Effects of the Unemployment Insurance Work Test on Long-Term Employment Outcomes

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Abstract

We add nine years of follow-up administrative wage records to data from the 1986-87 Washington Alternative Work Search experiment (WAWS) to examine the effects of unemployment insurance (UI) work test on long-term employment outcomes. In particular, we estimate the causal effects of the work test on employment, hours worked, earnings, and match quality as measured by tenure with first post-claim employer. For UI claimants as a whole, we find that the work test had little influence, either positive or negative, on long-term post-claim outcomes. For permanent job losers, however, we find evidence that the work test had a positive effect on employment outcomes, resulting in shorter time to reemployment, higher earnings, and a longer duration of tenure with first post-claim employer. We also find that these claimants seem to marginally benefit from an earlier scheduling of the work test. For claimants on a temporary layoff, the work test resulted in less UI benefit payments and shorter unemployment durations, but made little difference for their employment outcomes. We conclude that, in addition to reducing moral hazard associated with UI, the work test (especially if scheduled early on) is an important policy for improving the long-term employment outcomes of permanent job losers.

JEL classification: C21, C93, I38, J18, J38, J64, J65, J68

Keywords: Unemployment insurance, work test, random-assignment experiment, reemployment policy, long-term evaluation of public policy, administrative data

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1 Introduction

The work test for unemployment insurance (UI) recipients has been a central part of UI in the United States since the system began in the 1930s. Typically, to be eligible for UI benefits, a claimant initially needs an adequate work history and must have lost her job through lack of work and no fault of her own. In addition, to remain eligible, the worker must be "able, available, and searching" for work—that is, she must satisfy the work test.

The work test aims to reduce the moral hazard associated with UI—that is, to counter the incentive to reduce job search effort and take longer to become reemployed. Although the work test could reduce the duration of unemployment, making the claimant more attractive to employers and hence improve long-term employment outcomes[1], it may also pressure workers into accepting a relatively poor job match, leading to an unstable pattern of employment and lower long-term earnings.[2]

Understanding the effects of the work test on employment outcomes is of ongoing importance because in recent years most states have relaxed enforcement of the requirement by shifting toward taking claims by telephone and on-line (see O'Leary [2006] and Ebenstein and Stange [2010]). Telephone and on-line claiming reduces the frequency of in-person contact between a claimant and the state workforce agency, and it is important to know whether this more "hands-off" approach has beneficial effects on post-unemployment job match quality.

The aim of this paper is to examine the effects of the work test on long-term employment outcomes, such as post-unemployment match quality (proxied by employment tenure), duration

[1] See, e.g., Notowidigdo, Kroft, and Lange (2013) for recent evidence of scarring effects of long spells of unemployment.

[2] A UI claimant does not need to accept the first available job offer, but he or she is required to accept a job offer that satisfies the "suitable work" condition. In practice, claimants do not need to accept work that is not in line with their training and experience. The work test could nevertheless pressure a claimant to accept a less attractive job offer that meets the suitable work condition instead of holding out for a better offer.

of nonemployment, the number of post-claim employers, long-term earnings, hours worked, and employment. To do this, we add nine years of quarterly follow-up wage records to the data from the Washington Alternative Work Search (WAWS) experiment previously analyzed by Johnson and Klepinger (1991, 1994).

In the WAWS experiment, all eligible UI claimants were randomly assigned to a treatment that effectively eliminated the work test (*no work test* group, or NWT), to a treatment with a *standard work test* (SWT), and to a treatment with a *modified work test* (MWT).[3] Claimants in the NWT group were told to actively seek work, but were also told that they would not be called in for an *eligibility review interview* (ERI), and that weekly UI benefits would be mailed unless they contacted the Employment Service Center to report that they had stopped looking for work or had taken a job. As such, NWT amounted to an "honor system," which eliminated the work test. Claimants in the SWT group were told to contact at least three employers per week and be prepared to give evidence that they had done so in an ERI, usually conducted 13–15 weeks after the initial claim. Finally, claimants in the MWT group were subject to a treatment that was similar to the SWT group except that selected claimants were called for an ERI earlier than usual and were more likely to receive a job development plan.

To study whether the work test has a causal effect on long-term post-unemployment outcomes, we begin by estimating linear models using ordinary least squares (OLS), where we regress outcomes on two indicator variables: one for whether the claimant was assigned to the treatment with a SWT and one for whether the claimant was assigned to the treatment with a MWT. The estimated effects are computed in relation to the claimants who were assigned to the treatment with no work test. Because WAWS was a random-assignment experiment, the

[3] The WAWS experiment also included an "intensive services" treatment, in which claimants were assigned to job search assistance (see Johnson and Klepinger [1991]).

estimated coefficients on the two work-test treatment indicators should yield the causal effect of the work test on long-term employment outcomes. Because it seems likely that the work test may have different effects on different groups of claimants, in the next step, we address the question "do these effects vary depending on claimants' reason for job loss?" To answer this question, we estimate separate OLS models for claimants who suffered permanent job loss, quit for good cause, or were temporarily laid off.

Our paper builds on Johnson and Klepinger's (1991, 1994) short-term analysis of the WAWS experiment. When studying the short-term effects of *eliminating* the work test, Johnson and Klepinger find that claimants who were not subject to a work test utilized UI to a greater extent, but they find no evidence of improvement in claimants' short-term post-unemployment outcomes. On balance, Johnson and Klepinger's findings suggest that eliminating the work test led to increased abuse of the UI system by claimants but did not lead to better employment outcomes.

Our paper is different from Johnson and Klepinger's (1991, 1994) work in two important ways. First, we answer the question, "What is the effect of the work test?" rather than, "What is the effect of eliminating the work test?" This distinction is important because using the *absence* of any work test as our reference category, we can directly distinguish between the effects of the standard work test versus the effects of the MWT. This allows us to address in a straightforward way whether differences in the design of UI policies, such as an earlier scheduling of ERI, matter for the marginal claimant.

Second, by using nine years of follow-up administrative wage records, we are able to study long-term employment outcomes not considered by Johnson and Klepinger (1991, 1994). This is important because there is disagreement as to the whether the design of UI policies has an

effect on reemployment earnings and post-unemployment match quality; see Addison and Blackburn (2000) and Tatsiramos and van Ours (2014) for surveys of the literature. Because our paper is a random-assignment experiment, we are contributing to this literature by credibly identifying the causal effect of the work test on a host of long-term reemployment outcomes.

The paper has the following main findings. For UI claimants as a whole, we find that the long-term employment outcomes of the SWT and MWT groups were no different from the outcomes of the NWT group. However, we find differences among subgroups. For permanent job losers, the work test resulted in better employment outcomes: greater earnings in the year following job loss, a shorter spell of nonemployment, and a longer tenure with the first post-claim employer. These findings show that the work test is an important policy for improving the welfare of permanent job losers, who in absence of the work test would have worse employment outcomes. Given that permanent layoffs as a share of all layoffs have increased in the past 20 years (O'Leary 2007), the findings of this paper are relevant to policymakers concerned with the current reemployment prospects of permanent job losers. Our results also show that an earlier scheduling of the work test had a marginally positive effect on these claimants' employment outcomes. That an earlier work test has beneficial effects is consistent with the interpretation that an earlier intervention reduces the negative effects of unemployment duration dependence.

For claimants who quit for good cause, the work test resulted in a higher probability of reemployment, but our estimates suggest that they might have been reemployed at lower wages despite a higher likelihood of returning to the pre-claim industry. Finally, for claimants on temporary layoff, the work test had no impact on employment outcomes. The claimants who were subject to the work test claimed less benefits for a shorter period of time, but they had employment prospects no different from claimants who were not subject to the work test. The

results for claimants on temporary layoff imply that the work test plays a role in mitigating claimant moral hazard: without the work test, claimants would draw more UI benefits, but would not ultimately have improved employment outcomes.

The rest of the paper is organized as follows. Section 2 provides a brief literature review. Section 3 briefly describes the design of the WAWS experiment. Section 4 presents the estimation methods. Section 5 presents the results. Section 6 discusses why the MWT appears to be a more successful policy. Section 7 summarizes the findings and concludes. To keep the discussion as direct as possible, we relegate a detailed description of the data and details of how we created a long-term panel, as well as sample definitions, to a Data Appendix.

2 Related Literature

Our paper contributes to research on the effects of design of UI on claimants' short-term and long-term behavior. When studying the short-term effects of eliminating the work test, Johnson and Klepinger (1991, 1994) find that it increased benefits received, the duration of benefit receipt, and the probability of exhausting benefits, but without affecting earnings or hours worked during the claim quarter or the benefit year. This combination of increased benefit receipt without any changes in earnings or hours suggests that the absence of a work test led to increased abuse of the UI system. At the same time, however, absence of the work test also increased the probability that a worker returned to a former employer. Although this increased likelihood of return to a past employer suggests that eliminating the work test may have been beneficial to at least some of the claimants (in that they reestablished a previous job match), Johnson and Klepinger find no evidence of improved short-term post-unemployment outcomes.

Other studies arrive at quite different conclusions regarding the effects of the work test. For example, the evaluation of the 1994 Maryland UI Work-Search Demonstration (Klepinger, Johnson, and Joesch 2002) concludes that although *relaxed* enforcement of the work test prolonged the duration of UI receipt, it also increased the probability of subsequent employment and led to higher earnings in the quarters following the experiment.[4] Poe-Yamagata et al. (2011) find that an increased emphasis on the work test under the 2005 Reemployment and Eligibility Assessment initiative decreased the duration of UI receipt and had a positive impact on reemployment probability in the short-run. Toohey (2014) finds little evidence of a relationship between unemployment duration and the number of weekly employer contacts a state requires claimants to make (his proxy for the stringency of the work test). Finally, Ashenfelter, Ashmore, and Deschênes (2005) find that reducing the enforcement of the work test did not lead to increased abuse of the UI system by the claimants. Hence, the issue of whether a no work test or a relaxed work test leads to more abuse or has the positive effect of helping claimants obtain more stable and better paying jobs remains a matter of debate.

Understanding the long-term effects of the work test is related to the more general issue of how the design of UI—the level and duration of benefits—affects subsequent earnings, employment, and post-unemployment match quality, proxied by either subsequent job or employment tenure. The availability of high-quality microdata has led this literature to expand in recent decades. Addison and Blackburn (2000) and Tatsiramos and van Ours (2014) review the literature on the relationship between UI and post-unemployment earnings and reemployment and conclude that the evidence has been mixed. For example, Ehrenberg and Oaxaca (1976);,

[4] The treatment resembling the WAWS NWT treatment in the Maryland experiment only relaxed some aspects of the work test. This treatment did not include automatic payments to the claimants. Instead, the claimants needed to inform the UI office on a weekly basis that they had not found work and were actively searching. However, this treatment group was not required to report their employer contacts. In effect, the Maryland treatment relaxed some features of the work test but did not eliminate it all together.

Burgess and Kingston (1976), Centeno (2004), Centeno and Novo (2009), Tatsiramos (2009), McCall and Chi (2008), Caliendo, Tatsiramos, and Uhlendorff (2013), and Nekoei and Weber (2013) find a positive relation between more generous UI and reemployment earnings, whereas Addison and Portugal (1989), Gregory and Jukes (2001), and Schmider, von Wachter, and Bender (2013 find a negative relation. Finally, some research has found no convincing relationship between reemployment earnings and UI benefit generosity (Classen 1977; Belzil 2001), longer potential duration of UI benefits (Lalive 2007; Card, Chetty, and Weber 2007) or subsequent tenure (Belzil 2001, Card, Chetty, and Weber 2007, van Ours and Vodopivec 2008).

Consequently, the link between features of the UI system and post-unemployment outcomes remains unclear. The controversy is due, in part, to lack of exogenous variation necessary to identify a causal effect on long-term post-unemployment data. Our paper contributes to this literature by combining random-assignment variation with administrative follow-up records.

3 The Work Test and the Washington Alternative Work Search Experiment

To be eligible for UI in Washington, a claimant must have been laid off for lack of work and through no fault of her own and must be "able, available, and searching" for work, i.e., fulfill the work test requirement.[5] The WAWS experiment tested the effects of the work test by randomly assigning new UI claimants at the Tacoma Employment Service Center between July 1986 and August 1987 to a group subject to the standard work test (SWT), a group subject to a modified work test (MWT), and a group subject to no work test (NWT).

[5] Random assignment occurred between July 1986 and August 1987 at the Tacoma Employment Service Center, based on the last digit of each claimant's Social Security number; see the Data Appendix for details.

3.1 Description of treatments

The claimants assigned to the SWT group were told by the Employment Security Department personnel to contact at least three employers per week and to be prepared to give evidence that they have done so in an eligibility review interview (ERI), which may be conducted 13–15 weeks after the claimant files for benefits.[6] For an ERI, a claimant reports to the Employment Service for a one-hour group "interview" or lecture followed by (in some cases) a 15-minute individual interview during which employer contacts are checked. In addition to the ERI, the claimants in the SWT group were eligible to receive various reemployment services, including a job development plan, which is a service that aims to establish a job seeker's employment goals and to provide information to the job seeker about employers and their needs.

The claimants in the MWT group were subject to a treatment that was similar to the treatment received by the claimants in the SWT group except for two features. First, selected MWT claimants were called for an ERI earlier than usual—in week 6 after the claim and at discretion of the UI office. Second, these ERIs focused more on job development planning compared to the ERIs for the SWT group. Johnson and Klepinger (1991, p.4) write that the ERI focused more on "employability development planning rather than UI eligibility issues."

The claimants in the NWT group were told, at the time of their initial claim, to actively seek work, but also that they would not be called in for an ERI and that weekly UI benefits would be mailed unless they called the Tacoma Employment Service Center to report they had stopped looking for work or had taken a job. In effect, this treatment amounted to an "honor system" with no work test.

[6] This subsection draws on Johnson and Klepinger (1991) description of treatments; see pp. 3–9 in their Department of Labor report for details.

Table 1 offers a profile of how the different treatments worked in practice by showing proportions of the NWT, SWT, and MWT groups that received an ERI and various employment services.[7] Note first that almost none of the NWT claimants were subject to an ERI, consistent with the design of the treatment. NWT claimants were also less likely to receive employment services, especially those requiring some initiative on the part of the claimant. The main services provided to NWT claimants were job referral and placement, which are typically initiated by the Employment Service.

[Table 1 here]

Table 1 also shows that when compared to the SWT group, the MWT group was more likely to receive an ERI and a job development plan, which is also consistent with the design of this treatment. Otherwise, the claimants assigned to the SWT and MWT groups received a similar mix of employment services, suggesting that the treatment received by the SWT and MWT groups was very similar in practice.[8]

3.2 Descriptive statistics

Table 2 displays various mean characteristics of the NWT, SWT, and MWT groups, and the differences among them. The characteristics can be classified as

- demographic — sex, race, age, schooling, veteran status, marital and household status
- pre-claim — earnings and hours in the three prior years; industry and occupation before the claim; whether the individual had a prior UI claim

[7] We merge the experimental WAWS data with follow-up administrative wage records. Because the follow-up administrative wage records available to us begin in the first quarter of 1987, we do not have data on earnings, hours, and employer information for the first post-claim quarter for those who claimed in the third quarter of 1986 (that is, July, August, and September). Because of this data limitation, the sample we use is smaller than the sample studied by Johnson and Klepinger (1991, 1994).

[8] The differences between the SWT and the MWT groups in the receipt of each of these six employment services were not statistically significant.

- claim-related — reason for job loss, whether the claimant had a recall date or was placed through a union hiring hall, UI benefits and claim type, and reservation wage

[Table 2 here]

In general, randomization appears to have been successful, although there is evidence of nonrandomness between the three groups for some observables, for example, the distribution of age, schooling, industry, and reason for job loss across the groups. Also, relatively few NWT group claimants were on standby or in a union that referred claimants to jobs. Johnson and Klepinger (1991, 1994) suggest that this difference is a matter of reporting rather than actual status: because claimants in the NWT group did not need to submit continued claims for UI, the UI staff had no incentive to record the standby or union status of claimants in this group. A baseline survey completed by claimants (reported in Johnson and Klepinger [1994, p. 704] but not available to us) supports the claim and shows no difference between the groups in the proportion on standby or placed by a union. Nonetheless, the measurable differences between the groups offer a rationale for regression-adjustment and inverse-probability weighting.

3.3 Construction of long-term employment variables

In order to create our long-term employment outcomes, we merge the WAWS experimental data on each claimant (derived from UI claims records, administrative wage records, and Employment Service records) with quarterly administrative records with information about the claimant's principal employer, earnings, employment (whether a claimant is observed with positive earnings), and hours worked in the 40 quarters following the claim quarter with that principal employer. The principal employer is the highest-paying employer observed in that quarter.

For annual employment probability, earnings, and hours worked, we compute annual totals. Using the available quarterly information about each claimant's principal-employer identifier, we construct three additional long-term employment outcomes. First, for each claimant, we compute the number of unique employers observed from the first quarter after the initial claim to the last follow-up quarter (quarter 40). We refer to this variable as *number of post-claim employers*.

Second, we construct the variable *quarters of nonemployment* by computing the number of consecutive post-claim quarters in which a claimant is observed without covered earnings. This variable allows us to examine whether the work test treatments resulted in a decrease in the time to reemployment beyond what we can infer from UI claims records that only measure duration of *insured* unemployment. If the claimant was not reemployed during the 40 quarter window of observation, we define that observation as having 40 quarters of nonemployment.

Third, we construct a proxy for match quality. For each claimant, we compute the number of quarters in which a claimant is observed with earnings from the first principal post-claim employer. If the claimant is observed with the same employer throughout our 40 quarter window of observation, we assign a value of 40 to that claimant's employment tenure. This variable is unconditional on finding employment, i.e., if the claimant is not observed with any employer, we assign a value equal to zero. We call this employment tenure variable *quarters with first post-claim employer*.[9]

[9] Column (1) in Table 3 shows that, on average, claimants spent about 8 quarters with their first employer (standard deviation is equal about 11 quarters). How does this quarterly measure of match quality compare with measures of match quality used in other studies of tenure effects of UI? Centeno (2004) uses data from the NLSY79 from 1979 until 1998, which spans a period similar to the long-term WAWS data we have constructed (1986–1996). Using a weekly measure of job tenure, Centeno reports that the average post-unemployment job tenure in the NLSY79 is about 95 weeks, with a standard deviation of about 125 weeks. Converting this to quarters, the average job tenure equals about 8 quarters, with a standard deviation of about 10.4 quarters. Hence, the mean and the standard deviation of our match quality outcome, the number of quarters with first post-claim employer, are very close to the NSLY79 average.

4 Methods

The effect of assignment to the standard or modified work test treatment groups on outcomes can be obtained by estimating linear models of the following form:

$$y_i = \alpha + \beta_1 SWT_i + \beta_2 MWT_i + X_i\gamma + u_i, \quad (1)$$

where y_i is an outcome for individual i in any of the years following enrollment in the experiment; SWT_i is an indicator for assignment to the standard work test group; and MWT_i is an indicator for assignment to the modified work test group. The omitted category is an indicator for assignment to the no work test group, NWT. X_i includes all of the variables listed in Table 2, as well as the unemployment rate in the county where the claim was filed and indicators for the quarter the individual claimed benefits; and u_i denotes i's unobservable traits.

The identifying assumption is that assignment to treatment is independent of any individual characteristics, including those unobserved by the researcher: $E(u \mid SWT, MWT) = 0$. As Johnson and Klepinger (1994) note, because random assignment appears to have succeeded, this assumption is reasonable. In this case, the ordinary least squares (OLS) estimator of β_1 and β_2 are consistent estimators of the intention-to-treat effect on outcome y. Including the demographic variables (X) reduces sampling error and controls for observable differences between treatment and control groups that may arise even under random assignment.

As a robustness check, we also use inverse-probability weighting (IPW) to correct for between-group differences in observables. To do this, we estimate a multinomial logit where we use an indicator for whether a claimant was assigned to NWT, SWT, or MWT group as a categorical dependent variable. We choose the NWT group to be the baseline category and condition the logit on the same set of demographic variables (X) as described above. We then use the predicted probabilities to reweigh the SWT and MWT groups to "look" the same as the

NWT group. Overall, our main conclusion from using IPW remains unchanged from the conclusion drawn using OLS.

The long-term outcomes (y) include the claimant's nine-year post-experiment employment, earnings, hours, match quality (proxied by the number quarters with first post-claim employer), the number of post-claim employers, and the number of quarters of nonemployment.[10] Taken together, all these outcomes capture different but not necessarily independent dimensions of the effect of assignment to the SWT and MWT treatment groups.

4.1 Effect of the work test by reason for job loss

In order to study whether the effects of the standard and modified work tests are different for claimants by reason for job loss, we estimate separate models using three mutually exclusive reasons for job loss: 1) lost job permanently, 2) quit for reasons satisfying the standard for "good cause," and 3) temporary layoff.

We estimate equation (1) for each of the three reasons for job loss, where each model compares outcomes of the SWT and MWT groups who lost their jobs due to a given reason to the outcomes of NWT group who lost their job for the same reason. Since reason for job loss is pre-determined with respect to treatment assignment, the estimates of β_1 and β_2 yield intention-to-treat effects of the two work tests for a given reason-for-job-loss category of claimants.

4.2 Threats to validity

Since WAWS is a random-assignment experiment, it has high internal validity. However, external validity might be compromised if the inferences and conclusions cannot be generalized

[10] In all of the regressions, we estimate linear models. However, since the number of post-claim employers, the number of quarters of nonemployment, and match quality are count variables, we have also estimated Poisson maximum-likelihood models. Our findings remain qualitatively unchanged.

from the population and setting in which they are studied to other populations and settings. We believe that external validity of the study is reasonably high, as Washington State is not an outlier with respect to the characteristics of its population. As Johnson and Klepinger (1994) note, the UI practices regarding the work test implemented in Washington at the time of the demonstration did not deviate from the approach used in most other states at that time. It is also worthwhile to note that the average unemployment rate in Tacoma, the location of the WAWS experiment, was at the time about 7.9 percent. Therefore, the estimated effects pertain to relatively slack labor market conditions, a setting that makes our findings of current interest.

5 Results of Estimation

Table 3 shows the results from estimating equation (1) on the whole sample. The outcome variables are grouped into three categories: 1) variables pertaining to UI outcomes; 2) variables pertaining to *short-term* employment outcomes; and 3) variables pertaining to employment outcomes nine years after benefit year. Each cell in the third column from the left is an OLS point estimate of β_1, and each cell in the fifth column from the left is an OLS point estimate of β_2. The cells in the seventh and ninth columns report IPW point estimates. We will follow this convention throughout the paper.

[Table 3 here]

Like Johnson and Klepinger (1994), in Table 3 we find that, on average, claimants in the SWT and MWT groups received less UI benefits (an additional $430–$480 during the benefit year, hereafter year 0), claimed benefits for a shorter time (about 3 weeks less), and were less likely to exhaust their benefits (by about 11 percentage points) compared with the NWT group.

Turning to the short-term employment outcomes, we find no statistically significant difference for the SWT and MWT groups in unconditional hours worked or unconditional earnings in year 0. However, we find that the probability of employment was higher for both groups in the first quarter after the claim (by about 3–4 percentage points) and, for the MWT, in year 0 (by about 2.5 percentage points).

Overall, the estimated effects in Table 3 paint a complicated picture. On the one hand, the SWT and MWT groups received less UI benefits than the NWT group, but their earnings and work hours did not change. This suggests that the work test mitigates moral hazard—in the absence of a work test, the claimants would have drawn more benefits for a longer time, but their employment outcomes would not have been any different. Furthermore, this provides suggestive evidence that in the absence of a work test, claimants may have returned to work without informing the UI agency, and hence continued to receive benefits to which they were not entitled.

On the other hand, the estimates in Table 3 show that claimants assigned to the SWT group (but not the MWT group) had a lower probability of returning to a former employer and hence were less likely to reestablish a successful job match. This coupled with the finding that both SWT and MWT groups had a marginally higher probability of employment but no increase in unconditional earnings and hours suggests that the SWT and MWT claimants who did become reemployed may have worked at lower wage rates than the NWT claimants.

In order to answer whether these claimants had lower reemployment wages because of the work test, we apply the "Lee bounds" technique (Lee 2009).[11] We do this because *conditional on employment*, a simple comparison of wage rates of claimants in the SWT and

[11] We compute the first-quarter log wage as the logarithm of earnings in quarter 1 after the claim quarter divided by the number of hours worked in the same quarter. For each of the ten years following the experiment, we compute the annual log wage as the average of log wages in quarters of that year.

MWT groups to the wage rates of claimants in the NWT might be misleading since whether the claimant became reemployed is an outcome variable in itself.[12]

In Table 3, we report 90 percent confidence intervals for the Lee bounds for log wage in the first quarter after the claim and year 0. Because the confidence intervals are relatively symmetric around zero, we do not find convincing evidence that, conditional on reemployment, reemployment wage rates were lower for the SWT and MWT groups.

In Table 3, the three rows under the subheading "Employment outcomes over 10 years" report the estimated long-term effect of the work test on the average probability of employment, hours worked, and earnings in the ten years following the claim. The estimates show that assignment to SWT and MWT did not have a statistically significant effect on these averaged outcomes. The remaining rows in Table 3 report the estimated effect of the work test on other long-term employment outcomes: the number of post-claim employers, quarters of nonemployment, and the number of quarters with the first post-claim employer. Again, no point estimate is statistically different from zero. Together, the results in Table 3 show that for UI claimants as a whole, the work test does not have a statistically significant effect on any long-term employment outcome in the nine years after year 0.

Table 3 also includes estimates from the IPW estimation (described in Section 4), which are qualitatively very similar to the OLS estimates.

[12] The Lee bounds estimator (Lee 2009) proceeds in two steps: first, it identifies the number of claimants who became reemployed because of the treatment, and second, it trims the upper and lower tails of distribution of wage rates by this number. Hence, the lower bound treatment effect represents an extreme scenario in which wage rates are assumed to be negatively correlated with the likelihood of reemployment.

5.1 The effect of the work test by reason for job loss

Next, we examine whether the effect of the work test on outcomes differs by reason for job loss. Tables 4–6 report the findings. Table 4 shows the estimated effects of the work test for permanent job losers, Table 5 for claimants who quit for good cause, and Table 6 for temporary job losers. In each table, each row presents the estimated effect of the work test, both the SWT and the MWT, on a selected outcome.

First, consider the results pertaining to UI outcomes in Tables 4–6. Looking at the effect of the work test on UI receipt outcomes, we see that the estimates in Tables 4–6 are numerically similar to the estimates in Table 3. For every reason of job loss category, the claimants assigned to SWT and MWT groups received less in total UI benefits, received UI benefits for a shorter number of weeks, and were less likely to exhaust benefits than claimants in the NWT group.[13] However, the results pertaining to the short-term and the longer-term employment outcomes in Tables 4–6 show that these effects were heterogeneous and we discuss them for each reason-for-job-loss category in turn.

Table 4 shows the results for permanent job losers. Looking at the short-term employment outcomes, we see that the SWT and MWT groups had higher probabilities of employment, worked longer hours, and had higher unconditional earnings compared to the NWT group. However, this improvement in employment, hours worked, and earnings is only transitory, as the long-term employment, hours worked, and earnings for the SWT and MWT groups are statistically indistinguishable from the NWT group (see the panel subheading "Employment outcomes over 10 years").

[Table 4 here]

[13] Caution must be exercised when comparing the results *across* the groups in Tables 4–6, as the baseline average for the NWT group is different depending on reason for job loss.

The temporary positive effect on employment is consistent with the MWT claimants taking about 2 quarters shorter to exit nonemployment from a base of about 5 quarters. (The SWT claimants also take a 1 quarter less to exit nonemployment, but this estimate is not statistically significant.) Hence, it appears that the shorter duration of insured unemployment due to the work test also resulted in a shorter duration of nonemployment.

Table 4 also shows that the MWT claimants who were permanently laid off had a longer tenure with their first post-claim employer by about 2.25 quarters from a base of about 6 quarters. This might suggest that the first match of MWT claimants lasted for a longer time than the first match of these claimants in the NWT group. We also see that MWT claimants on permanent layoff had a 10.6 percentage point higher probability of returning to the same industry (with a *t*-value of 2.26). Taken together, these findings indicate that the MWT appears to have been a more successful reemployment policy than the SWT.

Turning to the estimated OLS effects of the work test on employment outcomes for claimants who quit for good cause (in Table 5), we see that the only significant effect is on the probability of employment in year 0 for the MWT group (a 7.4 percentage point increase with a *t*-value of 2.11).

This improvement in the probability of employment, however, does not translate into other improved employment outcomes over the short or the long term. In fact, the Lee bounds confidence interval show that for claimants who quit for good cause, there was a negative effect of the standard and modified work test on the wage rate in the first quarter after the claim. Table 5 shows that for claimants assigned to the SWT group, this negative wage effect persists in year 0.

[Table 5 here]

Looking at the IPW estimates in Table 5, we see that there are interesting differences between the long-term employment effects of the MWT and the SWT on claimants who quit for good cause. First of all, the MWT increased the likelihood of employment over the ten years (by 7.3 percentage points), decreased quarters spent in nonemployment (1.8 quarters from a base of 5.7), and improved match quality, i.e., quarterly tenure with first employer (2.6 quarters from a base of 5.6). Again, as with permanent job losers, the results suggest that for claimants who quit for good cause, the MWT was a more beneficial policy than the SWT.

The effects of SWT and MWT on employment outcomes for claimants on temporary layoff are different. In Table 6, we see that the only statistically significant short-term employment outcome effect is an increase in the probability of employment for the MWT group. We also see that MWT claimants on temporary layoff had a higher number of post-claim employers. It seems that the improved probability of employment did not lead to long-term gains in unconditional earnings, hours, or employment.

[Table 6 here]

6 Discussion of Differences between Standard and Modified Work Tests

The results for the overall sample and for the permanent job losers in particular suggest that MWT has been a marginally better policy than SWT, but why? In practice, the MWT was similar to the SWT except that the ERI in MWT was scheduled at an earlier date and, through its emphasis on job development planning, had a somewhat different focus. An interesting question to ask is whether the MWT policy was more successful because of the earlier ERI or because of the additional emphasis on the job development plan. This is what we study in this section.

To gain a better understanding behind the results, we estimate a flexible descriptive linear model restricted to claimants assigned to either the MWT or the SWT treatments. In this model, we regress an outcome of interest y, on an indicator for whether the claimant received an ERI, on an indicator for whether the claimant received a job development plan, on an indicator for whether the claimant was assigned to the MWT group, and on two interactions terms: one interaction term between the ERI indicator and the MWT indicator and one interaction term between the job development plan indicator and the MWT indicator. Formally, we estimate the following model:

$$y_i = \delta_1 MWT_i + \delta_2 ERI_i + \delta_3 JobPlan_i + \delta_4 ERI_i*MWT_i + \delta_5 JobPlan_i*MWT_i + X_i\gamma + u_i, \qquad (2)$$

where ERI is a dummy for whether the claimant has received an ERI, JobPlan is a dummy for whether the claimant has received a job development plan, and, as previously, X is a vector of demographic variables (which, as previously, includes the constant term).

Hence, δ_1 measures the average difference in outcome variables of the MWT group relative to the SWT group in the absence of an ERI and a job development plan; δ_2 (δ_3) measures the average difference in outcome variables for claimants in the SWT group who received an ERI (job development plan) as opposed to not receiving an ERI (job development plan). The parameters of main interest are δ_4- and δ_5-coefficients. δ_4 estimates the average difference in outcomes of claimants assigned to the MWT group who received an ERI and δ_5 estimates the average difference in outcomes of claimants assigned to the MWT group who received a job development plan.

We want to stress that the δ_4- and δ_5-coefficients should not be interpreted as causal estimates. The reasons for this are at least twofold. First, we might worry that the claimants who received any ERI or any job development plan are selected and decide to participate in these services based on claimant characteristics that are unobserved to us, the researchers. Although we do observe that claimants who received an ERI have, on average, worse outcomes than the claimants who were not, we do not believe that the selection mechanism into the MWT-ERI differed systematically from the selection mechanism into the SWT-ERI.[14] Hence, if the selection mechanism into both types of ERI is, on average, the same, then it is controlled for in equation (2) by the ERI_i dummy.

The extent to which the selection process for receiving an ERI and a job development plan is controlled for by ERI_i, and $JobPlan_i$ is related to whether the δ_4- and δ_5-coefficients can be interpreted as measuring the differential impact of the MWT-ERI and the MWT-job development plan. However, a second concern regarding a causal interpretation of the δ_4- and δ_5-coefficients is that the MWT treatment was scheduled an earlier date than the SWT treatment. This earlier scheduling might make the pool of claimants served earlier different from the pool of claimants served at a later date in ways that are not observed by us, the researchers.[15]

[14] To strengthen our claim that the selection mechanism into ERI is not very different between the treatments, we have done the following. We pooled the sample of SWT and MWT claimants and estimated a probit model of the probability of receiving ERI on the vector X, described in equation (1), fully interacted with the MWT dummy. The *p*–value on the *F*–test on these interaction terms equals 0.162. The *p*–value from a probit model of receiving a job development plan is much smaller (0.0242), suggesting that the selection into the job development plan varied with treatment assignment.

[15] It is worthwhile to comment on why we do not pool all three groups and instrument the receipt of ERI or the job development plan with random assignment to the work test groups. For the instrumental variable technique to work, the assignment to treatment cannot have an effect on outcomes separate from the effect of treatment itself, that is, it must satisfy the exclusion restriction. In our case, the exclusion restriction is not satisfied, because the claimants subject to the NWT treatment were informed that they will assigned to a non-standard treatment, hence there was a direct effect of assignment on outcomes. We have, however, estimated two-stage least squares regressions for the pooled SWT and MWT sample that instrument ERI receipt with random assignment to the MWT group, but none of the estimates were statistically different from zero. The results are available from the authors.

Nevertheless, we think that equation (2) can still be informative about what components of the MWT policy were more effective.

Table 7 presents the δ-coefficients from equation (2) for the UI outcomes and short-term employment outcomes, while Table 8 shows the estimates for long-term employment outcomes (we do not show the estimates on the vector of control variables, X).

[Table 7 here]

First, we observe that the δ_1-coefficient measuring the difference in average outcomes between the MWT and SWT groups in the absence of any ERI or job development plan is marginally significant for only one outcome, the benefits paid in the first spell. The estimates for the remaining UI outcomes and short-term employment outcomes are not statistically significant at conventional levels. That the average outcomes of MWT and SWT claimants who did not receive an ERI or a job development plan are not statistically different strengthens the claim that the selection process into the modified reemployment services was not different from the selection process into the standard reemployment services.

Second, the δ_2-coefficients confirm that claimants in the SWT group who received an ERI were negatively selected into those services, while the δ_3-coefficients suggest that claimants in the SWT group who received a job development plan were either positively selected or that this service had a positive effect on these claimants' UI-related outcomes.

Third, looking at the parameters of main interest, the δ_4- and δ_5-coefficients, we observe that the MWT claimants who received an ERI were, on average, less likely (by 11.7 percentage points) to exhaust benefits and the MWT claimants who received a job development plan had better first-quarter employment outcomes.

Does the reduced likelihood of exhausting benefits and improved employment outcomes translate to employment gains in the long run?

[Table 8 here]

Table 8 presents δ-coefficients from model (2) for employment outcomes over the ten-year horizon. We observe that the MWT claimants who received a job development plan (δ_5) tended to have a higher likelihood of employment (7.5 percentage points) in the long run than SWT claimants who received this service. The δ_4- and δ_5-coefficients using other outcome variables are often economically large (see, for example, number of post-claim employers, quarters of nonemployment, and quarters with the first post-claim employer), but they are not precisely estimated.

The MWT-ERI focused more on "employability development planning rather than UI eligibility issues" (Johnson and Klepinger, 1991 p. 4). Based on the suggestive evidence in Tables 7 and 8, it appears that this "softer" approach combined with the earlier timing resulted in improved employment outcomes in the short run and in improved employment probability in the long run. However, because 1) these magnitudes are identified using, in part, a self-selected sample of participants, and 2) the MWT treatment was scheduled earlier and had a different focus, we cannot draw definitive conclusions about causality. An interesting question for future evaluation would be to test the effectiveness of an earlier work test while keeping the content of the ERI the same. Alternatively, an evaluation could test the effectiveness of job development planning without changing the timing of the ERI call-in. Given the treatment design in the WAWS, our study cannot sharply disentangle the effects of the timing from the different focus of the MWT.

7 Summary

A long-standing concern about strict enforcement of the UI work test is that it may pressure unemployed job seekers to accept a job "too soon," reducing job match quality and long-term earnings. In addition to being undesirable for workers, this could be detrimental to employers, many of whom value long-term relationships and are willing to pay higher wages to encourage tenure; see Farber (1999).

The Washington Alternative Work Search experiment tested the effects of the work test by randomly assigning new UI claimants to a group consisting of a standard work test, to a modified work test, which was scheduled earlier, and to an honor system in which claimants were told to search actively for reemployment but were also told that their benefits would be sent to them unless they told the UI agency that they had found a job or had stopped looking for work. By appending nine years of administrative wage records to the original data from the experiment, we are able to examine the long-term effects of the two work test treatments—that is, the effects on employment tenure, number of post-claim employers, employment, hours, and earnings.

In the short term, the work test decreased the duration of UI benefit receipt, benefits received, and the probability of exhausting benefits. Although it also decreased the probability that a worker would return to a former employer (which could be an undesired outcome), the work test had no effect on earnings, hours worked, or other employment outcomes. We also find no evidence of a statistically significant effect of the work test on time to reemployment, post-claim employment tenure, or number of post-claim employers.

We also study the effects of work test by reason for unemployment and find differences among different groups of claimants. First, the work test was beneficial in the short run for

claimants who lost their job as a result of a permanent layoff. During the year of the experiment, these claimants experienced higher probability of reemployment, worked more hours, and had higher earnings. Moreover, in the long term, these claimants were reemployed about 1–2 quarters sooner than the group who were not subject to the work test and experienced longer job tenure with their first post-claim employer by about 1.3–2.2 quarters (from a base of six quarters). Both of these effects are economically large and imply that the work test is a policy that benefits UI claimants who were permanently laid off. Our results suggest that implementing the work test earlier, i.e., six weeks rather than 13–15 weeks after the claim, was particularly beneficial to claimants permanently laid off, presumably because it counteracted the duration dependence of unemployment.

Second, it appears that the work test prevents abuse of the UI system by not only permanent job losers but also by claimants who quit and those on temporary layoff. For quits and temporary layoffs, the work test led to less benefit payments, a shorter spell of insured unemployment, and a lower likelihood of exhausting benefits. However, the probability of reemployment, the number of hours worked, and earnings for these claimants were no different from those assigned to the "honor" group not subject to the work test. This implies that the work test prevents claimant moral hazard—in the absence of the work test, more UI benefits would have been drawn, but the employment outcomes would be no different than with the work test.

Overall, the work test saves costs to the UI system without convincingly harming employment outcomes for any claimant category considered. The clear conclusion for policy is that the work test is an important tool for improving outcomes of permanent job losers and for reducing moral hazard associated with UI for other UI claimants.

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Table 1

Eligibility review interviews and employment services received by claimant groups subject to no work test, the standard work test, and the modified work test

	(1)	(2)	(3)	(4)	(5)	(6)
				p-value of test for difference between:		
Service[a]	No work test	Standard work test	Modified work test	(1) and (2)	(1) and (3)	(2) and (3)
Eligibility review interview	0.004	0.250	0.322	0.000	0.000	**0.000**
Employment services						
job development plan	0.007	0.114	0.182	0.000	0.000	**0.000**
job referral/placement	0.155	0.185	0.160	0.027	0.721	0.108
other employment service[b]	0.062	0.107	0.116	0.000	0.000	0.503
Sample size	1,606	1,539	1,073			

Source: Author's tabulations of the Washington Alternative Work Search experimental data, from UI claims records, administrative wage records, and Employment Service records. See the Data Appendix for details.

Notes: Sample consists of claimants in the no work test, standard work test, and modified work test groups during fall 1986, winter 1987, and spring 1987.

a. A claimant may receive more than one category of services.

b. Job consultation, receipt of or referral to training, testing, support services, job development (contacting an employer on the claimant's behalf), or any other contact with the Employment Service.

Table 2
Sample descriptive statistics and tests of differences between groups

Covariate	(1) Sample proportions and means	(2)	(3)	(4) *p*-value for test of difference between:	(5)	(6)
	No work test	Standard work test	Modified work test	(1) and (2)	(1) and (3)	(2) and (3)
Male	0.717	0.718	0.713	0.935	0.834	0.779
Race						
white	0.828	0.819	0.829	0.487	0.931	0.479
black	0.099	0.097	0.087	0.883	0.287	0.350
other	0.073	0.084	0.084	0.256	0.302	0.996
Age						
≤ 24	0.210	0.218	0.192	0.589	0.265	0.111
25-34	0.404	0.389	0.391	0.393	0.511	0.909
35-44	0.207	0.240	0.222	**0.029**	0.378	0.285
45-54	0.111	0.103	0.129	0.468	0.153	**0.040**
≥ 54	0.068	0.051	0.066	**0.044**	0.857	0.093
Schooling						
less than high school	0.123	0.159	0.148	**0.004**	0.064	0.471
high school	0.566	0.537	0.542	0.099	0.229	0.774
some college	0.240	0.225	0.242	0.305	0.907	0.298
college graduate	0.071	0.080	0.067	0.336	0.706	0.220
Veteran	0.190	0.196	0.215	0.657	0.107	0.235
Marital status/gender						
married male	0.264	0.270	0.242	0.718	0.210	0.116
married female	0.094	0.099	0.096	0.609	0.866	0.772
Household status						
no dependents	0.329	0.309	0.322	0.213	0.669	0.485
1 dependent	0.148	0.155	0.169	0.550	0.140	0.360
2 or more dependents	0.229	0.236	0.207	0.622	0.190	0.081
homeowner	0.285	0.286	0.253	0.933	0.078	0.067
Pre-claim earnings ($)						
1 year before	13,559	13,841	13,531	0.438	0.944	0.447
2 years before	11,571	11,900	11,639	0.416	0.880	0.563
3 years before	10,737	10,744	10,801	0.988	0.892	0.904
Pre-claim hours						
1 year before	1,313	1,334	1,286	0.375	0.317	0.073
2 years before	1,064	1,101	1,076	0.176	0.690	0.414
3 years before	931	946	964	0.600	0.302	0.583
Occupation						
professional	0.102	0.105	0.106	0.773	0.732	0.936
clerical	0.133	0.122	0.116	0.374	0.216	0.661
sales	0.059	0.058	0.050	0.932	0.366	0.407
service	0.101	0.101	0.123	0.989	0.069	0.073
agric., fishery, forestry	0.028	0.026	0.021	0.719	0.291	0.455
processing	0.033	0.038	0.035	0.419	0.741	0.698
machine trades	0.090	0.086	0.107	0.707	0.126	0.066
benchwork	0.048	0.046	0.049	0.812	0.863	0.700
structural work	0.265	0.266	0.274	0.911	0.592	0.667
miscellaneous	0.143	0.151	0.116	0.476	0.056	**0.011**
Industry						
agriculture	0.025	0.025	0.021	0.969	0.565	0.588
mining	0.001	0.001	0.001	0.538	0.799	0.785

Covariate	(1) Sample proportions and means: No work test	(2) Sample proportions and means: Standard work test	(3) Sample proportions and means: Modified work test	(4) *p*-value for test of difference between: (1) and (2)	(5) *p*-value for test of difference between: (1) and (3)	(6) *p*-value for test of difference between: (2) and (3)
construction	0.196	0.205	0.190	0.518	0.702	0.338
manufacturing	0.232	0.237	0.263	0.780	0.070	0.125
transportation, utilities	0.054	0.038	0.034	**0.023**	**0.010**	0.577
wholesale trade	0.060	0.070	0.048	0.222	0.229	**0.023**
retail trade	0.158	0.159	0.158	0.938	0.950	0.994
finance, ins., real estate	0.031	0.028	0.031	0.599	0.955	0.674
services	0.172	0.174	0.172	0.866	0.970	0.909
government	0.057	0.045	0.054	0.137	0.712	0.318
unclassified	0.014	0.018	0.027	0.426	0.018	0.129
Prior UI claim						
none	0.804	0.804	0.791	0.969	0.423	0.408
duration ≤ 15 weeks	0.100	0.104	0.106	0.689	0.581	0.852
duration > 15 weeks	0.097	0.092	0.103	0.642	0.606	0.353
Reason for job loss						
permanent layoff	0.153	0.172	0.157	0.147	0.815	0.291
temporary layoff with recall date	0.265	0.231	0.253	**0.028**	0.514	0.179
contract/seasonal	0.154	0.155	0.156	0.908	0.897	0.981
quit for good cause	0.000	0.172	0.167	0.696	0.476	0.719
Employer-attached/placed by union[2]	0.286	0.355	0.371	**0.000**	**0.000**	0.418
UI benefits/claim type						
weekly amount ($)	145	146	145	0.566	0.963	0.640
maximum amount ($)	3,830	3,868	3,849	0.530	0.779	0.776
potential duration	25.9	26.0	26.0	0.887	0.774	0.875
replacement rate (percent)[3]	61.6	61.7	61.4	0.841	0.869	0.733
combined wage claim[4]	0.044	0.049	0.045	0.490	0.889	0.635
ex-service member claim	0.035	0.034	0.034	0.868	0.957	0.923
federal employee claim	0.018	0.009	0.014	**0.031**	0.374	0.241
Reservation wage (hourly)						
≤ $5.00	0.181	0.190	0.175	0.477	0.725	0.325
$5.01–$7.00	0.164	0.151	0.142	0.289	0.110	0.519
$7.01–$10.00	0.161	0.138	0.157	**0.066**	0.740	0.180
$10.01–$20.00	0.130	0.143	0.138	0.273	0.534	0.717
> $20.00	0.106	0.110	0.117	0.722	0.376	0.581
Sample size	1,606	1,539	1,073			

Notes: Sample consists of claimants in the no work test, standard work test, and modified work test groups during fall 1986, winter 1987, and spring 1987.

Source: Author's tabulations of the Washington Alternative Work Search experimental data.

1. Bold denotes *p*-values for the test of mean differences between groups < .05.

2. Claimants were not required to search for work if they were on layoff with a set recall date or if they were placed through a union.

3. The replacement rate is the weekly benefit amount as a percentage of average weekly earnings before the UI claim.

4. Combined wage claims use earnings from more than one state to calculate base period earnings.

Table 3

Estimated effects of standard work test and modified work test on selected outcomes

Outcome	No work test mean (std. dev.)		Estimated effects (robust std. error) Standard work test		Modified work test		Estimated IPW effects (robust std. error) Standard work test		Modified work test	
UI outcomes										
Benefits paid ($)										
First spell	2,106	(1,765)	-430***	(54)	-467***	(59)	-425***	(62)	-466***	(68)
Benefit year	2,411	(1,797)	-429***	(53)	-484***	(59)	-433***	(64)	-469***	(71)
Weeks paid										
First spell	17.23	(11.08)	-3.50***	(0.37)	-3.34***	(0.41)	-3.52***	(0.40)	-3.30***	(0.44)
Benefit year	17.56	(10.32)	-3.28***	(0.35)	-3.24***	(0.39)	-3.34***	(0.38)	-3.15***	(0.43)
Exhausted benefits (proportion)	0.354	(0.478)	-0.116***	(0.015)	-0.111***	(0.017)	-0.119***	(0.017)	-0.107***	(0.018)
Subsequent UI payments (proportion)	0.265	(0.442)	0.032**	(0.015)	0.027	(0.017)	0.030*	(0.016)	0.026	(0.018)
Short-term employment outcomes										
First quarter outcomes[a]										
Employed (proportion)	0.653	(0.476)	0.028*	(0.016)	0.038**	(0.018)	0.028	(0.017)	0.035*	(0.019)
Hours worked	189	(205)	6.2	(7.0)	8.9	(7.6)	5.7	(7.6)	8.1	(8.3)
Earnings ($)	2,123	(2,549)	86	(81)	80	(85)	73	(96)	77	(101)
Log wage (90% Lee bounds)			[-0.1245, 0.1212]		[-0.1107, 0.1195]					
Year 0 outcomes[a]										
Employed (proportion)	0.867	(0.34)	0.016	(0.011)	0.025**	(0.012)	0.018	(0.012)	0.025*	(0.013)
Hours worked	974	(745)	25.6	(24.6)	33.9	(26.7)	28.3	(27.5)	37.4	(30.0)
Earnings ($)	11,064	(9,976)	320	(289)	216	(307)	393	(378)	173	(396)
Log wage (90% Lee bounds)			[-0.0941, 0.0811]		[-0.1010, 0.0912]					
Other outcomes										
Returned to same employer (proportion)	0.342	(0.475)	-0.033**	(0.015)	-0.022	(0.017)	-0.038**	(0.017)	-0.019	(0.019)
Returned to same industry (proportion)	0.448	(0.497)	-0.029*	(0.016)	-0.004	(0.018)	-0.034*	(0.018)	-0.001	(0.020)
Employment outcomes over 10 years (unconditional)										
Average post-claim employed (proportion)[a]	0.726	(0.331)	0.009	(0.011)	0.002	(0.012)	0.015	(0.012)	-0.000	(0.013)
Average post-claim hours[a]	1,009	(737)	-4.8	(24.0)	-13.1	(27.0)	7.6	(26.7)	-20.3	(29.8)
Average post-claim earnings ($)[a]	12,499	(10,637)	16	(320)	-376	(350)	194	(390)	-560	(419)
Number of post-claim employers	4.49	(3.71)	0.154	(0.127)	0.090	(0.140)	0.167	(0.133)	0.097	(0.149)
Quarters of nonemployment	3.83	(8.27)	-0.102	(0.279)	-0.138	(0.323)	-0.239	(0.298)	-0.101	(0.344)
Quarters with first post-claim employer	8.10	(10.96)	-0.428	(0.368)	0.057	(0.420)	-0.471	(0.387)	0.061	(0.442)
Sample size	1,606		1,539		1,073		1,539		1,073	

Notes: Sample consists of claimants in the no work test, standard work test, and modified work test groups during fall 1986, winter 1987, and spring 1987. Estimated effects are regression-adjusted differences controlling for all variables displayed in Table 2 plus the quarter in which the claim was filed and the unemployment rate in the county and month in which the claim was filed.

a. First quarter refers to the quarter following the claim quarter. Year 0 refers to the sum of the first, second, third, and fourth quarters after the claim quarter. Average post-claim outcomes are averages over years 0–9. Earnings are expressed in 1988:4 dollars.

p-values are for a test of difference between treatment and no work test group (*** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$).

Table 4

Estimated effects of standard work test and modified work test on selected outcomes, claimants unemployed due to permanent job loss

Outcome	No work test mean (std. dev.)		Estimated effects (robust std. error) Standard work test		Modified work test		Estimated IPW effects (robust std. error) Standard work		Modified work test	
UI outcomes										
Benefits paid ($)										
First spell	2,489	(1,756)	-556***	(138)	-548***	(161)	-660***	(165)	-518***	(181)
Benefit year	2,677	(1,759)	-443***	(132)	-574***	(152)	-548***	(171)	-456**	(193)
Weeks paid										
First spell	20.13	(10.36)	-4.48***	(0.96)	-3.91***	(1.14)	-5.35***	(1.06)	-3.76***	(1.17)
Benefit year	20.13	(9.8)	-3.44***	(0.91)	-3.96***	(1.07)	-4.31***	(1.07)	-3.38***	(1.13)
Exhausted benefits (proportion)	0.459	(0.499)	-0.151***	(0.043)	-0.168***	(0.049)	-0.185***	(0.044)	-0.141***	(0.051)
Subsequent UI payments (proportion)	0.122	(0.328)	0.102***	(0.034)	0.054	(0.038)	0.087**	(0.035)	0.075*	(0.041)
Short-term employment outcomes										
First quarter outcomes[a]										
Employed (proportion)	0.553	(0.498)	0.084*	(0.043)	0.086*	(0.050)	0.111**	(0.046)	0.070	(0.053)
Hours worked	138	(186)	31.1*	(18.3)	30.3	(20.1)	50.9**	(21.1)	21.4	(20.3)
Earnings ($)	1,250	(1,840)	454**	(187)	437**	(205)	623***	(208)	437*	(238)
Log wage (90% Lee bounds)			[-0.2127, 0.0709]		[-0.3130, 0.1322]					
Year 0 outcomes[a]										
Employed (proportion)	0.821	(0.384)	0.058*	(0.031)	0.095***	(0.036)	0.068**	(0.032)	0.071**	(0.035)
Hours worked	841	(731)	88.2	(66.2)	134.1*	(71.8)	167.0**	(77.3)	68.4	(78.2)
Earnings ($)	7,819	(8,230)	1,626**	(751)	1,829**	(792)	2,308***	(851)	1,218	(899)
Log wage (90% Lee bounds)			[-0.2816, 0.0888]		[-0.3223, 0.0865]					
Other outcomes										
Returned to same employer (proportion)	0.106	(0.308)	0.008	(0.030)	0.033	(0.034)	0.014	(0.029)	0.021	(0.034)
Returned to same industry (proportion)	0.211	(0.409)	0.008	(0.039)	0.106**	(0.047)	0.011	(0.039)	0.117**	(0.048)
Employment outcomes over 10 years (unconditional)										
Average post-claim employed (proportion)[a]	0.711	(0.344)	0.028	(0.028)	0.004	(0.033)	0.047	(0.030)	-0.025	(0.037)
Average post-claim hours[a]	974	(733)	33.9	(60.8)	11.5	(73.0)	69.5	(68.0)	-37.2	(84.2)
Average post-claim earnings ($)[a]	10,729	(9,257)	1,011	(776)	630	(915)	1,285	(912)	309	(1,202)
Number of post-claim employers	4.65	(4.1)	-0.012	(0.334)	-0.185	(0.373)	-0.002	(0.341)	-0.146	(0.421)
Quarters of nonemployment	5.01	(9.66)	-1.084	(0.785)	-2.038**	(0.910)	-1.486*	(0.790)	-1.500*	(0.830)
Quarters with first post-claim employer	6.00	(9.16)	1.299	(0.862)	2.249**	(1.054)	1.877*	(1.018)	1.319	(1.050)
Sample size	246		265		168		265		168	

Notes: See annotations to Table 3.

Table 5

Estimated effects of standard work test and modified work test on selected outcomes, claimants who quit for good cause

Outcome	No work test mean (std. dev.)		Estimated effects (robust std. error) Standard work test		Modified work test		Estimated IPW effects (robust std. error) Standard work test		Modified work test	
UI outcomes										
Benefits paid ($)										
First spell	2,205	(1,747)	-521***	(133)	-469***	(151)	-527***	(162)	-494***	(179)
Benefit year	2,350	(1,728)	-532***	(131)	-338**	(152)	-541***	(163)	-363*	(187)
Weeks paid										
First spell	18.46	(10.67)	-4.62***	(0.92)	-3.94***	(1.08)	-4.82***	(1.00)	-3.86***	(1.16)
Benefit year	18.22	(10.28)	-4.64***	(0.91)	-2.97***	(1.07)	-4.86***	(0.98)	-2.87**	(1.16)
Exhausted benefits (proportion)	0.407	(0.492)	-0.137***	(0.041)	-0.085*	(0.047)	-0.132***	(0.044)	-0.090*	(0.051)
Subsequent UI payments (proportion)	0.147	(0.355)	0.045	(0.033)	0.081**	(0.038)	0.060	(0.036)	0.065	(0.042)
Short-term employment outcomes										
First quarter outcomes[a]										
Employed (proportion)	0.54	(0.499)	0.054	(0.043)	0.054	(0.049)	0.075	(0.046)	0.045	(0.053)
Hours worked	147	(201)	28.1	(18.9)	-4.8	(20.1)	26.6	(20.9)	6.5	(22.4)
Earnings ($)	1,383	(1,993)	234	(189)	84	(190)	397	(324)	136	(228)
Log wage (90% Lee bounds)			[-0.4270, -0.1141]		[-0.4500, -0.0089]					
Year 0 outcomes[a]										
Employed (proportion)	0.786	(0.411)	0.032	(0.034)	0.074**	(0.035)	0.043	(0.036)	0.085**	(0.039)
Hours worked	783	(748)	97.7	(68.8)	-6.5	(72.0)	69.5	(76.8)	45.2	(79.7)
Earnings ($)	7,671	(8,761)	620	(665)	186	(697)	525	(913)	327	(890)
Log wage (90% Lee bounds)			[-0.4602, -0.0386]		[-0.4399, 0.1069]					
Other outcomes										
Returned to same employer (proportion)	0.161	(0.369)	-0.015	(0.031)	0.020	(0.036)	-0.008	(0.036)	0.023	(0.041)
Returned to same industry (proportion)	0.263	(0.441)	-0.000	(0.038)	0.069	(0.045)	-0.009	(0.041)	0.097*	(0.051)
Employment outcomes over 10 years (unconditional)										
Average post-claim employed (proportion)[a]	0.667	(0.36)	0.013	(0.030)	0.035	(0.033)	0.004	(0.034)	0.073**	(0.034)
Average post-claim hours[a]	926	(760)	-15.5	(62.4)	-42.2	(69.4)	-50.2	(69.1)	49.6	(76.9)
Average post-claim earnings ($)[a]	9,986	(9,766)	350	(786)	-717	(793)	-52	(941)	42	(955)
Number of post-claim employers	4.26	(3.44)	0.109	(0.298)	0.178	(0.330)	0.259	(0.323)	0.305	(0.362)
Quarters of nonemployment	5.67	(10.66)	-0.118	(0.870)	-1.229	(0.884)	-0.150	(1.071)	-1.837**	(0.887)
Quarters with first post-claim employer	5.59	(8.77)	0.605	(0.740)	1.186	(0.945)	-0.265	(0.758)	2.636**	(1.190)
Sample size	285		265		179		265		179	

Notes: See annotations to Table 3.

Table 6

Estimated effects of standard work test and modified work test on selected outcomes, claimants unemployed due to temporary layoff

Outcome	No work test mean (std. dev.)		Estimated effects (robust std. error) Standard work		Modified work test		Estimated IPW effects (robust std. error) Standard work		Modified work test	
UI outcomes										
Benefits paid ($)										
First spell	1,767	(1,736)	-274**	(110)	-473***	(117)	-183	(140)	-414***	(155)
Benefit year	2,160	(1,793)	-320***	(113)	-544***	(124)	-212	(145)	-507***	(159)
Weeks paid										
First spell	14.56	(11.4)	-2.19***	(0.75)	-3.68***	(0.79)	-1.51*	(0.90)	-3.30***	(0.95)
Benefit year	15.4	(10.72)	-2.29***	(0.72)	-3.79***	(0.79)	-1.70*	(0.87)	-3.57***	(0.94)
Exhausted benefits (proportion)	0.249	(0.433)	-0.087***	(0.028)	-0.135***	(0.029)	-0.091***	(0.032)	-0.111***	(0.036)
Subsequent UI payments (proportion)	0.353	(0.478)	-0.024	(0.035)	-0.019	(0.037)	0.012	(0.040)	-0.044	(0.040)
Short-term employment outcomes										
First quarter outcomes[a]										
Employed (proportion)	0.774	(0.419)	-0.013	(0.030)	0.060*	(0.031)	-0.010	(0.035)	0.010	(0.040)
Hours worked	259	(206)	-14.4	(14.0)	10.0	(15.0)	-19.8	(16.7)	-0.5	(18.7)
Earnings ($)	3,107	(2,882)	-135	(181)	160	(186)	-230	(218)	34	(241)
Log wage (90% Lee bounds)			[-0.1015, 0.3520]		[-0.1043, 0.4031]					
Year 0 outcomes[a]										
Employed (proportion)	0.927	(0.26)	0.003	(0.018)	0.021	(0.019)	0.007	(0.021)	0.012	(0.023)
Hours worked	1,232	(710)	-44.2	(46.9)	25.2	(51.7)	-41.9	(55.7)	-8.3	(66.5)
Earnings ($)	14,487	(10,443)	88	(589)	864	(655)	225	(825)	176	(904)
Log wage (90% Lee bounds)			[-0.1159, 0.2856]		[-0.1162, 0.3368]					
Other outcomes										
Returned to same employer (proportion)	0.539	(0.499)	-0.057	(0.035)	-0.026	(0.038)	-0.026	(0.041)	-0.055	(0.044)
Returned to same industry (proportion)	0.64	(0.481)	-0.056	(0.034)	-0.030	(0.036)	-0.041	(0.040)	-0.052	(0.044)
Employment outcomes over 10 years (unconditional)										
Average post-claim employed (proportion)[a]	0.776	(0.303)	0.003	(0.021)	0.002	(0.024)	0.023	(0.023)	-0.010	(0.027)
Average post-claim hours[a]	1,131	(727)	3.7	(50.5)	-12.8	(55.2)	25.4	(58.0)	-47.2	(62.5)
Average post-claim earnings ($)[a]	14,724	(10,742)	10	(664)	370	(737)	269	(843)	-395	(909)
Number of post-claim employers	4.17	(3.15)	0.325	(0.243)	0.507**	(0.254)	0.520*	(0.291)	0.401	(0.273)
Quarters of nonemployment	2.66	(6.49)	-0.397	(0.400)	-0.136	(0.533)	-0.417	(0.475)	0.198	(0.684)
Quarters with first post-claim employer	10.34	(12.3)	-1.264	(0.857)	-1.135	(0.893)	-1.155	(0.931)	-1.434	(0.940)
Sample size	425		355		272		355		272	

Notes: See annotations to Table 3.

Table 7

Estimated effects of the early eligibility review interview (ERI) and job development plan on selected short-term outcomes

	UI Outcomes and short-term employment outcomes													
	Benefits paid ($)		Weeks paid		Other UI outcomes		First quarter outcomes[a]			Year 0 outcomes[a]			Other short-term employment outcomes	
Covariates	First spell	Benefit year	First spell	Benefit year	Exhausted benefits (proportion)	Subsequent UI payments (proportion)	Employed (proportion)	Hours worked	Earnings ($)	Employed (proportion)	Hours worked	Earnings ($)	Returned to same employer (proportion)	Returned to same industry (proportion)
MWT	-116*	-104	-0.55	-0.36	0.018	0.009	0.005	4.1	60	-0.004	1.6	-119	0.007	0.032
	(63)	(68)	(0.43)	(0.45)	(0.017)	(0.021)	(0.019)	(9.6)	(108)	(0.013)	(32.6)	(380)	(0.021)	(0.022)
ERI	1,752***	1,643***	13.04***	12.16***	0.383***	-0.029	-0.313***	-164.8***	-1,671***	-0.080***	-424.7***	-5,205***	-0.091***	-0.116***
	(92)	(85)	(0.58)	(0.54)	(0.034)	(0.030)	(0.035)	(11.5)	(117)	(0.028)	(49.6)	(502)	(0.028)	(0.033)
JobPlan	-257**	-184*	-1.69**	-0.97	-0.067	0.038	-0.024	-14.7	-139	0.019	42.2	631	0.009	0.034
	(121)	(112)	(0.75)	(0.69)	(0.049)	(0.042)	(0.048)	(13.0)	(137)	(0.038)	(62.5)	(656)	(0.035)	(0.044)
MWT*ERI	34	-112	0.44	-0.82	-0.117**	-0.012	-0.005	3.8	-185	0.028	30.2	344	-0.023	-0.032
	(140)	(133)	(0.93)	(0.87)	(0.052)	(0.046)	(0.052)	(16.3)	(174)	(0.040)	(69.5)	(713)	(0.041)	(0.048)
MWT*JobPlan	-241	-117	-1.72	-0.83	0.009	-0.041	0.150**	50.3**	654***	0.040	126.8	1,227	0.078	0.032
	(178)	(170)	(1.19)	(1.12)	(0.069)	(0.060)	(0.069)	(19.8)	(205)	(0.051)	(87.8)	(940)	(0.053)	(0.063)
Sample size	2,612	2,612	2,612	2,612	2,612	2,612	2,612	2,612	2,612	2,612	2,612	2,612	2,612	2,612

Notes: Sample consists of claimants in the standard work test group and and the modified work test group during fall 1986, winter 1987, and spring 1987. Estimated effects are regression-adjusted differences controlling for all variables displayed in Table 2 plus the quarter in which the claim was filed and the unemployment rate in the county and month in which the claim was filed.

a. First quarter refers to the quarter following the claim quarter. Year 0 refers to the sum of the first, second, third, and fourth quarters after the claim quarter. Average post-claim outcomes are averages over years 0–9. Earnings are expressed in 1988:4 dollars.

p -values are for a test of difference between treatment and no work test group (*** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$).

MWT stands for modified work test, ERI stands for eligibility review interview, and JobPlan stands for job development plan.

Table 8

Estimated effects of the early eligibility review interview (ERI) and job development plan on selected long-term employment outcomes

	Employment outcomes over 10 years (unconditional)					
Covariates	Average post-claim employed (proportion)[a]	Average post-claim hours[a]	Average post-claim earnings ($)[a]	Number of post-claim employers	Quarters of nonemployment	Quarters with first post-claim employer
MWT	-0.003	-7.2	-172	-0.020	0.203	0.427
	(0.014)	(31.6)	(420)	(0.174)	(0.357)	(0.519)
ERI	-0.052**	-172.1***	-2,253***	-0.034	1.773**	-2.478***
	(0.023)	(47.5)	(627)	(0.254)	(0.709)	(0.646)
JobPlan	-0.013	-4.3	-410	-0.067	-0.614	0.621
	(0.031)	(64.6)	(814)	(0.350)	(0.923)	(0.911)
MWT*ERI	-0.038	23.0	-557	-0.535	-0.293	1.095
	(0.036)	(76.7)	(967)	(0.374)	(1.066)	(1.077)
MWT*JobPlan	0.075*	34.9	931	0.746	-1.042	-0.295
	(0.045)	(95.2)	(1,154)	(0.495)	(1.311)	(1.353)
Sample size	2,612	2,612	2,612	2,612	2,612	2,612

Notes: Sample consists of claimants in the standard work test group and and the modified work test group during fall 1986, winter 1987, and spring 1987. Estimated effects are regression-adjusted differences controlling for all variables displayed in Table 2 plus the quarter in which the claim was filed and the unemployment rate in the county and month in which the claim was filed.

a. First quarter refers to the quarter following the claim quarter. Year 0 refers to the sum of the first, second, third, and fourth quarters after the claim quarter. Average post-claim outcomes are averages over years 0–9. Earnings are expressed in 1988:4 dollars.

p-values are for a test of difference between treatment and no work test group (*** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$).

MWT stands for modified work test, ERI stands for eligibility review interview, and JobPlan stands for job development plan.