Doctoral Origins of Economics Faculty and Dissertation Advisors, 1992-2019

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Currently 132 U.S. universities grant doctoral degrees in economics. These institutions have a dominant influence on the economic profession, not only performing an outsized portion of cutting edge research, but also training the next generation of economists. Yet not all doctoral institutions have equal influence. Institutions differ markedly not only in their research and doctoral productivity, but in their placement of graduates in doctoral institutions, and hence their influence on the training of the next generation of economists. Earlier research by Pieper and Willis (1999) found that a small number of schools trained a large fraction of the 1991-92 economics faculty at Ph.D. granting institutions. For instance, just 10 schools trained nearly half of all economics faculty at Ph.D. granting institutions. In the intervening 27 years, the composition of faculty has changed due to faculty retirements, departures and the hiring of new faculty. Approximately 60% of the current faculty at Ph.D. granting institutions received their doctoral degree after 1992, the date used in the Pieper and Willis study. Overall Ph.D. production in economics has increased, especially outside of the top tier schools, and this potentially could have changed the doctoral backgrounds of the current doctoral faculty. This paper will therefore document the doctoral backgrounds of the 2018-19 economics faculty and compare with the faculty composition 27 years earlier. This paper will go further and decompose schools into five quality tiers, and examine the doctoral backgrounds of each tier. We find a striking pattern of schools hiring only from the same or a higher quality tier. Thus the doctoral origins of faculty backgrounds are even more concentrated when decomposed by tier.

I. Ph.D. Production

Table 1 shows Ph.D. production in economics by five degree-granting quality tiers. Following the Commission of Graduate Education in Economics (COGEE), we divide doctoral schools in economics into five quality tiers, consisting of schools ranked 1-6, 7-15, 16-30, 31-48 and the remaining 84 schools (Hansen 1991). COGEE's quality tiers are in turn based on a 1982 reputational survey by the National Research Council. Tier 5 is the largest and most heterogeneous group, containing over half of all doctoral schools in economics. Total Economics Ph.D. production at U.S. schools increased by about one-third between 1989-93 and 2013-17. While production increased in all tiers, it increased the most at tier 5 schools, both due to the introduction of new Ph.D. programs and the expansion of existing programs. The fraction of Ph.D.s awarded by tier 5 schools increased by 3.7 percentage points, matching nearly exactly a reduction in the relative contributions of tier one and tier two schools.

Table 1. Economics Ph.D. Production by Quality Tier

	2013-17		1989-93		1964-1968	
Tier	Number	Percentage	Number	Percentage	Number	Percentage
1	149.6	12.5	136.6	15.4	122	17.2
2	196.2	16.4	156.4	17.6	172.6	24.3
3	194.4	16.3	143.2	16.1	120.2	16.9
4	198.4	16.6	146.4	16.5	124.4	17.5
5	454.2	38.1	305	34.4	170.6	24.0
Total	1192.8	100.0	887.6	100.0	709.8	100.0

The expansion of Ph.D. production at tier 5 schools is part of a longer run trend. The top 15 schools produced similar numbers of Ph.D.s fifty years ago, while overall Ph.D. production has increased by 80 percent. Their relative production has therefore declined. Most of the increased Ph.D. production can be accounted for by tier 5 schools.

II. Faculty Doctoral Origins

We identified 132 U.S. schools offering doctoral degrees in economics or in a close substitute such as applied economics. We excluded schools offering degrees in agricultural economics or in specialized areas of economics, such as natural resource economics or financial economics. We also excluded schools offering business or public policy degree with areas of concentration in economics. We identified the faculty in the economics departments holding positions at the rank of assistant, associate and full professor. We did not include economists at Ph.D. granting institutions holding positions in non-economics departments, such as in business or public health. Altogether there are a total of 3,334 economics faculty who meet our criteria in 1993 and 3,843 in 2018. Nearly all departmental websites have faculty biographical information which allows us to identify where the faculty member earned their doctorate.

Table 2 lists the doctoral origins of economics faculty at Ph.D. granting institutions (hereafter referred to as simply "economics faculty"). The six schools comprising tier one account for 27.5% of the doctorates of all economics faculty. Column four shows a weighted average of past Ph.D. production, with the weights reflecting the years at which the faculty Ph.D. degrees were conferred. Tier one schools produce about 15% of all economics doctorates but account for 27.5% of economics faculty. Their graduates' success in obtaining faculty positions is thus about twice what would be expected from their numbers. As might be expected, the ratio of faculty placements to Ph.D. production falls monotonically with quality tier. Graduates from tier 3 schools find positions roughly in proportion to the number of their graduates, while tier 5 graduates obtain positions at only about the one-fifth the rate as tier 1 graduates.

Table 2. Doctoral Origins of Economics Faculty by Degree-Granting Quality Tier

(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Faculty Percentage		Ph.D. Percentage		(2) / (4)	(3) / (5)
Tier	2019	1992	2019	1992	2019	1992
1	27.5	31.2	14.9	16.3	1.84	1.92
2	24.9	27.1	17.6	20	1.41	1.35
3	16.8	16.8	16.5	16.3	1.02	1.03
4	10.1	9.7	15.9	15.8	0.63	0.61
5	13.5	10.8	35.1	31.5	0.39	0.34
Foreign	7.3	4.5				
Total	100.0	100.0	100	100	1.00	1.00

The share of economics faculty with doctoral degrees from tier 1 and tier 2 schools fell from 58 to 52 percent between 1993 and 2019. However this fall reflects mainly a relative reduction in Ph.D. production at these schools. The ratio of faculty doctoral origins to a weighted average of past Ph.D. production, where the weights reflect the age distribution of faculty, was virtually unchanged between

1993 and 2019. On the other hand, the large increase in Ph.D. production at tier 5 schools resulted in an absolute increase in faculty positons. An increasing number of economics faculty received their degrees from foreign schools, although the absolute percentage, 7.3, is still small. Thus the Ph.D. production process at U.S. schools is still largely a closed system.

The aggregate faculty shares hide major differences across school quality tiers. Table 3 shows that schools rarely employ graduates from a lower quality tier. Seventy-three percent of all tier one faculty in 1992 earned their doctoral degrees from the same set of six schools. A strong propensity to hire from either the same or a higher quality tier exists for all five tiers. For instance, if one excludes foreign schools, only six percent of tier 3 and tier 4 faculty earned their degrees at a lower tier. As a result, tier five graduates are employed nearly exclusively (88.5%) by other tier 5 schools. Only 9 of the 617 faculty members at the top 15 schools have degrees from a tier 4 or tier 5 school.

Table 3. 1992 Economics Faculty Doctoral Origins by School Quality Tier, Percentage of Total

Employing	Doctoral Tier							
Tier	1	2	3	4	5	Foreign	Total	N
1	72.7	17.6	2.9	0.4	0.4	6.1	100.0	249
2	55.6	27.3	11.8	1.1	0.8	3.3	100.0	368
3	39.8	32.8	15.7	3.6	2.3	5.7	100.0	473
4	32.5	31.8	15.4	9.2	4.9	6.2	100.0	535
5	17.3	25.3	20.5	14.7	18.6	3.6	100.0	1718
Total	31.2	27.1	16.8	9.7	10.8	4.5	100.0	3343

The doctoral origins of the 2018 economics faculty is still highly segmented by quality tier, with only slight increases in the propensity to hire graduate from lower quality schools. For example, tier one graduates comprise 66% of tier one faculty in 2018, compared to 73% in 1993. Likewise, 7.6% of the 2018 tier 4 faculty have tier 5 degrees, compared to 4.9% in 1992. The share of faculty with foreign degrees has increased at all five quality tiers. Still, these changes are very small, and the overall pattern is still one of hiring from within or from a higher quality tier.

Table 4. 2019 Economics Faculty Doctoral Origins by School Quality Tier, Percentage of Total

Employing	Doctoral Tier							
Tier	1	2	3	4	5	Foreign	Total	N
1	66.2	15.2	6.1	1.7	0.7	10.1	100.0	296
2	47.6	30.5	9.9	2.2	1.4	8.4	100.0	416
3	36.1	32.5	17.6	3.6	3.6	6.6	100.0	590
4	22.5	30.4	15.9	14.5	7.6	9.2	100.0	622
5	16.3	21.1	19.9	13.6	23.0	6.2	100.0	1954
Total	27.0	24.6	16.8	10.4	14.0	7.2	100.0	3878

A person's doctoral advisor arguably has the greatest influence on his economics training. The doctoral origins of thesis advisors therefore can show the influence of doctoral programs on the training of the next generation of economists. We collected information on the doctoral chairpersons of 896 Ph.D. candidates on the 2018-19 job market. Co-chairs were each given a half-weight in the tabulation

of doctoral origins. Table 5 shows the faculty origins of the dissertation advisors. The doctoral origins of dissertation advisors are very similar to the background for economics faculty in Table 4 for a given quality tier. However the total share of advisors with tier one degrees is much higher than the total share of faculty at Ph.D. schools with tier one degrees, 37% to 27%. This is because the two top tier schools produce a disproportionate share of doctoral degrees, and tier one faculty are highly concentrated in these tiers. The top two tiers account for 30% of the job market candidates but only 18% of the faculty at Ph.D. schools. The percentage of advisors with tier two degrees is about equal to the percentage of faculty with tier two degrees, while lower quality tiers are underrepresented among advisors in comparison with their representation among faculty.

Table 5. Doctoral Origins of 2019 Economics Dissertation Advisors by School Quality Tier, Percentage of Total.

Candidate's	Advisor'Tier							
Tier	1	2	3	4	5	Foreign	Total	N
1	66.5	13.2	3.3	1.7	0.4	14.9	100.0	121
2	55.7	31.0	3.0	1.0	0.0	9.3	100.0	150
3	38.1	34.4	16.4	4.0	1.3	5.7	100.0	149.5
4	33.0	28.4	15.6	7.4	2.1	13.5	100.0	141
5	19.9	19.0	20.5	13.3	22.6	4.8	100.0	332
Total	37.3	24.4	13.7	7.1	9.0	8.4	100.0	896.5

Pieper and Willis (1993) calculated the doctoral origins of economics dissertation advisors at 43 schools. Since their sample was weighted heavily towards higher quality schools, their aggregate results are not directly comparable to the results in Table 5. However some indication of changes over time can be gained by viewing the results within a quality tier. Doctoral advisors with tier one degrees were more prevalent in 1992 than in 2018, especially among tier one Ph.D. candidates. Over half of the job market candidates in the 1992 sample had advisors with tier one degrees, compared to 37% in 2018. However this is partly due to the smaller number of job market candidates from tier 5 schools in the 1992 sample. If the 1992 results by tier are reweighted using the 2018 distribution of job market candidates, then 44.6% of all job market candidates would have an advisor with a tier one degree, which is significantly higher than 2018 percentage. Thus the influence of tier one schools in the thesis advising process has declined over time but is still high.

Table 6. Doctoral Origins of 1992 Thesis Advisors, by Quality Tier, Percentage of Total

Candidate's Tier	Doctoral Advisor's Tier 1	2	3	4	5	Foreign	Total	N
1	82.0	5.7	1.2	0.6	1.2	9.3	100.0	167
2	52.9	27.0	11.3	0.7	2.9	5.1	100.0	137
3	40.4	33.7	15.9	0.5	1.9	7.7	100.0	104
4	41.2	29.1	11.5	8.8	4.7	4.7	100.0	148
5	21.6	24.6	18.7	26.9	8.2	0.0	100.0	67
Total	52.5	22.6	10.2	5.4	3.3	6.0	100.0	623

Table 7 shows the doctoral origins of economics faculty and dissertation advisors by school. Six of the top seven schools in the placement of their graduates in the 2019 economics faculty are tier one schools. Similarly, the top 13 schools in 2019 faculty placement are either tier one or tier two schools. Remarkably, the rank ordering of the top six schools did not change between 1992 and 2019.

One school stands out in for being a source for dissertation advisors. Graduates from MIT supervised nearly ten percent of 2019 economics job market candidates, or 40% more than its closest competitor. Alumni from all of the tier one schools supervise dissertations at higher rates than their representation in the economics faculty, but this effect is especially strong at MIT.

Table 8 shows concentration ratios in the production of economics faculty and doctoral advisors. The top schools are nearly always high tier schools, so the concentration ratios echo the results by tier. Faculty doctoral origins are highly concentrated, with ten schools being the source of 43% of all economics faculty, and 20 schools being the source of 62% of all faculty. The top 50 schools are the alma mater of 83% of all economics faculty. Given that 7 percent of all faculty have doctoral degrees from foreign universities, this means that the remaining 82 U.S. Ph.D.-granting universities are the source of less than ten percent of all economics faculty. There are 14 universities that did not have a single graduate with a tenured or tenure-track positon at a U.S. Ph.D.-granting university. While high, the 2019 faculty concentration ratios are slightly lower than in 1992. Advisor concentration ratios are even higher, with the top ten schools being the source of over half of all economics dissertation advisors. As might be expected, Ph.D. production is much less concentrated than faculty doctoral origins, with the top 10 schools producing 21 percent of all doctorates but about double the number of faculty. The expansion of economics Ph.D. production and the introduction of the new Ph.D. programs has also lead to a marked reduction in the Ph.D. production concentration ratio between 1992 and 2017.

Table 7. Doctoral Origins of Economics Faculty and Dissertation Advisors, 1992-2019

		Economics Faculty				Doctoral Advisors	
		Percentage		Rank		Percentage	Rank
School	Tier	2019	1992	2019	1992	2019	2019
Harvard	1	5.9	7.3	1	1	6.9	2
MIT	1	5.6	6.5	2	2	9.9	1
Chicago	1	4.7	5.5	3	3	4.9	5
Cal-Berkeley	2	4.7	5.3	4	4	4.9	5
Stanford	1	4.4	4.4	5	5	5.6	3
Yale	1	4.1	4.0	6	6	5.5	4
Princeton	1	3.5	3.4	7	9	4.2	7
Pennsylvania	2	3.4	2.8	8	11	2.5	12
Northwestern	2	3.2	2.7	9	12	3.1	9
Wisconsin	2	3.2	3.8	10	7	3.3	8
Minnesota	2	3.1	3.5	11	8	3.0	10
Michigan	2	2.5	2.5	12	13	3.0	10
Columbia	2	2.2	3.1	13	10	1.5	17
Cornell	3	1.8	2.0	14	14	1.8	13
UCSD	3	1.8	1.1	15	25	1.8	13
Duke	3	1.8	1.6	15	17	1.4	18
UCLA	2	1.7	1.6	17	17	1.6	16
NYU	3	1.7	0.8	17	31	1.3	19
Rochester	2	1.6	1.7	19	15	1.3	19
Maryland	3	1.3	0.7	20	37	0.6	32
Virginia	3	1.3	1.4	21	19	1.7	15
Carnegie-Mellon	3	1.2	1.2	22	23	0.8	24
Brown	3	1.2	1.3	22	20	0.7	28
Texas	4	1.1	0.8	24	28	0.4	42
Washington	3	1.0	1.1	25	25	0.4	42
Illinois	3	1.0	1.7	25	16	0.2	53

Table 8. School Concentration Ratios in Ph.D. Production, Economics Faculty and Doctoral Advising

	Ph.D. Production		Economics Faculty		Advisors
	2013-17	1988-92	2019	1992	2019
Top 5	11.9	14.2	25.3	29.1	32.8
Top 10	21.8	25.3	42.8	46.8	51.3
Top 20	37.9	41.9	62.1	66.1	69.2
Top 50	67.1	71.3	83.3	87.1	85.7

Conclusion

The doctoral origins of economics faculty at Ph.D.-granting universities are dominated by a few selective schools, especially in the higher reputational tiers. Doctoral origins are highly segmented by quality tier, with most schools hiring from either the same or higher quality tiers. There has been a slight increase in the representation of graduates from lower tiers among the economics faculty over the past 27 years, but by less than what would be expected on the basis of Ph.D. production. The doctoral origins of 2019 dissertation are even more highly concentrated, with ten schools accounting for half of all dissertation advisors, and one school alone accounting for ten percent.

References

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Appendix: AEA Commission on Graduate Education Ph.D. Quality Tiers

Tier 1; Chicago, Harvard, MIT, Princeton, Stanford, Yale

Tier 2: Columbia, Michigan, Minnesota, Northwestern, Pennsylvania, Rochester, UC-Berkeley, UCLA, Wisconsin

Tier 3: Brown, Cal-Tech, Carnegie-Mellon, Cornell, Duke, Illinois, Johns Hopkins, Maryland, Michigan State, NYU, North Carolina, UC-San Diego, Virginia, VPI, Washington

Tier 4: Boston University, Claremont, Florida, Iowa, Iowa State, UMass, Ohio State, Penn State, Pittsburgh, Purdue, SUNY-Stony Brook, Texas, Texas A&M, UC-Davis, UC-Santa Barbara, USC, Vanderbilt, Washington-St. Louis