

# Reemployment Bonuses And Profiling

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Christopher J. O'Leary,\* Paul Decker,\*\* Stephen A. Wandner\*\*\*

\*W.E. Upjohn Institute for Employment Research  
300 South Westnedge Avenue  
Kalamazoo, MI 49007

\*\*Mathematica Policy Research, Inc.  
600 Maryland Avenue, S.W.  
Washington, DC 20024

\*\*\*Employment and Training Administration  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

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## **Reemployment Bonuses And Profiling**

### **ABSTRACT**

Earlier research has indicated that an untargeted reemployment bonus program would not be good public policy. In this paper, profiling models similar to those in state Worker Profiling and Reemployment Services systems are used to reexamine evidence from reemployment bonus experiments. The targeting of offers to the unemployment insurance (UI) claimants identified as most likely to exhaust benefits is estimated to increase cost effectiveness. However, estimated average benefit payments do not steadily decline as the eligibility screen is gradually tightened. Furthermore, targeting does not guarantee that bonus offers will be cost effective. The best candidate to emerge for a targeted reemployment bonus is a low bonus amount, with a long qualification period, targeted to the half of profiled claimants most likely to exhaust their UI benefit entitlement.

## **INTRODUCTION**

Between 1984 and 1989, four reemployment bonus experiments targeted at unemployment insurance (UI) recipients were conducted in the United States. These experiments provided various levels of lump-sum payments to UI recipients who took new, full-time jobs within 6 to 12 weeks of their benefit application and held that job for at least three to four months. The purpose of these interventions was to learn more about the behavioral response of UI recipients to changes in UI program. Reemployment bonuses were intended to speed the return to work in a manner that would benefit employees, employers, and the government and that would be cost effective. UI claimants would be better off if they return to work sooner and find jobs that are similar and pay similar wages to the jobs they would take in the absence of a bonus offer. Employers would be better off if they experience lower UI payroll taxes. The government would be better off if the cost of the bonus is offset by a decrease in UI benefit payments to unemployed workers and an increase in income and other tax contributions by workers during their longer period of employment.

The reemployment bonus experiments have now been completed. While there was a 1994 Clinton Administration proposal to enact federal reemployment bonus program provisions, the legislation was not adopted. The proposal called for narrowly targeting reemployment bonuses to dislocated UI claimants by a worker profiling mechanism based on objective characteristics such as level of education and length of work experience. In 1993, a profiling mechanism of this type was incorporated into two pieces of federal legislation which authorized programs to provide job search assistance and self-employment allowances to targeted UI

claimants. At present, reemployment bonuses are not available in the United States, but if they were proposed as a legislative initiative, they would likely be targeted to claimants using a profiling mechanism.

This paper reviews the results of the reemployment bonus experiments, simulates what the impacts of the Washington and Pennsylvania experiments would have been with targeting by profiling models, and estimates the cost-effectiveness of these two experiments with profiling. It also examines the extent to which the introduction of similar targeting between the Washington and Pennsylvania would make the results of the two experiments more comparable.

## **THE REEMPLOYMENT BONUS EXPERIMENTS**

The first bonus experiment was conducted in Illinois during 1984-85 and was sponsored by the Illinois Department of Employment Security. Its goal was to examine the theoretical and empirical economic implications of a reemployment bonus offer to UI claimants and the potential for developing a cost-effective bonus program. It found that a reemployment bonus offer to UI claimants reduced the duration of UI-compensated unemployment by 1.15 weeks [Woodbury and Spiegelman, 1987]. This reduction was so great that the reemployment bonus was cost effective to the UI Trust Fund, generating a benefit/cost ratio of 2.32. At the same time, participants suffered no reduction in post-unemployment wages, indicating that the bonus offer did not reduce job quality.

Independent of the Illinois experiment, the U.S. Department of Labor (USDOL) sponsored a New Jersey UI experiment that included a reemployment bonus treatment group [Corson et. al, 1989]. This project was designed and became operational in 1985 and 1986, before the results of the Illinois experiment became available. As such, the New Jersey

experiment was not designed to replicate or validate the Illinois experiment. The evaluation of the New Jersey experiment revealed that the reemployment bonus, as it was implemented in New Jersey, generated modest savings in UI. Since the cost of offering and paying the bonuses exceeded the modest UI savings, the New Jersey bonus was not cost effective from the perspective of the UI system.

In 1987, with the evaluation of the Illinois experiment completed and the New Jersey experiment operations over, USDOL decided to sponsor two additional reemployment bonus experiments. These experiments used the Illinois, rather than New Jersey, experiment as their basis for design and replication.

The states of Pennsylvania and Washington each conducted separate reemployment bonus experiments in 1988-89. In contrast to the Illinois experiment, these later trials had much more modest results. While half of the ten treatments in Pennsylvania and Washington were cost effective to claimants, society, and the government sector as a whole, only two of the treatments were cost effective for the UI system.

The failure to find an optimum reemployment bonus design or even to replicate the Illinois results led to investigations about why the new results did not measure up to those of Illinois. To better understand the results of the reemployment bonus experiments, a pooled analysis was conducted of the Pennsylvania and Washington state data [Decker and O'Leary, 1992, 1995]. The analysis controlled for differences between the two experiments and resulted in added precision of the impacts estimated. The increased precision did not change the interpretation of the Pennsylvania and Washington results; reemployment bonuses were found to be cost effective only for claimants, not for the government or the UI system.

Other analyses have examined the individual experiments and their relationship to one another. The Illinois results were found to be stronger than those from the other experiments because of the opportunity to reduce long potential durations of benefits (because extended benefits were available during part of the operation of the Illinois experiment) [Davidson and Woodbury, 1991; O’Leary, Spiegelman, and Kline, 1995]. The stronger results in Pennsylvania than Washington were attributed to tighter labor markets in Pennsylvania during the operation of the two experiments [O’Leary, Spiegelman, and Kline, 1995]. The Illinois results were found to be stronger than those in New Jersey because of the differences in the behavioral responses to fixed versus declining reemployment bonus offers [Decker, 1994].

Previous analyses of the reemployment bonus experiment results have examined neither differences in eligibility conditions nor targeting of bonus offers. In particular, targeting of bonus offers to dislocated workers has not been examined. In most analyses, the extent of targeting involved in the operation of the experiments has been accepted as a contextual datum. There has not been analysis of the type of narrowly targeted reemployment bonus program that would most likely be of policy interest, i.e., targeting of bonus offers using a system similar to that used by states in current worker profiling and reemployment services systems. We explore the use of such profiling both to more fairly compare results from the reemployment bonus experiments and to perhaps identify populations where reemployment bonus offers are more cost effective.

## **DESIGN OF THE EXPERIMENTS**

The goal of the early experiments, in Illinois and New Jersey, was to have a significant impact on worker behavior. The amount and duration of the bonus offer had to be sufficient to

motivate unemployed workers to seek early reemployment. This was particularly true in New Jersey, where the bonus amount was set high to assure a large response to the offer. By contrast, in Illinois equal emphasis was placed on providing a realistic chance that the intervention would also be cost effective to the government sector and to the UI trust fund. In this sense, the New Jersey experiment was intentionally a "first cut" at a reemployment bonus, with the expectation that fine tuning would have to be done in the future, if the experiment had the expected impact.

The Illinois design provided a \$500 bonus, equivalent to about four weeks of UI benefit payment, i.e., 4 times the UI weekly benefit amount (WBA). To collect a bonus payment, treatment group members needed to become reemployed within 11 weeks of filing their UI claims.

The New Jersey bonus offer was designed so that the amount of the offer was tied to a claimant's remaining UI benefit entitlement, and the amount paid thus was larger in cases of more rapid reemployment. The initial bonus offer was one-half of the claimant's remaining entitlement at the time of the offer. This offer amount remained constant for the first two full weeks after the initial offer. Thereafter the amount of the bonus offer declined by 10 percent of the original amount per week, falling to zero by the end of the eleventh full week of the bonus offer. Initial bonus offers in New Jersey averaged \$1,644, which was about nine times the UI weekly benefit amount.

Since early analysis of results from Illinois suggested a very cost-effective program, the Pennsylvania and Washington experiments were intended to build on what was learned in Illinois. The bonus offers were set as multiples the worker's weekly benefit level. This approach is appropriate given the Illinois finding that claimants receiving less than the UI maximum

weekly benefit responded more strongly to bonus offers than those constrained by the maximum [O'Leary, Spiegelman, and Kline, 1995 p. 267]. Relating the reemployment bonus offer to the UI claimant's weekly benefit amount would provide greater motivation to a broad spectrum of claimants. From the Illinois experience, a bonus offer equivalent to about 4 weeks of UI benefits offered for about 11 weeks seemed adequate. The bonus offer of nine weeks of benefits tested in the New Jersey experiment appeared excessive. The Pennsylvania and Washington experiments tested benefit levels that bracketed the Illinois (4 x WBA) bonus amount and tested qualifications both similar to the earlier offers and about half as great.

The resulting designs provided for four treatment groups in Pennsylvania and six in Washington (see Table 1). The dimensions of each design were the level of the bonus (high and low in Pennsylvania; high, medium, and low in Washington) and the qualification period or duration of the bonus offer (short and long in both states).

The Pennsylvania and Washington experimental designs were coordinated. The Washington experiment had a mean offer of about 4 times the weekly benefit amount and a qualification period which tended to be about 10 and one-half weeks. The Pennsylvania long (12 weeks) qualification period treatments paid either three or six times the WBA, thus bracketing the Illinois offer of four times the WBA. Some of the bonus offers were nearly identical in both experiments. These were the short qualification/high bonus offer and long qualification/high bonus offer treatments [Decker and O'Leary, 1995, p. 536]. As a result, it was hoped that the evaluation findings of the two experiments would be complementary and reinforcing.



## **ELIGIBILITY SCREENING FOR THE EXPERIMENTS**

All of the experiments had eligibility requirements which had to be met before unemployed workers could participate in the projects as members of the treatment or control groups. The requirements were selected to assure that workers filed for or drew UI benefits; deal with administrative concerns; and select workers who had experienced some degree of displacement from work. Treatment design dealt mostly with setting the dollar value of the offered bonus amount, the length of the qualification period, and the conditions under which a bonus would be paid.

Each of the four experiments took place in a separate state. The selection of local offices as enrollment sites was conducted with varying concern about how representative the group of local offices would be of the state as a whole. Sampling of claimants within each local office was done by random assignment. Sample sizes were set based on consideration of the precision needed for estimating individual and subgroup treatment impacts.

### **Eligibility Requirements Varied Greatly**

All of the reemployment bonus experiments had requirements relating to eligibility and filing for UI benefits. A project participant had to be either a benefit recipient (monetarily and nonmonetarily eligible) or at least monetarily eligible at the time of the offer. Eligibility conditions for the four experiments are summarized in Table 2. To elicit the maximum possible bonus impact, it was desirable to make the offer as soon as possible after the filing for benefits. In some cases the offer was made prior to receipt of the first benefit payment. Nonetheless, in all of the experiments, bonus payments could only be received by a UI recipient.

The presence and extent of dislocated worker screens varied greatly across the experiments. Screening was extensive in New Jersey, but it was nonexistent in Washington; the Illinois and Pennsylvania experiments fell in between. While it was clear that the experiments were concerned with permanently separated employees who were going to have difficulty finding new employment, the degree of *ex ante* screening of samples varied. This was because of a conscious effort to coordinate designs to increase the information provided by the collection of experiments. It was hoped that subgroup analysis would reveal comparabilities across experiments, thereby broadening the evidence about groups which benefit to a greater or lesser extent from a reemployment bonus offer.

### **Serving Dislocated Workers**

The experimental designs intended to avoid breaking employee-employer relationships. Offers were not targeted to job-attached UI claimants, but rather to claimants who were not going to return to their prior jobs. Thus, the policy intent of the experiments was to serve permanently separated unemployed workers, who might also share other characteristics of dislocated workers. The screens used in the experiments, however, were not necessarily the same as those that might be used in an operational program. At the time the experiments were initiated, there was no consensus on what those screens might be. It was believed that as long as sample sizes were large enough, the effects of alternative screens could be simulated after the fact.<sup>1</sup>

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<sup>1</sup> For the Washington experiment, Spiegelman, O'Leary, and Kline [1992] did conduct a subgroup analysis to determine the effect of targeting offers to dislocated workers, but they did so using only a single screen, identifying UI claimants with three or more years of tenure.

Other features of the experiments reveal the changing perspectives of the designers. The New Jersey and Illinois experiments were conducted earlier and imposed screens restricting the age and tenure of participants. By the time the Pennsylvania and Washington experiments were conducted, there was a realization that age screening would not be permissible in an ongoing, federally sponsored program and that a strong tenure screen might also need to be relaxed in an operational system. In addition, the inclusive Washington sample design was explicitly based on a plan that more restrictive screens could be imposed on the experimental data as part of the subgroup analysis. Thus, because of the current trend towards using statistical profiling to target services to UI recipients, we now proceed to simulate the use of a profiling mechanism on the reemployment bonus experimental data.

## **REEMPLOYMENT BONUSES WITH PROFILING**

### **How Profiling Works**

Profiling is now being used in all states as part of the Worker Profiling and Reemployment Services (WPRS) system. It is also being used to select candidates for self-employment assistance in a small number of states which are operating self-employment programs. In all states, profiling is a two-step process used to identify UI claimants who are permanently separated from their prior employer and likely to face particular difficulty in becoming reemployed. First, permanently separated workers are identified by screening out two groups: those expecting recall by their previous employer and/or those subject to an exclusive union hiring hall agreement. Claimants who are also UI-eligible (as demonstrated by receipt of a UI first benefit payment) are then evaluated in a second step.

In many states, the second step involves predicting an individual's probability of exhausting UI benefits based on a logit model estimated on historical data for the state. The dependent variable in these logit models is generally a binary outcome: whether or not the full UI benefit entitlement is drawn. The independent variables in the model usually include education, job tenure, change in employment in the previous industry/occupation, and local unemployment rate. When workers open a new claim for UI benefits, their personal and labor market characteristics are entered into a profiling equation to predict their individual probability of exhaustion. Thus, the result of the profiling process is the ability to array and select permanently separated workers who are not job attached and who have a high probability of exhaustion [Wandner, 1997].

### **Profiling and Reemployment Bonuses**

It appears that targeting offers of reemployment bonuses to profiled workers could increase their cost-effectiveness. For example, the six-year follow-up study of the New Jersey experiment [Corson and Haimson, 1996] revealed the impact that profiling could have on the results of the UI experiments. The study simulated the impact on the original New Jersey evaluation findings if the actual profiling mechanism used in New Jersey since 1994 had been in use during the experimental period in 1986-1987 to select UI claimants for bonus offers. They found that profiled workers with a probability of exhaustion exceeding 0.7 were more likely to benefit from reemployment services than were other members of the treatment group. As a result, targeting bonus offers to these workers could be expected to reduce durations of unemployment and increase the cost-effectiveness of the treatments.

The original Pennsylvania evaluation [Corson et al., 1992] did not include an analysis of targeting bonuses to dislocated workers. A more recent study [Corson and Decker, 1996], however, found that the effectiveness of the reemployment bonuses offered both in Pennsylvania and New Jersey would have increased if profiling had been used to select participants, rather than the broad screens that were used in the experiment. To simulate the effect of using profiling in the experiments, treatment group members were divided into two groups, depending on their predicted exhaustion probabilities. Setting the minimum probability of exhaustion at 0.7 for eligibility for a bonus, profiled workers above this threshold ("target workers") who were offered a reemployment bonus were found to experience larger reductions in unemployment durations than workers below this threshold ("untargeted workers"). For all the Pennsylvania treatments, the reduction in UI benefits due to the bonus offers is 0.7 weeks larger for the targeted group. In New Jersey, the difference in impacts for the two groups is 0.5 weeks. Because of small sample sizes, neither of these differences is significant, but the treatment impacts are consistently larger for the targeted workers.

#### **APPLYING PROFILING TO THE REEMPLOYMENT BONUS EXPERIMENT DATA**

In this section we investigate the implications of using a two-step logit-based profiling model to target bonus offers to claimants for whom the expected probability of benefit exhaustion is high. We simulate the effects of targeting reemployment bonus offers using data from the Pennsylvania and Washington experiments. Then we estimate the impact of the experimental treatments on UI receipt among those claimants targeted and those claimants not targeted according to profiling models.

## Targeting Claimants

In estimating and applying profiling models, we use the two-step method proposed by the U.S. Department of Labor [1994] and currently used in both Pennsylvania and Washington to support their respective WPRS systems. For both experiments, we start with the full sample of claimants. We then apply the first step of the profiling process by excluding all claimants who were not permanently separated. In the second step, we estimate for each state a statistical model of the probability of benefit exhaustion using the control group members who were not screened out in the first step. Since both states are using statistical models as part of their ongoing WPRS systems, we specify statistical models that are approximately equivalent to the state models.<sup>2</sup> Although the models differ for the two states, they have some common elements. Both models include explanatory variables to control for each claimant's education, job tenure, and industry. The Washington model also controls for each claimant's previous occupation. Both models control for local unemployment rates.

Our estimates of the models for each state are based on data from the experiments during the experiment period of 1988 to 1989 ("our model"). We also consider the models estimated by the states for use in their WPRS systems ("state models"). These state estimates were generated using historical state administrative data on UI receipt. Both sets of estimates for Pennsylvania and Washington are presented in Tables 3 and 4.

In our estimates of the Pennsylvania benefit exhaustion model presented in Table 3, only two of the estimated coefficients are statistically significant. These coefficients imply that Pennsylvania claimants with shorter job tenure are less likely to exhaust their benefits, and

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<sup>2</sup> While Washington uses separate models for each of three geographic regions in the state, our exercises are based on the specification for the Puget Sound area, which is the most populous.

claimants from industries with high exhaustion rates are more likely to exhaust their benefits. In both cases, the sign of these coefficients is consistent with the sign of the corresponding coefficient in the state-estimated model. Other coefficients in our model are not statistically significant and, in some cases, have signs opposite to the corresponding coefficients in the state model. For example, our estimates suggest that claimants without high school diplomas are less likely to exhaust their benefits than claimants with high school diplomas, while the state estimates predict that claimants without diplomas are more likely to exhaust. Since neither coefficient is statistically significant, this difference is not especially striking.

The Washington model presented in Table 4 includes a much larger number of variables than the Pennsylvania model, although again only a small number of coefficients are statistically significant. Two of the significant coefficients show that claimants with a higher weekly benefit amount are more likely to exhaust their benefits, while claimants from an area with an increasing unemployment rate are less likely to exhaust their benefits. One difference between the models is that the Washington model includes variables to control for the occupation of the claimant. The coefficients on the occupation indicators shown in Table 4 imply that claimants from processing, benchwork, and structural jobs are significantly less likely to exhaust their benefits than claimants in professional and technical occupations. Some of the significant coefficients in our estimates have the opposite sign of the state estimates of the corresponding coefficients. For example, the state estimates of the processing and benchwork coefficients suggest that claimants from these occupations are more rather than less likely to exhaust their benefits than claimants from professional and technical occupations.

For both states, the differences between our estimates and the state estimates is not surprising. The states estimated their models based on different samples of claimants than the demonstration samples that were used for our models. Furthermore, the state samples were drawn at different times than the demonstration samples, so the differences in the estimates reflect, to some extent, the differences in economic conditions and other factors that may have affected the labor market at the different times.

Although few of the individual coefficients in any of the exhaustion probability models are statistically significant, our models are clearly useful in identifying claimants with relatively high probabilities of UI exhaustion. Table 5 shows the predicted and actual exhaustion rates first for claimants above and below the 50<sup>th</sup> percentile of exhaustion probabilities and then for claimants above and below the 75<sup>th</sup> percentile. Based on our model applied to the Pennsylvania control group sample, the exhaustion rate for claimants above the 50<sup>th</sup> percentile is 32.9 percent, compared with 24.8 percent for claimants below the 50<sup>th</sup> percentile. Similarly, the exhaustion rate for claimants above the 75<sup>th</sup> percentile is 38.2 percent, compared with 25.7 percent for claimants below the 75<sup>th</sup> percentile. Not surprisingly, the state model does not predict exhaustion among the Pennsylvania demonstration claimants as well as our model. For example, using the state model, claimants in the top 25 percent of exhaustion probabilities have an actual exhaustion rate of 29.2 percent, which is only slightly higher than the exhaustion rate of 28.7 percent for claimants in the bottom 75 percent.

For the Washington data, our estimates again allow us to identify a sample of claimants with relatively high benefit exhaustion probabilities. The mean exhaustion rate for the top half of the distribution identified by our model is 31.2 percent, compared with 23.3 percent for the



bottom half of the distribution. In comparison, the exhaustion rates for the top and bottom 50 percent of the distribution as identified by the state model are nearly equal: 27.3 percent for the top 50 percent and 27.2 percent for the bottom 50 percent. Similar findings are obtained when we examine a 25/75 split of the distribution and compare the state model with our model.

It is not surprising that our models are better than the state models at distinguishing between high-probability and low-probability claimants in the demonstration sample, given that our model was estimated using the demonstration sample. In the remainder of this paper, we use both our models and the state models to simulate the effect of using a profiling model to target reemployment bonus offers. Our models have the advantage of allowing us to better identify claimants likely to exhaust their benefits, but to a certain extent using the state models may be more representative of how profiling models are actually used. To conduct profiling, states must use models estimated using historical data to predict exhaustion probabilities for new claimants.

Once the benefit exhaustion model has been estimated, the next step in developing rules for targeting bonus offers to claimants is to determine the exhaustion probability threshold. For clarity, we define thresholds in terms of the proportion of claimants who are above some critical value and are therefore targeted for bonuses. One strategy for targeting bonus offers would be to choose the threshold that generates the largest bonus impacts on UI receipt. In Table 6 we present alternative estimates of the impacts of the bonus offers on UI receipt, where the estimates are based on using different probability thresholds to define bonus target groups. These estimates provide no clear guidance about which probability threshold generates the largest impacts. However, the impacts do appear to be relatively large and statistically significant when the threshold is set in the 40 to 50 percentile range. Given this, in the next

section we generate detailed estimates using a 50<sup>th</sup> percentile threshold to define the bonus target group; that is, the bonus target group is formed from the 50 percent of claimants with the highest exhaustion probabilities. For comparison purposes, we also generate estimates using the 75<sup>th</sup> percentile as an alternative probability threshold.

### **Impacts on UI Receipt**

Using a profiling model to target bonus offers to claimants likely to exhaust their benefits may yield larger bonus impacts than a nontargeted offer. In this section, we examine the impacts and cost-effectiveness of targeting reemployment bonus offers to claimants based on their exhaustion probabilities. We first define the target group to include claimants in the top 50 percent of exhaustion probabilities, and we compare the estimated impacts for this targeted group with the impacts for the remaining claimants. We then redefine the target group using the 75<sup>th</sup> percentile of exhaustion probabilities and re-estimate the models based on this new group. The first set of impacts estimates, which are based on using the 50<sup>th</sup> percentile threshold, are shown in Table 7.

The point estimates of the impacts of the bonus offers on UI benefits are generally larger for claimants above the 50<sup>th</sup> percentile threshold than for claimants below the threshold. In Pennsylvania, based on the state model (Table 7), the estimated savings in UI benefit payments due to the combined bonuses is \$117 larger for the high-probability claimants. Using our model, the analogous difference is \$102. For both models, the estimated savings in UI benefits is more than twice as large for claimants in the top 50 percent than for claimants in the bottom 50 percent. Furthermore, the estimated impacts for the top 50 percent group are statistically significant, while those for the bottom 50 percent are not. Despite these findings, the differences

between the estimates for the two groups are not statistically significant. This is not surprising, since splitting the sample lowers the effective sample sizes used to generate the impact estimates. The estimated impacts of individual treatments in Pennsylvania also tend to be larger for the high-probability group, but again the differences are not statistically significant.

The findings for the Washington sample are similar. Using the state model, the estimated savings in UI benefits caused by the combined bonuses is \$70 larger for claimants above the 50<sup>th</sup> percentile threshold than for claimants below the threshold. Using our model, the absolute difference in estimates is \$148, and the estimate for the top 50 percent is statistically significant while that for the bottom 50 percent is not. For the individual treatments, in 11 of 12 cases the estimated savings in UI benefits is larger for the high-probability group than for the low-probability group. As was the case for Pennsylvania, none of the differences between impacts for the high- and low-probability groups is statistically significant.

Targeting the bonus offers to claimants in the top 25 percent of exhaustion probabilities does not appear to yield consistently larger impacts on UI receipt. Table 8 shows that the impact of the combined Pennsylvania treatments for the top 25 percent of claimants is similar to the impact for the rest of the claimants, regardless of which model is used to generate the exhaustion probabilities. The estimated reduction in UI due to the combined Washington treatments is found to be larger for the top 25 percent of claimants when we use our model to generate exhaustion probabilities. However, using the state model results in a different outcome. The estimates based on the state model suggest that the combined treatments are less effective in reducing UI among the top 25 percent of claimants than for other claimants. For four of the six

individual Washington treatments, the estimate for the top 25 percent of claimants is more positive than the estimate for the bottom 75 percent.

Our findings suggest that targeting a reemployment bonus to claimants with high exhaustion probabilities can yield larger reductions in UI receipt than a nontargeted bonus, but targeting does not guarantee larger reductions. Furthermore, the use of a higher probability threshold for targeting does not necessarily translate into larger UI reductions. In our estimates, using the lower threshold (50<sup>th</sup> percentile) yields larger impacts for the targeted group than the higher threshold (75<sup>th</sup> percentile). Hence, the use of a modest probability threshold may maximize the estimated impact of the bonus offers on the benefits received by those who receive the offer.

## **COST-EFFECTIVENESS**

To evaluate the net benefits of a program change, it is necessary to choose a perspective from which to view the change. Previous examinations of net benefits for reemployment bonus offers found more favorable results as the perspective broadened from the UI system, to all government, to society as a whole. The bonus offers have generally not been found to be cost effective from the UI system perspective and at best are a breakeven proposition for society as a whole [O'Leary, Spiegelman, and Kline, 1995 pp. 264-67]. Since the most crucial view for informing policy is that of the UI system, we take that perspective to examine if targeting appreciably improves the cost-effectiveness of reemployment bonus offers.

### **Bonus Payments with Targeting of Offers**

While targeting bonus offers based on exhaustion probabilities may generate greater reductions in UI benefits, it may also affect the bonus take-up rate. If the bonus take-up rate is

higher for claimants with high exhaustion probabilities, targeting the bonus offer may not be cost effective despite generating a substantial reduction in UI benefits paid. To conduct a full evaluation of the net benefits of targeting the bonus offer, we must investigate the relative bonus payments among the groups with high and low exhaustion probabilities. Following our earlier approach, we consider two different thresholds, the 50<sup>th</sup> percentile and the top 25<sup>th</sup> percentile, for defining the bonus target group.

Table 9 presents mean bonus payments for claimants above and below the 50<sup>th</sup> percentile threshold. Considering the state models and our models in Pennsylvania and Washington, we see that bonus costs are higher for the top 50 percent of the distribution for three of the four sets of results. For the Pennsylvania state model the bonus payments are lower for the top half of the distribution. A similar pattern of results emerges when the 75<sup>th</sup> percentile threshold is set for targeting bonus offers. Table 10 reports that for the Pennsylvania state model, the mean bonus payment to the 25 percent most likely to exhaust as determined using the state model is \$53 less than the mean for the remainder of the sample. The top 25 percent were paid a larger mean bonus in each of the other cases examined: \$12 more for our model in Pennsylvania, \$30 more for the state model in Washington, and \$81 more for our model in Washington.

### **Net Benefits of Targeting Reemployment Bonus Offers**

The net benefits to the UI system of a reemployment bonus offer are the reduction in UI benefit payments, minus the cost of bonus payments, minus any additional costs which result from administering a reemployment bonus. The estimates of administrative costs used in our net benefit computations probably bracket the range of costs which would be experienced in an actual program. The cost per offer in Pennsylvania was estimated at \$33, while the cost in

Washington was put at \$3. Certain costs associated with running an experiment would not be incurred in an ongoing program, and this largely explains the difference in the two estimates. Since it is likely that the average administrative cost of an ongoing program would lie between these extremes, this range of estimates is useful for our net benefit simulations.

First considering the net benefits of a reemployment bonus offer targeted to the 50 percent most likely to exhaust benefits, we see in Table 11 that some bonus designs appear to consistently yield positive net benefits. When using either the state or our model, more treatments yield positive net benefits in Pennsylvania than in Washington. This appears to be mainly because the mean bonus payments tend to be higher in Washington. In particular, the long qualification period offers in Pennsylvania are estimated to be cost effective. For Washington, the lone cost-effective treatment also had a long qualification period. When combined with a low bonus amount, the long qualification period offer in Washington targeted to the 50 percent most likely to exhaust UI benefits emerged as a viable policy option.

When targeted to the 25 percent most likely to exhaust benefits, the general pattern of results is similar (Table 12), although as expected, the net benefits tended to be less when targeted to this smaller group as compared to the 50<sup>th</sup> percentile group rule. It appears that expanding the targeted group from the top 25 percent to the top 50 percent allows movement along the UI benefit-exhaustion distribution to a point closer to where the marginal benefit in terms of reduced benefit payments is equal to the marginal cost of bonus payments.

A summary of the net benefit analysis of targeting the bonus offer is presented in Table 13 together with estimates for the nontargeted offers. Results for Pennsylvania are given in the top panel, for Washington in the bottom panel. Focusing on results for the mean bonus offer

(the bottom row of each panel), we see that in nearly every case, targeting toward those most likely to exhaust benefits improves the cost-effectiveness of the program. Only for the Washington state model targeted to the top 25 percent of likely exhaustees does estimated cost-effectiveness decline. Estimates for the combined bonuses suggest that targeting works best when parameters of the profiling model are based on timely data. However, considering individual treatments the state model appears to yield more cost-effective targeting in Pennsylvania.

If there were to be a recommendation for a single treatment design and targeting plan based on this analysis, the best candidate is a low bonus amount--perhaps 3 times the weekly benefit amount— and a long qualification period--about 12 weeks—targeted to the half of claimants most likely to exhaust their UI benefit entitlement. Our estimates suggest that such a bonus offer would save the UI trust fund about \$50 per offer.

## **SUMMARY AND CONCLUSION**

Profiling models similar to those used by states as part of their Worker Profiling and Reemployment Services systems can be used to identify UI claimants most likely to exhaust their benefits. Using such models to target reemployment bonus offers to those claimants most likely to exhaust UI tends to increase the cost-effectiveness of bonus offers, by generating larger average reductions in UI benefit payments than a nontargeted bonus offer. However, estimated average benefit payments do not steadily decline as the eligibility screen is gradually tightened. We estimated that if bonus offers were made to the top quarter of the distribution of those most likely to exhaust UI, average benefit payments would be larger than if offers were made to the top half of the distribution. Furthermore, while targeting may reduce benefit payments, it does

not guarantee that bonus offers will be cost effective. The average size of bonus payments also matters.

While not necessarily positive, in seven of eight simulations reported in this paper for mean bonus offers, the estimated net benefits increased. The single treatment design that emerged as the best candidate for a targeted reemployment bonus is a low bonus amount, with a long qualification period, targeted to the half of claimants most likely to exhaust their UI benefit entitlement. Our estimates suggest that such a targeted bonus offer would yield appreciable net benefits to the UI trust fund if implemented as a permanent national program.

Evidence from a series of field experiments suggests that a nontargeted reemployment bonus program would not be good policy. Our analysis suggests that profiling can improve the cost effectiveness of a reemployment bonus. For public policy purposes, however, we must look beyond basic cost effectiveness and consider two potential behavioral effects that, for an operational bonus program, might reduce cost effectiveness below the estimates from the experiments. First, an actual bonus program could have a *displacement effect* [Meyer, 1996]. Displacement occurs if UI claimants offered a bonus increase their rate of reemployment at the expense of other job seekers not offered a bonus. Davidson and Woodbury [1990, 1993] have shown that a reemployment bonus offer does not necessarily cause displacement, and that the quicker job matches which result from the bonus offer may actually create a net increase in jobs. Second, there is also the risk that an operational bonus offer program could induce an *entry effect* [Meyer, 1996]. That is, the availability of a reemployment bonus might result in a larger proportion of unemployed job seekers filing for UI, or entering the UI system. However, making the bonus offer conditional on being profiled and targeting it to a subset of all UI



recipients introduces uncertainty about receiving a bonus offer which would tend to temper any potential entry effect. As a policy option, a reemployment bonus program targeted to UI claimants who are permanently separated from their prior employer and likely to exhaust their benefits offers a realistic prospect for a cost effective early intervention to promote reemployment.

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**Table 1. Treatment Designs for the Reemployment Bonus Experiments**

Bonus amount	Qualification period	
Illinois		
\$500	11 weeks	
New Jersey		
Half the remaining UI entitlement, with the initial offer good for 2 weeks and then declining by 10 percent per week.	11 weeks	
Pennsylvania	6 Weeks	12 Weeks
3 x WBA	Low bonus, short qualification	Low bonus, long qualification
6 x WBA	High bonus, short qualification	High bonus, long qualification
Washington	(0.2 x Potential UI Duration) + 1 Week	(0.4 x Potential UI Duration) + 1 Week
2 x WBA	Low bonus, short qualification	Low bonus, long qualification
4 x WBA	Medium bonus, short qualification	Medium bonus, long qualification
6 x WBA	High bonus, short qualification	High bonus, long qualification

**Table 2. Eligibility Criteria for the Reemployment Bonus Experiments**

	UI eligibility criteria	Dislocated worker criteria
Illinois	<ul style="list-style-type: none"><li>• Initial claims only</li></ul>	<ul style="list-style-type: none"><li>• Eligible for a full 26 weeks of potential duration</li><li>• Registered with Job Service. (To exclude temporary layoffs and union hiring hall members.)</li><li>• At least age 20, not older than 54</li></ul>
New Jersey	<ul style="list-style-type: none"><li>• First payments only</li></ul>	<ul style="list-style-type: none"><li>• Aged 25 or older</li><li>• Three years tenure on prior job</li><li>• Exclude temporary layoffs: recall expected on a specific date</li><li>• Union hiring hall exclusion</li></ul>
Pennsylvania	<ul style="list-style-type: none"><li>• Initial claims only</li><li>• Regular UI claims</li><li>• Initially satisfied monetary eligibility conditions</li><li>• Not separated from job due to a labor dispute</li><li>• Signed for a waiting week or first payment with 6 weeks of benefit application date</li></ul>	<ul style="list-style-type: none"><li>• Union hiring hall exclusion</li><li>• Exclude employer attached: must not have a specific recall date with 60 days after benefit application</li></ul>
Washington	<ul style="list-style-type: none"><li>• Initial claims only</li><li>• Eligible to receive benefits from the state UI trust fund</li><li>• Monetarily valid claims at the time of filing</li></ul>	

**Table 3. Estimated Models of Benefit Exhaustion: Pennsylvania**

Explanatory variable	State-estimated coefficient	Our estimates	
		Coefficient (P value in parentheses)	Change in probability per unit change of explanatory variable (percentage points)
Intercept	-2.369	-1.981 (0.000)	
Job tenure less than 3 years	-0.154	-0.306** (0.010)	-0.062
No high school diploma	0.190	-0.185 (0.245)	-0.038
College graduate	-0.101	0.117 (0.538)	0.024
From declining industry	0.040	-0.314 (0.121)	-0.064
Low wage replacement rate	-0.237	-0.213 (0.530)	-0.043
High wage replacement rate	0.208	-0.047 (0.789)	-0.010
Industry exhaustion rate (percent divided by 100)	3.789	2.394** (0.013)	0.488
Unemployment rate of labor market area (percent)	0.056	0.058 (0.180)	0.012
Sample size	NA	1,622	1,622

N/A = not available.

\*\* Statistically significant at the 95 percent confidence level in a two-tailed test.

**Table 4. Estimated Models of Benefit Exhaustion: Washington**

Explanatory variable	State-estimated coefficient	Our estimates	
		Coefficient (P value in parentheses)	Change in probability per unit change of explanatory variable (percentage points)
Intercept	-4.5467	-0.4486 (0.6748)	
Potential duration of UI	0.0648	0.0248 (0.1002)	0.0043
Weekly benefit amount	0.0007	0.0042** (0.0012)	0.0007
Unemployment rate	0	0	0
Change in unemployment rate	0.0207	-0.0234** (0.0464)	-0.0041
Job tenure	0.0073	-0.0009 (0.9517)	-0.0002
3rd quarter	0.1744	0.1652 (0.1055)	0.0288
Less than high school	0.1556	0.1869 (0.2190)	0.0325
High school diploma or GED	0	0	0
1-3 years post-high school	-0.0018	0.0648 (0.6077)	0.0113
Bachelor's degree	-0.1774	0.0322 (0.8633)	0.0056
More than bachelor's degree	-0.1397	-0.1203 (0.6177)	-0.0209
Lumber, paper industry	-0.1883	-0.5019 (0.1110)	-0.0874
Aircraft industry	1.1703	0.0192 (0.9717)	0.0033
Shipbuilding industry	0.4102	0.1598 (0.7524)	0.0278
Food products industry	-0.2317	-0.1985 (0.4997)	-0.0346
Other manufacturing industry	-0.0774	-0.0142 (0.9460)	-0.0025
Agriculture	-0.4345	-0.4132 (0.1808)	-0.0719
Construction	-0.1874	-0.3119 (0.2324)	-0.0543
Transportation, communications, and utilities	0.0484	0.0261 (0.0934)	0.0045

Table 4 (continued)

Explanatory variable	State-estimated coefficient	Our estimates	
		Coefficient (P value in parentheses)	Change in probability per unit change of explanatory variable (percentage points)
Trade, except eating & drinking	0	0	0
Eating & drinking	-0.0132	0.0747 (0.7444)	0.0130
Finance, insurance and real estate	0.1865	0.2333 (0.2749)	0.0406
Personal services	0.1534	-0.0049 (0.9799)	-0.0009
Business services	0.0371	0.1038 (0.5834)	0.0181
Health services	0.1425	-0.1124 (0.6437)	-0.0196
Government, military	0.2648	0.0808 (0.8018)	0.0141
Forestry, fishing	0.2856	0.5177 (0.3443)	0.0901
Mining	-1.1873	0.9918 (0.3297)	0.1727
Professional and technical occupations	0	0	0
Managerial occupations	0.2531	-0.0640 (0.7898)	-0.0111
Clerical and sales occupations	0.1862	-0.0415 (0.8086)	-0.0072
Service occupations	-0.07	0.0159 (0.9400)	0.0028
Agriculture, forestry, fishing occupations	-0.382	-0.0325 (0.9127)	-0.0057
Processing occupations	0.0956	-0.6117* (0.0638)	-0.1065
Machine trades	-0.1509	-0.2969 (0.2626)	-0.0517
Benchwork	0.0281	-0.9044** (0.0184)	-0.1575
Structural occupations	-0.1191	-0.4744* (0.0611)	-0.0826
Miscellaneous occupations	0.0008	-0.3394 (0.1063)	-0.0591
Sample size	NA	2,389	2,389

NA=not available.

\* Statistically significant at the 90 percent confidence level in a two-tailed test.

\*\* Statistically significant at the 95 percent confidence level in a two-tailed test.



**Table 5. Benefit Exhaustion Rates by Predicted Exhaustion Probabilities**

Predicted exhaustion probability	State model	Our model
Pennsylvania		
Top 50 percent of exhaustion probabilities	31.0	32.9
Bottom 50 percent	26.5	24.8
Top 25 percent	29.2	38.2
Bottom 75 percent	28.7	25.7
Washington		
Top 50 percent of exhaustion probabilities	27.3	31.2
Bottom 50 percent	27.2	23.3
Top 25 percent	30.3	35.3
Bottom 75 percent	26.2	24.6

**Table 6. Impacts of Combined Treatments on Benefits Paid (in dollars)  
(absolute t-statistics in parentheses)**

Sample used, defined according to exhaustion probabilities	Pennsylvania		Washington	
	Using state model	Using our model	Using state model	Using our model
Top 10 percent	43 (0.21)	214 (1.07)	132 (0.82)	-106 (0.64)
Top 15 percent	-2 (0.00)	-265 (1.62)	62 (0.49)	-231* (1.74)
Top 20 percent	-71 (0.50)	-245* (1.75)	46 (0.41)	-178 (1.57)
Top 25 percent	-102 (0.80)	-129 (1.04)	37 (0.37)	-118 (1.17)
Top 30 percent	-193* (1.65)	-183 (1.59)	-5 (0.05)	-95 (1.05)
Top 35 percent	-170 (1.58)	-221** (2.06)	-46 (0.54)	-92 (1.10)
Top 40 percent	-100 (1.00)	-213** (2.12)	-61 (0.78)	-91 (1.16)
Top 45 percent	-110 (1.16)	-164* (1.74)	-63 (0.86)	-111 (1.52)
Top 50 percent	-171* (1.95)	-172* (1.92)	-67 (0.98)	-117* (1.70)
Top 55 percent	-157* (1.84)	-182** (2.13)	-51 (0.78)	-119* (1.83)
Top 60 percent	-151* (1.85)	-187** (2.32)	-54 (0.87)	-113* (1.82)
Top 65 percent	-134* (1.71)	-122 (1.62)	-49 (0.83)	-71 (1.22)
Top 70 percent	-123 (1.64)	-122 (1.62)	-64 (1.13)	-57 (1.02)
Top 75 percent	-138* (1.90)	-94 (1.28)	-39 (0.73)	-41 (0.77)
Top 80 percent	-145** (2.06)	-104 (1.47)	-25 (0.48)	-35 (0.69)
Top 85 percent	-108 (1.57)	-106 (1.55)	-32 (0.66)	-31 (0.63)
Top 90 percent	-94 (1.41)	-108 (1.62)	-27 (0.56)	-32 (0.68)
Total group	-115* (1.81)	-115* (1.81)	-22 (0.58)	-30 (0.68)
Sample size	5,201	5,201	12,144	12,144

\* Statistically significant at the 90 percent confidence level in a two-tailed test.

\*\* Statistically significant at the 95 percent confidence level in a two-tailed test.

**Table 7. Impacts on UI Benefits Paid in Benefit Year, for Claimants Above and Below the 50<sup>th</sup> Percentile of Exhaustion Probabilities (in dollars)  
(absolute t-statistics in parentheses)**

Demonstration and treatment	State models			Our models		
	Bottom 50 percent	Top 50 percent	Difference	Bottom 50 percent	Top 50 percent	Difference
<b>PENNSYLVANIA BONUS OFFERS</b>						
Low bonus/short qualification	-19 (0.12)	-43 (0.28)	-24 (0.11)	-77 (0.50)	35 (0.22)	111 (0.50)
Low bonus/long qualification	10 (0.07)	-233* (1.86)	-243 (1.34)	-32 (0.25)	-211* (1.65)	-178 (0.99)
High bonus/short qualification	-81 (0.58)	-72 (0.52)	9 (0.05)	-162 (1.16)	5 (0.03)	167 (0.85)
High bonus/long qualification	-117 (0.97)	-200* (1.70)	-84 (0.50)	-67 (0.56)	-261** (2.20)	-194 (1.16)
Declining bonus	-33 (0.23)	-234* (1.72)	-202 (1.01)	-21 (0.15)	-292** (2.12)	-271 (1.36)
Combined bonuses	-55 (0.60)	-171* (1.95)	-117 (0.92)	-70 (0.78)	-172* (1.92)	-102 (0.81)
<b>WASHINGTON BONUS OFFERS</b>						
Low bonus/short qualification	14 (0.16)	50 (0.53)	36 (0.28)	68 (0.77)	-47 (0.50)	-115 (0.92)
Low bonus/long qualification	-62 (0.70)	-111 (1.19)	-49 (0.39)	9 (0.10)	-187** (2.01)	-196 (1.59)
Medium bonus/short qualification	45 (0.50)	-34 (0.36)	-79 (0.62)	108 (1.25)	-121 (1.30)	-229 (1.86)
Medium bonus/long qualification	20 (0.17)	-16 (0.23)	-36 (0.29)	4 (0.04)	-33 (0.36)	-37 (0.30)
High bonus/short qualification	33 (0.34)	-185* (1.74)	-218 (1.55)	-28 (0.29)	-126 (1.19)	-98 (0.71)
High bonus/long qualification	-40 (0.39)	-182* (1.70)	-142 (0.99)	0 (0.00)	-228** (2.13)	-228 (1.62)
Combined bonuses	3 (0.04)	-67 (0.97)	-70 (0.76)	31 (0.49)	-117* (1.69)	-148 (1.63)

\* Statistically significant at the 90 percent confidence level in a two-tailed test.

\*\* Statistically significant at the 95 percent confidence level in a two-tailed test.

**Table 8. Impacts on UI Benefits Paid in Benefit Year, Claimants Above and Below the 75<sup>th</sup> Percentile of Exhaustion Probabilities (in dollars)  
(absolute t-statistics in parentheses)**

Demonstration and treatment	State models			Our models		
	Bottom 75 percent	Top 25 percent	Difference	Bottom 75 percent	Top 25 percent	Difference
<b>PENNSYLVANIA BONUS OFFERS</b>						
Low bonus/short qualification	-14 (0.11)	-77 (0.35)	-63 (0.25)	-105 (0.82)	182 (0.83)	287 (1.13)
Low bonus/long qualification	-40 (0.38)	-358* (1.94)	-319 (1.50)	-90 (0.87)	-159 (0.88)	-69 (0.33)
High bonus/short qualification	-109 (0.96)	44 (0.22)	154 (0.69)	-55 (0.49)	-99 (0.50)	-44 (0.20)
High bonus/long qualification	-235** (2.41)	71 (0.42)	305 (1.57)	-149 (1.54)	-199 (1.21)	-50 (0.26)
Declining bonus	-107 (0.91)	-215 (1.14)	-108 (0.48)	-130 (1.12)	-231 (1.20)	-102 (0.45)
Combined bonuses	-116 (1.59)	-102 (0.80)	15 (0.10)	-109 (1.50)	-129 (1.04)	-20 (0.14)
<b>WASHINGTON BONUS OFFERS</b>						
Low bonus/short qualification	7 (0.10)	97 (0.71)	90 (0.61)	109 (1.54)	-78 (0.55)	-187 (1.29)
Low bonus/long qualification	-135* (1.86)	92 (0.68)	227 (1.57)	-59 (0.84)	-142 (1.05)	-83 (0.59)
Medium bonus/ short qualification	18 (0.24)	-15 (0.11)	-33 (0.23)	68 (0.96)	-143 (1.05)	-211 (1.50)
Medium bonus/long qualification	-32 (0.45)	117 (0.86)	85 (1.03)	7 (0.10)	12 (0.09)	5 (0.03)
High bonus/short qualification	-79 (0.96)	-102 (0.66)	-23 (0.14)	-42 (0.54)	-135 (0.87)	-93 (0.58)
High bonus/long qualification	-122 (1.47)	-40 (0.25)	82 (0.49)	-41 (0.50)	-280 (1.79)	-239 (1.48)
Combined bonuses	-52 (0.97)	37 (0.37)	89 (0.83)	13 (0.24)	-118 (1.17)	-131 (1.26)

\* Statistically significant at the 90 percent confidence level in a two-tailed test.

\*\* Statistically significant at the 95 percent confidence level in a two-tailed test.

**Table 9. Mean Bonus Payments, for Claimants Above and Below the 50<sup>th</sup> Percentile  
(in dollars)**

Demonstration and treatment	State models			Our models		
	Bottom 50 percent	Top 50 percent	Difference	Bottom 50 percent	Top 50 percent	Difference
<b>PENNSYLVANIA BONUS OFFERS</b>						
Low bonus/short qualification	43	36	-7	29	51	22
Low bonus/long qualification	73	47	-26	49	69	20
High bonus/short qualification	105	85	-20	90	100	10
High bonus/long qualification	195	110	-85	142	160	18
Declining bonus	109	75	-34	86	95	9
Combined bonuses	116	75	-41	86	103	17
<b>WASHINGTON BONUS OFFERS</b>						
Low bonus/short qualification	24	41	17	18	46	28
Low bonus/long qualification	40	64	24	31	74	43
Medium bonus/short qualification	71	98	27	56	112	56
Medium bonus/long qualification	96	152	56	76	171	95
High bonus/short qualification	134	191	57	106	220	114
High bonus/long qualification	181	290	109	154	319	165
Combined bonuses	83	127	44	67	142	75

**Table 10. Mean Bonus Payments, for Claimants Above and Below the 75<sup>th</sup> Percentile (in dollars)**

Demonstration and treatment	State models			Our models		
	Bottom 75 percent	Top 25 percent	Difference	Bottom 75 percent	Top 25 percent	Difference
<b>PENNSYLVANIA BONUS OFFERS</b>						
Low bonus/short qualification	44	29	-15	36	50	14
Low bonus/long qualification	66	39	-27	54	77	23
High bonus/short qualification	107	58	-49	91	108	17
High bonus/long qualification	174	85	-89	151	153	2
Declining bonus	107	51	-56	90	92	2
Combined bonuses	109	56	-53	92	104	12
<b>WASHINGTON BONUS OFFERS</b>						
Low bonus/short qualification	28	46	18	24	58	34
Low bonus/long qualification	49	63	14	41	84	43
Medium bonus/ short qualification	84	87	3	71	126	55
Medium bonus/long qualification	116	150	34	103	188	85
High bonus/short qualification	151	191	40	140	228	88
High bonus/long qualification	210	317	107	177	412	235
Combined bonuses	97	127	30	85	166	81

**Table 11. Benefit-cost Comparisons of the Bonus Offers to Claimants above the 50<sup>th</sup> Percentile, from the Perspective of the UI System (dollars per claimant)**

	State models				Our models			
	Savings (+) or costs (-) due to impacts on				Savings (+) or costs (-) due to impacts on			
	UI benefits	Bonus payments	Administrative costs	Net benefits	UI benefits	Bonus payments	Administrative costs	Net benefits
<b>PENNSYLVANIA TREATMENTS</b>								
Low bonus/short qualification	43	-36	-33	-26	-35	-51	-33	-119
Low bonus/long qualification	233	-47	-33	153	211	-69	-33	108
High bonus/short qualification	72	-85	-33	-46	-5	-100	-33	-138
High bonus/long qualification	200	-110	-33	57	261	-160	-33	68
Declining bonus	234	-75	-33	126	292	-95	-33	164
Combined bonuses	171	-75	-33	63	172	-103	-33	36
<b>WASHINGTON TREATMENTS</b>								
Low bonus/short qualification	-50	-41	-3	-94	47	-46	-3	-2
Low bonus/long qualification	111	-64	-3	44	187	-74	-3	110
Medium bonus/ short qualification	34	-98	-3	-87	121	-112	-3	6
Medium bonus/long qualification	16	-152	-3	-139	33	-171	-3	-141
High bonus/short qualification	185	-191	-3	-9	126	-220	-3	-97
High bonus/long qualification	182	-290	-3	-111	228	-319	-3	-94
Combined bonuses	67	-127	-3	-63	117	-142	-3	-28

**Table 12. Benefit-cost Comparisons of the Bonus Offers to Claimants Above the 75<sup>th</sup> Percentile, from the Perspective of the UI System (dollars per claimant)**

	State models				Our models			
	Savings (+) or costs (-) due to impacts on				Savings (+) or costs (-) due to impacts on			
	UI benefits	Bonus payments	Administrative costs	Net benefits	UI benefits	Bonus payments	Administrative costs	Net benefits
<b>PENNSYLVANIA TREATMENTS</b>								
Low bonus/short qualification	77	-29	-33	15	-182	-50	-33	-265
Low bonus/long qualification	358	-39	-33	286	159	-77	-33	49
High bonus/short qualification	-44	-58	-33	-135	99	-108	-33	-42
High bonus/long qualification	-71	-85	-33	-189	199	-153	-33	13
Declining bonus	215	-51	-33	131	231	-92	-33	106
Combined bonuses	102	-56	-33	13	129	-104	-33	-8
<b>WASHINGTON TREATMENTS</b>								
Low bonus/short qualification	-97	-46	-3	-146	78	-58	-3	17
Low bonus/long qualification	-92	-63	-3	-158	142	-84	-3	55
Medium bonus/ short qualification	15	-87	-3	-75	143	-126	-3	14
Medium bonus/long qualification	-117	-150	-3	-270	-12	-188	-3	-203
High bonus/short qualification	102	-191	-3	-92	135	-228	-3	-96
High bonus/long qualification	40	-317	-3	-280	279	-412	-3	-136
Combined bonuses	-37	-127	-3	-167	118	-116	-3	-51



**Table 13. Summary of Net Benefits, from the Perspective of the UI System  
(dollars per claimant)**

Demonstration and treatment	Based on full sample	Based on claimants above 50 <sup>th</sup> percentile		Based on claimants above the 75 <sup>th</sup> percentile	
		Using state model	Using our model	Using state model	Using our model
<b>PENNSYLVANIA BONUS OFFERS</b>					
Low bonus/short qualification	40	-26	-119	15	-265
Low bonus/long qualification	24	153	108	289	49
High bonus/short qualification	-56	-46	-138	-135	-42
High bonus/long qualification	-28	57	68	-189	13
Declining bonus	23	126	164	131	106
Combined bonuses	-13	22	36	13	-8
<b>WASHINGTON BONUS OFFERS</b>					
Low bonus/short qualification	-62	-94	-2	-146	17
Low bonus/long qualification	9	44	110	-158	55
Medium bonus/ short qualification	-88	-87	6	-75	14
Medium bonus/long qualification	-129	-139	-141	-270	-203
High bonus/short qualification	-76	-9	-97	-92	-96
High bonus/long qualification	-132	-111	-94	-280	-136
Combined bonuses	-76	-63	-28	-167	-51