Opportunities for New PhD Economists, 2021

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This report was put together by Sylvain Chassang, Pascaline Dupas and Ben Golub on the basis of a survey conducted with the help of Antonio Cabrales, John Cawley, Stephen Morris, Martin Osborne, Michael Peters, Peter Rousseau, Joel Watson, Abigail Wozniak, the American Economic Association and Econ Job Market Inc.

Analysis and commentary are by the authors, Chassang, Dupas, and Golub. Opinions expressed here do not necessarily represent the views or policies of the American Economic Association or Econ Job Market Inc.

The report may be updated as further analyses are performed. This is version 1.0 of the report. Anonymized survey data is available at this link.

Summary

There is widespread concern that the COVID-19 crisis will dampen the demand for new PhD economists in 2021, given severe budget cuts announced at many universities. To attempt to quantify what the 2021 job market outlook truly is, we surveyed potential employers of new PhD economists between August and September 2020. We targeted employers in higher education (colleges and universities) as well as non-educational institutions – such as technology and finance companies, central banks, and think tanks. We rolled out separate surveys to six different samples over time. These samples focused mostly, but not exclusively, on the US. The response rate was not as great as one could have hoped given that we see

our effort as a public good, but some important patterns emerge nevertheless. This report describes our findings. We then discuss some possible implications and offer some thoughts on possible responses.

Our approach is very simple: we compare projections for 2021 with realized market outcomes for 2020. We rely on self-reports from surveyed institutions for both. Specifically, the survey asked about anticipated demand (number of offers and/or slots), and, when applicable, anticipated supply (students ready to go on the market). We asked respondents to give projections in both a *median* and an *optimistic* scenario.

Our main findings can be summarized as follows:

- The supply side looks relatively stable: departments with PhD programs anticipate an aggregate increase in the number of students ready to go on the market: 29% in our first sample of highly-ranked Ph.D. programs, 8% in a larger sample of research universities.

- The demand side does not look stable: many employers anticipate a contraction in the offers they can make relative to last year's market. The worst news is that higher-education institutions expect to contract their aggregate demand by at least 50% in a median scenario, and this statement is not too sensitive to the way we measure demand (schools in the market, offers made, or positions available).

- However, there are several pieces of less-bad news in the data. The typical non-educational employer expects to be quite active in the market even in the median scenario, making about as many offers as last year. When we ask employers to consider an optimistic scenario, non-educational institutions expect to expand their demand considerably while higher-education employers for the most part still anticipate a serious contraction, though a less severe and less uniform one, as we discuss below.

- The expected decrease in offers at higher-education institutions may be worse than the expected decrease in positions available. A subset of respondents were asked about both positions to be filled and offers. This data suggests that schools expect to be much

more conservative in terms of making more offers than they have positions: Last year there were 58% more offers than positions, whereas this year schools expect to make only 14% (median scenario) to 24% (optimistic scenario) more offers than positions. Looking at the same data another way, in the median scenario the number of positions open in this sample is expected to decrease by 61% from 2020 to 2021, while the number of offers is expected to decrease by 71%. In the optimistic scenario, these numbers are 6% (slots) and 26% (offers) respectively.

Other notable findings

We begin with the median scenario. In it, all types of employers expect to make fewer offers. Academic departments anticipate the largest contraction, of about 60%, with little variation across our samples—with one exception. A small random sample of highly selective liberal-arts colleges with a history of regularly hiring economists anticipate no reduction in offers, even in the median scenario. Colleges in a larger sample, however, expect a 58% contraction. Non-educational employers anticipate a mild reduction in offers, with estimates of the contraction in offers ranging between 33% to 6% depending on the sample. When we turn from offers to positions to fill, the results are similar: the number of schools in the market at all is expected to contract by 20% to 52%, depending on the sample. Non-educational institutions largely expect to be in the market every year, and the contraction on the extensive margin is very slight.

The optimistic scenario that we elicited provides a useful bound on realistic outcomes. In our most recent and largest samples, research universities expect a 37% contraction in hiring, whereas colleges expect a 16% contraction. (Our small sample of colleges that hire economists most regularly expect to expand their hiring by 50%.) On the extensive margin (whether schools expect to have at least one offer), the demand side expects varied outcomes—between about a 30% contraction (research universities) to a 5% expansion (colleges). Non-educational institutions expect to expand their number of offers by 20% to 83% in the optimistic scenario. Response rates among the non-educational institutions were rela-

tively low, but represent employers who, on average, each hire many economists (more than 5 a year) and thus are in important part of the job market.

Roadmap

We present an overview of the data in Section 1 and the results in Section 2. Section 3 discusses some limitations and implications of our analysis. Section 4 concludes with some recommendations.

1 Data: Survey and samples

1.1 Samples

We rolled out the survey in two waves. The first wave targeted a representative sample of 100 employers of PhD economists (Sample 1). Likely employers (measured by the number of PhDs hired over the last few years) were oversampled. Sample 1 included:

- 70 highly-ranked research universities in the Americas, Europe, Asia, and Australia, with the US oversampled (ResearchU:S1);
- 15 liberal arts colleges that regularly hire economists (Coll:S1);
- 15 non-academic organizations, including for-profit and governmental employers (NonEd:S1).

This survey was run in late July and early August, 2020. The goal was to obtain a high response rate from Sample 1 by doing intense email follow-up.

The second wave expanded the survey to a much broader sample (Sample 2), consisting of US colleges and universities and some employers that are not teaching institutions. Sample 2 included:

- 810 academic institutions obtained from a list of departments provided by the American Economic Association. We divide this group into:

  - a sample of of 810 institutions initially contacted and invited to fill out the survey (S2). This survey occurred in mid-August.
  - A subsample of 679 institutions that did not fill out the initial survey that were invited to fill out a more detailed survey, with some questions about offers, in late August and early September. When we need to refer to this sample, we call it S2B, to contrast it with the group that filled out the initial survey, which we call S2A.
  - In reporting our results we split up the S2 sample into Coll:S2 and ResearchU:S2, classifying them them by type of institution rather than which subset of the wave they were in. For the US, the ResearchU group corresponds to R1 and R2 schools in the Carnegie Classification of Institutions of Higher Education.

- The NonEd:S2 sample came from a list of 442 non-educational recruiters provided by EconJobMarket. This survey was conducted in mid-August.

Our surveys had provisions to constrain each respondent to reply once.

Response rate. Response rates for different samples were as follows:

	ResearchU:S1	Coll:S1	NonEd:S1	HEd:S2A	HEd:S2B	NonEd:S2
Initial sample size	70	15	15	810	679	442
Number of responses	25	9	5	131	73	27
Response rate	.36	.6	.33	.16	.11	.06

The response rate in Sample 2 is in line with typical response rates for online surveys. By construction, the response rate is higher in Sample 1, which we reached out to proactively, than in Sample 2. The Sample 1 response rate among liberal arts college (60%) is quite good, but the response rate among research universities, at only 36%, is relatively low.

1.2 Questions

We endeavored to keep the survey short. Questions to research universities are listed below. Questions to liberal arts colleges and non-educational institutions were a subsample of the

questions below, with suitable wording modifications.[1]

PhD program module

1. How many PhD students from your program went on the job market in 2020 (including for non-academic jobs)?
2. How many PhD students would you expect to be in a position to graduate in 2021 if it were a normal year?
3. How many students graduating from your program took jobs at colleges and universities in 2020?
4. How many students graduating from your program took private-sector jobs in 2020?
5. How many students graduating from your program took government and public-sector jobs in 2020?
6. Is your department creating temporary positions for its own graduating students?

Demand-side module for higher-education institutions

7. How many Assistant Professor offers (tenure track or not) did your department make in 2020?
8. How many Postdoc offers (or similar temporary positions decided at the department level) did your department make in 2020?
9. Is your department currently planning to hold on-campus classes and meetings in person in the Fall?
10. What is the maximum possible number of Assistant Professor offers (tenure track or not) that you anticipate your department could make in 2021?
11. In a median scenario, how many Assistant Professor offers (tenure track or not) do you anticipate your department would make in 2021?
12. What is the maximum possible number of Postdoc offers (or similar temporary positions decided at the department level) that you anticipate your department would make in 2021?
13. In a median scenario, how many Postdoc offers (or similar temporary positions decided at the department level) do you anticipate your department would make in 2021?
14. Will your university allow your department to replace Assistant Professor offers with Postdoc, Visiting Assistant Professor, or similar temporary positions?
15. When do you expect your department will receive information about the number of positions it can recruit for in the 2020-2021 hiring season?

We note that there turned out to be some ambiguity in some of the questions. Specifically, "offers" can refer to two objects: the number of job offers (accepted or not) that are made, or the total number of positions (accepted offers). The distinction between the two matters when we start thinking about equilibrium response: if the acceptance rate is expected to increase, then the number of offers will drop much more than the number of actual positions to fill.

[1]This is an example ordering of the questions. The ordering of the modules varied across samples, and question 6 appeared toward the end of the survey in many of them.

1.2.1 Offers versus positions

In the last sample that was sent the survey, HEd:S2B, we revised some of the wording for clarity and added questions to resolve the offer/position ambiguity. We replaced retrospective questions with the following types of questions:

- At the onset of the 2019-20 job market, how many Assistant Professor **positions** were you authorized to fill?
- In the 2019-20 job market, how many Assistant Professor **offers** (accepted or not) did your department make?

Similarly, we replaced the prospective questions with questions both about positions and offers:

- In the upcoming 2020-21 job market, in a **median** scenario, how many Assistant Professor **positions** do you expect to be authorized to fill?
- In the upcoming 2020-21 job market, in a **median** scenario, how many Assistant Professor **offers** (accepted or not) do you expect to be able to make?

2 Results

2.1 Main results

2.1.1 The supply of PhD economists looks stable.

Table 1 shows that among respondents with Ph.D. programs, the supply of potential graduates is stable across 2020 and 2021.

	2020	2021	2021 − 2020	pct change	Num
ResearchU:S1	10.217	13.152	2.935	29%	23
ResearchU:S2	8.204	8.708	0.625	8%	49

Table 1: Supply of PhD students 2021 vs 2020

Among graduating PhD students at programs in our sample, 65% found academic jobs in 2020.

2.1.2 Expected demand has dropped, but not uniformly.

We consider Assistant Professor equivalent jobs at academic institutions (i.e., we exclude postdocs). Table 4 summarizes the results. In both the optimistic and median scenarios, we see considerable variation across types of institutions, as highlighted in the introductory summary.

Optimistic scenario

	2020	2021	2021 minus 2020	pct change	Num
ResearchU:S1	3.880	2.000	-1.826	-47%	25
- US/Canada	2.857	0.846	-1.846	-65%	14
- EU/UK	6.429	4.500	-2.333	-36%	7
- Asia/Oceania	3.000	2.000	-1.000	-33%	4
Coll:S1	0.667	1.000	0.333	50%	9
NonEd:S1	2.400	4.400	2.000	83%	5
ResearchU:S2	1.365	0.815	-0.506	-37%	85
Coll:S2	0.620	0.515	-0.100	-16%	104
NonEd:S2	7.037	7.385	1.423	20%	27

Median scenario

	2020	2021	2021 minus 2020	pct change	Num
ResearchU:S1	3.880	1.500	-2.333	-60%	25
- US/Canada	2.857	0.692	-2.000	-70%	14
- EU/UK	6.429	3.286	-3.143	-49%	7
- Asia/Oceania	3.000	1.000	-2.000	-67%	4
Coll:S1	0.667	0.667	0	0%	9
NonEd:S1	2.400	1.600	-0.800	-33%	5
ResearchU:S2	1.365	0.519	-0.802	-59%	85
Coll:S2	0.620	0.270	-0.362	-58%	104
NonEd:S2	7.037	5.538	-0.423	-6%	27

Table 2: Number of offers: 2020, 2021, and the difference.

2.1.3 The share of employers with at least one position open is down.

Table 3 summarizes results on the same jobs but on the extensive margin (whether the employer expects to make any offers at all). We see generally a smaller reduction than in the previous section. Note that non-educational employers expect the smallest reduction in both scenarios.

Optimistic scenario

	2020	2021	2021 minus 2020	pct change	Num
ResearchU:S1	0.808	0.577	-0.231	-29%	25
Coll:S1	0.556	0.444	-0.111	-20%	9
NonEd:S1	1	1	0	0%	5
ResearchU:S2	0.565	0.388	-0.176	-31%	85
Coll:S2	0.375	0.394	0.019	5%	104
NonEd:S2	0.815	0.852	0.037	5%	27

Median scenario

	2020	2021	2021 minus 2020	pct change	Num
ResearchU:S1	0.808	0.538	-0.269	-33%	25
Coll:S1	0.556	0.444	-0.111	-20%	9
NonEd:S1	1	1	0	0%	5
ResearchU:S2	0.565	0.271	-0.294	-52%	85
Coll:S2	0.375	0.202	-0.173	-46%	104
NonEd:S2	0.815	0.667	-0.148	-18%	27

Table 3: offers > 0: 2020, 2021, and the difference.

2.1.4 Universities expect to make fewer offers per position to fill.

At the individual school level, the difference between offers and slots is expected to be much smaller this year, with lower variance.

The following data is for the HEd:S2B sample, coming from the AEA list. Last year, there were 58% more offers than slots in total (57 offers, 36 slots). This year, in an optimistic scenario, there will be 24% more offers than slots in total (41 offers, 33 slots). In a median scenario, there will be only 14% more offers than slots in total (16 offers, 14 slots).

Optimistic scenario

	2020	2021	2021 minus 2020	pct change	Num
Higher education:S2B	0.59	0.54	-0.05	-8%	61
-ResearchU:S2B	0.7	0.5	-0.2	-28.5%	30
-Coll:S2B	0.32	0.48	0.16	50%	31

Median scenario

	2020	2021	2021 minus 2020	pct change	Num
Higher education:S2B	0.59	0.23	-0.36	-61%	61
-ResearchU:S2B	0.7	0.2	-0.5	-71.4%	30
-Coll:S2B	0.32	0.19	-0.13	-41%	31

Table 4: slots: 2020, 2021, and the difference. Here we pool the ResearchU:S2B and Coll:S2B samples.

2.2 Other facts

- Except for non-educational employers, a significant share of employers are already informed about hiring.

  Q: When do you expect to be informed of the number of positions you can recruit for in 2021?

	We have already been informed	September	October or after
ResearchU:S1	.56	.16	.28
Coll:S1	.89	.11	0
NonEd:S1	.2	.2	.6
ResearchU:S2	.57	.18	.25
Coll:S2	.54	.1	.36
NonEd:S2	.46	.16	.38

- Only some Assistant Professor jobs will be replaced by postdocs.

  Q: Will your university allow you to replace AP jobs with postdocs?

- Departments may be able to make up some of the shortfall

  Q: Are you creating temporary positions for your own students? How many?

	Maybe	No	Yes
ResearchU:S1	.46	.42	.13
Coll:S1	.33	.44	.22
ResearchU:S2	.42	.57	.01
Coll:S2	.43	.36	.21

	It's not known yet	Very unlikely	Yes, 1-3	Yes, 4-10
ResearchU:S1	0.39	0.30	0.22	0.09
ResearchU:S2	0.28	0.50	0.20	0.02

3 Discussion

3.1 Limitations

- Our samples were predominantly focused on the U.S. ResearchU:S1 was the only sample that contained a number of non-U.S. employers (42% of respondents). The S2 samples were drawn exclusively from a list of US departments provided by the American Economic Association. It would be valuable to survey a more geographically diverse set of schools.

- Response rates were lower in the later, larger samples (S2). The results were comparable to the ResearchU:S1 sample, which had a much higher response rate. Nevertheless, selection is a concern.

- We elicited assessments of positions to be filled only in Coll:S2B and ResearchU:S2B, a subsample of our second wave higher-education survey.

3.2 Implications and further questions

- In our small early sample, most liberal arts colleges that regularly hire economists were already informed of their positions by early August and expect to be active in the market even in a median scenario. This is a piece of good news. In the larger sample, colleges report a large contraction in the median scenario (by 58%, comparable to research universities). In an optimistic scenario, however, colleges fare better: they

expect to contract offers by only 16%, which is considerably less (about half) of the contraction for the research universities on average.

- Another piece of relatively good news is that at least half of last year's employers are expecting to be in the market this year (with at least one position to hire for). Thus, the market will be reasonably active and will afford those candidates on the market opportunities to market their work and meet other scholars.

- The facts that positions to be filled have diminished by less than offers to be made suggests one hopeful scenario: it may be that equilibrium demand has decreased by less than the number of offers anticipated.

  This makes sense if departments expect a higher success rate for their offers, or if universities want to contain the risk of excess hiring shocks. Under that scenario, the concern is that market may be less liquid than in past years.

4 Recommendations

Altogether, based on our reading of the survey results, we believe the following recommendations may be helpful. We emphasize that these recommendations are *highly speculative* and only reflect the very subjective view of the authors.

Improve liquidity. Our data suggests that schools will be able to make a number of offers much closer to their number of open positions than in prior years. If this is the case, they will want to make sure that their offers are accepted. This will reduce liquidity.

We see three practical implications:

1. The timing of offers and official response deadlines may take on added significance. Making offers early, and encouraging candidates to respond promptly, can facilitate the progress of the market.

2. It would be socially valuable for students to make quick decisions once they have a satisfactory option. We encourage students not to wait for offers they are likely to refuse. Speed would also be greatly helped by minimizing post-offer visits, even if travel becomes less difficult, as such visits can considerably delay the progress of the market.

3. Finally, *signaling interest* may be particularly valuable this year. This can be done through the AEA's official mechanism, or via other channels. Advisors may have a role to play.

Maintain the informational functions of the job market. As we see it, there will still be an active job market this year. In addition, the move to online presentations—which can also be recorded and shared afterward—means that search costs have diminished. Thus, the market can still help job candidates present and get feedback on their work. It can also help candidates and employers assess potential matches, even if those matches cannot take place this year.

Concretely, we suggest the following:

1. Students should be encouraged to go on the market rather than sitting out, planning to reapply next year if they wish. We don't believe there will be any stigma in applying twice in a row given the circumstances.

   In addition, if too many students sit out, they may miss out on jobs this year and encounter a very congested market in the future.

2. Students may consider posting videos of their job talks to reduce search costs.

3. Employers should actively communicate to students whether they would potentially like to make them an offer in the future. This will let those students know that they may want to continue to consider options in academia, even if they take non-academic jobs this year. Beyond communicating to specific candidates, schools may want to

publicize more broadly that they plan to be active on the lateral market when they are able, to encourage candidates to reapply.

Apply broadly. Our results imply that there is heterogeneity in the way different employers are affected. We encourage students to apply broadly, especially to non-academic employers.

Because many potential employers do not typically advertise via the ASSA, we suggest applying through several different routes. University placement offices may be very helpful in this respect. Online job search options should not be disregarded.

Longshot: facilitate postdocs. A number of departments seem to have difficulty creating postdocs due to university-wide constraints on hiring, even if individual researchers theoretically have the funds to support them.

We think there is an opportunity for third-party professional organizations or think-tanks to help by hosting postdocs jointly with university researchers.