

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 3, 2020

Re: Information on Labor Supply in Economics Ph.D. Job Market

Our committee has released information about the decline in the number of jobs available for Ph.D. economists this year relative to previous years. The decline in labor demand may be coupled with a decline in labor supply if, for example, fewer advanced graduate students enter the job market in 2020 than in recent years.

Those seeking jobs are a heterogeneous group, including both rookies (those about to graduate from their Ph.D. and seeking their first full-time job that requires a Ph.D.) 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 the shock to labor demand may have lasting consequences for their careers (see, e.g. [Oyer, 2006](#)).

In order to investigate this possibility, 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) during 2020, compared to previous years.

Number of People Sending Job Market Signals

The AEA allows job candidates to send employers a signal of special interest. 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 30, and they were transmitted to employers on December 2. In 2020, 1,502 candidates sent signals, which was 14.9% lower than in 2019, when 1,766 candidates sent signals.

Number of People Creating Job Candidate Accounts on JOE

Those creating an account 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 2020 is classified as a student if they list their year of Ph.D. as 2020 or later.) Those who indicate that their year of Ph.D. receipt is prior to the one in which they created their JOE candidate account are classified as *non-students*. (For example, someone who created a new account in 2020 is classified as a non-student if they list their year of Ph.D. as 2019 or earlier.) Those who did not state their year of Ph.D. receipt are classified as *unknown*.

So far in 2020, the percentage of new all new accounts created by category is: students: 78.3%; non-students: 18.2%; unknown: 3.6%.

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. For example, week 1 in 2020 runs from December 30, 2019 to January 5, 2020, whereas week 1 in 2019 is one day later - it runs from December 31, 2018 to January 6, 2019. This minor difference in the specific days included in each numbered week should not generate meaningful differences this late in the calendar year.
- The data cover ISO weeks 1 through 48 of 2020, ending November 29, 2020.
- On each graph, the year-to-date cumulative number of new candidate accounts is listed for 2020 and 2019. (For the sake of clarity, numbers are not printed on the graph for 2018 or 2017.)

Figure 1 shows the **overall** number of new candidate accounts on JOE. In 2020, the number of new candidate accounts created is 22.1% lower than in the same week in 2019.

Figure 2 shows the number of new candidate accounts created by **students**. In 2020, the number of new candidate accounts created by students is 16.4% lower than in the same week in 2019.

Figure 3 shows the number of new accounts created by **non-students**. In 2020, the number of new candidate accounts created by non-students is 40.1% lower than in the same week in 2019.

Figure 4 shows the number of new accounts created by those whose student status is **unknown** (i.e. they left the field blank for year of Ph.D.). In 2020, the number of such new candidate accounts was 19.0% lower than in the same week in 2019.

This raises the question of how many more new accounts are likely to be created before the end of 2020. 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.

This evidence suggests that there are indeed fewer job candidates on the market this year, including both advanced graduate students seeking their first job and past Ph.D. graduates who are looking to move. One interpretation is that the larger reduction in new accounts by non-students (40.1%) than students (16.4%) indicates that more people who already have full-time employment are holding off from re-entering the market, which may be to the advantage of rookie job candidates. Two caveats are: 1) many economics Ph.D.s in full-time employment already had existing JOE Network accounts, and so their decisions to re-enter the market cannot be inferred from these data on new accounts; 2) rookie job candidates may not be seen as perfect substitutes for experienced Ph.D. economists for all positions, so a reduction in experienced applicants may have limited benefit for rookie applicants.

There may be a temptation to compare the reduction in new accounts created (22.1%) to the reduction in the number of job openings listed on JOE (30.1%), but these numbers are not directly comparable for a number of reasons, including: 1) even rookie job seekers may have created an account on JOE in a previous year; 2) job candidates may apply to these jobs without creating an account on JOE (e.g. through an employer-specific platform or other electronic

clearinghouse); 3) those who did not create an account this year (but would have in a normal year) 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).

Likewise, there may be a temptation to compare the number of new accounts created by students (1,490) to the number of new jobs listed on JOE (2,400) but again these numbers are not directly comparable for a number of reasons, including: 1) some employers may be searching at the senior level; 2) some applicants may have an existing account with JOE or apply for the job through another portal without creating an account on JOE; 3) some positions may be also be open to applicants from disciplines other than economics.

Figure 1: Number of new candidate accounts on JOE

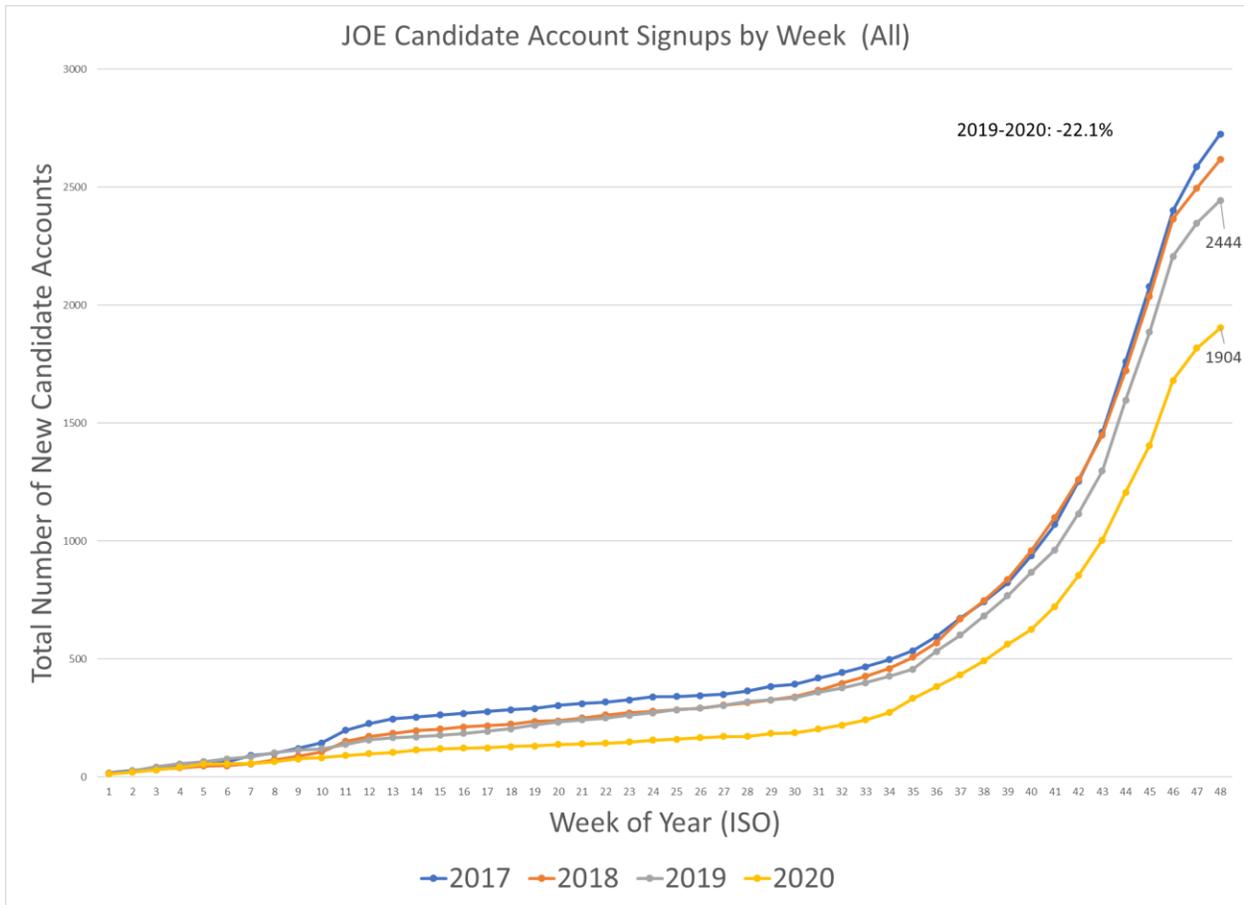
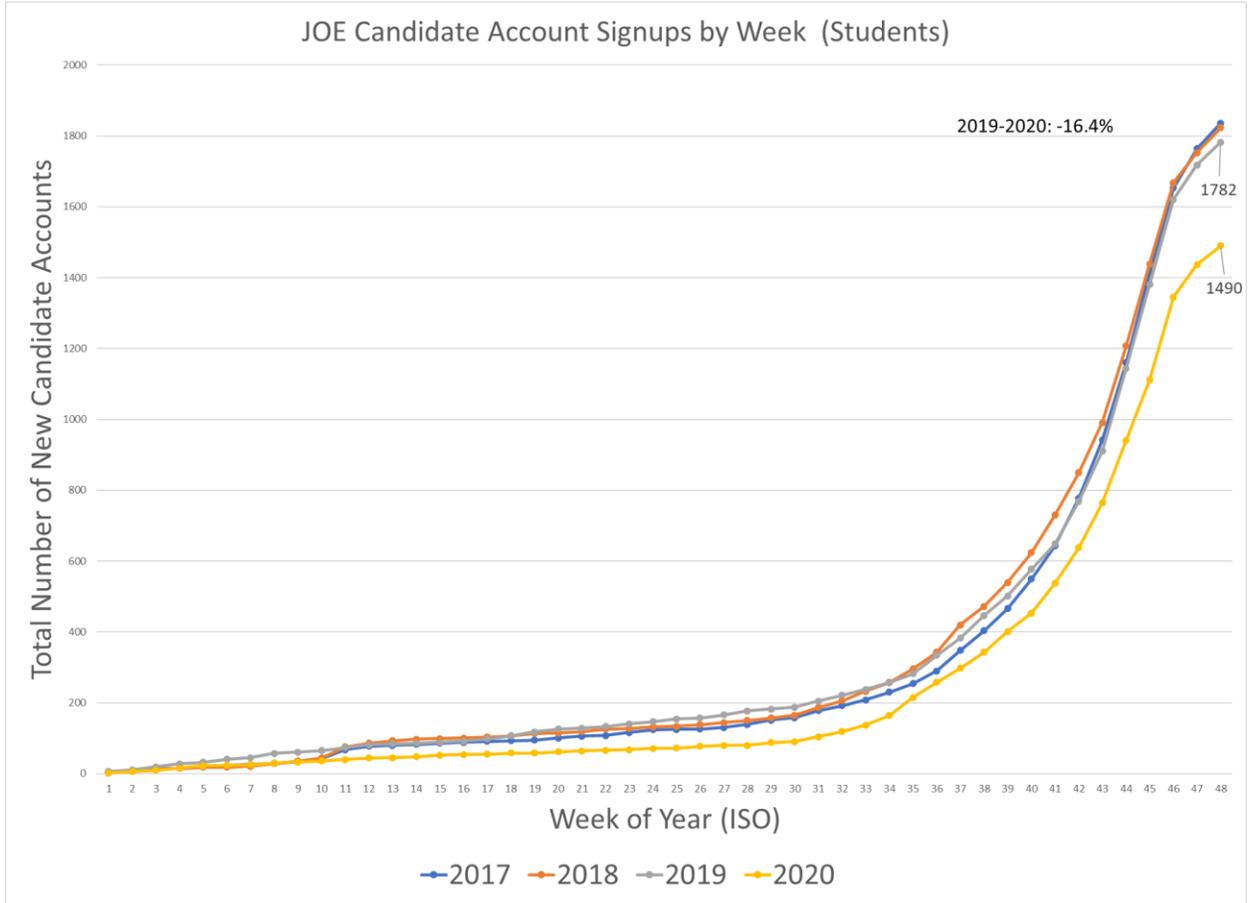
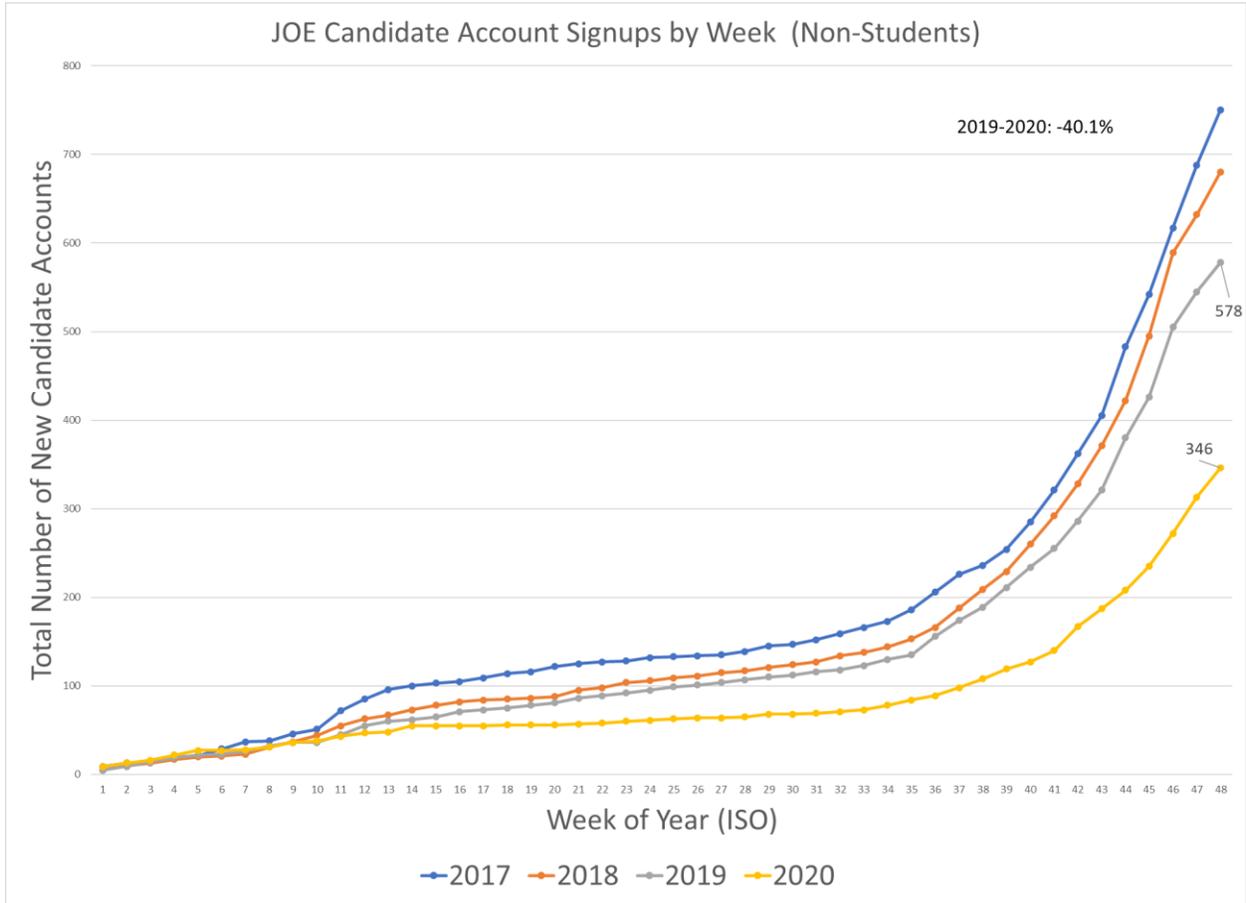


Figure 2: Number of new candidate accounts on JOE, students



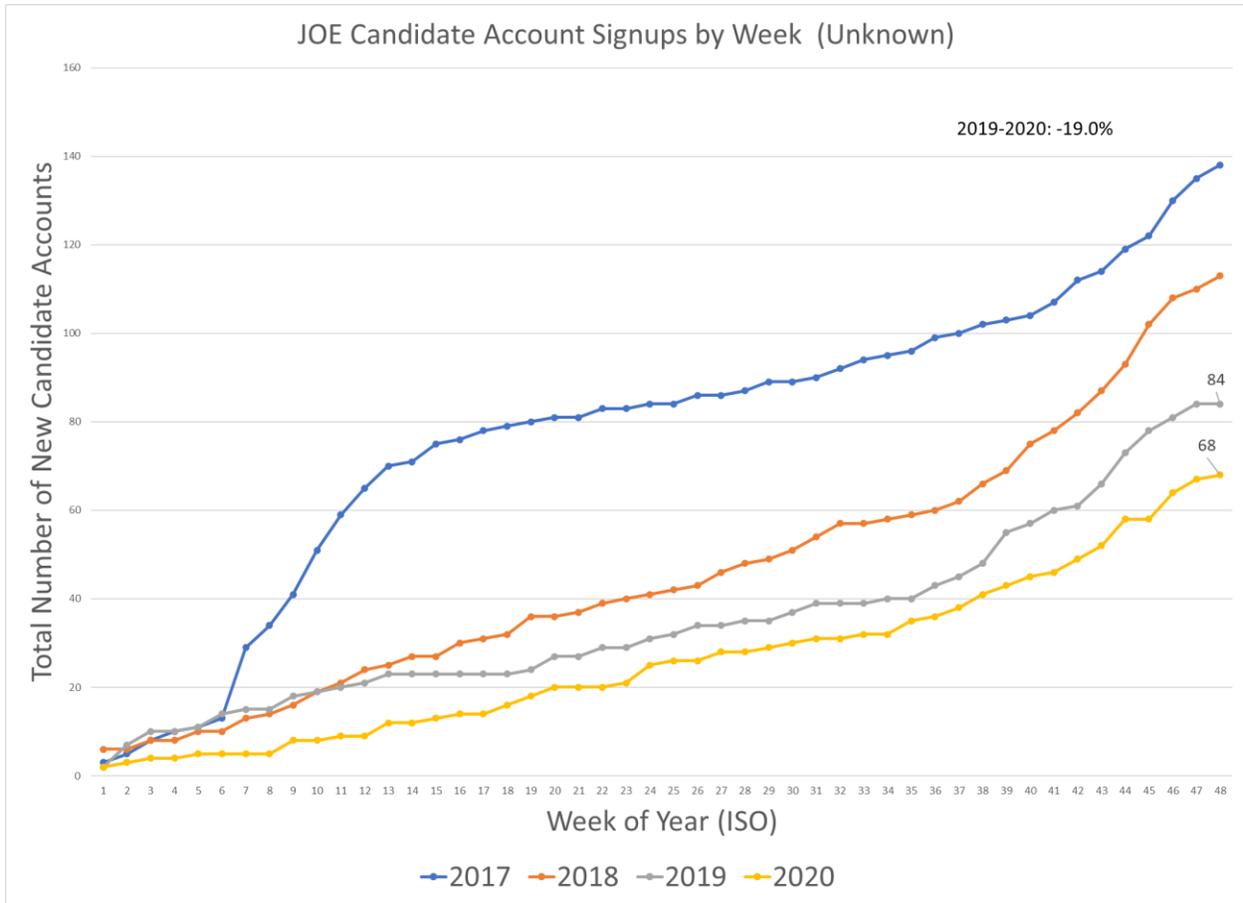
Note: students are defined as those listing the year of Ph.D. receipt as the same year they created the account, or a future year.

Figure 3: Number of new candidate accounts on JOE, non-students



Note: non-students are defined as those listing the year of Ph.D. receipt as a year earlier than the one in which they created the account.

Figure 4: Number of new candidate accounts on JOE, student status unknown



Note: student status is classified as unknown if the account creator did not list their year of Ph.D. receipt.