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Keeping Up With Fashion: Recent Trends in the Subfields of Study of Doctoral Students in Economics

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Keeping Up With Fashion: Recent Trends in the Subfields of Study of Doctoral Students in Economics

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Abstract

We conduct an analysis of recent trends on the subfields of study that doctoral students in economics choose for their dissertations. By investigating data on the JEL classification codes of dissertations reported by the *Journal of Economic Literature* from 1991 to 2007, we find that the trends in the subfields of study of doctoral dissertations follow those of articles published at five major general-interest journals (*American Economic Review*, *Quarterly Journal of Economics*, *Journal of Political Economy*, *Review of Economic Studies*, and *Review of Economics and Statistics*). In particular, the co-movement pattern is salient in subfields such as Microeconomics (D), Health, Education, and Welfare (I), and Economic Development and Growth (O). Our findings suggest that the fashion exhibited in the top-notch research journals is one of the most influential factors when doctoral students choose a subfield.

Keywords: Economics Research, Doctoral Dissertation, Journal Publication, Ph.D. Economist, Economics Job Market

JEL Classification: A11, A14, A20, J44

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1. Introduction

Every year, approximately 1,000 new doctorates in economics are granted. According to the NSF Survey of Earned Doctorates, there were 967 newly minted doctorates in economics in 1970, and the figure increased slightly to 1,142 in 2006.[3] These new economists work in a variety of sectors including the government, the private sector, and higher education. For these Ph.D. economists, the subfields of specialization are critical enough to determine labor market outcomes. In fact, the fields in which they specialize affect their job placement opportunities and salaries, even though the salary differentials for different subfields have evolved over the years (Diamond and Haurin, 1995; Siegfried and Stock, 1999, 2004).[4] Ph.D. econmists also tend to have jobs in employment sectors that are closely related to their subfields of specialization (Siegfried and Stock, 1999).

Yet to date, there have been few systematic analyses on how graduate students in economics choose their subfields of specialization. Since doctoral students are by no means different from other rational economic agents in the economy, they maximize the present value of their lifetime income. In fact, the prospect of job placement may be one of the most important factors that graduate students consider when choosing their subfields. However, this decision must be made two or three years before actually

[3] The composition of new doctorates has significantly changed. First, female doctorates accounted for only 5.4% of all students in 1970, but accounted for 30.2% of all students in 2006. Second, foreign-born doctorates accounted for only 19.3% of all students in 1970, but accounted for 65.1% of all students in 2006.

[4] Diamond and Haurin (1995) document the dynamic changes of subfields over the period from 1927 to 1988. In 1964 and 1966, the best paid subfield was industrial organization, and the worst paid subfield was economic history. Siegfried and Stock (2004, Table 6) report that for new Ph.D. economists in 2002, labor economists seemed to have the greatest difficulty landing a full-time permanent job, whereas industrial-organization economists seemed to have the least difficulty. The median salary in academics for industrial-organization economists and financial economists in 2002 was $96,500 and $112,000 respectively; this number for public economists was $58,000 (all salaries cited above are statistically significant at 0.05). This is in sharp contrast to the pattern presented in Siegfried and Stock (1999, Table 6) for 1996–1997, when development and microeconomics economists were the least likely to find a full-time permanent job, and industrial-organization economists earned the least in permanent academic jobs.

entering the job market. Thus, we are presented with an interesting question: How do graduate students choose a subfield without the perfect foresight of future demands for different subfields?

In this paper, we focus on one specific channel that is familiar to most professional economists through their personal experiences and casual observations. In particular, we examine major academic journals to determine whether the research trends reflected in their published articles influence the Ph.D. students' choice of subfields of study.[5] Top journal publications may very well influence the graduate students' choices for various reasons. For example, they may learn about the evolving demands for certain subjects in the profession, and thus decide to tailor their subfields to maximize the expected probability of their own publication and hence job placement. Alternatively, students may be simply academically motivated by the so-called "hot" topics in the current literature. Our main objective in this paper is to signify that this relationship is empirically important.

In this study, we use data on the subfields of doctoral dissertations as well as those of articles published in five major general-interest journals from 1991 to 2007. The subfields are classified by the *Journal of Economic Literature* codes (henceforth, referred to as JEL codes). Our findings show that the subfield trends in dissertations are in accordance with the research trends in journal articles. The relationships hold strong even after we control for the job openings for the various subfields.

The remainder of the paper proceeds in the following manner. In Section 2, we introduce our data and explain how we classify dissertations and journal articles by the

[5] A few studies examine the long-term research trends in economics by subfields at academic journals. For examples, refer to Kelly and Bruestle (forthcoming) and Diamond and Haurin (1995).

JEL codes. In Section 3, we present our empirical models and discuss our results. In Section 4, we conclude our study.

2. Data

A. Data Sources

During this study, we have used data from three sources. First, we use data on new dissertations collected by the *Journal of Economic Literature* from 1991 to 2007. These data are based on self-reports from economics departments of U.S. (and a few Canadian) academic institutions. The data do not cover all of the departments with Ph.D. programs. If a department is not included in the data, we do not know whether it is excluded because the department did not report any information or because there were no new Ph.D. recipients from the department. To minimize any potential sample selection bias, we have restricted our sample to 67 departments in the data so that each has produced at least 70 Ph.D. recipients during the period from 1991 to 2007 (see Appendix Table 1). The final sample includes 1,122 department-year observations.

Second, we collect data on articles published in general-interest journals from *EconLit*, the American Economic Association's electronic bibliography.[6] To measure the overall trends of economics research, we focus on five major general-interest journals: *American Economic Review*, *Quarterly Journal of Economics*, *Journal of Political Economy*, *Review of Economic Studies*, and *Review of Economics and Statistics*.[7] For each article published between 1991 and 2007, we collect the data on the title, publication

[6] We wrote codes in Perl to scrap data from the above webpages. Perl is a general-purpose Unix scripting language that has capable text processing facilities.

[7] As of February 2011, the simple impact factors for the above five journals, according to Research Papers in Economics (RePEc, http://ideas.repec.org/top/top.journals.simple.html), are respectively 15.307, 32.976, 17.287, 18.572, and 9.386.

year, page numbers, authors, authors' affiliations, and JEL codes.[8]

Finally, we use the Job Openings for Economists (JOE) data from the *AER Papers and Proceedings* from 1992 to 2008 (Hinshaw, 1992–2000; Siegfried, 2001–2008).[9] JOE is the primary source that new economists use when conducting a job search. JOE data include both academic and non-academic job openings that are advertised throughout the preceding year of the publication of the Proceedings.

We classify both dissertations and articles by using the Primary JEL classification code, the first letter of a code to be followed by two numerical digits (e.g., D in D12).[10] There are 20 different primary codes in total (A to R, Y, Z). We exclude miscellaneous subfields, A (General Economics and Teaching), Y (Miscellaneous Categories), and Z (Other Special Topics). There are very few dissertations with these codes.

B. Construction of Subfield Proportions

We have constructed a variable that counts the very first JEL primary code of all JEL codes declared by the author(s) of an article, on the ground that this first-listed code is of paramount importance in signaling the subfield to which a dissertation or article is believed to have made contributions.[11] For instance, if a dissertation is classified under three codes (D12, E21, and E22, in that order), it will be counted once toward primary

[8] We exclude non-research articles such as obituaries, committee reports, and book reviews.
[9] The current JEL classification system started in 1991. There is little resemblance between the old and the new classification system (Anonymous, 1991).
[10] See a detailed description of the JEL classification system in JEL Classification Codes Guide (http://www.aeaweb.org/jel/guide/jel.php).
[11] Out of a total of 7,482 journal articles in our data set, 5,522 articles have at least two JEL codes. Out of these 5,522 articles, 1,506 (27%) list a JEL code that is in alphabetical order strictly behind the code that immediately follows it (e.g., an E code before a D code), and 983 (18%) list a primary JEL code that is in alphabetical order strictly behind the secondary code (the code listed in the second position). Likewise, the counterpart numbers (percentages) for dissertations are respectively 2,717 (38%) and 1,941 (27%). Our data set includes 13,033 dissertations in total, out of which 7,152 have at least two JEL codes.

code D.[12] Next, we aggregate the count into department-year cells (which are indexed by (i, t)) to obtain the proportion of each JEL code for all the dissertations within department i in year t. That is,

$$DIS_{ijt} = \frac{N^d_{ijt}}{\sum_{k=C}^{R} N^d_{ikt}} \quad (1)$$

where N^d_{ijt} is the number of dissertations with JEL code j produced from department i in year t.

For journal articles, we aggregate the count of each JEL code and obtain the proportion of articles under the same code over all the articles published in our selected journals in a given year.[13] Thus,

$$ART_{jt} = \frac{N^a_{jt}}{\sum_{k=C}^{R} N^a_{kt}} \quad (2)$$

where N^a_{jt} is the number of articles with JEL code j produced in year t. Similarly, for job openings, each JEL code in a job listing is counted once into the corresponding code. We divide the count of job openings that are classified in each code by the total number of

[12] Alternatively, we can take into account all of the listed codes. For example, for each dissertation, we can count how many first-digit level classification codes are in record (hence, if a dissertation is classified under both E21 and E22, it will be counted twice for E), based upon which we construct the proportion of every exiting primary classification code for each dissertation (hence, if a dissertation is classified under three codes —D12, E21, and E22—it will be counted 0.33 in D and 0.67 in E). The estimates are very similar to those presented in this paper. The complete results are available from the authors upon request.

[13] Since we have data on the page numbers of a published article, we can also experiment with the page-number weighted proportions of the JEL primary codes for articles. When we account for the number of pages, we attempt to detect whether longer journal articles are more influential on the graduate students' subfield choice. The results are similar to those without page-weighting. The results are available upon request.

job openings to obtain the proportion of all of the job openings in each year (JOE_{jt}).

3. Empirical Results

Table 1 presents the trends of the subfields in the articles published in the five general-interest journals. There are a few notable trends. First, it is outstanding that Microeconomics (JEL code D) has undergone a phenomenal growth for our sample period from 1991 to 2007. The percentage of published articles in this subfield has risen from just under 20% in 1991 to above 35% in 2007.[14] Second, the percentage of articles that have listed Labor and Demographic Economics as the primary subfield has declined to half of the original level in 1991 (from 14.81% in 1991 to 6.31% in 2007). Last, in the category of Economic Development and Growth, the proportion of articles has dwindled to almost zero (0.51%) from 6.01% in 1991. Less dramatic is the rise of health economics (code I) from 1991 to 1996, which finally hovered around that level. Macroeconomics (code E) has been more or less stable from 1991 to 2002; somehow it declined a little in 2007.

To examine whether the trends in published articles have exerted some influence on the choice of subfields for doctoral dissertations, we estimate the following equation:

$$DIS_{ijt} = \alpha_{ij} + \alpha_{it} + \beta ART_{jt} + \gamma JOE_{jt} + U_{ijt} \qquad (3)$$

[14] A decomposition of publications under primary category D into a secondary level for 2002 and 2007 reveals that this exceptional growth is mainly driven by the growth in Household Behavior and Family Economics (D1, from 8 publications in 2002 to 30 in 2007), Market Structure and Pricing (D4, from 7 to 14), Analysis of Collective Decision-Making (D7, from 14 to 26), and Information, Knowledge, and Uncertainty (D8, from 13 to 37). The JEL Classification Codes Guide suggests that some in D1 should be cross-classified under J1 (Demographic Economics), some in D4 should be cross-classified under L1 (Market Structure, Firm Strategy, and Market Performance), and some in D7 should be cross-classified under F5 (International Relations and International Political Economy). Nonetheless, we do not observe the similar growth in these other cross-listed subfields from 2002 to 2007.

where DIS_{ijt} is the proportion of dissertations in subfield *j* produced by doctoral students at department *i* in year *t*, ART_{jt} the proportion of journal articles in subfield *j* published in year *t*, and JOE_{jt} the proportion of job openings for economists in subfield *j* in year *t*. A department may possess more academic strength in one or more particular subfields, and in one or more particular years, probably due to more faculty members involved in research in these subfields in these years. Therefore, we control for the department-subfield fixed effect α_{ij} and the department-year fixed effect α_{it}. We correct the standard errors for clustering at the department-subfield combination level. The coefficient β captures the average effect of the trends in published articles on the trends in doctoral dissertations across the various subfields of specialization. The coefficient γ captures the average effect of the trends in the job market.

Table 2 presents the fixed-effect regression results. Columns (1) and (2) present our results, which are based upon the entire sample. In Column (1), both explanatory variables are contemporaneous. In Column (2), the variables are two-year lagged. The lagged specification might be more appropriate because graduate students must select their subfields of study for their dissertation about two years before they actually enter the job market. Furthermore, published articles are usually distributed as working papers before they are actually printed. Thus, it is very likely that graduate students may have already been exposed to the articles two or three years before they were actually published. We have presented the results using two year lags; however, our results are qualitatively the same even if we use different lags.

Overall, we have found that the effect of journal publications is both substantively

and statistically significant. The magnitude of the effect implies that an increase of one percentage point of article publications in a particular subfield is associated with a 0.35 to 0.4 percentage point increase of dissertations in the same subfield. We do not intend to claim that the effects that we found in this study, even the results with lagged variables, are causal. It may be that graduate students, as an integrated part of the profession, are influenced by the same wave of research "fashion," which affects dissertation topics and, at the same time, leads to more article publications on these topics by professional researchers.

However, the effect of job openings is not significant. This result might show that the prospect of job placement is not a major factor when a graduate student selects a subfield. On the other hand, this insignificance may be due to the fact that it is hard for graduate students to predict the future demands for employment at the time they choose their own subfields.

Students may be simply attracted to the subfields of study where there are faculty members available within their departments who are actively publishing papers in top journals. To check this possibility, in Columns (3) and (4), we restrict the sample to those departments that had no affiliated authors who published in top journals for the previous three years for each cohort of graduate students. The results hardly change. In fact, the average effect of the trends in published articles on the trends in doctoral dissertations is still significant, whereas the JOE effect is insignificant.

For robustness, we estimate our equation separately for each subfield indexed by JEL code *j*:

$$DIS_{ijt} = \alpha_{ij} + \beta_j ART_{jt} + \gamma_j JOE_{jt} + V_{ijt} \qquad (j = C, D, ..., R) \qquad (4)$$

where α_{ij} is the department fixed effect for this subfield j.[15] We also correct for the standard errors for clustering at the department level.

Tables 3 and 4 present the regression results from specification (4). Table 3 displays the results for the entire sample. Table 4 presents the results for the subsample that includes no affiliated publishing authors in the last three years.

Most notably, the subfield of Economic Development and Growth (O) stands out since it shows that a one percentage point increase in published articles is associated with a 0.7 to 0.9 percentage point increase in the proportion of dissertations listed under the same subfield. The subfield of Microeconomics (D) follows suit: a one percentage point increase in publication of an article on microeconomics is associated with a 0.5 to 0.7 percentage point increase in dissertations written in this subfield. Furthermore, in these two subfields, it seems that the two-year lagged effect is stronger than the contemporaneous effect.

For Health, Education, and Welfare (I), the publication variable is statistically significant for all of the four specifications, whereas the JOE variable is not statistically significant in the restricted sample. For this subfield, it seems that the influence of journal articles is greater in the restricted subsample than in the whole sample; this suggests more of a "fashion" impact than a personal influence by publishing authors.

The results for Agricultural and Natural Resource Economics (Q) are also interesting. The publication variable is statistically significant in the contemporaneous specification,

[15] Note that we cannot control for the department-year fixed effect α_{it} as in Equation (3) because we estimate the equation separately for each JEL code.

while the JOE variable is statistically significant in the two-period lagged specification.

4. Conclusion

In this paper, we have documented that the trends in the doctoral students' choice of subfields for their dissertation are strongly correlated with the research trends in publications in major journals. In particular, we find strong relationships between the dissertation topics and the published article topics in the subfields of Microeconomics (D), Health, Education, and Welfare (I), and Economic Development and Growth (O). It is interesting to note that each of these subfields have undergone substantial changes during the last twenty years.

It should be emphasized here that we have not rushed to a causal interpretation of the results.. It is difficult to claim that there is a causal effect; nevertheless, it is precisely in this sense that we feel that "fashion" may lean more toward the truth. Doctoral students are actually at an apprenticeship stage of their profession. What they decide to study will shape the future path of knowledge in the economics discipline. The articles they read, the lectures they learn in class, and the discussions they hear in seminars and conferences can all contribute to their eventual choice of subfields for their own research. At the same time, the profession will undoubtedly benefit from their active engagement in the discovery of new topics, new techniques, and new analyses.

Furthermore, there are many other factors, such as personal academic interests, comparative advantage in talents and skills, or availability of supervisors in the relevant fields that may play important roles in helping graduate students choose a subfield. We hope that future research can shed light on this issue.

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Table 1. Trends in Publications by Subfield (JEL Code)

Notes: For each JEL code, we count the number of articles where that code is listed as the first code and divide it by the total number of articles published in the journals in each year. Three JEL codes, A (General Economics and Teaching), Y (Miscellaneous Categories), and Z (Other Special Topics), are excluded.

	1991	1996	2002	2007
C - Mathematical and Quantitative Methods	5.58%	4.78%	4.22%	8.08%
D - Microeconomics	19.10%	12.64%	18.47%	35.10%
E - Macroeconomics and Monetary Economics	11.37%	11.24%	11.08%	10.35%
F - International Economics	8.80%	13.20%	7.92%	7.58%
G - Financial Economics	6.01%	6.46%	8.18%	4.04%
H - Public Economics	4.29%	4.49%	3.43%	5.05%
I - Health, Education, and Welfare	2.79%	7.02%	5.28%	6.31%
J - Labor and Demographic Economics	14.81%	14.89%	13.72%	6.31%
K - Law and Economics	2.15%	1.12%	1.58%	2.27%
L - Industrial Organization	8.15%	5.62%	6.07%	4.55%
M - Business Administration and Business Economics	0.64%	0.00%	0.53%	0.25%
N - Economic History	0.64%	1.69%	1.06%	0.76%
O - Economic Development and Growth	6.01%	8.15%	8.71%	0.51%
P - Economic Systems	2.58%	1.40%	1.32%	0.25%
Q - Agricultural and Natural Resource Economics	2.36%	3.93%	1.58%	0.25%
R - Urban, Rural, and Regional Economics	2.15%	1.69%	3.17%	0.76%

Table 2. Fixed Effect Regression Results: Pooled Subfield Sample

Notes: The regression includes all subfields in the sample, with department-subfield and department-year fixed effect (see equation (2)). Columns (1) and (2) present results based upon the entire sample. Columns (3) and (4) present results based upon the subsample of departments with no affiliated authors who have published articles in these journals in the last three years. The classification of dissertations or journal articles into subfields is based on the listed primary JEL code. The dependent variable is the proportion of dissertations belonging to a subfield relative to all dissertations for a department *i* in the year *t*. The independent variable of top journal publications is the proportion of publications in AER, QJE, JPE, RESTUD, and RESTAT for a subfield in year *t*. The independent variable of job openings is the proportion of job openings listed in a particular subfield. See text for further details. Standard errors are in parentheses, and they are corrected for clustering on the department-subfield combination level. *** indicates statistical significance at $p < 0.01$.

	(1)	**(2)**	**(3)**	**(4)**
Publication (t)	0.3623***		0.3129***	
	(0.0431)		(0.0716)	
JOE (t)	0.0679		0.0067	
	(0.1258)		(0.2160)	
Publication (t – 2)		0.4037***		0.3658***
		(0.0420)		(0.0834)
JOE (t – 2)		0.1279		0.1751
		(0.1095)		(0.2035)
N =	17,952	15,648	8,982	8,912
R-squared (within)	0.0094	0.0092	0.0502	0.0508

Table 3. Separate Subfield Regression Results: All Samples

Notes: These regressions include all observations in the sample. Each regression is for a separate subfield (see equation (3)). The classification of dissertations or journal articles into subfields is based on the listed primary JEL code. The dependent variable is the proportion of dissertations belonging to a subfield relative to all dissertations for a department *i* in the year *t*. The independent variable of top journal publications is the proportion of publications in AER, QJE, JPE, RESTUD, and RESTAT for a subfield in year *t*. The independent variable of job openings is the proportion of job openings listed in a particular subfield. See text for further details. All regressions include department fixed effects. Standard errors are in parentheses, and are corrected for clustering within a department. ***, **, and * indicate statistical significance at 0.01, 0.05, and 0.1, respectively.

	Publication (t)	**JOE (t)**	**Adj. R-squared**	**Publication (t – 2)**	**JOE (t – 2)**	**Adj. R-squared**
C	-0.2152	0.5546**	0.2200	0.1230	0.5129	0.1920
	(0.175)	(0.268)		(0.188)	(0.382)	
D	0.5242***	-0.0245	0.1470	0.7807***	-0.0137	0.1440
	(0.077)	(0.544)		(0.125)	(0.552)	
E	-0.2550	0.2775	0.0840	-0.1661	0.0824	0.1100
	(0.189)	(0.285)		(0.238)	(0.270)	
F	-0.0133	1.0163*	0.1490	0.1278	0.2164	0.1420
	(0.195)	(0.538)		(0.216)	(0.441)	
G	0.1797	0.3818	0.1530	0.2050	-0.5100	0.1790
	(0.221)	(0.487)		(0.341)	(0.481)	
H	0.2298	-0.2155	0.1510	-0.1897	0.2226	0.1660
	(0.186)	(0.658)		(0.217)	(0.491)	
I	0.4286***	1.1939***	0.1300	0.3460***	1.0583**	0.1240
	(0.105)	(0.380)		(0.116)	(0.406)	
J	0.0997	0.0827	0.0559	0.1142	-0.0266	0.0484
	(0.107)	(0.727)		(0.146)	(0.791)	
K	-0.0896	0.2373	0.0227	0.0353	0.0699	0.0168
	(0.144)	(0.285)		(0.175)	(0.294)	
L	0.0888	-0.4833	0.0658	-0.2230	-0.0642	0.0694
	(0.204)	(0.367)		(0.277)	(0.480)	
M	-0.0603	0.0894	0.0835	-0.0004	0.4909*	0.0745
	(0.137)	(0.212)		(0.134)	(0.252)	
N	0.3265*	0.5799	0.1180	0.2357	1.2695*	0.0837
	(0.166)	(0.405)		(0.210)	(0.686)	
O	0.6976***	-1.1165*	0.1860	0.9053***	0.4367	0.2020
	(0.110)	(0.618)		(0.128)	(0.619)	
P	-0.0303	-0.2707	0.0290	0.4049*	-1.0895	0.0335
	(0.191)	(0.515)		(0.207)	(0.757)	
Q	0.6932**	-0.9059	0.4500	0.4004	1.2841*	0.4700
	(0.323)	(0.876)		(0.297)	(0.695)	
R	0.0367	-0.0285	0.0249	-0.1081	-1.2015**	0.0113
	(0.192)	(0.530)		(0.234)	(0.548)	

Table 4. Separate Subfield Regression Results: Departments Without Authors

Notes: These regressions include the observations in the sample that have no affiliated authors who have published articles in the journals in the last three years. Each regression is for a separate subfield (see equation (3)). The classification of dissertations or journal articles into subfields is based on the listed primary JEL code. The dependent variable is the proportion of dissertations belonging to a subfield relative to all dissertations for a department *i* in the year *t*. The independent variable of top journal publications is the proportion of publications in AER, QJE, JPE, RESTUD, and RESTAT for a subfield in year *t*. The independent variable of job openings is the proportion of job openings listed in a particular subfield. See text for further details. All regressions include department fixed effects. Standard errors are in parentheses, and are corrected for clustering within a department. ***, **, and * indicate statistical significance at 0.01, 0.05, and 0.1, respectively.

	Publication (t)	**JOE (t)**	**Adj. R-squared**	**Publication (t – 2)**	**JOE (t – 2)**	**Adj. R-squared**
C	-0.3836	0.3558	0.1380	0.1000	0.3560	0.1350
	(0.301)	(0.375)		(0.249)	(0.659)	
D	0.4809***	-0.9401	0.2050	0.7180***	-0.3617	0.1940
	(0.147)	(1.465)		(0.242)	(1.095)	
E	-0.2818	0.8024	0.0935	-0.3449	0.4572	0.0910
	(0.294)	(0.576)		(0.398)	(0.477)	
F	0.1893	-0.2279	0.1450	0.1958	-0.4637	0.1440
	(0.290)	(0.900)		(0.287)	(0.648)	
G	0.4379	1.5365	0.1240	0.2300	-0.4628	0.1240
	(0.403)	(1.568)		(0.555)	(0.798)	
H	0.1854	0.3727	0.1430	-0.0726	0.3074	0.1520
	(0.322)	(1.752)		(0.324)	(0.763)	
I	0.5285***	1.2186	0.1740	0.3214*	0.9348	0.1680
	(0.185)	(0.861)		(0.170)	(0.720)	
J	0.0323	-0.3477	0.0327	0.1311	0.4373	0.0387
	(0.202)	(1.602)		(0.403)	(1.637)	
K	-0.0127	0.1522	0.0133	-0.0074	-0.1312	0.0117
	(0.219)	(0.393)		(0.208)	(0.350)	
L	0.3811	-1.0198	0.0302	-0.4459	-0.4889	0.0294
	(0.572)	(0.979)		(0.619)	(0.687)	
M	0.1266	0.0693	0.0603	0.1294	0.3359	0.0619
	(0.156)	(0.234)		(0.135)	(0.213)	
N	0.1230	0.4634	0.1210	0.1789	1.1880	0.1330
	(0.114)	(0.566)		(0.277)	(0.868)	
O	0.7387***	-0.8242	0.2300	0.9288***	0.7808	0.2410
	(0.205)	(1.109)		(0.200)	(1.160)	
P	-0.1025	-0.5318	0.0155	0.5576**	-1.6174*	0.0239
	(0.244)	(0.651)		(0.248)	(0.873)	
Q	0.6693*	-1.2821	0.4300	0.1423	2.4283***	0.4410
	(0.390)	(1.351)		(0.361)	(0.851)	
R	-0.1026	-0.3691	0.0027	-0.0586	-1.5451**	0.0123
	(0.220)	(0.675)		(0.298)	(0.750)	

Appendix Table 1. Economics Ph.D. Degrees Granted From 1991–2007

Notes: Dissertation data are collected by Journal of Economic Literature from 1991 to 2007, based on self-reports from economics or business departments of U.S. (and a few Canadian) academic institutions. We restrict our sample to 67 departments in the data that each has produced at least 70 Ph.D. graduates during the period 1991–2007.

	Number of Ph.D. Degrees From 1991–2007	
University	Total	Average per Year
American University	132	7.8
Boston College	118	6.9
Boston University	205	12.1
Brown University	137	8.1
City College of CUNY	163	9.6
Claremont Graduate School	112	6.6
Columbia University	312	18.4
Cornell University	318	18.7
Duke University	151	8.9
Fordham University	105	6.2
George Mason University	154	9.1
George Washington University	113	6.6
Georgetown University	107	6.3
Georgia State University	94	5.5
Harvard University	560	32.9
Indiana University	166	9.8
Iowa State University	160	9.4
Johns Hopkins University	145	8.5
Massachusetts Institute of Technology	433	25.5
Michigan State University	247	14.5
New School for Social Research	140	8.2
New York University	243	14.3
North Carolina State University	136	8.0
Northwestern University	135	7.9
Ohio State University	329	19.4
Pennsylvania State University	119	7.0
Princeton University	250	14.7
Purdue University	238	14.0
Queen's University	139	8.2
Rutgers University	79	4.6
SUNY at Stony Brook	96	5.6
Stanford University	440	25.9
Texas A&M University	189	11.1
University of British Columbia	83	4.9
University of California, Berkeley	507	29.8
University of California, Davis	179	10.5
University of California, Los Angeles	314	18.5
University of California, San Diego	133	7.8
University of California, Santa Barbara	91	5.4
University of Chicago	479	28.2
University of Colorado	151	8.9
University of Connecticut	94	5.5

University of Houston	83	4.9
University of Illinois	490	28.8
University of Maryland	320	18.8
University of Massachusetts	131	7.7
University of Michigan	291	17.1
University of Minnesota	335	19.7
University of Missouri	140	8.2
University of North Carolina	135	7.9
University of Notre Dame	90	5.3
University of Pennsylvania	275	16.2
University of Pittsburgh	108	6.4
University of Rochester	152	8.9
University of South Carolina	78	4.6
University of Southern California	96	5.6
University of Texas	206	12.1
University of Toronto	115	6.8
University of Utah	88	5.2
University of Virginia	114	6.7
University of Washington	164	9.6
University of Wisconsin	382	22.5
University of Wisconsin, Milwaukee	94	5.5
Vanderbilt University	105	6.2
Washington State University	139	8.2
Washington University	107	6.3
Yale University	299	17.6