

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

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Re: The 2008-09 financial crisis and the job market for Ph.D. economists

In trying to project the impact of the COVID-19 epidemic on the 2020-21 job market for new economics Ph.D.s, one possible comparison is what happened during the 2008-09 financial crisis. That crisis was long and drawn-out, so there is no single date or event that represents the onset of the crisis. Key dates, however, include: the September 2008 bankruptcy of Lehman Brothers, the September 2008 government bailout and takeover of Fannie Mae and Freddie Mac, and the October 2008 passage of the \$700 billion Troubled Asset Relief Program (TARP).

Further complicating matters is that data for JOE were collected in different ways at different times, which makes it challenging to compare data across years. For example, the AEA only has archived microdata (i.e. data at the level of individual listings) starting in September 2007. This is unfortunate because it means we have only limited data prior to the financial crisis.

Another complication is that there have been changes over time in when and how frequently new listings were posted. Before mid-2014, JOE released monthly “issues” of listings, and no issues were released for the months of January or July. Starting in the Fall of 2014, there ceased to be monthly “issues” of JOE, and listings were posted continuously, and thus could appear in any month, including January or July.

Tables below list information from the JOE microdata, which, as mentioned, begin in September of 2007. Using the microdata has the benefit that we can exclude listings for searches that were later cancelled. It is rare that listings are cancelled – there are 223 listings that have a note regarding a change in status out of over 13,000 listings that were posted 2007-14. Not all of those 223 cases are cancellations; in fact, the most common reason for terminating a listing was that the position had been filled. Undoubtedly more searches were cancelled, but the employer did not notify JOE. Still, we can and do use this information and remove the 78 listings initially posted 2007-14 for which the AEA was later notified that the search was cancelled, withdrawn, or suspended.

We classify JOE entries two ways: by the number of new *listings* that month, and the number of new *jobs* posted that month (a listing can include multiple jobs). Table 1 below presents the number of new listings on JOE by month around the time of the financial crisis.

Table 1: Total number of **new listings** in JOE based on JOE microdata

Month	2007	2008	2009	2010	2011	2012	2013	2014
February		146	86	109	96	124	99	112
March		77	53	85	89	90	76	63
April		72	54	55	82	85	87	82
May		72	58	51	53	51	47	57
June		65	42	50	58	52	38	52
August		106	72	89	74	92	91	150
September	174	146	86	125	130	164	143	391
October	441	465	390	458	493	511	553	530
November	454	359	333	374	403	413	412	284
December	216	228	198	203	206	205	170	163
Annual Total	1285 (partial)	1736	1372	1599	1684	1787	1716	1884

Although we do not have microdata as early as we would like, it seems that the financial crisis had a major impact the economics Ph.D. job market in 2009. Between 2008 and 2009, the number of JOE listings fell by 364 or 21%. It recovered gradually over the next few years and exceeded pre-crisis levels by 2012.

Another way to present this is to express how the number of new listings in that month compared to the number of listings in the same month in 2008. This is shown in Table 2 below.

Table 2: Change in **new listings** in JOE relative to same month in 2008.

Month	2009	2010	2011	2012	2013	2014
February	-41.1%	-25.3%	-34.2%	-15.1%	-32.2%	-23.3%
March	-31.2%	10.4%	15.6%	16.9%	-1.3%	-18.2%
April	-25.0%	-23.6%	13.9%	18.1%	20.8%	13.9%
May	-19.4%	-29.2%	-26.4%	-29.2%	-34.7%	-20.8%
June	-35.4%	-23.1%	-10.8%	-20.0%	-41.5%	-20.0%
August	-32.1%	-16.0%	-30.2%	-13.2%	-14.2%	41.5%
September	-41.1%	-14.4%	-11.0%	12.3%	-2.1%	167.8%
October	-16.1%	-1.5%	6.0%	9.9%	18.9%	14.0%
November	-7.2%	4.2%	12.3%	15.0%	14.8%	-20.9%
December	-13.2%	-11.0%	-9.6%	-10.1%	-25.4%	-28.5%
Annual Total	-21.0%	-7.9%	-3.0%	2.9%	-1.2%	8.5%

The annual number of new listings on JOE was down 21.0% in 2009 relative to 2008. In the two subsequent years, the number of listings remained below those in 2008; in 2010 there were 7.9% fewer listings, and in 2011 there were 3.0% fewer listings, than in 2008. In 2012, the number of new listings on JOE was 2.9% higher than in 2008.

The figures above concern the number of new listings. In Tables 3 and 4 we present similar tables for the number of new jobs posted each month.

Table 3: Total number of **new jobs** in JOE based on JOE microdata

Month	2007	2008	2009	2010	2011	2012	2013	2014
February		229	126	198	167	164	162	164
March		134	101	107	124	115	93	95
April		124	58	95	143	106	109	96
May		96	101	91	63	86	58	73
June		83	59	90	91	61	47	75
August		144	110	149	104	122	130	234
September		229	144	215	214	300	201	695
October	805	812	720	831	848	869	932	944
November	735	652	515	667	683	705	645	483
December	339	341	320	323	320	342	274	268
Annual Total	1879 (partial)	2844	2254	2766	2757	2870	2651	3127

Note: although data exist for the number of listings in September, 2007 (see Table 1), there is not data on the number of new jobs in that month.

Although the numbers are larger – listings always contain at least one job and sometimes more – the general pattern is similar. The number of jobs listed on JOE was substantially lower in 2009 than in 2008; specifically, 590 fewer jobs were listed in 2009 than in 2008. The number of job openings rebounded the following two years (2010, 2011), but the number of new jobs did not exceed the 2008 level until 2012.

Table 4 below expresses the number of new jobs added to JOE in each month, relative to the number posted in the same month in 2008.

Table 4: Change in **new jobs** in JOE relative to same month in 2008.

Month	2009	2010	2011	2012	2013	2014
February	-45.0%	-13.5%	-27.1%	-28.4%	-29.3%	-28.4%
March	-24.6%	-20.1%	-7.5%	-14.2%	-30.6%	-29.1%
April	-53.2%	-23.4%	15.3%	-14.5%	-12.1%	-22.6%
May	5.2%	-5.2%	-34.4%	-10.4%	-39.6%	-24.0%
June	-28.9%	8.4%	9.6%	-26.5%	-43.4%	-9.6%
August	-23.6%	3.5%	-27.8%	-15.3%	-9.7%	62.5%
September	-37.1%	-6.1%	-6.6%	31.0%	-12.2%	203.5%
October	-11.3%	2.3%	4.4%	7.0%	14.8%	16.3%
November	-21.0%	2.3%	4.8%	8.1%	-1.1%	-25.9%
December	-6.2%	-5.3%	-6.2%	0.3%	-19.6%	-21.4%
Annual Total	-20.7%	-2.7%	-3.1%	0.9%	-6.8%	10.0%

Focusing on the annual totals, the number of new jobs posted on JOE was 20.7% lower in 2009 than in 2008. The number of new jobs remained below the 2008 levels for two more years: 2.7%

lower in 2010 and 3.1% lower in 2011. In 2012, there were slightly more (0.9% more) new jobs posted than in 2008.

Note that 2008 itself may have already been depressed by the financial crisis. The bankruptcy of Lehman Brothers, the government takeover of Fannie Mae and Freddie Mac, and the passage of TARP all occurred in September and October of 2008. We use 2008 as our comparison out of necessity, because it is the first full year in which the AEA has archived microdata on listings and jobs on JOE. There are microdata for the Fall of 2007 (though not earlier), so we can compare October through December of 2008 versus the same months in 2007. October through December of 2008 had 3.9% fewer new jobs than the same period in 2007. As a result, the impact of the financial crisis on the job market in 2009 may be even greater than is indicated by the comparison to 2008.

The analysis above begins with data in the Fall of 2007 out of necessity, because that is when the AEA archive of microdata begins. However, we can also use aggregate counts from the past. Specifically, another source of data is the annual number of new jobs in the Report of the Director of JOE that is published in the May Papers & Proceedings issue. Those annual figures are reprinted in Table 5 below:

Table 5: Total number of **new jobs** in JOE based on AEA Papers & Proceedings Reports

Year	Number of New Jobs on JOE
2019	3,968
2018	4,028
2017	3,896
2016	3,673
2015	3,304
2014	3,051
2013	2,790
2012	2,915
2011	2,836
2010	2,842
2009	2,285
2008	2,881
2007	2,914
2006	2,643
2005	2,593

Source: Siegfried (various years).

These data indicate that the number of new jobs dipped only slightly from 2007 to 2008 (a 1.1% decline), but then fell considerably to 2,285 in 2009, a 20.7% decline from 2008. From these data, it seems as if the market for economists rebounded quickly; the number of jobs in 2010 and 2011 was very similar to that in 2008.

The totals in Table 5 differ somewhat from those in Table 3 because the numbers in Table 3 come from the archived microdata that have been cleaned to ensure accurate listing dates and to remove listings that were subsequently cancelled.

In summary, the various data agree that 2009 was a much tougher market for new Ph.D. economists than 2008. The cleaned microdata indicate that the number of new jobs listed on JOE fell by 20.7% between 2008 and 2009; the Fall of 2008 had 3.9% fewer listings than the year before so the impact of the financial crisis in 2009 may have been even greater than the comparison to 2008 would indicate. The data also agree that by 2012 the market was back at its pre-crisis levels. There is a bit of disagreement in the data concerning 2-3 years after the crisis (2010 and 2011). The aggregate data from AER P&P indicate that the job market bounced back to pre-crisis levels after the one bad year of 2009, whereas the cleaned archived microdata suggest that the number of new jobs remained 2-3% lower in those two years.

So what can current job candidates and advisors glean from these data? Not surprisingly, the experience from the financial crisis suggests that this coming job market season (2020-21) may involve significantly fewer job listings than last year. It is unclear whether the subsequent job market season (2021-22) will exhibit a quick bounce-back to pre-COVID levels, or demand may remain somewhat lower in the next few years. Obviously, the answers to these questions depend on events that have not yet occurred, such as advancements in the testing and vaccination for COVID, and the strength of the overall economy.

Although the suggestion of a temporary decrease in the demand for Ph.D. economists is undoubtedly disappointing, our committee wishes to remind potential job candidates of reasons for optimism. Even if the number of new jobs listed in JOE during 2020-21 turns out to be just half of what was listed during 2019-20, that would still be nearly 2,000 jobs, which is far more than the number of new Economics Ph.D.s produced in the U.S. each year. Some of the listed jobs will be for senior positions, but the point remains that there is a great demand for Ph.D. economists. Even in the wake of the Great Recession in 2010, the unemployment rate for Ph.D. economists was just 0.9% (NSF, 2010a), which is not only far below the national unemployment rate at the time of 9.6% (BLS, 2010), it is also the lowest of any doctoral discipline (NSF, 2010a).

Works Cited

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