

The Role of Field of Specialization in the Academic Labor Market for PhDs in Economics

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Introduction

- Tradition of studying the labor market for PhD economists
 - Literature identifies a handful of predictors
 - Field of specialization is not as well studied
- I create and analyze dataset of graduates from top-100 programs from 2010-2023
 - Data on advisors, postdoctoral positions, dissertation abstracts and more
 - Three different definitions of field for robustness
 - Methods highlight overlapping fields of specialization
- Key findings:
 - Public, labor, health place into lower ranks than micro
 - Health, IO, metrics more likely to place into R1 than micro
 - New estimates on h-index of advisors and doing a postdoc

Literature Review

- Surveys on salary, satisfaction, and demographic trends in placement (Siegfried & Stock, 1999; Stock & Siegfried, 2014)
- Some studies focus on top-programs:
 - Gender out of top-50 (Chen, Liu, & Billger, 2012; Bryan, 2019)
 - Core grades out of top-10 (Athey et al., 2007)
- Other predictors:
 - Cohort ranking (Smeets, Warzynski, & Coupe, 2006)
 - Quality of job-market paper (Cawley, 2016)
 - Rank of graduating institution (Stock, Alston, & Milkman, 2000; Jones & Sloan, 2020)
- Field likely an important predictor:
 - Gender differences in fields (Fortin, Lemieux, & Rehavi, 2021)
 - Field match factor in hiring (Stock, Alston, & Milkman, 2000)

Literature Review

- Study contribution:
 - One of the largest placement datasets to date
 - Unique postdoc and h-index explanatory variables
 - Three definitions of field: JEL list, self-reported, dissertation
 - Estimate of field as predictor across multiple placement outcomes

Data Sources

- List of graduates and placements:
 - Placement pages
 - JEL dissertation list
 - LinkedIn and CVs
- Three measures of field:
 - JEL code from dissertation list
 - Self-reported description from LinkedIn and CVs
 - Dissertation abstract from ProQuest Dissertations & Theses
- Additional predictors:
 - Advisor names from ProQuest and h-index from OpenAlex
 - Postdoctoral work from LinkedIn and CVs
 - Program ranks from 2022 U.S. News and Tilburg
 - Department funding from NSF

Variable Creation and Data Overview

- Sample size of 11,516 graduates from 100 programs
- Within 3 years of graduating 4,853 earned an assistant professorship (AP):
 - JEL list field available for 4,121 (85%)
 - Self-reported field available for 4,726 (97%)
 - Dissertation abstract field available for 4,243 (87%)
- Two-step process for gender variable:
 - Names processed through Python
 - Manual processing based on CVs and personal websites
- Create H-index variable with average of data gathered through OpenAlex API

AP Placements Out of the Top 50

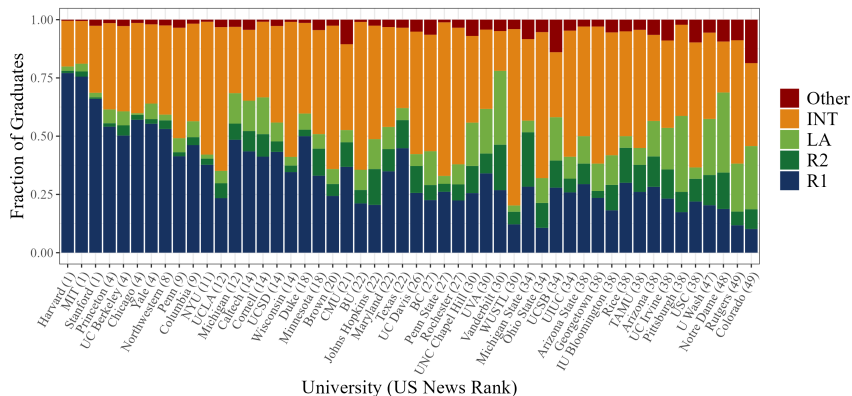


Figure: AP Placement Rate for Top 50 Programs

AP Placements Outside the Top 50

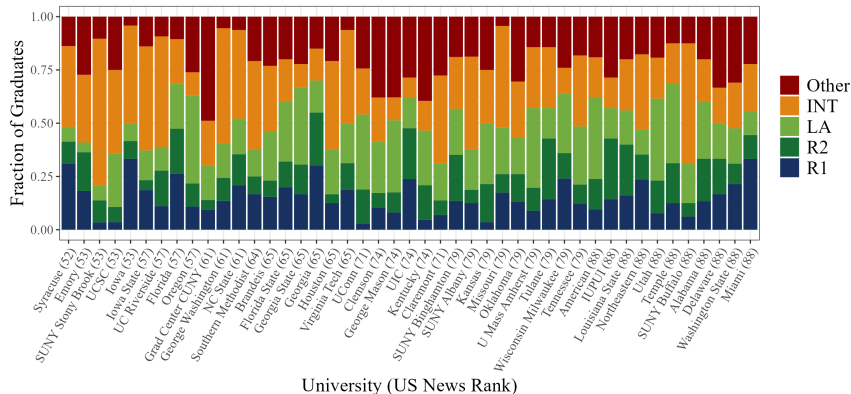


Figure: AP Placement Rate Outside the Top 50

Trends in Specialization

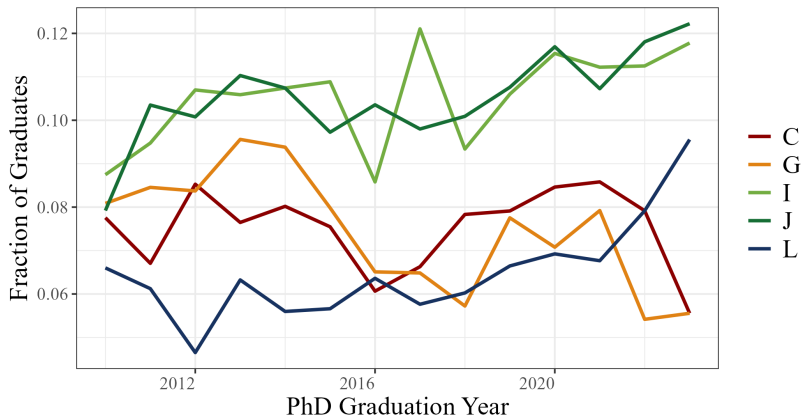


Figure: Fraction of Graduates Specializing in Fluctuating JEL-Listed Fields

Field Conversion to JEL Codes

- JEL Codes are basis of field analysis
- Convert self-reported descriptions in Python:
 - Closest match among AEA keywords
- Text classifier to convert dissertations abstracts:
 - Support vector machine 80-20 testing-training
 - Trained on 27,304 abstracts from NBER and AEA
 - Single code label based on modal field
 - 61% accuracy on single & 85% accuracy on original
 - Confusion matrix reflects overlap between fields
 - Insights from feature terms

Confusion Matrix

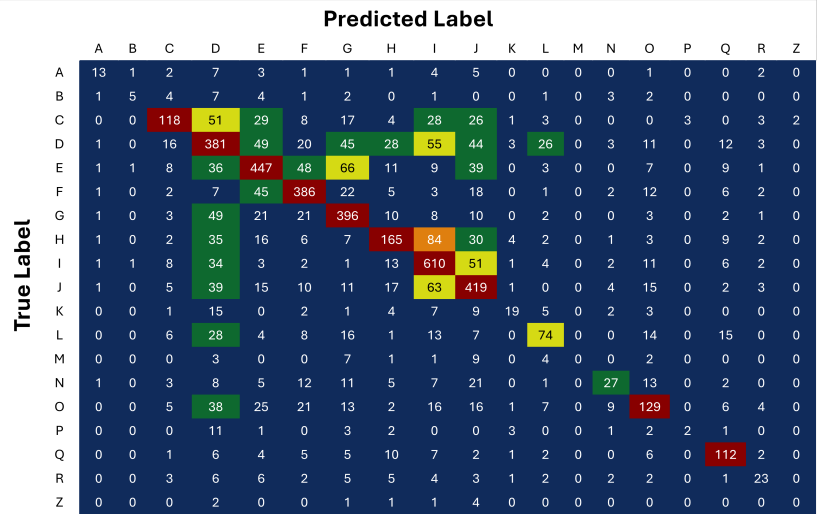


Figure: SVM Confusion Matrix

SVM Feature Table

Table: Top Five SVM Features for Each Field

Field	Feat. 1	Feat. 2	Feat. 3	Feat. 4	Feat. 5
A	economics	journals	economists	journal	departments
B	medal	clark	bates	john	contributions
C	estimators	estimation	experiments	experiment	inference
D	media	information	preferences	savings	corruption
E	monetary	macroeconomic	inflation	central	aggregate
F	trade	international	globalization	exchange	export
G	investors	stocks	banks	corporate	funds
H	tax	taxation	taxes	eitc	security
I	health	student	students	smoking	enrollment
J	labor	job	jobs	workers	wage
K	legal	criminal	jury	litigation	liability
L	antitrust	entry	industry	internet	electricity
M	executive	csr	practices	reporting	codetermination
N	historical	american	century	slave	nineteenth
O	innovation	patent	africa	growth	knowledge
P	transition	soviet	socialism	capitalism	liberalizations
Q	climate	environmental	emissions	energy	solar
R	housing	cities	urban	agglomeration	metropolitan
Y	rome	overconfidence	trevon	symposium	scheidel
Z	religiosity	deserters	interaction	antisemitism	performers

Empirical Framework

- General model of placement outcomes:

$$\begin{aligned} Outcome_i = & \beta_0 + \beta_1 USN_i + \beta_2 (USN_i)^2 + \beta_3 HIndex_i \\ & + \beta_4 Postdoc_i + Field_i \delta + X_i \gamma + u_i \quad (1) \end{aligned}$$

- $Outcome_i \in \{USN_i, R1_i, \log(Fund_i), Tilburg_i\}$
- Simpler model for earning an AP:

$$AP_i = \beta_0 + \beta_1 USN_i + \beta_2 (USN_i)^2 + Field_i \delta + X_i \gamma + u_i \quad (2)$$

- Variable X_i year and gender controls
- Omit general microeconomics (D) from $Field_i$

Results: U.S. News Rank

Table: U.S. News Rank Results by Field Definition

	JEL List	Self-Reported	Abstract
USNews	1.799*** (0.138)	1.811*** (0.127)	1.780*** (0.126)
(USNews) ²	-0.012*** (0.002)	-0.012*** (0.002)	-0.012*** (0.002)
HIndex	-0.057* (0.026)	-0.056* (0.026)	-0.063** (0.024)
Postdoc	-13.567*** (1.717)	-13.026*** (1.591)	-13.243*** (1.589)
A	11.735 (13.280)	32.901*** (5.974)	
B	31.698*** (4.569)	5.758 (8.616)	
C	0.617 (2.772)	1.973 (2.904)	0.222 (2.522)
E	-2.417 (2.659)	3.785 (3.266)	-2.000 (2.420)
F	1.029 (4.036)	2.815 (3.262)	8.115* (3.280)
G	-1.449 (3.195)	1.815 (3.179)	1.277 (2.868)
H	12.938** (4.208)	17.385** (5.725)	14.770*** (4.034)
I	1.616 (3.118)	7.227* (3.206)	6.731* (2.706)
J	7.280* (3.352)	6.099* (3.015)	6.941* (2.698)

Results: U.S. News Rank

Table: U.S. News Rank Results by Field Definition

	JEL List	Self-Reported	Abstract
K	15.473*** (4.574)	8.315 (5.762)	10.633 (7.856)
L	-4.534 (3.411)	-0.495 (2.941)	-1.399 (3.858)
M	-8.282† (4.671)	13.189 (9.594)	
N	5.620 (8.983)	4.907 (5.715)	12.409 (9.671)
O	5.644† (3.419)	4.141 (3.378)	7.666† (4.305)
P	5.117 (8.522)	16.589* (7.657)	
Q	3.057 (3.834)	5.910† (3.569)	7.304* (3.703)
R	-0.547 (3.932)	10.737* (5.228)	-3.617 (5.050)
Z	-8.275 (9.685)	-75.697*** (3.478)	
Intercept	24.689*** (4.223)	19.309*** (4.069)	22.755*** (3.837)
Num. obs.	1267	1430	1431
R ²	0.451	0.441	0.441

Results: Probability of Placing into an R1 University

Table: Probability of Placing into a Pre-2025 R1 University by Field Definition

	JEL List	Self-Reported	Abstract
USNews	-0.0130*** (0.0010)	-0.0127*** (0.0009)	-0.0127*** (0.0009)
(USNews) ²	0.0001*** (0.0000)	0.0001*** (0.0000)	0.0001*** (0.0000)
HIndex	0.0015*** (0.0003)	0.0017*** (0.0003)	0.0016*** (0.0003)
Postdoc	0.1273*** (0.0222)	0.1308*** (0.0213)	0.1288*** (0.0208)
A	0.6357*** (0.0071)	0.4222 (0.2240)	-0.3556*** (0.0065)
B	-0.0424 (0.1507)	0.1163 (0.1019)	
C	0.0491 (0.0278)	0.0497 (0.0296)	0.0676* (0.0264)
E	0.0071 (0.0272)	0.0079 (0.0300)	0.0106 (0.0238)
F	-0.0298 (0.0331)	0.0109 (0.0321)	-0.0337 (0.0264)
G	0.0017 (0.0288)	0.0166 (0.0314)	0.0145 (0.0271)
H	0.0234 (0.0366)	0.0247 (0.0482)	0.0252 (0.0374)
I	0.0796** (0.0305)	0.1439*** (0.0327)	0.1064*** (0.0265)
J	0.0286 (0.0292)	0.0468 (0.0301)	0.0403 (0.0253)

Results: Probability of Placing into an R1 University

Table: Probability of Placing into a Pre-2025 R1 University by Field Definition

	JEL List	Self-Reported	Abstract
K	0.1488** (0.0561)	0.1625* (0.0710)	0.3161** (0.0992)
L	0.0629 (0.0362)	0.1244*** (0.0329)	0.1136** (0.0376)
M	0.0833 (0.0939)	0.1425 (0.1043)	
N	-0.0915 (0.0649)	-0.0549 (0.0412)	-0.0692 (0.0787)
O	0.0205 (0.0376)	-0.0393 (0.0305)	-0.0413 (0.0393)
P	-0.1706** (0.0657)	-0.0930 (0.0582)	-0.3543*** (0.0066)
Q	0.1797*** (0.0390)	0.1063** (0.0370)	0.1972*** (0.0388)
R	0.0927* (0.0459)	0.0705 (0.0504)	0.1234 (0.0652)
Y	-0.0042 (0.0845)		
Z	-0.0264 (0.0783)	0.1729 (0.2001)	
AIC	4016.005	4493.453	4499.111
BIC	4257.848	4733.834	4720.758
Log Likelihood	-1969.002	-2208.727	-2214.555
Deviance	3938.005	4417.453	4429.111
Num. obs.	3645	4129	4158

Results: Probability Earning an AP

Table: Probability of Earning an AP

	JEL List
USNews	-0.0036*** (0.0007)
(USNews) ²	0.00002* (0.0000)
A	0.0412 (0.1802)
B	-0.0569 (0.0939)
C	0.0916*** (0.0221)
E	-0.0236 (0.0201)
F	-0.0530* (0.0227)
G	-0.0864*** (0.0212)
H	-0.0448 [†] (0.0271)
I	-0.1027*** (0.0191)
J	-0.0634** (0.0194)

Results: Probability Earning an AP

Table: Probability of Earning an AP

	JEL List
K	0.0320 (0.0423)
L	-0.0897*** (0.0224)
M	-0.0282 (0.0782)
N	0.1326* (0.0585)
O	-0.0007 (0.0282)
P	0.1433* (0.0569)
Q	-0.0577* (0.0249)
R	-0.0640* (0.0287)
Y	0.0021 (0.0634)
Z	-0.0386 (0.0556)
AIC	12121.58
BIC	12384.70
Log Like.	-6023.79
Deviance	12047.58
Num. obs.	9057

Discussion

- Public, labor, and health and education place into lower ranks
 - Same goes for applied micro under coarse fields
 - Robust to restricted sample
- Health and education, environmental, and IO more likely to place into an R1 university
 - Political economy less likely
 - Same result for applied micro generally
 - Again robust to reduced sample
- Almost none have statistically significantly different results on Tilburg and funding outcomes

Discussion

- Graduating from lower-ranked program always associated with penalty
 - Moderated by squared term
- H-index of advisors has moderate positive associations
- Completing a postdoc has large positive associations
 - Tangled with "gift" postdocs

Discussion

- Gender control estimates never statistically significant
 - Might seem counter to literature
 - Highlights that difference mostly up to field choice
- Future research:
 - Publication record or predoctoral work as predictors
 - Re-rank universities based on placement data
 - Job Openings for Economists to study demand side

References

- Athey, S., L. F. Katz, A. B. Krueger, S. Levitt, and J. Poterba. 2007. What Does Performance in Graduate School Predict? Graduate Economics Education and Student Outcomes. *The American Economic Review* 97 (2): 512-520. doi: 10.1257/aer.97.2.512.
- Bryan, K. A. 2019. Young 'Stars' in Economics: What They Do and Where They Go. *Economic Inquiry* 57 (3): 1231-1742. doi: 10.1111/ecin.12762.
- Cawley, J. 2016. A Guide and Advice for Economists on the U.S. Junior Academic Job Market. IZA Discussion Paper No. 10400.
- Chen, J., Q. Liu, and S. Billger. 2012. Where Do New Ph.D. Economists Go Evidence from Recent Initial Job Placements. IZA Discussion Paper No. 6990.
- Fortin, N., T. Lemieux, and M. Rehavi. 2021. Gender Differences in Fields of Specialization and Placement Outcomes among PhDs in Economics. *AEA Papers and Proceedings* 111: 74-79. doi: 10.1257/pandp.20211028.
- Jones, T. R. and A. Sloan. 2020. Staying at the Top: The Ph.D. Origins of Economics Faculty. EdWorkingPaper: 20-324.
- Kalaitzidakis, P., T. P. Mamuneas, and T. Stengos. 2003. Rankings of Academic Journals and Institutions in Economics. *Journal of the European Economic Association* 1 (6): 1346-1366. doi: 10.1162/15424760322752566.

References

- Larson, R. C., N. Ghaffarzadegan, and Y. Xue. 2014. Too Many PhD Graduates or Too Few Academic Job Openings: The Basic Reproductive Number R_0 in Academia. *Systems Research and Behavioral Science* 31 (6): 745-750. doi: 10.1002/sres.2210.
- McFall, B. H., M. Murray-Close, R. J. Willis, and U. Chen. 2015. Is It All Worth It? The Experiences of New PhDs on the Job Market, 2007-10. *The Journal of Economic Education* 46 (1): 83-104.
- Siegfried, J. J., and W. A. Stock. 1999. The Labor Market for New Ph.D. Economists. *Journal of Economic Perspectives* 13 (3): 115-134. doi: 10.1257/jep.13.3.115.
- Smeets, V., F. Warzynski, and T. Coupe. 2006. Does the Academic Labor Market Initially Allocate New Graduates Efficiently? *Journal of Economic Perspectives* 20 (3): 161-172. doi: 10.1257/jep.20.3.161.
- Stock, W. A., R. M. Alston, and M. Milkman. 2000. The Academic Labor Market for Economists: 1995-96. *Atlantic Economic Journal* 28: 164-185. doi: 10.1007/BF02298359.
- Stock, W. A., and J. J. Siegfried. 2014. Fifteen Years of Research on Graduate Education in Economics: What Have we Learned? *The Journal of Economic Education* 45 (4), 287-303.