Dependence Duration and Labor Market Conditions: Evidence from the United States

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Sector(s): Gender, Labor Markets

Location: United States of America

Sample: 12,054 resumes submitted to 3,040 job openings

Target group: Job seekers Small and medium enterprises Large enterprises Multi-national companies (MNCs)

Outcome of interest: Discrimination Earnings and income

Intervention type: Recruitment and hiring

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Research Papers: Dependence Duration and Labor Market Conditions: Evidence from the United States

Researchers conducted a randomized evaluation to evaluate the role of employer behavior in generating "negative duration dependence"—the adverse effect of a longer unemployment spell—by sending fictitious resumes to real job postings in 100 U.S. cities. The results found that the likelihood of receiving a callback for an interview significantly decreased for workers who had been unemployed for a longer period, with the majority of this decline occurring during the first eight months. Researchers found that duration dependence was stronger in a tight local labor market where fewer workers were likely to be unemployed. These results speak most directly to young job seekers with limited experience and negative duration dependence may affect older workers differently.

Policy issue

According to a 2012 report by the U.S. Congressional Budget Office, long-term unemployment may “produce a self-perpetuating cycle wherein protracted spells of unemployment heighten employers' reluctance to hire those individuals, which in turn leads to even longer spells of joblessness.”[1] Employers may have negative impressions of the long-term unemployed for two reasons. First, employers may believe that long unemployment spells are an indicator of low worker quality, even if they cannot verify this from other information on a resume. Second, employers may believe that workers’ skills decrease without practice, so that the long-term unemployed are less productive.

Despite widespread concern about this cycle of long-term unemployment, it has been difficult for researchers to credibly establish whether an individual’s chance of finding a job worsens with the length of his or her unemployment spell. Does the length of time unemployed hurt a worker’s job market opportunities?

Context of the evaluation

In the 100 most populous Metropolitan Statistical Areas (MSAs) in the United States, the 2011 unemployment rate averaged at 9.4 percent, and long-term unemployment continues to remain at unprecedented levels. How employment rates relate to unemployment duration will be an important factor shaping the recovery from the Great Recession.

Even though times of unemployment may affect their chances of finding work, workers may not hide their unemployment spells. Of the roughly 1,200 resumes researchers collected from unemployed applicants for this evaluation in the United States, around 75 percent listed both the year and month when they last worked. Furthermore, among the currently unemployed, 95 percent of resumes did not provide an explanation for a gap in employment.



Person looks at resume during job interview.

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Details of the intervention

Researchers conducted a randomized evaluation to test the impact of the duration of applicants' unemployment spells on firms' callback decisions. Using a major online job board in the U.S., researchers sent roughly 12,000 fictitious resumes with randomly varied employment statuses and unemployment spells to 3,000 job openings—four resumes per job. The job openings were located in the largest 100 MSAs in the U.S., and chosen from three job categories: administrative/clerical, customer service, and sales.

To construct the fictitious resumes, researchers collected 1,200 real resumes from various online job boards. Based on these real resumes, researchers developed ten fictitious resume templates. For each job posting, a research assistant selected four templates—one per fictitious resume—to send to each job opening.

To fill out the details of each resume, researchers decided the applicant's gender, randomly generated a name for the resume, and created a fictitious work and education history for the applicant. Work histories came from the sample of real resumes, and education came from a search of large, local degree-granting institutions in each MSA. For each job, researchers constructed two high-quality resumes and two low-quality resumes. Low-quality resumes included the minimum experience and education qualifications for the job and high-quality resumes had a few extra years of experience and education.

Finally, researchers randomly assigned each resume's employment status and, if unemployed, the length of the current unemployment spell. In the final sample of 12,054 resumes, 9,236 of the resumes had ongoing unemployment spells of at least one month with the remaining 2,818 resumes showing the worker as currently employed. The final sample of resumes was relatively young and inexperienced with an average age of 27 and 5 years of experience. By randomly varying employment characteristics across high and low-quality resumes, researchers were able to isolate the effect of unemployment spells on firms' callback decisions.

In order to track callbacks for interviews, the researchers also purchased local phone numbers in each MSA and created a set of unique e-mail addresses to list on the resumes. They tracked voicemail messages and emails for six weeks after applications were submitted, to measure which resumes received callbacks. Overall, roughly 4.7 percent of submitted resumes received a callback from the employer for an interview.

Results and policy lessons

Overall, the evidence from this study demonstrates that longer unemployment spells reduced interview callbacks among workers, potentially because employers consider long unemployment to be an indicator of low worker quality.

Over the first eight months of an unemployment spell, the likelihood of receiving a callback from employers sharply declined the longer an applicant had been unemployed. At eight months of unemployment, callbacks were about 45 percent lower than at one month of unemployment, falling from roughly 7 percent to 4 percent over this range. Beyond eight months of unemployment, additional time out of the workforce did not continue to reduce callback rates. These results were consistent across education levels, ages, gender, and job types, suggesting that employers used the length of unemployment spells as a signal of lower worker productivity that was not verifiable through other characteristics on the resumes.

Researchers found that this adverse effect of longer unemployment spells was stronger in tighter job markets, where fewer workers were likely to be unemployed. This may have been because employers felt that unemployment duration was less informative of worker quality in slack job markets where relatively high numbers of workers are unemployed; this also implies that employers may not believe that workers' skills depreciate over time.

Due to the composition of the resumes, these findings speak most directly to younger job seekers with relatively little work experience. The results may be specific to young adults and duration dependence may affect older job seekers differently. Future studies could help reveal whether the negative effects of long unemployment spells generalize to a broader set of occupations and modes for searching for jobs. Additionally, unemployed individuals who, for example, become discouraged and make less effort in the job search, could also contribute to the negative relationship between unemployment duration and application callbacks. Future research is needed to examine how worker behavior can affect the job search over time.

Kroft, Kory, Fabian Lange, Matthew J. Notowidigdo. 2013. "Duration Dependence and Labor Market Conditions: Evidence from a Field Experiment." The Quarterly Journal of Economics.

1. Congressional Budget Office, "Understanding and Responding to Persistently High Unemployment," 2010. Available at http://www.cbo.gov/publication/42989.