ONLINE APPENDIX

Frontloading the Unemployment Benefit: An Empirical Assessment

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A.1 The Effect of the Reform on the Budget Balance

This section provides more details on how we calculated the effect of the reform on the government's budget balance presented in Table 5. We calculate the effect on the budget using equation 3. Lines I and II correspond to the first and second element of (3). The b_t^{post} and b_t^{pre} terms are the daily pre- and post-reform benefits shown on Figure 1. S_t^{post} and S_t^{pre} are the daily pre- and post-reform survival rates shown in Figure 3. The change in tax revenue depends on both the change in gross wage income due to faster re-employment and the effective tax rate. The average monthly gross wage after the reform was 1.4 percent higher than the pre-reform re-employment wage of \$501 (see Table 2, Column (1)). Unemployed in the after sample spend 14.2 extra days in employment (see Table 2, Column (1)) and so the change in gross income is $\$501 * (14.2/30)$.

The effective tax rate has two important components. The first tax element is the unemployment insurance contributions (shown in line IIb) which are part of the UI budget. The UI contribution was 4.5 percent of the gross wage. Given that the behavioral effect of the reform was 14.2 days of extra work, the additional revenue was around $\$501 * 1,014 * (14.2/30) * 4.5 percent)$.

The second element shows the revenue effect of frontloading outside of the UI budget. The following items are paid to the government outside the UI budget:

1) Personal Income Tax. The income taxes were based on monthly earnings. The tax rate below the minimum wage (\$285) was 0, while above the minimum wage it was 18 percent. This means that around $(\$501 - \$285) * (14.2/30) * 0.18 = \$19$ extra was paid in taxes.

2) Health insurance contribution. The health insurance contribution was a fixed \$9.75 per month for employees in work. The additional revenue effect of that item was around $(14.2/30) * \$9.75 = \$4.61$.

3) Social security contribution (employee part). The social security contribution was 12.5 percent of the gross wage, and so the amount paid by the workers was around $\$501 * 1.014 * (14.2/30) * 12.5 percent = \$30.5$.

4) Social security contribution (employer part). Firms also need to pay social security contributions of 30% of the gross wage. So the contributions paid by the firm were around $\$501 * 1.014 * (14.2/30) * 30 percent = \$72.1$.

Finally, as a result of higher re-employment wages the tax revenue of the government increased further. The average length of new employment spells was 11 months.[37] So the increase in gross salary in the first job after re-employment was 501*0.014*11=$78. As line IVa shows, the UI budget gained additional UI contributions equal to 78*4.5percent=$4. The effective marginal tax rate on tax items outside the UI budget was

4.5 percent+18 percent+12.5 percent+30 percent=60.5 percent. As a consequence the government's revenue increased by $50 on this margin.

A.2 Welfare Implications of Frontloading using Sufficient Statistic Analysis

In this section we provide further results about the welfare effects of frontloading. We start by discussing the effect of a frontloading in the model described in Section 2. Instead of focusing on the specific frontloading described in the main text, here we introduce a more general frontloading and show that the key results described in Section 2 hold. Then we consider a case where agents are hand-to-mouth. In that case we can prove a weaker statement on welfare: when the initial unemployment benefit profile is constant, benefit frontloading improves welfare. Finally, we amend the baseline model with reservation wage decisions and discuss the effect of frontloading in such a model.

A.2.1 Baseline Model

Take the model described in section 2. In the main text we derived the effect of frontloading as a benefit change where benefit payments increase by a dollar in the first period, $\triangle b_1 = \$1$, and then fall by a dollar in the second period, $\triangle b_2 = -\$1$. Now define frontloading as a more general policy change where the benefit is higher in the first N periods and lower afterwards, while the total benefit that can be collected throughout the unemployment spell remains constant, formally,

$$\sum_{k=0}^{N} \Delta b_1 + \sum_{k=N+1}^{T} \Delta b_2 = \sum_{k=1}^{T} \Delta b_k = 0. \tag{4}$$

where $\Delta b_k > 0$ if $k \leq N$ and $\Delta b_k < 0$ if $k > N$.

Notice that we require here that the total benefit is kept constant in nominal terms and not in present value terms. These two differ if the interest rate, r, is positive. We make this assumption to ensure our analysis corresponds closely with the exact reform that occurred, but the results are unaffected if the present value of the total benefit is kept constant instead.

[37] Similarly to the main text, we capped the length of new employment sell at 12 months in this calculation.

Proposition 2. *Suppose a benefit frontloading described in equation 4 is instituted by the government. In that case the following statements hold:*
i. The effect of frontloading on unemployment duration is ambiguous.
ii. Frontloading increases the value of unemployment at period 0.

Proof. i. As shown in the main text, combining the first-order conditions for search effort and using the envelope condition gives

$$\frac{\partial s_t^*}{\partial b_j} = \begin{cases} -\frac{u'(c_j^{u*})}{\psi''(s_t^*)}\delta^{j-t}\prod_{k=t}^{j-1}(1-s_k^*) & j > t \\ 0 & j \leq t \end{cases}.$$

Since $-\frac{u'(c_j^{u*})}{\psi''(s_t^*)}\delta^{j-t}\prod_{k=t}^{j-1}(1-s_k^*) < 0$, a marginal increase in UI payments in the future decreases search effort. It follows that the total change in search effort in period t implied by frontloading is given by

$$\Delta s_t = \sum_{j=0}^{T}\frac{\partial s_t^*}{\partial b_j}\Delta b_j = \sum_{j=t+1}^{T}\frac{\partial s_t^*}{\partial b_j}\Delta b_j.$$

This term is positive for all $t \geq N$, when the benefits are reduced. For $t < N$, the sign of the total change in search effort is unclear, as search effort in period t is reduced by frontloading and increased by the drop in benefits later on in the unemployment spell. Therefore, theoretically we cannot rule out that search effort is reduced at the beginning of the UI spell, and that the effect on search effort later in the UI spell is minimal. In that case, the unemployment duration might increase. At the same time, it is also possible that the search effort is not reduced at the beginning of the UI spell and then unemployment duration decreases[38].

ii. Recall that the share of workers still unemployed at the start of period t is denoted by $S_t := \prod_{i=0}^{t-1} 1 - s_i, \forall t > 0$. The value of unemployment in period 0 can be rewritten as

$$V_0^U(A_0) = u\left(c_0^{u*}\right) - c\left(s_0^*\right) + \sum_{k=1}^{T}\delta^k S_k^*\left[u\left(c_k^{u*}\right) - c\left(s_k^*\right)\right] + \sum_{k=1}^{T}\delta^k S_{k-1}^* s_k^* V_k^E(A_{t+1}^*).$$

Now we look at the change in benefits described by equation 4. By the envelope theorem the indirect effect on the value function will be second order, and so the effect

[38]The fact that there are countervailing forces does not necessarily imply that either force could be stronger than the other. Nevertheless, it is easy to find examples where each force is largest and so the total effect on unemployment duration is ambiguous. Take the standard job search model from DellaVigna et al. (2017) where the utility function is $log(c_t)$ and the cost of search is ks_t^{γ}. If we set $k = 130$, $w = 555$, $\delta = 0.99$, $\gamma = 0.2$, frontloading decreases the total length of unemployment by 9.9 days and improves the budget balance by \$48. If we set $\gamma = 2$, then frontloading increases the total length of unemployment by 1.2 days and decreases the budget balance by \$28.3.

of benefit change on the value function will be the following:

$$\triangle V_0^U(A_0) = \underbrace{u'\left(c_0^{u*}\right)\Delta b_0 + \sum_{k=1}^{N}\delta^k S_k^* u'\left(c_k^{u*}\right)\Delta b_k}_{\substack{\text{welfare effect caused by} \\ \text{change in the benefit} \\ \geq 0}} \tag{5}$$

We show next that this term is always (weakly) positive. Note that the optimal consumption path must satisfy the usual Euler equation:

$$u'\left(c_t^{u*}\right) \geq \delta(1+r)\left[s_t^* \frac{\partial V_{t+1}^E(A_{t+1}^*)}{\partial A_{t+1}} + \left(1-s_t^*\right)u'\left(c_{t+1}^{u*}\right)\right] \tag{6}$$

This equation can be easily derived from the FOC of the value function with respect to A_{t+1} and from the envelope theorem that indicates that $\frac{\partial V_{t+1}^U(A_{t+1}^*)}{\partial A_{t+1}} = u'\left(c_{t+1}^{u*}\right)$. This equation holds with equality in the absence of borrowing constraints. If there are binding borrowing constraints the left hand side is strictly greater than the right hand side.

Given that $\frac{\partial V_{t+1}^E(A_{t+1}^*)}{\partial A_{t+1}} > 0$, $s_t^* \geq 0$, and $r \geq 0$, the Euler equation implies that $u'\left(c_t^{u*}\right) \geq \delta\left(1-s_t^*\right)u'\left(c_{t+1}^{u*}\right)$ for all t and this inequality holds strictly if $s_t^* > 0$ or $(1+r) > 1$.

This equation also implies that $\delta^t S_t^* u'\left(c_t^{u*}\right) \geq \delta^N S_N^* u'\left(c_N^{u*}\right)$ for all $t \leq N$ and $\delta^t S_t^* u'\left(c_t^{u*}\right) \leq \delta^N S_N^* u'\left(c_N^{u*}\right)$ for all $t > N$. Given that $\Delta b_t > 0$ if $t \leq N$ and $\Delta b_t < 0$ if $t > N$, we have the following two inequalities:

$$\delta^t S_t^* u'\left(c_t^{u*}\right)\Delta b_t \geq \delta^N S_N^* u'\left(c_N^{u*}\right)\Delta b_t \qquad if \quad t \leq N$$

$$\delta^t S_t^* u'\left(c_t^{u*}\right)\Delta b_t \geq \delta^N S_N^* u'\left(c_N^{u*}\right)\Delta b_t \qquad if \quad t > N$$

Summing these inequalities between $t = 0$ and T leads to the following inequality

$$\sum_{k=0}^{T}\delta^k S_k^* u'\left(c_k^{u*}\right)\Delta b_k \geq \delta^N S_N^* u'\left(c_N^{u*}\right)\sum_{k=0}^{T}\Delta b_k$$

where we use the convention $S_0 := 1$ (everyone is unemployed at $t = 0$). This last inequality rewrites as

$$u'\left(c_0^{u*}\right)\Delta b_0 + \sum_{k=1}^{T}\delta^k S_k^* u'\left(c_k^{u*}\right)\Delta b_k \geq \delta^N S_N^* u'\left(c_N^{u*}\right)\sum_{k=0}^{T}\Delta b_k = 0$$

as $\sum_{k=0}^{T} \Delta b_k = 0$. It is also worth pointing out that whenever $s_t^* > 0$ for at least one period or $r > 0$, this inequality holds strictly. □

A.2.1 Baseline Model with Hand-to-mouth Agents

Now we turn to examine the effect of the reform on hand to mouth consumers.

Proposition 3. *Suppose agents are hand-to-mouth and so $A_t = 0$ for all t. Suppose a benefit change from a constant benefit profile described in equation 4 instituted by the government. In that case the following statements hold:*

i. Non-employment duration is shortened by frontloading

ii. Frontloading increases the welfare of the unemployed at period 0.

Proof. i. When the agent is hand to mouth, the first-order condition for optimal search effort implies a similar condition for the impact of future changes in UI payments on search in period t:

$$\frac{\partial s_t^*}{\partial b_j} = \begin{cases} -\frac{u'(b_j)}{\psi''(s_t^*)}\delta^{j-t}\prod_{k=t}^{j-1}(1-s_k^*) & j > t \\ 0 & j \le t \end{cases},$$

where the agents now consume the entirety of their benefit in each period. Consequently, the same argument goes through: the total change in search effort is positive for $t \ge N$, when benefits are reduced to compensate for frontloading. It is ambiguous in periods when the benefit is higher.

ii. When consumers are hand to mouth we have the following value of unemployment at period 0.

$$V_0^U(0) = u(b_0) - c\left(s_0^*\right) + \sum_{k=1}^{T} \delta^k S_k^* \left[u(b_t) - c\left(s_k^*\right)\right] + \sum_{k=1}^{T} \delta^k S_{k-1}^* s_k^* V_k^E(0).$$

Taking the total derivative of this with respect to b_t (and using the envelope condition) we get the following expression:

$$\triangle V_0^U(0) = u'(b_0)\triangle b_0 + \sum_{k=1}^{T} \delta^k S_k^* \left[u'(b_k)\triangle b_k\right].$$

Now consider the welfare effect of frontloading when the initial benefit-level was constant:

$$\begin{aligned} \triangle V_0^U(0) &= u'(b)\triangle b_0 + \textstyle\sum_{k=1}^{T} \delta^k S_k^* \left[u'(b)\triangle b_t\right] \\ &= u'(b)\left[\triangle b_0 + \textstyle\sum_{k=1}^{T} \delta^k S_k^* \triangle b_t\right] \end{aligned}$$

Notice that $\sum_{k=1}^{T} \delta^k S_k^*$ is decreasing over time and so, if $\sum_{k=0}^{N} \Delta b_1 + \sum_{k=N+1}^{T} \Delta b_2 = 0$

and $\Delta b_1 > 0$ and $\Delta b_2 < 0$, then

$$\triangle b_0 + \sum_{k=1}^{T} \delta^k S_k^* \triangle b_t > 0$$

which means that $\triangle V_0^U(0) > 0$ for the hand-to-mouth unemployed. □

A.2.3 Baseline Model with Reservation Wage

We now amend our baseline model to include uncertainty in re-employment wages. This uncertainty is captured by a wage offer distribution with cdf F_t.[39] Note that we allow the unemployment duration t to affect wage draws so as to capture potential non-stationarities in re-employment wages, such as human capital depreciation or unemployment duration stigma. Conditional on being unemployed and drawing a wage offer in period t, the continuation value for an unemployed worker is given by

$$\int \max\left\{V_t^U(A_t),\ V_t^E(A_t,\tilde{w})\right\} dF_t(\tilde{w}) = F_t(\phi_t(A_t))V_t^U(A_t) + \int_{\phi_t(A_t)}^{\infty} V_t^E(A_t,\tilde{w})dF_t(\tilde{w}),$$

where the last equality follows from the fact that $\partial V_t^E(A_t, w)/\partial w > 0$ and $\phi_t(A_t)$ is the reservation wage policy that solves $V_t^U(A_t) = V_t^E(A_t, \phi_t(A_t))$. The full problem of the unemployed now can be rewritten as

$$V_t^U(A_t) = \max_{A_{t+1},c_t,\lambda_t} u(c_t) - \psi(\lambda_t) + \delta\left[V_{t+1}^U + \lambda_t \int_{\phi_{t+1}(A_{t+1})}^{\infty} V_{t+1}^E(A_{t+1},\tilde{w}) - V_{t+1}^U(A_{t+1})dF_{t+1}(\tilde{w})\right]$$

where search effort now denotes the probability to get a draw from F_t and is denoted λ_t in line with the job search literature. The hazard rate out of unemployment from the previous model is now $s_t = \lambda_{t-1}(1 - F_t(\phi_t(A_t)))$ and the probability of being unemployed at the consumption stage in period t is $S_t := \prod_{i=1}^{t} 1 - s_i$. We continue to assume that jobs last forever at a constant wage once found (we assume away job separations and on-the-job search), so the value of accepting job offer w is unchanged with respect to the previous model.

Proposition 4. *Suppose a benefit frontloading described in equation 4 is instituted by the government. In that case the following statements hold:*

i.The impact on non-employment duration is ambiguous.

ii. The effect on re-employment wages is ambiguous.

iii. Frontloading increases the value of unemployment at period 0 independently on its effect on wages. We start by showing the impact of an increase in UI benefits in the

[39] We denote its density as $f_t = \frac{\partial F_t}{\partial w}$.

next period on the value of unemployment at time t. We maintain the assumption that no increase in taxes is needed to finance frontloading. Using the envelope condition, we get

$$\frac{\partial V_t^U(A_t)}{\partial b_{t+1}} = \delta u'(c_{t+1}^{U*})\left[1 - \lambda_t^*(1 - F_{t+1}(\phi_{t+1}(A_{t+1}))\right] = \delta u'(c_{t+1}^{U*})\left[1 - s_{t+1}^*\right].$$

More generally, we have

$$\frac{\partial V_t^U(A_t)}{\partial b_{t+k}} = \delta^k u'(c_{t+k}^{U*})\prod_{i=1}^{k}(1 - s_{t+i}^*) > 0 \quad k > 0.$$

Proof. i. The impact of a marginal UI increase on the hazard rate is now made up of two terms

$$\frac{\partial s_t^*}{\partial b_{t+k}} = \frac{\partial \lambda_{t-1}^*}{\partial b_{t+k}}(1 - F_t(\phi_t(A_t))) - \frac{\partial \phi_t}{\partial b_{t+k}} f_t(\phi_t(A_t))\lambda_{t-1}^* \tag{7}$$

where the first term is the impact on search effort and the second is the implied change on the reservation wage. The impact of a future marginal increase in UI on search effort can be derived from the corresponding first-order condition

$$\frac{\partial \lambda_{t-1}^*}{\partial b_{t+k}} = -\frac{\delta(1 - F_t(\phi_t(A_t)))}{\psi''(\lambda_{t-1}^*)}.\frac{\partial V_t^U(A_t)}{\partial b_{t+k}} < 0. \tag{8}$$

The impact of a future marginal increase in UI on the reservation wage is given by

$$\frac{\partial V_t^E(A_t, \phi_t(A_t))}{\partial b_{t+k}} = \frac{\partial \phi_t(A_t)}{\partial b_{t+k}}\sum_{i=t}^{T}\delta^{i-t}u'(c_i^{E*}) = \frac{\partial V_t^U(A_t)}{\partial b_{t+k}}, \tag{9}$$

where the first equality comes from the envelope condition and the second from the definition of the reservation wage. Since $\frac{\partial V_t^U(A_t)}{\partial b_{t+k}} > 0$, this last equality implies that a marginal increase in UI has a positive impact on the reservation wage. In all, $\frac{\partial \lambda_t^*}{\partial b_{t+k}} < 0$ and $\frac{\partial \phi_t(A_t)}{\partial b_{t+k}} > 0$ entails that a future increase in b_{t+k} has a negative impact on the hazard rate in equilibrium. A similar argument to the previous cases then applies: the impact of frontloading on unemployment duration is ambiguous.

ii. Assume that the wage offer distribution is stationary so that $F_t = F\ \forall t$. Even in this case, the impact on re-employment wages is unclear because the change in reservation wage at each point in time is ambiguous. Since $\frac{\partial \phi_t(A_t)}{\partial b_{t+k}} > 0$, frontloading implies that the total impact on the reservation wage in t is made up of positive terms (those for which $\Delta b_k > 0$) and negative terms (those for which $\Delta b_k < 0$).[40] Duration dependence in-

[40] Again, the fact that there are countervailing forces does not necessarily imply that either force could be stronger than

troduces another layer of ambiguity, because the impact of frontloading on search effort, which is also ambiguous, impacts the timing of re-employment

iii. Using the envelope condition once more, the impact of frontloading on the welfare of the unemployed is given by

$$\Delta V_0^U(A_0) = \sum_{k=0}^{T} \frac{\partial V_0^U(A_0)}{\partial b_k} \Delta b_k = u'(c_0^{U*}) \Delta b_0 + \sum_{k=1}^{T} \delta^k S_k^* u'(c_k^{U*}) \Delta b_k.$$

This expression is the exact equivalent of the expression in the main case, where re-employment wages are constant and exogenous. Therefore the same proof carries through to this case and we have $\Delta V_0^U(A_0) > 0$.

□

A.3. External Validity of our Results

In this section we estimate the behavioral responses to a change in the UI benefit level. Since we do not have a reform that shifts the benefit level without frontloading it, we exploit variation in the UI replacement rate Moffitt (1985). We show that the estimated behavioral responses to changing the benefit level in the Hungarian context are close to estimates reported in other papers and for other countries such as Austria or the US. If behavioral responses to the changes in benefit level are indicative of behavioral responses to benefit frontloading, then the key estimates on benefit frontloading presented in this paper are likely to be relevant in other contexts and in other countries as well. In particular, we estimate the following Cox-proportional hazard model,

$$h_d = \delta_d exp(\lambda lrr_{di} + \kappa X_i) \tag{10}$$

where h_d denotes the re-employment hazard d days after the benefit has been claimed and δ_d is an unrestricted day effect (baseline hazard). The main variable of interest is lrr_{di}, which denotes the log-replacement rate d days after the benefit was claimed. We compute this variable by dividing the monthly UI benefit level by the UI base. X_i denotes the control variables similarly to equation 2.[41] We only use the sample before the Hungarian reform to ensure that benefit frontloading does not contaminate our estimates.

Table A.5 summarizes the results. According to estimates in Column (1), a one percent increase in the replacement rate reduces the re-employment hazard by 0.21 percent (s.e. 0.02) and 0.18 percent if we control for observable characteristics. The estimated

the other. Take the standard job search model from DellaVigna et al. (2017) where the utility function is $log(c_t)$ and the cost of search is ks_t^{γ}. We add a reservation wage decision to the model along the lines described in the Online Appendix (page 10). We assume that the wage offer distribution is log-normal with mean of \$555 and standard deviaton of 0.5. If we set $k = 130$, $w = 555$, $\delta = 0.99$, $\gamma = 0.2$, then frontloading increases reemployment wages 4.3 percent. If we set $k = 26$, then frontloading decreases reemployment wages by 0.11 percent.

[41] We do not control for the average income in 2003 because the benefit base of unemployed who claimed benefits in 2004 is based on the average income in 2003.

elasticity of the re-employment hazards with respect to replacement ratio increases if we consider the periods 10 months before the reform (Columns (3) and (4)) or 5 months before the reform (Columns (5) and (6)).

We compare our estimates on the elasticity of the re-employment hazards to other estimates in the literature. Schmieder and von Wachter (2016*b*) review the literature and find that the elasticity of re-employment hazard with respect to the replacement ratio is between 0.2 and 1.9. Our results are close to the lower end of this range and are in line with the cross-sectional estimates of Moffitt (1985) and recent results of Lalive (2007); Card, Johnston, Leung, Mas and Pei (2015); Landais (2015). Moreover, Centeno and Novo (2014) showed that the behavioral response to financial incentives is less than average among the unemployed whose previous wage was relatively high. Given that our benchmark sample consists of this type of unemployed, the modest increase in hazard rate is consistent with the previous literature. And so we conclude that, to the extent that behavioral responses to the changes in benefit level are indicative of behavioral responses to benefit frontloading, the key estimates on benefit frontloading presented in this paper are likely to be relevant in other contexts and in other countries as well.

Figures and Tables of the Appendix

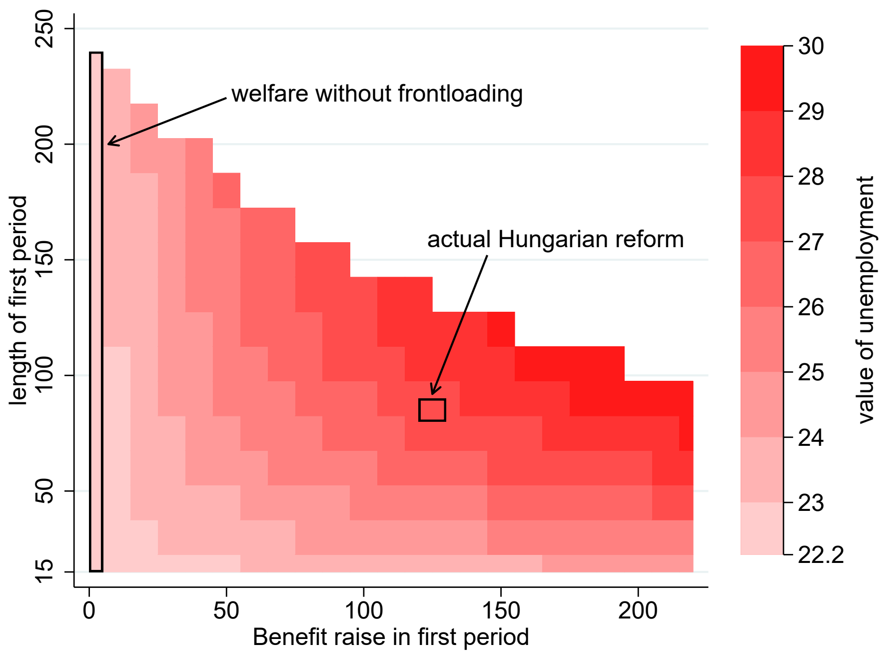


FIGURE A.1. VALUE OF UNEMPLOYMENT IN THE REFERENCE DEPENDENT JOB SEARCH MODEL UNDER VARIOUS FRONTLOADING SCENARIOS

Note: The figure shows the value of unemployment under various frontloading regimes. The parameters of the value function come from DellaVigna et al. (2017) Table 1 Column (2). In the calculations, the 270 days of the total benefit eligibility is divided into two periods. In first period the benefit is increased and in second period the benefit is decreased – but the total benefit eligibility remains unchanged. The benefit in the second period cannot be less than 90 USD. The vertical axis shows the length of first period while the horizontal axis shows the benefit increase during first period. The benefit is flat if the length of first period is 0 days and we indicate the region of the figure corresponding to the actual reform in Hungary. The figure highlights that the value of unemployment is always higher if the benefit is frontloaded. Note that all simulations take into account that the change in benefit level has a direct impact on the reference point

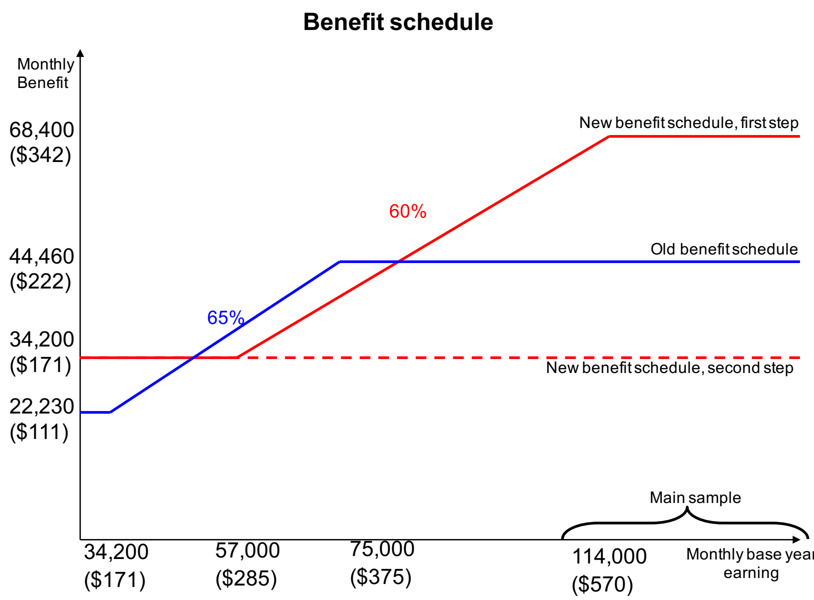
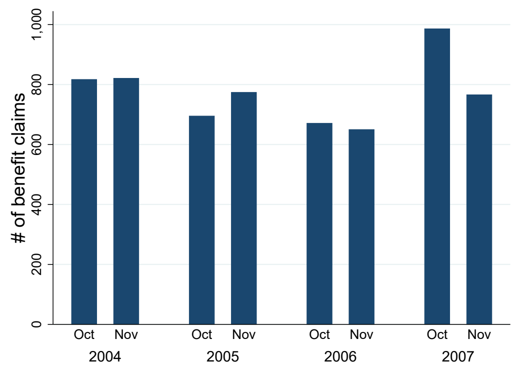
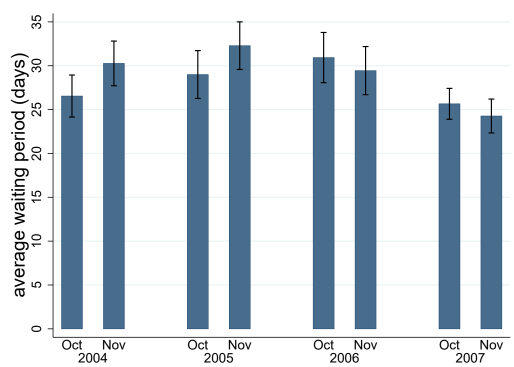


FIGURE A.2. THE UI BENEFIT SCHEDULE BEFORE AND AFTER THE 2005 REFORM IN HUNGARY

Note: The figure shows monthly UI benefits in the first tier under the pre-reform schedule (blue solid line) in the first 90 days under the new regime (red solid line) and between 91-270 days under the new rules (red dashed line) as a function of the monthly UI base salary. The main sample, defined by being above the 70th percentile of the UI base salary distribution of the UI claimants in the given year, is indicated by the curly brackets.



(a) Number of Benefit Claims



(b) Average Number of Days Between Job Loss and Benefit Claim

FIGURE A.3. SORTING AROUND THE REFORM

Note: Panel A shows the number of benefit claims in October and November in every year. Panel B shows the average number of days spent between the job loss and benefit claim in October and November in every year. The figures suggest that the unemployed did not postpone or bring forward benefit claims systematically to manipulate their benefit eligibility as neither the number of benefit claims nor the time spent between job loss and benefit claims changed considerably in 2005 relative to other years.

Közép-Magyarországi Regionális Munkaügyi Központ
[redacted] Kerületi Kirendeltség

Ügyiratszám: BP-16/06[redacted]2005
Ügyintéző: [redacted]
Telefon: (1) 403-0002

Tárgy: [redacted] álláskeresési járadék megállapító határozat

HATÁROZAT

Ügyfél neve: [redacted]
Születési neve: [redacted]
Anyja neve: [redacted]
Születési helye, ideje: BUDAPEST, [redacted]
Levelezési címe: 1223 Budapest 22.ker[redacted]
TAJ száma: [redacted]

Kérelme alapján az **álláskeresési járadékra való jogosultság** 2005.11.14. napjától

megállapítom,

és 2005.11.14.-től

Időszak hossza	Összeg
90 napig	naptári nap 2280FT
91-180 napig	naptári nap 1140FT

összegben való **folyósítását rendelem el**.

A döntés ellen a kézhezvételt követő naptól számított 15 napon belül a Közép-Magyarországi Regionális Munkaügyi Köszpont címzett (címe: 1082 Budapest 08. Ker. Kisfaludy utca 11), de a XVI. Kerületi Kirendeltséghez (címe[redacted] 2 példányba benyújtott illetékmentes fellebbezéssel lehet élni.
A határozat a fellebbezésre tekintet nélkül végrehajtható.

INDOKLÁS

[redacted] 2005.11.14. napján álláskeresési ellátás iránti kérelmet nyújtott be. Nevezett 2005.11.14. napjától álláskeresőként nyilvántartott.

A rendelkezésre álló iratokból megállapítottam, hogy az álláskeresővé válást megelőző öt éven belül 1728 nap munkaviszonyban töltött idővel rendelkezik.

Az álláskeresési járadék napi összegét 902500 Ft a társadalombiztosítás ellátásaira és a magánnyugdíjra jogosultakról, valamint e szolgáltatások fedezetéről szóló 1997. Évi LXXX. Törvény 19. §-ának (3) bekezdésében meghatározott havi átlagos munkaerőpiaci járulékalap figyelembevételével – a rendelkezésekre álló igazolások alapján – állapítottam meg.

Előzőkre tekintettel megállapítottam, hogy az álláskeresési járadék megállapításának a foglalkoztatás elősegítéséről és a munkanélküliek ellátásáról szóló 1991. évi IV. törvény (Flt.) 25. § (1) bekezdésében foglaltak alapján határoztam meg.

[redacted]

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E-mail: KMRVivoutca@lab.hu

FIGURE A.4. INFORMATION SHEET RECEIVED BY THE UNEMPLOYED

Note: The figure shows an example of the the first page of the personalized information sheet received by an unemployed individual when UI was claimed. According to the table in the middle of the page, the receiver of the form was eligible for HUF2280 a day for 90 days and then HUF1140 a day for another 90 days. This unemployed individual was eligible for unemployment benefit for only 180 days, and so she is not in our sample

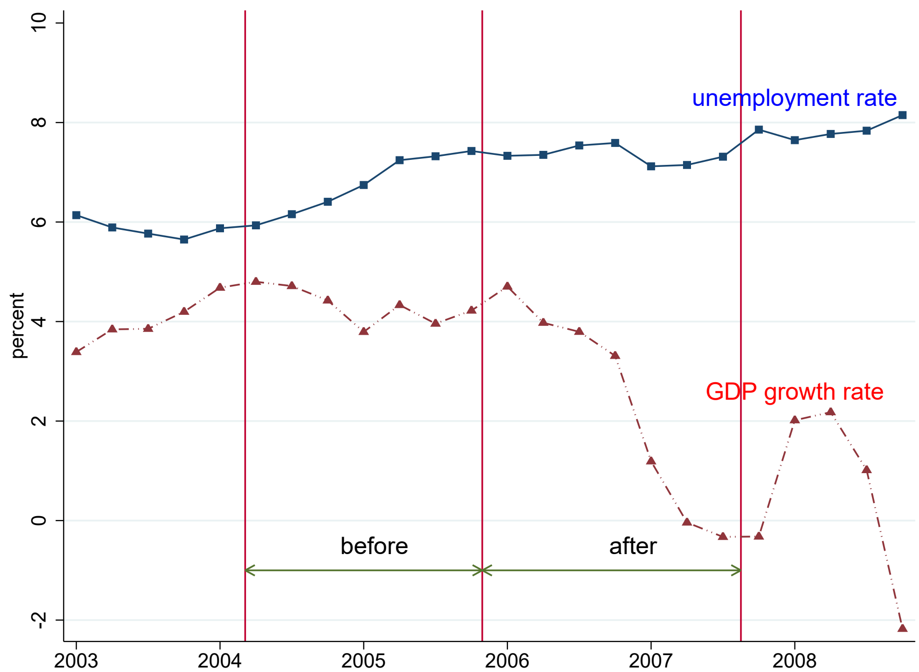
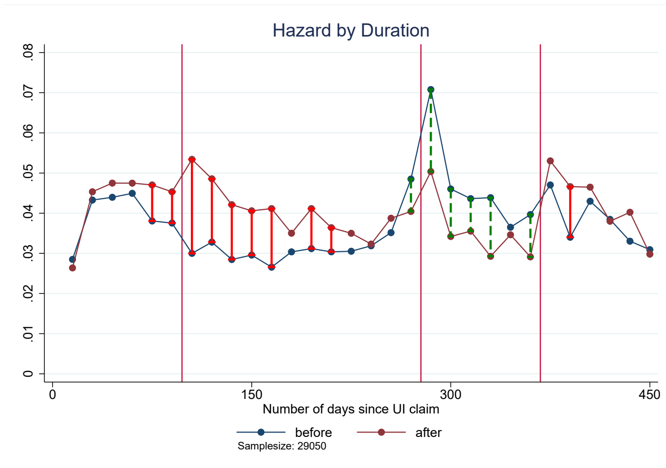
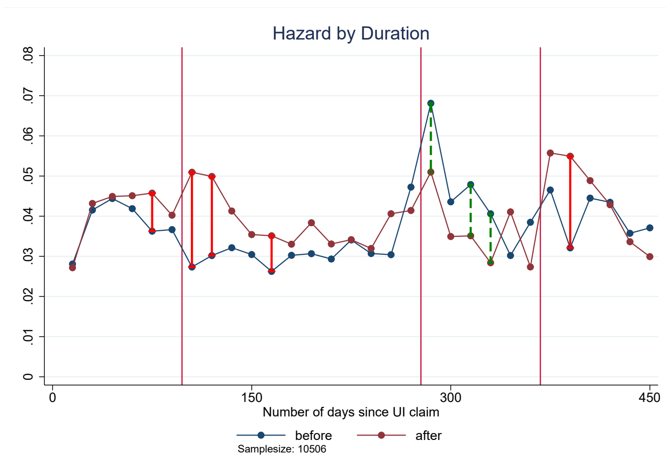


FIGURE A.5. GDP GROWTH AND UNEMPLOYMENT RATE IN HUNGARY

Note: The figure shows the seasonally adjusted GDP growth rate (dashed red line) and the seasonally adjusted unemployment rate (solid blue) between 2003 and 2008 in Hungary. The major (red) vertical lines indicate the periods covered in the full sample before-after comparison. The data was provided by the Hungarian Central Statistical Office.



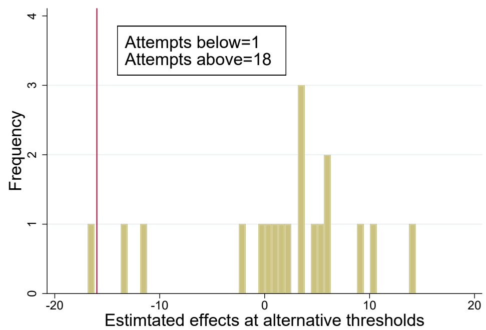
(a) Full Sample



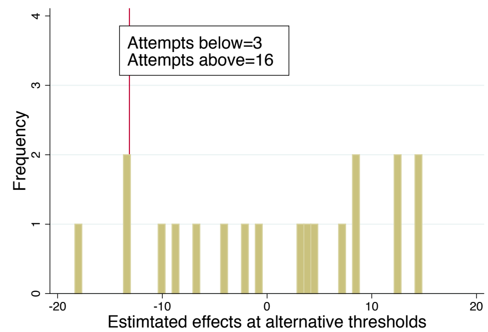
(b) Only Locations With Low Take-up Rate

FIGURE A.6. EFFECT ON THE HAZARD RATE

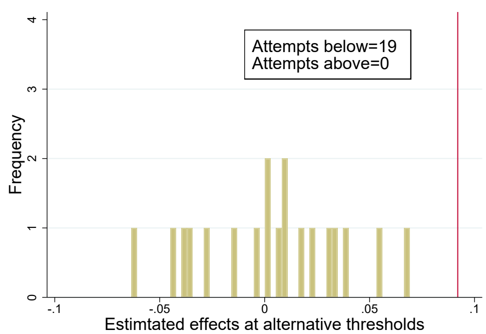
Note: The figure shows pointwise estimates for the empirical hazards before and after the reform. We estimate the hazard rates with a linear probability model separately for each 15-day period, indexed by t, after entering unemployment insurance: $I(t_i^* = t | t_i^* \geq t) = \beta_{0,t} + \beta_{1,t} POST_i + X_i\gamma + \epsilon_{it}$. The differences between the two periods are estimated point-wise at each point of support and differences which are statistically significant ($p = 0.05$) are indicated with a vertical bar (green dashed if pre-period hazard is above post period hazard, red solid otherwise). The three major (red) vertical lines indicate periods when benefits change in the new system. Panel (a) shows the results on the full sample while Panel (b) uses only locations where the re-employment bonus take-up rate was less than the median (6 percent). The figure in panel (a) also appears in DellaVigna et al. (2017) (see Panel (a) in Figure IV. in the published version).



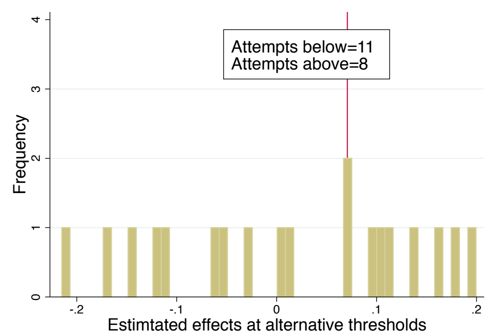
(a) Non-employment duration, Full Sample



(b) Non-employment duration, Low Reemp Take-up



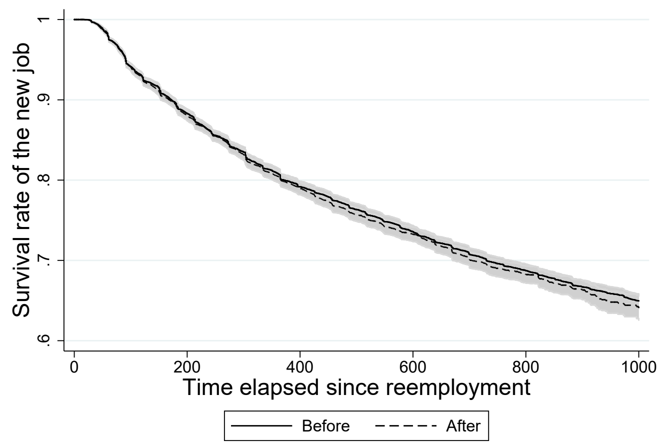
(c) Reemp. Wage, Full Sample



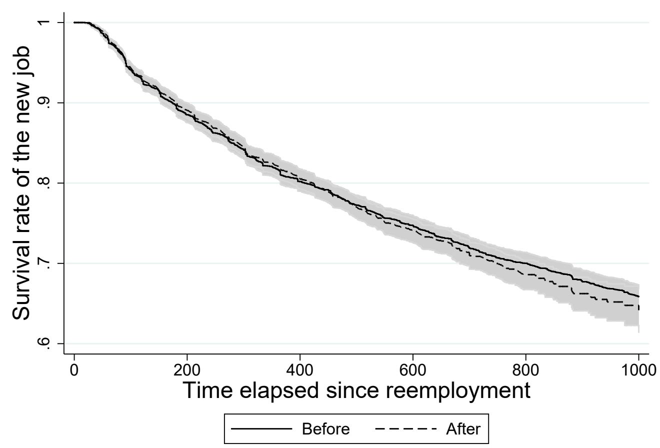
(d) Reemp. Wage, Low Reemp Take-up

FIGURE A.7. PLACEBO TEST

Note: This figure shows the distribution of various estimates when we use placebo timing instead of the actual timing of the reform.We estimate the change in non-employment duration (Panels (a) and (b)) and re-employment wages (Panels (c) and (d)) in the period between -10 to -1 months and +1 to +13 months relative to the time of the reform (November 1 2005). We estimate the RD optimal bandwidth specification with controls (Column 4 in Table 2) for all these alternative thresholds. The figures show the distributions of these estimates. Panels (a) and (c) show the results based on the full sample, while Panels (b) and (d) use locations with low re-employment bonus take-up rate. The vertical red line shows the estimates using the actual timing of the reform presented in Table 2 for Panels (a) and panel (c) and in Table 2 for Panels (b) and (d). The histogram shows that the estimates using alternative placebo thresholds generally produce smaller drops in non-employment duration and smaller increase in re-employment wages.



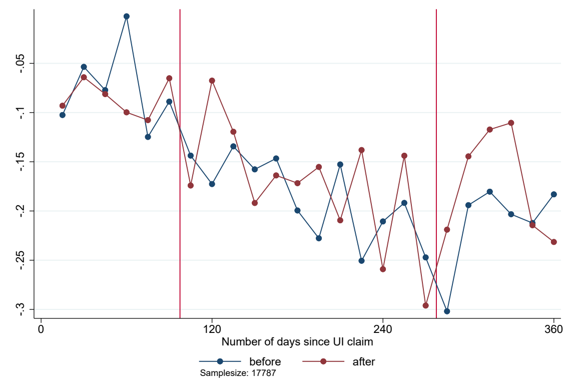
(a) Full Sample



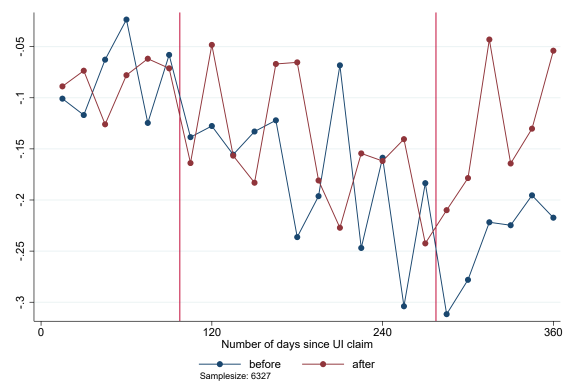
(b) Only Locations With Low Take-up Rate

FIGURE A.8. SURVIVAL RATE OF THE NEW JOB AFTER RE-EMPLOYMENT

Note: The figure shows Kaplan-Meier survival rate of the new job before and after the reform. Panel (a) shows the results on the full sample while Panel (b) uses only locations where the re-employment bonus take-up rate was lower than the median (6 percent). The figure highlights that the survival rate in the new job was the same before and after the reform.



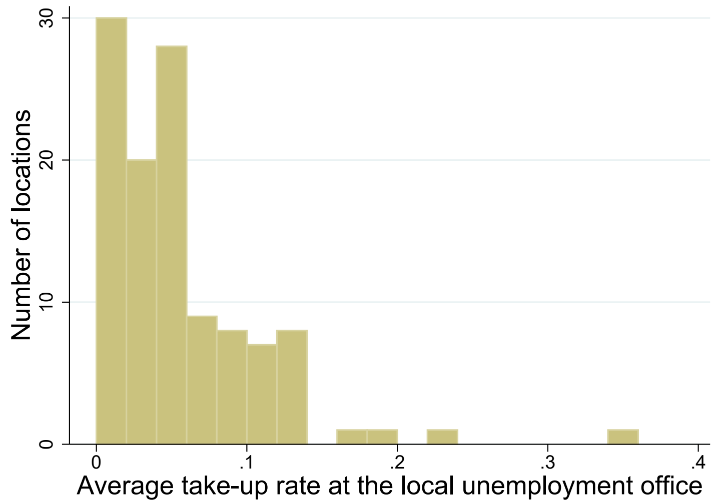
(a) Full Sample



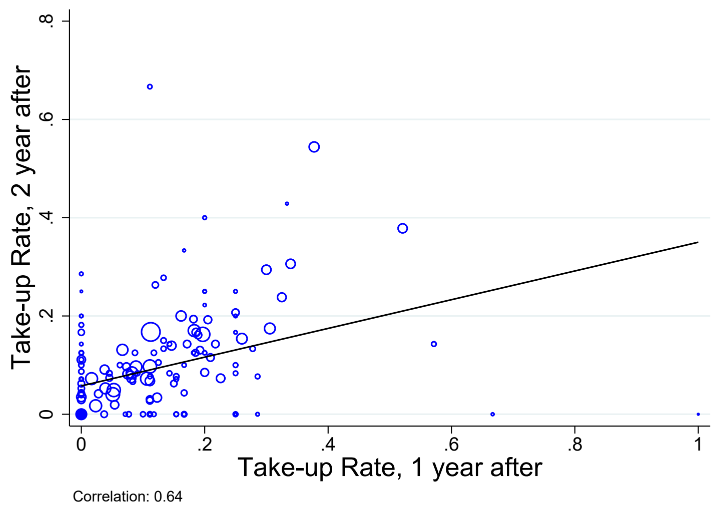
(b) Only Locations With Low Take-up Rate

FIGURE A.9. RE-EMPLOYMENT WAGES BY THE LENGTH OF NON-EMPLOYMENT

Note: The figure shows the re-employment wage by the length of unemployment spell. Panel (a) shows the results on the full sample while Panel (b) uses only locations where the re-employment bonus take-up rate was lower than the median (6 percentf). Both panels control for sex, age, age square, waiting period (the number of days between job lost and UI claimed), the county of residence, day of the month UI claimed, education, occupation (1 digit) in the last job, and log earnings in 2002 and 2003, the month of the year (e.g. January, February, etc.). The figure shows that re-employment wages do not significantly differ if we consider re-employment wages only at specific lengths of unemployment.



(a) Frequency Distribution of the Take-up Rate Across Locations



(b) Relationship Between Take-up Rate 1 Year and 2 Years After the Reform

FIGURE A.10. TAKE-UP RATE OF RE-EMPLOYMENT BONUS

Note: Panel (a) shows the frequency distribution of local UI take-up rates. Panel (b) shows the take-up rate of re-employment bonus at local unemployment offices one year and two years after the reform. The graph highlights that the local take-up rate is persistent over time. In both panels only UI offices with at least 30 UI claimants were used.

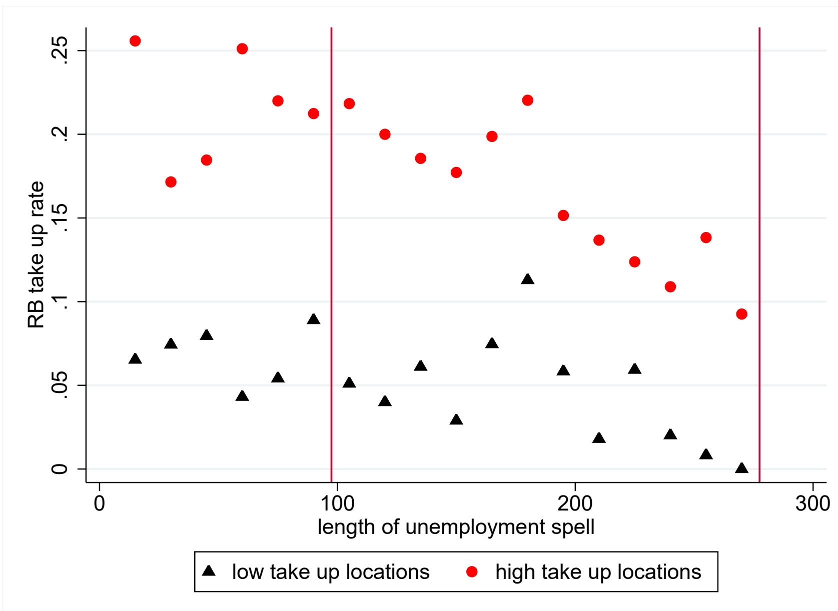


FIGURE A.11. TAKE-UP RATE OF RE-EMPLOYMENT BONUS BY THE LENGTH OF UNEMPLOYMENT

Note: The figure shows the RB take up rate by the length of unemployment at low and high take up rate locations. Only UI offices with at least 30 UI claimants were used.

TABLE A.1—DESCRIPTIVE STATISTICS (ONLY LOCATIONS WITH LOW RE-EMPLOYMENT BONUS TAKE-UP RATE)

	Full sample				Five month window			
	before	after	diff	t-stat	before	after	diff	t-stat
Observed for all unemp.								
Percent women	0.43	0.45	-0.027	2.81	0.45	0.42	-0.04	-1.65
	(0.01))	(0.01)			(0.01)	(0.02)		
Age in years	37.04	36.96	-0.08	-0.62	36.78	37.15	0.37	1.23
	(0.10)	(0.09)			(0.20)	(0.22)		
Education (years)	11.83	12.11	0.28	6.38	11.98	11.87	-0.12	-1.23
	(0.03)	(0.03)			(0.07)	(0.07)		
UI base/average wage	0.96	1.02	0.07	6.93	0.973	0.957	-0.02	-0.82
	(0.01)	(0.01)			(0.01)	(0.01)		
Waiting period*	30.36	30.56	0.2	0.28	30.83	33.27	2.44	1.46
	0.532	0.5			1.12	1.23		
Fraction claimed reemp bonus	n.a.	0.027			n.a.	0.028		
		(0.002)				(0.01)		
Fraction of eligible unemp claimed reemp bonus	n.a.	0.05			n.a.	0.054		
		(0.004)				(0.01)		
Non-employment duration (in days)	242.52	228.55	-13.96	-5.57	243.23	234.09	-9.13	-1.64
	(1.79)	(1.76)			(3.78)	(4.07)		
Number of observations	5,050	5,456			1114	984		
Observed if re-employed								
Prob. of new job lasts more than a year	0.82	0.82	0.006	0.62	0.83	0.82	-0.008	-0.39
	(0.01)	(0.01)			(0.01)	(0.02)		
Re-employment wage	-0.16	-0.13	0.024	2.07	-0.15	-0.14	0.008	0.28
	(0.01)	(0.01)			(0.02)	(0.02)		
Number of observations	2975	3297			669	580		

*number of days between job loss and UI claim

TABLE A.2—HETEROGENEITY IN THE EFFECT OF THE REFORM

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Gender		Educational level		Age between		Local unemployment rate[a]		Share of unemployed with high UI base[b]	
	Women	Men	unskilled	skilled	25-40	40-55	above median	below median	above median	below median
Panel A: Non-employment duration										
After	-13.67	-14.50	-13.30	-13.55	-12.81	-17.41	-12.66	-15.45	-15.55	-11.39
	(2.152)	(2.157)	(2.578)	(1.706)	(1.877)	(2.567)	(2.905)	(1.372)	(1.611)	(2.875)
R^2	12,561	16,391	11,661	17,291	19,141	9,811	13,157	15,795	17,606	11,297
Obs.	0.066	0.063	0.076	0.059	0.06	0.071	0.063	0.052	0.051	0.067
Bandwidth	20 before	20 before	20 before	20 before	20 before	20 before	20 before	20 before	20 before	20 before
	20 before	23 after	23 after	23 after	23 after	23 after	23 after	23 after	23 after	23 after
Panel B: Re-employment wage - Log(re-employment wage/UI base earnings)										
After	-0.00	0.0239	0.015	0.008	0.025	0.001	0.006	0.027	0.019	0.005
	(0.012)	(0.011)	(0.012)	(0.01)	(0.009)	(0.01)	(0.011)	(0.01)	(0.009)	(0.011)
R^2	4,636	5,870	4,205	6,301	6,938	3,568	5,050	5,456	5,072	5,434
Obs.	0.062	0.059	0.074	0.053	0.056	0.07	0.055	0.057	0.06	0.048
Bandwidth	20 before	20 before	20 before	20 before	20 before	20 before	20 before	20 before	20 before	20 before
	20 before	23 after	23 after	23 after	23 after	23 after	23 after	23 after	23 after	23 after
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
$f(T_i)$	3rd poly	3rd poly	3rd poly	3rd poly	3rd poly	3rd poly	3rd poly	3rd poly	3rd poly	3rd poly

Note: This table shows the effect of the reform on non-employment duration (Panel A) and on re-employment wages (Panel B) for various subgroups. In all specifications we use the full sample and we control for sex, age, age square, waiting period (the number of days between job lost and UI claimed), the county of residence, education, occupation (1 digit) in the last job, log earnings in 2002 and 2003, 12 month dummies and location fixed effects (so we use the same controls as in specifications reported in Column 2 in Table 2). In Panel A the non-employment duration is capped at 360 days in all columns. In Panel B only workers who found a job in 360 days are included in the sample. After is a dummy, which is 1 if the unemployed individual claimed benefit after the benefit reform. The standard errors in parentheses are clustered at the local UI office level.

[a] the average unemployment rate is 3.3 percent below the median and 9.3 percent above the median

[b] the average share of unemployed with high benefit base is 22.6 percent below the median and 40.2 percent above the median.

TABLE A.3—JOB QUALITY: EFFECT OF THE REFORM ON ALTERNATIVE MEASURES OF RE-EMPLOYMENT WAGES

	Full Sample		Optimal Bandwidth		Short Bandwidth	
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Log(re-employment wage/last wage)						
After	0.072	0.0523	0.075	0.05	0.053	0.049
	(0.011)	(0.006)	(0.04)	(0.05)	(0.03)	(0.03)
R^2	0.005	0.049	-	-	-	-
Obs.	17,660	17,660	1765	1765	903	903
Bandwidth	20 before	20 before	2 before	2 before	1 before	1 before
	23 after	23 after	2 after	2 after	1 after	1 after
Panel B: Log(re-employment wage/wage in 2002)						
After	0.092	0.048	0.081	0.067	0.069	0.058
	(0.010)	(0.007)	(0.05)	(0.04)	(0.04)	(0.03)
R^2	0.007	0.336	-	-	-	-
Obs.	16,609	16,609	2575	2575	850	850
Bandwidth	20 before	20 before	3 before	3 before	1 before	1 before
	23 after	23 after	3 after	3 after	1 after	1 after
Controls	no	yes	no	yes	no	yes
$f(T_i)$	no	3rd poly	kernel	kernel	kernel	kernel

Note: This table shows the effect of the reform on alternative measures of re-employment wages. Panel A uses the the log-re-employment wage relative to the wage in the last job, Panel B uses the ratio of re-employment wage and the wage in 2002. We deflate wages using nominal GDP growth. Columns (1) and (2) use the full sample, Columns (3) and (4) restrict the sample to the optimal bandwidth, while Columns (5) and (6) use half of that window. Only workers who found a job in 360 days are included in the sample. After is a dummy, which is 1 if the unemployed individual claimed benefit after the reform. The control variables are the same as in Table 2 in the paper. The standard errors in parentheses are clustered at the local UI office

TABLE A.4—EFFECT OF THE REFORM ON NON-EMPLOYMENT DURATION AND JOB QUALITY AT LOCATIONS WITH HIGH RE-EMPLOYMENT BONUS TAKE-UP RATE

	Full Sample		Optimal Bandwidth		Short Bandwidth	
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Non-Employment Duration (number of days)						
After	-17.85	-18.94	-27.75	-27.49	-35.59	-35.58
	(2.17)	(2.03)	(7.6)	(7.85)	(8.65)	(9.03)
R^2	0.005	0.049				
Obs.	10,478	10,478	5,010	5,010	2,590	2,590
Bandwidth	20 before	20 before	10 before	10 before	5 before	5 before
	23 after	23 after	10 after	10 after	5 after	5 after
Panel B: Probability of the new job lasts more than a year						
After	-0.009	-0.016	0.009	0.011	-0.024	-0.024
	(0.011)	(0.011)	(0.05)	(0.05)	(0.04)	(0.04)
R^2	0.001	0.032				
Obs.	6,568	6,568	668	668	348	348
Bandwidth	20 before	20 before	2 before	2 before	1 before	1 before
	23 after	23 after	2 after	2 after	1 after	1 after
Panel C: Re-employment Wage - Log(re-employment wage/UI base earnings)						
After	0.0254	0.015	0.071	0.138	0.073	0.084
	(0.012)	(0.012)	(0.09)	(0.09)	(0.06)	(0.06)
R^2	0.001		-	-	-	-
Obs.	6,526		665	665	346	346
Bandwidth	20 before	20 before	2 before	2 before	1 before	1 before
	23 after	23 after	2 after	2 after	1 after	1 after
Controls	no	yes	no	yes	yes	yes
$f(\mathrm{T}_i)$	no	3rd poly	kernel	kernel	kernel	kernel

Note: This table shows the effect of the reform on non-employment duration (Panel A) and on the probability of the new job lasts more than a year (Panel B) and on re-employment wages (Panel C). We restrict our sample to locations where the re-employment bonus take-up rate was *higher* than the median (6 percent). We use only locations with at least 30 observations to make sure that re-employment bonus take-up rate is estimated reliably. Columns (1) and (2) use the full sample, Columns (3) and (4) restrict the sample to the optimal bandwidth, while Columns (5) and (6) use half of that window. In Panel A the non-employment duration is capped at 360 days in all columns. In Panels B and C only workers who found a job in 360 days are included in the sample. After is a dummy, which is 1 if the unemployed individual claimed benefit after the reform. The control variables are the same as in Table 2 in the paper. The standard errors in parentheses are clustered at the local UI office

TABLE A.5—THE EFFECT OF REPLACEMENT RATIO ON RE-EMPLOYMENT HAZARDS

	Full Sample		Optimal Bandwidth		Short Bandwidth	
	(1)	(2)	(3)	(4)	(5)	(6)
Log-replacement ratio	-0.212	-0.177	-0.232	-0.217	-0.286	-0.231
	(0.0307)	(0.0338)	(0.0477)	(0.0492)	(0.0530)	(0.0626)
Obs.	14,288	14,288	7,259	7,259	3,726	3,726
Months Before the Reform	20	20	10	10	5	5
Controls	no	yes	no	yes	no	yes
f(T i)	no	3rd poly	linear	linear	linear	linear

Note: This table shows estimates of equation (10) from Appendix section A.3 and shows the effect of the log-replacement ratio on non-employment duration. The replacement ratio is the ratio of the monthly benefit eligibility to the unemployment benefit base. To estimate the effect of the replacement rate independently from the reform, we use only the before sample in this exercise. Columns (1) and (2) use the full before sample, Columns (3) and (4) restrict the sample to the optimal bandwidth of Table 2, while Columns (5) and (6) use a half of that window. The non-employment duration is capped at 270 days in all columns. The control variables are sex, age, age square, waiting period (the number of days between job lost and UI claimed), the county of residence, education, occupation (1 digit). Standard errors in parentheses are clustered at the local UI office level.