

Some useful information for PhD students considering the private sector

(from some friends of UCSB Economics)

## **Non-academic Jobs for Economists**

*From Vedant Koppera (UCSB PhD, Deloitte)*

The following overview is non-definitive and based on my opinions and personal experiences.

### **Types of Jobs**

There are many non-academic opportunities for economists and they generally fall into a few categories:

- Litigation Consulting (e.g. Cornerstone, Compass Lexecon)
- General Consulting (e.g. MBB, Big 4, Navigant, Mercer)
- Companies (e.g. Amazon, AirBnB, Uber, JP Morgan Chase, American Express)
- Transfer Pricing (e.g. Big 4, Anderson Tax, Crowe Horwath)
- Public policy (e.g. IMPAQ, RTI International, Mathematica)
- Quasi-academic (e.g., Fed, RAND, World Bank)
- Government (e.g. GAO, Department of Labor, State and local governments)

### **Finding Jobs**

A lot of these jobs are posted on JOE, but I'd recommend doing a broader search as well:

- LinkedIn: I would recommend paying for LinkedIn premium and do the following:
  - Setup the signal to recruiters that you are actively looking for jobs. This is a passive way to get job interviews, and it works. I've gotten several interview requests in the past through this feature.
  - Make your profile look stellar and tailored to your audience. For example, if aiming for general consulting, make yourself look like a corporate executive and consider writing your profile in the third person.
  - Find people who work at the types of places mentioned above. Two types of people you should target:
    1. HR or recruiters: These individuals are incentivized to fill open positions, so don't hesitate to introduce yourself and let them know why you are particularly interested in their firm.
    2. Partners, Principals, Directors, and the like: These individuals have a lot of power and if you can get to know them, they may be able to get the hiring process going quicker than HR. They may be much more amenable to speaking with you if you share something in common such as an Economics PhD, alma mater, or something else.

- Whenever you message people, don't be meek and simply people know you're on the job market and wanting to know if they have open positions. Tell them that you bring a lot of value through your skills and experience (because you do), that they/their firm piqued your interest (for specific reasons you state), and that you'd like to connect (soon, like tomorrow or this week). Provide your phone number, email address, and times in the near future that would work for you for a phone conversation. Don't be afraid to send a second message if you don't get a response from the first message.
- Glassdoor:
  - Sign up and make a report on a prior position and salary to gain access to the premium version. A UCSB TAsip is sufficient for this.
  - Many jobs are also posted here. Setup a daily or weekly alert for keywords like econometrics, economist, regression analysis, economic modeling, etc.

Many non-academic jobs are open immediately, which isn't helpful if you still need to spend the rest of the year graduating. If you have the time, however, I would recommend taking interviews for jobs even if it's too soon. First, you'll get some interview practice. Second, if you do well, but can't take the job because you need to finish grad school, you'll have a foot in the door once you do. Just be honest about your circumstances. A recruiter will often welcome hearing from people who have already been vetted because this makes his or her job of filling open positions easier.

A note on data science and machine learning: There are a growing number of jobs that demand skills in data science and machine learning. The skills and knowledge gained in an Economics PhD have a lot in common with data science and machine learning. You could broaden your search to include these jobs.

## **Interviewing**

If interviewing for any of these jobs at the AEA meeting, follow the general job market advice. The interviews will usually follow a similar format to academic interviews. In addition to this:

- Some interviews might include ask you for on-the-spot economic case study analysis or questions about your econometric knowledge in general.
- Some interviewers screen potential employees by asking behavioral questions for how you would react in particular situations or ethical dilemmas. There are many examples of these questions online, and make sure you know how to answer them correctly.
- Emphasize your ability to communicate or work with others. Teaching experience, co-authorship, work experience, and extracurricular activities can all help here.
- Non-academic interviewers will often vet your job market paper and research just as much as academic interviewers, so be prepared.

If interviewing outside of the AEA, many interviewers might not have a good sense of what a PhD in Economics is, so be prepared to give a brief summary of how the PhD is structured, all the hard work done, and what skills and knowledge you've gained from it when you introduce yourself.

### **Picking a Job**

Once you have a job offer or ideally multiple offers, here are a few things to keep in mind before accepting:

- Will you like what you'll be doing?
- What is the average hours per day, usual number of days worked per year, and hourly wage?
- Brand reputation
- Learning opportunities for both hard and soft skills
- Exit options

*From Hal Varian (UC Berkeley, Google)*

<http://www.nber.org/papers/w25064>

One very important thing we teach our incoming PhDs is good practices for software engineering.

- write clear code with consistent style and lots of comments
- create unit tests to check parts of your code
- document every step of what you are doing
- use a revision control system

These practices and others like them make for 1) reusable code, 2) reproducible results, 3) extendable results.

See e.g., [this article](#).

[Here are some tips for reproducibility in machine learning...](#)

<http://link.oreilly.com/WF08RQMyW0o0Sru00p0Qy00>

From Tom Zimmerfaust (UCSB PhD, Analysis Group)

- Cover letters are critical: Applicants need to explain why they are applying to a particular job and how their toolset fits that job.
- Create a second online presence: Applicants should customize a site specifically for their private sector applications to enhance any work experience or coursework related to the private sector (*i.e.*, magnify any econometrics or any prior work experience related to programming or data) and reference this site on any applications. Generally, the skills and work product for which private sector companies look differ from those sought by academic institutions.
- Review the company's website: Applicants need to review the website of the company with which they are interviewing and develop two questions about the company based on that website. Having these questions in the back pocket shows genuine interest, and developing them will give the applicant a better idea of what the company actually does.
- Focus interview answers on toolset not research results: Interviews at the AEAs will always revolve around applicants' research; however, the toolset and methods used are far more interesting to private companies than the findings. Ideally, applicants can focus their responses on *how* they uncovered their results, not *what* the results are or why these results matter for future research.

Alex Wood-Doughty (UCSB PhD, Lyft)

Despite the title (Research Scientist), my primary job is not to do research, it's to build models and implement those models at scale. You will very likely be part of a cross-functional team where you will partner with engineering to build out a product. This usually involves the productionization of machine learning/causal inference models where it is necessary to write production-level code. You are not expected to contribute new research, but will still using cutting edge techniques. There is a big emphasis on overlaps between machine learning and causal inference: heterogeneous treatment effects, high-dimensional inference, etc. Also a fair amount of implementation of standard applied micro techniques: diff-in-diff, RD, IV. For recruitment, we aren't looking for a research agenda (and don't care much about your JMP). Most of the people we hire come from an applied micro background, since so much of the job involves working with large amount of data, but generally we want to find smart people who can solve business problems. You will likely be interviewed by people without an Economics degree and by people with more of a machine learning background, so good to have at least a high-level understanding of prediction problems. I think the recent Athey and Luca article: "Economists (and Economics) in Tech Companies" is a good overview and worth a read. Also for an overview of machine learning and economics, I recommend Athey's "The Impact of Machine Learning on Economics."