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Sorting and Staying: Economics PhDs and Their Hiring and Separation from More Teaching-Oriented Universities

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Sorting and Staying: Economics PhDs and Their Hiring and Separation from More

Teaching-Oriented Universities¹

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Abstract:

Hiring a new economics faculty member is a time-consuming and arduous process, especially for smaller, teaching-oriented programs with limited faculty and budgetary resources. Access to information on graduate programs and candidates that are more likely to yield successful hires allows these programs to allocate scarce resources more efficiently. A dataset of over 650 economics PhD placements at non-economics PhD-granting institutions partially fills this information gap. Results show that new assistant professors in teaching-oriented economics departments tend to be hired from economics PhD-granting institutions with a mean U.S. News and World Report ranking of around 45. In addition, results indicate a positive relationship between the rank of the hiring department and the PhD-granting program. Top-ranked graduate programs in economics send a smaller proportion of their graduates to teaching-oriented institutions, and the average rank of new PhD hires has declined over time. Hires from top PhD-granting programs are more likely to stay at liberal arts colleges and less likely to stay at national universities relative to peers hired at lower-ranked PhD programs.

JEL Code: A11 Key Words: Market for Economists, PhD placements, Small Liberal Arts Schools, and Professor Retention

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Introduction

The process of recruiting new faculty members is time-consuming and difficult and requires significant personnel and budget resources. Given limited resources, avoiding offer rejections while maximizing retention is especially important at teaching-oriented institutions. Access to information that allows economics departments at teaching-oriented institutions to allocate their scarce resources more efficiently and maximize the probability of retention success is therefore desirable. This study's empirical results offer guidelines for economics department in the market for new hires at the assistant professor level to use in recruitment planning and hiring decisions.

Previous research indicates that research-oriented economics departments with a PhD graduate program tend to hire new faculty from graduate programs that are more highly ranked than their own (Jones and Sloan 2022). Although these results are important, most departments recruiting new economics PhD graduates are classified as teaching-oriented institutions. Since teaching-oriented programs generally face greater resource constraints, it is important to determine the types of graduate programs that offer higher probability of successful hires. To provide such information, we investigate past hiring decisions to determine the relationship between rank and type of teaching-oriented institutions and the ranking of economics graduate PhD programs. Since recruitment is most successful when the new faculty member is retained, the study also explores how the rank of the economics PhD graduate program impacts the probability of retention, while controlling for other factors.

We constructed a dataset on over 650 recent hires of economics PhDs at teaching schools (i.e., those without economics PhD programs) from a publicly available dataset of 14,000 economics PhD placements, with additional restricted information provide based on a data

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request.³ We used 2022 U.S. News and World Report rankings to focus our analysis on two types of hiring schools: national liberal arts colleges, which emphasize undergraduate education and award at least half of their degrees in the liberal arts, and national universities, which offer a wide range of undergraduate majors as well as master's and doctoral degrees but not in economics with an emphasis on research. Jones and Sloan (2022) examined hiring among schools with PhD programs in economics, so we excluded those schools from our analysis of national universities. Rankings for economics PhD programs, national liberal arts colleges, and national universities were obtained from U.S. News and World Report data from 2022.⁴

Our results show that economics faculty hired to the liberal arts colleges in our sample tend to come from higher-ranked PhD programs than those hired to national universities. The liberal arts colleges in our sample hired faculty from PhD programs with a mean rank of 36 among economics graduate programs—schools such as the University of Illinois, the University of California at Santa Barbara, and the University of Arizona. National universities hired from departments ranked slightly lower, with a mean rank of 44—schools such as the University of Washington, Notre Dame, and Purdue University.

As expected, the ranking of the hiring school also mattered. The top quartile of hires (in terms of the hiring school) at both liberal arts colleges and national universities was from PhD

³ For ease of exposition, we refer to schools without a PhD program as teaching schools rather than non-PhD school, although many economists at schools without PhD programs do excellent research.

⁴ We refer to National Liberal Arts Colleges and National Universities as liberal arts colleges and national universities unless talking about U.S. News & World Report methodology.

graduate programs with a mean ranking of approximately 20, while those in the bottom quartile were hired from schools with a mean ranking of approximately 60. Limited data were available on hires at schools that U.S. News and World Report classified as either regional universities or regional colleges.⁵ Both of these types of schools hired on average from PhD programs ranked roughly equivalent to the bottom quartile of national universities.

We also measured retention based on if the hire was still at the original hiring institution at the time of data collection and our results suggest retention of hires from top institutions is more of an issue at national universities than liberal arts colleges. For national universities without a PhD program in economics, hires from top ten PhD programs were less likely to stay. On the other hand, liberal arts colleges that hired candidates from PhD programs ranked 11-20 were more likely to retain the person than candidates from PhD programs ranked below 50. Neither the gender of the person hired nor the type of undergraduate school they attended affected the chances of them leaving.

Data and Descriptive Statistics

The data we used on the graduate program of origin, the hiring institution, and the year of hiring were taken from the Mapinator (2020) Project, which includes over 14,000 observations on hires in the economics job market. The dataset was first created by Kim Nguyen in 2020 and later expanded and organized by Amedeus Dsouza and Felipe Grosso (Mapinator 2022). We restricted our sample to U.S. economics PhD programs to facilitate the use of graduate program rankings

⁵ Regional Universities and Regional Colleges will be referred to as regional universities and regional colleges.

from U.S. News and World Report. We also focused on hires at U.S. schools without PhD programs to create a sample of similar schools. The Mapinator Project gathered the data by collecting listings of graduate economics programs' placements on website lists going back to 2008, where available. In addition to looking at liberal arts colleges and national universities, we did a limited amount of analysis of regional colleges and regional universities. Table 1 defines the various types of hiring schools and gives examples of each type.

Information from Mapinator suggests that their data include roughly one-half to twothirds of all hires on the PhD market: 2,000–2,400 hires each year in the 5 years before the COVID-19 pandemic. Data from Job Openings for Economists show about 3,200 job ads per year (Cawley et al. 2022), is consistent with Mapinator's sample inclusion approximations (Mapinator 2022). We also found that the percentage of hires in the data going to teaching schools for assistant professor jobs is relatively consistent but declining among higher-ranked programs. In the Mapinator data, 3%–5% of placements were for assistant professor jobs at U.S.based non-PhD-granting programs. Between 2012 and 2018, roughly 5% of the sample in each year went to teaching jobs (with at least 4.2% in each year). Beginning before the pandemic, the number of those going to teaching-focused jobs has declined slightly in the data. Only 3% of hires went to teaching-based schools in 2019; this percentage fell to 2.7% in 2020 and 2021.

In total, the data contain 780 assistant professor hires at U.S.-based economics programs without a PhD program, of which 84% came from a U.S.-based economics department and 16% were from roughly equal shares of international PhD, business PhD, agriculture or applied economics, and public policy programs. Excluding those without U.S.-based economics degrees left us with a sample of 657 hires.

We only examined hiring institutions that were teaching institutions in the United States, which we defined as those that did not offer a PhD in economics. Further, we only looked at hires at the assistant professor level and attempted to exclude lecturer, visiting assistant, associate, and full professor position hires based on Mapinator data. As part of the data collection on retention, we also eliminated anyone whose curriculum vita (CV) indicated that they were hired as such. It should be noted that the data do not include all hires, and the authors are aware of hires at their own institutions that were not part of the database. Further, if a person graduated from a program or left before obtaining their PhD to work at a school but then went to a second school, the second hire would not be included in the data. In some cases, when the dataset did not have the location of the hiring school, we verified the home country through an internet search.

We grouped the hiring schools using U.S. News and World Report (2022), which ranks schools nationally within two categories: national liberal arts colleges and larger national universities. Mapinator noted 227 hires from U.S.-based economics PhD programs at liberal arts colleges and 291 at national universities as well as 12 at regional colleges and 127 at regional universities. U.S. News and World Report ranks regional schools within their region, but these positional rankings are not comparable across regions, so we performed a more limited analysis of these schools. The 2022 U.S. News and World Report rankings for each national liberal arts college and national university within their category and the ranking of the graduate programs in economics were added to our dataset.

We examined the faculty listed on the institutional websites of hiring departments to see whether the individual hired was still there. For faculty not listed, we also searched for LinkedIn profiles and CVs on personal websites to determine whether the person hired was still at the school.

PhD Hire Rankings by Type of Hiring School

Overall, the non-PhD schools in our sample (i.e., liberal arts colleges, national universities, regional colleges, and regional universities) tended to hire graduates from schools with a mean rank of about 45 (see Table 2). This is a lower mean ranking than that of hires made by schools with PhD programs in economics. (Jones and Sloan 2022). On average, liberal arts colleges hired economics PhDs from higher-ranked programs than did other schools in our study.

National universities without PhD economics programs hired economics PhDs from programs with an average ranking of 44, about 8 places lower than hires made by liberal arts colleges (see Table 2). Regional colleges hired candidates from graduate schools with a mean rank of 52, lower than the liberal arts colleges and national universities in our analysis. Hires at regional universities were lower still, with an average rank of 63.

PhD Hires Rankings by Hiring School Rankings

We examined how the ranking of the hiring school was related to the ranking of the PhDs they hired. We elected to conduct this analysis only for liberal arts colleges and national universities. Only 12 hires among 5 regional colleges were included in the Mapinator database, and even though there were many more hires at regional universities than at regional colleges, the school rankings for the hiring schools were calculated separately within each region. As the number of schools differs across regions (Midwest, North, South and West), a ranking of tenth in one region could not be compared to a ranking of tenth in another.

Our data included more hires by higher-ranked liberal arts colleges than by lower-ranked schools. This could be because these departments are larger or because data are more likely missing for lower ranked schools. More than half of the hires were made by schools ranked 18th or higher among the 151 liberal arts colleges. Therefore, we divided the schools into quartiles based on the number of hires and not on the raw ranking of the hiring schools.⁶

Not surprisingly, the top quartile of hires by liberal arts colleges, those ranked 11 or higher, hired PhDs from the highest-ranked programs, and the ranking of the PhD school of origin declined with the ranking of the hiring school (see Table 3). These top schools hired graduates from schools with a mean ranking of 19 (i.e., top 20 programs). The hires made by liberal arts colleges in the bottom quartile of hirings made fewer hires per school and were spread over a broader range of hiring school rankings. Hires made by the bottom quartile of hires by national liberal arts colleges came from PhD programs ranked from 61 to 151, with a mean rank of 56.

In terms of distribution, the top quartile of liberal arts colleges hired close to two-thirds (63%) of their faculty from top 20 programs, with a relatively even split between top 10 schools and those ranked 11–20. Schools in the middle two quartiles hired a little over one-third, 37% and 34% respectively, from top 20 schools. Even in the bottom quartile, 7% of hires were from top 10 schools, with another 14% from those ranked 11–20.

⁶ One quarter of the hires were made by schools ranked 11 or higher, but two schools tied for 11th place; the 12 schools ranked 1–11 made 96 hires. This is more than a quarter of the number of schools in the group, but due to ties in the rankings, the data become lumpy and the quartiles have differing numbers of hires.

Table 4 presents the results of a similar analysis performed for national universities. Higher-ranked national universities also tended to hire from higher-ranked PhD programs. Schools in this category made 291 hires from economics PhD programs. The range of the rankings of the hiring schools was more spread out than those of the liberal arts colleges. National universities ranked in the top quartile hired a majority (58%) from top 20 programs, but those at the bottom rarely hired from top PhD programs. Those in the second quartile hired just 25% from top 20 programs, and the third quartile hired just 17% from top 20 programs. The bottom quartile had no hires from top 10 institutions and just 11% from top 20 schools.

We divided the total Mapinator sample of U.S.-based economics PhDs in our sample into two roughly equal time periods: prior to 2018 (52% of the sample) and 2018 and later (48% of the sample), though the median date of non-PhD hires was closer to 2016.⁷ As can be seen in Table 5, over time, the mean program rank of hires fell from 31st to 46th at the liberal arts colleges and from 42nd to 46th at national universities. This fall in hires' PhD program ranks occurred across quartiles of hiring school rank. A *t*-test comparison shows statistically significant lower PhD program ranks for all four quartiles of liberal arts colleges.

PhD Program Placement in Teaching Schools by PhD Program Rank

On average, about 5% of candidates since 2018 from top 100 PhD programs have been hired as assistant professors at non-PhD-granting departments, compared to 34% hired as assistant

⁷ The sample of teaching hires is about 50% from before 2016 and 50% after. The results of Table 5 look similar if 2016 rather than 2018 is used as the cutoff.

professors at PhD-granting departments.⁸ Tables 6 shows the aggregate number of placements total and percentage of candidates by placement type and PhD school rank As expected, top-ranked graduate programs (top 14) sent only 2.5% of students to teaching-focused jobs (i.e., national and regional liberal arts schools and national and regional universities without PhD programs in economics). Departments ranked 50–100 sent over 10% of their graduates to these types of jobs.

Separation from Hiring School Data and Econometric Model

We also examined separations (i.e., leaving the school that hired the candidate) from these more teaching-oriented schools. As noted above, this could be because the candidate found a new job or was let go. We attempted to exclude visiting positions using Mapinator data and CVs. We used the full sample of teaching-oriented schools, which included regional universities and colleges as well as national universities without PhD economics programs and liberal arts colleges. We looked at the websites of departments that hired the recipient of the economics PhDs to determine whether the person was still employed there. If no information was found on the university website, we also used LinkedIn and personal websites with CVs to determine the person's current employer and whether they were still employed at the initial hiring school. In a little over 10% of cases (33 of 281 separations), we could not identify a person's next job. Slightly more than a third (36.5%) of those hired at teaching-oriented schools were separated

⁸ PhD schools include placements in the United States or internationally at any school that produced a PhD candidate in the dataset, while teaching schools are only U.S. based if there were no observed PhD candidates.

from their original placement. This share will most certainly increase over time as some of those hired were early in a probationary period before a tenure decision had been made. We have no way of knowing whether the separation was voluntary or involuntary.

We also combined data on the ranking of the economics graduate program the person attended and the type of teaching-oriented hiring school from the Mapinator project data along with the type of undergraduate institution the person hired attended. Table 7 presents descriptive statistics. In our web search, we recorded each person's undergraduate school (BA) and coded it as R1 (Research 1), liberal arts college, national university, or missing. We had predicted that we would find a large number of hires with BAs from small liberal arts schools who had experience with similar school types. However, the most common type of undergraduate school, with 37.1% of the sample, was a Research 1 university, where they may have been exposed to what a graduate (PhD) program in economics was like or worked with researched-focused professors. Almost a third, 31.8%, had earned their bachelor's degree at a liberal arts college. For 10% of the sample, we could not identify the type of school from which the person had received their bachelor's degree .

To determine a hire's gender, we used a database of gender and first names from Genderize.io, a database that has been used in previous works in economics (e.g., Kosnik 2022). Roughly one-third, 32.7%, of hires were determined to have first names that are predominantly female, in line with PhD rates of women in economics (Lundberg and Stearns, 2019). The performance of this tool is quite high, with error rates below 3% (Sabo 2021). For ease of exposition, we will refer to all hires whose names were coded as female as female, but we

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recognize the potential for errors and that for some gender is nonbinary who would be miscoded either way.

We estimated a probit model to predict separation from these teaching-oriented schools. The model predicts the probability of being separated (*Separated* = 1 if the hire is no longer at the university) for individual *i* from PhD-granting school *p* and hired by school *j*. For each individual, we estimated the effects of their gender (Female), the rank of their PhD school (Top10, Top20, Top30, Top40), the type of institution from which they received their BA (LA BA, Foreign BA, R1BA, Miss BA), and the year in which they were hired. All ranking categories are mutually exclusive; we note that Top20 refers only to schools ranked 11-20, while Top30 is 21–30. The main model also controls for the type of hiring institution: liberal arts (LA), national university (NU), or regional University (RU). Finally, we controlled for time with the year of hire (Year), a continuous variable. The model was estimated for all schools in the full sample of all non-PhD schools rather than separately by institution type. (The model was not estimated for regional colleges due to the low number of hires.) Appendix B reports the results of our estimatations of interactions to compare retention by PhD rank between national universities and liberal arts colleges. Appendix B also shows similar results if year fixed effects are included rather than using a continuous variable of the year in which the person was hired.

$$\begin{aligned} Pr(Separated_{iptj}) &= \beta_0 + \beta_1 Female_i + \beta_2 Top 10_{ip} + \beta_3 Top 20_{ip} + \beta_4 Top 20_{ip} \\ &+ \beta_5 Top 30_{ip} + \beta_6 Top 40_{ip} + \beta_7 NLA_{ij} + \beta_8 NU_{ij} + \beta_9 RU_{ij} + \beta_{10} LA BA_i + \beta_{11} Foreign BA_i \\ &+ \beta_{12} R1 BA_i + \beta_{13} Miss BA_i + \beta_{14} Year_t + \epsilon \end{aligned}$$

Results

The key finding from the regression analysis is that hires from top ranked PhDs are more likely to be separated from national universities but less likely to be separated from liberal arts colleges (see Table 8). Hires from top 10 graduate programs were more likely to separate from national universities that lacked a PhD program in economics; it is possible that they had greater research aspirations than they could achieve at these schools. Among liberal arts colleges, hires from graduate programs ranked 11–20 were significantly less likely to leave, and the coefficient was negative, though not significant, for top 10, top 30, and top 40 programs. This suggests that liberal arts colleges were a better match than national universities for candidates from top PhD schools. In Appendix B, we reestimate the model with just the national universities and liberal arts colleges and include interaction terms of liberal arts and PhD school ranking. The interaction of top 10 PhD and liberal arts colleges is negative and statistically significant, consistent with the coefficients when the regressions are estimated separately. The interaction terms provide further evidence of liberal arts colleges having higher retention of top PhD students.

Other individual traits, such as gender and type of BA, did not show associations with separation. As can be seen in the table, the gender of the person hired (proxied by their first name) did not affect their chances of separation across the different types of hiring schools. Once hired, the type of institution a person attended as an undergraduate did not impact the probability of a hire staying at a teaching-oriented school. Not surprisingly, the year in which the person was hired was negatively related to separation: more recent hires, a higher year number, would be pretenure decision. In Appendix B, the model was reestimated with year fixed effects, which did not change the results substantially. One minor change was that top 40 PhD graduates were slightly less likely to be separated than those ranked 50 or lower at national universities.

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Summary and Conclusion

As schools hire economics PhDs, they may wish to know the level of programs at which to concentrate their efforts and offers. The rankings, however, have fallen in recent years. For both types of hiring schools that we examined, schools that are higher ranked within their categories make hires from more highly ranked graduate programs.

From the perspective of graduate programs, we see that teaching-oriented schools are not often a destination for their job market candidates, particularly for candidates from the highest ranked schools. In the Mapinator data, only 5% of candidates, and only 2.5% of candidates from top-tier programs, took a job at a teaching-oriented school. Even graduate programs in the bottom half of the top 100 sent only about 10%–12% of their job market candidates to teaching-oriented schools. Further, since 2018, hires at teaching schools have come from graduate programs that are lower ranked, potentially due to rising competition with private sector hires at Amazon the second leading hirer of PhD Economists behind on the Federal Reserve, and hired roughly 250 Economists between 2019 and 2023 (Wyat 2023).

Finally, we analyzed the relationship between a hire's PhD rank and their chance of separation. We found that hires from top 10 PhD schools were more likely to separate from national universities without a PhD program in economics. This higher degree of separation may have been due to their wishing for a program with a greater research focus: 9 of the 22 separations where we could find their next job went to U.S. schools with PhD programs in economics and 3 more to international programs with PhD programs in economics. This higher rate of separation of hires from top 10 programs was not present for hires at liberal arts colleges, and hires from programs ranked 11–20 were actually more likely to stay. For hiring committees seeking to increase long-term retention at national universities, this information could potentially

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be used to lower the preference for top 10 PhDs at national universities and increase the

preference for hires from schools ranked 11–20 at liberal arts colleges.

Works Cited

- Cawley, J., M. Gentzkow, B. Helppie-McFall, P. Rousseau, and W. Stock. (2022). JOE Job Openings by Sector, 2022 versus the Past 5 Years. American Economic Association Committee on the Job Market. Available online: https://www.aeaweb.org/joe/communications/joe-by-sector-11-2022
- Jones, T.R., and A. Sloan. (2022). The Academic Origins of Economics Faculty. EdWorkingPaper 20-324. Annenberg Institute at Brown University. doi: <u>10.26300/38hc-n034</u>
- Kosnik, L.R. (2022). Who Are the More Dismal Economists? Gender and Language in Academic Economics Research. *AEA Papers and Proceedings* 112, 592–596.
- Lundberg, S, and J. Stearns (2019). "Women in economics: Stalled progress." *Journal of Economic Perspectives* 33.1 (2019): 3-22.
- Mapinator. (2022). Economics Ph.D. Placement Data. Available online: <u>https://sage.microeconomics.ca/dash</u> [Accessed December 13, 2022].
- Sebo, P. (2021). Performance of Gender Detection Tools: A Comparative Study of Name-to-Gender Inference Services. *Journal of the Medical Library Association* 109(3): 414.
- U.S. News & World Report. (2022). U.S. News Best Colleges. Available online: <u>https://www.usnews.com/best-colleges</u>
- Wyat, Theo (2023) Architect of Amazon's economist Army exits. *The Information* https://www.theinformation.com/articles/architect-of-amazons-economist-army-exits [Accessed May 15, 2023].

Table 1:	Types	of Hiring	Schools
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Type of Hiring School	Definition	Examples	
National Liberal Arts College	An emphasis on	Grinnell College	
	undergraduate education; at	Ohio Wesleyan University	
	least half of degrees are	Earlham College	
	awarded in the liberal arts		
National University	Wide range of undergraduate	Dartmouth College	
	majors as well as master's	Marquette University	
	and doctoral degrees with an	The University of Dayton	
	emphasis on research; schools		
	with PhD programs in		
	economics excluded from the		
	study		
Regional College	Emphasis on undergraduate	University of Pittsburgh at	
	education; less than half of	Bradford	
	degrees awarded in the liberal	High Point University	
	arts	Ohio Northern University	
Regional University	Full range of undergraduate	Towson University	
	majors; some master's and a	Butler University	
	few doctoral programs	California State University at	
		Los Angeles	

Notes: School type based on U.S. News & World Report definitions: https://www.usnews.com/education/best-colleges/articles/how-us-news-calculated-the-rankings

	Mean Ranking of	Percentage of Hires	Number of Hires
Type of Hiring	PhD Program Hired	from Non-Economics	from Ranked PhD
School	From	Programs ^a	Economics Program
National Liberal Arts	36.41	11.3%	227
Colleges			
National Universities	43.46	16.7%	291
Regional Colleges	51.58	0.0%	12
Regional Universities	62.74	22.1%	127
All Teaching Schools	44.90	15.8%	657

Table 2. U.S. News & World Report Rank of PhD Program by Type of Hiring School

^a Non-economics programs include public policy, applied or agricultural economics, and business fields.

	Mean Ranking of PhD	Rank of	from Non-	
	Program Hired From	Hiring	Economics	Number
Quartile	[% Top 10 and % Top 11–20]	School	Programs	of Hires
1st ^a	19.37 [31% and 32%]	1–11	5.6%	68
2nd ^b	29.09 [17% and 20%]	13–18	11.5%	46
3rd ^c	43.16 [14% and 20%]	24–55	11.1%	56
4th ^d	56.02 [7% and 14%]	61–151	17.4%	57
All Quartiles	36.41 [14% and 19%]		11.3 %	227

Table 3. PhD Program Rank of Hired Person by Rank of Hiring School: Liberal Arts Colleges Percentage of Hires

Note: Schools that show a range of ranks reflect ties in the rankings (e.g., Duke and Minnesota tied for 18th and were listed as 18–19).

^a Schools ranked around 19 include Duke University (18–19), The University of Minnesota (18–19), and Brown University (20).

^b Schools ranked around 29 include Pennsylvania State University (27–29), University of Rochester (27–29), and University of Virginia (30–33).

^c Schools ranked around 43 include Indiana University (38–46), Texas A&M University (38–46), and University of Southern California (38–46).

^d Schools ranked around 56 include Emory University (53–56), University of California Santa Cruz (53–56), and Iowa State University (57–61).

			rereentuge	
			of Hires	
	Mean Ranking of PhD	Rank of	from Non-	
	Program Hired From	Hiring	Economics	Number of
Quartile	[% Top 10 & % Top 11-20]	School	Programs	Hires
1st	20.81 [38% and 20%]	12–77	11.0 %	74
2nd	40.83 [15% and 10%]	83–151	17.0 %	67
3rd	50.48 [4% and 13%]	166–263	0.163	95
4th	65.00 [0% and 11%]	285–331	0.236	55
All Quartiles	43.90 [12% and 11%]		16.6 %	291

Table 4. PhD Program Rank of Hired Person by Rank of Hiring School: National Universities Percentage

Note: Schools that show a range of ranks reflect ties in the rankings (e.g., Duke and Minnesota tied for 18th and were listed as 18–19).

^a Schools ranked around 21 include Brown University (20), Carnegie-Mellon University (21), and Boston University (22).

^b Schools ranked around 41 include Indiana University (38–46), Texas A&M University (38–46), and University of Southern California (38–46).

^c Schools ranked around 50 include Purdue University, Rutgers University, University of Colorado-Boulder (tied for 49) and Syracuse University (52).

^d Schools ranked around 65 include Southern Methodist University (61–64), Florida State University (65–71), and the University of Houston (65–71).

	Hires 2018–Present		Hires Prior to 20	18	
	Average Rank		Average Rank of		
	of PhD Program		PhD Program		
Hiring School Type	of Hire	Count	of Hire	Count	
National Liberal Arts					
Colleges*	46.33	76	31.42	151	
Top Quartile*	26.71	21	16.09	47	
2nd Quartile*	38.27	15	24.65	31	
3rd Quartile*	51.82	17	39.38	39	
4th Quartile*	65.43	23	49.65	34	
National Universities*	46.48	101	41.86	190	
Top Quartile	20.27	26	21.10	48	
2nd Quartile	42.57	21	40.04	46	
3rd Quartile	55.29	31	48.16	64	
4th Quartile	67.78	23	63.00	32	

Table 5. U.S. News & World Report Rank of PhD Program over Time

Note: Single asterisks (*) indicate a statistically significant difference between pre- and post-2018 hires at the 5% level using a *t*-test.

	Job Market Candidates	PhD	Total at	National			
PhD	in the	School	Teaching	Liberals Art	National	Regional	Regional
Rank	Dataset	Placements	Schools	Colleges	Universities	Universities	Colleges
1–14	1778	38%	2.5%	0.8%	1.3%	0.3%	0.1%
15–30	797	35%	4.8%	2.3%	2.1%	0.3%	0.1%
24–48	457	34%	6.6%	3.1%	2.6%	0.9%	0.0%
49–61	268	20%	11.6%	3.7%	6.0%	1.9%	0.0%
65–74	241	21%	10.8%	1.7%	5.4%	3.3%	0.4%
79–100	219	27%	10.5%	2.3%	4.6%	3.2%	0.5%
Total	3,760	34%	5.1%	1.8%	2.4%	0.9%	0.1%

Table 6. Share of Job Placements in Teaching Schools by Rank of Economics PhD Program,2018–2022

Variable	Definition	Percent
Separated	1 if separated, 0 otherwise	36.5%
Female	1 if name is coded female, 0 otherwise	32.7%
Top10	1 if PhD is from a rank 1–10 institution, 0 otherwise	10.2%
Top20	1 if PhD is from a rank 11–20 institution, 0 otherwise	14.3%
Top30	1 if PhD is from a rank 21–30 institution, 0 otherwise	15.9%
Top40	1 if PhD is from a rank 31–40 institution, 0 otherwise	15.9%
NLA	1 if hired to national liberal arts college, 0 otherwise	32.7%
NU	1 if hired to national university, 0 otherwise	44.6%
RU	1 if hired to regional university, 0 otherwise	20.9%
LAC BA	1 if national liberal arts BA degree, 0 otherwise	13.3%
Foreign BA	1 if foreign BA degree, 0 otherwise	31.8%
R1 BA	1 if BA degree from an R1 university, 0 otherwise	37.1%
Miss BA	1 if missing BA degree information, 0 otherwise	10.5%
Year	Year of hire 2009–2021	2016

 Table 7. Descriptive Statistics Used in Separation Regressions

Note: All variables are binary except year. Comparison categories are male, PhD-granting institution not ranked in the top 40, hired to a regional college, and BA degree from a regional college or university.

	(1)	(2)	(3)	(4)
			National	
			Liberal	
	Full	National	Arts	Regional
Variables	Sample	University	College	Universities
Female	0.01	.048	235	.305
	(.114)	(.18)	(.201)	(.248)
Top10	.253	.568**	291	.436
	(.185)	(.256)	(.312)	(.814)
Top20	239	123	605**	.471
	(.162)	(.252)	(.282)	(.389)
Top30	097	.014	251	328
	(.155)	(.241)	(.258)	(.396)
Top40	215	337	165	013
	(.152)	(.23)	(.278)	(.353)
NLA	08			
	(.148)			
NU	142			
	(.137)			
LAC BA	11	.022	391	.555
	(.249)	(.438)	(.441)	(.519)
Foreign BA	.142	.162	06	.617
	(.218)	(.357)	(.427)	(.407)
R1 BA	.128	.191	.064	.19
	(.216)	(.357)	(.422)	(.416)
Missing BA	336	177	624	.072
	(.263)	(.411)	(.548)	(.518)
Year	077***	083***	081***	106*
	(.018)	(.026)	(.031)	(.057)
Constant	155.84***	166.91***	162.38***	213.09*
	(36.727)	(52.619)	(62.654)	(114.357)
Observations	617	275	202	129
Pseudo R^2	.043	.065	.068	.072

Table 0 Duable Madel	Due dietie ~ (Companyation for	ana Tasahina I	
Table & Probit Model	Predicing S	Separation in	om reaching-	Umenied Schools
	i reareaning a	separation in	om reaching	

Notes: Standard errors are in parentheses. *** p<.01, ** p<.05, * p<.1.

Appendix A

Institution	Graduate Program	Job Market	Total at Teaching	National Liberals Arts	Nation al	Regiona	Regional
		Lanuidates	2	Colleges	2	101117.	Colleges
Harvard University Massachusetts Institute of	1	1/1	3	0	3	0	0
Technology	1	95	3	0	3	0	0
Stanford University	1	119	2	0	1	1	0
Princeton University	4	100	3	2	1	0	0
University of California,							
Berkeley	4	159	3	1	2	0	0
University of Chicago	4	158	2	1	1	0	0
Yale University	4	116	3	2	1	0	0
Northwestern University	8	106	1	0	1	0	0
Columbia University	9	118	0	0	0	0	0
University of	0					0	0
Pennsylvania	9	83	2		1	0	0
New York University	11	91	1	0	0	1	0
Los Angeles (UCLA)	12	103	5	1	3	1	0
University of Michigan	12	136	6	3	2	0	1
California Institute of							
Technology (Caltech)	14	6	0	0	0	0	0
Cornell University	14	77	7	4	1	2	0
University of California, San Diego	14	45	4	0	3	1	0
University of Wisconsin,	11	15		0	5	1	0
Madison	14	95	0	0	0	0	0
Duke University	18	65	2	0	2	0	0
University of Minnesota,	10	0.6		2		0	0
Twin Cities	18	86	3	2	1	0	0
Brown University	20	51	2	1	1	0	0
University	21	32	0	0	0	0	0
Boston University	22	81	5	4	1	0	0
Johns Hopkins University	22	27	0	0	0	0	0
University of Maryland	22	83	6	2	2	1	1
University of Texas at							
Austin	22	48	2	0	2	0	0
University of California,	26	60	А	2	2	0	0
	20	00	4 ~	2	2	0	0
Boston College Pennsylvania State	27	29	5	2	2	1	0
University	27	56	1	1	0	0	0

Table A1 – Job Placements in Teaching Schools for Top 100 Graduate Programs in Economics*

					-	-	
University of Rochester	27	29	1	0	1	0	0
University of North Carolina, Chapel Hill	30	24	1	0	1	0	0
University of Virginia	30	46	4	2	2	0	0
Vanderbilt University	30	41	2	2	0	0	0
Washington University in							
St. Louis	30	39	0	0	0	0	0
University	34	49	5	0	5	0	0
Ohio State University	34	55	4	2	1	1	0
University of California,	0.				-	-	
Santa Barbara	34	26	0	0	0	0	0
University of Illinois at Urbana-Champaign	34	37	3	1	2	0	0
Arizona State University	38	15	0	0	0	0	0
Georgetown University	38	20	0	0	0	0	0
Indiana University	50	27	0	0	0	0	0
Bloomington	38	16	1	0	0	1	0
Rice University	38	17	0	0	0	0	0
Texas A&M University,	20	42	2	1	1	0	0
College Station	38	43	2	1	1	0	0
University of Arizona University of California	38	40	2	0	1	1	0
Irvine	38	25	2	2	0	0	0
University of Pittsburgh	38	20	3	2	1	0	0
University of Southern			_	_			_
California	38	37	2	0	1	1	0
University of Washington	47	32	3	3	0	0	0
Dame	48	16	3	3	0	0	0
Purdue University	49	35	4	1	3	0	0
Rutgers, The State							
University of New Jersey	49	20	3	2	1	0	0
Boulder	49	17	3	2	0	1	0
Syracuse University	52	17	5	1	2	2	0
Emory University	53	1	0	0	0	0	0
Stony Brook University						-	
(SUNY)	53	13	0	0	0	0	0
University of California, Santa Cruz	53	21	0	0	0	0	0
University of Iowa	53	8	0	0	0	0	0
Iowa State University	57	27	0	0	0	0	0
University of California,	51	<i>21</i>		0	0		0
Riverside	57	17	3	2	1	0	0
University of Florida	57	2	0	0	0	0	0
University of Oregon	57	22	2	0	1	1	0
City University of New	<i>c</i> 1	1.4	2	0	2	0	0
1 Ork Graduate Center	01	14	2	U	2	U	U

George Washington	61	22	2	1	n	0	0
North Carolina State	01		5	1	2	0	0
University	61	26	5	1	4	0	0
Southern Methodist							
University	61	6	1	0	0	1	0
Brandeis University	65	1	0	0	0	0	0
Florida State University	65	19	4	0	2	1	1
Georgia State University	65	27	3	0	0	3	0
University of Georgia	65	13	1	0	0	1	0
University of Houston	65	18	1	0	1	0	0
Virginia Tech	65	18	2	0	2	0	0
Claremont Graduate							
University	71	8	1	0	1	0	0
Georgia Institute of	71	10	2	1	1	0	0
University of Coursesting	71	10	2	0	1	1	0
University of Connecticut	/1	26	2	0	1	1	0
Clemson University	/4	36	4	0	2	2	0
George Mason University	74	24	4	1	3	0	0
RAND Corporation	74	4	0	0	0	0	0
Chicago	74	24	0	0	0	0	0
University of Kentucky	74	13	2	2	0	0	0
Binghamton University	/4	15	2	2	0	0	0
(SUNY)	79	14	1	1	0	0	0
Tulane University	79	7	1	0	1	0	0
University at Albany							
(SUNY)	79	5	0	0	0	0	0
University of Kansas	79	16	4	1	3	0	0
University of Massachusetts Amhorst	70	7	1	1	0	0	0
University of Missouri	19	/	1	1	0	0	0
Columbia	79	14	0	0	0	0	0
University of Oklahoma	79	11	1	0	0	0	1
University of Tennessee,							
Knoxville	79	13	2	0	1	1	0
University of Wisconsin,	70	3	0	0	0	0	0
Amorican University	00	22	0	0	0	0	0
Indiana University	00	25	0	0	0	0	0
Purdue University	88	1	0	0	0	0	0
Louisiana State							
University	88	13	2	0	1	1	0
Northeastern University	88	10	0	0	0	0	0
Temple University	88	8	2	0	2	0	0
University of Alabama	88	12	2	0	1	1	0
University of Delaware	88	4	0	0	0	0	0
University of Miami	88	3	0	0	0	0	0

University of Texas at	0.0	0	2	0			0
Dallas	88	8	3	0	1	2	0
University of Utah	88	6	0	0	0	0	0
Washington State							
University	88	41	4	2	0	2	0

Notes: Data are from 2018 onward to reflect recent trends.

Appendix D. Regies	ssions with intera	action of Sche	of Type and I		
	(1)	(2)	(3)	(4)	(5)
		Full	NU	LA	RU
	Full	Sample	Sample	Sample	Sample
X 7 · 11	Sample	Year Fixed	Year Fixed	Year Fixed	Year Fixed
Variable	Interactions	Effects	Effects	Effects	Effects
Female	079	013	029	334	.268
	(.134)	(.116)	(.187)	(.214)	(.274)
Top10	.549**	.323*	.705**	453	1.184
	(.254)	(.191)	(.277)	(.334)	(1.1)
Top10 * NLA	831**				
T 2 0	(.382)	207*	106		(70)
Top20	124	287*	186	647/**	.673
	(.25)	(.165)	(.26)	(.292)	(.424)
Top20 * NLA	485				
Τ 20	(.37)	007	000	261	570
Top30	.02	08/	008	361	579
T 20 * NI A	(.238)	(.16)	(.256)	(.28)	(.435)
10p30 * NLA	266				
Τ 40	(.338)	222	4 4 4 *	215	407
10p40	344	233	444*	215	.427
	(.228)	(.156)	(.239)	(.303)	(.414)
T0p40*INLA	.137				
NTL A	(.538)	011			
NLA	.294	(152)			
ΙΛΡΛ	(.102)	(.132)	036	106	271
LADA	211	(25)	.030	190	.571
Eoroign PA	(.302)	(.23)	(.449)	(.440)	(.30) 800*
Poleigii DA	(272)	(22)	.178	.111	(447)
R1 RA	(.272)	(.22)	(.304)	(.430)	(.447)
KI DA	(27)	(217)	(36)	(437)	(455)
Miss BA	- 327	- 377	- 256	- 668	(.455)
	(324)	(265)	(414)	(585)	(54)
Vear	- 082***	(.203)	(.+1+)	(.565)	(.34)
1 cui	(02)				
NU	(.02)	- 082			
110		(.14)			
Year 2009		.467	1.197*	336	
		(.419)	(.619)	(.696)	
2010		.48	1.098*	.168	237
		(.441)	(.629)	(.798)	(1.459)
2012		.072	.746	377	× · · · · /
		(.411)	(.591)	(.677)	
2013		332	255	518	-1.15
		(.407)	(.641)	(.652)	(1.366)

Appendix B: Regressions with Interaction of School Type and PhD Rank

2014		.222	.214	.01	.909
		(.399)	(.607)	(.619)	(1.467)
2015		.14	.572	577	.214
		(.376)	(.575)	(.636)	(1.292)
2016		.074	.595	999*	.228
		(.352)	(.51)	(.601)	(1.275)
2017		.028	.563	63	029
		(.361)	(.529)	(.609)	(1.282)
2018		.086	.372	147	16
		(.363)	(.536)	(.592)	(1.285)
2019		426	.042	-1.068*	875
		(.374)	(.545)	(.61)	(1.341)
2020		72*	19	-1.327**	
		(.398)	(.563)	(.653)	
2021		781*	613	-1.157*	
		(.418)	(.637)	(.662)	
Constant	165.251***	252	862	.653	777
	(40.04)	(.399)	(.569)	(.672)	(1.326)
Observations	477	617	275	202	116
Pseudo R ²	.063	.065	.106	.11	.113
I			0.1		

Notes: Standard errors are in parentheses. *** p<.01, ** p<.05, * p<.1.