

1-1-1998

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Citation

O'Leary, Christopher J. 1998. "A Cross Country Evaluation of Active Labor Programs in Hungary and Poland." Report prepared for International Labor Affairs Bureau of the U.S. Department of Labor.
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December 1998

Prepared for:

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U.S. Department of Labor
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ACKNOWLEDGMENTS

Impetus for this project was provided by David Fretwell of the World Bank. The project originated and was largely completed during the period while David was assigned to the World Bank field office for Eastern Europe located in Budapest. He arranged for financing and participation from several disparate parties, and shepherded the effort from beginning to end.

This report is based on work done in Hungary and Poland in collaboration with professionals in the respective national and regional systems of employment offices. The team for project design and management in Hungary included: Gyorgy Lazar, Gyula Nagy and Judit Szekely. The main contributions in Poland were made by Piotr Kołodziejczyk, Zbignew Olejniczak, and Danuta Mozdzenska-Mrozek.

Ambassador John Ferch committed the U.S. Department of Labor, Bureau of International Labor Affairs to the project. The project was supervised by Stephen Marler, Sydney Smith, Jim Perlmutter, Hank Guzda, Bob Zachariasiewicz and Ewa Springer of the Labor Department which provided the largest portion of funding for the project. Funding was also provided by the European Training Foundation, the National Labor Center in Hungary, the National Labor Office in Poland, and the W. E. Upjohn Institute for Employment Research.

At the W. E. Upjohn Institute for Employment Research computations were expertly performed by Kenneth Kline and Kristine Kracker, and clerical assistance was provided by Claire Black, Babette Schmitt, and Sue Berkebile.

Helpful comments on earlier drafts of this report were provided by seminar participants at the World Bank Human Development Week conference, the William Davidson Institute, the Czech Ministry of Labor and Social Policy, the International Conference on Active Labor Programs Design and Impact and the W.E. Upjohn Institute for Employment Research. In particular I would like to thank Mihail Rutkowski, Robert Bednarzik, Robert Holtzman, Marcelo Selowski, Jan Rutkowski, Joachim Wolff, Jacob Benus, Randall Eberts, and Kevin Hollenbeck.

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W. E. Upjohn Institute for Employment Research
December 1998

Net Impacts of Active Labor Programs in Hungary and Poland

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While they have adopted somewhat different macroeconomic strategies for the transition to a market economy, the central European nations of Hungary and Poland have pursued quite similar policies for labor market support. To ease economic hardship and facilitate labor redeployment during the economic restructuring, the governments of these countries provide unemployment compensation (UC) and a variety of active labor programs (ALPs).

This report reports on a net impact evaluation of the most widely used ALPs in Hungary and Poland. The analysis relies on extensive person level data gathered through large follow-up surveys of nationally representative samples of ALP participants and comparison group members conducted during the first two quarters of 1997. Four types of ALP are examined in this study. They are: retraining, public works, wage subsidies, and self-employment assistance.

The analysis examines results for each of the alternative programs using the same measures of success: reemployment, earnings, and conservation of UC funds. It may be unfair to assess public works from these perspectives since the prime objectives of direct job creation are income transfer, arresting the deterioration of work place behaviors, and some contribution to public infrastructure or services. Nonetheless, looking at a group of ALPs all at once with the same methodology on the same outcomes informs policy makers about the implicit trade-offs involved when choosing among alternate programs. The findings in Hungary and Poland have been useful in reshaping policy in those counties. Sharing the findings and evaluation process

may help improve policy and practice in other economies coping with dramatic changes in the labor market.

Related research

Some previous investigations of ALP effectiveness in Hungary and Poland during the transition period have focused on aggregate effects. For example, Boeri (1997) found that aggregate ALP spending and participation increased the rate of outflow from unemployment registers of the public employment service to jobs in Poland but not in Hungary.

Puhani and Steiner (1996) used a small sample of ALP participants taken from the August 1994 supplement to the quarterly Labor Force Survey (LFS) in Poland and found no significant effects of aggregate ALP expenditure on unemployment, and that public works is better regarded as an income transfer scheme than as a means of achieving reemployment in a non-subsidized job. They also suggest that the social dividend from ALP spending in Poland could be improved by targeting services to people with identifiable barriers to reemployment. Using the same August 1994 LFS micro data Puhani (1996) found that retraining in Poland did not improve reemployment prospects, but rather served mainly as an income transfer program.

There have been some gross outcome estimates done for self-employment assistance. Based on a survey conducted in two Hungarian counties, Frey (1994) estimated that 72.9 percent of people who received self-employment assistance from the Hungarian Labor Fund in 1992 continued in some type of self-employment at least six months after assistance stopped. There has been no previous examination of self-employment assistance from the Polish labor fund, but the Polish Ministry of Labor and Social Policy (1996) reported on the use of Entrepreneurship

Development Funds (EDFs) set up within small business assistance centers.¹ In the years 1994 to 1996 there were 390 loans given from EDFs. These loans resulted in 779 jobs, or about two jobs per loan. The mean loan amount was US\$4,544 or about US\$ 2,275 per job created.

Using person level survey data on participants in retraining, public service employment (PSE), and a comparison group in Hungary gathered in 1992 and 1993 Godfrey, Lazar and O'Leary (1993) and O'Leary (1997) found a significant degree of non-random assignment to ALP participation. While gross impact estimates suggested a nearly 20 percentage point gain in reemployment rates after retraining, adjusting for observable characteristics the net impact estimates indicated gains on the order of only 6 percentage points. Selection bias was found to be less of a problem in the PSE analysis with program participation lowering reemployment rates by an estimated 15 percentage points.

To date there has been no investigation of wage subsidy type programs in these countries. However after examining policy alternatives for countries in Central and Eastern Europe, Jackman (1994) concluded that wage subsidies and self-employment are practical ways to address unemployment, because these interventions stimulate labor demand without upsetting other aspects of the economic restructuring process.

¹Entrepreneurship Development Funds (EDFs) were set up within small business assistance centers (SBACs) as part of the World Bank employment project to actively combat unemployment. Each EDF received an initial endowment from the project, and that money was intended to act as a seed which would be replenished and grow through loan repayments, interest collections, and supplements received from local governmental agencies (Mazewska, 1996). There were 42 SBACs in Poland by the end of 1996 (Kaszuba, 1996).

Context of the evaluations

Since 1990, both Hungary and Poland have experienced dramatic declines in gross domestic product and increases in unemployment. Table 1 shows how the registered unemployment rate changed during the first seven years of rapid transition to markets.

In Hungary the unemployment rate rose from nothing in 1990 to a peak of 13.4 percent in 1993 when 705,000 were registered as unemployed job seekers in February. Unemployment now is slightly below 10 percent largely due to a rise in inactivity; the labor force having shrunk by more than a million workers.²

Unemployment in Poland changed in parallel with that in Hungary. It jumped from zero in 1989 to 16.4 percent in 1993. The registered unemployment rate in Poland has only recently dipped below 13 percent. Labor force withdrawal in Poland has been dampened by the entitlement to national health insurance which is provided by registration with a local labor office as an unemployed job seeker.

The transition to a market economy has required relaxed price controls and reduced state subsidies. These changes combined with the loss of COMECON trading partners resulted in increased unemployment, rising consumer prices, large public budget deficits, and growing foreign trade debts. These developments have prompted international monetary authorities to require ever greater restraint in public spending. Nonetheless, the employment policies pursued

²Köllő, Lázár, Nagy and Székely (1995) provide evidence from a survey of UC exhaustees that the decline in Hungarian unemployment was achieved in part through withdrawal from the labor force mainly by women, and the proliferation of non-reported employment mainly among men.

in both countries have been impressive, but demonstration of programme effectiveness is crucial to continued funding.

Since January 1994 an extensive system of performance indicators for monitoring cost-effectiveness of ALPs has been used throughout Hungary.³ A similar system was developed for Poland, and has been used in some areas of the country since 1996. These systems measure program effectiveness in terms of the results achieved.⁴ They track gross program outcomes such as reemployment rates and the average cost of achieving reemployment, using data from follow-up mail surveys of program participants.

When program managers are encouraged to achieve a high employment rate for program participants, a phenomenon called *creaming* frequently results.⁵ That is, program managers might select mainly the most able applicants for participation. The result is high observed reemployment rates, however many of the selected ALP participants may already possess the skills and abilities to get reemployed themselves. By comparing their success to all unemployed,

³O'Leary (1995) described implementation of the system in Hungary and plans for use of a similar system in Poland as a tool for managing ALPs.

⁴Auer (1996) documents the use of such systems for employment programs among countries in the European Union. The OECD (1994) provided a guide on how to use such a system for program management. The U.S. General Accounting Office (1998) provided a constructive assessment of performance management systems used for employment programs in the United States.

⁵The analogy is to milk where the richest part, the cream, floats to the top and can be skimmed off. Creaming is an issue in operating labor market programs because if only the most able people get reemployment assistance, then the benefit to society of the programs is not as great as it might be otherwise. Highly qualified program entrants have a good chance of becoming reemployed even without the services offered in the program, while for less qualified applicants the program services might be the only realistic path to employment.

the positive impact on reemployment is high, but comparing their success to others with similar characteristics the program impacts may be much smaller.

Program managers were warned about the social cost of creaming in program assignment when the performance monitoring system was implemented in Hungary. They were encouraged to target ALP services to the most difficult to reemploy.⁶ An earlier evaluation of retraining in Hungary found evidence of creaming in program assignment (O'Leary, 1997). Attention is given in this report to assessing the degree to which creaming is now being practiced.

Since they are widely recorded on a continuous basis, the performance indicators results are useful for ongoing program management and planning. However, these indicators cannot inform policy makers about any added value which may be provided by ALPs. For such net impact analyses a comparison group design is needed. Net impact evaluations done from time to time help policy makers decide which programs to expand, modify or delete as economic and political conditions change. Such periodic evaluations are a necessary adjunct to performance monitoring based management systems, and are useful in helping to set targets for program performance.

An overview of employment policy

Employment policy in Hungary and Poland is carried out through administration of both active and passive labor programs. In both countries local labor offices serve as one stop shopping centers which provide an array of services to both job seekers and employers. In

⁶ O'Leary (1996) documented the risk of creaming in ALP performance management systems, and measures to counteract creaming through targeting of services.

addition to providing placement services, local labor offices act as a unified clearing house for referral to a variety of active and passive labor programs.

The main passive labor program in both countries is unemployment compensation (UC), which is available for a limited duration to unemployed workers with sufficient recent work experience. In Hungary UC had a wage replacement rate of between 50 and 75 percent of lost wages depending on the duration of benefit receipt which has a maximum of 12 months.⁷

Hungary also provides unemployment assistance (UA) which is a means tested income support program paying a uniform monthly stipend pegged to 80 percent of the lowest monthly public retirement pension for a maximum of 24 months. Passive labor programs in Poland are limited to UC, which is available for up to 12 months to unemployed workers with sufficient recent work experience.⁸ The monthly UC benefit payment in Poland is uniformly 36 percent of the national average wage for persons with between 5 and 20 years prior work experience. The benefit is 20 percent lower for those with under 5 years work history, and 20 percent higher for those having worked more than 20 years. In Poland, after exhaustion of the UC benefit, there is only the means-tested general assistance available from local government agencies.

As can be seen in Table 1, total spending on ALPs and unemployment compensation (UC) in Hungary for 1996 amounted to nearly 77.2 billion Hungarian forints or around \$454.1 million U.S. This level is about 1.03 percent of the Hungary's gross national product. In recent years the share of employment program expenditures devoted to ALPs has ranged from 21.8 to

⁷Micklewright and Nagy (1998) examined the rules and operation of UC in Hungary. In 1998 there is now a uniform 65 percent wage replacement rate.

⁸Góra and Schmidt (1998) explain the rules and effects of UC in Poland.

25.5 percent. The remainder of public spending for employment programs goes to passive labor support through UC and UA. About a million people use Hungary's labor programs each year with almost 30 percent of them participating in an ALP.

Total spending on ALPs and unemployment compensation (UC) for 1996 in Poland was almost 7.5 billion Polish zloty, or around \$2.5 billion U.S. That amount represented nearly 2.2 percent of the nation's gross domestic product. About 14 percent of employment program expenditures have supported ALPs in recent years, with the balance spent on UC. About 3 million people per year use Poland's labor programs, with nearly a quarter of them participating in an ALP.

ALPs evaluated in Hungary

Retraining in Hungary provides short term job skill training to promote readiness for job vacancies in the region. Retraining candidates may be either unemployed, expected to be unemployed, currently involved in PSE, or recent school graduates. Retraining participants receive a stipend which is 10 percent more than their UC benefit. The direct costs of retraining are also paid for by the local labor office. The evaluation reported on here focused on retraining of the unemployed, initiated either by individuals—or for groups of persons—selected by local labor offices. Our samples of participants include recent school graduates.

Public service employment (PSE) is a short term direct job creation program with employment on projects organized by government agencies including municipal governments. Participation in PSE may last no more than 12 months. Up to 70 percent of the direct employment costs (including wages, work tools, working clothes, and transport) are subsidized

by the Employment Fund, provided that the employer does not receive any net income from providing these items.

A wage subsidy program in Hungary is targeted toward people who are long term unemployed. A wage subsidy of up to 50 percent is possible for up to one year. The payment is made directly to the employer and applies to total labor costs for hiring persons who were previously unemployed for more than 6 months (3 months for school leavers), provided the employer has not laid off anyone involved in the same line of work in the previous 6 months. If workers hired through the subsidy are not retained after the subsidy ends for a period at least as long as the subsidy was paid, the employer must repay the Employment Fund for all assistance provided.

Self-employment assistance is provided to a small fraction of persons who are eligible for unemployment compensation. The assistance operates like the British enterprise allowance scheme which gives a series of periodic support payments.⁹ In Hungary monthly payments are equal to the regular UC benefit, but may extend 6 months beyond the UC one year eligibility period. Support may also include reimbursement of up to half the cost of professional entrepreneurship counseling, and half the cost of training courses required for engaging in the entrepreneurial activity. Up to half the premium on loan insurance for funds borrowed to start the enterprise may be paid for one year.

⁹The British model is also used in Australia, Belgium, Canada, Denmark, Finland, Greece, Ireland, Italy, the Netherlands, and Germany. Elias and Whitfield (1987) studied the impacts of the U.K. enterprise allowance scheme.

ALPs evaluated in Poland

In retraining, unemployed workers are given additional short-term job skill training to make them ready to fill local job openings. Retraining participants receive a stipend which has a 15 percent premium over the UC benefit.

Public works is a short-term direct job creation program with employment on projects organized by government agencies, including municipal governments. Stipends are set at 75 percent of the national average wage, which is more than double the 36 percent paid to UC recipients. The wage level makes clear the main aim of public works which is income transfer. Secondary aims of the program are to maintain job readiness skills of the unemployed and to contribute to the public health and infrastructure.

Intervention works projects may not compete with private companies and the wage paid by grants can be no more than the unemployment compensation benefit. Projects may be operated by either public agencies or private companies. There may be no intervention works contracts given to employers who have laid off significant numbers of workers in recent months. There are also incentives for employers to permanently retain workers. After the end of an intervention works project, which may last up to 6 months, employers can receive wage subsidies up to 150 percent of the national average wage for up to 6 additional months for workers retained after the first 6 months. Intervention works operates essentially as a wage subsidy program.

Self-employment assistance in Poland is something like the French lump sum model except that repayment is required.¹⁰ Assistance is provided to a select small fraction of registered

¹⁰The French model is also followed in Luxembourg, Norway, Portugal, Spain, and Sweden.

unemployed through a loan program. The maximum loan is rather small, with the size limit being 20 times the national average wage. Loans are made at market rates of interest and must be repaid immediately in full if the planned enterprise is not initiated. A strong incentive for business survival is provided by a 50 percent reduction of the original principal amount granted to businesses which survive at least two years.

Evaluation methodology

In terms of clearly guiding policy, simple unadjusted impact estimates are usually the most influential because they are easy to understand. This is the main appeal of program evaluation done using a classically designed experiment involving random assignment.¹¹ When random assignment has been achieved, modeling of behaviour and complex econometric methods are not needed to estimate reliable net program impacts. With large samples randomly assigned to treatment and control groups, observable and unobservable characteristics of the two groups should not differ on average so that any difference in outcomes may be attributed to exposure to the program. Program impacts may be computed as the simple difference between means of the samples of program participants and control group members on outcome measures of interest.

When there is non-random assignment to either the ALP participant group or the comparison group from the population of unemployed job seekers then statistical methods of

¹¹For examples of employment programs evaluated using a classically designed field experiment see Decker and O'Leary (1995).

correction must be used to reveal the net impacts of ALPs.¹² That is, proper estimation of program net impacts involves correcting for possible selection bias which is present if persons entering ALPs are on average different from comparison group members in their job skills and aptitude.¹³ In this study adjustments for selection bias are based on observable factors for which data is available.¹⁴

Recent surveys of microeconomic evaluations of ALPs done by Fay (1996) for Organization for Economic Cooperation and Development (OECD) member countries and by Meager and Evans (1998) for a selected group of nations emphasize the importance of accounting for *deadweight loss* and *displacement* effects in measuring program impacts. With a mixed bag of findings which reveal net impacts of different ALPs vary widely by population sub-group, both surveys argue that *targeting* of services is crucial to maximizing the social dividend from public expenditure on employment programs.

¹²Such methods are sometimes called *quasi-experimental* because they attempt to statistically mimic the ideal of a true experiment based on random trials (Fay, 1996).

¹³Program impacts reported in this report were estimated in models like the following:

$$y_i = a_0 + b_1ALP_i + b_2ES_i + b_3ALP_i *ES_i + CX_i + u_i,$$

where ALP represents participation in an ALP, ES (employment service) represents use of ES assistance, X represents a matrix of exogenous control variables, y is the outcome of interest, and u is a normally distributed mean zero error term. After estimating an equation of this form by ordinary least squares regression, the marginal effect of the ALP on y is estimated by the sum of $b_1 + b_3 *E(ES)$, where E is the expectation operator and E(ES) is the mean of the variable ES or the proportion of the sample which used the ES.

¹⁴The obvious next step to adjust for differences across samples is to account for differences in unobservable characteristics using the methods of Heckman (1976). An effort to do this failed essentially because no instruments were available which explained program participation independent of reemployment success.

When an unemployed person participates in an ALP which does not improve their chance of reemployment there is a deadweight loss to society for the spending.¹⁵ When an ALP participant gains reemployment at the direct expense of an otherwise similar job seeker then displacement has occurred. When an employer, either government or private, receives a subsidy to hire a worker who would have otherwise been hired anyway then *substitution* of ALP financing for other intended spending has occurred.¹⁶

It is crucial to account for displacement and substitution effects when doing social benefit-cost assessments of public programs. However, these factors are irrelevant at the individual level and very difficult to measure at the social level. The investigation summarized here focused on net impacts of ALPs, and the comparison group design automatically accounts for possible deadweight loss by comparing ALP participants to otherwise similar non-participants. A subgroup analysis of net impacts provides a basis for targeting ALPs.

Sampling considerations

Sample sizes were set to ensure precision based on considerations of power tests for observing effects of a size that would be of interest to policy makers. That is, the samples were set to be large enough to reject the null hypothesis of no effect with sufficient power to accept the alternative that an intervention is efficacious. Furthermore, the sample sizes were set large

¹⁵If a program manager practices creaming in selecting participants for ALPs, then a deadweight loss results.

¹⁶Johnson and Tomola (1977) provide a clear example of how to estimate the employment effects of fiscal substitution in direct job creation programs. They maintain that the degree of substitution increases as a program matures.

enough to provide reliable estimates of differential program effects on important demographic and regional sub-groups. The main program outcome guiding sample size determination was the proportion employed on the survey date, and samples sizes were set large enough to detect program impacts of 5 percentage points or more where the difference is measured from 50 percent.¹⁷

Samples were drawn from among those registered as unemployed. This is the relevant population from which to sample when evaluating public reemployment efforts. All recipients of income support and reemployment assistance from the system of labor offices must be registered as unemployed and seeking work. This sampling frame includes a broad cross-section of all unemployed job seekers since private employment agencies serve a very small segment of the labor market in these countries.

Samples for the evaluation in Hungary

The sample for analysis in Hungary was drawn from randomly selected samples in a strategically selected group of 10 counties: Budapest (the capital city), Baranya, Bekes, Borsod,

¹⁷Testing the difference between proportions is somewhat complicated by the fact that the sample sizes required for properly testing a given difference between proportions varies depending on whether the proportions are near zero or one (Cohen, 1988, pp. 179-213). Specifically, the required sample sizes for testing the difference in proportions with adequate power depend on the effect size, h , which is the difference in the arcsin transformation of the proportions. That is, $f(p) = 2\arcsin p$ and the effect size is $h = \text{abs}(f(p_p) - f(p_c))$ for non-directional tests where p_p is the proportion employed among the ALP participant group and p_c is the proportion employed among the comparison group. For tests of $\text{abs}(p_p - p_c) = 0.05$ when p_p is around 0.5 then $h = 0.1$. To perform two tailed tests at the confidence level of 98 percent with a power of 80 percent and $h = 0.1$ the harmonic mean of the sample sizes should be at least 2,007 in size, where the harmonic mean, n' , of the samples sizes is $n' = 2n_p n_c / (n_p + n_c)$. Lowering the confidence level to 90 percent lowers the sample size requirement to 1,237. When p_p is closer to either 0 or 1 the sample size requirements for similar tests [$\text{abs}(p_p - p_c) = 0.05$] are smaller.

Csongrad, Fejer, Hajdu-Bihar, Pest, Szabolcs, and Vas.¹⁸ In 1996 these counties spanned the range of economic conditions. Three counties enjoyed an unemployment rate below 8 percent, three suffered unemployment rates in excess of 15 percent, and four had moderate unemployment rates. Together the counties surveyed in Hungary comprise nearly two-thirds of the nation's population. Compared to the nation as a whole these counties have a somewhat smaller proportion of employment in agriculture, a higher population density, a lower unemployment rate, and higher mean monthly wages. Among these counties, some have experienced steady labor market improvement since the peak of national unemployment in early 1993, while others have stagnated.

Administration of the surveys in Hungary was managed by experts in the National Labor Center. Surveys were conducted in March and April 1997 through house-to-house visits by staff of local labor offices during their off-work hours.¹⁹ 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. For self-employment which had a small number of participants, an attempt was made to contact the full population of all those who participated during the first three quarters of 1996. The comparison group was randomly selected, using birth dates, in the 10 counties from the

¹⁸ The sub-national provincial divisions in Hungary are called counties and in Poland are called voivods.

¹⁹ Some interviews were conducted during regular visits by the unemployed to labor offices. This survey process means ALP impact estimates on reemployment rates may be biased downward since the unemployed are more likely to visit labor offices, and the employed are less likely to be available at home during house-to-house visits.

inflow to the register during the second quarter of 1995. That was judged to be about the time that most people drawn for the participant samples had themselves registered as unemployed.

Table 2 contrasts the comparison group and the ALP samples from Hungary using categorical indicators of sample characteristics. Sample sizes are provided in the bottom row.²⁰ In this table asterisks indicate that there is a statistically significant difference between the comparison group and the ALP group on the characteristic. A quick glance at the table reveals that a large proportion of the differences are statistically significant. Indeed many more than 10 percent of the differences are statistically significant, which is the proportion that would be expected if the samples were all drawn from the same population and tests at the 90 percent confidence level were applied.

In contrast to the comparison group which was randomly drawn from the unemployment register; the individual retraining sample is more female, younger, and more educated; the group retraining sample is also more female, younger, and more educated; the PSE sample is more male, younger, and less educated; the wage subsidy sample is somewhat more educated; and the self-employment sample is more male, closer on average to prime working age, and more educated.

The wide ranging differences in sample composition suggest that there was non-random assignment of participants to ALPs. This means that ALP net impact estimates must be computed while controlling for systematic sample selection. In this report correction in

²⁰In Hungary the survey response rate among ALP participants was 81.4 percent, while that for the comparison group was 75.6 percent.

estimation is limited to adjustments based on observable characteristics.²¹ The estimation methodology used and the comparison group design purges the net impact estimates from the effects of any *creaming* practiced by program administrators.²²

Samples for the evaluation in Poland

Data for evaluating ALPs in Poland was gathered by surveys of randomly selected participant samples and strategically selected comparison samples in a group of eight voivods: Gorzow, Katowice, Konin, Krakow, Lublin, Olsztyn, Poznan, and Radom. While these locations were chosen partly because of information processing similarities, they nonetheless span the range of labor market experience in Poland during the transition to markets.²³ Among the eight voivods surveyed, four are among Poland's most populous: Katowice, Krakow, Lublin, and Poznan. The eight encompass over one-quarter of the population of Poland, including several large cities, yielding a higher than average population density. These areas also have unemployment rates much lower, wages somewhat higher, and a smaller share of agriculture than the nation as a whole.

²¹O'Leary (1998a, 1998b) presents impact estimates computed by matched pairs and a variety of regression methods. The various net impact estimation methods yielded estimates which were not significantly different from one another. The estimates presented in this report were all computed using an ordinary least squares regression model which controls for observable characteristics and for use of particular ES assistance.

²²When *creaming* is practiced, gross impact estimates which compare participant success to all unemployed yield positive impacts on reemployment, while net impact estimates which compare participant success to others having similar characteristics would yield much smaller program impacts.

²³A dozen different local labor office computer systems were in use around Poland at the time of the survey. Two different systems were involved in the eight voivods surveyed.

Surveys were conducted in 80 local areas between February 15 and April 15, 1997. Administration of the questionnaires was managed by experts in the voivod labor offices and conducted by staff of local labor offices. Some interviews were done during regular visits to labor offices by subjects who had previously been selected, other interviews were done during house-to-house visits. The overall survey response rate was 92.6 percent.

ALP entry during the whole of 1995 was taken as the sampling frame for participants in retraining, public works, and intervention works. Random sampling of participants was done by birth date. Since a longer period is required to assess the effects of self-employment assistance, loan receipt during 1993 and 1994 was taken as the sampling frame. The small numbers involved meant that instead of random sampling from self-employment participants, an attempt was made to contact the whole population of assistance recipients. For other programs, sample sizes for each voivod were set to be in proportion to the voivod share of program participants. After the participant samples were selected, the observable exogenous characteristics of the groups selected were examined. The comparison group samples were drawn from the population of registered unemployed by matching persons in each of the ALP participant samples to the most similar person from the unemployment register of the same local labor office. Separate comparison group samples for each program were selected from among those who registered as unemployed within the same time period and never participated in an active labor program.

Table 3 shows that in contrast to a random sample of registered unemployed the retraining group is less male, younger, more educated, less likely to be in a blue collar occupation, and more likely to be long term unemployed; the public works group is more male, younger, and less educated; the intervention works group is more female, younger, less likely to

be in a blue collar occupation, and more likely to be long term unemployed; and the self-employment group is more male, more likely to be of prime working age, more likely to be of prime working age, more likely to be vocationally educated, and slightly less likely to be long term unemployed. Sizes for ALP participant samples are listed in Table 3.²⁴

Net impact estimates

Net impact estimates of ALP effects were computed for Hungary and Poland on employment, earnings, and unemployment compensation outcome measures. To provide an overview of the findings estimates on five different outcome measures are presented in Table 4:²⁵

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

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

EARNNOW - Average monthly earnings on the current job on the survey date

UCMONTHS - Months of UC collected

UCPAY - Amount of UC collected

²⁴The matched pairs comparison group sample sizes are: 2,885 for retraining, 1,174 for public works, 2,410 for intervention works, and 700 for self-employment. Contrasting these with the participant samples on observable characteristics revealed the strategically selected comparison samples to be well matched to the participant samples. The matched comparison samples are therefore ideal for computing net impacts while controlling for non-random participant selection into ALPs.

²⁵Complete results are reported in O'Leary (1998a, 1998b). The ALP net impact estimates reported here were computed in ES interaction models by ordinary least squares. These are linear probability models with well known deficiencies when the dependent variable is binary as are EMPLOYED and EMPLNOW. Since the mean values of these outcomes are far from the extremes of 0 and 1, the non-linear method of logit did not result in significantly different marginal effect estimates. Pindyck and Rubinfeld (1991, p. 260) explain this result.

Net impact estimates are examined for the following four classes of programs: retraining, public works, wage subsidies, and self-employment. The discussion of each program includes review of subgroup estimates which are reported in Table 5 for Hungary and Table 6 for Poland, and findings concerning the influence of different aspects of ALPs as summarized in Table 7 for Hungary and Table 8 for Poland.

Retraining

For Hungary it was possible to separately analyze the net impacts of individual and group retraining. Individual retraining resulted in 11 percentage points more people getting back into a non-subsidized job or self-employment, and 9 percentage points more being in such a job on the survey date.²⁶ The fact of continued employment through the survey date suggests that the effect of retraining is somewhat durable. There was no significant impact on average monthly earnings in the job held on the survey date. Participation in individual retraining was estimated to reduce UC receipt by 0.68 months and decrease payments by \$43.²⁷ As seen in Table 5, there were no distinct differences by gender, age education or occupation group. While not significantly

²⁶O'Leary (1998a) reports that the unadjusted impact estimates are very close to the adjusted results for individual retraining in Hungary. This is at odds with results from studies based on samples drawn in 1992 and 1993 where the unadjusted impact estimates were far larger than the estimates adjusted for observable characteristics (O'Leary, 1997). The convergence in estimates could be due to changed labor demand conditions in Hungary, or because ALP managers have retreated from their practice of creaming in retraining enrollment.

²⁷Unemployment compensation payments are considered since the beginning of 1996. All monetary values are stated in U.S. dollars converted at the average daily exchange rate on April 1, 1997. This results in a reasonably accurate value for average monthly earnings reported in the first part of 1997, however since both the Hungarian and Polish currencies gradually fell in value compared to the U.S. dollar the conversion rule underestimates the monetary values involved.

different from the complementary group, the impact on employment was larger for those who personally contributed to the direct cost of individual retraining, for those in retraining 3 months or less, and for courses meeting 20 or fewer hours per week.

Group retraining in Hungary resulted in 9 percentage points more people getting into a non-subsidized job or self-employment, and 7 percentage points more people being in regular non-subsidized employment on the survey date.²⁸ There was no significant impact on earnings in the job held on the survey date. Participation in group retraining was estimated to reduce UC receipt by 0.50 months and decrease payments by \$27 on average per participant. For group training there were no distinct differences by gender, age, education, or occupational group. The impact on employment appeared larger for those who personally contributed to the direct costs of group training. Group retraining between 3 and 12 months duration, or conducted outside of the regional retraining centers improved employment rates by a statistically significant margin over the complementary groups.²⁹

Retraining in Poland resulted in 12 percentage points more people getting into regular non-subsidized employment or self employment, and the same percentage point advantage when measured at the survey date. Retraining also produced a \$7 gain in average monthly earnings. Table 6 reports that retraining was most effective for those who were not long term unemployed

²⁸The net impact estimates reported here which are based on a regression model with ES interaction and are positive and much larger than the unadjusted impact estimates reported in O'Leary (1998a). Like for individual retraining in Hungary this result is at odds with earlier findings for Hungary (O'Leary, 1997), and suggests reverse creaming or proper targeting of group retraining to raise the social dividend of public spending.

²⁹In Hungary there is a network of ten regional retraining centers which were established under a World Bank loan. Retraining is also provided by private firms and educational institutions under contract with the county labor centers.

and those with the least prior work experience. It was also more effective in areas with relatively high unemployment. There was no difference in retraining impact by gender, age, education or major occupational group. As summarized in Table 8, short-term skill focused retraining was found to be most effective, and there was some evidence that retraining provided by private firms was more effective. It is better if retraining is provided by an adult education, or other firm engaged in normal industrial activity rather than having training provided by an employment organization or having another labor-related group serve as the trainer.

Public works

In Hungary the direct job creation program is PSE. Participation in PSE resulted in a 26 percentage point decline in the proportion getting reemployed in a non-subsidized job or self-employment, and a 21 percentage point decline in being in such a job on the survey date.³⁰ The net impact on average monthly earnings was \$9, but this point estimate was not statistically significant. The impacts of PSE on receipt of UC were also not statistically significant being -0.19 months and -\$9. These negative impacts are more severe than expected based on prior evidence about PSE in Hungary.³¹ A subgroup analysis indicated that PSE participation harmed reemployment chances less for women, less for those aged 45 or more, and less for the most

³⁰The regression adjusted net impact estimates indicate that PSE has an even more detrimental effect on reemployment prospects than suggested by the unadjusted impact estimates (O'Leary, 1998a). This result is at odds with earlier findings that unadjusted and adjusted impact estimates are very similar for PSE in Hungary (O'Leary, 1997). The new results suggest that many of the PSE participants were job ready at the time of program entry. This probably reflects changed labor demand conditions for low skilled workers more than any change in PSE referral practices by program managers.

³¹As reported by O'Leary (1997).

educated. PSE work which requires manual unskilled labor appears to create the greatest hindrance to future employment in a regular non-subsidized job or self employment, while non-manual and skilled manual work provides the least impediment. There is no significant difference by the industry of activity, but service employment appears to be less detrimental in promoting reintegration to the regular work force than employment in other industries.

Public works in Poland had much smaller negative net impacts on reemployment than did PSE in Hungary. Public works resulted in a 4 percentage point decline in the proportion who were in a non-subsidized job or self-employment on the survey date, and an 8 percentage point decline in ever getting into such a job. Public works participation did not have a statistically significant effect on average monthly earnings. Participation did raise the average duration of UC receipt by 0.93 months during the period observed and did increase UC payments by \$103. The subgroup analysis of public works impact on reemployment revealed no significant differences across subgroups. However, the results suggested that public works is less detrimental for women, may actually improve employment prospects for older workers, least hinder reemployment for those with less than eight years of formal schooling, might benefit those whose previous experience was in a white collar occupation, and may not harm those who were not long-term unemployed. There was some evidence that short-term public works hindered future labor market success less than did a longer term involvement, and strong evidence that public works provided by private firms was more effective. It is better for promoting reemployment if public works is provided by a group other than an agency of the national government.

Wage subsidies

The wage subsidy for long term unemployed in Hungary is estimated to have negative net impacts on reemployment, lowering the proportion getting into a non-subsidized job or self-employment by 11 percentage points, and reduced the proportion in such a position on the survey date by 6 percentage points.³² A subgroup analysis indicated that the wage subsidy benefitted employment most among those in areas with moderate unemployment. The subgroup results also suggest that wage subsidy impacts did not vary appreciably by gender, age, or prior occupational group. The skill level of the wage subsidy job had no significant effect on the employment outcome. Among industries where wage subsidies were used, in terms of being in a non-subsidized job or self-employment on the survey date, participants were most harmed by subsidized jobs in construction or services.

As described above, intervention works in Poland operates much like a wage subsidy scheme. However, the net impact estimates for this program are substantially different from those for the wage subsidy in Hungary which is targeted to long term unemployed. The intervention works program is estimated to increase the probability of being in a normal job on the survey date by 24 percentage points, and of ever finding a normal job by 26 percentage points. The program did not have a statistically significant effect on average monthly earnings. A subgroup analysis of intervention works revealed significantly larger employment gains for

³²For the wage subsidy in Hungary, controlling for observable characteristics and the use of the ES was important in estimating net impacts. There is strong evidence that employers were quite selective in choosing the best candidates for wage subsidies. The unadjusted impact estimates were large and positive (O’Leary, 1998a). Together with the negative and significant net impact estimates, this suggests that many workers whose wages were subsidized could have gained reemployment without public subsidy. This may be due to intentional creaming by either employers or program managers. The deadweight loss is sizeable.

females, those with less than some higher education, those who are not long-term unemployed, and those without prior work experience. The program also has a tendency to be of more benefit to older workers. Subsidized jobs under intervention works frequently last either 6 or 12 months. The optimal duration appears to be 6 months, with shorter rather than longer duration involvement more favorable to reemployment in a regular non-subsidized job or self-employment. It also appears that having worked on an intervention works job outside the national government boosts the reemployment in a non-subsidized job or self-employment more. The best industry observed was health care.

Self-employment

Self-employment assistance in Hungary raised the probability of getting into a non-subsidized job or self-employment by 14 percentage points, and raised the chance of being in such a position on the survey date by 14 percentage points.³³ It should be noted that assistance to the self employed in the participant sample ended during or before the third quarter of 1996. Since the survey was conducted in the first quarter of 1997, the follow-up observation occurred

³³The employment outcome for participant and comparison group samples included both a non-subsidized job and non-subsidized self employment. Restricting the comparison group outcome to only self-employment yielded comparison groups too small, and including any non-subsidized employment is a reasonable broadening for self-employment assistance recipients.

The net impact estimates presented are from regression models with ES interaction. Deleting the ES interaction in estimation yields nearly the same point estimates, but much lower standard errors and a high degree of statistical significance since few in the sample used the ES. The estimates given in Table 4 for these parameters may be regarded as statistically significant.

The unadjusted impact estimates were significantly larger than the adjusted estimates reported here, suggesting that many of those provided self-employment assistance would have gained reemployment without the assistance. As Wandner (1992) points out in a cross-country survey of European self-employment, only a small share of the unemployed are deemed capable of such an undertaking. Therefore creaming may be inherent in any self-employment program.

relatively soon to fairly judge business survival.³⁴ The net impact on average monthly earnings was -\$26. This large negative impact on earnings may reflect a reluctance for full disclosure to public authorities as part of a tax avoidance strategy. There also was a large reduction in measured UC duration and payments. However, this could simply be an artifact of the self-employment program which essentially relabels UC and extends payments by 6 months. A clear benefit of self-employment was that 17.6 percent of those receiving assistance hired at least one other worker for their enterprise. Indeed one successful recipient claims to have hired 12 workers. The mean number of workers employed by those who did hire someone was 1.75 employees, and the mean hired among all assistance recipients was 0.31. Furthermore, about half of all those hired were previously unemployed. The net impact on average monthly earnings was -\$26. A sub-group analysis indicated that self-employment assistance boosted reemployment rates most among those 45 years of age and older, and those in high unemployment areas. Among industries the least fertile place for self-employment yielding lasting effects was services. There was not a significant difference in employment outcomes for those who started individual versus partnership activities.

Self-employment in Poland is estimated to increase the probability of getting into a non-subsidized job or non-subsidized self-employment by 29 percentage points and to raise the chance of being in such a job on the survey date by 27 percentage points. Those moving into self-employment reported dramatic gains in average monthly earnings which amounted to \$69, and also dramatic reductions in the duration and amount of UC benefits drawn. Self-

³⁴For small business start-ups in the United States, Birch (1987, p. 18) estimated that “For every group of companies that open their doors, approximately half will last five years, 38 percent will be around after ten years, and 31 percent will survive 15 years.”

employment loan recipients drew less in UC benefits by a staggering 3.65 months and \$258. Among those receiving a self-employment loan 26.7 percent hired at least one other worker. One loan recipient reported hiring 73 workers. The mean number of workers hired by those who did employ someone was 3.13 employees. The mean hired among all loan recipients was 0.83 employees. Self-employment provided a particular reemployment advantage for females, those whose previous experience was in a blue-collar occupation, those with no prior registered unemployment, and those with a positive but small amount of prior work experience. In terms of positive reemployment outcomes the worst type of enterprise to initiate with self-employment assistance appears to have been manufacturing or construction. Like in Hungary, it must be remembered that the period for observing reemployment success of the self-employed in Poland is relatively short. The sample in Poland includes those who received loans in 1993 and 1994. Since the program provides a 50 percent loan forgiveness after 24 months survival, that is 24 months with no UC benefit, and the follow-up survey was done in early 1997 some loan recipients had only just passed their loan forgiveness date when interviewed. This program design feature most certainly affected results during the period of observation in Poland.

Summary

To evaluate the effectiveness of active labor programs (ALPs) in Hungary and Poland more than 27,000 follow-up interviews were conducted in early 1997 by employees of local labor offices with persons in ALP participant and comparison group samples. Net impact estimates revealed what can be expected from each of the alternative interventions in terms of employment, earnings, and savings on unemployment compensation payments. Four types of

ALP were examined: retraining, public works, wage subsidies, and self-employment assistance. The evaluation was mainly financed by the U.S. Department of Labor Bureau of International Labor Affairs, the European Training Foundation, and the W. E. Upjohn Institute for Employment Research. In kind contributions were provided by the national labor offices in Hungary and Poland. The project was coordinated by the World Bank. The national labor organizations of Hungary and Poland collaborated fully in producing the impact estimates, and in the process acquired skills which will permit future scientific evaluation of employment programs.

Wide ranging differences were observed between the demographic composition ALP samples and the general population of unemployed. Program effects were therefore computed as net impact estimates controlling for systematic sample selection using observable characteristics including information on job search assistance from the employment service. The net impact estimation procedure eliminated any deadweight loss when measuring results from ALP participation.

Retraining was found to significantly increase the reemployment rate in both Hungary and Poland. Return to a non-subsidized job or self-employment increased by a net 9 to 12 percentage points among retraining participants. Focused short term skill training delivered by private contractors appeared to be most effective. Retraining did not provide a particular advantage in getting the long term unemployed back to work. Earlier evaluations found evidence that *creaming*, whereby mostly the job ready are selected for participation, was generally practiced by retraining managers in Hungary. Creaming is costly to society because ALP

resources are spent on people who could get reemployed without government assistance. The present evaluation found no evidence that managers of retraining practice creaming.

Public works is not intended to rapidly reintegrate unemployed back into non-subsidized jobs. The main aims are income transfer, arresting the deterioration of work place behaviors, and some contribution to social services or public infrastructure. It is not surprising that negative net impacts on reemployment in non-subsidized work were found. Nonetheless some findings based on the reemployment outcome have been useful in shaping policy. Publicly created jobs appeared to be much more of a detriment to getting reemployed in a non-subsidized job in Hungary (-26 percentage points) than in Poland (-8 percentage points). The population sub-groups in Hungary who were least hindered by such a temporary job were recent school leavers and those forced out of their earlier job. In Poland, public works least harmed reemployment in a non-subsidized job among older workers, those with a general secondary education, and those in low unemployment areas. Most importantly in Poland there was a large positive impact on getting into a non-subsidized job (10 percentage points) when the project was run by a private company, while the impact was negative (-5 percentage points) when run by a government agency.³⁵ This last result has been particularly influential in reshaping the management of public works in Poland. Private management of projects also reduces the chance of fiscal substitution whereby government agencies finance regular staff positions with Labor Fund money.

³⁵This finding is consistent with those of Disney and Carruth (1992) who reported that in Germany and the U.K. the transition to regular employment was more likely to be made by public works employees if their project was run by a private enterprise rather than a government agency.

Wage subsidies in Hungary are targeted toward long term unemployed and were found to be detrimental to reemployment, lowering the proportion in non-subsidized jobs on the survey date by 6 percentage points. Furthermore, combined with the large positive unadjusted impact estimates this suggests that many participants could have gained reemployment without public subsidy. So that the deadweight loss for the wage subsidy in Hungary is sizeable. On the other hand the wage-subsidy-like program in Poland, intervention works which is mainly operated by private contractors, raised the proportion in non-subsidized jobs on the survey date by 24 percentage points. The commonality of response in Poland between intervention works and public works run by private companies is notable. Also significant is the large reductions in the duration and amount of unemployment compensation (UC) which result from intervention works participation in Poland. These many positive outcomes make programs like intervention works a particularly appealing reemployment program.

Self-employment yielded the most favorable set of impacts of the four ALPs in both countries. However, many of those receiving self-employment assistance probably would have gained reemployment without government assistance. UC savings were the biggest by a large margin, and impacts on employment outcomes were large and positive. In Poland there were also large and positive earnings impacts. A negative estimated earnings impact in Hungary may have been due to a reluctance for full disclosure to tax authorities. In both countries there were appreciable secondary employment effects of between 0.31 and 0.83 additional workers per person given self-employment assistance. Among subgroups self-employment appeared to be more effective in high unemployment areas in Hungary, among females in Poland, outside of services industries in Hungary, and outside of manufacturing and construction in Poland.

Conclusion

The collection of active and passive labor programs in place in Hungary and Poland to support the development of competitive labor markets is impressive. This report presents a net impact analysis of four important active labor programs (ALPs) in each of the countries: retraining, public works, wage subsidies, and self-employment. These programs are administered in a decentralized way by the provinces which adhere to rules established by national law with funding provided mainly from the central government budget. They are discretionary programs and therefore subject to dramatic year-to-year changes in funding. Other active labor programs are operated in both Hungary and Poland on a centralized basis. Usage of these supplementary measures, which mainly address problems in high unemployment areas, fluctuate more widely over time.

The evidence presented in this report is useful for developing an economic justification for public expenditure on ALPs. However the decision to pursue programs for labor market support also has a political dimension. During a period of dramatic change in conditions of employment security, such programs are more imperative than option. The rules for return on investment cannot be simply applied to such matters. Social stability is a difficult value to quantify.

In assessing the net benefits of an ALP it is important to be clear about the perspective taken. Things may be judged from social, government, program, and individual views. It is impossible to properly measure all factors which bear on such computations, these include things like the value of projects completed under public works and the value of time spent in retraining. Nonetheless, the main elements for such computations can be measured. A summary of these are

presented in Table 9. The first three columns repeat information from Table 4 on employment earnings, and unemployment compensation payment. The last column lists the per participant cost for providing each program in 1996.

It is unlikely that any of the ALPs yields a positive return on investment during the period of observation. Indeed the alternatives should be examined to determine which are the least costly for returning the unemployed to work. Skill retraining for the unemployed as administered in Hungary and Poland appears to be a good bargain, and the evidence is that these programs are well targeted to yield a high social value. Public works is not generally a path back to non-subsidized work, somehow though spending more per participant and operation by private employers appears to be an advantage. The wage subsidies targeted to the long term unemployed are costly and yield no easily measurable benefits, while more generally provided wage subsidies for jobs at private employers offer real benefits albeit at higher costs. Finally, self-employment assistance while appropriate for only a small share of all unemployed, does provide a realistic prospect of reemployment for some.

Aside from the net impacts, ALPs have a direct effect of easing the labour market tensions because of the simple fact that those who are participating in ALPs are not counted as unemployed during their participation. In Hungary during the past few years such participation has reduced measured unemployment by 2 percentage points below what it would be otherwise. Furthermore, while ALP participation does not always immediately result in stable reemployment, for individual program participants the experience is at a minimum an interruption in an otherwise continuous spell of unemployment.

The kind of mixed net impact assessment reported here is common for active labour programmes, and should be expected given the range of difficulties involved. In times when unemployment is high and the demand for labour is low as currently in transition countries, uniformly high net impacts from ALPs would be suspect. The range of results found highlights the importance of carefully assessing active labour programmes so that public funds can be utilized as efficiently as possible while pursuing the social goal of returning the unemployed to gainful work.

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Table 1. The unemployment rate and employment programme spending on active and passive labour programmes in Hungary and Poland, 1990-96

	1990	1991	1992	1993	1994	1995	1996
Hungary							
Unemployment rate (%)	0.9	4.1	10.4	13.4	12.1	11.2	11.2
Price index (previous year = 100)	128.9	135.0	123.0	122.5	118.8	128.2	123.6
Spending on ALPs ¹ and PLPs ² (million forints)	7,640	28,654	77,208	90,419	69,889	64,174	77,157
Share of spending on ALPs ¹	0.648	0.269	0.169	0.180	0.255	0.233	0.218
Retraining	0.108	0.043	0.053	0.073	0.107	0.102	0.069
PSE	0.051	0.019	0.021	0.034	0.064	0.068	0.087
Wage subsidies		0.000	0.004	0.016	0.034	0.033	0.025
Self-employment		0.001	0.003	0.006	0.008	0.003	0.003
Other ALPs ¹	0.489	0.206	0.088	0.052	0.042	0.027	0.033
Share of spending on PLPs ²	0.352	0.731	0.831	0.820	0.745	0.767	0.782
Poland							
Unemployment rate (%)	6.3	11.8	13.6	16.4	16.0	14.9	13.6
Price index (previous year = 100)	585.8	70.3	43.0	35.3	32.2	27.8	19.9
Spending on ALPs ¹ and UC ³ (million zloty)	370	1,358	2,283	3,190	4,447	6,207	7,418
Share of spending on ALPs ¹	0.489	0.180	0.137	0.161	0.162	0.147	0.132
Retraining	0.004	0.007	0.008	0.014	0.013	0.010	0.012
Public works			0.008	0.038	0.047	0.041	0.032
Intervention works	0.056	0.033	0.021	0.043	0.055	0.050	0.037
Self-employment loans					0.008	0.007	0.008
Loans to employers	0.260	0.030	0.010	0.017	0.005	0.004	0.003
Other ALPs ¹	0.169	0.110	0.090	0.050	0.035	0.034	0.039
Share of spending on UC ³	0.511	0.820	0.863	0.839	0.838	0.853	0.868

¹ Active labour programmes; ² Passive labour programmes; ³ Unemployment compensation.

Sources: National Labour Centre, Budapest, and National Labour Office, Warsaw

Table 2. Composition of the ALP samples contrasted with that of the comparison group, in Hungary

	Full comparison group	Individual retraining	Group retraining	Public service employment	Wage subsidies	Self- employment
Male respondent	0.555	0.490**	0.476**	0.665**	0.561	0.619**
Aged ≤ 30	0.415	0.662**	0.649**	0.329**	0.407	0.260**
Aged 31-44	0.383	0.267**	0.277**	0.394	0.399	0.544**
Aged 45+	0.201	0.071**	0.074**	0.277**	0.194	0.196
8 years of schooling	0.345	0.164**	0.246**	0.468**	0.264**	0.078**
Vocational education	0.412	0.295**	0.244**	0.303**	0.425	0.388
General secondary education	0.213	0.478**	0.453**	0.197	0.269**	0.427**
Some higher education	0.030	0.063**	0.057**	0.032	0.042*	0.107**
Blue-collar occupation	0.814	0.604**	0.623**	0.819	0.771**	0.627**
Long-term unemployed	0.218	0.180**	0.213	0.483**	0.299**	0.052**
Sample size	3214	1150	1254	1088	1091	1044

* Difference from the full comparison group is statistically significant at the 90 per cent level in a two-tailed test.

** Difference from the full comparison group is statistically significant at the 95 per cent level in a two-tailed test.

Table 3. Composition of the ALP samples contrasted with that of a random sample of registered unemployed, in Poland

	Random sample of unemployed	Retraining	Public works	Intervention works	Self-employment
Male respondent	0.511	0.327**	0.853**	0.408**	0.577**
Aged < 30	0.552	0.893**	0.604**	0.892**	0.331**
Aged 30-44	0.328	0.098**	0.319**	0.093**	0.570**
Aged 45+	0.121	0.009**	0.077**	0.015**	0.099**
8 years of schooling	0.256	0.035**	0.409**	0.087**	0.103**
Vocational education	0.623	0.708**	0.560**	0.840**	0.810**
General secondary education	0.092	0.228**	0.019**	0.058**	0.054**
Some higher education	0.028	0.028	0.013**	0.015**	0.033**
Blue-collar occupation	0.465	0.173**	0.723**	0.313**	0.516**
Lost previous job	0.808	0.922**	0.825**	0.916**	0.756**
Long-term unemployed	0.338	0.522**	0.533**	0.514**	0.290**
Sample size	10,000	2,885	1,174	2,410	700

** Difference from the random sample of unemployed is statistically significant at the 95 percent confidence level in a two-tailed test.

Table 4. Net impact of ALPs on employment, earnings, and unemployment compensation, in Hungary and Poland

	EMPLOYED ¹	EMPLNOW ²	EARNNOW ³	UCMONTHS ⁴	UCPAY ⁵
Hungary					
Individual retraining	0.11**	0.09**	7	-0.68**	-43**
Group retraining	0.09**	0.07**	5**	-0.50**	-27**
Public service employment	-0.26**	-0.21**	9**	-0.19	-9**
Wage subsidy	-0.11**	-0.06**	-6	0.04**	7
Self-employment	0.14	0.16	-26	-1.64**	-120
Poland					
Retraining	0.12**	0.12**	7**	1.14**	94**
Public works	-0.08**	-0.04**	-5**	0.93**	103**
Intervention works	0.26**	0.24**	1	-2.26**	-178**
Self-employment	0.29**	0.27**	69	-3.65**	-258**

** Statistically significant at the 95 per cent level in a two-tailed test

¹ Ever re-employed in an unsubsidized job or in self-employment

² Employed in an unsubsidized job or in self-employment on the survey date

³ Average monthly earnings from the current job on the survey date (US\$)

⁴ Months of unemployment compensation collected since January 1996

⁵ Amount of unemployment compensation collected since January 1996, in US\$ at exchange rate of US\$1.00 = 175.75 Hungarian forints or 3.068 Polish zloty, on 1 April 1997, approximately the survey date

Table 5. Estimates of net impact of ALPs by subgroup on whether participants were employed in an unsubsidized job or in self-employment on the survey date, in Hungary

	Individual retraining	Group retraining	Public service employment	Wage subsidy	Self-employment
Male respondent	0.086**	-0.021	-0.138**##	0.037	0.339**
Female respondent~	0.087**	0.023	-0.042	0.076**	0.344**
Aged < 30	0.081**	0.008	-0.111**	0.029	0.339**
Aged 30-44	0.076**	0.018	-0.112**	0.059*	0.320**#
Aged 45+~	0.126**	-0.067	-0.048	0.098**	0.389**
8 years of schooling	0.086**	0.001	-0.141**#	0.089**	0.377**
Vocational education	0.101**	-0.002	-0.090**	0.030	0.330**
General secondary education	0.066**	-0.011	-0.057	0.065	0.332**
Some higher education~	0.098	0.084	0.068	-0.049	0.273**
White-collar occupation	0.051	-0.037	-0.116**	0.059	0.325**
Blue-collar occupation~	0.098**	0.011	-0.094**	0.053**	0.346**
Long-term unemployed	0.084**	-0.041	-0.089**	0.084**	0.364**
Not in long-term unemployment~	0.087**	0.010	-0.101**	0.045*	0.336**
Area of low unemployment	0.066**	0.016	-0.129**	0.036	0.336**
Area of medium unemployment	0.087**	-0.015	-0.093**	0.113**##	0.288**##
Area of high unemployment~	0.102**	0.002	-0.082**	0.012	0.394**

* Statistically significant at the 90 per cent confidence level in a two-tailed test

** Statistically significant at the 95 per cent confidence level in a two-tailed test

Significantly different from the reference group at the 90 per cent confidence level in a two-tailed test

Significantly different from the reference group at the 95 per cent confidence level in a two-tailed test

~ Reference group for subgroup differences; excluded from estimation

Table 6. Estimates of net impact of ALPs by subgroup on whether participants were employed in an unsubsidized job or in self-employment on the survey date, in Poland

	Retraining	Public works	Intervention works	Self-employment
Male respondent~	0.104**	-0.046**	0.079**	0.030
Female respondent	0.081**	-0.012	0.145**##	0.286**##
Aged ≤ 30	0.080**	-0.043	0.109**	0.050
Aged 31-44	0.170**	-0.056	0.185**	0.185**
Aged 45+~	0.002	0.037	0.215*	0.137*
8 years of schooling or less	0.062	-0.069	0.150**	0.210**
Vocational secondary education~	0.083**	-0.027	0.117**	0.137**
General secondary education	0.101**	0.121	0.153**	0.054
Some higher education	0.145*	-0.022	-0.169##	-0.025
White-collar occupation	0.066	0.010	0.099**	0.078**
Blue-collar occupation~	0.053	-0.039*	0.074**	0.176**
Other occupation	0.103**	-0.094	0.158**##	0.144**
Voluntarily unemployed	0.142**	-0.002	0.092**	0.099*
Involuntarily unemployed~	0.084**	-0.046**	0.133**	0.146**
Long-term unemployed	0.026##	-0.069**	-0.052**##	-0.041##
Not in long-term unemployment~	0.142**	-0.011	0.207**	0.225**
Work experience = zero	0.095**	-0.032	0.149**##	0.167**
Work experience ≤ 3 years	-0.156##	-0.071**	-0.215**##	0.254**##
Work experience > 3 years~	0.022	-0.148*	-0.011	0.088
Work experience ≥ 11 years~ ¹		-0.025		0.092**
Area of low unemployment	0.064**#	0.004	0.092**	0.132**
Area of high unemployment~	0.116**	-0.054**	0.133**	0.137**

* Statistically significant at the 90 per cent confidence level in a two-tailed test
** Statistically significant at the 95 per cent confidence level in a two-tailed test
Significantly different from the reference group at the 90 per cent confidence level in a two-tailed test
Significantly different from the reference group at the 95 per cent confidence level in a two-tailed test
~ Reference group for subgroup differences; excluded from estimation
¹ For public works and self-employment, work experience of 4-10 years inclusive.

Table 7. Impact of various features of ALPs on whether participants were employed in an unsubsidized job or in self-employment on the survey date, in Hungary

	Individual retraining	Group retraining	Public service employment	Wage subsidy	Self-employment
Contribution to costs					
Participant contribution	0.104**	0.123**			
No participant contribution	0.062	0.066**			
Duration of ALP					
< 1 month	0.115	0.019			
1 < 3 months	0.129**	-0.050			
3 < 6 months	0.102**	0.084**b			
6 < 12 months	0.069**	0.097**b			
12+ months	0.084	-0.015			
Organized by					
Regional centre, over 20 hrs/w	0.092	0.015			
Regional centre, 20 hrs/w or less	0.128	-0.005			
Other, over 20 hrs/w	0.073**	0.096**a			
Other, 20 hrs/w or less	0.105**	0.107**a			
Level of job skill					
Non-manual			-0.166**	-0.042	
Manual unskilled			-0.237**a	-0.059	
Manual semi-skilled			-0.207**	-0.022	
Manual skilled			-0.160**b	-0.012	
Industry					
Agriculture				0.018	0.290**
Construction				-0.174**a	0.268**
Services			-0.207**	-0.047*b	0.190**ab
Other			-0.228**	0.028bc	0.280**c
Type of enterprise					
Individual enterprise					0.223**
Partnership or other					0.203**

* Statistically significant at the 90 per cent confidence level in a two-tailed test
** Statistically significant at the 95 per cent confidence level in a two-tailed test
a Significantly different from the first category at the 90 per cent confidence level in a two-tailed test
b Significantly different from the second category at the 90 per cent confidence level in a two-tailed test
c Significantly different from the third category at the 90 per cent confidence level in a two-tailed test

Table 8. Impact of various features of ALPs on whether participants were employed in an unsubsidized job or in self-employment on the survey date, in Poland

	Retraining	Public works	Intervention works	Self-employment
Duration of ALP				
< 1 month	0.19**			
1 ≤ 3 months	0.12**a			
4+ months	0.10**a			
< 6 months		-0.05*	0.16**	
6 months		-0.04*	0.27**a	
7+ months		-0.11**	0.08**a	
Ownership of provider				
Public	0.10**	-0.05**	0.25**	
Private	0.14**a	0.10**a	0.25**	
Category of provider				
Adult education	0.14**			
Employment or other organization	0.08**a			
Industry (private)	0.11**			
National government		-0.07**	0.14**	
Health-care provider			0.42**a	
Other		0.01a	0.23**ab	
Type of enterprise				
National administration				0.070
Services				0.061
Trade and restaurants				0.068*
Manufacturing and construction				-0.033ac

* Statistically significant at the 90 per cent confidence level in a two-tailed test

** Statistically significant at the 95 per cent confidence level in a two-tailed test

a Significantly different from the first category at the 90 per cent confidence level in a two-tailed test

b Significantly different from the second category at the 90 per cent confidence level in a two-tailed test

c Significantly different from the third category at the 90 per cent confidence level in a two-tailed test

Table 9. Elements in a cost-benefit analysis of ALPs in Hungary and Poland

	EMPLNOW ¹	EARNNOW ²	UCPAY ³	COST ⁴
Hungary				
Individual retraining	0.09**	7	-43**	205
Group retraining	0.07**	5**	-27**	205
Public service employment	-0.21**	9**	-9**	346
Wage subsidy	-0.06**	-6	7	506
Self-employment	0.16	-26	-120	299
Poland				
Retraining	0.12**	7**	94**	353
Public works	-0.04**	-5**	103**	629
Intervention works	0.24**	1	-178**	896
Self-employment	0.27**	69	-258**	3469 ⁵

** Statistically significant at the 95 per cent level in a two-tailed test
¹Employed in an unsubsidized job or in self-employment on the survey date
²Average monthly earnings from the current job on the survey date (US\$)
³Amount of unemployment compensation since January 1996, in US\$ at 1 April 1997 exchange rate
⁴Average cost per participant in 1996 in the provinces studied at exchange rate of US\$1.00 = 175.75 Hungarian forints or 3.068 Polish zloty, on 1 April 1997, approximately the survey date
⁵This cost includes the full loan amount; 50 per cent write-off on most loans if remainder repaid within certain time limit