Promoting Self Employment among the Unemployed in Hungary and Poland

September 1998

Christopher J. O'Leary[1]
W.E. Upjohn Institute for Employment Research
300 South Westnedge Avenue
Kalamazoo, Michigan 49007, USA
Tel: 616-343-5541
Fax: 616-343-3308
E-mail: oleary@we.upjohninst.org

[1]This paper was prepared for the International Conference on Self Employment, September 24-26, 1998, Burlington, Ontario, Canada. Field work for the evaluation was done with Piotr Kołodziejczyk of the Polish Ministry of Labor and Social Policy, György Lázár of the Hungarian National Labor Center, Gyula Nagy of the Budapest University of Economics and their colleagues in Hungary and Poland. Research funding was provided by the U.S. Agency for International Development through the Bureau of International Labor Affairs of the U.S. Department of Labor, the Polish Ministry of Labor and Social Policy, the Hungarian Ministry of Labor, and the W.E. Upjohn Institute for Employment Research. The project was coordinated by David Fretwell of the World Bank.

Promoting Self Employment among the Unemployed in Hungary and Poland

To ease economic hardship and facilitate labor redeployment during the transition from planning to markets, the central European nations of Hungary and Poland provide unemployment compensation (UC) and a variety of active labor programs (ALPs). Both countries administer ALPs in a decentralized way through a network of provincial and local labor offices. The ALPs which include retraining, public works, wage subsidies and self-employment, are financed from national labor funds which are replenished on a discretionary basis with money from general revenues for the state budget.

After examining employment policy alternatives for countries in central and eastern Europe, Jackman (1994) concluded that self-employment assistance is one of the most practical ways to address unemployment, because this intervention can stimulate labor demand without upsetting other aspects of the economic restructuring process. Self-employment programs for the unemployed have been used in many countries since the 1970s (Wandner, 1992). Formal efforts to promote self-employment among the unemployed in Hungary and Poland began in the 1990s only after changes in laws regulating ownership of an enterprise.[2]

The effects of self-employment assistance to the unemployed in Hungary and Poland cannot be predicted based on the experience in mature market economies. Prior to 1989, central planning with price controls and government subsidies in these countries frequently meant labor shortages in the aggregate. However, the consequent labor hoarding by resource constrained

[2]The history of private enterprise from 1948 to the present in Hungary has been divided into three epochs: prohibition (1948-68), patience (1968-1980), and promotion (from 1980). "The period of patience started in 1968 when a new economic policy called the New Economic Mechanism (NEM) was implemented in Hungary." Dunavölgyi and Bakonyi (1995, p. 4).

production managers frequently caused labor surplus conditions on the shop floor. This situation fostered a wide-spread *second economy*, whereby full-time employees of state owned enterprises often engaged in small scale production, agriculture, personal services, or retail activities during off work hours and occasionally "during working time already paid by the state-owned firm" Kornai (1980, p. 257). Such experience in grey markets may affect the net impact of self-employment assistance to surplus labor released from state owned enterprises during economic restructuring.[3]

This paper reports on a net impact evaluation of self-employment assistance provided to the unemployed in Hungary and Poland. The analysis relies on extensive person level data gathered through large follow-up surveys of nationally representative samples of self-employment assistance recipients and comparison group members conducted during the first two quarters of 1997. The analysis examines net impacts on reemployment, earnings, and conservation of UC funds. It also considers the secondary effect of such programs in terms of additional persons hired in such enterprises. An analysis of subgroup impacts and some features of the enterprises undertaken are also presented.

Context of the evaluations

Following rapid economic expansion in the 1950s and 1960s, growth rates in countries of central and eastern Europe fell dramatically during the 1970s and reached a crisis stage by the late 1980s when the growth in output practically stopped (Jackman, 1994). Economic

[3] Lackó (1995) examined 15 nations and estimated that Hungary and Poland had hidden economies which are much larger shares of the total economy than countries without a history of central planning.

restructuring was imperative and finally politically possible. Since 1989 when reforms began in earnest, 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.[4]

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 rise in unemployment is one of many consequences resulting from transition changes such as relaxed price controls, reduced state subsidies, and the loss of trading partners in COMECON countries. There have also been dramatic increases in consumer prices, public budget deficits, and foreign trade debts. These events have prompted international monetary authorities to require ever greater restraint in public spending. Nonetheless, the programs of employment policy pursued in both countries have been impressive.

[4]Köllő, 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, particularly by women.

Since January 1994 an extensive system of performance indicators for monitoring cost-effectiveness of ALPs has been used throughout Hungary.[5] 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.[6] 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.[7] 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, the positive impact on reemployment is high, but comparing their success to others with similar characteristics the program impacts may be much smaller.[8]

---

[5]O'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.

[6]Auer (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) critiqued performance management systems used for employment programs in the United States.

[7]The 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.

[8]An evaluation of retraining in Hungary found evidence of creaming in referral to services (O'Leary, 1997).

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 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 replaces between 50 and 75 percent of lost wages depending on the duration of benefit receipt which has a maximum of 12 months.[9] 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

[9]Micklewright and Nagy (1994) examine the rules and operation of UC in Hungary.

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.[10] 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 25.5 percent. Within the money spent on ALPs between 1.3 and 3.6 percent has been spent to support self-employment in recent years. The remainder of public spending for employment programs goes to passive labor support through UC and UA. About half a million people use Hungary's labor programs each year with around 20 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. Self-employment received 5 to 6 percent of ALP spending in recent years. About 1.7 million people per year use Poland's labor programs, with nearly a quarter of them participating in an ALP.

[10]Góra and Schmidt (1997) explain the rules and effects of UC in Poland.

Programs for self-employment

Self-employment assistance in Hungary is provided from the Employment Fund 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.[11] 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.

Self-employment assistance in Poland is something like the French lump sum model except that repayment is required.[12] Assistance is provided from the Labor Fund to a select small fraction of registered 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 principal reduction granted to businesses which survive at least two years.

[11]The British model is also used in Australia, Belgium, Canada, Denmark, Finland, Greece, Ireland, Italy, the Netherlands, and Germany.

[12]The French model is also followed in Luxembourg, Norway, Portugal, Spain, and Sweden.

Related research

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 (SBACs).[13] 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.

Results from monitoring performance indicators in Hungary provide a frame of reference for examining magnitudes measured in the net impact analysis. Follow-up surveys of self-employment participants have been conducted in Hungary every year since 1994. In the four years 1994 to 1997 the percentage still in self-employment three months after assistance ends were 91.9, 91.5, 90.2, and 85.0 respectively.

[13]EDFs were set up within 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).

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.[14] When random assignment has been achieved, modeling of behavior 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 correction must be used to reveal the net impacts of ALPs.[15] 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

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

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

aptitude.[16] In this study adjustments for selection bias are based on observable factors for which data is available.[17]

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.[18]

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.[19] When an ALP participant gains reemployment at the direct expense of an otherwise similar unemployed job seeker then displacement has occurred. When an employer, either government or private,

---

[16]Program impacts reported in this paper were estimated in models like the following:

$$y_i = a_0 + b_1 ALP_i + b_2 ES_i + b_3 ALP_i * ES_i + CX_i + u_i,$$

where ALP represents participation in an ALP like self-employment, ES represents use of an ES service, 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.

[17]The 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.

[18]Eberts and O'Leary (1997) provide an overview of methods used around the world for directly targeting employment services to the long-term unemployed. O'Leary (1996) provided an adjustment methodology for performance indicators in Hungary which indirectly encourages targeting ALPs to the most hard to reemploy.

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

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.[20]

It is important to consider 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.[21] The investigation summarized here focused on net impacts of self-employment assistance, 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 foundation for targeting.

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 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 in non-subsidized employment or self-employment on the survey date, and sample

[20]Johnson 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.

[21]Elias and Whitfield (1987) examined the effect of displacement from the U.K. enterprise allowance scheme. They found measurement of labor and product market displacement effects to be intractable using data from a follow-up survey of program participants.

sizes were set large enough to detect program impacts of 10 percentage points or more where the difference is measured from 50 percent.[22]

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 samples for analysis in Hungary were drawn from a strategically selected group of 10 counties: Budapest (the capital city), Baranya, Bekes, Borsod, Csongrad, Fejer, Hajdu-Bihar, Pest, Szabolcs, and Vas.[23] 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 intermediate unemployment rates. Together the

[22]Testing 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 depends 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 $\text{abs}(p_p - p_c) = 0.10$ when p_p is around 0.5 then $h = 0.2$. To perform two tailed tests at the confidence level of 98 percent with a power of 90 percent and $h = 0.2$ the harmonic mean of the sample sizes should be at least 651 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 428. 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 somewhat smaller.

[23]There are 20 sub-national provincial divisions in Hungary called counties, and in Poland there are 49 such divisions which are called voivods.

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 April 1997 through house-to-house visits by staff of local labor offices during their off-work hours.[24] Since self-employment had a relatively 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 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 sample had themselves registered as unemployed.

Table 2 contrasts the comparison group and the self-employment samples from Hungary using categorical indicators of sample characteristics. Sample sizes are provided in the bottom row.[25] In Table 2 asterisks indicate that there is a statistically significant difference between the comparison group and the self-employment group on the characteristic. A quick glance at the table reveals that all but two of the differences are statistically significant. Indeed many more

[24]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.

[25]In Hungary the survey response rate among self-employment assistance recipients 84.9 percent, while that for the comparison group was 75.6 percent.

than 10 percent of the differences are statistically significant, which is the proportion that would be expected if the samples were both randomly 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 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 self-employment. This means that self-employment net impact estimates must be computed while controlling for systematic sample selection. In this report correction in estimation is limited to adjustments based on observable characteristics.[26] The estimation methodology used and the comparison group design purges the net impact estimates of dead weight due to *creaming* or other systematic selection based on observables by program administrators.[27]

Samples for the evaluation in Poland

Data for evaluating self-employment 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

[26]O'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 paper were all computed using an ordinary least squares regression model which controls for observable characteristics and for use of any ES assistance.

[27]When 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.

span the range of labor market experience in Poland during the transition to markets.[28] 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.

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.[29]

Self-employment assistance 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. After the participant sample was selected, the observable exogenous characteristics of the group selected was examined. The comparison group sample was then drawn from the population of registered unemployed by matching each person in the self-employment participant sample to the most similar person from the unemployment register of the same local labor office,

[28]A dozen different local labor office computer systems were in use around Poland at the time of the survey. Only two different systems were involved in the eight voivods surveyed.

[29]The survey response rate was 86 percent among self-employment loan recipients.

who registered as unemployed within the same time period and never participated in an active labor program.

Table 2 shows that in contrast to a random sample of registered unemployed the self-employment group is more male, more likely to be of prime working age, more likely to be vocationally educated, and slightly less likely to be long term unemployed. The self-employment participant sample numbered 709 as shown in Table 2.[30]

Net impact estimates

Net impact estimates of self-employment 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 3:[31]

EMPLOYED - Ever reemployed in a non-subsidized job or self-employment[32]

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

[30]A supplementary comparison sample of 10,000 was randomly drawn from the unemployment register to judge sample selectivity. A matched pairs comparison sample of 700 was taken for net impact analysis. Contrasting this sample with the participant sample on observable characteristics revealed the strategically selected comparison samples to be well matched to the participant sample. The matched comparison sample is therefore ideal for computing net impacts while controlling for non-random participant selection into ALPs.

[31]Complete results are reported in O'Leary (1998a, 1998b). The net impact estimates reported here were computed in ES interaction models by ordinary least squares. These are linear probability models which yield parameter estimates which are inefficient, but unbiased and consistent (Pindyck and Rubinfeld; 1991, p. 250).

[32]The 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 experimental evaluations of self-employment among unemployed in the United States defined a positive outcome as either continued self-employment or employment in some other non-subsidized job (Benus, Wood and Grover, 1994).

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

UCMONTHS - Months of UC collected

UCPAY - Amount of UC collected

A sub-group analysis of net impact estimates is reported in Table 4 and Table 5 presents findings concerning the influence of different aspects of 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 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-

[33]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.

[34]For 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 program which essentially relabels UC and extends payments by 6 months.[35] 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, those who had lost their earlier job, 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-employment loan recipients drew less in UC benefits by a staggering 3.65 months and $258. 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. The last category on the bottom of Table 5 shows a positive relationship between the level of one's own money invested in a self-employment activity and the probability of gainful activity on the survey date. This result may be

[35]While the impact estimate is reasonable, the mean level of benefits drawn by the comparison group seems quite low. It could be explained as resulting from matching on characteristics to self-employment participants.

regarded as only suggestive since the level of personal resources invested is an endogenous variable most certainly determined in part after some initial experience in the enterprise undertaken.

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.

Secondary employment effects

A direct benefit of self-employment assistance in Hungary was that 17.6 percent of those receiving assistance hired at least one other worker for their enterprise. Indeed one successful loan 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.

Among those receiving a self-employment loan in Poland 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.

Some timing aspects of self-employment assistance

This section examines the survival of self-employment endeavors from two different perspectives. First, survival is examined by month counting from the beginning of self-employment assistance receipt. The second perspective views self-employment survival from the time that assistance ends. No impact analysis of survival durations are presented as the numbers of self-employed in the comparison groups were small.

In Hungary self-employment assistance begins when monthly UC payments are stopped and monthly self-employment assistance payments begin. The monthly cash amount remains unchanged. The pattern of enterprise survival in Hungary following this time is given in Table 6. In Poland the analogous starting point is the time when the lump sum loan amount is given, and UC payments stop. Survival in Poland following this time is summarized in Table 7. From these tables it is possible to see the influence of some program events on the entrepreneur's decision to continue or to cease operations.

Self-employment assistance payments last a maximum of 6 months in Hungary. There were no exits in month 5, while after month 6 exits rise to a relatively high level for about 10 months. Nearly 2 years after assistance began and 18 months after it ended, nearly 81 percent of Hungarian self-employment assistance recipients continue in their independent endeavors. In Poland it is the case that for self-employment activities which continue at least 24 months, there is a 50 percent reduction in the original principal amount which must be repaid. There is a doubling in the exit rate in month 24, with the exit rate remaining high in the subsequent few months before returning to a low steady rate. As much as 50 months after loans were granted, 62

percent of the self-employment loan recipients in Poland remained engaged in their own enterprise.

Table 8 shows the pattern of enterprise survival in Hungary after monthly self-employment assistance payments stop. Except for a cluster of more closures 5 to 7 months after assistance ends the survival rate appears to decline at a low steady rate of 0.7 percent per month. The bottom line is that 83.9 percent of the self-employment enterprises continued up to 15 months after assistance began.

For Poland, Table 9 shows survival rates for self-employment loan recipients who have repaid their loan as many as 35 months prior to the survey. In the sample of 709 loan recipients, 350 or 40.6 percent had repaid their loans. Of these 193 or 55.1 percent were still continuing self-employment at the time of the survey, while 109 or 31.1 percent stopped operations within a month after repaying the loan. After the initial group of closures closely following loan repayments the rate of closure per month declines to a low steady level. Note also that many other enterprises in Poland continued operations beyond this time while repaying a self-employment assistance loan.

Summary

To evaluate the effectiveness of self-employment in Hungary and Poland more than 5,500 follow-up interviews were conducted in early 1997 by employees of local labor offices with persons in self-employment participant and comparison group samples. Net impact estimates revealed what can be expected from self-employment in terms of employment, earnings, and savings on unemployment compensation payments. The evaluation was financed by the U.S.

Department of Labor Bureau of International Labor Affairs for the U.S. Agency for International Development, the European Training Foundation, and the W.E. Upjohn Institute for Employment Research. 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 of self-employment 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 self-employment participation.

While self-employment assistance yielded a quite favorable set of net impact estimates in both countries, it should be recognized that there was a significant dead weight in the operation of programs. Many of those receiving self-employment assistance probably would have gained reemployment without government assistance. After accounting for sample selection, UC savings were large, 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 hired 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.

The evidence presented in this paper is useful for developing an economic justification for public expenditure on self-employment assistance. 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. Self-employment assistance while appropriate for only a small share of all unemployed, does provide a realistic prospect of stable reemployment for some.

REFERENCES

Auer, Peter. 1996. "Monitoring of labor market policy in EU member states." *Employment Observatory Policies, inforMISEP,* no. 53 (Spring): 24-31.

Benus, Jacob M.; Wood, Michelle L.; Grover, Neelima. 1994. *Self-Employment as a Reemployment Option: Demonstration Results and National Legislation.* Unemployment Insurance Occasional Paper 94-3, Washington: U.S. Department of Labor, Employment and Training Administration.

Birch, David L. 1987. *Job Creation in America: How our smallest companies put the most people to work.* New York: The Free Press: A division of Macmillan.

Cohen, Jacob. 1988. *Statistical Power Analysis for the Behavioral Sciences*. Second Ed. New York: Academic Press.

Decker, Paul T.; O'Leary, Christopher J. 1995. "Evaluating Pooled Evidence from the Reemployment Bonus Experiments." *Journal of Human Resources*, Volume 30, Issue 3 (Summer): 534-50.

Dunavölgyi, Mária; Bakonyi, Éva. 1995. "The obstacles to the growth of employment and self-employment in small business," working paper 21. Budapest: International Labour Office/Japan project on employment policies for transition in Hungary (March).

Eberts, Randall W.; O'Leary, Christopher J. 1997. "Profiling and Referral to Services of the Long-term Unemployed: Experiences and Lessons from Several Countries," *Employment Observatory: Policies,* inforMISEP, No. 60. Berlin: Institute for Applied Socio-Economics (Winter): 32-38.

Elias, Peter; Whitfield, Keith. 1987. "The economic impact of the enterprise allowance scheme: Theory and measurement of displacement effects." Report to the U.K. Department of Employment. Coventry: Institute for Employment Research, University of Warwick (October).

Fay, Robert G. 1996. "Enhancing the effectiveness of active labour market policies: Evidence from program evaluations in OECD countries." Labor market and social policy occasional papers No. 18. Paris: Organization for Economic Cooperation and Development.

Frey, Maria. 1994. "Formerly Unemployed as Entrepreneurs." Budapest: International Labour Office/Japan project (November).

Góra, Marek; Schmidt, Christoph M. 1997. "Long-term unemployment, unemployment benefits and social assistance: The Polish experience." Warsaw: Warsaw School of Economics (April).

Heckman, James. 1976. "The Common Structure of Statistical Models of Truncation, Sample Selection, and Limited Dependent Variables and a Simple Estimator for such Models." *Annals of Economic and Social Measurement*, Volume 5: 475-92.

Jackman, Richard. 1994. "Economic policy and employment in the transition economies of Central and Eastern Europe: What have we learned?" *International Labour Review*, Volume 133, Number 3: 327-345.

Johnson, George E.; Tomola, James D. 1977. "The fiscal substitution effect of alternative approaches to public service employment policy." *Journal of Human Resources*, Volume 12, Number 1 (Winter): 1-26.

Kaszuba, Krzysztof. 1996. "Small Business Assistance Centers: Objectives, principles and effects," in *Self-employment Initiatives for the Unemployed: Regional Conference*. Warsaw: Polish Ministry of Labor and Social Policy (November): 189-199.

Kornai, Janos. 1980. *Economics of Shortage.* Amsterdam: North-Holland.

Köllő, János; Lázár, György; Nagy, Gyula; Székely, Judit. 1995. "An analysis of the labor market position of those who exhausted eligibility for the unemployment benefit." Budapest: International Labor Office/Japan project on employment policies for transition in Hungary (December).

Lackó, Mária. 1995. "The hidden economy: An international comparison." *Közgazdasági Szemele.* Volume 52, Number 5: 486-510.

Mazewska, Marzena. 1996. "Entrepreneurship Development Funds," in *Self-employment Initiatives for the Unemployed: Regional Conference*. Warsaw: Polish Ministry of Labor and Social Policy (November): 201-207.

Meager, Nigel; Evans, Ceri. 1998. "The evaluation of active labour market measures for the long-term unemployed." Employment and training papers No. 16. Geneva: International Labour Office.

O'Leary, Christopher J. 1998a. *Evaluating the Effectiveness of Active Labor Programs in HUNGARY*, Technical Report Number 98-013. Kalamazoo, Michigan: W.E. Upjohn Institute for Employment Research (June).

_____ 1998b. *Evaluating the Effectiveness of Active Labor Programs in POLAND*, Technical Report Number 98-012. Kalamazoo, Michigan: W.E. Upjohn Institute for Employment Research (June).

_____ 1997. "A Net Impact Analysis of Active Labour Programs in Hungary." *The Economics of Transition.* Volume 5, Number 2 (October): 453-484 .

_____ 1996. *Methods for Performance Based Management of Active Labor Programs in Hungary: An Adjustment Methodology for Performance Indicators and a Proposal for Budget Allocation*. Kalamazoo, Michigan: W.E. Upjohn Institute for Employment Research (November).

_____ 1995. "Performance Indicators: A Management Tool for Active Labour Programmes in Hungary and Poland." *International Labour Review*. Volume 134, Number 6: 729-751.

Pindyck, Robert S.; Rubinfeld, Daniel L. 1991. *Econometric Models and Economic Forecasts*, third edition. New York: McGraw-Hill.

Polish Ministry of Labor and Social Policy. 1996. *Self-employment Initiatives for the Unemployed: Regional Conference*. Warsaw (November).

U.S. General Accounting Office. 1998. *Results Act: Observations on Labor's Fiscal Year 1999 Performance Plan*. Report GAO/HEHS-98-175R. Washington: Health, Education and Human Services Division (June).

Wandner, Stephen (1992), *Self Employment Programs for Unemployed Workers,* Unemployment Insurance Occasional Paper 92-2, Washington: U.S. Department of Labor, Employment and Training Administration.

Table 1. Unemployment rate and spending on active and passive labor programs in Hungary and Poland, 1990-1996

	1990	1991	1992	1993	1994	1995	1996
Hungary							
Unemployment rate (percent)	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
ALP and PLP Spending (million forints)	7,640	28,654	77,208	90,419	69,889	64,174	77,157
ALP Share of Spending	0.648	0.269	0.169	0.180	0.255	0.233	0.218
Retraining share	0.108	0.043	0.053	0.073	0.107	0.102	0.069
PSE share	0.051	0.019	0.021	0.034	0.064	0.068	0.087
Wage subsidies share		0.000	0.004	0.016	0.034	0.033	0.025
Self-employment share		0.001	0.003	0.006	0.008	0.003	0.003
Other ALP share	0.489	0.206	0.088	0.052	0.042	0.027	0.033
PLP Share of Spending	0.352	0.731	0.831	0.820	0.745	0.767	0.782
Poland							
Unemployment rate (percent)	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
ALP and UC Spending (million zloty)	370	1,358	2,283	3,190	4,447	6,207	7,418
ALP Share of Spending	0.489	0.180	0.137	0.161	0.162	0.147	0.132
Retraining share	0.004	0.007	0.008	0.014	0.013	0.010	0.012
Public Works share			0.008	0.038	0.047	0.041	0.032
Intervention Works share	0.056	0.033	0.021	0.043	0.055	0.050	0.037
Self-employment loans share					0.008	0.007	0.008
Loans for employers share	0.260	0.030	0.010	0.017	0.005	0.004	0.003
Other ALPs share	0.169	0.110	0.090	0.050	0.035	0.034	0.039
UC Share of Spending	0.511	0.820	0.863	0.839	0.838	0.853	0.868

Source: National Labor Center, Budapest, and National Labor Office, Warsaw.
ALP - Active Labor Programs, PLP - Passive Labor Programs, UC - Unemployment Compensation.

Table 2. Contrasting the composition of self-employment assistance recipients with registered unemployed in Hungary and Poland

	Hungary		Poland	
	Comparison Group	Self-employment	Random Sample	Self-employment
MALE - Respondent is male	0.555	0.619**	0.511	0.577**
AGELT30 - Age ≤ 30	0.415	0.260**	0.552	0.331**
AGE3044 - Age between 30 and 44	0.383	0.544**	0.328	0.570**
AGEGE45 - Age is 45 or over	0.201	0.196	0.121	0.099**
EDELEM - 8 years of schooling	0.345	0.078**	0.256	0.103**
EDVOC - Vocational	0.412	0.388	0.623	0.810**
EDGYM - General secondary	0.213	0.427**	0.092	0.054**
EDCOLL - Some higher education	0.030	0.107**	0.028	0.033**
BLUECOL - Blue collar occupation	0.814	0.627**	0.465	0.516**
LOST - Earlier lost job	0.671	0.264**	0.808	0.756**
SCHOOL - Earlier school leaver	0.087	0.001**		
OTHER - Earlier other	0.242	0.735**		
LTU - Long-term unemployed	0.218	0.052**	0.338	0.290**
Sample Size	3,338	1,067	10,000	709

* Difference from the full comparison group is statistically significant at the 90 percent level in a two-tailed test.
** Difference from the full comparison group is statistically significant at the 95 percent level in a two-tailed test.

Table 3. Net impact of self-employment assistance on employment, earnings, and unemployment compensation in Hungary and Poland

	EMPLOYED	EMPLNOW	EARNNOW	UCMONTHS	UCPAY
Hungary					
Matched pairs comparison mean	0.79	0.65	142	1.65	123
Net impact	0.14	0.16	-26**	-1.64**	-120**
Poland					
Matched pairs comparison mean	0.66	0.52	193	6.14	411
Net impact	0.29**	0.27**	69**	-3.65**	-258**

** Statistically significant at the 95 percent level in a two-tailed test.
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 (U.S. $).
UCMONTHS - Months of unemployment compensation collected (since January 1996).
UCPAY - Amount of unemployment compensation (since January 1996, in U.S. $; April 1, 1997 exchange rate).
$1.00 = 175.75 Hungarian forints or 3.068 Polish zloty (April 1, 1997, approximately the survey date).

Table 4. Net impact estimates of self-employment by subgroup on the outcome EMPLNOW (employed in a non-subsidized job or self-employment on the survey date) in Hungary and Poland

	Hungary	Poland
MALE - Respondent is male	0.339**	0.030
FEMALE - Respondent is female~	0.344**	0.286**##
AGELT30 - Age < 30	0.339**	0.050
AGE3044 - Age 30 to 44	0.320**#	0.185**
AGEGE45 - Age is 45 or over~	0.389**	0.137*
EDELEM - 8 years of schooling	0.377**	0.210**
EDVOC - Vocational	0.330**#	0.137**
EDGYM - General secondary	0.332**	0.054
EDCOLL - Some higher education~	0.273**	-0.025
WHITECOL - White collar occupation	0.325**	0.078*#
BLUECOL - Blue collar occupation~	0.346**	0.176**
OTHEROCC - Other occupation		0.144**
LOST - Earlier lost job	0.436**##	
SCHOOL - Earlier school leaver	0.676	
OTHER - Earlier other~	0.130**	
VOLUN - Voluntarily unemployed		0.099*
NOTVOL - Not voluntarily unemployed~		0.146**
LTU - Long-term unemployed	0.364**	-0.041##
NONLTU - Not unemployed long term~	0.336**	0.225**
EXP0 - Work experience = zero		0.167**
EXPLE3 - Work experience ≤ 3 years		0.254**#
EXP3TO10 - 3 〈 work experience ≤ 10		0.088
EXPGT10 - Work experience 〉10 years~		0.092**
LOWURATE - Low unemployment area	0.336**	0.132**
MEDURATE - Med unemployment area	0.288**##	
HIURATE - High unemployment area~	0.394**	0.137**

* Statistically significant at the 90 percent confidence level in a two-tailed test.
** Statistically significant at the 95 percent confidence level in a two-tailed test
# Significantly different from the reference group at the 90 percent confidence level in a two-tailed test.
Significantly different from the reference group at the 95 percent confidence level in a two-tailed test.
~ Reference group for subgroup differences; excluded in estimation

Table 5. Impacts of various features of self-employment on the outcome EMPLNOW (employed in a non-subsidized job or self-employment on the survey date) in Hungary and Poland

	Hungary	Poland
Matched pairs mean	0.650	0.520
Self-employment impact	0.210**	0.290**
Industry		
Agriculture	0.290**	
Construction (plus manufacturing in Poland)	0.268**	0.162**
Services	0.190**ab	0.256**
Trade and restaurants		0.263**
National administration		0.266**
Other	0.280**c	
Type of Enterprise		
Individual Enterprise	0.223**	
Partnership or other	0.203**	
Own contribution to cost of self-employment		
None		0.214**
Less than 5,000 Polish zloty		0.280**
5,000 ≤ contribution 〈 20,000 Polish zloty		0.322**[a]
20,000 Polish zloty ≤ contribution		0.354**

* Statistically significant at the 90 percent confidence level in a two-tailed test.
** Statistically significant at the 95 percent confidence level in a two-tailed test.
a Significantly different from the first category at the90 percent confidence level in a two-tailed test.
b Significantly different from the second category at the 90 percent confidence level in a two-tailed test.
c Significantly different from the third category at the 90 percent confidence level in a two-tailed test.

Table 6. Duration in Months of Self-employment Enterprise Survival Counting from the Start of Subsidy Receipt in Hungary

Months	Number of Exits	Percent	Survival Number	Survival Rate
Initial			968	1.000
0	4	0.4	964	0.996
1	8	0.8	956	0.988
2	20	2.1	936	0.967
3	2	0.2	934	0.965
4	5	0.5	929	0.960
5	0	0.0	929	0.960
6	7	0.7	922	0.952
7	9	0.9	913	0.943
8	11	1.1	902	0.932
9	14	1.4	888	0.917
10	17	1.8	871	0.900
11	13	1.3	858	0.886
12	17	1.8	841	0.869
13	14	1.4	827	0.854
14	15	1.5	812	0.839
15	10	1.0	802	0.829
16	4	0.4	798	0.824
17	7	0.7	791	0.817
18	4	0.4	787	0.813
19	4	0.4	783	0.809
20	1	0.1	782	0.808
21	2	0.2	780	0.806
Continuing	0	0.0	780	0.806

Table 7. Duration in Months of Self-employment Enterprise Survival Counting from Receipt of the Loan in Poland

Months	Number of Exits	Percent	Survival Number	Survival Rate
Initial			705	1.000
0	2	0.3	703	0.997
1	3	0.4	700	0.993
2	3	0.4	697	0.989
3	5	0.7	692	0.982
4	0	0.0	692	0.982
5	3	0.4	689	0.977
6	2	0.3	687	0.974
7	4	0.6	683	0.969
8	5	0.7	678	0.962
9	8	1.1	670	0.950
10	11	1.6	659	0.935
11	2	0.3	657	0.932
12	3	0.4	654	0.928
13	3	0.4	651	0.923
14	3	0.4	648	0.919
15	3	0.4	645	0.915
16	5	0.7	640	0.908
17	5	0.7	635	0.901
18	4	0.6	631	0.895
19	6	0.9	625	0.887
20	6	0.9	619	0.878
21	3	0.4	616	0.874
22	5	0.7	611	0.867
23	5	0.7	606	0.860
24	10	1.4	596	0.845
25	13	1.8	583	0.827
26	9	1.3	574	0.814
27	12	1.7	562	0.797
28	12	1.7	550	0.780
29	6	0.9	544	0.772
30	3	0.4	541	0.767
31	8	1.1	533	0.756
32	8	1.1	525	0.745
33	8	1.1	517	0.733
34	8	1.1	509	0.722
35	2	0.3	507	0.719
36	4	0.6	503	0.713
37	2	0.3	501	0.711
38	7	1.0	494	0.701
39	3	0.4	491	0.696
40	3	0.4	488	0.692
41	7	1.0	481	0.682
42	6	0.9	475	0.674
43	10	1.4	465	0.660
44	6	0.9	459	0.651
45	5	0.7	454	0.644
46	7	1.0	447	0.634
47	3	0.4	444	0.630
48	6	0.9	438	0.621
49	0	0.0	438	0.621
50	1	0.1	437	0.620
Continuing	0	0.0	437	0.620

Table 8. Duration in Months of Self-employment Enterprise Survival Counting from the End of Subsidy Receipt in Hungary

Months	Number of Exits	Percent	Survival Number	Survival Rate
Initial			930	1.000
1	2	0.2	928	0.998
2	9	1.0	919	0.988
3	12	1.3	907	0.975
4	12	1.3	895	0.962
5	19	2.0	876	0.942
6	23	2.5	853	0.917
7	19	2.0	834	0.897
8	5	0.5	829	0.891
9	12	1.3	817	0.878
10	8	0.9	809	0.870
11	7	0.8	802	0.862
12	9	1.0	793	0.853
13	7	0.8	786	0.845
14	3	0.3	783	0.842
15	3	0.3	780	0.839
Continuing	780	83.9	780	0.839

Table 9. Duration in Months of Self-employment Enterprise Survival Following Loan Repayment in Poland

Months	Number of Exits	Percent	Survival Number	Survival Rate
Initial			350	1.000
0	102	29.1	248	0.709
1	7	2.0	241	0.689
2	5	1.4	236	0.674
3	4	1.1	232	0.663
4	3	0.9	229	0.654
5	4	1.1	225	0.643
6	0	0.0	225	0.643
7	4	1.1	221	0.631
8	3	0.9	218	0.623
9	2	0.6	216	0.617
10	0	0.0	216	0.617
11	2	0.6	214	0.611
12	2	0.6	212	0.606
13	3	0.9	209	0.597
14	3	0.9	206	0.589
15	0	0.0	206	0.589
16	1	0.3	205	0.586
17	5	1.4	200	0.571
18	0	0.0	200	0.571
19	1	0.3	199	0.569
20	0	0.0	199	0.569
21	1	0.3	198	0.566
22	1	0.3	197	0.563
23	1	0.3	196	0.560
24	1	0.3	195	0.557
25	0	0.0	195	0.557
26	0	0.0	195	0.557
27	0	0.0	195	0.557
28	0	0.0	195	0.557
29	0	0.0	195	0.557
30	0	0.0	195	0.557
31	0	0.0	195	0.557
32	0	0.0	195	0.557
33	1	0.3	194	0.554
34	0	0.0	194	0.554
35	1	0.3	193	0.551
Continuing	0	0.0	193	0.551