Conclusions on evaluation reports of out of work benefits and employment incentives in Hungary between 1989 and 2011

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Out of work benefits

Changes in the unemployment benefit system

The Hungarian unemployment benefit system has been adjusted several times since its establishment in the late 1980s. Most of the reforms have aimed at cutting costs by reducing the replacement rate or the entitlement period which had been initially relatively generous compared to other post socialist countries in Europe. As shown in tables 2.1-2 in the Appendix, the prior employment condition was the only element of the UI scheme that was not tightened during the 1990s. Between 1991 and 2000, the maximum duration was cut from two years to 9 months, the replacement rate from 70 to 65% of gross earnings (with a temporary rise to 75% between 1993 and 1997), the maximum UI benefit from 3 times to twice the minimum wage (1992), and the benefit floor and ceiling were not adjusted for inflation between 1993 and 1996, at a time when price levels rose by around 20 % a year (Nagy, 2002).

The eligibility conditions of the means-tested unemployment assistance (UA) scheme did not change until 2000. The first major reform of the UA came as part of a workfare reform aiming to boost employment by strengthening labour supply incentives implemented between 2000 and 2002. Measures included the introduction of mandatory activation plans for registered job seekers, cutting the maximum duration of UI, the merger of UA with the regular social assisstance and doubling the minimum wage in two years (Duman and Scharle 2011). In 2000, UA was merged with the more general social assistance scheme and made available regardless of prior work history.[1] The benefit level was cut from 80 to 70% of the minimum old-age pension. The new scheme maintained the character of an unemployment assistance (UA) support in that eligibility was conditional on cooperation with the job cen-

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[1] Except that the claimant had to prove that they had cooperated with the local job centre or municipality for at least 12 months within the past two years (as proof of their long term unemployment).

tre or the local welfare agency. In addition, the work test was considerably strengthened in an effort to focus more on activation and workfare (Frey, 2001).

Insured and means tested unemployment benefits played roughly equal roles in supporting job seekers. With the increase of long term unemployment, the share of UA claimants reached 45% of all unemployment benefit recipients by the late 1990s and has ranged between 50-60 % since then (IE, 2009).

Evaluations of disincentives in the unemployment benefit system

These reforms have been studied relatively extensively, both in comparison to active labour market programmes in Hungary and compared to similar reforms in Eastern Europe. This is most likely due to the frequency and nature of the reforms and to the availability of administrative data from the unemployment register, which are high quality and accessible to researchers. Eleven estimates have been identified that measure the impact of some unemployment benefit scheme in Hungary (see Appendix 3). Most of these estimates exploit the quasi-experiments created by changes to the system, which are always grandfathered, i.e. only affect new entrants.

Four of these estimates concern the UA benefit and are comparable as they all measure the effect of UA benefit on reemployment probabilities. They all use a similar estimation strategy and find significant but small negative effects with no significant difference between men and women. The first estimate, relating to the spring of 1994, found a somewhat bigger effect of 0.144 (0.157 for women), the second, relating to the spring of 2000 estimated an effect of 0.043 for one group and 0.07 (0.062 for women) for another, where the second group was eligible only to a new and less generous social benefit scheme. The third estimate for pooled data from 2001-2004 is 0.0596 (0.0557 for women) and this is the average marginal effect (Firle and Szabó 2007). The fourth estimate (also for 2001-2004) is slightly higher for men, but not directly comparable as it is more likely to be plagued by selection bias. The differences between these estimates appear to be small and may simply be the result of autonomous changes of behaviour (i.e. the supply elasticity of the benefit amount), of changes in the design of the social benefit or of differences in the estimation strategy and the data.

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There are seven estimates on the disincentive effects of the UI scheme. Five of these are comparable as they concern the replacement rate and length of entitlement while the other two focus on other aspects of the UI benefit. Three of the five estimates exploit the same reform of 1993 as a quasi experiment while one paper uses the reform of 2000. The reform of 1993 affected both the replacement rate and the length of entitlement, while the 2000 reform affected only the latter. Köllő (2001) uses cross section variation in data from the unemployment registry and detailed survey data for 1994 and 2001 to examine the entitlement effect (defined as the timing of job exits, which is supposed to reflect the impact of the remaining length of the entitlement period on the probability of exit.)

Two of these papers, Köllő (2001) and Wolff (2001) attempt to handle a problem identified by the earlier papers, which is that recalled workers (more precisely the difference in their share in the treatment and control groups) can bias results. Both confirm the cautious interpretation of results in Micklewright and Nagy (1995) and Galasi and Nagy (2002) that the higher reemployment rate of recalled workers explained most of the difference in estimated hazard functions in their estimates. Recalled workers typically lose their job at the end of December or early January, claim UI benefit in January and get rehired in March or April. The 1993 reform was introduced in January 1993, so the appropriate control group was the December inflow and thus included a lower share of recalled workers, while the treatment group was the January inflow, which included a higher share of recalled workers. Wolff (2001) shows that this was indeed likely to increase the hazard of the treatment group in Micklewright and Nagy (1995), by identifying subgroups of workers more and less likely to be recalled workers (using information on their prior job history).[2] Excluding recalled workers, Wolff (2001) finds no robust effect of the shorter entitlement period for men, and a small but robust effect for women aged below 30.

In 2000, the reform was implemented in February so January claims formed the control group and February claims formed the treatment group, with the latter having a lower share of recalled workers. This is likely to have affected estimates in Galasi and Nagy (2002a). Köllő (2001) controls for this potential bias by using survey data on reemployment (including explicit information on whether the worker was rehired by their old employer) taken in

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[2] As already suspected by Micklewright and Nagy (1995: 15)

the spring of 2001.[3] Estimating various specifications he finds no effect of the replacement rate on exit probabilities. The remaining entitlement period and the expected total benefit amount have a significant effect in that exit rates rise towards the end of the entitlement period. However, the effect is very small for most workers except the small subgroup of job seekers with secondary or higher qualifications.

Finally, there are two estimates that also concern the UI benefit but cover two different questions that cannot be compared either to each other or to the other five papers. Köllő and Nagy (1996) measures the impact of the length of a UI spell on the wages of reemployed workers. Micklewright and Nagy (2004) measure the effect of tightening behavioural conditions on the probability of exit to a job or an active labour market programme.

Employment incentives

Studies and programmes considered

Documents related to ALMPS in Hungary fall into three categories: a) studies that use only raw data and clearly do not make an attempt at identifying or controlling more subtle program-effects, b) studies that make this attempt, but do this only verbally or based on results of other studies, c) studies generating original results, taking at least some of the program-evaluation aspects into consideration. Although it is type c) studies we are most concerned about, type a) gives regular information about headcounts, while type d) studies make an attempt at minimal cost-benefit analysis which the evaluations do not do. As genuine evaluation studies are very few, all three types are considered.

During the past 20 years, five main employment-incentive instruments were available:

1. Wage-supplement to subsidize the employment of the long-term unemployed

2. Benefit to labour-market entrants to support gaining experience

3. Benefit to labour-market entrants

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[3]   So the downside of this study is that it cannot use the quasi experimental situation, only cross section variation in the UI pool.

4. START programmes for school leavers and other disadvantaged groups providing social security contribution subsidy

Studies attempting to evaluate impact and efficiency consider only the first type of programme.

Summary studies

ALMPs between 2001 and 2006 are surveyed in Frey (2007), whereas those between 2004-2009 are surveyed by Frey (2011). These surveys build on existing results and attempt to make some derivative calculations too.

In the case of *wage subsidies to the long-term unemployed,* headcounts are provided and already known references are cited (see below). Supplementary information is provided referring to other sources, such as a) PES offices applied no sanctions if recipients exited employment in agreement with the employer, b) most of the beneficiaries were hand-picked by the employer (some were even a family member), therefore it was not the most in need who received the benefit. A trend of increasing costs of employment means that there is a secular decrease in the popularity of this benefit type.

Regarding employment incentives, Frey (2011) also discusses the START, the START Extra and START Plusz programmes. These programmes gain ground over time. From 2005 on, the number of ALMP participants grows from around 73 thousand to 105 thousand, with the number participants in START programmes increasing from zero to 62 thousand. There is no evaluation available for any of the START programmes, but there are regular monitoring data available in the case of the START Extra and Plusz programmes, these being financed from the European Social Fund. Based on overall spending per participant, the author assesses the programmes as good value for money. Besides looking at subsidies delivered by the PES, Frey (2011) also looks at programmes delivered by the OFA, the National Foundation for Employment. Unfortunately no evaluation report is available relating to these.

Evaluation studies

O'Leary. (1998) is the most comprehensive of all surveyed and also the first in which an experienced researcher evaluates a Hungarian employment incentive programme (and in

fact the second such study relating to any ALMP ever implemented Hungary). The project was coordinated by the World Bank and yielded various research outputs. The report was a complex one, as it "*provides net impact estimates on employment and earnings for the five main AL[M]Ps used in Hungary: retraining, employment service (ES), public service employment (PSE), wage subsidies, and self-employment assistance. The report also a includes a subgroup analysis of program impacts.*" O'Leary notes that *In recent years, wage subsidy has received a small share of spending among all ALMPs. It was 3.4 percent in 1994, 3.3 percent in 1995, and fell to 0.3 percent of ALMP spending in 1996.*

The data: Data were specifically generated for the evaluation exercise.

Sample sizes were set to be large enough (sample size: 1131) *to ensure the reliability of overall program impact estimates. Ideally, important demographic and regional subgroup impacts could also be measured using the samples. Program participant groups were drawn from the outflow of program participation occurring in the second quarter of 1996. There was random sampling from the outflow where sample sizes were large enough, with random draws made by birth date. ... The comparison group was randomly selected, using birth dates, in the 10 counties from the inflow to the register during the second quarter of 1995. ...*

Surveys were conducted in April 1997... The overall response rate among ALP participants was 81.4 percent, while that for the comparison group was 75.6 percent.... In contrast to the comparison group,... the wage subsidy sample is somewhat more educated...

Risk-group: potential program participants, that is: unemployed registered for at least 6 months.

There are four employment outcomes and two earnings outcomes. They are

EMPLOY1 - Ever reemployed in a non-subsidized job or self-employment

EMPLOYS1 - Ever reemployed in any job or self-employment

EMPLOY2 - Employed in a non-subsidized job or self-employment on the survey date

EMPLOYS2 - Employed in any job or self-employment on the survey date

EARN1 - Average monthly earnings at the start of the first new job or self-employment

EARN2 - Average monthly earnings from the job or self-employment on the survey date

Estimation methods: a) Unadjusted-, matched pairs- (1 nearest neighbour matching), OLS regression adjusted- and OLS regression adjusted with full interaction comparison of outcomes. Matching used individual characteristics such as age, gender, education, earlier employment status and occupation of wanted job as well as a regional indicator. OLS adjustment used all of these characteristics plus former wage, characteristics of spouse and the household too.

Estimation results: Increase of employment probability between 17 to 24 %points if unadjusted, -10 to 0 if adjusted or used matching. Significant increase found in earnings on the first job, but a negative impact on the survey date with all methods. *There is strong evidence that employers were quite selective in choosing the best candidates for wage subsidies. ... The subgroup results also suggest that selectivity in wage subsidy hiring by employers was most influenced by educational attainment, with employers preferring job candidates with some higher education.*

Cost-benefit analysis: No such analysis is present, but data are available on earnings and time spent employed and unemployed from exiting the programme and the observation. Such information can be used to assess gains in terms of employment chance, wages, foregone UB spending and foregone earnings in an alternative, non-subsidized job. Total spending and participation figures allow a rough estimate of costs.

Galasi – Lázár – Nagy (2003) looks at the differences between the effectiveness of the programmes and their causes.

The data: Identical to the above, but the control-group is not used. Risk-group: participants of every program considered.

Estimation methods: Logit models comparing program participants with controls for individual characteristics.

Estimation results: Employment chances of older workers smaller than younger ones: unexpected. Can caused by the fact that the employer in fact knew the affected individual.

Cost-benefit analysis: No cost-benefit analysis, see above for information on basic data.

<u>Assessment:</u> Useful addition for understanding program effects. Suggests that programme operates with relatively big deadweight loss.

Galasi – Nagy (2005) estimates transition to work probabilities of active program participants on the basis of „Monitoring" data.

<u>The data:</u> Monitoring data is used (described among type a) studies) Data refer to those exited the programme in 2002 and 2003. N=39000. Observation is made after 3 months exiting the programme. The outcome variable is continued employment of the beneficiary by the same employer. Large share of nonresponse (29 and 41 percent).

<u>Estimation methods:</u> Probit model for continued employment at the date of survey. Risk group: program participants. Selectivity correction using county and industry dummies. RHS variables in probit: gender, age, schooling, county dummies, unemployment rate in the small region, occupation-group indicator, length of participation in the programme. Because of the nature of the analysis, an ATE-type measure is not estimated.

<u>Estimation results:</u> Results disentangle the differences between the factors affecting reemployment probabilities, but do not isolate program-effects. Employment probabilities are larger for women, for those not very young (above 25), with not very low or high education and participating for around the average duration of the program, living in the central area and areas with lower unemployment rate.

<u>Cost-benefit analysis:</u> The effect of participation lengths on re-employment probabilities is estimated and determinants of the length of participation in a programme are modelled separately. Because this indicator is correlated with spending on the programme, this provides important information for a cost-benefit analysis (section 3.2, pp32-36.) Participation is longer for women and older persons as well as in areas with higher unemployment rate.

Galasi – Nagy (2008) examines the probability of registered unemployed exiting to various active labour market programmes.

<u>The data:</u> The register of the registered unemployed was sampled in June 2005 and followed until January 2006, using snapshots on the 20. each month. Data from the monitoring

database was matched to this sample to look at inflow into programmes in the following 6 months. 1.2 percent of the 352 thousand individuals followed entered the wage-subsidy programme.

Estimation methods: Discrete-time duration (hazard) models for the time elapsed until entry, controlled for age, education, local unemployment rate. Risk group: all registered unemployed.

Estimation results: Risk of entry is greater for the 25-39 year olds, for those with higher educational level and for those living in areas with higher unemployment. Social benefit recipients have a below-average probability of entry.

Cost-benefit analysis: None.

Csoba – Nagy – Szabó (2010) aims at quantifying the treatment effect of three programmes, training, wage subsidy and public works. Its ambition is similar to the net evaluation effort of O'Leary (1998), that is to quantify the net treatment effect of the programme along with two other programmes (again: training and public works).

The programme and the target group: The same as before. However, regulation has changed in 2007: differently funded wage-subsidy programmes were merged and their use dropped at the same time. The START programmes were started, which provide a subsidy to social security contributions to support the re-employment of specific disadvantaged groups. The increase of take-up in these programmes and the decrease in that of the former wage-subsidy suggests that firms might have switched to the new subsidy.

The data: Data were collected specifically for this analysis with two-stage sampling. First stage: small regions based on development index. 18 labour office in the best 3-4 small regions (rationale: separate program effects). Second: select control and treatment groups from the selected small regions: registered unemployed participating/not participating in selected programmes between September 2009 and February 2010. Data collected during August and September 2010. Control: N=1068, treatment: N=1041. Risk group: long-term unemployed. Outcome variable: employed at the time of the survey.

Estimation methods: Logit model comparing control and participant groups. Regressors include sex, age, education, roma origin (as assessed by the survey administrator), proportion of working life spent in unemployment, type of the dwelling and the place of residence.

Estimation results: Table with estimation results is not available. Estimation results provided in-text show significant effects attached only to program participation dummies and share of unemployment in working life indices. Probability of employment among those in wage subsidy programme participants is around 24 times higher than in the control group.

Cost-benefit analysis: Employees were presented a question asking if they had employed the subsidised individual also in absence of the programme (regular monitoring reaches only the employer). 53% believed that the employer would have employed them also in the absence of the subsidy. The study also provides figures on average cost of the subsidy, but does not give information on individual costs. The study also attempts to look at substitution effects, but it seems that it analyses the substitution of wage subsidy for other forms of subsidies, rather than the employment of subsidized workers instead of non-subsidized ones. The questionnaire shows that respondents provided information on both length of participation and substitution.

Assessment and conclusions on ALMP evaluations

Hungarian ALMPs are evaluated very rarely, using less than optimal data and (partly because of the former constraint) not using the best available methodology. Regularly performed monitoring reports are of interest only because they are a consistent source of detailed information on headcount and short-term statistics on continued employment for the second part of the 2000s. Summary reports build largely on these and the few evaluations discussed later, adding some, but not much extra information. Out of the five evaluation studies, there are two attempting to provide an estimate of a net impact and thus the ATET of the given programme: O'Leary (1998) and Csoba-Nagy-Szabó (2010). O'Leary (1998) uses a reasonably long observation period of 12 months and uses several estimation methods. He convincingly argues that initial positive results are driven by selection, which appears to be skimming. Csoba-Nagy Szabó (2010) is more recent and thus it could in principle build on a longer period of experience. It did find large significant effects, however, it

did not deliver the methodological sophistication that would make the presented results credible: the observation period is short and alternative estimation methods apart from logit are not considered.

This lack of detail in the more recent evaluation is unfortunate because both O'Leary (1998) and subsequent studies by the author find strong selection effects both based on data analysis and also based on qualitative evidence. Studies looking at differences in programme effects among ALMPs suggest that participants of wage-subsidy programmes are better educated and closer to the prime age on average than participants of public works or training programmes.

Based on these two results and on supplementary information from other studies, we can conclude that 1) reliable information is extremely scarce, 2) wage-subsidies have little or even negative effect on job-finding probabilities. However, in light of the findings of Kluve-Card-Weber (2010), we can not rule out a positive effect at a later point in time further away from exit from the programme.

References not listed in Appendix 3

Nagy, Gy. (2002) Unemployment benefits: forms, entitlement criteria and amounts, The Hungarian Labour Market, Budapest: Institute of Economics, HAS. 181-186.

Kluve-Card-Weber (2010) Active Labor Market Policy Evaluations: a Meta-Analysis, The Economic Journal 2010, 120, F452-F477)

IE (2009): Statistical data, in: The Hungarian Labour Market, Budapest: Institute of Economics, HAS.

Frey, M. (2001): Frey, M. (2001) Jogszabályok és intézmények, Munkaerőpiaci Tükör, Budapest: Institute of Economics, HAS. 179-197.

Duman, A. and Scharle, A. (2011): Hungary: fiscal pressures and a rising resentment against the (idle) poor, in: Clasen and Clegg (eds) Regulating the Risk of Unemployment, Oxford University Press (forthcoming)

Appendix 1. Guide to the evaluation of validity

In evaluating internal validity more clear, we used the following scale:

- -   no controls even for observable characteristics (e.g. raw exit rates)

-      insufficient/unconvincing controls for selection and composition, or data are / observation period is highly unlikely to produce reliable results

0   controls for selection and composition but not using up robustness checks

+   good quality data, adequate controls for observed heterogeneity and an attempt to test robustness and potential endogeneity

++   state of the art methods, experimental data, multiple observation times, rich set of adequate controls, convincing tests of robustness

External validity was evaluated as being the same as internal validity, minus one mark off for each serious limitation or one mark off for two smaller limitations, where serious limitations may include:

- benchmark case not completely non-treated, no benchmark group (only comparing across ALMPs)
- design of almp/benefit unique to Hungary

and smaller limitations may include:

- short observation period (less than 6 months)
- period of very high unemployment / deep recession.

An example of the basis for evaluation in the case of emplyoment incentives:

Evaluation of employment incentives has a tradition in related european literature which has to be taken into account when assessing related evaluations. Kluve (2010) looks at 137 evaluations, 23 of which is classified to look at "private sector incentives", the category closest to "employment incentives". When estimating the effect of programmes, the author found that "private sector incentives..." "...are significantly more likely to yield a higher probability of positive treatment effects and a lower probability of negative treatment effects, relative to training programs." Concerning the evaluation methods, "there is some indication that experimental studies have a lower probability of yielding significant positive effects. No pattern emerges regarding the nonexperimental approaches." When interacted with a dummy indicating a "modern" study, from the 1990s and 2000s, it appears that private sector incentives keep their positive effect. Although information regarding the method

used in modern studies was not quantified, earlier studies are mostly based on OLS-type and duration analysis, whereas we find more modern studies using matching. No evaluation of this policy in the sample has used experimental design.

Card-Kluve-Weber (2010) finds that "Subsidized Private Sector Job"s yield significantly less positive outcomes than other programmes on the short term (that is: with a 1 year post-program horizon), but this changes on the medium term (that is: on a 2-3 year horizon) and positive results emerge. Although no interaction with programme types is looked at, the authors provide evidence that evaluations based on registered unemployment status find significantly more positive outcomes on the short term than those based on employment and so do shorter as opposed to longer programmes. On the medium term, employment and earnings indicators are likely to show positive effects, too.

In order to perform the comparison of employment incentive evaluations in Hungary, two references will be used. Firstly, the results of Kluve and Card-Kluve-Weber (2010) show that in order to quantify important results,

1. a longer (that is: over one year) observation period is preferred to a shorter one and

2. although employment status and wage constitute a more sensitive measure, they appear to be more reliable too.

Secondly, we use the example of LaLonde (1986) and Ham-LaLonde(1996) to pinpoint important elements of a successful evaluations of this type. These papers suggests that it is important

1. a) to control for unobserved heterogeneity, at least by controlling for labour market history,

2. to check for common support, avoid extrapolation through OLS-type estimators, use matching if possible at least as a check

3. to control for environmental factors, business-cycle-related effects

Appendix 2. Changes in the unemployment benefit system in Hungary

Table 2.1 Changes in the Entitlement Conditions of UI

Year of introduction	Prior employment condition	Duration		Waiting period after	
		Minimum	maximum	Voluntary quit	severance pay
1989	18 months/3 years	24 months	24 months	smaller benefit	None
1991		180 days		3 months	
1992		135 days	18 months		same as months of severance pay
1993	12 months/4 years			6 months	
1997				3 months	
1998		90 days	360 days	(90 days)	
2000	200 days/4 years	40 days	270 days		None
2006*	365 days/4 years	73 days	360 days		

* November 2005, no change until June 2010. Sources: Nagy (2002), Frey (2010).

Table 2.2 Changes in the Generosity of UI

Year of introduction	Benefit in proportion of previous gross wage (and maximum duration)			Calculation of average earnings	Benefit	
	phase 1.	phase 2.	phase 3.		Minimum	maximum
1989				base wage in last month + monthly average of additional earnings in last year	1989: none	phase 1.: 300 % of minimum wage phase 2.: 200% of min w
1990	70 % for 6 months	60 % for 6 months	45 % in the second year		0.8*min w	
					min w	300% min w
1991	70 % for 360 days	50 % for 360 days	-			
1992	70 % for 360 days	50 % for 180 days		average earnings in 4 calendar quarters before job loss	min w	200% min w
1993	75% for 90 days	60% for 270 days	-		8 600 HUF	phase 1.: 18 000 HUF; phase 2.: 15 000 HUF
1997	65% (no phases) for 360 days (270 days after 2000)				90% of min pension (22 230 HUF in 2005)	180% of min pension (44 460 HUF in 2005)
2003	65% for 270 days		85% of min wage for 180 days			
2006*	60% for 91 days	60% of min wage for 179 days	40% of min wage for 90 days		60% of min wage (37 500 in 2006)	120% of min wage (75 000 in 2006)

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Notes: * November 2005, no change until June 2010. ** this column gives the length of the first, typically more generous phase of UI, compared to the total duration of UI benefit (given in table A3).
min w=minimum wage, min p= minimum old age pension
In Hungarian, phase 1-2 was called „munkanélküli járadék" until 2005, when it was renamed to „álláskeresési járadék". Phase 3 is called „álláskeresési segély". Phase 3 is insurance based. Eligibility conditions are either 200 days (140 days for those less than 5 years before pensionable age) of prior employment or exhaustion of phase 2.
Sources: Duman and Scharle (2011) based on Nagy (2002), Frey (2010)

Table 2.3 Changes in the Entitlement Conditions of the Unemployment Allowances

Year of introduction	Prior employment condition	Means test		Activation criteria / work test
Before 1989	SA – none	-	SA – monthly income is below widows' minimum pension	SA - none
1992	UA – exhausted eligilibility for UI SA – none	UA – monthly (per capita) family income is below widows' minimum pension		UA – min. 18 years old, capable of work, unemployed, not in receipt of UI benefit SA – none, may work limited hours
1993	UA – exhausted eligilibility for UI SA – none	UA – monthly (per capita) family income is below 80% of minimum pension		
1997	UA – exhausted eligibility for UI SA – 2 years of prior cooperation with job centre		SA – own monthly income is below 70%, per capita family income is below 80 % of minimum pension	UA – min. 18 years old, capable of work, unemployed, no UI benefit SA – cooperation with job centre or family centre
2000	UA – exhausted other allowance or 1 year of pior cooperation with job centre	UA – own monthly income is below 70 %, per capita family income is below 80% of minimum pension, no property (except for own housing) SA merged into UA (the new UA was named 'social assistance' but requires a work test)		UA – min. 18 years old, capable of work, unemployed, no UI benefit, take part in 30 days of public works
2006 April		UA- equivalent family income** is less than 90% of minimum pension		
2009		UA – equivalent family income** is below 90% of minimum pension	SA – equivalent family income** is below 90% of minimum pension	UA – public works of at least 90 days/year, cooperate with job centre SA – cooperate with family centre

Sources: Duman and Scharle (2011) based on Gábos (1996), Nagy (2002), Frey (2010)
Notes: UA=unemployment assistance (jövedelempótló támogatás), SA=social assistance (rszs)

** Equivalence scale changed (consumption unit instead of per capita). When splitting the UA and SA in 2009, the SA kept its old name „rendszeres szociális segély" (regular social assistance) and the UA was called „rendelkezésre állási támogatás" (availability allowance).

Table 2.4 Changes in the generosity of SA and UA

Year of introduction	Amount		Duration
	UA	SA	
1992		According to need, up to minimum widow's pension	UA, SA – unlimited
1995 July	80% of the minimum pension (top up to own income)		UA – max 2 years SA – unlimited, annual review
1997		70% of the minimum pension (top up to own income)	UA – max 2 years SA – unlimited, annual review
2000	70% of the minimum pension (top up to own income)		Unlimited with annual review of entitlement
2006 May	Top up of equivalent income to 90% of minimum pension		
2007	Top up of equivalent income to 90% of minimum pension, but maximum the minimum wage		
2009	Flat rate = minimum pension (about 39 % of minimum wage)	Top up of equivalent income to 90% of minimum pension, but maximum the net minimum wage	UA, SA – Unlimited with review every 2 years

Sources: Duman and Scharle (2011) based on Gábos (1996), Nagy (2002), Frey (2010)

Appendix 3. List of papers reviewed

3.1. Out of work benefits

UI benefit

Galasi, Péter and Nagy, Gyula (2002a): Járadékjogosultsági időtartam és elhelyezkedés, [Duration of benefit entitlement and reemployment] *Közgazdasági Szemle,* February 2002, pp 126-142

Micklewright, J. and Nagy, Gy. (2010): The effect of monitoring unemployment insurance recipients on unemployment duration: evidence from a field experiment, *Labour Economics,* Volume 17, Issue 1, January 2010, pp 180-187 [essentially the same as Bódis – Micklewright – Nagy (2004) bwp 2004/6]

Köllő, János – Nagy, Gyula (1996) Earnings Gains and Losses from Insured Unemployment in Hungary, *Labour Economics* 3, pp 279-298

Köllő János (2001): A járadékos munkanélküliek álláskilátásai 1994 és 2001 tavaszán [Job prospects of the insured unemployed in the spring of 1994 and 2001] Budapest Working Papers on the Labour Market 2001/7 http://www.econ.core.hu/doc/bwp/bwp/bwp0107.pdf

Micklewright, J. and Nagy, Gy. (1995): Unemployment Insurance and Incentives in Hungary: Preliminary Evidence. CEPR Discussion Paper 1118, and in: Newbery, D (ed.): Tax and Benefit Reform in Central and Eastern Europe, CEPR, London.

Wolff, Joachim (2001) The Hungarian unemployment insurance benefit system and incentives to return to work, LMU IS Discussion Paper No. 253 http://epub.ub.uni-muenchen.de/1633/1/paper_253.pdf

Social benefit and unemployment assistance (UA)

Firle, Réka – Szabó, Péter András (2007): Targeting and labour supply effect of the Regular Social Assistance, Working Papers in Public Finance No. 18. http://tatk.elte.hu/index.php?option=com_docman&task=doc_download&gid=805

Galasi, Péter – Nagy, Gyula (2002b): Assistance recipients and re-employment following the exhaustion of UI entitlement, in: The Hungarian Labour Market, IE HAS, pp 242-254 http://econ.core.hu/doc/mt/2002/eng/tan_3.pdf [more detailed version of 2003 available only in Hungarian in *Közgazdasági Szemle,* July –August 2003, pp 608–634]

Galasi, Péter – Nagy, Gyula (2008): A munkanélküli-jövedelemtámogatások célzása Magyarországon [Targeting of unemployment-related income support schemes in Hungary] [dropped]

Micklewright, John – Nagy, Gyula (1998): The Implications of Exhausting Unemployment Insurance Entitlement in Hungary 1998 Budapest Working Papers on the Labour Market 1998/2 http://www.econ.core.hu/doc/bwp/bwp/bwp982.pdf

Review article on UI and UA

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1. OUT OF WORK BENEFITS - HUNGARY

	Type of program	Target group	Database	Sample size	Observation period	Identification method	Success criteria	Quantitative findings	Internal validity	External validity	ATET	Substit. effects	Total effect?	Cost-benefit?
Galasi – Nagy (2002a)	Out of work: UI, length of entitlement	UI recipients	UI register new entrants in 1 Jan – 15 March 2000 Excluded voluntary quits and severance pay recipients.	31031 control 27947 treatment group	9-12 months	Quasi experiment: new claimants after 1 feb are entitled to UI for a period 25% shorter (worst case); Kaplan Meier survival functions, for treated and controll group, right censored, by sex and four subgroups by prior employment spell, which determined length of UI entitlement.	Exit to job	No effect. Control group exit rates are even higher for some of the subgroups which may be explained by the higher share of recalled workers in January claims (control group).	0	0	yes	-	?	No
Bódis – Micklewright – Nagy (2004) = Micklewright – Nagy (2010)	Out of work: behavioural conditions	Entered UI register and entitled to 75-179 days of UI benefit.	Interview surveys and PES registers Entrants between 26 May and 26 July 2003	479 w aged <30 615 w aged >29 1037 men (longer entitlements excluded to controll for the intro of a new incentive)	4-6 months following entry to register	Experiment. Treatment: 4 visits to PES and questions on job search in 3 month (controll: no visit in 3 months). Right cenzored (excl. exhausters) Conditional prob of exit to job or almp, proportional hazard with treatment dummy and controls for indiv.char. and local u.	Exit to job	Hazard ratio for women over 29 is 1.43 (43 % over controll group's)	++	+ (short spell)	yes	no	?	no
Köllő – Nagy (1996)	Out of work: UI benefit	UI recipients reentering employment 4 subgroups: (a) job losers with <181 days in UI (b) Job losers with 180+ days in UI, (c) voluntary quits,	interview survey of reemployed + PES register of UI recipients; exits from UI register to a job between March 20 and April 20, 1994	9420 divided into 4 subgroups. (a) 3839, (b) 3092, (c) 383 (d) 2106 Q: tested selectivity of non-response (18%) Weighting observations with the inverse of the predicted non-response rate does	NA, less than 270 days (max duration of UI)	OLS on log(w1/w0) – ΔlogW, dep on individual and job characteristics, controlling for local u. Subgroups justified by Chow tests of pooling restrictions; parameters are jointly significant, heteroscedasticity is rejected; Ramsey test for ommitted variables *not* rejected for (a) and (d).	Wage gain (above the average gain for UI pool in the same period)	The median unemployed lost 5.2 percent in real terms. Duration of UI spell: compared to a spell lasting for six months the new wage is estimated to be 5 % higher if completed	+	0 (high u)	yes	Not relev ant	?	No

	Type of program	Target group	Database	Sample size	Observation period	Identification method	Success criteria	Quantitative findings	Internal validity	External validity	ATET	Substit. effects	Total effect?	Cost-benefit?
		(d) recalled workers		not affect the results.				duration was 0-3 months, and almost 5 % lower if the spell lasted for one year.						
Köllő (2001)	Out of work: UI benefit	UI recipients	interview survey of reemployed (+ PES register of UI recipients) exits from UI pool bween 18 March - 7 April 2001	1994: 8549 (238841) 2001: 8339 (105924) (excluding those exhausting UI during period observed and recalled workers)	9-12 months	multinomial logit (1) stays in UI, (2) exit to new job, (3) exit to old job, (4) exit to unknown job, controls for indiv char, past lm experience (e, u), tests robustness with alternative specifications. Cross section.	Exit to job before exhausting UI benefit	Remaining benefit on exit to new job: -0.182 Entitlement: for upper secondary &graduates: if E(UI) <50, odds of exit is 1.56 times higher towards end of eligibility.	+	+	yes	no	?	No
Micklewright – Nagy 1995	UI: amount	UI recipients	UI register new entrants in Dec 1992 and Jan 1993 Excluded voluntary quits and UI claims over 2 month after job loss.	50441 control 30270 treatment group	3-19 months	Quasi experiment: after 1 Jan, 1st phase of UI is shorter (1/4 of old system) but replacement rate is higher (75 vs 70 %); Kaplan Meier survival functions and hazards, for treated and controll group, right censored, by sex and four subgroups by prior employment spell, which determined length of UI entitlement.	Exit to job	No effect. Treatment group exit rates are higher for some of the subgroups, but this is most likely due to the higher share of recalled workers in January claims (the treatment group in this case).	0	0	yes	-	?	No
Wolff 2001 I.	UI: amount	UI recipients	UI register new entrants in Dec 1992 and Jan 1993 Same as in M&N1995	xx control xx treatment group	3-19 months	Quasi experiment, Kaplan Meier survival as in M&N1995, but only for a subsample considered less likely to be recalled workers based on previous job history.	Exit to job	No effect.	+	0 (high u)	yes	-	?	No
Wolff 2001 II.	UI: amount	UI recipients, excl older workers	UI register new entrants in Dec 1992	13121(control) 10373 (treatmt) m aged below 55	3-19 months	Quasi experiment, data as in M&N1995, but using variation in entitlement and	Exit to job	No robust effect for men, small robust effects for	+	0 (high u)	yes	-	?	No

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	Type of program	Target group	Database	Sample size	Observation period	Identification method	Success criteria	Quantitative findings	Internal validity	External validity	ATET	Substit. effects	Total effect?	Cost-benefit?
			and Jan 1993 Same as in M&N1995	6162 (control) 5047 (treatmt) w aged below 50		replacement rates. ML estimate of semi-parametric continuous duration model, tests alternative specifications.		women: entitlement effect: job hazard is 53 % higher than base (over 270 days) in the last 30 days. For women <30: Elasticity wrt UI -0.35, wrt wages 0.31						
Firle – Szabó (2007) I.	Out of work: social benefit	Exited UI	Labour force survey* 2001 q1 – 2004 q4 (stacked panel) received UI one quarter and not in the next quarter. Immediate exits to job not excluded	1023 m 607 w	3-15 months	Jenkins logit (equivalent to discrete duration) and estimates of alternative specifications (discrete and continuous duration) no attempt to deal with selection bias other than sampling, controls for past u, family income and local u but not eg for health, motivation	Exit to job	Average marginal effects of SB receipt on reemployment prob. - 0.0596 (m) (75 %) -0.0557 (w) (82 %) Duration on unemp 7 quarters longer	0	0	yes	no		no
Firle – Szabó (2007) II.	Out of work: social benefit	Non-empl-oyed (excluding those not seeking a job because are in full time / ill / disabled / caring for family member) aged 18-62	Labour force survey 2001 q1 – 2004 q4 (stacked panel)	22153 m 22087 w	2 consecutive quarters	Probit with robust standard errors, on exit to job Parameters jointly significant, no specification tests no attempt to deal with selection bias, poor controls (as in I)	Exit to job	Average marginal effect of SB receipt on reemployment probability -0.0679 (m) -0.0530 (w)	-	-	yes	no		No (SB is a top up, with a max. of 15260 HUF in 2003)
Galasi – Nagy (2002b)	Out of work: social benefit	Exhausted UI	Retrospective interview	April: 11259 (m) 8678 (w)	7-8 month after	Quasi experiment: change in UA rules in May 2000,	Exit to job	Effects on odds ratio	+	+	yes	no	?	No

	Type of program	Target group	Database	Sample size	Observation period	Identification method	Success criteria	Quantitative findings	Internal validity	External validity	ATET	Substit. effects	Total effect?	Cost-benefit?
			survey of a sample taken from PES register exhausted UI in April/May 2000	May: 14314 (m) 12372 (w)	April/May 2000	descrete time duration for affected and unaffected cohort (Jenkins logit for 2week spells), controls for indiv.char, local u. Benefit= actual or expected benefit = amount x P(takeup), the latter estimated in a separate logit. Parameters jointly significant, no specification tests		-0,043 (April, men) -0,070 (May, men) -0,043 (April, w) -0,062 (May, w) assumed to be constant during the observed period						
Galasi – Nagy (2008) Dropped: no info on LS outcomes	Out of work						focus on poverty							
Micklewright – Nagy (1998)	Out of work: Social benefit	Registered unemployed who exhausted UI benefit	March-April 1994 UI register inflow cohort of benefit recipients, + interview survey of those who exhausted UI	4661 Only those with (nearly) complete employment history. Response rate to survey was almost 90%	11/12 months (in UI) + 3-4 months (after exhausting UI)	Discrete time duration model of post UI exhaustion hazard (Jenkins logit) by sex, estimate coeff for expected Social Benefit. Controls for individual / household char. and local u. no attempt to control for selection bias (variation in unobserved char)	Exit to job	Effects on odds ratio (logit) -0.144 (m) -0.157 (w) conditional on survival past 1st week after exhausting UI	+	0 (high u)	yes	no	?	No (SB is a flat-rate benefit equal to 6720 HUF per month in 1995.

*the Hungarian LFS is a rotating panel where an individual may be included for a maximum of 6 consecutive quarters.

2. WAGE SUBSIDIES - HUNGARY

	Type of program	Target group	Database	Sample size	Observation period	Identification method	Success criteria	Quantitative findings	Internal validity	External validity	ATET	Substit. effects?	Total effect?	Cost-benefit?
O'Leary 1998 (also in O'Leary – Nesporova (2001))	Wage subsidy paying up to 50% of the wage bill up to one year. Employment must be sustained for an indentical period after exit from program. (Provides a similar evaluation on training programmes and public works too.)	Longer term registered unemployed (6 months, 3 months if labour market entrants)	Survey data collected following-up supported individuals and a randomly selected control group. Treated: exit from programme: Q2 1996, observed: up to Q2 1997 Control: entered registered status in Q2 1995	Whole sample: 9219 treated: 1131, control: 3338 (training: 2543; public works: 1140; self-emp: 1067)	12 months	OLS on exit with control group. Matched pairs, interaction terms in linear OLS. Personal and regional characteristics used in OLS and matching.	Exit to employment (various definitions), wage if employed, use of UI	Effect on employment probability: 17-24%points if unadjusted/un matched, 0 to -6%point with controls. No effect on earnings. Also significant parameters on individual characteristics	+	0	YES	NO	NO	Some information (wage gains)
Galasi – Lázár – Nagy (2003)	As in O'Leary (1998),	As in O'Leary (1998),	As in O'Leary (1998),	As in O'Leary (1998), but does not use control group	As in O'Leary (1998),	logit on participants of all programmes with personal characteristics	Exit to employment in 12 months after the treatment	Significant and positive schooling (0.04-0.47) and 25+ age (0.27-0.52) and wage-subsidy program participation (1.87) coefficient when compared to	0	-	NO	NO	NO	NO

	Type of program	Target group	Database	Sample size	Observation period	Identification method	Success criteria	Quantitative findings	Internal validity	External validity	ATET	Substit. effects?	Total effect?	Cost-benefit?
								young uneducated public work participants.						
Galasi – Nagy (2005)	As in O'Leary (1998),	Long term registered unemployed (6 months, 3 months if lama entrants)	Monitoring data referring to employers of subsidized workers. Registered unemployed exiting wage-subsidy programme in 2002 and 2003	N=39000	3 months	probit corrected for nonresponse bias. Probit uses personal characteristics, correction uses industry of employer and job type.	Continued employment with the same employer (having received the subsidy)	Significant and positive marginal effect for women (0.018), those not very young (above 25: 0.05-0.06), with not very low or high education (0.08 as opposed to -0.05 and 0.037 resp.) and participating for around the average duration of the program 0.045 for 180-270 days), living in the central area and areas with lower unemployment rate (-0.5).	-	-	NO	NO	NO	Some information (effect of length of subsidised employment)

	Type of program	Target group	Database	Sample size	Observation period	Identification method	Success criteria	Quantitative findings	Internal validity	External validity	ATET	Substit. effects?	Total effect?	Cost-benefit?
Csoba – Nagy – Szabó (2010)	As in O'Leary (1998), but support payable up to 100% of the wage bill (new regulation)	Longer term registered unemployed (6 months, 3 months if labour market entrants)	Survey data collected following-up supported individuals and a randomly selected control group. Treated: exit from prgramme: between September 2009-February 2010	Treatment group: 1041; Control group: 1068	6 months	logit on exit with control group. Personal and regional characteristics used in logit estimation.	Exit to employment	No marginal effect, significant positive effect on programme parameter (odds ratio compared to the controll group: 24)	-	-	NO	Some	NO	Some
Galasi – Nagy (2008)	As in O'Leary (1998), but also looking at public works and training	Registered unemployed	Individual data snapshots (sampled from PES register) matched with monitoring data. Sampling: June 2005-January2006.	N= 351,787 (7.6% of which in one of the three types of programmes)	6 months	discrete time duration model of hazard to exit towards ALMP registry drop out hazard (Jenkins logit)	take part in one of the programmes analyzed	UI recipients have 33% higher probability of participation than those who get no subsidy, social benefit recipients: 50% less.	+	+	NO n/a	n/a	n/a	targeting