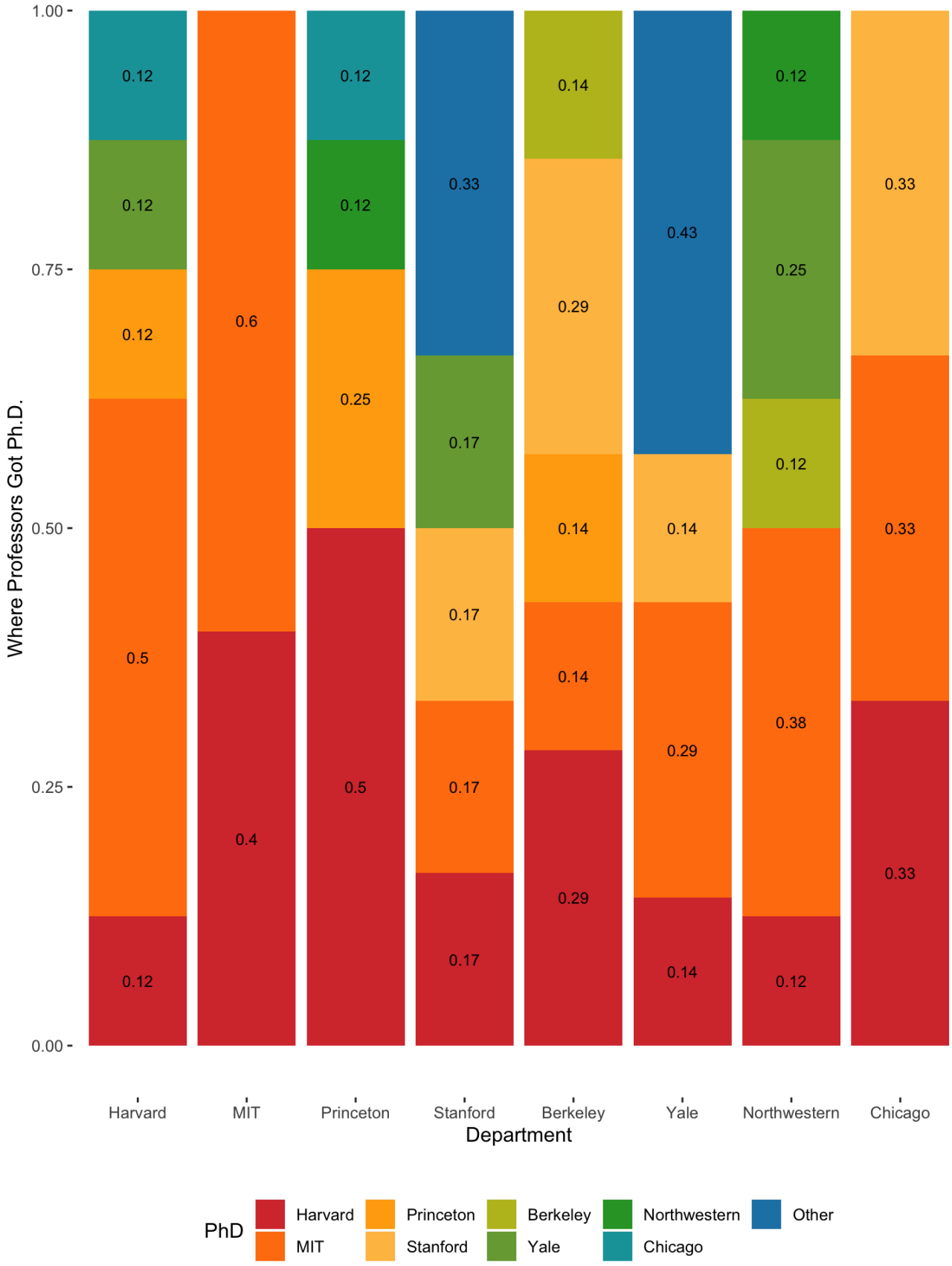
Notes: This bar chart displays the percentage of a department's faculty that came from groupings of PhD program rankings. Each row is a department, and the colorings of the row represent the percentage of faculty that come from the particular PhD program group. Departments are ordered according to ID (see Table 1). The sample is restricted to women.

Figure 15: PhDs of Faculty of Top 8 Departments; Male



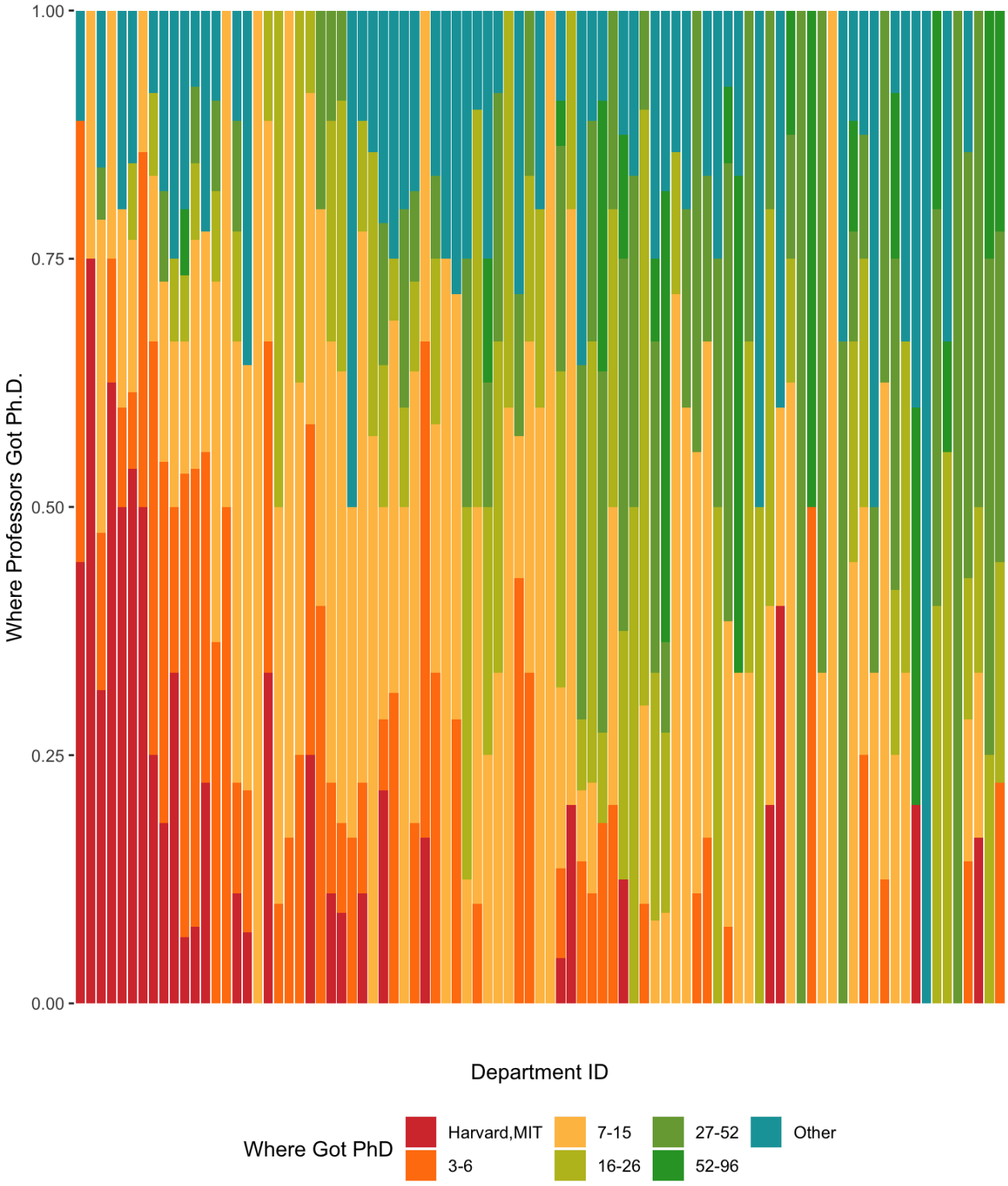
Notes: This figure displays the percentage of a department's faculty that came from groupings of PhD program rankings. Each row is a department, and the colorings of the row represent the percentage of faculty that come from the particular PhD program. The sample is restricted to men.

Figure 16: PhDs of Faculty of Top 8 Departments; Female



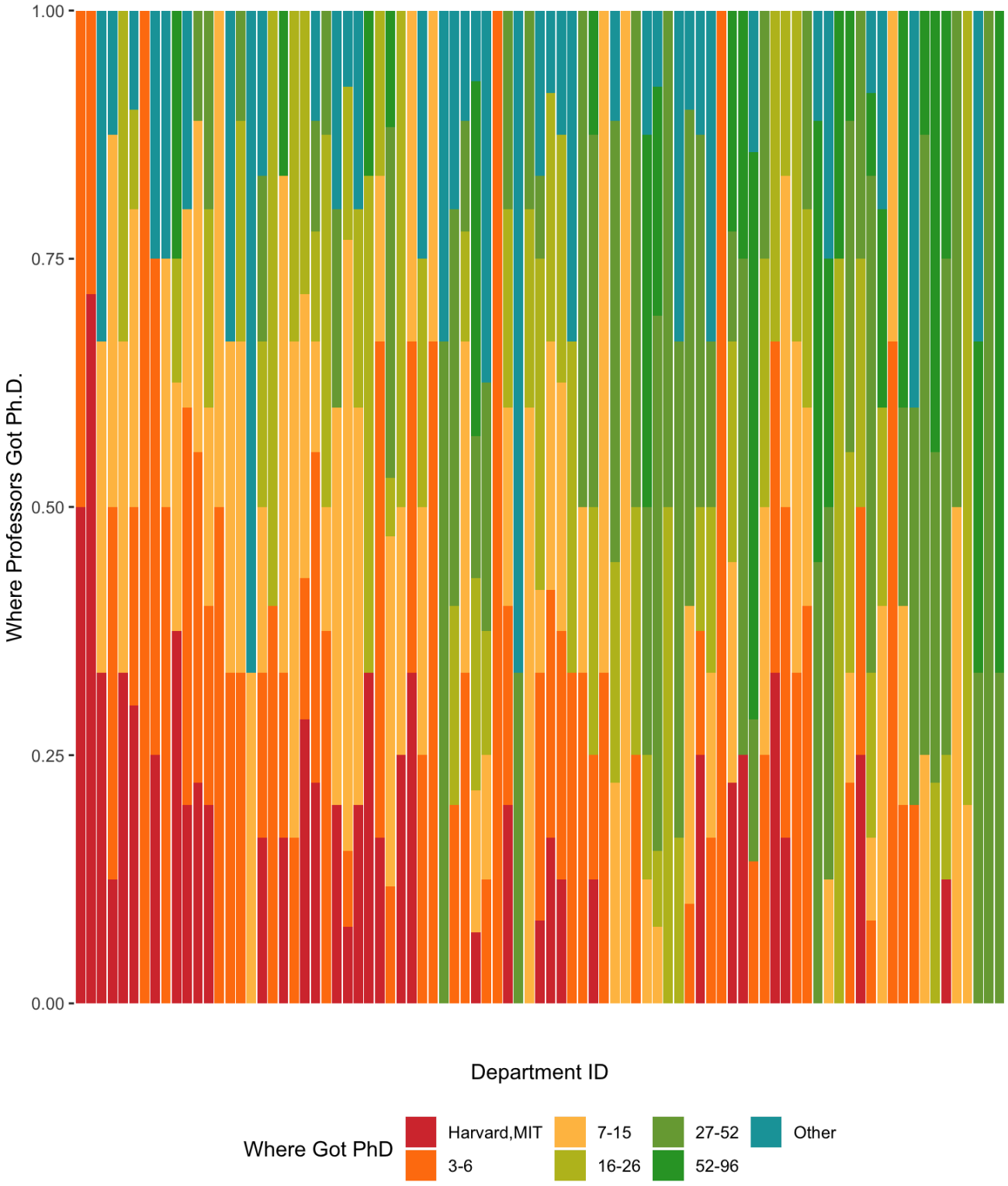
Notes: This figure displays the percentage of a department's faculty that came from groupings of PhD program rankings. Each row is a department, and the colorings of the row represent the percentage of faculty that come from the particular PhD program. The sample is restricted to women.

Figure 17: % of Dpt. Faculty from Different Tiers of PhD Program, by Dpt., Assistant Professors



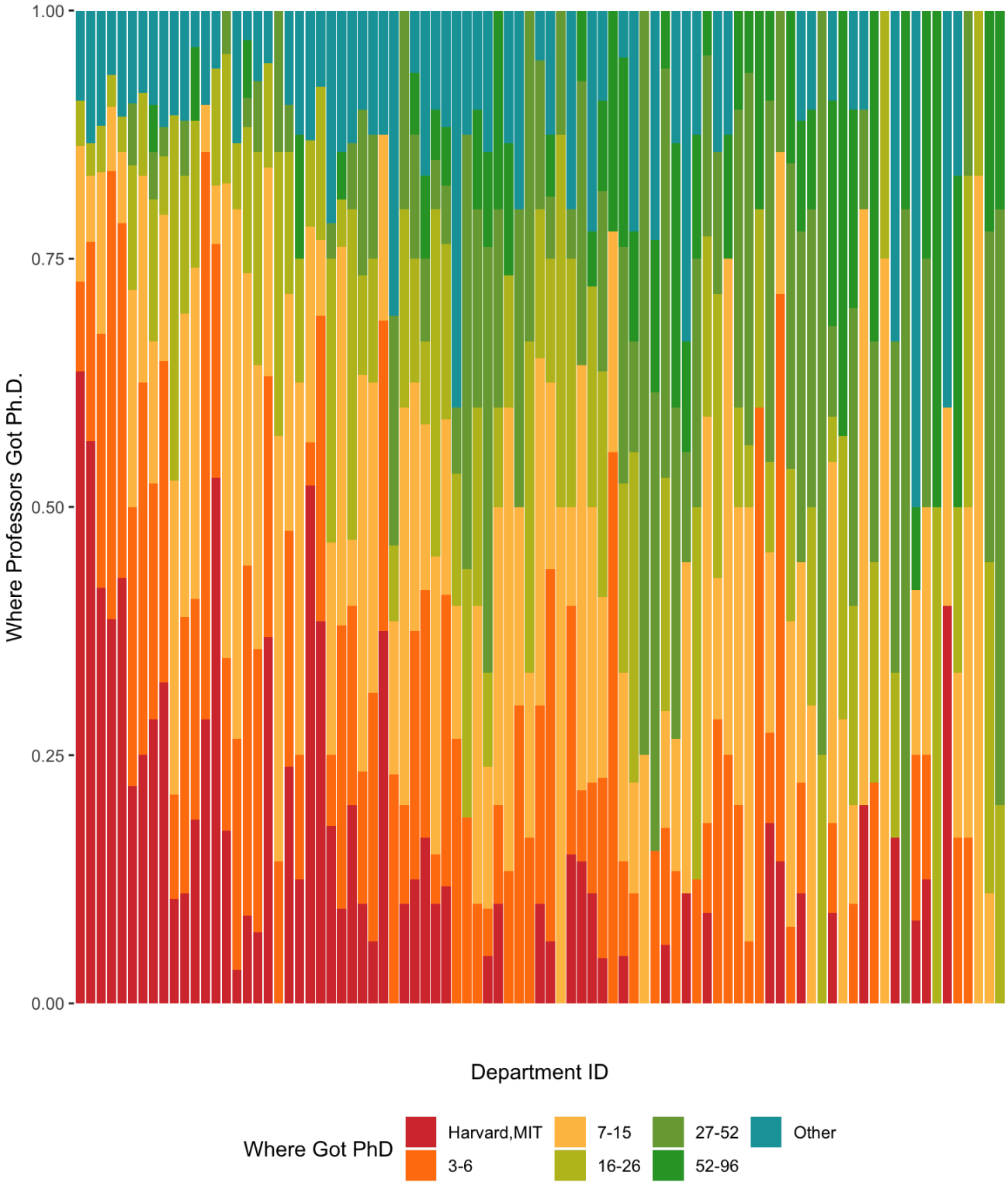
Notes: This bar chart displays the percentage of a department's faculty that came from groupings of PhD program rankings. Each row is a department, and the colorings of the row represent the percentage of faculty that come from the particular PhD program group. Departments are ordered according to ID (see Table 1). The sample is restricted to Assistant Professors.

Figure 18: % of Dpt. Faculty from Different Tiers of PhD Program, by Dpt., Associate Professors



Notes: This bar chart displays the percentage of a department's faculty that came from groupings of PhD program rankings. Each row is a department, and the colorings of the row represent the percentage of faculty that come from the particular PhD program group. Departments are ordered according to ID (see Table 1). The sample is restricted to Associate Professors.

Figure 19: % of Dpt. Faculty from Different Tiers of PhD Program, by Dpt., Full Professors



Notes: This bar chart displays the percentage of a department's faculty that came from groupings of PhD program rankings. Each row is a department, and the colorings of the row represent the percentage of faculty that come from the particular PhD program group. Departments are ordered according to ID (see Table 1). The sample is restricted to Full Professors.

Table 1: Department Rankings, 2017 USNWR

Department	USNWR	ID
Harvard University	1	1
Massachusetts Institute of Technology	1	2
Princeton University	1	3
Stanford University	1	4
University of California–Berkeley	1	5
Yale University	1	6
Northwestern University	7	7
University of Chicago	7	8
Columbia University	9	9
University of Pennsylvania	10	10
New York University	11	11
University of California–Los Angeles	12	12
University of California–San Diego	12	13
University of Michigan–Ann Arbor	12	14
University of Wisconsin–Madison	12	15
Cornell University	16	16
Duke University	16	17
University of Minnesota–Twin Cities	16	18
Brown University	19	19
Carnegie Mellon University	20	20
University of Maryland–College Park	21	21
University of Rochester	21	22
Boston University	23	23
Johns Hopkins University	23	24
Boston College	25	25
Pennsylvania State University–University Park	25	26
University of Texas–Austin	27	27
Washington University in St. Louis	27	28
Michigan State University	29	29
Ohio State University	29	30
University of California–Davis	29	31
University of Illinois–Urbana-Champaign	29	32
University of North Carolina–Chapel Hill	29	33
University of Virginia	29	34
University of Washington	35	35
Vanderbilt University	35	36
University of California–Santa Barbara	37	37
University of Southern California	37	38
Indiana University–Bloomington	39	39
Texas A&M University–College Station	39	40
University of Pittsburgh	39	41
Arizona State University	42	42
Purdue–West Lafayette	42	43
Rice University	42	44
University of Arizona	42	45
University of Iowa	42	46
Rutgers, New Brunswick	47	47
University of California–Irvine	47	48
University of Notre Dame	47	49
Georgetown University	50	50

Department	USNWR	ID
Syracuse University	50	51
University of Colorado–Boulder	50	52
Iowa State University	53	53
University of California–Santa Cruz	53	54
North Carolina State University–Raleigh	55	55
Southern Methodist University	55	56
University of Florida	55	57
University of Georgia	55	58
Florida State University	59	59
Georgia State University	59	60
University of Oregon	59	61
Virginia Tech	59	62
Emory University	63	63
George Washington University	63	64
Stony Brook University–SUNY	63	65
University of California–Riverside	63	66
University of Missouri	63	67
CUNY Graduate School and University Center	68	68
University of Illinois–Chicago	68	69
University of Kentucky	68	70
University of Wyoming	68	71
Binghamton University–SUNY	72	72
Brandeis University	72	73
Clemson University	72	74
Tulane University	72	75
University of Kansas	72	76
University of Tennessee–Knoxville	72	77
George Mason University	78	78
Louisiana State University–Baton Rouge	78	79
University of Connecticut	78	80
University of Houston	78	81
Washington State University	78	82
University of Miami	83	83
University of Nebraska–Lincoln	83	84
University of South Carolina	83	85
University of Texas–Dallas	83	86
University of Utah	83	87
University of Wisconsin–Milwaukee	83	88
West Virginia University	83	89
Claremont Graduate University	90	90
Northeastern University	90	91
Oregon State University	90	92
University at Albany–SUNY	90	93
University at Buffalo–SUNY	90	94
University of Alabama	90	95
University of Oklahoma	90	96

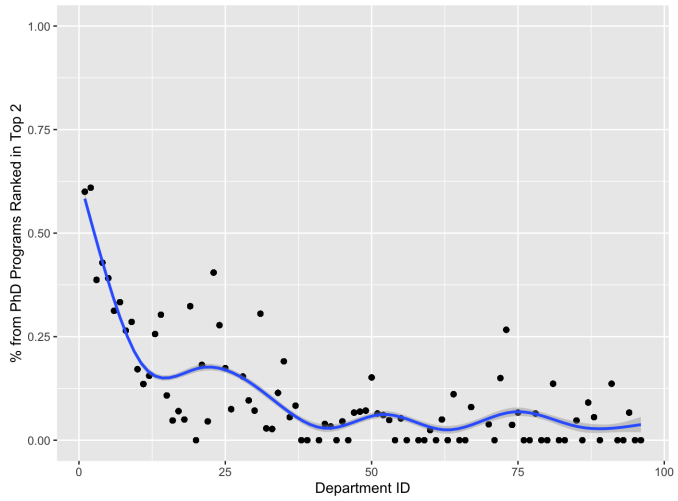
Notes: This table show the 2017 US News & World Report rankings of economics departments. There are many cases in which departments are tied; as such, we create a unique ID in order to distinguish tied schools, which are arranged alphabetically. We exclude following departments from the sample due to missing data: CUNY Graduate School and University Center, University of Illinois–Chicago, Claremont Graduate University, University of Texas–Austin, University of Nebraska–Lincoln, Texas A&M–College Station, and University of Florida.

Table 2: Departments with Highest Concentration of Faculty from PhD Programs

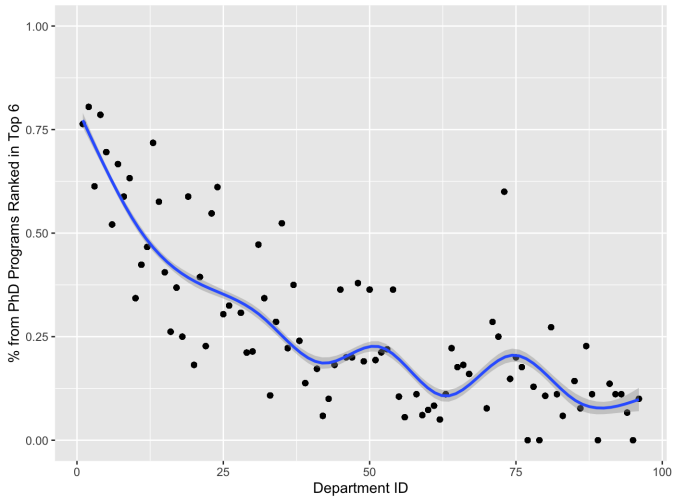
Department	PhD	Percent
Clemson University	University of Chicago	.33
MIT	MIT	.32
Harvard University	Harvard University	.31
Harvard University	MIT	.29
MIT	Harvard University	.29
Boston University	Harvard University	.26
Northwestern University	MIT	.25
Brown University	Harvard University	.24
Princeton University	Harvard University	.24
Stanford University	Stanford University	.24
George Mason University	George Mason University	.23
Yale University	MIT	.23
Johns Hopkins University	Yale University	.22
University of California–Berkeley	Harvard University	.22
University of Michigan–Ann Arbor	Harvard University	.21
Stanford University	MIT	.21
University of Wyoming	University of California–Berkeley	.21
Stanford University	Harvard University	.21
University of Wyoming	University of Wyoming	.21
University of Missouri	University of Missouri	.2
Brandeis University	Yale University	.2
Brandeis University	MIT	.2
University of Wisconsin–Madison	Yale University	.19
University of California–San Diego	University of California–Berkeley	.18
University of Utah	New School	.18
University of Miami	University of Pennsylvania	.18
University of California–Santa Cruz	University of California–Berkeley	.18
University of Miami	University of Chicago	.18
Carnegie Mellon University	University of Minnesota–Twin Cities	.18
University of Rochester	University of Chicago	.18
Columbia University	Harvard University	.18
University of Wisconsin–Milwaukee	University of Michigan–Ann Arbor	.17
University of California–Berkeley	MIT	.17
University of California–Davis	MIT	.17
Cornell University	Northwestern University	.17
Johns Hopkins University	MIT	.17
Columbia University	University of California–Berkeley	.16
Duke University	Northwestern University	.16
University of Wisconsin–Madison	University of Chicago	.16
Syracuse University	Syracuse University	.16
University of California–Los Angeles	University of Chicago	.16
University of California–Los Angeles	Stanford University	.16
University of Texas–Dallas	University of Michigan–Ann Arbor	.15
University of Chicago	Stanford University	.15
Princeton University	MIT	.15
University of California–San Diego	Harvard University	.15
University of Chicago	Harvard University	.15
Binghamton University–SUNY	Harvard University	.15
University of Chicago	Princeton University	.15
University of Kentucky	University of Wisconsin–Madison	.15
Georgetown University	Princeton University	.15
Binghamton University–SUNY	Columbia University	.15

Notes: This table displays the instances where at least 15% of a department's faculty came from a particular PhD program. Departments with less than 10 faculty are excluded.

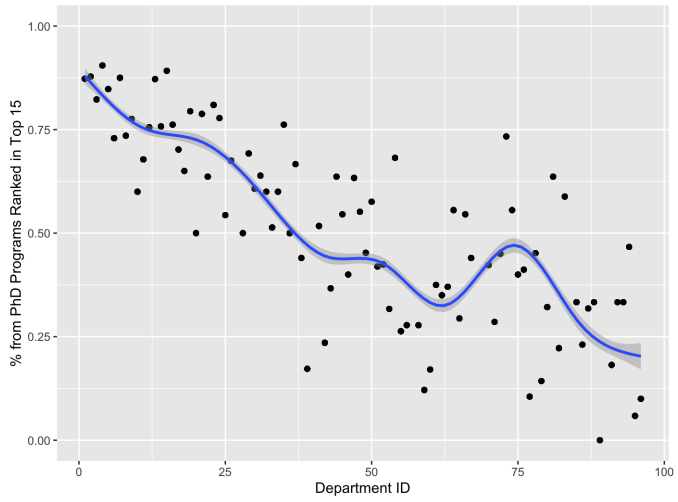
Figure A.1: Percentage of Department Faculty from Top X Ranked Phd Programs, by Department



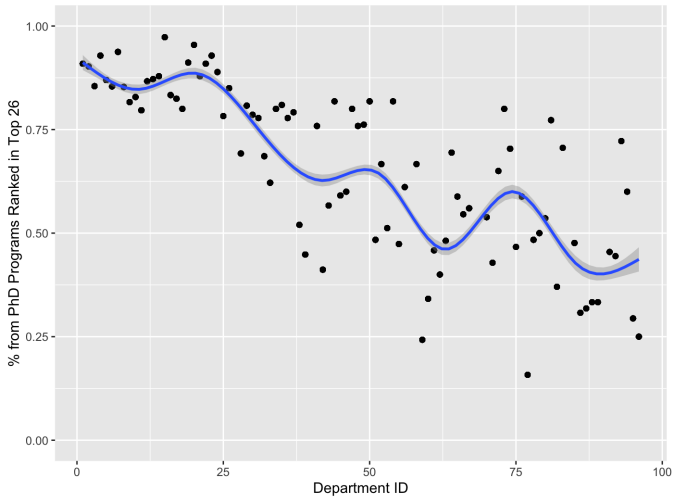
(a) Harvard and MIT



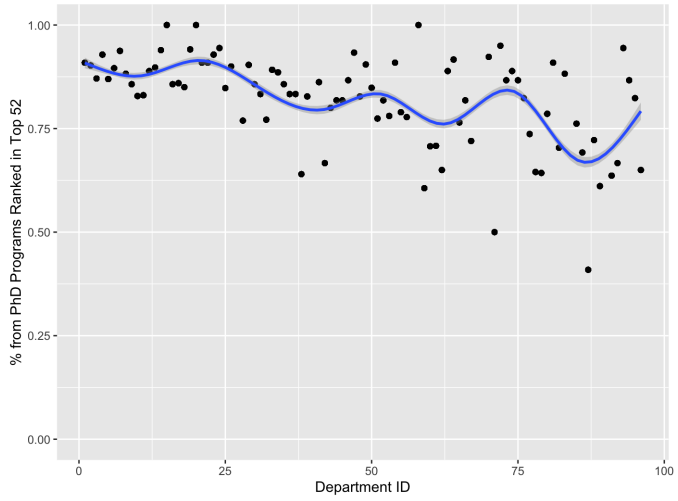
(b) 1-6



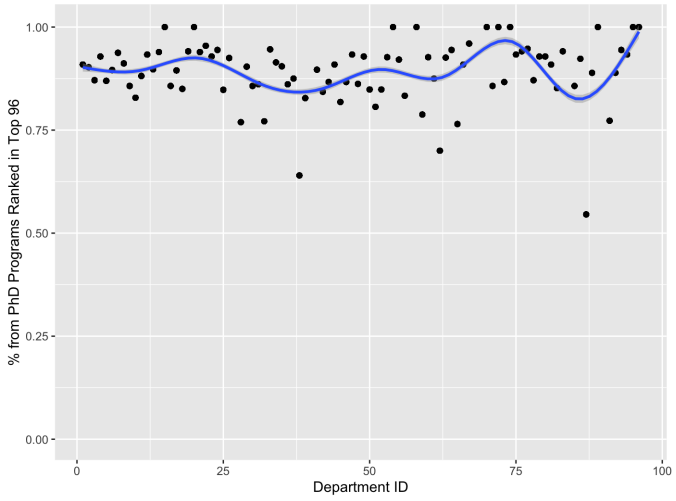
(c) 1-15



(d) 1-26



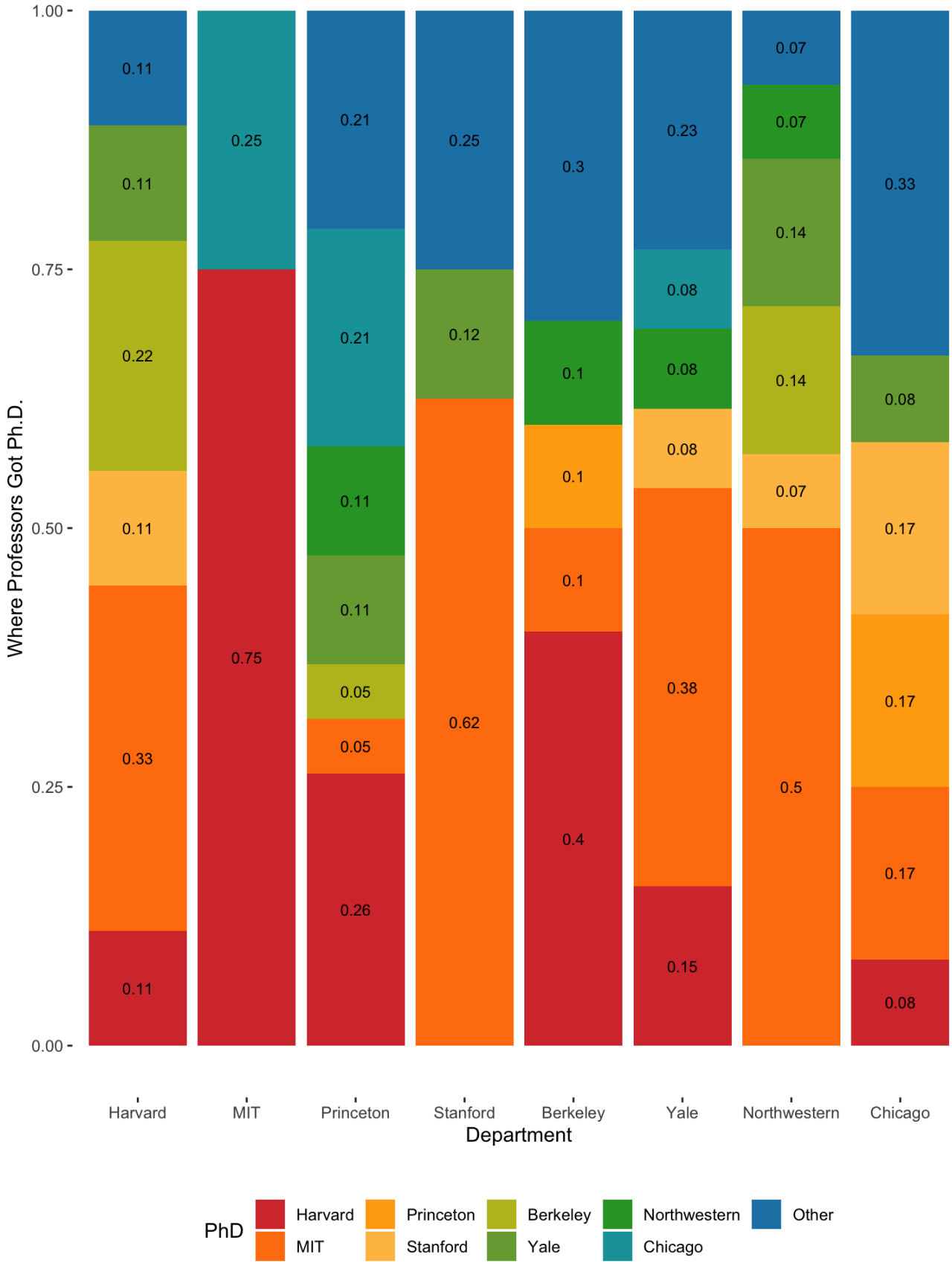
(e) 1-52



(f) 1-96

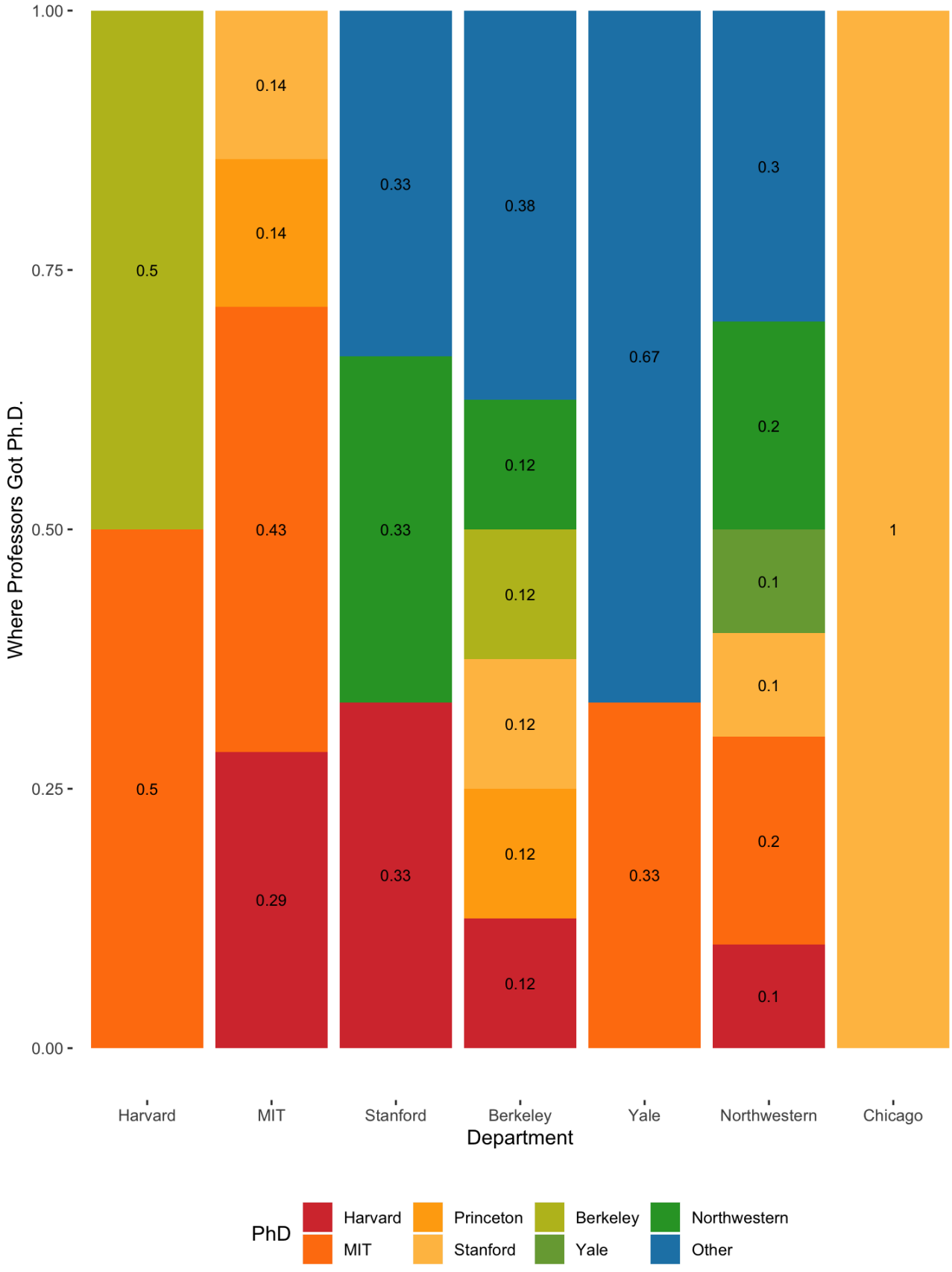
Notes: This graph shows the percentage of a department's faculty from the departments indicated in the Panel title.

Figure A.2: PhDs of Faculty of Top 8 Dpts.; Assistant Professors



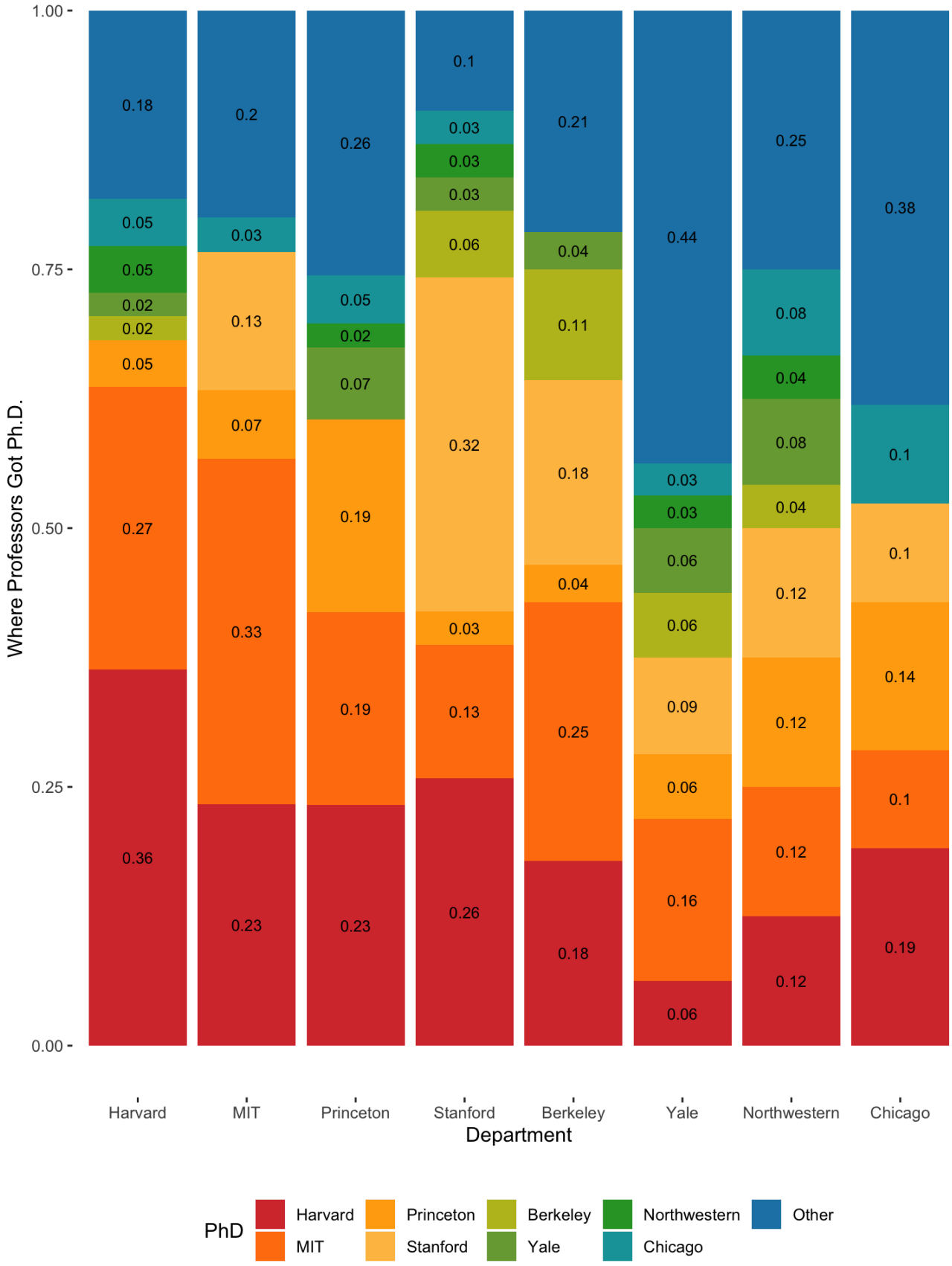
Notes: This figure displays the percentage of a department's faculty that came from groupings of PhD program rankings. Each row is a department, and the colorings of the row represent the percentage of faculty that come from the particular PhD program. The sample is restricted to Assistant Professors.

Figure A.3: PhDs of Faculty of Top 8 Dpts; Associate Professors



Notes: This figure displays the percentage of a department's faculty that came from groupings of PhD program rankings. Each row is a department, and the colorings of the row represent the percentage of faculty that come from the particular PhD program. The sample is restricted to Associate Professors.

Figure A.4: PhDs of Faculty of Top 8 Dpts.; Full Professors



Notes: This figure displays the percentage of a department's faculty that came from groupings of PhD program rankings. Each row is a department, and the colorings of the row represent the percentage of faculty that come from the particular PhD program. The sample is restricted to Full Professors.