

# Investigation into Predoctoral Structures

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## 1 General Overview

Predocs are becoming increasingly common within the economics discipline and may be viewed as quasi-requirements for admission into top PhD programs. Predocs offer young researchers the chance to explore what economic research looks like in practice before making the commitment to a PhD program. Furthermore, predocs may also have the chance to continue building their econometric, theoretical, and mathematical

skills through the work itself as well as the coursework they may be able to take. Predocs could open the pipeline for more non-traditional candidates to be considered for admission, but they could also exacerbate existing diversity problems. Lastly, departments may be insufficiently prepared to handle predoc admissions and management, and predocs may also be uniquely vulnerable to certain power abuses.

## 1.1 Research Questions

This project seeks to investigate the practice of predocs programs along several dimensions, predominantly descriptive in nature:

- **Institutional structures:** What predoc structures exist at different institutions? For example, are there dedicated program coordinators? What kinds of nonpecuniary benefits are available to predocs (e.g., course enrollment and seminar attendance)?
  - Consider e.g. formalized + centralized process of Chicago Booth and Tobin Center at Yale vs. Harvard Econ
- **Hiring process:** How do professors and institutions hire predocs? Is there a central application portal or are predocs hired or is hiring primarily conducted through informal networks?
- **Impact on Diversity:** From which universities are predocs coming and to which programs are they admitted? What is the impact on gender, educational, and racial diversity? Potential mechanisms:
  - **Data tasks:** Data tasks offer the chance for increased meritocratic hiring, for example by giving candidates from less-traditional backgrounds the opportunity to showcase their skills. On the other hand, data tasks are incredibly time-intensive, and the subset of candidates who have the time to complete them is likely not random. For example, students who have to work through undergrad to pay for their tuition are both less likely to have the necessary time and more likely to come from lower-income backgrounds.
  - **Hiring process:** Who feels comfortable cold emailing professors – particularly at top institutions – is likely correlated with parental education, gender, etc.
  - **PI background:** Whereas general departmental diversity can already discourage/encourage candidates to apply to PhD programs, this could be even more magnified through the more direct relationship between a PI and a predoc. PIs might be more likely to hire someone “who looks like them” and are more likely to be risk-averse whereas admission committees might have an overall cohort diversity in mind and might be more willing to consider high-risk, high-return candidates.
- **Subjective Experiences:** How do predocs’ perceptions vary from their PIs? Examples: views on mentorship, workload, expectations, etc. Is there a difference between PIs who had full-time RA experience themselves vs. those who did not? Are there differences between TT, tenured, and end-of-career PIs?
- **PhD Admissions:** How important are predocs in PhD admissions?

- **Subject-areas:** Many predocs are in applied micro because these are RA-intensive. Some say that now too many people are applying with a stated desire to go into applied micro, and esp. junior faculty are overwhelmed with the demand to supervise.
- **Former Predocs:** Among people who did a predoc, how many are currently in PhD programs? Do they find the skills useful? Among people who did a predoc and are *not* in a PhD program, are they glad they found out academic research wasn't for them?
- **Impact on APs**
  - **Timeline:** What is the timeline to get to tenure? How has it changed, and how does it compare across disciplines? What could the gendered impact of longer timelines be?
  - **Inequality across Institutions:** Better-resourced professors and departments are more likely to be able to afford predocs. This can speed up the publishing process and allow for more work-intensive projects.

The purpose of the project is to help the economics discipline prosper by first getting a sense of the predoc landscape by updating the results of [Huang et al. \(2020\) \(data appendix\)](#), ensuring any goals toward promoting diversity are pursued appropriately, and potentially offer normative recommendations to professors and institutions on what to consider with respect to predoc structures.

## 1.2 Potential Data Sources

- National Science Foundation's Survey of Earned Doctorates, used by [Stansbury and Schultz \(2022\)](#)
- Scrape google scholar acknowledgement sections to cross-reference
- Scrape the web for past predoc position postings, scrape LinkedIn (if legal) for RA/predoc positions and collect institutional info.
  - Consideration on LinkedIn: less relevant in academia, so might bias the sample toward those who are in industry
- Survey of institutions on their structures
- HR data from institutions (anonymized) – just to get e.g. averages of pay or number of people hired
- Survey of professors on their experiences
  - Need to be careful about social desirability bias and other forms of bias
  - How to incentivize participation? Probably not ethical to offer a service in return, but monetary incentives unlikely to impress professors. Can check the literature on existing professional surveys to see what was done to encourage participation?
- Survey of current and past predocs

- Some departments publish lists of their predocs online. Yale also includes past predocs. Would need to be careful about assuring anonymity – esp. current predocs could be concerned that their answers could be discovered by their PI
- Centrality of application process/level of organization is endogenous to measurement: more centralized programs will also be easier to sample from
- Contact Huang, Liang, and Russel (2020) to see if they’re willing to share their data. Can at least have some continuity in the questionnaire to potentially even build time series if the survey is run over multiple years.
- See also Schlauch and Startz (2018) for some existing descriptive statistics
- How to incentivize participation? Random draw of Amazon gift cards? Lottery for a GRE test (value = \$250)

## 2 Institutions with RAs/Predocs

Figure 1 shows the institutions that Huang et al. (2020) surveyed and their respective response counts.

FIGURE 1

**Table 2: Institution Counts**

Academic		Non-academic	
Institution	Count	Institution	Count
Stanford	27	Fed system	26
Harvard	21	RAND	17
UChicago	20	IMF	11
Yale	15	CFPB	4
Princeton	11	Microsoft Research	3
Northwestern	9	Other non-academic	4
MIT	6		
NYU	6		
Columbia	5		
JPAL / IPA	4		
NBER	4		
Other academic	10		
Total	138		65

Note: Institutions with small cell counts are grouped to protect confidentiality.

## 3 Draft Surveys

### 3.1 Draft Predoc Survey

- Should use most questions from Huang et al. (2020) and see if they’re willing to share data for a more direct comparison. Perhaps they have the info and we could reach out to see where everyone they surveyed is now.

- On the other hand, if they give data they might want co-authorship as well.
- Relative to [Huang et al. \(2020\)](#), perhaps want to focus more on qualitative experiences. The “goal” in mind might be to help highlight to PIs/institutions things they may not be aware of that could improve the predoc experience: PIs have **not** been trained to be managers
- Key problem is anonymity risk – people might want not to be honest regarding negative experiences, but in particular if they think that a different economist (us) might have access to this information.

## 3.2 Draft PI Survey

- This could be a contribution relative to [Huang et al. \(2020\)](#)
- Ideally, could link predocs to their PIs. Would have to address confidentiality concerns  $\Rightarrow$  maybe look into social desirability bias methods?
  - $\Rightarrow$  Could do something like scrambling the names of survey participants and PIs? Would need to be scrambled in the same way so that we could match wherever possible (though highly likely to be far too small a sample).
- Would be cool to get a sense of perceptions. For example, do PIs have a good sense about how many hours their predocs are working?
- Find a way to think about power dynamics?
- Get a sense of how much PIs think about about mentorship. Do PIs see a role for “placing” their predocs or not? Coauthoring?
- Matching dynamics: gender, sub-field
  - $\Rightarrow$  Are women more likely to hire women? Do they evaluate them differently?<sup>1</sup>.
  - Is there higher satisfaction if there’s an overlap of subfield?
- Rank importance of different qualities in RA. Could there be a way to suss out e.g. whether they value creativity vs. timely delivery of tasks

## 4 Feedback

### 4.1 A. Stansbury Email 8.4.2023

Hi Martha,

Good to hear from you. I appreciated your comments at the EFIP conference.

I think this is really important. As I’ve talked to people about my paper on socioeconomic diversity in economics PhDs, a lot of people ask about predocs, and our data stops before that really became a phenomenon so we can’t say much about it. Have you seen the survey a few years ago by Huang, Liang,

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<sup>1</sup>Highly unlikely that the sample size would be large enough to say anything definitive

and Russel? (you can probably google to find slides if not, or I think they are cited in the bibliography of my PIIE working paper with Schultz). That's the only hard data I've seen on economics predocs. Also, the SED data I'm using gets updated frequently enough that we would now be able to see 2021 PHD recipients so it's getting to the time when we'll start to see the classes with lots of predocs coming through (I'd guess my year at Harvard probably half of us had done a predoc or RAship?).

I also agree that your points (1)-(3) are interesting to understand in your email to Suresh. It would be really interesting to understand, per Anthony's thread, also if "lab based" models are more effective at increasing diversity of recruits etc, and also if programs like predoc.org are helping widen the pipeline vs are the normal recruiting channels narrowing it or simply lengthening it (but keeping it the same otherwise).

I love your idea of a panel on predocs too.

I'm currently not taking on any new projects but I'd be happy to hear updates if you pursue this, talk through plans/approaches, etc! My socioeconomic diversity paper is coming out in the JEP this Fall so it will (hopefully) trigger some important conversations in departments – meaning there will likely be fertile ground for thinking through this whole predoc question.

Warmest wishes,  
Anna

## 4.2 S. Dynarski Meeting 8.10.2023

- like AP courses, both effects: what's the net effect. Probably has both effects
- "Push to think about" how you will measure the diversity: we think the idea is that the institution has predoc programs" does it diversify the top 15 econ programs?
- Anna Gifty at at Ed school, at HBS
- measuring: how do you get the arms around? descriptives on how centralized the predoc programs are at the different schools
- Do they have any centralized repository? program made for them?
- Challenge: idea of predocs was to formalize what had been informal relationships and connections. Your father knows this professor and gets you this gig. So instead, advertise and turn into formal position that people can apply to. Challenge: first one is informal without any structure. How do we know who is a predoc? What counts as a predoc? What has changed? How do you measure what has changed? Measure change in pipeline is tricky because it wasn't formalized. Can look at whether/how diverse formal ones are.
- Surveying PIs: could be tough to nail down comprehensive or causal. But anything we learn is going to be interesting.
- has doctoral candidate on coding bootcamps and there's no admin data on it. Going to do work scrape information from web. Universe of forces and characteristics. Starting from nothing. Descriptives themselves are interesting. Causal effect of

- scraping could be useful from where they're listed. Set up a python script and go hunting for predoc. When does it first emerge as a word? – google trends?. Wayback machine. Old listing. Archived anywhere? How the number has changed over time.
- social vs. private costs: if students are taking classes, younger person therefore they cost less. Cost shifting onto the insituiton
- Why do PIs have an incentive to create these position? Melanie Resinski at HKS and she was an RA for Josh Goodman before that backwhen just called RAs. Proceeds whole predoc thing. Were positions for research positions for recent graduates. If that was the comparison population, how diverse are they? And still people being hired as just RAs. What's the population of pre-doctoral positions who have not yet entered graduate school. Has that body of people changed since the relabeling, changed in composition?
- That is the population that you're trying to describe both before and after. AMong recently graduated people, who was working on a full-time basis as an RA/predoc with tenure-track faculty at top X institutions. This is the pop I'd like to describe. If has changed, how affected entry into doctoral program. Has the world changed opposed to labeling? Need to define how the world has changed.
- Surveying new doctoral students and how many of them did RAs or predoc with TT faculty before
- If convenience sampling, wouldn't be comprehensive dataset that told everything. Have to pick: who can I talk to get info and interviews and what do I want extensive evidence on. Couple stages: I want to gather info that would let me construct a research agenda for gathering comprehensive data. Interviews and learn stuff and listen, from that get a sense of what the story is and then survey population and scrape for.
- snowball sample
- to what extent relabeling. Fed RAships. Gov't stuff and thinktanks have long had this. Have names. Dynarski recruited from Urban Institute. This was a feeder.
- Measurement and centralization of information is endogenous. Be aware: ability to measure is endogenous to centrality. Then also easier to measure who's a predoc at Yale vs. Harvard, so there's circularity there.

### 4.3 S. Lundberg Email 8.10.2023

Hi Martha: I hope that your predoc, at least, is working out well. I've had a LOT of casual conversations with economists worried about the issues you are flagging here—even if it seems privately rational to go for a predoc before grad school, what are the implications of a new equilibrium where this (and the associated lengthening of the PhD training period) becomes seen as a requirement. I've been trying to think of someone who's done any more serious thinking about this, beyond the usual BS in hallways and at conferences, but I'm not there yet. So let me make some random noises at you and see if anything useful comes out.

First, out of curiosity, what exactly are you thinking of doing with this? Designing a future formal research project? Writing up something more descriptive laying out the issues to start conversations? Not sure where you are.

Second, I've attached a paper that had the underlying purpose of seeing whether getting a predoc was a good idea a few years back. Pretty descriptive, but you might find it interesting. Dick Startz says (from his office on the other side of the house) that he'd be happy to chat about this, and mentions John List as someone who is both concerned about diversity in econ and is a predoc booster.

My observation as of a year or so ago (when I was still supervising our senior honors program) is that there's not been any centralization of the application process, though predoc.org has been trying to corral some information, job listings, etc. Some of my students spent a ridiculous # of hours on Stata tests, etc. and the quality of the positions has increased in variance in ways hard to observe.

The first thing I did was to look at the CSWEP website and see if they've done a symposium on predocs (or applying to grad school more broadly) in their newsletter in recent years and the answer appears to be no. If you'd like to suggest that they do so (they are always looking for topics, and bringing in younger readers is a priority, you might contact the current Oversight Editor and ask whether such a thing is in the works or whether they would consider it. She'd also know whether someone on the current board has a particular interest in spearheading such a project.

Anyway, happy to chat if you think it would be useful and I'll ask around a bit re someone who has thought more deeply about this or is working on it.

SL

#### **4.4 J. Poterba Email 8.11.2023**

Dear Martha -

Congratulations on your new research position - I hope that you enjoy your time in the Yale research community and that you find the projects you are working on interesting and engaging.

The rise of predocs has indeed been rapid. Based on what I have gleaned from anecdotal interactions with both faculty members and predocs, there is quite a lot of institutional variation. Your proposal already recognizes that I believe may be the most important distinction. In some cases, an institution – Yale's Tobin Center, for example – hires a number of researchers through a centralized process, manages them collectively, and deploys them to work with individual faculty members. In other cases, an individual researcher is hiring someone to support a particular project. In the latter case there tends to be less organizational infrastructure around the predoc position. This dichotomy strikes me as something important to consider as you develop your analysis.

Good luck and all best wishes.

Jim

#### **4.5 Z. Bleemer Email 9.7.2023**

Hi Martha,

Ah! You're right; for some reason I placed you as a Yale predoc, but now I've got it.



You've got me as I'm sitting on the subway, so a few quick thoughts. You're framing your project as being about economics predocs. I would think bigger. How many economics predocs are there, right now? My recollection is there are about 1,000 new econ PhDs in the US each year. My guess is that the number of econ predocs is much smaller than that. I'm worried that thinking too much about such a narrow slice of the country can't possibly get you to high-impact research. So who else have we got? There's the research scientists. There's the bioscience postdocs (econ postdocs are mostly a different story). There's the lab technicians. There are lots of forms of academic labor. They are underpaid to various degrees, some more than others, for I think a variety of reasons, some related to markets (oversupply) and some not (NIH wage caps). Their presence inside universities has risen and fallen over time (I'd try to get aggregate data on that from BLS; figure out their occupation code). Maybe you could link their presence to research productivity across universities (NSF data on grants could help with that). I don't know if they've ever unionized anywhere, but it's like be interesting if so.

Hope some of that's helpful. Best of luck with the project. Well-wishes,  
Zach

## 5 Lit Review

## 6 Meeting Notes

### 6.1 Meeting Mar 13

- Ask predocs: how has your predoc influenced your choice of field?
- Goal: Get a set of research questions for predoc survey. Add one or two potential survey questions to each.

### 6.2 Meeting Mar 5

- Survey depts about PhD admissions (e.g., how many had research experience)
- Survey predocs and ex-predocs
  - See if skills were valuable
  - How many didn't do a PhD and are glad they found out?
- Field RAs
  - Circulate among IPA and JPAL
  - Exploitative labor: \$3/day
- "Economics research assistant survey"
- Predocs vs. RAs generally: international RAs
- What can we answer with descriptive data?

- Comparison to other fields
- What are the different hypotheses we cover?
  - age finish PhD, tenure, across country
- German-speaking: apprenticeship has pros and cons
- Frequent concerns
  - To what extent is learning vs. abuse happening?
  - How you do it matters a lot
- 1. State of youngest
- 2. Role of predocs in PhD admissions. (Widening pipeline?)
- 3. PhD-level Qs, earlier predocs
- 4. APs, professorships

### 6.3 D. Pomeranz, T. Grootenhuis, R. Nicolau Meeting 2.23.2024

- Multiple groups of interest: current predocs, past predocs who (1) are now in academia and (2) are no longer in academia, professors with and without predocs, institutions, PhD students
  - How to sample?  $\Rightarrow$  as first approximation, look at existing surveys e.g. mental health
  - Dina mentioned Frank
- Three potential goals: descriptive statistics, guidance for institutions and PIs, understand power dynamics better
- Themes: pipeline effects (widening vs. narrowing), day-to-day, career goals, mental health, power dynamics
  - day-to-day: frequency of interactions, pay, hours
  - mentorship vs. extraction/exploitation
- Varieties of Predocs: field RAs vs. “office” RAs, RAs in developing vs. middle income vs. developed countries (Kenya vs. Chile vs. US/Europe), RAs in universities vs. at Fed
- Predocs as an opportunity to discover whether or not you like research. Are current PhDs who did predocs better prepared? How do they feel about it?
- We should figure out co-authorship
- Europe: departmental vs. chair models. In latter, might have issues with power abuse but could also be fantastic.

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