To: Members of the American Economic Association
From: AEA ad hoc Committee on the Job Market: John Cawley (chair), Matt Gentzkow, Brooke Helppie-McFall, Peter Rousseau, and Wendy Stock
Date: December 9, 2021
Re: Information on Labor Supply in Economics Ph.D. Job Market

Our committee has released information about the change in the number of jobs available for Ph.D. economists this year relative to previous years. In brief, it seems that the number of jobs for Ph.D. economists in 2021 has rebounded strongly from 2020, but has not yet reached the levels from 2019. This begs the question of what has happened to labor supply. In this memo we present information about the number of new Ph.D. Economists seeking jobs in 2021-22.

Those seeking jobs are a heterogeneous group, including both rookies (those seeking their first post-Ph.D. job) and advanced candidates (such as current assistant professors looking to make lateral moves). Our concern is more about the welfare of rookies, as they do not have a full-time job to stay in, and shocks to labor demand may have lasting consequences for their careers (see, e.g., Oyer, 2006).

We examine two measures of labor supply: first, the number of people sending signals through the AEA's signaling mechanism in early December; and second, the number of new candidate accounts created on Job Openings for Economists (JOE) this year, compared to previous years.

Number of People Sending Job Market Signals
Our first measure of labor supply is the number of people sending job market signals. The AEA allows job candidates to send up to two signals of special interests to employers. Because candidates are limited to two signals (enforced by having the signals submitted to, and then transmitted by, the AEA), the signals credibly convey information. For more information, see the AEA signaling webpage.

This year, the deadline for candidates to submit their signals to the AEA was November 29, and they were transmitted to employers on December 1. In 2021, 1,671 candidates sent signals, which was 11.3% higher than in 2020, but still 5.4% lower than in 2019.

However, it's important to keep in mind that those sending signals are not necessarily rookies; advanced job candidates (e.g. advanced assistant professors looking to move) may also send signals.

Number of Students Creating Job Candidate Accounts on JOE
Our second measure of labor supply is the number of people creating new job candidate accounts on the JOE Network; this is presumably a better measure of the number of rookie candidates than the number of people sending signals. People creating a job candidate account on JOE are requested, but not required, to list their year of Ph.D. receipt (which may be in the future). We define *students* as those who indicate that their year of Ph.D. receipt is the same year or a later year than the one in which they created their JOE candidate account. (For example, someone who created a new account in 2021 is classified as a student if they list their year of Ph.D. as 2021 or later.) We focus on the new accounts created by students. We also differentiate the

accounts which have submitted at least one application from those which have not yet submitted any applications.

Some clarifications regarding the data and graphs in this memo:

- Week of the year is defined according to the International Organization for Standardization (ISO), so the exact days contained in a given numbered week may differ slightly across years.
- The data cover ISO weeks 1 through 48 of 2021, ending December 5, 2021.
- On each graph, the year-to-date cumulative number of new candidate accounts is listed for 2021, 2020, and 2019. (For the sake of clarity, numbers are not printed on the graph for 2018 or 2017.)

Figure 1 shows the **total** number of new job candidate accounts on JOE created by students. In 2021, the number of new candidate accounts created is 0.1% higher than in the same week in 2020, and 14.7% lower than the same week in 2019 (which was pre-COVID).

Figure 2 shows the number of new job candidate accounts created by students **which have submitted at least one application**. In 2021, this number is 2.8% lower than in 2020 and 17.8% lower than in 2019.

Figure 3 shows the number of new job candidate accounts created by students **which have not submitted any applications**. In 2021, this number is 37.2% higher than in 2020 and 29.2% higher than in 2019. However, this is a small percentage of the total number of new student accounts (just 10.1%).

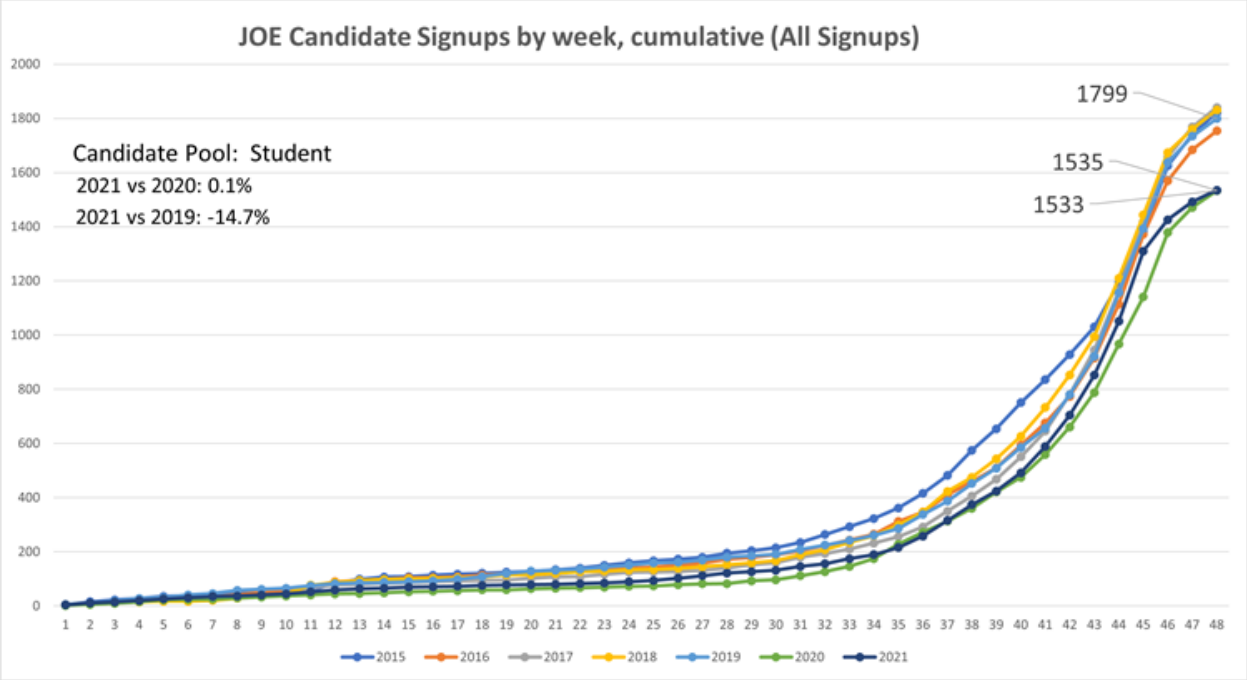
This raises the question of how many more new accounts are likely to be created before the end of 2021. Although we don't know the answer with certainty, the vast majority (95.1%) of all accounts created in 2019 had been created by the end of week 48.

In summary, there is mixed evidence regarding the number of new Economics Ph.D.s on the job market this year. Judging by the number of people sending job market signals, labor supply has rebounded significantly from 2020 (up 11.3%) but has not yet fully recovered to 2019 levels (still down 5.4%). However, the group sending signals includes more than just rookie job candidates. Based on new job candidate accounts by students on JOE that have applied to at least one job, the number of new Economics Ph.D.s seeking jobs is actually down slightly (2.8%) from last year and down 17.8% from 2019.

A few caveats are in order: 1) even rookie job seekers may have created an account on JOE in a previous year (although the number of new student accounts was considerably lower in not just 2021 but also 2020); 2) job candidates may apply to jobs without creating an account on JOE (e.g. through an employer-specific platform or other electronic clearinghouse); 3) graduate students who did not create a JOE account in 2021 or 2020 might disproportionately be people who would have applied to few jobs (e.g. people conducting a limited search a year before they expected to conduct a full-market search); 4) some of the decrease may be due to people who are earning their Ph.D.s from non-U.S. institutions declining to participate in the U.S. job market. It

is also possible that COVID has led some advanced graduate students to delay their graduation by more than a year, or may have led to increased withdrawals from Ph.D. programs.

Figure 1: Number of new job candidate accounts by students on JOE, total



Notes: 1) students are defined as those listing the year of Ph.D. receipt as the same year they created the account, or a future year; 2) after week 48, the line for 2021 remains constant at the week 48 value, whereas the lines for earlier years contain their week-specific actual values.

Figure 2: Number of new job candidate accounts by students on JOE, with at least one application

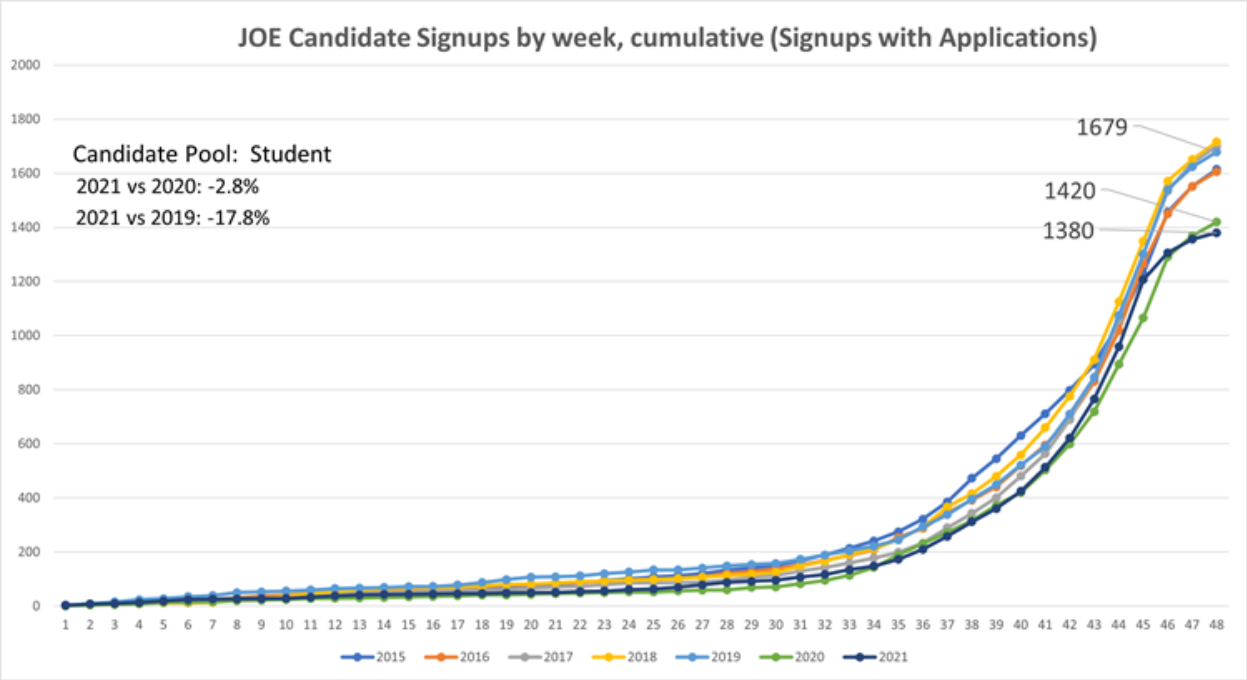


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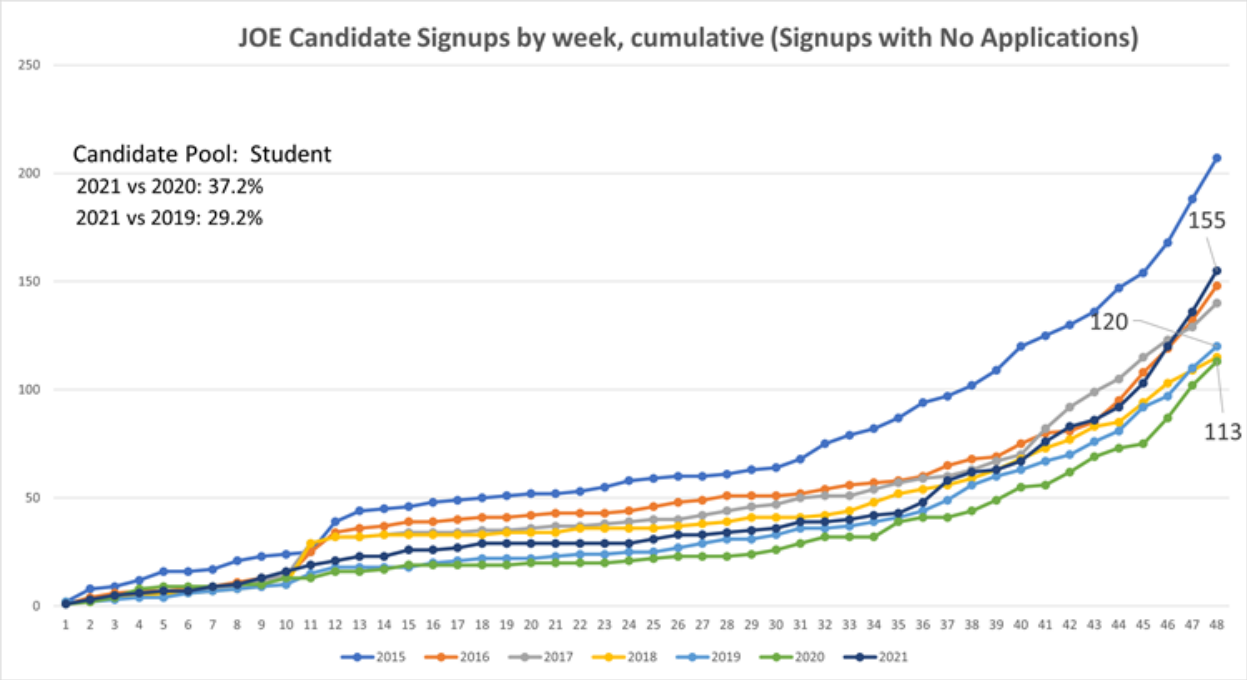
Figure 3: Number of new job candidate accounts by students on JOE, with no applications



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