

The Effect of Extended Unemployment Insurance Benefits: Evidence from the 2012-2013 Phase-Out

Online Appendix

Henry S. Farber, Jesse Rothstein, and Robert G. Valletta*

January 12, 2015

Appendix: Calculation of Labor Force Participation Effect

Our calculation of the effect of the roll-back of UI benefits on the labor force participation rate has four parts. First, we estimate the average treatment effect of UI availability on the monthly hazard for exiting the labor force. Second, we compute the number of treated individuals in each month – those who had exhausted their UI benefits but would have still received benefits had benefit durations not been rolled back. Third, we multiply these two to obtain the effect of the UI benefit rollbacks on monthly unemployment to nonparticipation flows. Finally, we cumulate this flow across the period since the rollbacks began to estimate the total effect of the rollbacks on the number of non-participants at each point in 2012-2014m6. We discuss each step in turn.

Our estimates of the average treatment effect of UI availability are based on the specification from Table 1, Column 2, Row 3. We use the coefficients from this specification

*Farber: Princeton University, Industrial Relations Section, Firestone Library, Princeton, NJ 08544, farber@princeton.edu. Rothstein: University of California, Berkeley, 2607 Hearst Avenue #7320, Berkeley, CA 94720, rothstein@berkeley.edu. Valletta: Federal Reserve Bank of San Francisco, 101 Market St., San Francisco, CA 94105, rob.valletta@sfrb.org. The views expressed in this paper are solely those of the authors and should not be attributed to the Federal Reserve Bank of San Francisco or the Federal Reserve System.

to estimate the marginal effect of UI availability on the labor force exit probability, then average this over all UI recipients (with greater than 3 months unemployment duration) each month to obtain a monthly average treatment effect. This allows the treatment effect to vary as the characteristics of the long-term unemployed population and the baseline exit hazard change over time. It ranges from about 1.8 to 2.5 percentage points, on a base exit hazard that ranges from 20 to 25% per month from 2012 forward (see Figure 2).

To estimate the number of people directly affected by the rollback of UI in each month, we identify the benefit duration in each state in January 2012 and in each month t thereafter. We identify those directly affected as job-losers in our CPS analysis sample in month t with unemployment durations in between the month- t maximum benefit duration and the January 2012 maximum benefit duration. These individuals would have received UI benefits in month t had benefits been kept at their January 2012 level.

The Bureau of Labor Statistics adjusts the raw tabulations from the CPS file, for example by seasonally adjusting them, to create its official series. We adjust our estimates of the number of directly affected individuals to make them consistent with the BLS series: We use our sample to estimate the share of job losers with unemployment durations of 27 weeks or more who are directly affected by duration reductions, then multiply this by the official series for the number of job losers unemployed for 27 weeks or more.

The third step of our calculation is to estimate the effect of the UI rollback on monthly flows from unemployment to nonparticipation. This is simply the product of the number of affected individuals, from step two, with the average treatment effect, from step one. We estimate that the UI rollbacks induced around 8,000 individuals to exit the labor force per month in 2013, rising to about 30,000 per month in the first half of 2014.

The final step in the calculation is to cumulate these flows to obtain the effect of the UI rollbacks on the stock of non-participants. The simplest approach is to simply sum

the flows. This yields a reduction in the labor force (and the labor force participation rate, respectively) of 121,000 (0.05 percentage point) in November 2013 and 321,000 (0.13 p.p.) in June 2014. But this presumes that the rollback-induced exiters would all have stayed in the labor force forever in the counterfactual world where UI benefit durations remained at their peak. A more realistic assumption is that they would have exited at the average rate seen among long-term unemployed job losers, with a monthly hazard around 12%. When we adjust for this, we estimate that the UI rollbacks reduced the labor force by just over half as much as implied by the first calculation, with an effect on the labor force participation rate of 0.03 p.p. in November 2013 and 0.07 p.p. in June 2014. Taking all of the estimates together, a 0.10 percentage point effect on the rate is a reasonable upper-bound estimate.