

# Regional Mobility of Economists

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*We find that nearly two-thirds of economists move to a different region of the U.S. or to a foreign country to accept their first job after receiving the Ph.D., that the South is the only net importer of economists among regions of the U.S., that the Midwest is the major net exporter, and that the proportion of graduates accepting foreign employment doubled during the 1980s. Gender and field of specialization do not affect mobility; however, doctorates from the top graduate schools and those accepting academic and government jobs are more likely to change regions than are graduates of lower ranked schools or those who are employed in the private sector.*

## I. Introduction

We trace the mobility of recipients of the Ph.D. in economics from U.S. institutions in the academic years 1982–1983 and 1989–1990 to the region of first employment, either within the U.S. or in a foreign country. Our research allows us to answer the following questions: Which regions are net importers or net exporters of Ph.D. economists for employment? Do such factors as the rank of the graduate school, the field of specialization, or the gender of the economist explain regional movements of these individuals? Are these influences stable over time, or were there changes in these relationships during the 1980s? In answering these specific questions we hope to attain greater understanding of the market for professional economists and, at least to some degree, better understand the interregional trade in intellectual resources. In Section II, we identify the sources of our data, and then in Section III we describe the interregional mobility of doctoral economists. Section IV contains multivariate regressions designed to explain these movements. Conclusions and a discussion of future directions of our research follow in Section V.

## II. Data

We developed samples of economists who completed their doctoral studies in the academic years 1982–1983 and 1989–1990. First we drew on the annual lists published by the American Economic Association (“Eightieth List . . .,” 1983; “Doctoral Dissertations . . .,” 1990), which provided the name of the each recipient of the Ph.D. in economics, as well as the school granting the doctorate and the individual’s dissertation field.

We then compiled the employment histories of the graduates by consulting the membership directories of the American Economic Association (AEA) and the Com-

mittee on the Status of Women in the Economics Profession (CSWEP). From these directories, we were able to determine the region and industry of employers of many graduates. We obtained the employment affiliation of some nonmembers of these associations from EconLit, the electronic database of publications listed in the *Journal of Economic Literature*. We have employment data for 632 of the 885 graduates in 1982–1983 and 569 of the 871 new Ph.D.s in 1989–1990. These data are summarized in Table 1. Although our employment data (and, therefore, our sample of doctorates) are biased toward graduates who join professional associations or who publish, we believe that the bias is not large enough to distort our analysis of mobility from region of grad-

Table 1  
*Production and Employment of New Ph.D.s in Economics,  
by Region: 1982–1983 and 1989–1990*

Region and Division	1982-1983			1989-1990		
	Graduates	Jobs	Surplus	Graduates	Jobs	Surplus
Northeast	214	176	38	190	134	56
New England: ME,NH,VT,MA,RI,CT	110	68	42	72	51	21
Middle Atlantic: NY,NJ,PA	104	108	-4	118	83	35
Midwest	179	116	63	164	80	84
East North Central: OH,IN,IL,MI,WI	148	87	61	134	58	76
West North Central: MN,IA,MO,ND,SD,NE,KS	31	29	2	30	22	8
South	109	170	-61	103	162	-59
South Atlantic: DL,MD,DC,VA,WV,NC,SC,GA,FL	85	124	-39	70	122	-52
East South Central: KY,TN,AL,MS	6	16	-10	18	15	3
West South Central: AR,LA,OK,TX	18	30	-12	15	25	-10
West	130	83	47	112	61	51
Mountain: MT,ID,WY,CO,NM,AZ,UT,NV	7	19	-12	14	16	-2
Pacific: WA,OR,CA,AK,HA	123	64	59	98	45	53
Foreign Countries	—	87	-87	—	132	-132
Total	632	632	0	569	569	0

uate education to region of employment. Using a chi-square test, we cannot reject the hypothesis that the regional distribution of Ph.D.s is the same in the full and the abridged samples.<sup>1</sup>

### III. *Interregional Mobility of Ph.D.s in Economics*

Table 1 shows that the Northeast dominated Ph.D. production in both 1982–1983 and 1989–1990, graduating about one-third of all doctorates in economics. The Midwest followed closely with 28 percent. The South and the Northeast were the largest employers of these new economists in both years, with the South pulling ahead as the biggest employer by 1989–1990. Only the South was a net importer of Ph.D.s in economics, producing only about two-thirds of the doctorate economists it hired in both sample years. The Midwest was the major net exporter, graduating substantially more doctoral economists than hired within the region in both sample years. The West was the second largest net exporter in 1982–1983 but fell behind the Northeast in 1989–1990. Although the Northeast was the leading producer of doctorates, it lagged in net exports because it was also a large employer. The fraction of Ph.D. graduates who took employment in foreign countries increased from 13.8 percent in 1982–1983 to 23.2 percent in 1989–1990.

Table 1 also shows that mobility patterns for divisions within regions were similar to those of the entire regions. Exceptions include the Middle Atlantic with net imports of economists in 1982–1983, the Mountain states with net imports in both sample years and the East South Central with net exports in 1989–1990. Nearly all of the South's net imports can be traced to the South Atlantic division that includes Washington, DC, a major employer of economists educated in other regions.

Table 2 provides cross tabulations of regional Ph.D. production and employment in 1982–1983 and in 1989–1990. With these tabulations, we can observe mobility among specific regions. The row percentages reveal that mobility of Ph.D.s from the South is the lowest of all regions. The South retained 56.9 percent of its graduates in 1982–1983 and 56.3 percent in 1989–1990. Mobility was greatest from the West which hired only 29.2 percent of its graduates in 1982–1983, followed by the Midwest and the Northeast. By 1989–1990, mobility was greatest from the Midwest, which employed only 22 percent of its graduates, followed by the West and Northeast.

Outside their own region, graduates from the Northeast found jobs primarily in foreign countries and in the South. Southern doctorates are more likely to move to the Northeast than to other regions. Graduates from the Midwest and the West moved mostly to the South and Northeast for employment in 1982–1983, but by 1989–1990, foreign countries replaced the Northeast as the second largest source of employment for graduates from these two regions. Moreover, by the end of the decade, the West placed the same number of Ph.D.s abroad as it did within its own region.

The column percentages of Table 2 show the regional source of the Ph.D.s employed in each region. The Northeast and the Midwest produced about half of the Ph.D.s hired in their regions in both years and imported principally from each other. The

Table 2  
*Interregional Mobility of Ph.D. Economists to First Employment*

1982-1983						
Ph.D. Region	Northeast	Midwest	Employment Region		Foreign	Total
			South	West		
Northeast	86*	26	36	22	44	214
	40.2**	12.1	16.8	10.3	20.6	100
	48.9***	22.4	21.2	26.5	50.6	33.9
Midwest	41	57	44	18	19	179
	22.9	31.8	24.6	10.1	10.6	100
	23.3	49.1	25.9	21.7	21.8	28.3
South	22	11	62	5	9	109
	20.2	10.1	56.9	4.6	8.3	100
	12.5	9.5	36.5	6.0	10.3	17.2
West	27	22	28	38	15	130
	20.8	16.9	21.5	29.2	11.5	100
	15.3	19	16.5	45.8	17.2	20.6
Total	176	116	170	83	87	632
	27.8	18.4	26.9	13.1	13.8	100
	100	100	100	100	100	100

  

1989-1990						
Ph.D. Region	Northeast	Midwest	Employment Region		Foreign	Total
			South	West		
Northeast	74	23	30	11	52	190
	38.9	12.1	15.8	5.8	27.4	100
	55.2	28.8	18.5	18.0	39.4	33.4
Midwest	32	36	49	12	35	164
	19.5	22.0	29.9	7.3	21.3	100
	23.9	45.0	30.2	19.7	26.5	28.8
South	16	10	58	6	13	103
	15.5	9.7	56.3	5.8	12.6	100
	11.9	12.5	35.8	9.8	9.8	18.1
West	12	11	25	32	32	112
	10.7	9.8	22.3	28.6	28.6	100
	9	13.8	15.4	52.5	24.2	19.7
Total	134	80	162	61	132	569
	23.6	14.1	28.5	10.7	23.2	100
	100	100	100	100	100	100

Note: \*Frequency \*\*Row percent \*\*\*Column percent

South imported about two-thirds of its hires, primarily from the Midwest and Northeast. The West imported about 54 percent of its Ph.D.s, above all from the Midwest and Northeast. Foreign employers of U.S. Ph.D.s obtained them chiefly from the Northeast and Midwest.

IV. *Multivariate Analysis*

While the patterns of mobility are interesting on their own, we also consider personal characteristics that might make economists more (or less) likely to move: Gender, field of specialization, graduate school attended, and industry of employment may help explain mobility of economists among regions. Table 3 contains the results of probit regression equations with dependent variable *MOVEEMP* (a dummy equal to one if a

Table 3  
*Probit Regression Results: Interregional Mobility of Ph.D. Economists to First Employment*

Variable	Means		Probit Coefficients	
	1982-1983	1989-1990	1982-1983	1989-1990
<i>MOVEEMP</i> (=1 if regional mover; =0 if stayer)	.613	.631	—	—
<i>FIELD1</i> (=1 if dissertation classified as "general economics")	.157	.145	.034 (.230)	.033 (.191)
<i>GENDER</i> (=1 if female)	.154	.205	-.186 (1.29)	-.160 (1.07)
<i>SCHOOL10</i> (=1 if graduate school ranked in top 10)	.359	.322	.395*** (3.23)	.551*** (3.79)
<i>SCHOOL30</i> (=1 if graduate school ranked 11-30)	.266	.253	.233* (1.78)	.338** (2.24)
<i>ACAD</i> (=1 if employed in college or university)	.731	.713	.436*** (2.63)	.612*** (2.80)
<i>GOV</i> (=1 if employed in government)	.157	.203	.495** (2.44)	.976*** (3.86)
CONSTANT			-.284 (1.66)	-.516** (2.27)
Maddala $R^2$			.033	.064
Likelihood Ratio Test			20.2*** (6 d.f.)	30.8*** (6 d.f.)
<i>N</i>	610	463	610	463

Notes: Absolute *t*-statistics in parentheses; \*\*\* (\*\*, \*) indicates significance at 1 (5, 10) percent level, two-tailed test.

Ph.D. changed regions for employment). The means of these variables indicate a small increase in mobility across regions: 61.3 percent of those receiving the doctorate moved to a different region for employment in 1982–1983 and 63.1 percent in 1989–1990.<sup>2</sup> As is often the case with cross-sectional data, the low  $R^2$  indicates that each equation explains only a small fraction of observed mobility.

*Independent Variables.* *FIELD1* is a dummy variable equal to one if the doctorate's dissertation is classified as "general economics." We hypothesize that individuals who complete a doctorate in general economics will be more mobile because of their ability to fill a greater range of vacancies. However, the regressions indicate that *FIELD1* had no significant impact on mobility in either year. When we tested other specialties, e.g., industrial organization or international economics, field of specialization remained an insignificant predictor of mobility in regressions (not shown in Table 3).

The variable *GENDER* tests the hypothesis that women are less mobile than men, perhaps because of dual-career families or stronger preference for their current locations. This hypothesis, however, was not confirmed by our regressions. The mobility patterns of women are not significantly different from those of men in 1982–1983 or 1989–1990.

*SCHOOL10* and *SCHOOL30* are variables included to test the hypothesis that the top-ranking graduate schools turn out Ph.D.s who are more mobile than the graduates of programs with lower rankings. We split the top schools into those in the top ten and those ranked from 11 to 30.<sup>3</sup> The regressions confirm that graduates of the top-ten programs are more likely to move across regional lines for employment than are graduates of the top 11–30 schools, who in turn are more mobile than doctorates from lesser-ranked schools.

The variables *ACAD* and *GOV* designate whether or not the graduates in the sample accept employment in the academic or government sectors. The coefficients indicate that the doctoral economists are more likely to change regions for academic and government employment than for jobs in the nonacademic private sector. Furthermore, graduates accepting government jobs are more likely to change regions than those taking academic positions.

The mobility patterns we have described appear stable over time. We stacked the 1982–1983 and 1989–1990 data sets and tested the hypothesis that the functional forms of the equations were the same. The hypothesis could not be rejected at any reasonable significance level.

## V. Conclusions

Our principal findings are as follows: (1) nearly two-thirds of economists cross regional lines to take their first jobs after receiving the Ph.D.; (2) the South is a big importer of Ph.D. economists from other regions; (3) the Midwest is the major net exporter, turning out far more doctorate economists than can be employed within the region; (4) the top graduate schools are more likely to place their graduates in jobs in other regions than

are lower-ranked graduate schools; (5) new economists are more likely to cross regional lines for academic or government employment than for jobs in the nonacademic private sector; and (6) gender and field of specialization do not significantly affect interregional mobility for employment in economics.

In the future, we plan to study the mobility of the graduates in this sample beyond their first employers. We will further consider mobility of economists between types of employers by examining movements between the academic, government, or private sectors. Another line of inquiry is the question of the possible consequences of a region's continuing surpluses or deficits of doctoral economists. Do exporting regions subsidize the South or vice versa? Does the South have comparative advantage in other academic disciplines and run offsetting surpluses in them?

### NOTES

<sup>1</sup>The Northeast, Midwest, South, and West distributions of Ph.D.s awarded in the full sample are, respectively, 280, 280, 161, and 164 in 1982–1983 and 278, 254, 178, and 161 in 1989–1990.

<sup>2</sup>The regressions include fewer individuals than the tabulations in Tables 1 and 2 because we have omitted any individual whose gender is unknown. We coded this variable by examining first names, by determining if the individual is listed in CSWEP's Roster of Women in the Economics Profession, and by consulting unpublished survey data provided by the American Economic Association. In ambiguous cases where the individual did not show up on the CSWEP roster or in the AEA data, we attempted to contact the individual's graduate school. If unsuccessful, we deleted the individual from the sample used in the regressions.

<sup>3</sup>Graduate school rankings are those of Hirsch et al., who base their evaluation of departments on the publication records of faculty.

### REFERENCES

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