Evaluating the Effectiveness of
Active Labor Programs in Poland

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Evaluating the Effectiveness of
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Executive Summary

To evaluate the effectiveness of active labor programs (ALPs) in Poland, surveys were
conducted in early 1997 on randomly selected participant samples and strategically selected
comparison samples in a group of eight voivods: Gorzów, Katowice, Konin, Kraków, Lublin,
Olsztyn, Poznan, and Radom. This evaluation of ALPs in Poland was 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. The project was coordinated by the
World Bank with similar studies in Hungary, the Czech Republic, and Turkey.

Background

Unemployment in Poland jumped from zero in 1989 to 16.4 percent in 1994; it gradually
declined and stood at 13.6 percent for 1996. Preliminary data for 1997 indicates a continued
downward trend in the jobless rate. While the national population has grown during the 1990s,
the measured size of the labor force has stagnated. In 1993 growth in real GDP resumed. The
current GDP real growth rate of 6 percent per year leads Europe. By 1993 consumer price
inflation began to abate. Inflation is now below 20 percent per year.

Poland is divided into 49 major administrative districts called voivods. Government in
these areas are the political entities through which labor market support programs are provided.
The Ministry of Labor and Social Policy is the leader in labor market policy. Services are
provided to job seekers through a nationwide network of labor offices. The National Labor
Office in Warsaw provides administrative support to the voivods and information on labor market
trends and labor program activity. There are 49 voivod labor offices and over 500 local labor
offices where programs are delivered to job seekers.

This report provides net impact estimates on employment and earnings for the five main
ALPs used in Poland: retraining, employment service, public works, intervention works, and self-
employment assistance. The report also identifies population subgroups across which program
impacts differ. Additionally, estimates are given for the effect of ALP participation on receipt of
unemployment compensation, and for net program benefits on a per participant basis from the
perspective of the national labor office, all government, and society.

Employment Policy in Poland

The menu of ALPs available in Poland includes nearly all those available in countries with much longer histories of employment policy. Passive labor programs in Poland are limited to unemployment compensation, which is available for a finite duration to unemployed workers with sufficient recent work experience. After exhaustion of the unemployment benefit, there is only the means-tested general assistance available.

Total spending on ALPs and unemployment compensation (UC) for 1996 in Poland amounted to nearly 7.5 billion Polish zloty, or around $2.5 billion U.S. This level is nearly 2.2 percent of the nation's gross domestic product. In recent years the share of employment program expenditures devoted to ALPs has been nearly 14 percent. The remainder of spending goes to passive labor support through UC. About 1.7 million people per year use Poland's labor programs, with nearly a quarter of them participating in an ALP.

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

The employment service is the central function of local labor offices. Local labor offices are one-stop-shopping places for reemployment assistance. They act as unified clearinghouses for referral to a variety of active and passive support. The ES offers a full range of placement services, including job interview referral, counseling, skills assessment, job search training, resume preparation, and job clubs.

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.

The intervention works program is much like public works except that 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 for retained workers amounting to up to 150 percent of the national average wage. Intervention works operates essentially as a wage subsidy program.

Self-employment assistance is provided to a selected 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.

Samples for Evaluation

Sample sizes were set to be large enough to ensure the reliability of overall program impact estimates. Ideally, important demographic and regional subgroup impacts could also be measured. 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 of 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 number of program participants in the voivod. 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.

To spread the burden somewhat, 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.

For four of the ALPs, the sizes of the final participant and comparison samples analyzed are given in Table E.1. Among the 7,188 ALP program participants, 3,577 also used some particular assistance from the ES, while among the 7,169 comparison group members, 3,616 used assistance from the ES.

In contrast to a random sample of registered unemployed the retraining group is less male, younger, more educated, and with less work experience; the public works group is more male, younger, and less educated; the intervention works group is more female, younger, and with less work experience; and the self-employment group is more male, of prime working age, vocationally educated, with more work experience.

The similarity of program participants and comparison group members was examined using the characteristics of age, gender, education, occupational category, prior earnings, physical disability status, and household characteristics. This investigation revealed the comparison samples to be well matched to the participant samples. The matched samples are therefore ideal for computing net impacts while controlling for non-random participant selection into ALPs.

Table E.1 Participant Group and Matched Comparison Group Sample Sizes

Active Labor Program	Participant	Comparison
Retraining	2,879	2,885
Public Works	1,188	1,174
Intervention Works	2,412	2,410
Self-employment	709	700
TOTAL	7,188	7,169

ALP Impacts on Employment and Earnings

Net impact estimates of ALPs on employment and earnings outcomes are given in Table E.2. There are four employment outcomes and one earnings outcome. They are

EMPNORM - Ever employed in a non-subsidized job since program participation
EMPANY - Ever employed in any job since program participation
EMPNOWN - Now employed in a non-subsidized job
EMPNOWA - Now employed in any job
EARNNOW - Average monthly wage on current job

Table E.2 Summary of Net Impacts on Employment and Earnings for ALPs in Poland

Outcome	Retraining	Employment Service	Public Works	Intervention Works	Self-employment
EMPNORM	0.12**	0.02	-0.08**	0.26**	0.29**
EMPANY	0.10**	0.04	-0.05**	0.23**	0.28**
EMPNOWN	0.12**	0.00	-0.04**	0.24**	0.27**
EMPNOWA	0.14**	0.01	0.02	0.24**	0.24**
EARNNOW	23**	10**	-14	3	212**

 * Impact statistically significant at the 90 percent level in a two-tailed test.
** Impact statistically significant at the 95 percent level in a two-tailed test.

A subgroup analysis of ALP impacts on the important outcome EMPNOWN, employed in a non-subsidized job or self-employment on the survey date, is provided in Table E.3.

Retraining resulted in more people (12 percentage points) getting into regular non-subsidized employment and a 23 Zl. gain in average monthly earnings. Retraining was more effective for prime-age workers, with a non-vocational background, who had occupations which could not be easily categorized into broad occupational groups, were not previously long-term

Table E.3 **Net Impact Estimates of Active Labor Programs by Subgroup on the Outcome EMPNOWN (Employed in a Normal Job on the Survey Date)**

	Active Labor Program				
Variable/label	Retraining	Employment Service	Public Works	Intervention Works	Self-employment
FEMALE - Respondent is female~	0.081**	0.007**##	-0.012	0.145**##	0.286**##
MALE - Respondent is male	0.104**	0.049	-0.046**	0.079**	0.030
AGELT30 - Age $\leq$ 30	0.080**	0.034*##	-0.043	0.109**	0.050
AGE3044 - Age between 30 and 44	0.170**	0.015**##	-0.056	0.185**	0.185**
AGEGE45 - Age is 45 or over~	0.002	-0.010**	0.037	0.215*	0.137*
EDELEM - 8 years/or less schooling	0.062	0.057**##	-0.069	0.150**	0.210**
EDVOC - Vocational secondary~	0.083**	0.020**	-0.027	0.117**	0.137**
EDGYM - General secondary	0.101**	0.050**##	0.121	0.153**	0.054
EDCOLL - Some higher education	0.145*	0.063**##	-0.022	-0.169##	-0.025
WHITECOL - White-collar occupation	0.066	-0.031**#	0.010	0.099**	0.078*#
BLUECOL - Blue-collar occupation~	0.053	0.059*	-0.039*	0.074**	0.176**
OTHEROCC - Other occupation	0.103**	0.030**##	-0.094	0.158**##	0.144**
VOLUN - Voluntarily unemployed	0.142**	0.038**##	-0.002	0.092**	0.099*
NONVOL - Not voluntarily unemployed~	0.084**	0.028*	-0.046**	0.133**	0.146**
LTU - Long-term unemployed	0.026##	0.022**##	-0.069**	-0.052*##	-0.041##
NONLTU - Not unemployed long term~	0.142**	0.037*	-0.011	0.207**	0.225**
EXP0 - Work experience = zero	0.095**	0.025**##	-0.032	0.149**##	0.167**
EXPLE3 - Work experience $\leq$ 3 years	-0.156##	-0.054**	-0.071**	-0.215**##	0.254**#
EXPGT3 - Work experience > 3 years~	0.022	0.064**	-0.148*	-0.011	0.088
EXPGT10 - Work experience $\geq$ 11 years~[1]			-0.025		0.092**
LOWURATE - Low unemployment area	0.064**#	0.041*##	0.004	0.092**	0.132**
HIURATE - High unemployment area~	0.116**	0.021**	-0.054**	0.133**	0.137**
GORZOW - Voivod is Gorzów	0.072	-0.024**##	-0.019	0.156**	0.079
KATOWICE - Voivod is Katowice	0.062**	0.031**##	-0.027	0.078**##	0.150**
KONIN - Voivod is Konin	0.075	0.089*##	-0.047	0.192**	0.149*
KRAKOW - Voivod is Kraków	0.151**	0.073**##	-0.039	0.243**	0.136
LUBLIN - Voivod is Lublin	0.111**	-0.031**#	-0.048	0.024##	0.084
OLSZTYN - Voivod is Olsztyn	0.164**	-0.008**##	-0.101**#	0.132**	0.184**
POZNAN - Voivod is Poznan	0.040	0.041**##	0.054	0.002##	0.105
RADOM - Voivod is Radom~	0.088	0.087*	0.014	0.194**	0.191**

 * 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.
[1] For Public Works and Self-employment, EXPGT3 equals work experience between 4 and 10 years inclusive.

unemployed, had either very short or rather long prior employment history, and lived in voivods with a high unemployment rate. It was also found that short-term skill focused retraining was

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.

Controlling for observable factors, including participation in any other ALP, use of the employment service (ES) has no measurable effect on reemployment. However, using the ES appears to raise average monthly earnings among those employed at the survey date by 10 Zl. The ES impacts across subgroups were significantly larger for females, younger workers, those with other than vocational secondary education, those from blue-collar occupations, those who became voluntarily unemployed, not long-term unemployed, and those with no prior work experience. The most popular ES service is referral to job interviews.

Public works resulted in an 8 percentage point decline in getting into a normal job during the period observed, a 5 percentage point decline in ever getting into any other job, a 4 percentage point decline in being in a normal job on the survey date, and no significant effect on average monthly earnings. These negative impacts were all smaller than expected based on prior evidence about public service employment in Hungary. A subgroup analysis of public works impact on employment and earnings revealed no significant differences across subgroups. However, the results suggested that public works would lead to an earnings rise for women, improved employment prospects for older workers, least hinder reemployment for those with less than eight years of formal schooling, benefit those whose previous experience was in a white collar occupation and those who were not long-term unemployed. It was also found that short-term public works hindered future labor market success less than did a longer term involvement, and there was some evidence that public works provided by private firms was more effective. It is better if public works is provided by a group other than an agency of the national government.

Intervention works in Poland is estimated to increase the probability of ever finding a normal job by 26 percentage points and of being in a normal job on the survey date by 24 percentage points. Broadening the definition of reemployment to also include subsidized jobs after intervention works, the impact on ever getting into any job was 23 percentage points and the impact on being in any job on the survey date was 24 percentage points. A subgroup analysis of intervention works impact on employment and earnings revealed that intervention works boosted reemployment rates for females, older workers, those with less than college schooling, those who are not long-term unemployed, and those without prior work experience. It appears that having worked for a publicly owned enterprise on an intervention works job boosts the reemployment more than if the project was run by a private firm.

Self-employment in Poland is estimated to increase the probability of getting into a normal job or non-subsidized self-employment by 29 percent and to raise the chance of a similar outcome at the survey date by 27 percentage points. Broadening the definition of reemployment to also include subsidized jobs after self-employment, the impact on ever getting into any job was 28 percentage points and the impact on being in any job on the survey date was 24 percentage

points. It was also found that 26.7 percent of those receiving a self-employment loan hired at least one other worker for their enterprise. Indeed one successful loan recipient claims to have hired 73 workers. The mean number of workers hired by those who did hire someone was 3.13 employees. The mean hired among all loan recipients was 0.83 employees. A subgroup analysis indicated that self-employment boosted reemployment rates most among females, those whose previous experience was in a blue-collar occupation, those with no prior registered unemployment, and a positive but small amount of prior work experience.

Impacts of Various Program Features

The rich information gathered during the evaluation permitted examination of how various aspects of ALPs influenced program effectiveness. These aspects of ALPs included the duration of program participation, the type of ownership of the ALP provider, and the industry of the ALP organizer. To provide a summary of findings we examine the impacts of program features on being employed in a normal non-subsidized job on the survey date (EMPNOWN). Impact estimates are given in Table E.4.

Table E.4 Impacts of Various Features of ALPs on the Outcome "employed in a normal job on the survey date" (EMPNOWN)

	Retraining	Public Works	Intervention Works	Self-employment
Duration				
Less than 1 month	0.19**			
1 to 3 months	0.12**aa			
4 or more months	0.10**aa			
Less than 6 months		-0.05*	0.16**	
6 months		-0.04*	0.27**a	
7 or more months		-0.11**	0.08**a	
Ownership of Provider				
Public	0.10**	-0.05**	0.25**	
Private	0.14**aa	0.10**a	0.25**	
Industry 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				0.266**
Services				0.256**
Trade and restaurants				0.263**
Manufacturing and construction				0.162**

* 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 the 90 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.

It was possible to examine three aspects of retraining. The impact on employment was significantly larger for those in retraining for one month or less. There was also an advantage if retraining was provided by a private rather than a public organization. The least effective industry for providing retraining was found to be the public employment organization.

The most important finding about public works is that when projects are run by private companies there is a positive impact on employment outcomes. The impact on EMPNOWN for public works operated by private companies is 10 percentage points, this impact is positive and significantly different from the -5 percentage point impact of public works programs run by a government agency. Involvement in public works generally diminished reemployment prospects. The standard term of participation in public works was 6 months and this duration appeared to be least detrimental, particularly compared to longer term involvement. When the national government operated the public works project, the transition to normal non-subsidized employment appeared to be hurt the most.

Among intervention works participants, 61.7 percent were involved for exactly 6 months. Participation of this duration also appeared to raise reemployment in a normal job on the survey date by 27 percentage points, which was significantly greater than the 16 percentage point gain for shorter involvement and the 8 percentage point gain for longer involvement. Unlike public works, the impact of intervention works did not differ depending on whether the program operator was a public or private firm. Also unlike public works, intervention works impacts appeared to be greatest when the program was operated by a national government agency.

Self-employment in services, trade, or restaurants was more likely to result in stable employment than self-employment in manufacturing or construction. However, the differences across these industry groups were not statistically significant.

ALPs Impact on Unemployment Compensation

Net impacts of ALPs on unemployment compensation (UC) are summarized in Table E.5. Participation in retraining was estimated to prolong UC by 1.14 months and increase payments by 288 Zl. ES users in the combined sample of all observations drew 0.05 fewer months but approximately 8 Zl. more in UC benefits than those the combined sample of all observations who used no ES services. Public works participation increased the duration of UC by 0.93 months and increased payments by 315 Zl. Intervention works participation reduced the duration UC by 2.26

Table E.5   Summary of Net Impacts on Unemployment Compensation for ALPs in Poland

Outcome	Retraining	Employment Service	Public Works	Intervention Works	Self-employment
UCMONTHS	1.14**	-0.05**	0.93**	-2.26**	-3.64**
UCPAY	288**	8**	315**	-546**	-792**

months and reduced payments by 546 Zl. Receipt of self-employment assistance resulted in 3.64 fewer months of UC and reduced payments by 792 Zl.

Net Benefits of ALPs

The net benefits of ALPs are assessed from three perspectives: the National Labor Office, all government, and all society. From the perspective of the National Labor Office, the benefit is any savings in UC payments, and the costs are the direct costs of operating the ALP and the administrative cost of contracting, monitoring, referring participants and follow-up. A somewhat broader perspective in assessing the net benefits of a public program is all government (by all government we mean the collection of all agencies which collect taxes and dispense public services). In addition to the benefits and costs for the National Labor Office, net benefits to all government also depend on any change in tax revenue which results from a change in employment. The third perspective for net benefits is that for society as a whole. Real gains to society accrue if the aggregate value of economic output increases. Additions to social economic output are estimated by the increased value of earnings. From this we must deduct costs which society incurs by having retraining which would not have been otherwise experienced. These costs include the direct and administrative costs of the program. The impact on unemployment compensation payments does not figure into the social net benefit computation as these are simply transfer payments from one group in society to another, and transfer payments have no affect on total social economic output.

Per participant net benefits for ALPs in Poland are summarized in Table E.6. The table includes three panels. The top panel lists net benefits, choosing retraining as the reference; the middle panel presents net benefits for the other ALPs as a percentage of retraining benefits; and the bottom panel presents the net benefits per percentage point increase in employment rates (EMPNOWN). In the bottom panel, no numbers are given for the ES and public works as the employment impacts were negligible and negative respectively for these programs.

Using the net costs for retraining as the standard of measure, from the perspective of the National Labor Office, net costs per participant in the ES, public works, intervention works and self-employment are 8 percent, 214 percent, 96 percent and 607 percent of retraining costs, respectively. The net cost of intervention works is on a par with retraining while self-employment costs 6 times retraining. From the third panel, the cost to the National Labor Office of raising the reemployment probability by 1 percentage point is 107 Zl. for retraining, 52 Zl. (or less than half the retraining cost) for intervention works, and 289 PLZ (or nearly three times the retraining cost) for self-employment. The appeal of intervention works from this perspective comes from the relatively large UC savings.

Table E.6 Summary of Net Benefits for ALPs in Poland

Perspective	Retraining	Employment Service	Public Works	Intervention Works	Self-employment
NET BENEFITS					
National Labor Office	-1,285	-98	-2,751	-1,236	-7,797
National government	-1,151	-122	-2,972	-1,037	-7,979
All society	-326	-211	15,155	17,909	-9,459
NET BENEFITS AS A PERCENTAGE OF RETRAINING NET BENEFITS					
National Labor Office	-100	-8	-214	-96	-607
National government	-100	-11	-258	-90	-693
All society	-100	-65	4,649	5,494	-2,902
NET BENEFITS PER PERCENTAGE POINT INCREASE IN EMPLOYMENT RATES					
National Labor Office	-107	-	-	-52	-289
National government	-96	-	-	-43	-296
All society	-27	-	-	746	-350

From the perspective of the national government, the benefit-cost assessment of the ALPs results in a relative ranking much like that for the National Labor Office perspective. Intervention works appears to be even more appealing because of a modest tax contribution which enters the calculation.

From the perspective of all society, public works and intervention works are listed as having positive and large net benefits. This result is due to estimates provided for the Poznan voivod with the social value of output of these works programs valued at the labor and material input costs. From the perspective of all society, the net cost of retraining is a low 326 Zl., with the ES costing even lower at 211 Zl. per service user. From any perspective, self-employment appears to be a relatively costly reemployment option.

Evaluating the Effectiveness of
Active Labor Programs in POLAND

1.   Introduction

This study of the effectiveness of active labor programs (ALPs) in Poland relies on survey data gathered from randomly selected participant samples and strategically selected comparison samples in a group of eight voivods: Gorzów, Katowice, Konin, Kraków, Lublin, Olsztyn, Poznan, and Radom.[1] Before proceeding with further details about the surveys, a brief overview of the context of employment policy and the variety of labor programs in Poland is given. This investigation of ALP effectiveness in Poland is being coordinated by the World Bank with studies of similar active labor programs operated in other transition economies, namely: Hungary, the Czech Republic, and Turkey. Funding for this study was provided to the W. E. Upjohn Institute by the U.S. Department of Labor, Bureau of International Affairs. Funding for the surveys on retraining was provided to the Polish National Labor Office by the Employment Training Foundation of the European Union.

1.1 Economic context of employment policy

Unemployment in Poland jumped from zero in 1989 to 16.4 percent in 1994, measured on the basis of registrations with the employment exchange. While unemployment estimates based on registered unemployment may be overstated (because many persons who are truly inactive only maintain registration with the placement service so as to keep eligibility for national health insurance), this remains a dramatic increase. The registered unemployment rate in Poland then gradually declined and stood at 13.6 percent for 1996. Figure 1.1 shows the trend in unemployment in recent years. Preliminary data for 1997 indicate a continued downward trend in the jobless rate.

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[1]A voivod is a province. There are 49 voivods in Poland.

Table 1.1 provides background information on important macroeconomic and labor market trends since 1990. During the 1990s, while the national population has gradually grown, the measured size of the labor force has stagnated. Starting in 1993, growth in real GDP began again; current rates of real GDP growth lead Europe and hover around 6 percent. By 1993, consumer price inflation showed real signs of abatement; inflation is currently below 20 percent per year.

1.2 Administration of employment policy

Poland is divided into 49 major administrative districts which are called voivods. These 49 districts are the political entities to which labor market support programs are provided. Map 1.1 shows the voivod divisions within Poland. The map also shows the regional distribution of unemployment around Poland. It can be seen that in 1996 only six voivods had unemployment rates below 10 percent; three of these (Katowice, Kraków, Poznan) were survey sites for our study. The remaining voivods are about evenly divided between moderate and high levels of unemployment.

The Ministry of Labor and Social Policy is the leader in labor market support policy. Services are provided to job seekers through a nationwide network of labor offices. There is the National Labor Office (Krajowy Urzad Pracy - KUP) in Warsaw, which provides administrative support to the voivods and information on labor market trends and labor program activity. There are 49 Voivod Labor Offices and over 500 Local Labor offices where programs are delivered to job seekers. There are about 10 local labor offices within each voivod which are supervised and supported by the voivod labor office.

1.3 Aims of this study

The aims of this study are to produce reliable net impact estimates for the five main ALPs used in Poland on employment and earnings and to identify particular regions and population subgroups across which the program impacts differ. This report also attempts to estimate the effect of ALP participation on receipt of unemployment compensation, to examine the timing of employment effects, and to provide preliminary program net benefit estimates on a per participant basis from the perspective of the national labor office, all government, and society.

Table 1.1 Labor Market and Economic Conditions in Poland, 1990-1996

Poland	1990	1991	1992	1993	1994	1995	1996
Population (in thousands)	38,119	38,245	38,365	38,505	38,544	38,609	38,639
Labor force (in thousands)	17,102	17,285	17,734	17,651	17,761	17,643	17,349
Unemployment rate (percent)	6.3	11.8	13.6	16.4	16.0	14.9	13.6
GDP index (previous year = 100)		92.4	100.8	103.8	105.2	107.0	106.0
GDP in millions of current zloty	59,151	82,433	114,944	155,780	210,407	286,026	
Price index (previous year = 100)	585.8	170.3	143.0	135.3	132.2	127.8	119.9

Source: Polish Central Statistical Office and Polish National Labor Office.

Figure 1.1
Unemployment Rate in Poland 1990-96

Map 1.1   The Voivods of Poland in Unemployment Rate Categories, 1996

1996 Unemployment Rates
10% or Less
10 % to 15 %
Over 15%

5
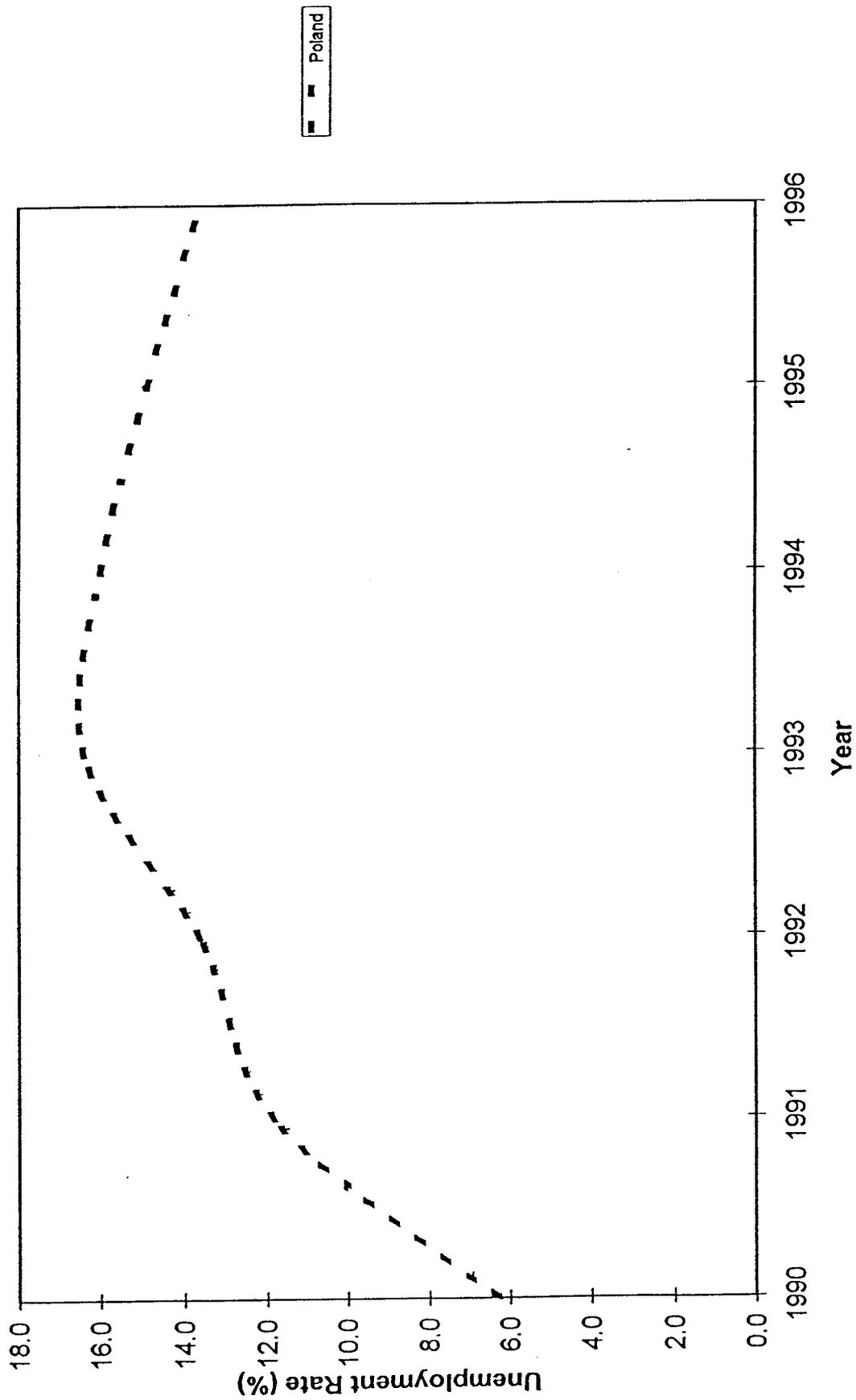
2. An Overview of Employment Policy

Employment policy in Poland is carried out through administration of both active and passive labor programs. The menu of ALPs available in Poland includes nearly all those available in countries with much longer histories of employment policy. The present evaluation focuses on the five programs which are most widely used Poland: retraining, public works, intervention works, self-employment assistance, and the employment service.

Strictly speaking, the only passive labor program in Poland is unemployment compensation, which is available for a finite duration to unemployed workers with sufficient recent work experience. After exhaustion of the unemployment benefit, there is only the means-tested general assistance available.

2.1 Active labor programs

Concise descriptions of services provided for the five most popular ALPs in Poland are given in Table 2.1. Retraining of unemployed workers means additional short-term job skill training to make job seekers ready to fill job openings in the region. Retraining participants receive a stipend which has a 15 percent premium over the unemployment compensation (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.[2] The wage level makes clear the main aim of public works, which is income transfer.

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[2]The national average wage is determined quarterly by the Central Statistical Office (GUS) and is based on earnings in selected core industries and occupations.

Secondary aims of the program are to maintain job readiness skills of the unemployed and to contribute to the public health and infrastructure.[3]

The intervention works program is much like public works except that 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 for retained workers amounting to up to 150 percent of the national average wage. The low project wages and the incentive for continued employment mean that intervention works operates essentially as a wage subsidy program.

Self-employment assistance is provided to a selected 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 a 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.

The employment service (ES) is the central function of local labor offices. Local labor offices are one-stop-shopping places for reemployment assistance. These offices act as unified clearinghouses for referral to a variety of forms of active and passive support. The ES offers a full range of placement services including job interview referral, counseling, skills assessment, job search training, resume preparation, and job clubs.

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[3]A list of goals for active labor programs as enunciated by the Polish Ministry of Labor and Social Policy is given in O'Leary, (1995).

2.2 Passive labor programs

To be eligible for UC, it must be the case that: (1) no job offers are available, no training or retraining is available, no intervention works or public works job is available, no additionally created work places are available, and (2) in the 12 months before registering as unemployed the claimant worked at least 180 days covered by social insurance. The 180-day employment condition is not applied if the claimant was laid off by the employer because of economic difficulties, recently released from the military, recently receiving a recovery or disability allowance, recently released from a penal institution, reemployed after a period of collecting unemployment compensation but not for 180 days because of the economic difficulties of the employer or is a graduate (a person is a graduate for 12 months from the day of leaving school).

While the rules set in 1990 provided benefits which varied directly with prior earnings, in October 1992 the monthly UC allowance was set at a uniform nationwide level of 36 percent of the average salary. Beginning in 1997, variation was reintroduced for the monthly UC benefit based on the length of work experience: eligible unemployed workers with 5 to 20 years experience are now paid 36 percent of the national average monthly wage; beneficiaries with less than 5 years experience are paid 80 percent of that wage; and workers with more than 20 years experience are paid 120 percent of that wage.

Unemployment benefits are payable starting the first day after benefits are claimed. The maximum duration of benefits is 12 months, with entitlement extended to 18 months for women who have worked 25 years and for men who have worked 30 years. If a woman gives birth during the period of UC an extension is granted. Unemployment compensation may be extended for short periods up to the time of old age allowance. After completing an approved retraining program, eligibility for benefits is extended for a period of training if the local labor office (LLO) has no placement available. Unemployed graduates only become eligible 3 months after the day of registration and continue only until the end of the 12th month after graduating from school, so that the maximum duration of eligibility for graduates is 9 months.

Unemployment compensation is denied or suspended for (1) failure to report monthly to the LLO, (2) refusal of a valid work offer, (3) unavailability for work because abroad or other reason, (4) being fired from previous job because of unexcused absence, (5) refusal of medical exams to assess readiness for work, (6) receiving a loan or a credit for starting economic activity, (7) being in detention awaiting trial, (8) earning in a month income exceeding half of the national minimum monthly pay, (9) service in the military, (10) receiving a disability or survivors pension, (11) receiving a child care allowance, or (12) having a spouse with household income exceeding two times the average pay. The standard benefit denial period is 90 days. A claimant who has received a payment in error must repay the overpayment within 14 days from the day of receiving notice from a LLO.

A monthly general assistance benefit is available to unemployed exhaustees of regular unemployment compensation and others. Eligibility depends on a means test. The average household income per family member must be lower than the minimum monthly public old age pension. Benefits are financed from general governmental revenues, and eligibility is indefinite. General assistance is administered by local government offices, not by labor centers.

2.3 Use of labor programs

Total spending on ALPs and UC in Poland over the past several years is presented in Table 2.3. In 1996, total spending amounted to nearly 7.5 billion Zl or around $2.5 billion U.S. The table also shows that spending on these programs has risen to nearly 2.2 percent of the nation's gross domestic product (GDP). Additionally the table shows the spending shares for the main ALPs and UC. In recent years, the share of employment program expenditures devoted to ALPs has remained in the neighborhood of 14 percent. The remainder of spending goes to passive labor support through UC. Table 2.3.1 repeats the information in Table 2.3, but instead of presenting share data, the actual expenditures in zloty are given for each program category.

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Table 2.4 shows that in recent years over 1.7 million people have been involved in Poland's labor programs, with nearly a quarter of them involved with an ALP. Labor programs pending per participant is reported in Table 2.5. With the exception of self-employment assistance, just like for total spending, the per participant amounts spent on ALPs remain well below that on passive measures, which have been the main mechanism for coping with unemployment in Poland. In fact, for 1996, average spending per participant in ALPs was less than half the 4,743 Pl average spent per UC recipient.

Table 2.1   Active Labor Programs in Poland

Retraining	Occupational skill retraining may not exceed 12 months duration. It should be targeted to areas of skill shortages. Stipends up to 115 percent of the unemployment benefit may be paid. If a person leaves before completing a course of study, they must reimburse the costs of training.
Public works	Wage and social insurance costs may be paid for up to six months from the Labour Fund at a rate of up to 75 percent of national average pay. Projects should be infrastructure investments, and may be operated by municipal authorities or by local representatives of the national government. Projects may not compete with any existing business, and workers should be recruited through the Local Labour Offices. Areas with the highest unemployment rates have priority for Public Works projects.
Intervention works	Wage and social insurance costs may be paid for up to six months from the Labour Fund for an amount up to the level of unemployment compensation otherwise payable. Projects may not compete with private companies, and may be undertaken only by companies which during the most recent six months did not lay off more than 10 percent of their workers. Wages and social insurance costs for workers retained beyond the first six months may be reimbursed for the subsequent six months up to a total of 150% of the national average monthly wage.
Loans to the unemployed for self-employment	Loans may not exceed twenty times the national average monthly pay. If self employment is continued for 24 months, 50 percent of the loan amount may be forgiven. The loan must be repaid immediately if the agreed upon business plan is not pursued. Loan contracts are made at prevailing interest rates.
Employment service	The employment service (ES) is the central function of local labor offices. Local labor offices are one-stop-shopping places for reemployment assistance. These offices act as a unified clearing house for referral to a variety of active and passive support. The ES offers a full range of placement services including job interview referral, counseling, skills assessment, job search training, resume preparation, and job clubs.

Table 2.2   Passive Means of Assistance for Unemployed Workers in Poland

Unemployment compensation	Available to unemployed workers depending on work history over the previous year. To qualify for benefits a worker must have had a minimum of 180 days of work in the previous year. There is also a means test for eligibility: monthly income must be lower than 50% of national minimum wage. Furthermore, weekly hours of work must be less than 20 hours. The maximum entitled duration of benefits is 12 months. In local labor markets where the unemployment rate equals or exceeds 1.5 times the national average unemployment rate, the maximum entitled duration of benefits is 18 months. The monthly benefit amount is fixed and uniform for all recipients. The level of the monthly benefit is reviewed each calendar quarter by the Minister of Labor and Social Policy and may be revised. In June of 1996 the monthly benefit stood at about 33% of the national average monthly wage. There is also a child dependents allowance equal to about 10% extra per child. The unemployment benefit is paid for with money from the Labor Fund. The Labor Fund is financed from two sources (1) 35% of the Labor Fund in 1995 came from a 3% tax which employers pay on total payrolls, and (2) 65% of the Labor Fund came from general revenues of the state budget. In 1995 about 85% of the Labor Fund was spent on unemployment compensation (UC) and social insurance taxes for the unemployed, the remainder was spent on active labor programs. Since March 1996 recent school graduates are not eligible for unemployment compensation in the first 12 months after leaving school. Unemployment compensation beneficiaries also retain eligibility for national health insurance, this eligibility may be maintained even after exhausting benefits by continued monthly reporting as unemployed to the local labor office. In 1995 there were an average of about 1.3 million unemployment compensation beneficiaries per month. Since late 1995 the number of monthly beneficiaries steadily increased and reached a peak of 1.5 million per month in April 1996, the number has fallen gradually since. UC is administered by the system of labor offices.
General assistance	A monthly benefit available to unemployed exhaustees of regular unemployment compensation and others. Eligibility also depends on a means test. Average household income per family member must be lower than the minimum monthly public old age pension. Benefits are financed from general governmental revenues. Eligibility is indefinite. General assistance is administered by local government offices, it is not administered by labor centers.

Table 2.3   Spending on ALPs and UC in Poland in Share Terms, 1990-1996

Poland	1990	1991	1992	1993	1994	1995	1996
ALP and UC spending (million Zl)	370	1,358	2,283	3,190	4,447	6,147	7,360
ALP and UC (as % of GDP)	0.7	1.7	2.0	2.1	2.1	2.2	
ALP % of spending	48.9	18.0	13.7	16.1	16.2	14.8	13.3
Retraining share	0.4	0.7	0.8	1.4	1.3	1.1	1.3
Public works share			0.8	3.8	4.7	4.1	3.2
Intervention works share	5.6	3.3	2.1	4.3	5.5	5.1	3.8
Self-employment loans share					0.8	0.7	0.8
Loans for employers share	26.0	3.0	1.0	1.7	0.5	0.4	0.4
Other ALPs share	16.9	11.0	9.0	5.0	3.5	3.5	3.9
UC % of spending	51.1	82.0	86.3	83.9	83.8	85.2	86.7
Consumer Price index (previous year = 100)	585.5	70.3	43.0	35.3	32.2	27.8	19.9

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

Table 2.3.1   Spending on ALPs and UC in Poland, 1990-1996 (million of zloty)

	1990	1991	1992	1993	1994	1995	1996
Total ALP	181.1	243.9	312.8	513.2	722.5	910.1	978.9
Retraining	1.6	9.0	19.3	45.0	59.5	65.0	92.6
Public works			17.4	119.7	209.7	254.0	238.6
Intervention works	20.9	45.3	46.9	136.6	244.8	312.5	276.6
Loans for employers	96.2	40.4	23.7	53.2	20.6	22.2	25.9
Loans for unemployed					34.4	44.3	55.6
Other	62.4	149.2	205.5	158.7	153.5	212.1	289.6
UC benefits for unemployed	189.1	1,114.5	1,969.7	2,677.1	3,724.6	5,237.1	6,381.0
Total UC and ALP	370.2	1,358.4	2,282.5	3,190.3	4,447.1	6,147.2	7,359.9
Index of Total UC and ALP (1995 = 100)	6.0	22.1	37.1	51.9	72.3	100.0	119.7
Consumer Price index (previous year = 100)	585.8	70.3	43.0	35.3	32.2	27.8	19.9

Table 2.4   Participants in ALPs and UC in Poland, 1990-1996

	1990	1991	1992	1993	1994	1995	1996
Total ALP	177,403	104,524	210,207	295,703	407,602	408,385	369,427
Retraining	10,254	68,118	70,220	75,799	91,732	81,821	86,086
Public works	----	----	35,488	75,694	110,493	113,093	107,541
Intervention works	106,852	36,406	104,499	132,377	195,443	184,025	141,962
Loans for employers	27,878	----	----	4,373	3,394	2,617	580
Loans for unemployed	32,419	----	----	7,460	6,540	5,737	5,110
Other (e.g., school leavers)	----	----	----	----	----	21,092	28,148
Benefits for unemployed	440,000	1,004,000	1,262,000	1,115,000	1,216,000	1,308,186	1,345,411
Total benefits and ALP	617,403	1,108,524	1,472,207	1,410,703	1,623,602	1,715,571	1,714,838

Table 2.5   Per Participant Spending in Polish Zloty on ALPs and UC, 1990-1996

Poland	1990	1991	1992	1993	1994	1995	1996
Total ALP and UC spending (million Zl)	370	1,358	2,283	3,190	4,447	6,207	7,418
Total ALP and UC (as % of GDP)	0.7	1.7	2.0	2.1	2.1	2.2	
Mean ALP spending (Zl)	669	1,737	602	1,199	1,396	1,855	2,023
Retraining per participant	156	132	275	594	649	794	1,076
Public works per participant			490	1,581	1,898	2,246	2,219
Intervention works per participant	196	1,244	449	1,032	1,253	1,698	1,948
Self-employment per participant					5,260	7,722	10,881
UC spending per recipient (Zl)	430	1,110	1,561	2,401	3,063	4,003	4,743
Price index (previous year = 100)	585.5	70.3	43.0	35.3	32.2	27.8	19.9

Source: National Labor Office, Warsaw.

ALP - Active Labor Programs; UC - Unemployment Compensation

3. Sample Considerations

3.1 Sample size

The samples were specified to be of sufficient size to ensure the precision of the desired impact estimates. The sample sizes were set based on considerations of power tests for observing effects of a size that would be of interest to policymakers; 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 specified to be of sufficient size to provide reliable estimates of differential program effects on important demographic and regional subgroups. Table 3.1 lists the designed sample sizes to be drawn for each of the four ALPs studied in each of the eight voivods involved, together with the total number of participants in each program, by voivod, for the whole of 1995.

The main program outcome guiding sample size determination is the proportion employed on the survey date, and samples should be of sufficient size to detect program impacts of 5 percentage points or more where the difference is measured from 50 percent. These judgements are made on the basis of effect sizes estimated in earlier net impact analysis studies done in Hungary by Godfrey, Lázár, O'Leary (1993) and O'Leary (1997) and on the power tables given by Cohen (1988). Details about setting samples are reviewed in Appendix B under the heading Sample Size Requirements for Power Tests of ALP Effects.

Relatively large samples were specified for retraining and intervention works because these ALPs each receive a large share of the ALP budget, and because these programs treat participants in the greatest variety of different ways. Consequently there are more patterns of response to sort out in the data, and the reliability of impact estimates is crucial to policymaking. The public works program was allocated a relatively small sample largely because of the modest and predictable results found in the earlier studies in Hungary, where the direct job creation program is quite similar. The self-employment loan program received a relatively small sample

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allocation not because of prior knowledge about likely effects or because the range of activities was expected to be small, but rather because of the simple fact that the number of participants is small, meaning the sampling frame is small too.

3.2 Site selection

Samples were drawn and surveys were conducted in eight Polish voivods: Gorzów, Katowice, Konin, Kraków, Lublin, Olsztyn, Poznan, and Radom. Map 3.1 shows the geographic dispersion of these voivods around the country. Five of the voivods line up to form a nearly continuous belt horizontally across the middle of the country; two others are in the extreme south and one is on the northern Baltic coast. These eight voivods comprise only about 16 percent of the 49 voivods in the country, but they do span the range of economic diversity.

Table 3.2 presents some comparative summary statistics about the eight voivods involved in the study. Together they encompass roughly one-quarter of the nation's population; they average somewhat lower unemployment than the nation as a whole; they are somewhat more urbanized than the country on average; and they have a slightly smaller proportion of employment in agriculture than the country as a whole. Tables 3.2.1 and 3.2.2 present descriptions of the age, gender, and educational attainment of registered unemployed in the eight voivods at year end in 1995 and 1996.

While it can be argued that the eight voivods selected to conduct surveys are as a group representative of all Poland, another important factor was influential. During the time of the survey, 12 different and separate types of computer systems were in use for administration of employment programs in local and voivod labor offices around Poland. To get reliable data and to help control project costs, much of the data for analysis was planned to be extracted directly from administrative records of the labor offices. To simplify this process, it was decided to limit voivods involved in the project by selecting a maximum of two computer software types. The

RUBIKOM system is used in Kraków, Katowice, Olsztyn and Poznan, while the RADOM system is used in Gorzów, Konin, Lublin and Radom.

To provide additional background for site selection and also to give a basis for later benefit-cost analysis, data on participation and spending for selected ALPs in the eight voivods surveyed is given in Tables 3.3 to 3.8. In Tables 3.3 to 3.5 spending, participants, and spending per participant on the four ALPs in the eight voivods is given for 1995. Tables 3.6 to 3.8 repeat the same presentation for 1996 activity. In 1996, the eight voivods involved in the study involved nearly 20 percent of the nations participants in the four ALPs and spent just over 20 percent of the money spent nationwide on these ALPs. As seen in Table 3.8, average spending across the eight voivods per participant on these four ALPs was very close to the national average.

3.3 Sample selection

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 of self-employment participants, nearly the whole population was drawn. For other programs, sample sizes for each voivod were set to be in proportion to the number of program participants in the voivod. After the participant samples were selected, the observable exogenous characteristics of the groups selected were examined. To increase the usable information for estimating program impacts, the comparison group samples were drawn from those who registered as unemployed about the same time as the

program participants 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.[4]

Separate comparison group samples for each program were selected from a sample of persons who registered as unemployed within the same time period, never participated in active labor programs, and were matched one-to-one with participants on observable characteristics using the matched pairs algorithm described in Appendix B.

3.4 Survey implementation

Surveys were conducted between February 15 and April 15, 1997, in eight voivods and 80 local areas within these voivods. This spread the burden of survey taking somewhat. The National Labor Office working together with the eight voivod labor offices involved developed the sampling frame for selecting interview candidates. From the sampling frame, exact sample sizes for each of the four ALPs were determined together with the size for comparison group members.

Administration of the questionnaires for surveys was managed by experts employed by the voivod and local labor offices in the areas surveyed, and was conducted during usual visits to labor offices by subjects who had previously been selected and by house-to-house visits by staff of local labor offices during their off-work hours. While the practice of interviewing subjects at the local labor offices may raise concerns for analysts that responses may be biased in such a milieu, the high response rates (around 90 percent) may allay concerns.

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[4]Matching was done by the minimum sum of squared distance measure described in Appendix B. The characteristics used for matching were age, education level, gender, months of work experience, date of registration as unemployed, and local labor office where registered as unemployed.

3.5 Results of the survey effort

Table 3.9.1 lists the designed sample sizes, the number selected for interviews (including the supplement added after multiple attempts to make contacts failed), and the actual number of respondents interviewed for each of the four ALPs in each of the eight voivods. While there were differing response rates across voivods, overall response rates for each program averaged around 90 percent. Response rates this high are rare. Properly computed estimates from these samples have a very high probability of accurately reflecting population behavior.

Table 3.9.2 provides a summary of survey respondent totals across each voivods for each of the comparison groups and the separate ALPs. It can be seen that the sample sizes between participants and comparison groups are either the same or nearly identical in all eight voivods.

Table 3.10 provides a list of the descriptive characteristics used to examine the samples used in assessing preliminary impact estimates. The following are the important characteristics: age, gender, education, occupational category, prior earnings, physical disability status, and household characteristics.

Tables 3.10.1 to 3.10.4 present for each of the four ALPs considered a comparison of the mean values of the descriptive characteristics. In each table the first column lists the means of the descriptive characteristics of the relevant comparison group as selected by matched pairs before surveys were conducted. The second column gives the mean of the participant group for each characteristic. The third column gives the difference computed as the participant minus the comparison group mean. The fourth column provides a statistical measure of significance for the difference.

From tables 3.10.1 to 3.10.4 it can be seen that the matching prior to conducting the surveys was done quite well. There are very few exogenous characteristics on which there are differences for any of the programs. Among the 24 characteristics listed, for retraining in

Table 3.10.1 there are only three significant differences, which is far less than might be expected were the two samples randomly drawn from the same population. For public works, Table 3.10.2 shows that there are somewhat more differences, but none on the basic age, gender, education variables which formed the core of the matching process. For intervention works, Table 3.10.3 reports only five significant differences. For self-employment, Table 3.10.4 show that there are nine significant differences, however these differences occur outside the core matching factors.

3.6 Representativeness of comparison samples

As explained above, the comparison groups were each selected strategically and separately from among those who started spells of registered unemployment during 1995 and by the sample selection date had not yet participated in an ALP except perhaps the employment service (ES). To investigate whether the comparison groups chosen are collectively or individually representative of the general population of registered unemployed, a supplementary comparison group of 10,000 persons who registered as unemployed in 1995 was drawn. For this sample, 1,250 persons were selected from each of the eight voivods participating in the study.

Table 3.11 reports on the composition of the supplementary random comparison sample of registered unemployed in terms of the categorical variables which are later used for subgroup analysis. In this table the composition of the special random sample is compared to the simple combined sample of the four comparison groups used in this study. It is easy to see that the two groups differ greatly. With only one exception, every subgroup indicator shows a significantly different proportion between the two groups. This is not surprising given that the comparison groups were selected based on the observable characteristics of program participants. Even though the characteristics differ greatly across participants in different programs the mean values are not representative of the larger population of unemployed. The implicit weighting involved is unable to capture the diversity of characteristics possessed by the full collection of registered unemployed.

Tables 3.11.1 through 3.11.4 present similar contrasts between the full supplementary comparison group of 10,000 and each separate ALP comparison group. There is a great disparity for each program in nearly every dimension. In contrast to the sample of 10,000; the retraining group is less male, younger, more educated, and with less work experience; the Public Works group is more male, younger, and less educated; the Intervention works group is more female, younger, and with less work experience; and the self-employment group is slightly more male, more prime working age, with vocational training, and more work experience.

The supplementary comparison group provides the possibility for future investigations not possible with the original samples. For example, it may allow examination of the process of entry into ALP participation.

Table 3.1   Sample Design, 1995 Populations of Program Participants and Sample Sizes by Voivod

Voivod	Retraining		Intervention Works		Public Works		Self-employment Loans	
	Total participants	Designed sample size	Total participants	Designed sample size	Total participants	Designed sample size	Total participants	Designed sample size
Gorzów	1,107	170	3,532	260	2,710	180	129	80
Katowice	7,875	1,120	7,350	620	1,266	120	207	120
Konin	1,064	150	2,928	215	1,216	90	99	70
Kraków	818	130	1,768	130	675	50	89	60
Lublin	2,825	470	4,025	300	1,811	125	212	120
Olsztyn	2,120	520	6,721	500	6,207	425	190	120
Poznan	2,461	300	2,737	150	1,388	90	132	80
Radom	773	140	4,422	325	2,437	170	148	100
Total of 8 voivods surveyed	19,043	3,000	33,483	2,500	17,710	1,250	1,206	750
Poland	81,821		184,025		113,093		5,737	

Map 3.1 Voivods Surveyed in Poland

Voivods Surveyed

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Table 3.2   Comparative Statistics for Voivods Surveyed in Poland

	Population from census	Share of Poland population	Population density	Unemployment rate, April 1997	Employment in agriculture in 1995	Average monthly wage 1995
	(000)	(%)	(per km^2)	(%)	(% share)	(Zl)
Gorzów	511	1.3	60	16.3	21	606
Katowice	3,925	10.2	590	7.7	6.4	860
Konin	480	1.3	94	16.9	41.7	724
Kraków	1,240	3.2	381	6.2	20.9	669
Lublin	1,027	2.7	151	11.5	36.8	647
Olsztyn	772	2	63	22.6	23.9	618
Poznan	1,354	3.5	166	5.2	14.4	669
Radom	763	2	105	16.9	46.3	589
Total/mean	10,072	26.1	174	10.3	19.1	731
Poland	38,609	100	123	13	26.9	691

Sources: National Labor Office and CSO, Warsaw.

Table 3.2.1   Demographic Data of Registered Unemployed in Voivods Surveyed, December 1995

Voivod	\multicolumn{7}{c}{Share Unemployed by Age}	% male	\multicolumn{5}{c}{Share Unemployed According to Education}	% disabled
	15-17	18-24	25-34	35-44	45-54	55-59	60 and older		high	tech-nical	lyceum	voca-tional	basic and less	
Gorzów	0.2	31.8	27.1	27.6	11.8	1.4	0.2	46.2	0.9	18.5	6.5	36.9	37.3	10.0
Katowice	0.1	35.7	25.5	25.5	10.8	1.5	0.3	31.1	1.4	22.5	8.8	38.1	29.2	1.5
Konin	0.1	41.7	27.5	21.3	8.3	1.0	0.1	47.1	0.6	18.5	6.3	40.4	34.2	0.8
Kraków	0.1	41.5	27.8	23.0	6.8	0.6	0.2	42.3	4.5	22.9	10.0	39.2	23.3	1.4
Lublin	0.0	40.7	27.9	22.5	7.7	0.9	0.2	45.6	3.6	25.3	8.6	38.6	23.9	10.0
Olsztyn	0.0	30.9	28.0	27.2	11.7	1.9	0.3	46.3	1.4	18.4	6.7	33.9	39.6	0.8
Poznan	0.0	41.0	25.3	23.2	9.3	0.9	0.2	40.9	2.2	18.6	9.2	42.4	27.6	2.0
Radom	0.1	33.1	27.2	25.6	11.8	1.8	0.3	49.9	1.3	19.3	6.2	42.5	30.7	0.9
Poland	0.1	34.5	26.9	25.1	11.3	1.7	0.3	44.9	1.5	20.2	7.2	39.9	32.2	1.2

Table 3.2.2   Demographic Data of Registered Unemployed in Voivods Surveyed, December 1996

Voivod	\multicolumn{7}{c}{Share Unemployed by Age}	% male	\multicolumn{5}{c}{Share Unemployed According to Education}	% disabled
	15-17	18-24	25-34	35-44	45-54	55-59	60 and older		high	tech-nical	lyceum	voca-tional	basic and less	
Gorzów	0.01	30.6	26.3	27.3	13.5	1.8	0.3	42.5	0.8	18.9	6.0	35.9	38.4	1.0
Katowice	0.10	32.6	39.9	26.8	13.0	1.8	0.3	28.4	1.3	21.9	7.7	36.9	32.3	1.8
Konin	0.00	39.9	28.1	21.5	9.2	1.1	0.2	44.2	0.5	19.2	5.7	40.5	34.1	0.9
Kraków	0.05	35.4	29.7	25.5	8.6	0.6	0.2	36.6	4.3	22.4	8.5	38.3	26.5	1.6
Lublin	0.03	36.1	29.5	23.8	9.1	1.2	0.3	41.8	3.4	25.4	7.6	37.7	25.9	1.2
Olsztyn	0.02	28.3	27.9	27.8	13.4	2.2	0.4	43.6	1.3	18.1	6.0	33.7	40.9	1.0
Poznan	0.10	36.5	25.9	24.6	11.4	1.2	0.3	34.6	2.4	18.2	8.4	41.9	29.1	2.3
Radom	0.00	30.7	27.3	26.9	13.5	2.2	0.4	48.5	1.1	18.9	5.3	42.3	32.4	0.9
Poland	0.10	31.1	27.3	25.8	13.3	2.1	0.3	41.7	1.3	20.0	6.4	38.5	33.8	1.3

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Table 3.3   **Number of Participants in 4 Selected ALPs in 8 Surveyed Voivods 1995**

Voivod	Retraining	Intervention works	Public works	Self-employment 1995	Total 1995	Self-employment 1993+1994
Gorzów	1,107	3,532	2,710	120	7,469	216
Katowice	7,875	7,350	1,266	207	16,698	581
Konin	1,064	2,928	1,216	99	5,307	194
Kraków	818	1,768	675	145	3,406	285
Lublin	2,825	4,025	1,811	200	8,861	212
Olsztyn	2,120	6,721	6,207	190	15,238	462
Poznan	2,461	2,737	1,388	132	6,718	156
Radom	1,244	4,422	2,432	96	8,194	172
Total	19,514	33,483	17,705	1,189	71,891	2,278
Poland	81,821	184,025	113,093	5,737	385,676	14,000
Share (%)	23.85	18.19	15.66	20.73	18.64	16.27

Table 3.4   **Spending on 4 Selected ALPs in 8 Surveyed Voivods 1995 [thous. Zl]**

Voivod	Retraining	Intervention works	Public works	Self-employment 1995	Total	Self-employment 1993+1994
Gorzów	913.3	5,819.2	6,163.7	1,687.3	14,583.5	1,821.5
Katowice	8,890.0	14,633.7	4,532.6	1,781.0	30,302.3	2,878.1
Konin	607.3	4,428.6	2,978.9	505.0	8,519.8	1,082.0
Kraków	1,265.7	2,860.0	1,545.7	1,429.0	7,100.0	1,901.5
Lublin	1,316.6	5,360.9	3,931.7	1,784.1	12,393.3	1,480.0
Olsztyn	2,792.1	15,112.0	14,204.1	1,664.0	33,772.2	2,506.5
Poznan	1,759.0	2,509.0	2,412.0	735.0	7,415.0	610.0
Radom	1,005.9	8,018.8	5,707.4	733.6	15,465.7	916.0
Total	18,549.9	58,742.2	41,476.1	10,319.0	129,551.8	13,195.6
Poland	65,055.0	312,484.0	253,966.0	44,309.8	675,814.8	77,700.0
Share (%)	28.5	18.8	16.3	23.3	19.7	17.0

Table 3.5 **Spending per Participant in 4 Selected ALPs in 8 Surveyed Voivods 1995 [thous. Zl]**

Voivod	Retraining	Intervention works	Public works	Self-employment
Gorzów	0.825	1.647	2.274	14.06
Katowice	1.129	1.991	3.58	8.60
Konin	0.571	1.512	2.449	5.10
Kraków	1.547	1.617	2.289	9.85
Lublin	0.466	1.332	2.171	8.92
Olsztyn	1.317	2.248	2.288	8.76
Poznan	0.715	0.916	1.737	5.57
Radom	0.808	1.813	2.346	7.64
Mean in 8 voivods	0.919	1.754	2.343	8.68
Poland	0.794	1.698	2.246	6.58

Table 3.6 **Participants in 4 Selected ALPs in 8 Surveyed Voivods 1996**

Voivod	Retraining	Intervention works	Public works	Self-employment	Total
Gorzów	1,138	2,729	2,222	106	6,195
Katowice	8,216	6,552	1,735	120	16,623
Konin	885	2,112	1,321	102	4,420
Kraków	1,003	1,021	507	97	2,628
Lublin	2,480	3,499	1,534	176	7,689
Olsztyn	4,833	5,821	5,843	233	16,730
Poznan	1,957	1,837	1,272	4	5,070
Radom	852	3,635	1,805	90	6,382
Total	21,364	27,206	16,239	928	65,737
Poland	86,086	141,962	107,541	5,110	334,699
Share (%)	24.8	19.2	15.1	18.2	19.6

Table 3.7　　Spending on 4 Selected ALPs in 8 Surveyed Voivods 1996 [thous. Zl]

Voivod	Retraining	Intervention works	Public works	Self-employment	Total
Gorzów	1,277.7	4,581.1	5,380.6	1,555.6	12,795.0
Katowice	10,618.8	13,207.4	6,879.4	1,214.3	31,937.9
Konin	851.4	4,113.4	2,923.9	777.3	8,666.0
Kraków	1,985.2	2,356.8	1,066.6	1,173.3	6,581.9
Lublin	1,401.1	6,053.5	3,907.8	1,791.8	13,154.2
Olsztyn	4,582.0	11,927.0	14,930.0	2,491.0	33,930.0
Poznan	1,789.0	2,132.0	3,094.0	22.0	6,992.0
Radom	612.7	7,785.3	6,452.6	850.1	15,700.7
Total	23,117.9	52,156.5	44,634.9	9,875.4	129,757.7
Poland	92,600.0	276,600.0	268,600.0	55,600.0	633,400.0
Share (%)	24.97	18.86	16.62	17.76	20.49

Table 3.8　　Spending per Participant in 4 Selected ALPs in 8 Surveyed Voivods 1996 [thous. Zl]

Voivod	Retraining	Intervention works	Public works	Self-employment
Gorzów	1.123	1.679	2.422	14.675
Katowice	1.292	2.016	3.965	10.119
Konin	0.962	1.948	2.213	7.621
Kraków	1.979	2.308	2.104	12.096
Lublin	0.565	1.730	2.547	10.181
Olsztyn	0.948	2.049	2.555	10.691
Poznan	0.370	1.161	2.432	5.500
Radom	0.719	2.142	3.575	9.446
Mean in 8 Voivods	1.082	1.929	2.749	10.643
Poland	1.076	1.948	2.498	10.880

Table 3.9.1   Sampling and Survey Results—Sample Sizes Designed, Selected and Interviewed

Voivod	Retraining			Public Works			Intervention Works			Self-employment Loans		
	Designed	Selected	Inter-viewed	Designed	Selected	Inter-viewed	Designed	Selected	Inter-viewed	Designed	Selected	Inter-viewed
Gorzów	170	173	170	180	197	180	260	263	260	80	97	80
Katowice	1120	1,142	1,120	120	143	120	620	628	620	120	131	120
Konin	150	150	150	90	92	90	215	215	215	70	73	70
Kraków	130	139	130	50	67	50	130	136	128	60	64	60
Lublin	470	470	438	125	138	112	300	294	281	120	120	104
Olsztyn	520	523	435	425	410	378	500	503	453	120	122	105
Poznan	300	301	296	90	110	89	150	149	143	80	82	72
Radom	140	146	140	170	216	169	325	320	312	100	135	98
Total	3,000	3,044	2,879	1,250	1,373	1,188	2,500	2,508	2,412	750	824	709
Response rate			0.946			0.865			0.962			0.860

Table 3.9.2   Participant Group and Matched Comparison Group Sample Sizes

Voivod	Retraining		Public Works		Intervention Works		Self-employment	
	Participant	Comparison	Participant	Comparison	Participant	Comparison	Participant	Comparison
Gorzów	170	170	180	180	260	260	80	80
Katowice	1120	1120	120	120	620	620	120	120
Konin	150	150	90	90	215	215	70	70
Kraków	130	129	50	50	128	129	60	58
Lublin	438	446	112	119	281	292	104	112
Olsztyn	435	440	378	360	453	427	105	94
Poznan	296	295	89	86	143	148	72	68
Radom	140	135	169	169	312	319	98	98
Total	2,879	2,885	1,188	1,174	2,412	2,410	709	700

Table 3.10   Descriptive Characteristics for Poland Data

Variable name	Description
EARNPRE	Average earnings before registering
MALE	Respondent is male: 1=yes, 0=no
AGE	Age at survey completion date, in years
EDELEM	8 years or less schooling: 1=yes, 0=no for all in this category
EDVOC1	Basic vocational school
EDVOC2	Completed secondary vocational school
EDGYM	Completed general secondary school
EDCOLL	Some higher education
OCCMGR	Last job top manager: 1=yes, 0=no for all in this category
OCCPROF	Last job specialist/professional
OCCTECH	Last job technician w/out univ. degree
OCCSERV	Last job service worker
OCCSKIL	Last job skilled work
OCCUNSK	Last job unskilled work
OCCCLER	Last job clerk/administrator
PHYSDIS	Respondent has a physical disability: 1=yes, 0=no
HHSIZE	Number of people living w/respondent
SPOUSEH	Spouse lives with you: 1=yes, 0=no
SPEMPL	Spouse is employed or self-emp: 1=yes, 0=no
OTHEREMP	Number of other employed members of household
DEPEND1	Number of people dependent economically on respondent
DEPEND2	Number of dependents under 18 or pensions
LOOKWORK	Number of other household members not working but looking for work
EARN5	Average gross monthly household earnings excluding respondent

Table 3.10.1   Descriptive Characteristics of Comparison Group and Retraining Participant Samples

	Comparison group	Retraining	Difference	t-statistic on difference
EARNPRE	329	348	19	1.56
MALE	0.33	0.32	-0.01	0.31
AGE	22.93	22.99	0.06	0.40
EDELEM	0.04	0.04	0.00	0.09
EDVOC1	0.27	0.26	-0.01	0.61
EDVOC2	0.44	0.44	0.00	0.02
EDGYM	0.23	0.23	0.00	0.42
EDCOLL	0.03	0.03	0.00	0.41
OCCMGR	0.00	0.00	0.00	0.34
OCCPROF	0.02	0.02	0.00	0.19
OCCTECH	0.03	0.02	-0.01	1.51
OCCSERVE	0.07	0.06	-0.01	0.96
OCCSKILL	0.11	0.11	0.00	0.24
OCCUNSKL	0.06	0.07	0.01	1.27
OCCCLERK	0.04	0.06	0.02**	3.50
PHYSDIS	0	0	0	0.28
HHSIZE	3.08	3.03	-0.05	1.56
SPOUSEHM	0.60	0.56	-0.04**	1.93
SPEMPL	0.80	0.78	-0.02	1.29
OTHEREMP	1.32	1.31	-0.01	0.23
DEPEND1	0.35	0.37	0.02	0.87
DEPEND2	0.86	0.84	-0.02	0.98
LOOKWORK	0.19	0.18	-0.01	0.25
EARN5	516	564	48**	2.78

* Statistically significant at the 90 percent confidence level in a two-tailed test.
** Statistically significant at the 95 percent confidence level in a two-tailed test.

Table 3.10.2   Descriptive Characteristics of Comparison Group and Public Works Participant Samples

	Comparison group	Public works	Difference	t-statistic on difference
EARNPRE	312	342	30	3.94
MALE	0.85	0.85	-0.00	0.40
AGE	29.11	29.02	-0.09	0.22
EDELEM	0.41	0.41	0.00	0.07
EDVOC1	0.46	0.46	0.00	0.14
EDVOC2	0.10	0.10	0.00	0.12
EDGYM	0.02	0.02	0.00	0.40
EDCOLL	0.01	0.01	0.00	0.15
OCCMGR	0.00	0.00	0.00	0.01
OCCPROF	0.00	0.00	0.00	0.73
OCCTECH	0.01	0.02	0.01*	1.70
OCCSERVE	0.06	0.02	-0.04**	5.62
OCCSKILL	0.45	0.31	-0.16**	7.43
OCCUNSKL	0.27	0.51	0.24**	12.12
OCCCLERK	0.03	0.05	0.02**	2.33
PHYSDIS	0.02	0.01	-0.01**	3.47
HHSIZE	3.13	3.34	0.21**	3.05
SPOUSEHM	0.70	0.70	0.00	0.02
SPEMPL	0.48	0.43	-0.05	1.57
OTHEREMP	0.78	0.83	0.05	1.23
DEPEND1	0.90	1.07	0.17**	2.95
DEPEND2	1.24	1.39	0.15**	2.80
LOOKWORK	0.32	0.36	0.04*	1.68
EARN5	427	451	24	1.13

 * Statistically significant at the 90 percent confidence level in a two-tailed test.
** Statistically significant at the 95 percent confidence level in a two-tailed test.

Table 3.10.3   Descriptive Characteristics of Comparison Group and Intervention Works Participant Samples

	Comparison group	Intervention works	Difference	t-statistic on difference
EARNPRE	295	308	13	1.27
MALE	0.41	0.41	0.00	0.24
AGE	23.36	23.35	-0.01	0.06
EDELEM	0.09	0.08	-0.01	0.37
EDVOC1	0.49	0.49	0.00	0.38
EDVOC2	0.35	0.35	0.00	0.10
EDGYM	0.06	0.05	-0.01	0.51
EDCOLL	0.01	0.01	0.00	0.13
OCCMGR	0.00	0.00	0.00	0.58
OCCPROF	0.01	0.01	0.00	0.15
OCCTECH	0.02	0.03	0.01**	2.55
OCCSERVE	0.12	0.12	0.00	0.65
OCCSKILL	0.20	0.24	0.04**	3.08
OCCUNSKL	0.11	0.12	0.01	1.38
OCCCLERK	0.03	0.05	0.02**	3.84
PHYSDIS	0.01	0.00	-0.01**	2.40
HHSIZE	3.27	3.24	-0.03	0.52
SPOUSEHM	0.60	0.59	-0.01	0.56
SPEMPL	0.69	0.73	0.04	1.49
OTHEREMP	1.15	1.18	0.03	0.97
DEPEND1	0.49	0.50	0.01	0.36
DEPEND2	1.07	1.07	0.01	0.22
LOOKWORK	0.26	0.25	-0.01	0.72
EARN5	520	573	53**	2.85

 * Statistically significant at the 90 percent confidence level in a two-tailed test.
** Statistically significant at the 95 percent confidence level in a two-tailed test.

Table 3.10.4   Descriptive Characteristics of Comparison Group and Self-employment Participant Samples

	Comparison group	Self-employment	Difference	t-statistic on difference
EARNPRE	351	376	25	1.25
MALE	0.58	0.60	0.02	0.96
AGE	34.04	33.92	-0.12	0.27
EDELEM	0.10	0.11	0.01	0.35
EDVOC1	0.43	0.43	0.00	0.10
EDVOC2	0.38	0.38	0.00	0.02
EDGYM	0.05	0.05	0.00	0.30
EDCOLL	0.03	0.03	0.00	0.10
OCCMGR	0.01	0.01	0.00	0.61
OCCPROF	0.03	0.03	0.00	0.12
OCCTECH	0.06	0.05	-0.01	1.01
OCCSERVE	0.13	0.20	0.07**	3.80
OCCSKILL	0.34	0.28	-0.06**	2.47
OCCUNSKL	0.18	0.11	-0.07**	3.37
OCCCLERK	0.10	0.10	0.01	0.54
PHYSDIS	0.02	0.01	-0.01	1.62
HHSIZE	2.89	3.03	0.14*	1.79
SPOUSEHM	0.87	0.91	0.04**	2.56
SPEMPL	0.72	0.66	-0.06**	2.34
OTHEREMP	0.55	0.47	-0.08*	1.84
DEPEND1	1.25	1.64	0.39**	5.68
DEPEND2	1.34	1.50	0.16**	2.69
LOOKWORK	0.18	0.16	-0.02	0.85
EARN5	439	419	-20	0.61

** Statistically significant at the 95 percent confidence level in a two-tailed test.
 * Statistically significant at the 90 percent confidence level in a two-tailed test.

Table 3.11   Tests of Representativeness: Subgroup Proportions in Combined ALP Comparison Groups Contrasted to Proportions in a Random Sample of Registered Unemployed

Variable/label	Random sample from register (n=10,000)	All comparison groups combined (n=7,169)	Difference
MALE - Respondent is male	0.511	0.465	-0.046**
FEMALE - Respondent is female	0.489	0.535	
AGELT30 - Age less than 30	0.552	0.790	0.238**
AGE3044 - Age between 30 and 44	0.328	0.179	-0.149**
AGEGE45 - Age is 45 or over	0.121	0.031	-0.089**
EDELEM - 8 years/or less schooling	0.256	0.121	-0.135**
EDVOC - Vocational secondary	0.623	0.738	0.115**
EDGYM - General secondary	0.092	0.120	0.028**
EDCOLL - Some higher education	0.028	0.021	-0.007**
WHITECOL - White-collar occupation	0.254	0.171	-0.083**
BLUECOL - Blue-collar occupation	0.465	0.344	-0.121**
OTHEROCC - Other occupation	0.281	0.486	0.205**
VOLUN - Voluntarily unemployed	0.192	0.112	-0.080**
NONVOL - Not voluntarily unemployed	0.808	0.888	
LTU - Long-term unemployed	0.338	0.499	0.161**
NONLTU - Not long-term unemployed	0.662	0.501	
EXP0 -Work experience = zero	0.235	0.481	0.246**
EXPLE3 - Work experience 3 years or less	0.258	0.293	0.035
EXP3T10 - Work experience 3-10 years	0.200	0.092	-0.108**
EXPGT10 - Work experience 10 years or more	0.289	0.134	-0.155**
AGE - Age in years	30.54	25.17	-5.37**
PHYSDIS - Has physical disability	0.022	0.013	-0.009**

 * Difference statistically significant at the 90 percent confidence level for a two-tailed test.
** Difference statistically significant at the 95 percent confidence level for a two-tailed test.

Table 3.11.1 Tests of Representativeness: Subgroup Proportions in the Retraining Comparison Group Contrasted to Proportions in a Random Sample of Registered Unemployed

Variable/label	Random sample from register (n=10,000)	Retraining comparison group (n=2,885)	Difference
MALE - Respondent is male	0.511	0.327	-0.184**
FEMALE - Respondent is female	0.489	0.673	
AGELT30 - Age less than 30	0.552	0.893	0.341**
AGE3044 - Age between 30 and 44	0.328	0.098	-0.230**
AGEGE45 - Age is 45 or over	0.121	0.009	-0.112**
EDELEM - 8 years/or less schooling	0.256	0.035	-0.221**
EDVOC - Vocational secondary	0.623	0.708	0.085**
EDGYM - General secondary	0.092	0.228	0.136**
EDCOLL - Some higher education	0.028	0.028	0.000
WHITECOL - White-collar occupation	0.254	0.153	-0.101**
BLUECOL - Blue-collar occupation	0.465	0.173	-0.292**
OTHEROCC - Other occupation	0.281	0.674	0.393**
VOLUN - Voluntarily unemployed	0.192	0.078	-0.114**
NONVOL - Not voluntarily unemployed	0.808	0.922	
LTU - Long-term unemployed	0.338	0.522	0.184
NONLTU - Not long-term unemployed	0.662	0.478	
EXP0 -Work experience = zero	0.235	0.690	0.455**
EXPLE3 - Work experience 3 years or less	0.258	0.183	-0.075**
EXP3T10 - Work experience 3-10 years	0.200	0.058	-0.142**
EXPGT10 - Work experience 10 years or more	0.289	0.069	-0.220**
AGE - Age in years	30.54	22.93	-7.61**
PHYSDIS - Has physical disability	0.022	0.009	-0.013**

  * Difference statistically significant at the 90 percent confidence level for a two-tailed test.
** Difference statistically significant at the 95 percent confidence level for a two-tailed test.

Table 3.11.2   Tests of Representativeness: Subgroup Proportions in the Public Works Comparison Group Contrasted to Proportions in a Random Sample of Registered Unemployed

Variable/label	Random sample from register (n=10,000)	Public Works Comparison Group (n=1,174)	Difference
MALE - Respondent is male	0.511	0.853	0.342**
FEMALE - Respondent is female	0.489	0.147	
AGELT30 - Age less than 30	0.552	0.604	0.052**
AGE3044 - Age between 30 and 44	0.328	0.319	-0.008**
AGEGE45 - Age is 45 or over	0.121	0.077	-0.044**
EDELEM - 8 years/or less schooling	0.256	0.409	0.152**
EDVOC - Vocational secondary	0.623	0.560	-0.064**
EDGYM - General secondary	0.092	0.019	-0.073**
EDCOLL - Some higher education	0.028	0.013	-0.015**
WHITECOL - White-collar occupation	0.254	0.111	-0.143**
BLUECOL - Blue-collar occupation	0.465	0.723	0.258**
OTHEROCC - Other occupation	0.281	0.166	-0.115**
VOLUN - Voluntarily unemployed	0.192	0.175	-0.016**
NONVOL - Not voluntarily unemployed	0.808	0.825	
LTU - Long-term unemployed	0.338	0.533	0.195**
NONLTU - Not long-term unemployed	0.662	0.467	
EXP0 -Work experience = zero	0.235	0.129	-0.107**
EXPLE3 - Work experience 3 years or less	0.258	0.480	0.223**
EXP3T10 - Work experience 3-10 years	0.200	0.149	-0.050**
EXPGT10 - Work experience 10 years or more	0.289	0.242	-0.047**
AGE - Age in years	30.54	29.11	-1.43**
PHYSDIS - Has physical disability	0.022	0.021	-0.001

 * Difference statistically significant at the 90 percent confidence level for a two-tailed test.
** Difference statistically significant at the 95 percent confidence level for a two-tailed test.

Table 3.11.3   Tests of Representativeness: Subgroup Proportions in the Intervention Works Comparison Group Contrasted to Proportions in a Random Sample of Registered Unemployed

Variable/label	Random sample from register (n=10,000)	Intervention Works comparison group (n=2,410)	Difference
MALE - Respondent is male	0.511	0.408	-0.102**
FEMALE - Respondent is female	0.489	0.592	
AGELT30 - Age less than 30	0.552	0.892	0.340**
AGE3044 - Age between 30 and 44	0.328	0.093	-0.235**
AGEGE45 - Age is 45 or over	0.121	0.015	-0.105**
EDELEM - 8 years/or less schooling	0.256	0.087	-0.169**
EDVOC - Vocational secondary	0.623	0.840	0.217**
EDGYM - General secondary	0.092	0.058	-0.034**
EDCOLL - Some higher education	0.028	0.015	-0.014**
WHITECOL - White-collar occupation	0.254	0.179	-0.074**
BLUECOL - Blue-collar occupation	0.465	0.313	-0.152**
OTHEROCC - Other occupation	0.281	0.507	0.226**
VOLUN - Voluntarily unemployed	0.192	0.084	-0.017**
NONVOL - Not voluntarily unemployed	0.808	0.916	
LTU - Long-term unemployed	0.338	0.514	0.176**
NONLTU - Not long-term unemployed	0.662	0.486	
EXP0 -Work experience = zero	0.235	0.504	0.269**
EXPLE3 - Work experience 3 years or less	0.258	0.366	0.109**
EXP3T10 - Work experience 3-10 years	0.200	0.060	-0.139**
EXPGT10 - Work experience 10 years or more	0.289	0.070	-0.220**
AGE - Age in years	30.54	23.36	-7.18**
PHYSDIS - Has physical disability	0.022	0.010	-0.012**

 * Difference statistically significant at the 90 percent confidence level for a two-tailed test.
** Difference statistically significant at the 95 percent confidence level for a two-tailed test.

Table 3.11.4   Tests of Representativeness: Subgroup Proportions in the Self-employment Comparison Group Contrasted to Proportions in a Random Sample of Registered Unemployed

Variable/label	Random sample from register (n=10,000)	Self-employment comparison group (n=700)	Difference
MALE - Respondent is male	0.511	0.577	0.067**
FEMALE - Respondent is female	0.489	0.423	
AGELT30 - Age less than 30	0.552	0.331	-0.220**
AGE3044 - Age between 30 and 44	0.328	0.570	0.242**
AGEGE45 - Age is 45 or over	0.121	0.099	-0.022**
EDELEM - 8 years/or less schooling	0.256	0.103	-0.154**
EDVOC - Vocational secondary	0.623	0.810	0.187**
EDGYM - General secondary	0.092	0.054	-0.038**
EDCOLL - Some higher education	0.028	0.033	0.005**
WHITECOL - White-collar occupation	0.254	0.314	0.061**
BLUECOL - Blue-collar occupation	0.465	0.516	0.051**
OTHEROCC - Other occupation	0.281	0.170	-0.111**
VOLUN - Voluntarily unemployed	0.192	0.244	0.053**
NONVOL - Not voluntarily unemployed	0.808	0.756	
LTU - Long-term unemployed	0.338	0.290	-0.048**
NONLTU - Not long-term unemployed	0.662	0.710	
EXP0 -Work experience = zero	0.235	0.136	-0.099**
EXPLE3 - Work experience 3 years or less	0.258	0.174	-0.084**
EXP3T10 - Work experience 3-10 years	0.200	0.247	0.048**
EXPGT10 - Work experience 10 years or more	0.289	0.443	0.154**
AGE - Age in years	30.54	34.04	3.50**
PHYSDIS - Has physical disability	0.022	0.024	0.002

   * Difference statistically significant at the 90 percent confidence level for a two-tailed test.
** Difference statistically significant at the 95 percent confidence level for a two-tailed test.

4. Evaluation of Retraining

Retraining of unemployed workers means additional short-term job skill training to make job seekers ready to fill job openings in the region. Retraining participants receive a stipend which has a 15 percent premium over the UC benefit. The stipend is paid from the Labor Fund and does not reduce a retraining participant's 12-month eligibility for UC. Indeed if a voivod provides a retraining course which is successfully completed yet leads to no employment, an expanded UC eligibility may result.

After intervention works and public works, retraining has received the next largest share of spending on ALPs in recent years. Retraining also ranks third in the number of program participants. As seen in Table 3.11.1 retraining participants tend to be less male, younger, more educated, and with less work experience than the general population of registered unemployed. In Table 4.1 we see that the characteristics of the selected comparison group accord quite closely with those who participated in retraining and were randomly selected for the evaluation.

The exposition of impact estimates for retraining in Poland presented in this chapter proceeds with a review of descriptive outcomes from the survey. This is followed by a report on net impacts for the main employment and earnings measures. Section 3 of this chapter presents a subgroup analysis of retraining impacts on employment and earnings, Section 4 reports net impacts on various features of retraining, Section 5 reports on the timing of response to retraining, Section 6 reports on the impact on employment, unemployment and unemployment compensation, and the final section attempts a concise net benefit analysis of the retraining program.

4.1 A descriptive overview of retraining outcomes

This section presents a series of frequency distributions based on survey questions asked of retraining program participants. The net impact analysis of retraining presented in following

sections was based on a participant sample of 2,879 and a comparison group sample of 2,885. The descriptive information which follows divides these samples in various ways.

Table 4.1.1 considers the use of various services offered by the ES and records how many of the retraining participants used each service among those who later were employed and those who failed to be reemployed. Among those who were reemployed, a relatively larger proportion used the skills assessment service of the ES, and a smaller proportion used job referrals.

Table 4.1.2 shows that among retraining participants who were reemployed, over 75 percent were in regular non-subsidized jobs, almost 9 percent had their wages subsidized, nearly 10 percent were working in other jobs, and a small fraction of retrainees reverted to public works jobs.

Table 4.1.3 reports on the subjective value of retraining among those who were reemployed afterward. Over 75 percent said it was somewhere between valuable and extremely valuable. Only 10 percent said it was worthless.

Table 4.1.4 reports that for the 1,038 retrainees out of work on the survey date, 46 percent cite a lack of jobs available in their chosen field, 14 percent are occupied with evening or weekend school, and 23 percent cited some other non-listed reason.

Table 4.1.5 reports that among the 1,038 retrainees unemployed on the survey date, over 20 percent were drawing UC benefits, while 68 percent were drawing both UC and social welfare assistance.

4.2 Impact estimates of retraining on employment and earnings

Impact estimates presented in this section focus on two main outcomes: employment and earnings. Various delineations of these are presented. Four measures of employment are

examined: a narrow definition involving only non-subsidized jobs and a broader definition permitting subsidized jobs as well, each considered over the entire period of observation and for the current status on the date of the survey. The five variables EMPNORM, EMPANY, EMPNOWN, EMPNOWA, and EARNNOW are used throughout this report and are defined as:

EMPNORM - Ever employed in a non-subsidized job since program participation

EMPANY - Ever employed in any job since program participation

EMPNOWN - Now employed in a non-subsidized job

EMPNOWA - Now employed in any job

EARNNOW - Average monthly wage on current job

Table 4.2 presents net impact estimates for the effect of retraining programs on the various measures of employment and earnings in Poland estimated in three different ways. The first set were computed as simple differences between means of the participant and comparison group on the outcomes of interest. Since the comparison group was selected by a matched pairs process, these are net impact estimates adjusted for sample composition; that is, the sampling method nets out any sample selection bias which may have occurred in enrolling registered unemployed into retraining programs.

The second set of results reported in Table 4.2 is "ES interaction," where ES stands for the Employment Service. These estimates were computed while adjusting for the fact that many program participants also used other reemployment assistance provided by the ES. The third set of results reported in Table 4.2, in addition to accounting for the effect of the ES, also adjusts for observable characteristics in computing net program impacts.

It should also be noted that the single measure of ALP impact on earnings, EARNNOW, is average monthly earnings on the current job at the survey date, which was between February 15 and April 15, 1997. While the annual rate of consumer price inflation in Poland was nearly 20 percent at this time, our analysis involves comparing earnings measures recorded during a narrow

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60-day period. For that reason, in this report there is no need to adjust for inflation in performing net impact analysis.

The large sample sizes resulted in statistical significance for all the net impact estimates reported in Table 4.2. Estimates from each of the three methods are identical for the employment outcomes. Retraining in Poland is estimated to raise the probability of ever finding a normal job and also being in a normal job on the survey date by 12 percentage points. These are large and very significant results. The fact of continued employment through the survey date suggests that the effect of retraining is somewhat durable. The point estimate of ever reemployed in a normal job after retraining at 61 percent is a high rate of success, and that 51 percent are employed an average of more than a year after finishing retraining is very encouraging, especially considering that among similar persons who did not get retraining only 39 percent were employed on the survey date.

On the broader measures of reemployment in any job, including subsidized ones, the net impact estimates are again large and significant. Among retraining, participants the proportion in any job steadily stays at 63 percent; this level exceeds the comparison group who were ever reemployed (EMPANY) and currently employed in any job by 10 and 14 percentage points respectively.

Retraining also appears to have had a positive net impact on average monthly earnings. There is a slight difference in the impact estimates from the alternative techniques. Employed participants are estimated to earning an average 23 or 24 Zl per month more than employed comparison group members on the survey date. If this earnings differential of nearly 5 percent persists over time, the lifetime value of training to participants would be enormous.

The impact estimates from each of the three methods are in close agreement. In particular it appears that whether or not retraining participants used the ES, the retraining effect on reemployment was the same. While about 51 percent of both retraining participants and

comparison group members used some assistance from the ES (Table 5.1.1), it appears that use of the ES does not appreciably add to or detract from the retraining effect.

4.3 A subgroup analysis of retraining impacts

There are at least two reasons to examine treatment impacts by population subgroup. One is to provide information to policymakers who may consider targeting ALPs to certain groups like those without a specialization or older unemployed persons. Another is to identify any possible biases in the effects—a program that benefits only one gender or certain education level groups may not be considered good policy even if it is cost effective.

Subgroup impact estimates were computed simultaneously; that is, retraining impact estimates for females were computed while adjusting for the fact that registered unemployed females tend to have more schooling and are less likely to work in blue-collar occupations than their male counterparts. Details of the subgroup estimation methodology are given in Appendix B to this report.

Table 4.3 presents net impact estimates of retraining by subgroup on the employment outcome variables EMPNORM, EMPANY, EMPNOWN, EMPNOWA, and on the earnings measure EARNNOW. Subgroups are defined by 29 categorical variables for gender, age, education, occupation, whether or not the person became voluntarily unemployed, whether or not the person was long-term unemployed (meaning registered unemployed at least 12 months prior to entering retraining), categories of prior work experience, whether unemployment in the voivod of residence is high or low, and indicators for each of the eight voivods.[5]

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[5]The three occupation categories were based on information in question 2.1 extracted from the unemployment register (Record Type A) given in Appendix A. Coded as white-collar were service, technical, clerk, manager, and professional; as blue-collar, skilled and unskilled; the other category included data values I = other, J = no response, and A = no data. The high unemployment rate group includes Gorzów, Lublin, Konin, Olsztyn, and Radom, while the low unemployment group includes Katowice, Kraków, and Poznan. Since the regional unemployment indicators are exact linear combinations of the voivod indicators, these last two sets of subgroup

While the results indicate no real differences across subgroups by gender, retraining appears to aid reemployment by those in the prime working age group, aged 30 to 44 years, significantly more than the younger and older age groups. It is important to note that the vast majority of retraining participants are in the younger age group that shows relatively smaller impacts. It may be (as suggested in Table 4.1.4) that a portion of the younger are not employed because of evening or weekend school, or even perhaps full time higher education.

The subgroup analysis reveals no significant differences in impacts across educational attainment groups for retraining. A tendency for those with vocational educations to benefit less compared to others appears, but the difference is not statistically significant.

Three occupational categories were established for the subgroup analysis. The greatest benefit from retraining was experienced by those who did not fit clearly into either white-collar or blue-collar occupation groups. However, only in one case was the larger impact for this group significantly different from that for the other occupation groups.

A larger and statistically significant difference indicates that long-term unemployed persons benefit appreciably less from retraining than those who were not long-term unemployed. While reemployment prospects for both groups were boosted by retraining, the long-term unemployed gained only about 6 percentage points in their probability of reemployment in a normal job, while those not searching as long before retraining gained a nearly 14 percentage point advantage.

The impact of retraining on those with differing work experience shows an unexpected u-shaped response surface. Those without prior work experience and those with more than 3 years experience gained almost 10 percentage points in reemployment success, which was somewhat higher than for those with some experience less than three years. For the outcome

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effects were estimated in separate models.

EMPNOWN, employed now in a normal job, the 10 percentage point retraining effect held up for the no experience group, while the effect for the low experience group plunged to a low and negative impact, and the impact for the high experience group disappeared.

There were statistically significant differences in the impact of retraining across unemployment rate regions. Somewhat surprisingly the impact of retraining in high-unemployment areas was almost double that in lower-unemployment areas, both in terms of getting into a normal job and in staying in a normal job. The high/low unemployment rate distinction also largely explains the variation in impact estimates across voivods.

4.4   Net impacts of various retraining program features

Since the retraining provided to unemployed job seekers is not homogenous, it is useful to investigate if variations in different observable dimensions of retraining yields different impacts on the outcome measures for employment and earnings. Table 4.4 presents net impact estimates of the duration of retraining, the ownership status of the retraining provider, and the industry of the retraining provider.

Three natural groups surfaced in the frequency distribution of the duration of retraining as presented in Table 4.4.1: durations less than 1 month, 1 to 3 months, and 4 or more months. For impacts on employment in a normal non-subsidized job at all and at the survey date, the impact of the very short-term retraining was by far the greatest. Table 4.4 reports that retraining of less than 1 month boosted the probability of ever being reemployed in a normal job (EMPNORM) by 22 percentage points and of being in a normal job at the survey date by 19 percentage points, and these impact estimates were statistically significantly greater than the impact on those retrained for longer periods. Indeed, the results for those in the 1-to-3 months group and those in the 4-or-more months group were nearly identical for all outcome measures and the impacts were about half the size of those for the short-duration retraining group. (Naturally this result calls for an investigation about the nature of the very short-term retraining received by about 6.2 percent of

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participants. Apparently the short-duration training is mainly provided in compact modules to experienced workers in their existing occupation who can benefit from some incremental extension of their knowledge or credentials.)

In addition to investigating the effect of retraining duration with categorical variables, models which include continuous measures of retraining duration were also estimated. For estimating the impact on each of the five outcomes, the number of months was entered as a predictor together with the number of months squared.[6] The squared-term was entered to capture the non-linear response surface suggested by the categorical variables. An indicator variable for retraining of less than one month duration was also included to prevent this strong response from affecting the shape of the remaining surface. For each of the employment outcomes, the coefficient on months is about 0.05 while that on months squared is about -0.005 (Table 4.9). This means that retraining has a positive effect on reemployment, but the longer the training is, the smaller the boost to reemployment success in terms of all measures. The mean duration of retraining among participants was 2.42 months. At this duration, the impact of an additional month of retraining on the four employment outcomes is 0.031, 0.028, 0.028, and 0.034, respectively. The impact on current monthly earnings at the mean is 2.5Zl per month.

Ownership status was mainly composed of two groups: public, with 40.5 percent of retraining participants, and private, with 43.9 percent. Other categories existed, and the complete frequency distribution is given in Table 4.4.2. As seen in Table 4.4, there was a slight edge in terms of the impact on reemployment success for privately run retraining. The difference is statistically significant when employment status on the survey date (EMPNOWN) is considered: 14 percentage points for privately run retraining compared to 10 percentage points for publicly run programs. The same spread is observed for EMPNOWA, although employment rates are 2

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[6]A model similar to equation (6) in Appendix B was estimated in which the variables P_1 and P_2 were replaced by the variables D (for retraining duration in months) and D squared (D*D); control variables X were also included in the model.

percentage points higher. The higher employment impacts can be expected when subsidized jobs are added to the pool of acceptable reemployment outcomes.

The industry of retraining firms were mainly bunched in two categories: adult education with 48.9 percent and employer or other organizations which included 30.7 percent (Table 4.4.3). Impacts of retraining by firms from these different groups were very close to each other, in the 10 to 15 percentage point range. The lone exception is employment in a normal job on the survey date (EMPNOWN) when retraining was provided by an employer or other organization; that impact estimate was 8 percentage points and was significantly lower than retraining provided by firms in the adult education industry.

4.5   The timing of response to retraining

Two tables presented in this section, showing the timing of exit from the unemployment register to reemployment, are used to illustrate the pattern of the reemployment effects of retraining. Table 4.5.1 compares exits from the unemployment register for retraining participants and comparison group members for a maximum 28-month period starting as early as January 1995.

For both participant and comparison group members who were registered as unemployed on or before January 1995, the first month considered in the series is January 1995 and the possibility of reemployment is observed for up to 28 months. For those whose spell of registered unemployment began sometime after January 1995, the first month in the series is the month of registration and their reemployment activity is observed for something less than 28 months.

In the hazard analysis presented here, exit from the unemployment register to reemployment is defined to occur when the first new job begins after having registered as unemployed. Referring back to Table 3.9.2, it can be seen that the initial risk sets for retraining are slightly smaller than the full sample sizes of 2,879 participants and 2,885 comparison group

members. This is because for a small number of observations in the sample, the recorded date of the first new job is before the recorded start date of the unemployment spell.[7]

Table 4.5.1 shows how many people started new non-subsidized jobs from the comparison and retraining groups in each month since they registered as unemployed, the proportion who started jobs (the exit rate), and the difference in exit rates between the participant groups (the retraining impact). Retraining participants are generally seen to exit at a higher rate, with the difference being statistically significant in months 8 through 12 and 15 through 19.

The pattern of statistically significant higher exit rates for retraining participants accords with the duration of retraining numbers given in Table 4.4.1 and the fact that entry to retraining happens only after several months on the unemployment register. The cumulative retraining impact on the exit rate for the groups examined is 11.75 percentage points, which is quite similar to the estimate of ever reemployed in a normal job (EMPNORM) given in Table 4.2 despite the somewhat tailored sample used to form the initial risk sets.

To sharpen the contrast in examining exits from unemployment to normal non-subsidized jobs, in Table 4.5.2 we compare exits from the same comparison risk set used in Table 4.5.1 starting at the date of registering as unemployed, with exits of retrainees starting at the time of completing retraining. The risk set for retrainees is expanded to include everyone in the data set

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[7]Observations were included in the initial risk set if the date of the first job (**firstjob**) was after the most recent date of registration as unemployed (**regdate**). For a large portion of the initial risk set this meant that **firstjob** must have been during or after January 1995. An attempt was made to correct data where errors in coding could be confirmed. Besides recording **regdate**, the data set also includes the first date people ever registered as unemployed (**firstdte**). Some people picked for the sample during the inflow sampling time frame got a new job but then lost it and re-registered as unemployed. If **regdate** is after **firstjob**, but **firstdte** is before **firstjob** and **firstdte** is in 1995 then we start the series at **firstdte**. Additionally, if the recorded value for **firstdte** is after **regdate** then the later of **firstdte** or January 1995 is used as the first month in the series, since we assume sampling was done properly.

who had a date for leaving the ALP after January 1995.[8] The idea behind this redefinition is to compare the time until reemployment of newly registered unemployed who receive no ALP services with the time until reemployment of newly retrained persons (who are otherwise similar in terms of observable characteristics like age, gender, education, and so forth). As expected, the retraining impact on reemployment in a normal job is large and statistically significant immediately. The large positive effect gradually diminishes and becomes negative after the twelfth month.

4.6 Impact of retraining on unemployment compensation costs

Survey respondents were asked about their main activity in each month during the 24-month period from January 1995 through December 1996.[9] Responses to this question allowed independent estimates of retraining impact on employed months (EMMONTHS) and unemployed months (UNMONTHS) since the most recent registration as unemployed. Because we also know labor market status at the survey date (between February 15 and April 15, 1997), it was possible to lengthen the observation period somewhat.

Net impact estimates for the effect of retraining on these various outcomes in Poland were estimated in three different ways (Table 4.6). The first set were computed as simple differences between means of the participant and comparison group on the outcomes of interest. Since the comparison group was selected by a matched pairs process, these are net impact estimates

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[8]For the participant group in Table 4.5.2, the risk set is defined at the month in which exit from retraining occurs. The risk set for participants in Table 4.5.2 is larger than in Table 4.5.1 because retraining ended before some recorded values of the most recent date of registration as unemployed. Thus, the start of the series reported in Table 4.5.2 is actually sooner for some participants than it was in Table 4.5.1, so that by this definition the first new job is after the start of the unemployment spell for more observations.

[9]This data came in response to survey question 8 asked of retraining participants (Record Type C) and question 8 asked of comparison group members (Record Type B).

adjusted for sample composition; that is, the sampling method nets out any sample selection bias which may have occurred in enrolling registered unemployed into retraining programs.

The second set of results reported in Table 4.6, labeled ES interaction, were computed while adjusting for the fact that many program participants also used other reemployment assistance provided by the ES. The third set of results reported in Table 4.6, in addition to accounting for the effect of the ES, also adjusts for observable characteristics in computing net program impacts.

In contrasting the employment and unemployment months of retraining participant and comparison group members, it should be recalled that the former group spent the retraining period unavailable for reemployment or full-time job search, and differences in durations between these two groups will be influenced by this fact. This factor is less important for examining impacts on outcomes summarized in Table 4.2. Employment rates and usual monthly earnings are less affected by the retraining time out of the labor market, particularly since the average duration of retraining was only 2.4 months and the follow-up surveys were conducted long after retraining completion. Despite time spent in retraining, the "Impact" column in Table 4.6 indicate that retraining participants spent 1.08 more months employed and 1.27 fewer months unemployed than the comparison group during the observation period. These are real direct and immediate effects of retraining. Results from the difference computation and the ES interaction estimate are identical; those from the regression adjusted method tend to be slightly smaller in magnitude but are not statistically significantly different. Earlier (Table 4.2), we saw that the 12 percentage point advantage for reemployment in a normal job enjoyed by retraining participants also persisted. Taken together, these results suggest a significant economic benefit to retraining.

Data drawn from the employment register for both retraining participants and comparison group members also provided for creation of a variable summarizing months of unemployment compensation drawn (UCMONTHS) since most recent registration as unemployed. Because this data was drawn from the register rather than through surveys, it was possible to get data from

January 1994 right through April 1997. Also, since unemployment benefits were paid at a fixed rate of 36 percent of the average national monthly wage to eligible beneficiaries, we can easily approximate the monetary value of UC during the observation period.[10] Table 4.6 shows that retraining participants drew 1.16 months more and approximately 291 Zl more in UC benefits than did members of the comparison group. This is most certainly a result of the rule which provides requalification for UC to retrained persons for whom the local labor office is unable to find a job placement.

4.7 Benefit-cost analysis of retraining

Responsible public management requires that government programs operated for the public welfare generate more benefits than they do costs. Since, the assessment of benefits and costs depends on the perspective taken, it is important to be explicit about that view when assessing the net benefits of a public program. This section presents estimates of the net benefits of retraining computed for three different perspectives: the National Labor Office (or Ministry), all government, and society.[11] The estimates presented in Table 4.7 are extremely conservative and most certainly understate the benefits of retraining. Computations are based only on the period of observation from registration as unemployed through the survey date in early 1997. They do not consider the likely prospect that employment rates and earnings advantages for

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[10]While occasionally partial months of benefits are paid, usually the full amount is given. Starting in January 1997, the monthly benefit amount varied by the duration of prior labor market experience; however, if such experience is distributed normally among the beneficiaries, then average benefit of 36 percent of the average wage still provides a reasonable approximation.

[11]In this concise analysis, no attempt is made to adjust for displacement. Displacement occurs when program participants gain greater labor market success in terms of employment or earnings at the expense of persons who did not participate in the program. In the extreme, it can be imagined that every active labor program participant is hired by an employer over an otherwise equivalent job candidate who did not participate in an active labor program. It should be noted that in Poland, where the pool of job seekers approached 3 million on the average day in 1996, only 370,000 people ever participated in ALPs supported by the Polish Labor Fund.

retrainees will continue well beyond April 1997. Finally, the estimates are computed on a per participant basis; they are not aggregated over all participants.

The most narrow view of net benefits of a retraining program is that from the National Labor Office itself. When computing net benefits from the perspective of National Labor Office (or Ministry), the benefit is any savings in UC payments and the costs are the direct costs of paying for retraining to be done and the administrative cost of contracting, monitoring, and referring participants and follow-up. The UC impact used the regression-adjusted estimate presented in Table 4.6. For the direct cost of retraining, the average for 1995 and 1996 per participant costs summarized in Tables 3.5 and 3.8 are used for each separate voivod, and for the cost of administration, a figure from Poznan voivod is used.[12] The net benefit of retraining for the National Labor Office is estimated to be a cost of 1,285 Zl per participant. This program has also been estimated to boost the probability of reemployment in a normal non-subsidized job by 12 percentage points. To assess cost-effectiveness, this gain should be compared to the net cost and to similar contrasts for other programs.

A somewhat broader perspective in assessing the net benefits of a public program is all government. By all government we mean the collection of all agencies which collect taxes and dispense public services. Net benefits to all government depend on the benefit from any saving in UC payments which might not be made, and the additional tax revenue which would accrue to governmental agencies due to longer employment or higher wages which might result.[13] The

[12]The only reliable figure for the cost of program administration available was provided for Poznan voivod. In 1996, Poznan spent a total of 4,515,233 Zl on administration of all programs including UC, ES, and all other ALPs. The administrative cost of 90 Zl per participant was arrived at by dividing the Poznan total administrative cost by 49,979, which is the average monthly number of registered unemployed job seekers, UC beneficiaries, and ALP participants in Poznan during 1996. This figure of 90 Zl is used throughout this report as the per participant administrative cost for all ALPs, as it is the best available information.

[13]The gain in tax revenue is estimated by multiplying the lowest Polish national marginal tax rate on income of 20 percent by the gain in earnings resulting from retraining. The average monthly earnings per for participants and comparison group members is drawn from Table 4.2,

costs to government include the direct costs of operating the program and the administrative costs for the program. In Table 4.7, for all government we see the net cost to be smaller than that for the National Labor Office by the amount of 134 Zl additional tax revenue per retraining participant.

The final measure of acceptability for a program is whether it generates positive net benefits for society as a whole. Real gains to society accrue if the aggregate value of economic output increases. Additions to social economic output are estimated by the increased value of earnings.[14] From this we must deduct costs which society incurs by having retraining which would not have been otherwise experienced. These costs include the direct and administrative costs of the program. The impact on UC payments does not figure into the social net benefit computation, as these are simply transfer payments from one group in society to another, and transfer payments have no affect on total social economic output. The gains in earnings combined with the direct and administrative costs mean that the net cost to society of providing retraining is a modest 326 Zl or about $100 U.S. for each person retrained.

4.8 A summary of the retraining evaluation

Retraining resulted in 12 percentage points more people getting into regular non-subsidized employment and a 23 Zl gain in average monthly earnings.

Retraining was more effective for prime-aged workers, with a non-vocational background, who had occupations which could not be easily categorized into broad occupational groups, were

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the comparison group mean is reported and the difference for particiants adjusted for use of the ES and other factors was used. Estimates for the months of employment were similarly taken from Table 4.6.

[14]The impact on earnings is the impact on average monthly earnings (Table 4.2) multiplied by the impact on months of employment (Table 4.6).

not previously long-term unemployed, had either very short or rather long prior employment history, and lived in voivods with a high unemployment rate.

Short-term, skill-focused retraining was 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.

Retraining was associated with a prolonged duration of unemployment compensation. Very rough net benefit computations suggest that net costs to the National Labor Office, to government as a whole, and to all of society suggest that retraining as done in Poland is a relatively cheap reemployment strategy. The subgroup analysis indicated some ways that targeting could be changed to improve the benefit to society of retraining.

Retraining has positive net impacts on employment and earnings, but cost-effectiveness might be improved by adding focus to more prime-age workers instead of youth, conducting more short-term focused, modular skill retraining, and ensuring that more of the training providers are private firms or institutions experienced in adult education.

Table 4.1   Means of Descriptive Characteristics for Comparison Group and Participant Samples for Retraining

	Comparison group	Retraining	Difference	t-statistic on difference
EARNPRE	329	348	19	1.56
MALE	0.33	0.32	-0.01	0.31
AGE	22.93	22.99	0.06	0.40
EDELEM	0.04	0.04	0.00	0.09
EDVOC1	0.27	0.26	-0.01	0.61
EDVOC2	0.44	0.44	0.00	0.02
EDGYM	0.23	0.23	0.00	0.42
EDCOLL	0.03	0.03	0.00	0.41
OCCMGR	0.00	0.00	0.00	0.34
OCCPROF	0.02	0.02	0.00	0.19
OCCTECH	0.03	0.02	-0.01	1.51
OCCSERVE	0.07	0.06	-0.01	0.96
OCCSKILL	0.11	0.11	0.00	0.24
OCCUNSKL	0.06	0.07	0.01	1.27
OCCCLERK	0.04	0.06	0.02**	3.50
PHYSDIS	0.01	0.01	0.00	0.28
HHSIZE	3.08	3.03	-0.05	1.56
SPOUSEHM	0.60	0.56	-0.04**	1.93
SPEMPL	0.80	0.78	-0.02	1.29
OTHEREMP	1.32	1.31	-0.01	0.23
DEPEND1	0.35	0.37	0.02	0.87
DEPEND2	0.86	0.84	-0.02	0.98
LOOKWORK	0.19	0.18	-0.01	0.25
EARN5	516	564	48**	2.78

**   Statistically significant at the 95 percent confidence level in a two-tailed test.
 *   Statistically significant at the 90 percent confidence level in a two-tailed test.

Table 4.1.1   Use of the Employment Service by Retraining Participants

ES service	Those Who Were Reemployed		Those Who Were Not Reemployed	
	Number	%	Number	%
Job interview referrals	368	20.3	285	26.6
Skills assessment	362	20.0	146	13.6
Counseling	39	2.2	37	3.5
Job club	107	5.9	71	6.6
Other services	115	6.4	96	9.0
Group size	1809		1070	

Table 4.1.2   Jobs among Reemployed Retraining Participants

Response	Number	%
Have no data	52	2.9
Other	174	9.6
Regular non-subsidized	1366	75.5
Public works job	40	2.2
Wage subsidized by labor fund	157	8.7
Answer skipped	20	1.1
Cumulative	1809	100.0

Table 4.1.3   Workplace Value of Retraining Skills Learned

Response	Number	%
Have no data	27	1.5
No response/difficult to see	79	4.4
Extremely valuable	415	22.9
Very valuable	684	37.8
Valuable	288	15.9
Of little value	99	5.5
Worthless	177	9.8
Question skipped	40	2.2
Cumulative	1809	100.0

Table 4.1.4   Reasons for Unemployment Among the Retrained

Response	Number	%
Have no data	36	3.5
Other	244	23.5
Wanted job, no vacancies in my field	480	46.2
Wanted job, wages too low	56	5.4
Couldn't look for job, health problems	41	3.9
In eve/wkend school, adds difficulty	147	14.2
Expecting to serve in military soon	34	3.3
Cumulative	1038	100.0

Table 4.1.5   Compensation Received by Unemployed Retrainees

Response	Number	%
Have no data	55	5.3
No response	24	2.3
Regular unemployment compensation	215	20.7
Social welfare assistance	15	1.4
Both unemp comp & welfare assist	22	2.1
No benefits	707	68.1
Cumulative	1038	99.9

Note: Does not add to 100 due to rounding.

Table 4.2   Impact of Retraining on Employment and Earnings in Poland

	Comp. group	Retraining	Impact	t-statistic on impact	Comp. sample size	Participant sample size
Difference						
EMPNORM	0.49	0.61	0.12**	9.35	2,798	2,784
EMPANY	0.53	0.63	0.10**	7.80	2,798	2,784
EMPNOWN	0.39	0.51	0.12**	9.01	2,836	2,846
EMPNOWA	0.48	0.63	0.15**	10.72	2,765	2,768
EARNNOW	511	534	23**	2.61	1,369	1,770
ES Interaction[1]						
EMPNORM			0.12**	5.63		
EMPANY			0.10**	2.26		
EMPNOWN			0.12**	4.50		
EMPNOWA			0.14**	4.78		
EARNNOW			23**	2.14		
Regression-adjusted ES Interaction[2]						
EMPNORM			0.12**	5.84		
EMPANY			0.10**	2.79		
EMPNOWN			0.12**	5.41		
EMPNOWA			0.14**	5.67		
EARNNOW			23**	2.29		
Full sample	2,885	2,879				

  * Impact statistically significant at the 90 percent level in a two-tailed test.

** Impact statistically significant at the 95 percent level in a two-tailed test.

EMPNORM - Ever employed in a non-subsidized job since program participation.

EMPANY - Ever employed in any job since program participation.

EMPNOWN - Now employed in a non-subsidized job.

EMPNOWA - Now employed in any job.

EARNNOW - Average monthly wage on current job.

[1]   The ES interaction estimates were computed from a regression model as described in Appendix B in the section entitled Method for Separating out Impacts of Multiple Programs.

[2]   The regression adjusted ES interaction estimates were computed from a regression model as described in Appendix B in the section entitled Method for Separating out Impacts of Multiple Programs and also included the variables listed in Table 3.10.1 with the exception of EARNPRE, SPOUSEHM, and SPEMPL, which were omitted because of a high proportion of missing values. The regression also included indicator variables for the voivods, with the omitted reference voivod being Radom.

Table 4.3　　　　　Net Impact Estimates of Retraining by Subgroup

Variable/label	Proportion in comparison group	EMPNORM	EMPANY	EMPNOWN	EMPNOWA	EARNNOW
		Net Program Impacts				
FEMALE - Respondent is female~	0.673	0.106**	0.086**	0.081**	0.115**	13.3
MALE - Respondent is male	0.327	0.093**	0.058**	0.104**	0.120**	6.2
AGELT30 - Age ≤ 30	0.893	0.098**	0.065**	0.080**	0.098**	5.7
AGE3044 - Age between 30 and 44	0.098	0.152**##	0.198**##	0.170**	0.287**	60.8
AGEGE45 - Age is 45 or over~	0.009	-0.128	-0.122	0.002	0.081	-1.7
EDELEM - 8 years/or less schooling	0.035	0.163**	0.145**	0.062	0.148**	0.6
EDVOC - Vocational secondary~	0.708	0.086**	0.070**	0.083**	0.111**	22.9**
EDGYM - General secondary	0.228	0.137**	0.088**	0.101**	0.129**	-21.5#
EDCOLL - Some higher education	0.028	0.136*	0.073	0.145*	0.100	-7.3
WHITECOL - White-collar occupation	0.153	0.058	0.038	0.066	0.095**	-11.4
BLUECOL - Blue-collar occupation~	0.173	0.053	0.015	0.053	0.099**	35.6
OTHEROCC - Other occupation	0.674	0.125**	0.102**#	0.103**	0.126**	9.7
VOLUN - Voluntarily unemployed	0.078	0.115**	.092*	.142**	.179**##	49.562
NONVOL - Not voluntarily unemployed~	0.922	0.101**	.075**	.084**	.111**	7.992
LTU - Long-term unemployed	0.522	0.058**##	0.006##	0.026##	0.059**	0.8
NONLTU - Not unemployed long-term~	0.478	0.139**	0.138**	0.142**	0.166**	20.0*
EXP0 - Work experience = zero	0.690	0.093**	0.080**	0.095**	0.145**##	14.0
EXPLE3 - Work experience ≤ 3 years	0.183	0.069	0.016	-0.156##	-0.216**##	-47.8
EXPGT3 - Work experience > 3 years~	0.127	0.094	0.038	0.022	-0.044	-14.4
LOWURATE - Low unemployment area	0.535	0.077**#	0.087**	0.064**#	0.099**	9.1
HIURATE - High unemployment area~	0.465	0.130**	0.064**	0.116**	0.136**	13.3
GORZOW - Voivod is Gorzów	0.059	0.107**	0.053	0.072	0.136**	48.8
KATOWICE - Voivod is Katowice	0.388	0.057**##	0.083**	0.062**	0.109**	5.6
KONIN - Voivod is Konin	0.052	0.164**	0.085	0.075	0.067	-21.0
KRAKOW - Voivod is Kraków	0.045	0.334**	0.267**#	0.151**	0.159**	31.1
LUBLIN - Voivod is Lublin	0.155	0.056##	-0.011	0.111**	0.115**	-9.8
OLSZTYN - Voivod is Olsztyn	0.153	0.183**	0.124**	0.164**	0.180**	42.0**
POZNAN - Voivod is Poznan	0.102	0.042##	0.028	0.040	0.038	23.5
RADOM - Voivod is Radom~	0.047	0.194**	0.101*	0.088	0.157**	-27.2

 * 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 4.4   Impacts of Various Aspects of Retraining

	Group proportion	EMPNORM	EMPANY	EMPNOWN	EMPNOWA	EARNNOW
Comparison group mean		0.49	0.53	0.39	0.48	511
Retraining impact		0.12**	0.10**	0.12**	0.14**	24**
Duration of retraining						
Less than 1 month	0.005	0.22**	0.16**	0.19**	0.20**	70**
1 to 3 months	0.740	0.12**aa	0.10**	0.12**aa	0.14**	22**aa
4 or more months	0.255	0.11**aa	0.11**	0.10**aa	0.13**a	15aa
Regression coefficients on[c]						
Months		0.050**	0.052**	0.052**	0.063**	17**
Months squared		-0.004**	-0.005**	-0.005**	-0.006**	-3**
Ownership status of retraining provider						
Public	0.405	0.12**	0.10**	0.10**	0.12**	28**
Private	0.439	0.14**	0.12**	0.14**aa	0.16**aa	37**
Industry of retraining provider						
Adult education	0.489	0.13**	0.12**	0.14**	0.15**	40**
Employment or other	0.307	0.12**	0.11**	0.08**aa	0.12**	18
Organization Industry	0.204	0.14**	0.10**	0.11**	0.13**	4aa

  * Impact statistically significant at the 90 percent level in a two-tailed test.
 ** Impact statistically significant at the 95 percent level in a two-tailed test.
 [a] - Statistically significantly different from the first category at the 90 percent level.
 [aa] - Statistically significantly different from the first category at the 95 percent level.
 [b] - Statistically significantly different from the second category at the 90 percent level.
 [bb] - Statistically significantly different from the second category at the 95 percent level.
 [c] - The regressions also included an indicator variable with the value 1 if the duration of retraining was less than one month and 0 otherwise.
EMPNORM - Ever employed in a non-subsidized job since program participation.
EMPANY - Ever employed in any job since program participation.
EMPNOWN - Now employed in a non-subsidized job.
EMPNOWA - Now employed in any job.
EARNNOW - Average monthly wage on current job.

Table 4.4.1   Frequency Distribution of Duration of Retraining

Duration in months	Number	%	Cumulative number	Cumulative %
0	174	6.2	174	6.2
1	755	26.7	929	32.9
2	766	27.1	1,695	60.0
3	586	20.7	2,281	80.7
4	259	9.2	2,540	89.8
5	96	3.4	2,636	93.2
6	147	5.2	2,783	98.4
7	10	0.4	2,793	98.8
8	14	0.5	2,807	99.3
9	13	0.5	2,820	99.8
12	1	0.0	2,821	99.8
13	1	0.0	2,822	99.8
14	3	0.1	2,825	99.9
15	1	0.0	2,826	100.0
22	1	0.0	2,827	100.0

Number missing = 52

Table 4.4.2   Frequency Distribution of Ownership Status of Retraining Provider

Ownership	Number	%	Cumulative number	Cumulative %
Missing	116	4.0	116	4.0
Public	1,166	40.5	1,282	44.5
Private	1,265	43.9	2,547	88.5
Different	234	8.1	2,781	96.6
Other	98	3.4	2,879	100.0

Table 4.4.3   Frequency Distribution of Industry of Retraining Provider

Provider	Number	%	Cumulative number	Cumulative %
Adult education	1,278	48.9	1,278	48.9
Employer or other organization	803	30.7	2,081	79.6
Other industry	532	20.4	2,613	100.0

Table 4.5.1   **Impact of Retraining on the Timing of Reemployment**
                    (or the timing of exit from unemployment)

Months until finding job	Comparison Group			Participant Group			Retraining impact
	Risk set	Started new job	Exit rate	Risk set	Started new job	Exit rate	
1	2,675	13	0.49	2,711	25	0.92	0.44*
2	2,662	18	0.68	2,686	24	0.89	0.22
3	2,644	34	1.29	2,662	31	1.16	-0.12
4	2,610	44	1.69	2,631	52	1.98	0.29
5	2,566	60	2.34	2,579	62	2.40	0.07
6	2,506	57	2.27	2,517	63	2.50	0.23
7	2,449	84	3.43	2,454	94	3.83	0.40
8	2,365	61	2.58	2,360	97	4.11	1.53**
9	2,304	82	3.56	2,263	151	6.67	3.11**
10	2,222	83	3.74	2,112	127	6.01	2.28**
11	2,139	73	3.41	1,985	108	5.44	2.03**
12	2,066	85	4.11	1,877	99	5.27	1.16*
13	1,981	118	5.96	1,778	121	6.81	0.85
14	1,863	97	5.21	1,657	90	5.43	0.22
15	1,766	84	4.76	1,567	108	6.89	2.14**
16	1,682	82	4.88	1,459	100	6.85	1.98**
17	1,600	75	4.69	1,359	100	7.36	2.67**
18	1,525	49	3.21	1,259	63	5.00	1.79**
19	1,476	41	2.78	1,196	55	4.60	1.82**
20	1,435	33	2.30	1,141	38	3.33	1.03
21	1,402	27	1.93	1,103	31	2.81	0.88
22	1,375	24	1.75	1,072	28	2.61	0.87
23	1,351	12	0.89	1,044	11	1.05	0.17
24	1,339	9	0.67	1,033	11	1.06	0.39
25	1,330	9	0.68	1,022	7	0.68	0.01
26	1,321	9	0.68	1,015	5	0.49	-0.19
27	1,312	3	0.23	1,010	2	0.20	-0.03
28	1,309	0	0.00	1,008	0	0.00	0.00
Cumulative	2,675	1,366	51.07	2,711	1,703	62.82	11.75

 * Impact statistically significant at the 90 percent level in a two-tailed test.
** Impact statistically significant at the 95 percent level in a two-tailed test.

Table 4.5.2   Impact of Retraining on the Timing of Reemployment (or the timing of exit from unemployment), for Retraining Participants' Time Starts When Retraining Ends

Months until finding job	Comparison Group			Participant Group			Retraining impact
	Risk set	Started sew job	Exit rate	Risk set	Started new job	Exit rate	
1	2,675	13	0.49	2,827	259	9.16	8.68**
2	2,662	18	0.68	2,568	221	8.61	7.93**
3	2,644	34	1.29	2,347	164	6.99	5.70**
4	2,610	44	1.69	2,183	164	7.51	5.83**
5	2,566	60	2.34	2,019	154	7.63	5.29**
6	2,506	57	2.27	1,865	120	6.43	4.16**
7	2,449	84	3.43	1,745	113	6.48	3.05**
8	2,365	61	2.58	1,632	102	6.25	3.67**
9	2,304	82	3.56	1,530	89	5.82	2.26**
10	2,222	83	3.74	1,441	88	6.11	2.37**
11	2,139	73	3.41	1,353	75	5.54	2.13**
12	2,066	85	4.11	1,278	54	4.23	0.11
13	1,981	118	5.96	1,224	58	4.74	-1.22
14	1,863	97	5.21	1,166	38	3.26	-1.95**
15	1,766	84	4.76	1,128	44	3.90	-0.86
16	1,682	82	4.88	1,084	28	2.58	-2.29**
17	1,600	75	4.69	1,056	17	1.61	-3.08**
18	1,525	49	3.21	1,039	11	1.06	-2.15**
19	1,476	41	2.78	1,028	2	0.19	-2.58**
20	1,435	33	2.30	1,026	5	0.49	-1.81**
21	1,402	27	1.93	1,021	6	0.59	-1.34**
22	1,375	24	1.75	1,015	1	0.10	-1.65**
23	1,351	12	0.89	1,014	2	0.20	-0.69**
24	1,339	9	0.67	1,012	1	0.10	-0.57**
25	1,330	9	0.68	1,011	3	0.30	-0.38
26	1,321	9	0.68	1,008	0	0.00	-0.68**
27	1,312	3	0.23	1,008	1	0.10	-0.13
28	1,309	0	0.00	1,007	0	0.00	0.00
Cumulative	2,675	1,366	51.07	2,827	1,820	64.38	13.31**

 * Impact statistically significant at the 90 percent level in a two-tailed test.
** Impact statistically significant at the 95 percent level in a two-tailed test.

Table 4.6   Impact of Retraining on Months of Employment, Unemployment and Unemployment Compensation in Poland

	Comparison group	Retraining	Impact	t-statistic on impact
Difference				
EMMONTHS	4.79	5.87	1.08**	6.83
UNMONTHS	11.36	10.08	-1.78**	7.82
UCMONTHS	8.82	9.97	1.15**	9.75
UCPAY	2,073	2,364	291**	10.43
ES Interaction[1]				
EMMONTHS			1.08**	4.79
UNMONTHS			-1.27**	7.42
UCMONTHS			1.16**	6.75
UCPAY			291**	6.97
Regression-adjusted ES Interaction[2]				
EMMONTHS			1.05**	5.59
UNMONTHS			-1.24**	7.54
UCMONTHS			1.14**	6.60
UCPAY			288**	6.98
Full sample	2,885	2,879		

  * Statistically significant at the 90 percent level in a two-tailed test.
** Statistically significant at the 95 percent level in a two-tailed test.
EMMONTHS - Months employed since most recent registration with the employment service.
UNMONTHS - Months unemployed since most recent registration with the employment service.
UCMONTHS - Months of unemployment compensation since most recent ES registration.
UCPAY - Amount of unemployment compensation since most recent ES registration.
[1]   The ES interaction estimates were computed from a regression model as described in Appendix B in the section entitled Method for Separating out Impacts of Multiple Programs.
[2]   The regression adjusted ES interaction estimates were computed from a regression model as described in Appendix B in the section entitled Method for Separating out Impacts of Multiple Programs and also included the variables listed in Table 3.10.1 with the exception of EARNPRE, SPOUSEHM, and SPEMPL, which were omitted because of a high proportion of missing values. The regression also included indicator variables for the voivods, with the omitted reference voivod being Radom.

Table 4.7   Estimated Net Benefits per Participant in Retraining
(in 1996 Zl)

Perspective of the National Labor Office (or Ministry)

Benefits
      Unemployment compensation saved   -288 Zl

Costs
      Direct cost of operating the program   -907

      Administrative cost of program   -90

         Net benefits to the National Labor Office: -1285

Perspective of the National Government

Benefits
      Unemployment compensation saved   -288 Zl

      Tax revenue from increased earnings   134

Costs
      Direct cost of operating the program   -907

      Administrative cost of program   -90

         Net benefits to the National Government: -1151

Perspective of All Society

Benefits
      Increased earnings   671 Zl

Costs
      Direct cost of operating the program   -907

      Administrative Cost of Program   -90

         Net benefits to All Society: -326

Note: In all cases, negative numbers represent an outflow of money.

5. Evaluation of the Employment Service

The ES is the main function of the local labor offices. A local labor office (LLO) is a one-stop-shopping place for reemployment assistance. These offices act as unified clearinghouses for referral to a variety of active and passive support. Many unemployed persons go to a LLO in Poland to register as unemployed only to ensure qualification for unemployment compensation or to provide access to the public health service.

The ES within the LLO can really be considered an active labor program, as it provides a whole range of reemployment services, including job interview referral, counseling, skills assessment, job search training, resume preparation, and job clubs. To examine the effectiveness of the ES, we examine the impact of using these particular services.

Obviously our entire samples of both ALP participants and comparison group members have registered as unemployed with the ES at an LLO. When we investigate the effectiveness of the ES in this chapter, we mean the impact of the specialized ES services, which are something in addition to simply registering as unemployed.

To first examine if there are observable differences between users and non-users of ES services, we look first at the combined comparison groups. We focus on the comparison groups first as examination of them requires no accounting for use of other ALPs such as retraining or public works. As seen in Table 5.1, where users and non-users of ES services are compared on 24 observable characteristics, there are statistically significant differences between the two groups on 10 characteristics (which is many more than might be expected if the two groups were each randomly drawn by the same process from a single population). The numbers in Table 5.1 suggest that ES users had somewhat higher prior earnings, are somewhat younger, more likely to be skilled manual workers, more likely to have a working spouse, and have higher other household earnings than those who used no ES services during their period of unemployment. Table 5.1.1 shows how the number of observations in the two groups of Table 5.1 were set, and Table 5.1.2 provides definitions of variables on which the two groups were compared.

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The impact estimates for the ES in Poland presented in this chapter start with a review of some summary statistics on use of the ES and passive labor programs by persons in the comparison groups. This provides background for the subsequent net impact analysis of the ES, which is heavily focused on the comparison groups. Section 2 presents net impact estimates of the ES on the main employment and earnings outcome measures; Section 3 presents a subgroup analysis of ES impacts on employment and earnings; Section 4 reports net impacts on various services of the ES; Section 5 reports on the timing of response to ES assistance; Section 6 reports the estimated ES impact on employment, unemployment and UC and the final section of the chapter presents a concise net benefit analysis of the ES.

5.1 A descriptive overview of employment service outcomes

This section presents a series of frequency distributions based on survey questions asked of comparison group members.

Table 5.1.3 examines the use of various services offered by the ES and records how many persons in the combined comparison groups used each service among those who later became employed and those who failed to be reemployed. Within the combined comparison groups (persons who used no other ALP), the main ES service used is job interview referrals. In Table 5.1.3 it can easily be seen that those who became reemployed were much more likely to have used the job interview referrals than those who did not become reemployed during the period of observation. Use of other ES services was negligible, but there appears to be a modest positive reemployment impact for job clubs. Tables 5.1.4 through 5.1.7 repeat the exposition of Table 5.1.3 for each of the comparison groups for the four separate ALPs: retraining, public works, intervention works, and self-employment. The pattern of response in these disaggregated counts is similar to that in Table 5.1.3.

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Table 5.1.8 summarizes the reasons for unemployment at the survey date among the whole comparison group. Six possibilities were offered during the interview. The most common response, chosen by 41.1 percent, was that they wanted a job but found no vacancies in their field. The second most common response was "other," which means reasons besides the remaining four categories with 26.4 percent. The other four categories, in declining order, were in evening or weekend school, wanted a job but wages offered were too low, could not search for a job because of health problems, and expecting to serve in the military soon. Similar patterns of reasons for being out of work emerge for the separate comparison groups summarized in Tables 5.1.9 to 5.1.12.

Table 5.1.13 reports the distribution of types of compensation payments being made to unemployed persons in the combined comparison group at the survey date. Because of the sampling design, the survey date is more than two years after the date of registering as unemployed, so it is not surprising to see that the largest proportion of respondents report receiving no benefits (40 percent). The 12-month unemployment compensation period has most likely lapsed, but many have other family members with incomes which prevents eligibility for social welfare assistance. However, a large proportion (23.7 percent) report receiving both unemployment compensation and welfare assistance, while a small proportion (3.3 percent) say they get only social welfare assistance. Surprisingly, 14.3 percent of respondents in the combined comparison groups remain eligible for and draw regular unemployment compensation.

5.2 Impact estimates of the employment service on employment and earnings

The impact estimates presented in this section focus on two main outcomes: employment and earnings. Four measures of employment are examined: a narrow definition involving only non-subsidized jobs and a broader definition permitting subsidized jobs as well each considered over the entire period of observation and for the current status on the date of the survey. The five variables used are EMPNORM, EMPANY, EMPNOWN, EMPNOWA, and EARNNOW, as defined in Chapter 4, Section 2.

Table 5.2.1 presents regression-adjusted net impact estimates for the effect of the ES on the various outcome measures in Poland computed on the combined comparison groups sample. These estimates are regression-adjusted because of heterogeneity observed between users and non-users of the ES within the comparison groups (see Table 5.1). The covariates used in the regression adjustment procedure are those listed and defined in Table 5.1.2; additional indicator variables for the voivods were also included. It should be noted that these impact estimates were also computed on the same samples without adjusting for observable characteristics; regression adjustment resulted in significantly different impact estimates on several outcomes.

The first column of numbers in Table 5.2.1 reports the means of the outcome variables among those who used no ES services. The second column reports the impact estimates, and the third column shows the t-statistics indicating the statistical significance of the impact estimates. For the combined comparison group having used services of the ES has a positive impact on whether someone ever was reemployed (in either a normal or a subsidized job) and also has a positive impact on whether someone is in any job on the survey date. These results also obtain within the more narrow comparison group for intervention works. For the retraining and public works comparison groups, the ES has a positive impact on being in any job including a subsidized job. This last finding may be due to the fact that those who are more complete users of ES services are more likely to be referred to subsidized employment activities. The fact that the ES is found to have a negligible effect on reemployment and earnings within the self-employment comparison group is no doubt partly due to the generally higher success rate among persons with the average characteristics those in this group.

Because the ES is also used by persons who use other ALPs, it is possible to broaden the sample examined in evaluating the effectiveness of the ES. Table 5.1.1 shows that among the ALP participants about half also used at least one of the ES services available. Table 5.2.2 presents ES impacts on the five outcome measures estimated on a combined sample of ALP participant and comparison group members. Estimates of the impact of the ES on the full combined sample of 14,357 controlling for all other observable factors, including use of any other

ALP, show no statistically significant impact on any of the employment outcomes. However, the impact on average monthly earnings among those employed on the survey date is a statistically significant 10 Zl.

Looking at the separate ALPs in Table 5.2.2, we can see a bit more about which groups benefit most from the ES services. Impacts for the retraining group are not distinguishable from those for the full group. However, impacts estimated on the public works and the intervention works samples are somewhat mirror images. Use of the ES generally appears to diminish the reemployment and earnings prospects for public works participants, while the ES is a great boost to reemployment prospects for those who receive wage supplements through intervention works. It should also be noted that within the intervention works sample, even those who used no ES services had a very high rate of reemployment success with the proportion reemployed ranging between 0.518 and 0.677 for the various outcome measures. Among the four ALP groups for those who used no ES services the best reemployment success was enjoyed by the self-employment group, which had more labor market experience and higher levels of formal schooling.

5.3 A subgroup analysis of employment service impacts

As mentioned above there are at least two reasons to examine treatment impacts by population subgroup: targeting of services and identifying possible biases in the effects. As with the retraining subgroup analysis, the subgroup impact estimates reported in Table 5.3 were computed simultaneously (details of the methodology are in Appendix B).

Table 5.3 presents net impact estimates of the ES by subgroup on the employment outcome variables EMPNORM, EMPANY, EMPNOWN, EMPNOWA, and on the earnings measure EARNNOW. Computations were performed on the combined comparison groups with implicit control for exogenous characteristics by matching done at sample selection. Subgroups are defined for the retraining in Section 4.3 using 29 categorical variables for gender, age,

education, occupation, whether or not the person became voluntarily unemployed, whether or not the person was long-term unemployed (meaning registered unemployed at least 12 months prior to entering retraining), categories of prior work experience, whether unemployment in the voivod of residence is high or low, and indicators for each of the eight voivods.

The results in Table 5.3 indicate a great many differences across subgroups within each category of factor. The ES impact for men on all employment and earnings outcomes is significantly smaller than for women; indeed the ES impact on average monthly earnings is negative for males. The ES appears to help older workers get a job (EMPANY) more, but this differential advantage over the two younger age groups reverses when employment at the time of the survey is considered (EMPNOWA). The ES has the greatest positive effect for ever being in a job for the middle-aged group, for in a job on the survey date for the youngest age group, and for current average monthly earnings for the middle age group.

Those with some higher education and those with eight or fewer years of formal schooling each benefit significantly more from the ES than those who attained a vocational secondary education. Those with a general secondary education benefitted somewhat more from the ES concerning their employment situation at the time of the survey. Use of the ES provided a significant boost to earnings on the current job of those with the least education.

The ES helped boost reemployment and current earnings most for those looking for work in blue-collar occupations such as skilled or unskilled laborers. Use of the ES is associated with raised reemployment prospects but depressed earnings for those who became voluntarily unemployed. Interestingly, use of the ES proved slightly more advantageous for those who were long-term unemployed. Those with no work experience were helped relatively more by the ES at ever getting a job (EMPANY), but those with the most prior work experience were helped the most by the ES at being in the job on the survey date (EMPNOWA). However, the gain in job durability came at the expense of somewhat lower wages for those who had lots of work experience and used the ES. In terms of reemployment success, those from low unemployment

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rate areas benefitted significantly more from the ES than did those in high unemployment rate areas, but this advantage also came at the expense of lower wage impacts of the ES.

5.4 Net impacts of various employment service program features

Since the ES is not a single service provided to unemployed job seekers but rather a collection of very different services, it is useful to investigate whether the separate ES services affect employment and earnings outcomes differently. Table 5.4 presents net impact estimates for each of the separate identifiable ES services estimated by regression adjustment on the full combined comparison group sample. As background for examining the net impact estimates recall that Table 5.1.1 reported that 3,616 persons in the comparison group used some ES service while 3,553 used no ES service. Table 5.4.1 shows how many people in the comparison groups used each of the ES offerings. The most popular service is clearly referral to job interviews. Sample sizes for use of the other services are so small that the effect of such services would need to be quite large to have a statistically significant effect.

In Table 5.4 the top row of impacts is repeated from Table 5.2.1 so as to provide a reference for impact estimates of the various types of ES services. In terms of reemployment, the greatest benefit to job seekers is clearly provided by the job interview referrals made by the ES. The fact that the impact of using any ES service is positive clearly derives from the strong effect for the job interview referrals.[15]

To further investigate the effect of interview referrals on employment and earnings, models including the number of job interview referrals and the number of referrals squared were estimated. The two parameters were estimated with statistical significance only in the model for ever reemployed in any job (EMPANY). These parameter estimates were similar to others in suggesting a positive but diminishing benefit from job interview referrals. For this model, the

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[15]Estimates of impacts for different types of ES service were produced by ordinary least squares estimation of models specified as equation (6) in Appendix B.

marginal effect of another job interview was to boost the probability of getting reemployed in any job by 2.2 percentage points. This was the only marginal effect estimated with statistical precision. Using this type of model, the marginal effect of another job interview referral on average monthly earnings on the survey date was found to be zero.

5.5 The timing of response to employment service assistance

Table 5.5 shows the timing of exit from the unemployment register to reemployment for members of the combined comparison groups who either used or did not use at least one active function of the ES. This table illustrates the pattern of the reemployment effects of the ES. The table summarizes response over a maximum 28 month time period starting as early as January 1995.[16]

The difference between users and non-users of an ES service in the rate of exit from the unemployment register, listed in the right-most column, is the ES impact on the exit rate for a given month. ES service users are generally seen to exit at a higher rate, with the difference being statistically significant in eight of the months following the first year of registration.

In 10 of the first 11 months after registration as unemployed, users of the ES service exit at a slightly higher rate (0.11 to 0.66 percentage points) than those who did not use the ES. Exit rates are generally higher for both groups during the second 12 months of registration as unemployed. This is most certainly due to the fact that unemployment compensation benefits may be paid for up to 12 months. It is interesting to see that the ES impact on exit from the unemployment register steadily rises in the three months prior to the twelfth month, and that the impact in the twelfth month is large and statistically significant being 1.18 percentage points. The impact in month 13 is also statistically significant and is much larger (3.3 percentage points). A

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[16]The technical details of defining the initial risk sets for users and non-users of the ES within the combined comparison groups follows the same procedure laid out in Section 4.5 where the timing of reemployment for retrainees is examined.

spike in exits from the register around the time of unemployment compensation exhaustion is a common phenomenon in countries around the world. It has been observed in the United States (Woodbury, 1997), in Canada (Ham and Rea, 1987), and in Hungary (Micklewright and Nagy, 1994).

For the hazard analysis of retraining impacts in the previous chapter, we also examined exits from the unemployment register for retrainees immediately after leaving training. Unfortunately, we have no data on exactly when the ES service was used, so we cannot conduct a similar hazard analysis starting from when an ES service was received.

5.6 Impact of the employment service on unemployment compensation costs

Survey respondents were asked about their main activity in each month during the 24-month period January 1995 through December 1996.[17] Responses to this question allowed independent estimates of retraining impact on employed months (EMMONTHS) and unemployed months (UNMONTHS) since the most recent registration as unemployed. Because we also know labor market status at the survey date between February 15 and April 15, 1997, it was possible to lengthen the observation period somewhat.

The estimates given in Table 5.6 indicate that those who used some assistance offered by the ES spent 0.45 fewer months employed and 1.07 more months unemployed than did those in the comparison group who used no ES services. These are at odds with those summarized in Table 5.2.1, which indicated a slight advantage for ES users in ever getting reemployed and in being reemployed on the survey date.

Data drawn from the employment register also provided for creation of a variable summarizing months of unemployment compensation drawn (UCMONTHS) since most recent

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[17]This data came in response to survey question 8 asked of comparison group members (Record Type B).

registration as unemployed. Because the unemployment compensation months data was drawn from the register rather than through surveys, it was possible to get data from January 1994 right through April 1997. Also, since unemployment benefits were paid at a fixed rate of 36 percent of the average national monthly wage to eligible beneficiaries we can easily approximate the monetary value of unemployment compensation paid to retraining participants and comparison group members during the observation period.[18] Table 5.6 shows that ES service uses in the combined comparison groups drew 0.42 months more and approximately 121 Polish Zloty more in UC benefits than those who used no ES services. It is possible that causality flows in the opposite direction. That is, because they are drawing more months of UC, there is a higher likelihood that they will use at least one service of the ES during their more frequent visits to the local labor office. The UC impact estimate used is presented in Table 5.6.1 and based on all observations for comparison group members and participants across all programs, this estimate was computed in a regression adjusting for use of the ES and other observable factors.

5.7 Benefit-cost analysis of the employment service

The assessment of benefits and costs of a program depends on the perspective taken. This section presents estimates of the net benefits of the ES computed from three different perspectives: the National Labor Office (or Ministry), all government, and society.[19] The estimates presented in Table 5.7 are extremely conservative. They most certainly understate the net benefits of the ES. Computations are based only on the period of observation from registration as unemployed through the survey date in early 1997. They do not consider the prospect that employment advantages for ES users may continue well beyond April 1997. Finally

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[18]The same assumptions made in Section 4.6 for retraining are used in the present analysis. We assume all months are compensated at the full monthly benefit rate, and that the monthly benefit amount is fixed at 36 percent of the national average wage.

[19]As in Section 4.7 for retraining, no attempt is made here to adjust for displacement. This is reasonable as registration of job seekers with the ES is nearly universal in Poland, and all job seekers may choose freely from among the services available from the ES.

the estimates are computed on a per participant basis. They are not aggregated over all participants.

The most narrow view of net benefits of the ES program is that from the National Labor Office. As can be seen in Table 5.7, when computing net benefits from the perspective of the National Labor Office (or Ministry) the benefit is any savings in UC payments and the costs are the administrative cost of providing ES services and doing any standard follow-up of ES users. For the cost of administration, a figure from Poznan voivod is used.[20] The net benefits of the ES for the National Labor Office is estimated to be a cost of 98 Zl per participant, this is about $33 U.S.

For the ES, net benefits to all government depend on the benefit from any saving in UC payments which might not be made, and the additional tax revenue which would accrue to governmental agencies due to longer employment or higher earnings which might result.[21] The costs to government include the direct costs of operating the program and the administrative costs of the program. In Table 5.7, for all government we see the net cost to be higher than that for the National Labor Office by the amount of 24 Zl lost tax revenue per retraining participant due to the reduction in monthly earnings.

The final measure of acceptability for a program is whether it generates positive net benefits for society as a whole. Real gains to society accrue if the aggregate value of economic output increases. Additions to social economic output are estimated by the increased value of

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[20]See the discussion in Section 4.7 on retraining for the full explanation of this estimate.

[21]The change in tax revenue is estimated by multiplying the lowest Polish national marginal tax rate on income of 20 percent by the change in earnings resulting from retraining. The net impact of the ES on monthly earnings per participant in the combined comparison groups sample is computed from the earnings estimates on all observations given in Table 5.2.3, and the months of employment estimate given in Table 5.6 for the comparison group members who did not use the ES and the differential months of employment estimate for non-users of ES from all observations as reported in Table 5.6.1.

earnings.[22] From this we must deduct costs which society incurs by providing ES services which would not have been otherwise experienced. These costs amount to administrative costs of the program. The impact on unemployment compensation payments does not figure into the social net benefit computation as these are simply transfer payments from one group in society to another, and transfer payments have no affect on total social economic output. The reduction in earnings and the administrative cost means that the net cost to society of providing ES services for each user is 211 Zl.

5.8 A summary of the employment service evaluation

Use of the ES had a positive impact on reemployment in the combined comparison group sample. Among the separate ALP comparison groups, use of the ES was a detriment to the self-employment group and had mixed effects on the other groups. There were no significant impacts of the ES on earnings for the comparison groups.

In the full combined sample of 14,357 ALP participants and comparison group members, estimated ES impacts are small and not statistically significant for all employment outcome measures. The impact of the ES on average monthly earnings was a small but significant 10 Zl. For the separate ALPs the most positive impacts were for the intervention works samples.

Among subgroups the ES impact for females on all employment and earnings outcomes is significantly larger than for males. The ES proved to be the greatest help to older workers seeking reemployment. Those with the most education and those with the least formal schooling each benefitted significantly more from the ES than did others. Earnings gains were relatively larger for the least educated.

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[22]The difference in earnings between ES users and no-users of the ES during the period of observation. The computation was described in the previous footnote.

Among occupation groups the ES helped increase reemployment and earnings most among blue-collar workers. ES used raised reemployment prospects but depressed earnings for those who became voluntarily unemployed. Use of the ES was slightly more advantageous for those who were long-term unemployed. Those with no prior work experience were helped relatively more by the ES at ever getting reemployed. However, those with the most prior work experience were helped the most by the ES at being in the job on the survey date. In terms of reemployment success, those from low unemployment rate areas benefitted significantly more from the ES than did those in high unemployment rate areas, however, this advantage also came at the expense of lower wage impacts of the ES.

The most popular ES service is referral to job interviews. Any positive effect of the ES derives from the strong effect for the job interview referrals. ES service users are generally seen to exit at a higher rate than those who did not use an ES service, with the difference being statistically significant in eight of the months observed after the first year of registration. The ES impact on exit from the unemployment register steadily rises in the four months prior to the twelfth month which has a large and positive impact. The spike in exits from the register around the time of unemployment compensation exhaustion is a common phenomenon in countries around the world.

From the date of registering as unemployed to the survey date, those who used some assistance offered by the ES spent slightly less time employed and somewhat more time unemployed than those who used no ES services. In the combined sample of all observations ES uses had only a very small effect on receipt on receipt of UC benefits.

From the National Labor Office perspective, the net benefits of the ES are estimated to be a cost of 98 Zl per participant. Viewed from all government, because of a reduction in months worked, the net cost is higher than that for the National Labor Office by the amount of 24 Zl lost tax revenue per ES user. The earnings reduction together with the administrative costs mean that the net cost to society of providing ES services for each user is 211 Zl

The ES is a relatively cheap ALP to operate. It serves as more than simply a referral center to job interviews. It is the triage for all active and passive programs for labor support. While it only appears to have positive direct reemployment effects for specific groups, the overall importance of the ES in coordinating active and passive labor programs cannot be overstated.

Table 5.1   Means of Descriptive Characteristics for ES Users and Non-users within the Combined Comparison Group

	Used no ES service	Used some ES service	Difference	t-statistic on difference
EARNPRE	300	334	34**	3.56
MALE	0.46	0.46	0.00	0.14
AGE	25.60	24.68	-0.92**	5.00
EDELEM	0.12	0.12	0.00	0.38
EDVOC1	0.38	0.41	0.03**	1.96
EDVOC2	0.35	0.34	0.00	0.26
EDGYM	0.13	0.11	-0.02**	2.35
EDCOLL	0.02	0.02	0.00	0.36
OCCMGR	0.00	0.00	0.00	0.40
OCCPROF	0.01	0.01	0.00	0.45
OCCTECH	0.03	0.03	0.00	1.49
OCCSERVE	0.09	0.09	0.00	0.28
OCCSKILL	0.21	0.23	0.02*	1.92
OCCUNSKL	0.14	0.11	-0.03**	3.75
OCCCLERK	0.04	0.04	0.00	0.92
PHYSDIS	0.01	0.01	0.00	1.56
HHSIZE	3.12	3.14	0.02	0.54
SPOUSEHM	0.65	0.67	0.02	1.54
SPEMPL	0.70	0.70	0.00	0.17
OTHEREMP	1.06	1.14	0.08**	3.32
DEPEND1	0.59	0.54	-0.05**	2.10
DEPEND2	1.00	1.08	0.08**	2.90
LOOKWORK	0.23	0.23	0.00	0.45
EARN5	443	546	103**	6.95
Sample size	3553	3353		

** Statistically significant at the 95 percent confidence level in a two-tailed test.
 * Statistically significant at the 90 percent confidence level in a two-tailed test.

Table 5.1.1   Numbers of Users and Non-users of at Least One Form of Employment Service (ES) Assistance beyond Registration during Their Job Search in the ALP Participant and ALP Comparison Groups.

Program	ALP Participants			ALP Comparison Groups			Combined Samples
	ES Users	Non-users of ES	Percentage who used ES	ES Users	Non-users of ES	Percentage who used ES	Percentage who used ES
Retraining	1470	1409	51.1	1480	1405	51.3	51.2
Public Works	524	664	44.1	616	558	52.5	48.3
Intervention Works	1035	1377	42.9	1223	1187	50.7	46.8
Self-employment	548	161	77.3	297	403	42.4	60.0
TOTALS	3577	3611	49.8	3616	3553	50.4	50.1

Table 5.1.2   Descriptive Characteristics for Poland Employment Service Data

Variable name	Description
EARNPRE	Average earnings before registering
MALE	Respondent is male: 1=yes, 0=no
AGE	Age at survey completion date, in years
EDELEM	8 years or less schooling: 1=yes, 0=no for all in this category
EDVOC1	Basic vocational school
EDVOC2	Completed secondary vocational school
EDGYM	Completed general secondary school
EDCOLL	Some higher education
OCCMGR	Last job top manager: 1=yes, 0=no for all in this category
OCCPROF	Last job specialist/professional
OCCTECH	Last job technician w/out univ. degree
OCCSERVE	Last job service worker
OCCSKILL	Last job skilled work
OCCUNSKL	Last job unskilled work
OCCCLERK	Last job clerk/administrator
PHYSDIS	Respondent has a physical disability: 1=yes, 0=no
HHSIZE	Number of people living w/respondent
SPOUSEHM	Spouse lives with you: 1=yes, 0=no
SPEMPL	Spouse is employed or self-emp: 1=yes, 0=no
OTHEREMP	Number of other employed members of household
DEPEND1	Number of people dependent economically on respondent
DEPEND2	Number of dependents under 18 or pensions
LOOKWORK	Number of other household members not working but looking for work
EARN5	Average gross monthly household earnings excluding respondent

Table 5.1.3   Use of the Employment Service in the Intervention Works Comparison Group

ES service	Those Who Were Reemployed		Those Who Were Not Reemployed	
	Number	%	Number	%
Job interview referrals	655	48.0	354	33.8
Skills assessment	6	0.4	8	0.8
Counseling	23	1.7	16	1.5
Job club	22	1.6	9	0.9
Other services	32	2.3	27	2.6
Group size	1364		1046	

Table 5.1.4   Use of the Employment Service in the Self-employment Comparison Group

ES service	Those Who Were Reemployed		Those Who Were Not Reemployed	
	Number	%	Number	%
Job interview referrals	174	37.5	76	32.2
Skills assessment	0	0.0	1	0.4
Counseling	8	1.7	3	1.3
Job club	7	1.5	3	1.3
Other services	7	1.5	6	2.5
Group size	464		236	

Table 5.1.5   Use of the Employment Service in the Public Works Comparison Group

ES service	Those Who Were Reemployed		Those Who Were Not Reemployed	
	Number	%	Number	%
Job interview referrals	345	49.4	182	38.3
Skills assessment	1	0.1	2	0.4
Counseling	8	1.1	6	1.3
Job club	5	0.7	3	0.6
Other services	16	2.3	10	2.1
Group size	699		475	

Table 5.1.6   Use of the Employment Service in the Intervention Works Comparison Group

ES service	Those Who Were Reemployed		Those Who Were Not Reemployed	
	Number	%	Number	%
Job interview referrals	655	48.0	354	33.8
Skills assessment	6	0.4	8	0.8
Counseling	23	1.7	16	1.5
Job club	22	1.6	9	0.9
Other services	32	2.3	27	2.6
Group size	1364		1046	

Table 5.1.7   Use of the Employment Service in the Self-employment Comparison Group

ES service	Those Who Were Reemployed		Those Who Were Not Reemployed	
	Number	%	Number	%
Job interview referrals	174	37.5	76	32.2
Skills assessment	0	0.0	1	0.4
Counseling	8	1.7	3	1.3
Job club	7	1.5	3	1.3
Other services	7	1.5	6	2.5
Group size	464		236	

Table 5.1.8   Reasons for Unemployment among the Whole Comparison Group

Response	Number	%
Have no data	101	2.8
Other	958	26.4
Wanted job, no vacancies in my field	1489	41.1
Wanted job, wages too low	271	7.5
Couldn't look for job, health problems	218	6.0
In eve/wkend school, adds difficulty	496	13.7
Expecting to serve in military soon	89	2.5
Cumulative	3622	100.0

Table 5.1.9   Reasons for Unemployment among the Retraining Comparison Group

Response	Number	%
Have no data	36	2.5
Other	421	29.5
Wanted job, no vacancies in my field	510	35.7
Wanted job, wages too low	90	6.3
Couldn't look for job, health problems	45	3.1
In eve/wkend school, adds difficulty	288	20.2
Expecting to serve in military soon	39	2.7
Cumulative	1429	100.0

Table 5.1.10   Reasons for Unemployment among the Public Works Comparison Group

Response	Number	%
Have no data	20	3.0
Other	134	20.3
Wanted job, no vacancies in my field	325	49.3
Wanted job, wages too low	63	9.6
Couldn't look for job, health problems	65	9.9
In eve/wkend school, adds difficulty	37	5.6
Expecting to serve in military soon	15	2.3
Cumulative	659	100.0

Table 5.1.11 Reasons for Unemployment among the Intervention Works Comparison Group

Response	Number	%
Have no data	38	3.0
Other	328	26.1
Wanted job, no vacancies in my field	533	42.4
Wanted job, wages too low	92	7.3
Couldn't look for job, health problems	72	5.7
In eve/wkend school, adds difficulty	159	12.7
Expecting to serve in military soon	34	2.7
Cumulative	1256	100.0

Table 5.1.12 Reasons for Unemployment among the Self-employment Comparison Group

Response	Number	%
Have no data	7	2.5
Other	75	27.0
Wanted job, no vacancies in my field	121	43.5
Wanted job, wages too low	26	9.4
Couldn't look for job, health problems	36	12.9
In eve/wkend school, adds difficulty	12	4.3
Expecting to serve in military soon	1	0.4
Cumulative	278	100.0

Table 5.1.13   Compensation to Unemployed Persons in the Whole Comparison Group

Benefit	Number	%
Have no data	204	5.6
No response	473	13.1
Regular unemployment compensation	519	14.3
Social welfare assistance	119	3.3
Both unemp comp & welfare assist	860	23.7
No benefits	1447	40.0
Cumulative	3622	100.0

Table 5.1.14   Compensation to Unemployed Persons in the Retraining Comparison Group

Benefit	Number	%
Have no data	97	6.8
No response	119	8.3
Regular unemployment compensation	125	8.7
Social welfare assistance	31	2.2
Both unemp comp & welfare assist	324	22.7
No benefits	733	51.3
Cumulative	1429	100.0

Table 5.1.15   Compensation to Unemployed Persons in the Public Works Comparison Group

Benefit	Number	%
Have no data	24	3.6
No response	132	20.0
Regular unemployment compensation	155	23.5
Social welfare assistance	33	5.0
Both unemp comp & welfare assist	156	23.7
No benefits	159	24.1
Cumulative	659	100.0

Table 5.1.16 Compensation to Unemployed Persons in the Intervention Works Comparison Group

Benefit	Number	%
Have no data	67	5.3
No response	192	15.3
Regular unemployment compensation	177	14.1
Social welfare assistance	42	3.3
Both unemp comp & welfare assist	328	26.1
No benefits	450	35.8
Cumulative	1256	100.0

Table 5.1.17 Compensation to Unemployed Persons in the Self-employment Comparison Group

Benefit	Number	%
Have no data	16	5.8
No response	30	10.8
Regular unemployment compensation	62	22.3
Social welfare assistance	13	4.7
Both unemp comp & welfare assist	52	18.7
No benefits	105	37.8
Cumulative	278	100.0

Table 5.2.1 Means and Adjusted Impact Estimates of Employment Service Use within the Comparison Group on Employment and Earnings[a]

| | Means | Impacts | |
	Used no ES service	Used some ES service	t-statistics on impacts
All comparison groups combined			
EMPNORM	0.509	0.206**	2.11
EMPANY	0.525	0.073**	5.94
EMPNOWN	0.380	0.010	0.81
EMPNOWA	0.456	0.031**	2.51
EARNNOW	510	-14	1.37
Retraining comparison group			
EMPNORM	0.473	0.025	1.31
EMPANY	0.483	0.065**	3.35
EMPNOWN	0.378	0.012	0.65
EMPNOWA	0.457	0.036*	1.84
EARNNOW	515	-4	0.30
Public works comparison group			
EMPNORM	0.529	-0.001	0.04
EMPANY	0.559	0.073**	2.47
EMPNOWN	0.316	0.003	0.11
EMPNOWA	0.409	0.013	0.43
EARNNOW	486	-9	0.48
Intervention works comparison group			
EMPNORM	0.493	0.054**	2.43
EMPANY	0.513	0.102**	4.63
EMPNOWN	0.359	0.029	1.39
EMPNOWA	0.431	0.053**	2.45
EARNNOW	476	-13	0.67
Self-employment Comparison Group			
EMPNORM	0.653	0.000	0.02
EMPANY	0.661	0.018	0.47
EMPNOWN	0.537	-0.037	0.94
EMPNOWA	0.594	-0.008	0.22
EARNNOW	604	-34	0.91

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

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

EMPNORM - Ever employed in a non-subsidized job since program participation

EMPANY - Ever employed in any job since program participation

EMPNOWN - Now employed in a non-subsidized job

EMPNOWA - Now employed in any job

EARNNOW - Average monthly wage on current job

  [a] For computing adjusted impact estimates the variables listed in Table 5.1.2 were included in the regression estimation with the exception of EARNPRE, SPOUSEHM, and SPEMPL which were omitted because of a high proportion of missing values. Also included for regression adjustment were indicator variables for the voivods; the reference voivod excluded for estimation was Radom.

Table 5.2.2 Means and Adjusted Impact Estimates of Employment Service use in Combined Samples of ALP Participants and Comparison Group Members on Employment and Earnings[a]

	Means used no ES service	Impacts used some ES service	t-statistics on impacts
All observations			
EMPNORM	0.592	0.017	0.70
EMPANY	0.620	0.037	0.95
EMPNOWN	0.460	-0.003	1.47
EMPNOWA	0.556	0.008	1.62
EARNNOW	518	10**	3.24
Retraining Samples			
EMPNORM	0.544	0.022	0.38
EMPANY	0.565	0.036	0.76
EMPNOWN	0.456	0.001	0.95
EMPNOWA	0.555	0.009	1.52
EARNNOW	527	3	0.68
Public Works Samples			
EMPNORM	0.492	-0.021	0.84
EMPANY	0.569	0.010**	2.10
EMPNOWN	0.316	-0.027*	1.80
EMPNOWA	0.434	-0.024*	1.85
EARNNOW	487	-28	1.28
Intervention Works Samples			
EMPNORM	0.659	0.005*	1.87
EMPANY	0.677	0.033**	1.98
EMPNOWN	0.518	-0.014*	3.05
EMPNOWA	0.590	0.007**	2.07
EARNNOW	487	-3	0.30
Self-employment Samples			
EMPNORM	0.737	0.024	1.23
EMPANY	0.746	0.030	0.93
EMPNOWN	0.529	-0.029	0.69
EMPNOWA	0.671	-0.007	0.38
EARNNOW	674	-32	0.37

** Statistically significant at the 95 percent confidence level in a two-tailed test.
 * Statistically significant at the 90 percent confidence level in a two-tailed test.
EMPNORM - Ever employed in a non-subsidized job since program participation
EMPANY - Ever employed in any job since program participation
EMPNOWN - Now employed in a non-subsidized job
EMPNOWA - Now employed in any job
EARNNOW - Average monthly wage on current job
[a] Impact estimates were computed by regression adjustment allowing for ES interaction with ALP participation. The variables listed in Table 5.1.2 were included in the regression estimation with the exception of EARNPRE, SPOUSEHM, and SPEMPL which were omitted because of a high proportion of missing values. Also included for regression adjustment were indicator variables for the voivods; the reference voivod excluded for estimation was Radom.

Table 5.3   Net Impact Estimates of Employment Service Use by Subgroup

Variable/Label	Proportion in Comparison Group	Net Program Impacts				
		EMPNORM	EMPANY	EMPNOWN	EMPNOWA	EARNNOW
FEMALE - Respondent is female~	0.464	0.020**##	0.070##	0.007**##	0.017**##	-19.358**#
MALE - Respondent is male	0.536	0.053	0.091	0.049	0.063	29.543**
AGELT30 - Age less than 30	0.791	0.026**##	0.077##	0.034*##	0.052##	6.489**##
AGE3044 - Age between 30 and 44	0.179	0.073**##	0.092*##	0.015**##	0.027**##	13.874**##
AGEGE45 - Age is 45 or over~	0.030	0.121**	0.137**	-0.010**	0.002**	-24.838**
EDELEM - 8years/or less schooling	0.119	0.071**##	0.155#	0.057**##	0.069**##	47.282**##
EDVOC - Vocational secondary~	0.738	0.032*	0.072	0.020**	0.036	3.824**
EDGYM - General secondary	0.121	0.033**##	0.058**##	0.050**##	0.062**##	17.726**##
EDCOLL - Some higher education	0.022	0.079**##	0.137**##	0.063**##	0.173**##	-172.784
WHITECOL - White-collar occupation	0.171	-0.033**	0.036**#	-0.031**#	-0.036**	34.530**##
BLUECOL - Blue-collar occupation~	0.341	0.077	0.122	0.059*	0.080	44.614*
OTHEROCC - Other occupation	0.488	0.035**##	0.068##	0.030**##	0.052*##	-29.169**#
VOLUN - Voluntarily unemployed	0.113	0.137	0.147##	0.038**##	0.093**##	-51.547**#
NONVOL - Not voluntarily unemployed~	0.887	0.025**	0.073	0.028*	0.041	14.296**
LTU - Long-term unemployed	0.521	0.045##	0.084##	0.022**##	0.048##	14.321**##
NONLTU - Not unemployed long-term~	0.479	0.029**	0.078	0.037*	0.045	-1.246**
EXP0 - Work experience is 0 years	0.483	0.054*##	0.106##	0.025**##	0.050*##	37.870**##
EXPLE3 - Work experience 3 years or less	0.292	0.002**##	0.071**##	-0.054**	0.006**	-41.597**##
EXPGT3 - Work experience 4 yrs or more~	0.225	0.036**	0.096*	0.064**	0.095*	-7.555**
LOWURATE - Low unemployment area	0.416	0.060##	0.087##	0.041*##	0.048*##	-0.820**##
HIURATE - High unemployment area~	0.584	0.021**	0.077	0.021**	0.045	12.326**
GORZOW - Voivod is Gorzów	0.097	-0.049**#	0.005**#	-0.024**##	0.011**##	-8.410**##
KATOWICE - Voivod is Katowice	0.280	0.066##	0.097##	0.031**##	0.039**##	-5.751**##
KONIN - Voivod is Konin	0.072	0.144##	0.180##	0.089*##	0.112##	-11.144**##
KRAKOW - Voivod is Kraków	0.052	0.005**##	0.054**##	0.073**##	0.064**##	-0.537**##
LUBLIN - Voivod is Lublin	0.134	0.008**##	0.046**##	-0.031**#	-0.011**##	-26.732**##
OLSZTYN - Voivod is Olsztyn	0.181	-0.065*	0.054**##	-0.008**##	0.026**##	22.599**##
POZNAN - Voivid is Poznan	0.084	0.098*##	0.094*##	0.041**##	0.087*##	20.757**##
RADOM - Voivod is Radom~	0.101	0.095*	0.131	0.087*	0.095*	-19.214**

*   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 gorup 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.
EMPNORM - Ever employed in a non-subsidized job since program participation
EMPANY - Ever employed in any job since program participation
EMPNOWN - Now employed in a non-subsidized job
EMPNOWA - Now employed in any job
EARNNOW - Average monthly wage on current job

Table 5.4 Means and Unadjusted Impact Estimates of Various Employment Service Offerings on Employment and Earnings of Persons in the Full Combined Comparison Group (t-statistics in parentheses)

	EMPNORM	EMPANY	EMPNOWN	EMPNOWA	EARNNOW
Outcome means					
Used no ES service	0.51	0.52	0.38	0.46	510
Impacts					
Used some ES service	0.03**	0.08**	0.02*	0.04**	-5
	(2.79)	(6.37)	(1.71)	(3.00)	(0.51)
Interview referrals	0.07**	0.12**	0.05**	0.06**	-4
	(5.97)	(9.82)	(4.10)	(5.25)	(0.39)
Skills assessment	-0.07	-0.10	-0.12	-0.09	-86
	(0.68)	(1.08)	(1.30)	(0.93)	(1.15)
Counseling	-0.02	0.00	-0.06	-0.06	-10
	(0.38)	(0.03)	(1.34)	(1.34)	(0.25)
Job clubs	0.04	0.06	-0.02	0.03	-1
	(0.75)	(1.29)	(0.43)	(0.52)	(0.02)
Other services	-0.09**	-0.07**	-0.08**	-0.08**	-28
	(2.38)	(1.97)	(2.12)	(2.04)	(0.85)

** Statistically significant at the 95 percent confidence level in a two-tailed test.
 * Statistically significant at the 90 percent confidence level in a two-tailed test.
EMPNORM - Ever employed in a non-subsidized job since program participation
EMPANY - Ever employed in any job since program participation
EMPNOWN - Now employed in a non-subsidized job
EMPNOWA - Now employed in any job
EARNNOW - Average monthly wage on current job

Table 5.4.1   Usage of Separate Employment Service (ES) Offerings by Persons in the Comparison Groups

	Retraining	Public works	Intervention works	Self-employment	Combined sample
Used no ES service	1405	558	1187	403	3553
Used other ALP	103	46	89	25	263
Interview referrals	1193	527	1009	250	2979
Skills assessment	12	3	14	1	30
Counseling	85	14	39	11	149
Job club	65	8	31	10	114
Used other ES services	90	26	59	13	188
Sample size	2885	1174	2410	700	7169

Note: Registered unemployed may partake of more than one ES offering, therefore columns do not necessarily total to the sample size.

Table 5.5 Impact of Use of the Employment Service on the Timing of Reemployment for Members of the Combined Full Comparison Group (or the timing of exit from unemployment)

Months until starting a job	No ES Service Use			Some ES Service Use			ES Service Impact
	Risk set	Started new job	Exit rate %	Risk set	Started new job	Exit rate %	
1	3088	38	1.23	2875	39	1.36	0.13
2	3050	43	1.41	2836	43	1.52	0.11
3	3007	62	2.06	2793	63	2.26	0.19
4	2945	59	2.00	2730	62	2.27	0.27
5	2886	72	2.49	2668	62	2.32	-0.17
6	2814	68	2.42	2606	75	2.88	0.46
7	2476	81	2.95	2531	85	3.36	0.41
8	2665	71	2.66	2446	79	3.23	0.57
9	2594	98	3.78	2367	96	4.06	0.28
10	2496	90	3.61	2271	92	4.05	0.45
11	2406	79	3.28	2179	86	3.95	0.66
12	2327	57	2.45	2093	76	3.63	1.18**
13	2270	86	3.79	2017	143	7.09	3.30**
14	2184	89	4.08	1874	90	4.80	0.73
15	2095	70	3.34	1784	78	4.37	1.03*
16	2025	64	3.16	1706	81	4.75	1.59**
17	1961	75	3.82	1625	72	4.43	0.61
18	1886	47	2.49	1553	55	3.54	1.05*
19	1839	49	2.66	1498	42	2.80	0.14
20	1790	35	1.96	1456	28	1.92	-0.03
21	1755	35	1.99	1428	39	2.73	0.74
22	1720	27	1.57	1389	37	2.66	1.09**
23	1693	22	1.30	1352	20	1.48	0.18
24	1671	11	0.66	1332	9	0.68	0.02
25	1660	8	0.48	1323	16	1.21	0.73**
26	1652	13	0.79	1307	12	0.92	0.13
27	1639	4	0.24	1295	13	1.00	0.76**
28	1635	1	0.06	1282	0	0.00	-0.06
Cumulative	3088	1454	47.09	2875	1593	55.41	8.32**

Table 5.6   Regression Adjusted Impact of Employment Service Use on Months of Employment, Unemployment and Unemployment Compensation within the Combined Comparison Group[a]

	Means for those who used no ES service	Impact for those using some ES service	t-statistic on impact
EMMONTHS	6.08	-0.45**	2.63
UNMONTHS	10.61	1.07**	6.12
UCMONTHS	8.69	0.42**	3.07
UCPAY	1942	121**	3.73
Sample size	3553		

  * Impact statistically significant at the 90 percent level in a two-tailed test.

** Impact statistically significant at the 95 percent level in a two-tailed test.

EMMONTHS - Months employed since most recent registration with the employment service.

UNMONTHS - Months unemployed since most recent registration with the employment service.

UCMONTHS - Months of unemployment compensation since most recent ES registration.

UCPAY - Amount of unemployment compensation since most recent ES registration.

[a] For computing adjusted impact estimates the variables listed in Table 5.3 were included in the regression estimation with the exception of EARNPRE, SPOUSEHM, and SPEMPL which were omitted because of a high proportion of missing values. Also included for regression adjustment were indicator variables for voivods; the reference voivod excluded for estimation was Radom.

Table 5.6.1   Regression Adjusted Impact of Employment Service Use on Months of Employment, Unemployment and Unemployment Compensation in Combined Samples of ALP Participants and Comparison Group Members[a]

	Impact for use of some ES service	t-statistic on impact
All observations		
EMMONTHS	-0.345*	1.69
UNMONTHS	0.343**	3.17
UCMONTHS	-0.054**	4.28
UCPAY	8**	3.73
Retraining		
EMMONTHS	-0.074	0.36
UNMONTHS	0.410	0.14
UCMONTHS	0.345	1.38
UCPAY	89	1.55
Public Works Samples		
EMMONTHS	-0.276	0.28
UNMONTHS	1.141	1.52
UCMONTHS	0.742*	1.76
UCPAY	186*	1.86
Intervention Works Samples		
EMMONTHS	-0.215**	2.34
UNMONTHS	0.346	0.14
UCMONTHS	-0.186	1.46
UCPAY	-17	1.25
Self-employment Samples		
EMMONTHS	-0.813	0.10
UNMONTHS	0.514**	2.07
UCMONTHS	-0.016	1.31
UCPAY	15	1.30

 * Impact statistically significant at the 90 percent level in a two-tailed test.
** Impact statistically significant at the 95 percent level in a two-tailed test.
EMMONTHS - Months employed since most recent registration with the employment service.
UNMONTHS - Months unemployed since most recent registration with the employment service.
UCMONTHS - Months of unemployment compensation since most recent ES registration.
UCPAY - Amount of unemployment compensation since most recent ES registration.
[a]   Impact estimates were computed by regression adjustment allowing for ES interaction with ALP participation. The variables listed in Table 3.10.1 were included in the regression estimation with the exception of EARNPRE, SPOUSEHM, and SPEMPL which were omitted because of a high proportion of missing values. Also included for regression adjustment were indicator variables for the voivods; the reference voivod excluded for estimation was Radom.

Table 5.7   Estimated Net Results for Use of the Employment Service
(in 1996 Zl)

Perspective of the National Labor Office (or Ministry)

Benefits

Unemployment compensation saved   -8 Zl

Costs

Administrative cost of program   -90

Net benefits to the National Labor Office: -98

Perspective of the National Government

Benefits

Unemployment compensation saved   -8 Zl

Tax revenue from increased earnings   -24

Costs

Administrative cost of program   -90

Net benefits to the National Government: -122

Perspective of All Society

Benefits

Increased earnings   -121 Zl

Costs

Administrative Cost of Program   -90

Net benefits to All Society: -211

Note: In all cases, negative numbers represent an outflow of money.

6. Evaluation of Public Works

Public works is a short-term direct job creation program providing employment on projects organized mainly by government agencies, including municipal governments. Stipends are set at 75 percent of the national average wage. This level of compensation is more than double the 36 percent of the national average wage paid to UC recipients. The relatively high 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.

In recent years public works has received the second largest share of spending on ALPs, following only intervention works (Table 2.3). Public works also ranks second in the number of program participants (Table 2.4). As seen in Table 3.11.2 public works participants tend to be more male, younger, less educated, and have less work experience than the general population of registered unemployed. In Table 6.1 we see that on the characteristics of gender, age, education and prior average monthly earnings, the selected comparison group accords quite closely with those who participated in public works and were randomly selected for the evaluation. However, there are several significant differences between the groups in occupational categories and household characteristics. The comparison group has a higher proportion of skilled manual workers while the public works participant group has a higher proportion of unskilled manual workers. The household differences, which are mainly differences in the number of dependents, can be attributed to the younger age of public works participants. Even with matching on the main characteristics (age, education, gender, months of work experience, date of registration as unemployed, and local labor office where registered as unemployed), the pool of those on the unemployment register who do not eventually enter public works are somewhat different on average observable characteristics from those who do participate.

The exposition of impact estimates for public works in Poland presented in this chapter proceeds with a review of descriptive outcomes from the survey, this is followed by a report on

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net impacts for the main employment and earnings measures. Section 3 of this chapter presents a subgroup analysis of public works impacts on employment and earnings. Section 4 reports net impacts on various features of public works. Section 5 reports on the timing of response to public works. Section 6 reports on the impact on employment, unemployment and unemployment compensation. And the final section of the chapter attempts a concise net benefit analysis of the public works program.

6.1 A descriptive overview of public works outcomes

This section presents a series of response distributions from the survey questions asked of public works program participants. As shown in Table 3.9.2, net impact analysis of public works presented in following sections was based on a participant sample of 1,188 and a comparison group sample of 1,174. The descriptive information which follows divides these samples in various ways.

Table 6.1.1 considers the use of various ES services and records how many of the public works participants used each service among those who later became employed and those who failed to get reemployed. While there are not large differences in ES use between those who got a job and those who did not, it is curious to see that ES use—in particular job interview referral—was greater among those who did not find a job. This result is most certainly due to the fact that those who did not get reemployed spent relatively more time on the unemployment register and therefore had a greater occasion to use the ES.

Table 6.1.2 shows that among program participants 14.6 percent were retained as regular employees by the public works program operator after government funding of the project ended. Given that most project operators are either public (989, or 83.2 percent) or private (99, or 8.3 percent), Table 6.1.3 repeats the summary of Table 6.1.2 separated for public and private program operators. We see that somewhat more of the privately owned enterprises (18.2 percent) which operated public works projects retained project employees.

Table 6.1.4 reports that among the 174 persons who were retained as regular employees, 117 (67.2 percent) were still working for the same employer on the survey date in early 1997. In a fashion similar to the previous pair of tables, Table 6.1.5 presents information from Table 6.1.4 by enterprise ownership type. While the numbers are small, long-term retention of workers after subsidies end is higher at privately owned enterprises (72.2 percent) than it is at publicly owned enterprises (67.7 percent).

Table 6.1.6 shows that for the 667 public works participants out of work on the survey date, 59.7 percent cite a lack of jobs available in their chosen field, while 10.3 percent refused job offers because wages were too low, 8.4 percent could not look for work because of health problems and 13.3 percent cited other specific reasons. It is worth noting that while 14 percent of out of work retrainees cited evening or weekend schooling as an obstacle, only 3.4 percent of public works participants were so engaged in school.

Table 6.1.7 shows that among the 667 public works participants unemployed on the survey date, 37.3 percent were drawing UC benefits, 8.8 percent were on social welfare assistance, and 4 percent were drawing both. Forty-three percent claimed to be receiving no assistance whatsoever.

6.2 Impact estimates of public works on employment and earnings

Impact estimates presented in this section focus on two main outcomes: employment and earnings. Various delineations of these are presented. Just as in Section 4.2 on retraining, the outcome measures examined are EMPNORM, EMPANY, EMPNOWN, EMPNOWA, and EARNNOW.

Table 6.2 presents net impact estimates for the effect of public works on the various measures of employment and earnings in Poland estimated in three different ways. The first set

were computed as simple differences between means of the participant and comparison group on the outcomes of interest. Since the comparison group was selected by a matched pairs process, these are net impact estimates adjusted for sample composition; that is, the sampling method nets out any sample selection bias which may have occurred in enrolling registered unemployed persons into public works programs.

The second set of results, labeled ES interaction, were computed while adjusting for the fact that many program participants also used other reemployment assistance provided by the ES. The third set of results accounts for the effect of ES and also adjusts for observable characteristics in computing net program impacts.

The large sample sizes result in statistical significance for most of the net impacts estimated. Results from the three alternative estimation methods are in close agreement, differing at most by one percentage point on the employment outcomes and by 5 Zl on the earnings outcomes. Public works in Poland is estimated to reduce the probability of ever finding a normal job by 8 or 9 percentage points and of being in a normal job on the survey date by 4 percentage points. Compared with the results reported by O'Leary (1997) for public service employment in Hungary, these negative impacts are very small and appear to diminish over time, perhaps leaving no permanent stigma.

The results for the employment outcomes broadened to include subsidized work are somewhat more positive. For employment in any job on the survey date, public works participants are estimated to enjoy up to a 2 percentage point advantage over those in the comparison group. Taken together these results suggest that the income transfer function of public works is achieved without substantially diminishing the near term employment prospects of program participants.

Public works had no statistically significant net impact on average monthly earnings, with employed participants earning between 14 and 19 Polish Zl per month less than employed

comparison group members on the survey date. This is an earnings differential of 3 to 4 percent and it is not statistically significant.

The impact estimates from each of the three methods are in close agreement. In particular it appears that whether or not public works participants used the ES, the public works participation effect on reemployment was the same. While only 44.1 percent of public works participants used some ES assistance, 52.5 percent of those in the comparison group did (Table 5.1.1). The results presented in Table 6.2 indicate that use of the ES did not appreciably affect the influence of public works participation on labor market success.

6.3 A subgroup analysis of public works impacts

We examine treatment impacts by population subgroup so as to provide information on how policy makers might consider targeting ALPs to certain groups like those without a specialization or older unemployed persons. The estimates are also provided to identify any possible biases in the effects, because a program that benefits only a few particular demographic subgroups such as one gender or certain education level groups may not be considered good policy even if it is cost effective.

Just as for the subgroup analysis of retraining given in Section 4.3, impact estimates were computed simultaneously, that is, public works impact estimates for females were computed while adjusting for the fact that registered unemployed females tend to have more schooling and are less likely to work in blue-collar occupations than their male counterparts. Details of the subgroup estimation methodology are given in Appendix B to this report.

Table 6.3 presents net impact estimates of public works by subgroup on the employment outcome variables EMPNORM, EMPANY, EMPNOWN, EMPNOWA, and on the earnings measure EARNNOW. Subgroups are defined by 29 categorical variables for gender, age,

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education, occupation, whether or not the person became voluntarily unemployed, whether or not the person was long-term unemployed (meaning registered unemployed at least 12 months prior to entering public works), categories of prior work experience, whether unemployment in the voivod of residence is high or low, and indicators for each of the eight voivods.[23]

The results indicate no significant differences across subgroups by gender in the employment outcomes, but public works appears to actually boost average monthly earnings of employed women while depressing earnings for men, though the net impact estimates are not statistically significant.

There are no statistically significant differences across the three age groups in any of the outcome measures, and the only statistically significant impact estimates are that public works reduced for the youngest group whether people ever became reemployed in a normal job by 9.9 percent and ever became reemployed in any job by 6.6 percent. In terms of employment status at the time of the interview, the greatest job gains appeared to be enjoyed by the older workers.

The public works participants with less than 8 years of formal schooling had their reemployment success hindered less than groups with more formal education. This tendency appeared three out of four employment outcomes and was statistically significant for ever reemployed in any job (EMPANY). For current average monthly earnings (EARNPOST), those with the highest educational attainment appeared to have their reemployment earnings hurt most by participation in public works.

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[23]The three occupation categories were based on information in question 2.1 extracted from the unemployment register (Record Type A) given in Appendix A. Coded as white-collar were service, technical, clerk, manager, and professional; as blue-collar, skilled and unskilled; the other category included data values I = other, J = no response, and A = no data. The high unemployment rate group includes Gorzów, Lublin, Konin, Olsztyn, and Radom while the low unemployment group includes Katowice, Kraków, and Poznan. Since the regional unemployment indicators are exact linear combinations of the voivod indicators, these last two sets of subgroup effects were estimated in separate models.

Three occupational categories were established for the subgroup analysis. There appears to be a sizeable employment and earnings benefit from participating in public works for those whose previous experience was in a white-collar occupation. This result is statistically significant for the broad measure of employment at the survey date and for current average monthly earnings, though the tendency holds for the other outcome measures also. Those with prior experience in strictly blue-collar employment bear the brunt of negative impacts on employment success.

The impact of public works participation on employment and earnings does not appear to differ by whether or not the prior separation from employment was voluntary. None of the point estimates of impact are statistically significant for the voluntarily unemployed group which amounted to 17.5 percent of the comparison group. Three of the four employment impacts are statistically significant for the involuntarily unemployed group, but the estimates are in the range of the overall sample impacts reported in Table 6.2.

A large and statistically significant difference appeared indicating long-term unemployed persons benefit appreciably less from public works in terms of reemployment than those who were not long-term unemployed. Indeed, the long-term unemployed appeared to absorb all the negative employment effects, while those with less than 12 months of registered unemployment before entering public works had no effect on their reemployment success. The earnings outcome showed exactly the opposite pattern: those who were not long-term unemployed experienced a statistically significant negative impact on average monthly earnings, which was statistically significantly different from the insignificant gain experience by the long-term unemployed who managed to get jobs.

The negative impact of public works on reemployment appeared to be clustered among those with positive work experience less than 10 years. There were negligible effects on both new labor market entrants and workers with more than 10 years of work experience. There was a

significant and positive impact on average monthly earnings for those without prior work experience.

Public works appeared to have no statistically significant impact on either employment or earnings in areas with low unemployment. In areas with high unemployment, participation in public works appears to diminish subsequent labor market success. Paradoxically, public works is often the only employment alternative for many in high-unemployment areas, given the weak labor demand in those areas.

6.4 Net impacts of various public works program features

Since there is wide variation in public works projects it is useful to investigate how the different dimensions of the work experience impacts the outcome measures for employment and earnings. Table 6.4 presents net impact estimates of the duration of public works, the ownership status of the public works provider, and the industry of the public works provider. Table 6.4.1 shows that three natural groups are formed from the distribution of the duration of public works: less than 6 months, 6 months, and 7 or more months. For impacts on employment in a normal non-subsidized job or any job, the impact of both short-term and long-term public works involvement was negligible, while the 6-month public works participation had sizeable negative impacts on both these outcomes. (Table 6.4). For the important outcome EMPNOWN, it appears that long-term public works participation has a large negative affect. However, this result is probably due to the fact that longer public works participation shortens the time for productive job search, and months spent on public works also can be used to requalify for unemployment compensation. While the long-term public works participants are less likely to be in a normal job, those who were employed at the survey date enjoyed significantly higher average monthly earnings.

In addition to investigating the effect of public works duration with categorical variables, models which include continuous measures of public works duration were also estimated. For

estimating the impact on each of the five outcomes, the number of months was entered as a predictor, as was the number of months squared. The squared-term was entered to capture any non-linear response which might occur as the duration of public works participation lengthens. Indicator variables for public works of 6 and 12 months duration were also included as controls for estimation. For each of the employment outcomes, we see that the coefficient on months is small and negative, ranging from -0.7 to -1.7 percentage points, while that on months squared is negligible. The marginal effect on employment and earnings of another month on public works tends to be negative but is not statistically significantly different from zero. This means that months of public works experience appear to have a negative effect on reemployment which cumulates at a constant rate as months pass. The estimated impact on earnings in this model is not statistically significant.

Ownership status of the project operator was mainly composed of two groups: public, with 83.2 percent of public works participants, and private, with 8.3 percent; the complete distribution is given in Table 6.4.2. As seen in Table 6.4 there was a significant positive advantage in terms of the impact on reemployment success and earnings for privately run public works. The earnings impact for privately run public works was an average 95 Zl per month, or about 10 percent of the average monthly wage. Furthermore, the differences were statistically significant for four of the five outcomes when compared to publicly run projects. The statistically significant impacts for public run projects on employment and earnings were uniformly negative. This pattern of results was also found by Disney, et al. (1992) for public works projects operated in both the United Kingdom and Germany.

The industry of public works firms were mainly bunched in two categories: national government, with 67.5 percent, and other, with 32.5 percent (Table 6.4.3). Impacts of public works by firms from these groups were uniformly different, with the public works participant who was being placed greatly handicapped by projects run by the national government and slightly advantaged if the project was run by a firm in some other industry. While the results for other industry are not significantly different from zero, they are significantly different from the sizeable

negative impacts for programs run by the national government. Since the major aim of public works is income transfer, this aim can be achieved with no apparent damage to employment an earnings prospects if the projects are not run by the national government, but rather by firms in other industries.

6.5 The timing of response to public works participation

The timing of exit from the unemployment register to reemployment in a normal non-subsidized job is used to illustrate the pattern of the reemployment effects of public works. Table 6.5.1 compares exits from the unemployment register for public works participants and comparison group members for a maximum 28-month time period starting as early as January 1995.

For both participant and comparison group members who were registered as unemployed on or before January 1995, the first month considered in the series is January 1995 and the possibility of reemployment is observed for up to 28 months. For those whose spell of registered unemployment began sometime after January 1995, the first month in the series is the month of registration and their reemployment activity is observed for something less than 28 months.

In the hazard analysis presented here, exit from the unemployment register to reemployment is defined to occur when the first new job begins after having registered as unemployed. Referring back to Table 3.9.2, it can be seen that the initial risk sets for public works are slightly smaller than the full sample sizes of 1,188 program participants and 1,174 comparison group members. This is because for a small number of observations in the sample, the recorded date of the first new job is before the recorded start date of the unemployment spell.[24]

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[24]The rules used for sample definition here are the same as those which were carefully described in footnotes to the hazard analysis of retraining impacts in Section 4.5.

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Table 6.5.1 shows the number of people who started new non-subsidized jobs from the comparison and public works groups in each month since they registered as unemployed, the proportion who started jobs (the exit rate) and the difference in exit rates between the groups (the public works impact). In this analysis, over the 28- month period, public works participants are generally seen to exit the unemployment register for a job at about the same rate as those in the comparison group. The public works participants exit rate is lower for the first 4 months, but then is higher in months 5 to 15, with the advantage being statistically significant in 5 of these months. This is an encouraging result which suggests that the income transfer function of public works can be achieved without greatly damaging the transition to reemployment in a normal non-subsidized job.

The pattern of higher exit rates for public works participants in months 5 to 15 after registration as unemployed accords with the impact estimates by duration of participation in public works which are given in Table 6.4. Since assignment to a public works project usually happens only after several months registered as unemployed, positive reemployment effects as soon in an unemployment spell as 6 or 7 months indicates that short-term public works participants are boosted in their reemployment efforts. Indeed, the Table 6.5.2 suggests that many of the short-term public works participants become reemployed in the month of their program exit.

To sharpen the contrast in examining exits from unemployment to normal non-subsidized jobs, in Table 6.5.2 we compare exits from the same comparison risk set used in Table 6.5.1 starting at the date of registering as unemployed with exits of public works participants starting at the time of completing public works. The risk set for program participants is expanded to include everyone in the data set who had a date for leaving the ALP after January 1995.[25] The idea behind this redefinition is to compare the time until reemployment of newly registered

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[25]For the participant group in Table 6.5.2 the risk set is defined at the month in which exit from public works occurs. The risk sets change for reasons analogous to those described in Section 4.5.

unemployed who receive no ALP services, with the time until reemployment of newly retrained persons (who are otherwise similar in terms of observable characteristics like age, gender, education and so forth). In this analysis, the public works impact on reemployment in a normal job is positive, large, and statistically significant in 7 of the first 10 months. The positive effect gradually diminishes and becomes negative after the fifteenth month, which, together with the time in public works and the time on the register before program entry, exhausts the period of observation for most program participants.

6.6 Impact of public works on unemployment compensation costs

Survey respondents were asked about their main activity in each month during the 24-month period January 1995 through December 1996.[26] Responses to this question allowed independent estimates of public works impact on employed months (EMMONTHS) and unemployed months (UNMONTHS) in the period since the most recent registration as unemployed. Because we also know labor market status at the survey date between February 15 and April 15, 1997, it was possible to lengthen the observation period somewhat beyond December 1996.

Net impact estimates for the effect of retraining on these various outcomes in Poland were estimated in three different ways. The first set were computed as simple differences between means of the participant and comparison group on the outcomes of interest. Since the comparison group was selected by a matched pairs process, these are net impact estimates adjusted for sample composition. That is, the sampling method nets out any sample selection bias which may have occurred in enrolling registered unemployed into retraining programs.

The second set of results reported in Table 6.6 are labeled ES interaction, where ES stands for the Employment Service. These estimates were computed while adjusting for the fact

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[26]This data came in response to survey question 2 asked of public works participants (Record Type D) and question 8 asked of comparison group members (Record Type B).

that many program participants also used other reemployment assistance provided by the ES. The method of computing these estimates is explained in Appendix B under the heading Method for Separating out Impacts of Multiple Programs. In addition to accounting for the effect of the ES, the third set of results reported in Table 6.6 also adjusts for observable characteristics in computing net program impacts. Controlling for observable characteristics in net impact estimation is also explained in Appendix B.

In contrasting the employment and unemployment months of public works participants and comparison group members it should be recalled that the former group spent the public works period unavailable for reemployment or full time job search, and that differences in durations between these two groups will be influenced by this fact. This factor is less important for examining impacts on outcomes summarized in Table 6.2. Employment rates and usual monthly earnings are less affected by the public works time out of the labor market. Particularly since the mean duration of public works was 5.0 months and the follow-up surveys were conducted long after public works participation was over. There are no statistically significant differences across estimation methods for any of the outcomes reported in Table 6.6. The results indicate that public works participants spent between 2.15 and 2.26 fewer months employed and between 1.27 and 1.65 fewer months unemployed than the comparison group during the observation period. The results obviously reflect the time spent on public works projects during the period of observation.

Data drawn from the employment register for both public works participants and comparison group members also provided for creation of a variable summarizing months of unemployment compensation drawn (UCMONTHS) since most recent registration as unemployed. Because the unemployment compensation months data was drawn from the register rather than through surveys, it was possible to get data from January 1994 right through April 1997. Also, since unemployment benefits were paid at a fixed rate of 36 percent of the average national monthly wage to eligible beneficiaries we can easily approximate the monetary value of unemployment compensation paid to public works participants and comparison group members

during the observation period.[27] The range of estimates in Table 6.6 shows that public works participants drew an average of between 0.93 and 1.45 more months and between 315 and 430 Polish Zloty more in unemployment compensation (UC) benefits than did members of the comparison group.

These results are certainly due in part to the rule which provides requalification for UC to retrained persons for whom the local labor office is unable to find a job placement. It appears that use of the ES did not interact with impacts of public works on periods of employment, unemployment, and unemployment compensation.

6.7 Benefit-cost analysis of public works

This section presents estimates of the net benefits of public works computed for three different perspectives: the National Labor Office (or Ministry), all government, and society.[28] The estimates presented in Table 6.7 are extremely conservative. Computations are based only on the period of observation from registration as unemployed through the survey date in early 1997. The estimates are computed on a per participant basis. They are not aggregated over all participants.

The most narrow view of net benefits of a public works program is that from the National Labor Office itself. As can be seen in Table 6.7, when computing net benefits from the perspective of National Labor Office (or Ministry) the benefit is any savings in unemployment compensation (UC) payments and the costs are the direct costs of paying for public works to be done and the administrative cost of contracting, monitoring, referring participants, and follow-up. The UC impact estimate used was drawn from Table 6.6 under the heading regression adjusted ES interaction. For the direct cost of public works the average for 1995 and 1996 of per

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[27]Following the reasoning laid out in Section 4.6, we assume that the monthly UI benefit was 36 percent of the national average wage.

[28]In this concise analysis, no attempt is made to adjust for displacement. Notes to Section 4.7 of this report present the reasoning for this decision.

participant costs summarized in Tables 3.5 and 3.8 are used for each separate voivod, and for the cost of administration a figure from Poznan voivod is used.[29] The estimated net benefits of public works for the National Labor Office is estimated to be a cost of 2,751 Zl per participant. Participation in this program has also been estimated to mildly reduce the probability of reemployment in a normal non-subsidized job. To assess cost effectiveness this response should be considered in figuring the net cost.

A somewhat broader perspective in assessing the net benefits of a public program is all government. By all government we mean the collection of all agencies which collect taxes and dispense public services. Net benefits to all government depend on the benefit from any saving in UC payments which might not be made, and the change in tax revenue to governmental agencies which might result.[30] The costs to government include the direct costs of operating the program and the administrative costs for the program. In Table 6.7, for all government we see the net cost to be higher than that for the National Labor Office by the amount of 221 Zl in lost tax revenue per public works participant.

The final measure of acceptability for a program is whether it generates positive net benefits for society as a whole. Real gains to society accrue if the aggregate value of economic output increases. Additions to social economic output are estimated by the increased value of earnings plus the value of any direct contribution to social product made by the goods and services produced by public works projects.[31] From this we must deduct costs which society incurs by having public works which would not have been otherwise experienced. These costs

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[29]Computations which yielded the estimate used are summarized in Section 4.7 of this report.

[30]The tax rate used is 20 percent of gross income. The methodology for computing earnings change is described in Section 4.7. The earnings and employment figures were drawn from Tables 6.2 and 6.6.

[31]The impact on earnings is the impact on average monthly earnings (Table 6.2) multiplied by the impact on months of employment (Table 6.6). The value of public goods and services produced is based on figures provided for Poznan voivod. The value per participant it the total estimated value of project outputs in 1996 divided by the number of project participants in 1996.

include the direct and administrative costs of the program. The impact on unemployment compensation payments does not figure into the social net benefit computation as these are simply transfer payments from one group in society to another, and transfer payments have no effect on total social economic output. The administrative costs, earnings loss, and direct costs are swamped by the huge per participant value of public goods and services. This happy outcome is due to the social value of projects estimated for Poznan voivod. Without the social product component, net costs per participant for public works would be about ten times those for retraining.

6.8 A summary of the public works evaluation

Public works resulted in an 8 percentage point decline in getting into a normal job during the period observed, a 5 percentage point decline in ever getting into any other job, and a 4 percentage point decline in being in a normal job on the survey date. Public works participation was estimated to have no significant effect on average monthly earnings.

A subgroup analysis of public works impact on employment and earnings was done. It revealed no significant differences by gender employment outcomes, but suggested that the earnings of women would rise. There were no differences in impact across three major age groups, however employment prospects for older workers rose. Those with less than 8 years of formal schooling had their reemployment success hindered the least by public works, while those with the highest educational attainment had their reemployment earnings hurt most. Those whose previous experience was in a white-collar occupation benefitted greatly, while those with prior blue-collar employment suffered most of the negative impacts. In terms of employment, long-term unemployed persons benefitted appreciably less than those who were not long-term unemployed, while in terms of earnings the opposite was true. The negative impact of public works on reemployment appeared to be clustered among those with positive work experience less than 10 years. Finally, public works appeared to have no statistically significant impact on either

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employment or earnings in areas with low unemployment, while in areas with high unemployment public works appears to diminish subsequent labor market success.

It was found that short-term public works hindered future labor market success less than did a longer term involvement, and there was some evidence that public works provided by private firms was more effective. It is better if public works is provided by a group other than an agency of the national government.

Public works was found to be associated with a prolonged duration of unemployment compensation. Very rough net benefit computations suggest that public works imposes net costs on the National Labor Office and the government as a whole. While the computations suggest sizeable net benefits to society of public works, this result hinges on the assumed social value of public works projects.

Table 6.1 Means of Descriptive Characteristics for Comparison Group and Participant Samples for Public Works

	Comparison group	Public works	Difference	t-statistic on difference
EARNPRE	312	342	31	3.94
MALE	0.85	0.85	-0.01	0.40
AGE	29.11	29.02	-0.09	0.22
EDELEM	0.41	0.41	-0.00	0.07
EDVOC1	0.46	0.46	-0.00	0.14
EDVOC2	0.10	0.10	0.00	0.12
EDGYM	0.02	0.02	0.00	0.40
EDCOLL	0.01	0.01	0.00	0.15
OCCMGR	0.00	0.00	-0.00	0.01
OCCPROF	0.00	0.00	-0.00	0.73
OCCTECH	0.01	0.02	0.01*	1.70
OCCSERVE	0.06	0.02	-0.04**	5.62
OCCSKILL	0.45	0.31	-0.15**	7.43
OCCUNSKL	0.27	0.51	0.24**	12.12
OCCCLERK	0.03	0.05	0.02**	2.33
PHYSDIS	0.02	0.01	-0.02**	3.47
HHSIZE	3.13	3.34	0.21**	3.05
SPOUSEHM	0.70	0.70	0.00	0.02
SPEMPL	0.48	0.43	-0.05	1.57
OTHEREMP	0.78	0.83	0.05	1.23
DEPEND1	0.90	1.07	0.18**	2.95
DEPEND2	1.24	1.39	0.15**	2.80
LOOKWORK	0.32	0.36	0.04*	1.68
EARN5	427	451	24	1.13

* Statistically significant at the 90 percent confidence level in a two-tailed test.
** Statistically significant at the 95 percent confidence level in a two-tailed test.

Table 6.1.1   Use of the Employment Service by Public Works Participants

	Those Who Were Reemployed		Those Who Were Not Reemployed	
	Number	%	Number	%
Job interview referrals	153	25.8	190	33.0
Skills assessment	64	10.8	60	10.4
Counseling	16	2.7	18	3.1
Job Club	6	1.0	10	1.7
Other services	8	1.3	14	2.4
Group size	593		575	

Table 6.1.2   Employer Retention of Public Works Participants

Response	Number	%
Have no data	70	5.9
I don't know	7	0.6
Yes	174	14.6
No	937	78.9
Cumulative	1188	100.0

Table 6.1.3   Employer Retention of Public Works Participants for Public and Privately Owned Program Operators

	Public		Private	
Response	Number	%	Number	%
Have no data	65	6.6	1	1.0
I don't know	4	0.4	2	2.0
Yes	130	13.1	18	18.2
No	790	79.9	78	78.8
Cumulative	989	100.0	99	100.0

Table 6.1.4   Still at Public Works Employer

Response	Number	%
Have no data	1	0.6
Yes	117	67.2
No	56	32.2
Cumulative	174	100.0

Table 6.1.5 Still at Public Works Employer for Public and Privately Owned Program Operators

	Public		Private	
Response	Number	%	Number	%
Have no data	1	0.8	0	0
Yes	88	67.7	13	72.2
No	41	31.5	5	27.8
Cumulative	130	100.0	18	100.0

Table 6.1.6   Reasons for Unemployment among Public Works Participants

Response	Number	%
Have no data	18	2.7
Other	89	13.3
Wanted job, no vacancies in my field	398	59.7
Wanted job, wages too low	69	10.3
Couldn't look for job, health problems	56	8.4
In eve/wkend school, adds difficulty	23	3.4
Expecting to serve in military soon	14	2.1
Cumulative	667	100.0

Table 6.1.7   Compensation to Unemployed Public Works Participants

Response	Number	%
Have no data	29	4.3
No response	16	2.4
Regular unemployment compensation	249	37.3
Social welfare assistance	59	8.8
Both unemp comp & welfare assist	27	4.0
No benefits	287	43.0
Cumulative	667	100.0

Table 6.2   Impact of Public Works on Employment and Earnings in Poland

	Comparison group	Public works	Impact	t-statistic on impact	Comparison sample size	Participant sample size
Difference						
EMPNORM	0.53	0.45	-0.08**	4.08	1139	1154
EMPANY	0.60	0.55	-0.05**	2.49	1139	1154
EMPNOWN	0.33	0.28	-0.04**	2.13	1152	1183
EMPNOWA	0.42	0.43	0.01	0.37	1136	1165
EARNNOW	481	468	-14	0.96	574	642
ES Interaction[1]						
EMPNORM			-0.09**	3.55		
EMPANY			-0.05**	4.19		
EMPNOWN			-0.04**	3.21		
EMPNOWA			-0.01	1.28		
EARNNOW			-17*	1.81		
Regression-Adjusted ES Interaction[2]						
EMPNORM			-0.08**	2.68		
EMPANY			-0.05**	4.11		
EMPNOWN			-0.04**	2.11		
EMPNOWA			0.02	0.33		
EARNNOW			-19	0.72		
Full sample	1174	1188				

  *Statistically significant at the 90 percent level in a two-tailed test.
**Statistically significant at the 95 percent level in a two-tailed test.
EMPNORM - Became reemployed in a normal non-subsidized job.
EMPANY - Became reemployed in any job, including possibly a subsidized job.
EMPNOWN - Employed on the survey date in a normal non-subsidized job.
EMPNOWA - Employed on the survey date in any job, including possibly a subsidized job.
EARNNOW - Average monthly earnings on the current job if employed.

[1]   The ES interaction estimates were computed from a regression model as described in Appendix B in the section entitled Method for Separating out Impacts of Multiple Programs.

[2]   The regression-adjusted ES interaction estimates were computed from a regression model as described in Appendix B in the section entitled Method for Separating out Impacts of Multiple Programs and also included the variables listed in Table 3.10.1 with the exception of EARNPRE, SPOUSEHM, and SPEMPL, which were omitted because of a high proportion of missing values. The regression also included indicator variables for the voivods, with the omitted reference voivod being Radom.

Table 6.3   Net Impact Estimates of Public Works by Subgroup

Variable/label	Proportion in comparison group	Net Program Impacts				
		EMPNORM	EMPANY	EMPNOWN	EMPNOWA	EARNNOW
FEMALE - Respondent is female~	0.147	-0.069	0.022	-0.012	0.036	57.237#
MALE - Respondent is male	0.853	-0.088**	-0.070**	-0.046**	0.003	-23.054
AGELT30 - Age $\leq$ 30	0.604	-0.099**	-0.066**	-0.043	0.005	-21.013
AGE3044 - Age between 30 and 44	0.319	-0..52	-0.038	-0.056	0.007	6.279
AGEGE45 - Age is 45 or over~	0.077	-0.121	-0.048	0.037	0.036	-4.342
EDELEM - 8 years/or less schooling	0.409	-0.045	-0.008#	-0.069	-0.003	-6.519
EDVOC - Vocational secondary~	0.560	0.104**	-0.082**	-0.027	0.018	-8.256
EDGYM - General secondary	0.019	-0.214	-0.215	0.121	0.111	-32.479
EDCOLL - Some higher education	0.013	-0.357**	-0.199	-0.022	-0.221	-234.007*#
WHITECOL - White-collar occupation	0.111	0.044##	0.069##	0.010	0.172**##	142.048**##
BLUECOL - Blue-collar Occupation~	0.723	-0.119**	-0.090**	-0.039*	-0.007	-27.541
OTHEROCC - Other occupation	0.166	0.010	0.045	-0.094	-0.032	-32.724
VOLUN - Voluntarily unemployed	0.175	-0.070	0.019	-0.002	-0.026	51.247
NONVOL - Not voluntarily unemployed~	0.825	-0.088**	-0.066**	-0.046**	0.013	-19.457
LTU - Long-term unemployed	0.533	-0.158**##	-0.127**##	-0.069**	-0.006	12.836#
NONLTU - Not unemployed long-term~	0.467	-0.008	0.019	-0.011	0.022	-36.222*
EXP0 - Work experience = zero	0.129	-0.035	-0.025	-0.032	0.016	98.334*
EXPLE3 - Work experience $\leq$ 3 years	0.480	-0.138**	-0.099**	-0.071**	-0.016	-23.100
EXP3T10 - Work experience 3-10 years	0.149	-0.060	-0.087	-0.148*	-0.139	1.682
EXPGT10 - Work experience $\geq$ 11 years~	0.242	-0.024	-0.009	-0.025	0.016	-15.963
LOWURATE - Low-unemployment area	0.218	-0.052	-0.022	0.004	0.030	-19.516
HIURATE - High-unemployment area~	0.782	-0.095**	-0.065**	-0.054**	0.002	-8.609
GORZOW - Voivod is Gorzów	0.153	-0.181**	-0.231**	-0.019	0.022	-29.712
KATOWICE - Voivod is Katowice	0.102	0.046##	0.103##	-0.027	0.075	72.596*
KONIN - Voivod is Konin	0.077	-0.149**	-0.044	-0.047	-0.097#	-32.058
KRAKOW - Voivod is Kraków	0.043	-0.321**	-0.319**	-0.039	-0.189*##	-79.270
LUBLIN - Voivod is Lublin	0.101	-0.095	-0.053	-0.048	0.035	-48.365
OLSZTYN - Voivod is Olsztyn	0.307	-0.002##	0.048##	-0.101**#	-0.019	-4.381
POZNAN - Voivod is Poznan	0.073	-0.011#	-0.007	0.054	0.085	-95.475*#
RADOM - Voivod is Radom~	0.144	-0.169**	-0.161**	0.014	0.056	15.667

*   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 6.4   Impacts of Various Aspects of Public Works

	Group proportion	EMPNORM	EMPANY	EMPNOWN	EMPNOWA	EARNNOW
Comparison group mean		0.53**	0.60**	0.33**	0.42**	481
Public works impact		-0.08**	-0.05**	-0.04**	0.01	-14
Duration of public works						
Less than 6 months	0.354	-0.04	-0.01	-0.05*	-0.03	-40**
6 months	0.575	-0.12**[aa]	-0.08**[aa]	-0.04*	0.02	-4[a]
7 or more months	0.071	-0.07	-0.07	-0.11**	-0.03	63[aab]
Regression coefficients on[c]						
Months		-0.017*	-0.007	-0.017*	-0.010	-5
Months squared		0.001	0.000	0.000	0.000	1
Ownership status of public works provider						
Public	0.832	-0.11**	-0.07**	-0.05**	0.01	-25*
Private	0.083	0.06[aa]	0.09*[aa]	0.10**[aa]	0.09*	95**[aa]
Industry of public works provider						
National government	0.675	-0.13**	-0.09**	-0.07**	-0.01	-32**
Other	0.325	0.01[aa]	0.02[aa]	0.01[aa]	0.04[a]	10[a]

 * Difference statistically significant at the 90 percent level in a two-tailed test.

** Difference statistically significant at the 95 percent level in a two-tailed test.

 [a] - Statistically significantly different from the first category at the 90 percent level.

 [aa] - Statistically significantly different from the first category at the 95 percent level.

 [b] - Statistically significantly different from the second category at the 90 percent level.

 [bb] - Statistically significantly different from the second category at the 95 percent level.

 [c] - The regressions also included indicator variables for 6 months and 12 months as duration of time spent in public works.

EMPNORM - Became reemployed in a normal non-subsidized job.

EMPANY - Became reemployed in any job, including possibly a subsidized job.

EMPNOWN - Employed on the survey date in a normal non-subsidized job.

EMPNOWA - employed on the survey date in any job, including possibly a subsidized job.

EARNNOW - Average monthly earnings on the current job if employed.

Table 6.4.1   Distribution of Public Works Subsidized Employment

Duration in months	Number	%	Cumulative number	Cumulative %
0	33	2.9	33	2.9
1	66	5.8	99	8.7
2	98	8.6	197	17.4
3	82	7.2	279	24.6
4	71	6.3	350	30.8
5	52	4.6	402	35.4
6	653	57.5	1,055	93.0
7	34	3.0	1,089	95.9
8	16	1.4	1,105	97.4
9	6	0.5	1,111	97.9
10	10	0.9	1,121	98.8
11	4	0.4	1,125	99.1
12	2	0.2	1,127	99.3
14	1	0.1	1,128	99.4
15	1	0.1	1,129	99.5
17	1	0.1	1,130	99.6
18	4	0.4	1,134	99.9
23	1	0.1	1,135	100.0
Number missing = 53				

Table 6.4.2   Distribution of Ownership Status of Public Works Provider

Ownership	Number	%	Cumulative number	Cumulative %
Missing	36	3.0	36	3.0
Public	989	83.2	1,025	86.3
Private	99	8.3	1,124	94.6
Different	55	4.6	1,179	99.2
Other	9	0.8	1,188	100.0

Table 6.4.3   Distribution of Industry of Public Works Provider

Provider	Number	%	Cumulative number	Cumulative %
National government	749	67.5	749	67.5
Other industry	361	32.5	1,110	100.0

**Table 6.5.1   Impact of Public Works on the Timing of Reemployment
(or the timing of exit from unemployment)**

Months until finding job	Comparison Group			Participant Group			Public works impact
	Risk set	Started new job	Exit rate (%)	Risk set	Started new job	Exit rate (%)	
1	877	15	1.71	1059	18	1.70	-0.01
2	862	15	1.74	1041	26	2.50	0.76
3	847	22	2.60	1015	16	1.58	-1.02
4	825	22	2.67	999	30	3.00	0.34
5	803	9	1.12	969	22	2.27	1.15*
6	794	18	2.27	947	32	3.38	1.11
7	776	25	3.22	915	51	5.57	2.35**
8	751	22	2.93	864	54	6.25	3.32**
9	729	25	3.43	810	41	5.06	1.63
10	704	18	2.56	769	53	6.89	4.34**
11	686	31	4.52	716	32	4.47	-0.05
12	655	18	2.75	684	31	4.53	1.78*
13	637	29	4.55	653	35	5.36	0.81
14	608	22	3.62	618	34	5.50	1.88
15	586	17	2.90	584	18	3.08	0.18
16	569	22	3.87	566	14	2.47	-1.39
17	547	17	3.11	552	5	0.91	-2.20**
18	530	16	3.02	547	7	1.28	-1.74**
19	514	14	2.72	540	9	1.67	-1.06
20	500	10	2.00	531	5	0.94	-1.06
21	490	15	3.06	526	3	0.57	-2.49**
22	475	9	1.89	523	1	0.19	-1.70**
23	466	8	1.72	522	2	0.38	-1.33**
24	458	3	0.66	520	0	0.00	-0.66*
25	455	5	1.10	520	2	0.38	-0.71
26	450	5	1.11	518	1	0.19	-0.92*
27	445	5	1.12	517	2	0.39	-0.74
28	440	0	0.00	515	0	0.00	0.00
Cumulative	877	437	49.83	1,059	544	51.37	1.54

*   Statistically significant at the 90 percent confidence level in a two-tailed test.
**   Statistically significant at the 95 percent confidence level in a two-tailed test.

Table 6.5.2   Impact of Public Works on the Timing of Reemployment (or the timing of exit from unemployment), for Public Works Participants' Time Starts When exiting Public Works Program

Months until finding job	Comparison Group			Participant Group			
	Risk set	Started new job	Exit rate (%)	Risk set	Started new job	Exit rate (%)	Public works impact
1	931	18	1.93	1150	99	8.61	6.68**
2	913	21	2.30	1051	42	4.00	1.70**
3	892	25	2.80	1009	37	3.67	0.86
4	867	31	3.58	972	26	2.67	-0.90
5	836	14	1.67	946	33	3.49	1.81**
6	822	24	2.92	913	44	4.82	1.90**
7	798	28	3.51	869	49	5.64	2.13**
8	770	26	3.38	820	46	5.61	2.23**
9	744	29	3.90	774	34	4.39	0.49
10	715	21	2.94	740	43	5.81	2.87**
11	694	31	4.47	697	25	3.59	-0.88
12	663	19	2.87	672	28	4.17	1.30
13	644	30	4.66	644	32	4.97	0.31
14	614	25	4.07	612	34	5.56	1.48
15	589	17	2.89	578	23	3.98	1.09
16	572	23	4.02	555	10	1.80	-2.22**
17	549	18	3.28	545	12	2.20	-1.08
18	531	16	3.01	533	8	1.50	-1.51*
19	515	14	2.72	525	2	0.38	-2.34**
20	501	11	2.20	523	3	0.57	-1.62**
21	490	15	3.06	520	2	0.38	-2.68**
22	475	9	1.89	518	1	0.19	-1.70**
23	466	8	1.72	517	1	0.19	-1.52**
24	458	3	0.66	516	0	0.00	-0.66*
25	455	5	1.10	516	0	0.00	-1.10**
26	450	5	1.11	516	0	0.00	-1.11**
27	445	5	1.12	516	1	0.19	-0.93*
28	440	0	0.00	515	0	0.00	0.00
Cumulative	931	491	52.74	1150	635	55.22	2.48**

  * Statistically significant at the 90 percent confidence level in a two-tailed test.
** Statistically significant at the 95 percent confidence level in a two-tailed test.

Table 6.6   Impact of Public Works on Months of Employment, Unemployment, and Unemployment Compensation in Poland

	Comparison group	Public works	Impact	t-statistic on impact
Difference				
EMMONTHS	5.93	3.70	-2.23**	9.10
UNMONTHS	12.00	10.62	-1.38**	5.03
UCMONTHS	9.70	11.09	1.39**	4.91
UCPAY	2125	2555	430**	6.57
ES Interaction[1]				
EMMONTHS			-2.26**	6.93
UNMONTHS			-1.27**	3.89
UCMONTHS			1.45**	3.51
UCPAY			444**	4.64
Regression-Adjusted ES Interaction[2]				
EMMONTHS			-2.15**	5.64
UNMONTHS			-1.65**	5.92
UCMONTHS			0.93**	2.14
UCPAY			315*	1.85
Full sample	1174	1188		

 * Statistically significant at the 90 percent level in a two-tailed test.
** Statistically significant at the 95 percent level in a two-tailed test.
EMMONTHS - Months employed since most recent registration with the employment service.
UNMONTHS - Months unemployed since most recent registration with the employment service.
UCMONTHS - Months of unemployment compensation since most recent ES registration.
UCPAY - Amount of unemployment compensation since most recent ES registration.
[1]   The ES interaction estimates were computed from a regression model as described in Appendix B in the section entitled Method for Separating out Impacts of Multiple Programs.
[2]   The regression adjusted ES interaction estimates were computed from a regression model as described in Appendix B in the section entitled Method for Separating out Impacts of Multiple Programs and also included the variables listed in Table 3.10.1 with the exception of EARNPRE, SPOUSEHM, and SPEMPL which were omitted because of a high proportion of missing values. The regression also included indicator variables for the voivods with the omitted reference voivod being Radom.

Table 6.7   Estimated Net Benefits per Participant in Public Works
       (in 1996 Zl)

Perspective of the National Labor Office (or Ministry)

Unemployment compensation saved (benefit)	-315 Zl
Direct cost of operating the program (cost)	-2346
Administrative cost of program (cost)	-90
Net benefits to the National Labor Office:	-2751

Perspective of the National Government

Unemployment compensation saved (benefit)	-315 Zl
Direct cost of operating the program (cost)	-2346
Administrative cost of program (cost)	-90
Tax revenue from increased earnings (benefit)	-221
Net benefits to the National Government:	-2972

Perspective of All Society

Increased earnings (benefit)	-1106 Zl
Value of public goods and services produced (benefit)	18697
Direct cost of operating the program (cost)	-2346
Administrative Cost of Program (cost)	-90
Net benefits to All Society:	15155

7. Evaluation of Intervention Works

The intervention works program is much like public works except that 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 six months, employers can receive wage subsidies for retained workers amounting to up to 150 percent of the national average wage to cover wage and social insurance costs for up to an additional six months. The low project wages and the incentive for continued employment mean that intervention works operates essentially as a wage subsidy program. Most intervention works project operators pay workers more than the amount equal to the unemployment benefit during the first six months, the relationship of wages to the national average wage for retained workers in the subsidy period over the next six months varies greatly between firms.[32]

In recent years intervention works has received the largest share of spending among all ALPs, eclipsing public works by a slight margin in each year (Table 2.3). Intervention works also ranks first in the number of program participants (Table 2.4). As seen in Table 3.11.3, intervention works participants tend to be more female, significantly younger, more likely to have a vocational secondary education, and have less work experience than the general population of registered unemployed. In Table 7.1 we see that on the characteristics of gender, age, education and prior average monthly earnings the selected comparison group accords quite closely with those who participated in intervention works and were randomly selected for the evaluation. Overall there are five significant differences between the groups among the 24 exogenous prior characteristics examined. The main

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[32]Later in this chapter Table 7.3 shows that 1,439 intervention works participants were retained by their employers after wage subsidy payments stopped. Among these 1,167 or 81.1 percent were still working for that same employer on the survey date. For these 1,167 workers on the survey date the mean monthly wage was 420 Zl with a standard deviation of 245 Zl.

differences are that the comparison group has a lower proportion of persons in the technical, skilled manual, and clerical occupations.

The exposition of impact estimates for intervention works in Poland presented in this chapter proceeds with a review of descriptive outcomes from the survey, this is followed by a report on net impacts for the main employment and earnings measures. Section 3 of this chapter presents a subgroup analysis of intervention works impacts on employment and earnings; Section 4 reports net impacts on various features of intervention works; Section 5 reports on the timing of response to intervention works; Section 6 reports on the impact on employment, unemployment and unemployment compensation and the final section of the chapter attempts a concise net benefit analysis of the intervention works program.

7.1 A descriptive overview of intervention works outcomes

This section presents a series of frequency distributions based on survey questions asked of intervention works program participants. As shown in Table 3.9.2, net impact analysis of intervention works presented in following sections was based on a participant sample of 2,412 and a comparison group sample of 2,410. The descriptive information which follows divides these samples in various ways.

Table 7.1.1 considers the use of various services offered by the ES and records how many of the intervention works participants used each service among those who later became employed and those who failed to get reemployed. While there are not large differences in ES use between those who got a job and those who did not, it is interesting to see that ES use—in particular job interview referral—was greater among those who did not find a job. This finding is similar to that for public works reported in Section 6.1. This result is most likely due to the fact that those who did not get reemployed spent relatively more time on the unemployment register and therefore had a greater occasion to use the ES.

Table 7.1.2 shows that among program participants a whopping 59.7 percent were retained as regular employees by the intervention works program operator after government funding of the project ended. Since it is possible to distinguish the ownership status of the enterprise operating a intervention works project and given that most project operators are either public (699 or 29.0 percent) or private (1,187 or 49.2 percent), Table7.1.3 repeats the summary of Table 7.1.2 separated for public and private program operators. In Table 7.1.3 we see that virtually the same proportion of publicly and privately owned enterprises (60.4 percent and 60.7 percent) which operated intervention works projects retained project employees after subsidies ended.

Table 7.1.4 reports that among the 1,439 who were retained as regular employees, 1,167 or 81.1 percent were still working for the same employer on the survey date in early 1997. In a fashion similar to the previous pair of figures, Table 7.1.5 presents information from Table 7.1.4 by enterprise ownership type. Opposite to the finding for public works, long term retention of workers after subsidies end is higher at publicly owned enterprises (87.4 percent) than it is at privately owned enterprises (76.9 percent).

Table 7.1.6 reports that for the 705 intervention works participants out of work on the survey date, 45.4 percent cite a lack of jobs available in their chosen field, while 9.2 refused job offers because wages were too low, 5.1 could not look for work because of health problems and 24.1 cited other specific reasons. It is worth noting that while 14 percent of out of work retrainees cited evening or weekend schooling as an obstacle, 8.1 percent of intervention works were so engaged in school, while only 3.4 percent of public works participants made this claim.

Table 7.1.7 reports that among the 705 intervention works participants unemployed on the survey date 42.1 percent were drawing UC benefits, 4.5 percent were on social welfare assistance, and 3.5 percent were drawing both while 41.8 percent claimed to be receiving no assistance whatsoever.

7.2 Impact estimates of intervention works on employment and earnings

Impact estimates presented in this section focus on two main outcomes: employment and earnings. Various delineations of these are presented.   Just as in Section 4.2 on retraining, the outcome measures examined are: EMPNORM, EMPANY, EMPNOWN, EMPNOWA, and EARNNOW. See Section 4.2.

Table 7.2 presents net impact estimates for the effect of intervention works on the various measures of employment and earnings in Poland estimated in three different ways. The first set were computed as simple differences between means of the participant and comparison group on the outcomes of interest. Since the comparison group was selected by a matched pairs process these are net impact estimates adjusted for sample composition. That is, the sampling method nets out any sample selection bias which may have occurred in enrolling registered unemployed into intervention works.

The second set of results reported in Table 7.2 are labeled ES interaction, where ES stands for the Employment Service. These estimates were computed while adjusting for the fact that many program participants also used other reemployment assistance provided by the ES. The method of computing these estimates is explained in Appendix B under the heading Method for Separating out Impacts of Multiple Programs. In addition to accounting for the effect of the ES, the third set of results reported in Table 7.2 also adjusts for observable characteristics in computing net program impacts. Controlling for observable characteristics in net impact estimation is also explained in Appendix B.

The large sample sizes yield small standard errors which produce statistical significance for all of the net impacts estimated on the employment outcomes. For the employment outcomes all three estimation methods yield identical point estimates. Intervention works in Poland is estimated to increase the probability of ever finding a normal job by 26 percentage points and of being in a normal job on the survey date by 23 percentage points. These are large and significant positive impacts.

The results for the employment outcomes broadened to include subsidized work are quite similar. For employment ever in any job the gain is 23 percentage points, on the survey date the gain is 24 percentage points. Taken together these results suggest that intervention works is an effective way of promoting reemployment.

Regardless of the estimation method, intervention works had no statistically significant net impact on average monthly earnings. The point estimate of the impact was 0 for two methods and was 3 Polish zloty per month for the regression-adjusted ES interaction method.

The impact estimates from each of the three methods are in close agreement. In particular, it appears that whether or not intervention works participants used the ES, the intervention works participation effect on reemployment was the same. While only 42.9 percent of intervention works participants used some ES assistance, 50.7 percent of those in the comparison group did (Table 5.1.1). The results presented in Table 6.2 indicate that use of the ES did not appreciably affect the influence of intervention works participation on labor market success.

Taken together the results suggest that intervention works program participants can have the realistic expectation of much higher chances for employment in jobs paying wages commensurate with their skills and other objective characteristics.

7.3 A subgroup analysis of intervention works impacts

We examine treatment impacts by population subgroup so as to provide information on how policy makers might consider targeting ALPs to certain groups like those without a specialization or older unemployed persons. The estimates are also provided to identify any possible biases in the effects, because a program that benefits only a few particular demographic subgroups such as one gender or certain education level groups may not be considered good policy even if it is cost effective.

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Just as for the subgroup analysis of retraining, impact estimates were computed simultaneously, that is, intervention works impact estimates for females were computed while adjusting for the fact that registered unemployed females tend to have more schooling and are less likely to work in blue-collar occupations than their male counterparts. Details of the subgroup estimation methodology are given in Appendix B to this report.

Table 7.3 presents net impact estimates of intervention works by subgroup on the employment outcome variables EMPNORM, EMPANY, EMPNOWN, EMPNOWA, and on the earnings measure EARNNOW. Subgroups are defined by 29 categorical variables for gender, age, education, occupation, whether or not the person became voluntarily unemployed, whether or not the person was long-term unemployed (meaning registered unemployed at least 6 months prior to entering intervention works), categories of prior work experience, whether unemployment in the voivod of residence is high or low, and indicators for each of the eight voivods.[33]

By gender the results indicate that intervention works boosted female reemployment rates significantly more than men by the survey date. For females there was no impact on earnings, but intervention works appeared to lower current earnings for male participants.

There were no statistically significant differences across the three age groups in any of the five outcome measures. However the tendencies for older workers to benefit more from intervention works in terms of both employment and earnings.

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[33]The three occupation categories were based on information in question 2.1 extracted from the unemployment register (Record Type A) given in Appendix A. Coded as white-collar were: service, technical, clerk, manager, and professional; as blue-collar: skilled and unskilled; the other category included data values I = other, J = no response, and A = no data. The high unemployment rate group includes: Gorzów, Lublin, Konin, Olsztyn, and Radom while the low unemployment group includes: Katowice, Kraków, and Poznan. Since the regional unemployment indicators are exact linear combinations of the voivod indicators, these last two sets of subgroup effects were estimated in separate models.

Across educational attainment groups, the only statistically significant difference was that those in the highest education group (EDCOLL–some higher education) had their reemployment rate in a normal job on the survey date reduced 16.9 percentage points by participation in intervention works. While not statistically significant, there tended to be a slightly higher impact of intervention works on the reemployment outcomes for those in the least educated group (EDELEM—eight or fewer years of schooling). Impacts of intervention works participation on earnings by education groups were not SS.

Three occupational categories were established for the subgroup analysis. There appears to be a statistically significant different employment benefit from participating in intervention works for those whose previous experience was in an occupation not easily classified into either white or blue-collar. This statistically significant difference occurred for the outcome in a normal job on the survey date. There is a general tendency for this "other" occupation group to have the largest positive employment impacts. However, while not statistically significant different from the from the white and blue-collar groups, "other" also suffered the worst earnings reduction impact from participating in intervention works.

The impact of intervention works participation on employment and earnings does not appear to differ by whether or not the prior separation from employment was voluntary. The voluntary separations group appear to have been more successful in ever getting a normal job, but at the survey date intervention works participants who were involuntarily separated from work showed higher rates of being in either a normal or any job. The voluntarily unemployed appeared to be somewhat more choosey in terms of reemployment wages, with intervention works having a statistically significant negative impact on earnings for the involuntarily unemployed.

A large and statistically significant difference appeared indicating that those who are not long-term unemployed benefit appreciably more from intervention works in terms of reemployment than those who were long-term unemployed. Indeed, those who were not long-term unemployed appeared to capture all the gains in terms of employment effects, while those with more than 12 months of registered unemployment generally had their reemployment success hurt by participation in intervention

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works. While not statistically significant, the negative impact on earnings was also greater for the long-term unemployed.

Intervention works on provided a significant boost to reemployment prospects for those without prior work experience, it had a negative effect on those with work experience of less than 3 years, and had a negligible effect on those with more than 3 years work experience. Furthermore, these differences between groups on prior work experience were SS.   The same general pattern of results emerged in estimates of the intervention works impact on earnings, however it this case the most experienced workers actually suffered an earnings decline.

Intervention works had positive and statistically significant impacts on reemployment in both areas with low and high unemployment. There was a statistically significant outcome difference between the groups on employed at the survey date in any job with those in high unemployment areas faring 7 percentage points better. Also, while intervention works participation negatively impacted average monthly earnings of those in low unemployment areas, it had no effect on earnings in high unemployment rate areas.

7.4 Net impacts of various intervention works program features

Since there is wide variation in intervention works projects it is useful to investigate how the different dimensions of the work experience has impacts on the outcome measures for employment and earnings. Table 7.4 presents net impact estimates of the duration of intervention works, the ownership status of the intervention works provider, and the industry of the intervention works provider.

Three natural groups formed from the frequency distribution of the duration of intervention works is presented in Table 7.4.1. Durations less than six months, six months, and seven or more months. For impacts on employment in a normal non-subsidized job or any job, the impact of both short-term and long-term intervention works was quite similar, while the six month intervention works participation had larger positive impact which was statistically significantly different from impacts for

each of the other duration categories. For the important outcome "employed in a normal job on the survey," the same pattern of statistically significant impacts and differences appears with the size of the differences being even more pronounced, the impact estimates are 16 percentage points for short-term, 27 percentage points for 6 months, and 8 percentage points for long-term intervention works participation. The outcome, being in any job on the survey date, has a similar pattern of results. The only statistically significant impact estimate on the earnings outcome was that long-term intervention works participation reduced average monthly earnings by 20 Zl.

In addition to investigating the effect of intervention works duration with categorical variables, models which include continuous measures of intervention works duration were also estimated. For estimating the impact on each of the five outcomes, the number of months was entered as a predictor together with the number of months squared. The squared-term was entered to capture any non-linear response which might occur as the duration of intervention works participation lengthens. Indicator variables for intervention works of 6 and 12 months duration were also included as controls for estimation. For each of the employment outcomes, we see that the coefficient on months is small, positive, and statistically significant with a range of 2.7 to 3.9 percentage points, while that on months squared is smaller, negative, and statistically significant with a range of -0.3 to -0.1 PP. This means that months of intervention works experience appear to have a positive effect on reemployment which deteriorates at a constant rate as months pass. At the sample mean duration of intervention works participation which was 6.28 months, the marginal effect on the employment outcomes of another month is estimated to be 0.9 percentage points for ever in a normal job, 1.7 percentage points for ever in any job, and very small but positive and significant for in normal or any job on the survey date. The estimated impact of intervention works on earnings in this model is zero, that is both the linear and squared terms are estimated to be zero.

Ownership status of the project operator was mainly composed of two groups: public with 29.0 percent of intervention works participants and private with 49.2 percent. Other mixed or missing categories existed and the complete frequency distribution is given in Table 7.4.2. As seen in Table 7.4 there was no measurable difference due to public or private ownership of the employer in the impact of

intervention works on reemployment in a normal non-subsidized job. It does appear that having

worked for a publicly owned enterprise on an intervention works job boosts the reemployment in any

job including those subsidized by the government by a statistically significant greater amount than if the

project was run by a private firm. intervention works operated by either public or private owners both

had no statistically significant impact on average monthly earnings.

The only industry groups with appreciable numbers among operators of intervention works

were national government with 8.4 percent and health care providers with 7.3 percent (Table 7.4.3).

The present analysis examines how intervention works affected employment and earnings outcomes

differently in three industry groups: national government, health providers, and all others combined.

Impacts of intervention works on reemployment were statistically significant different across each of

these three groups. Reemployment success in a normal job was boosted 14 percentage points for those

who had an intervention works job in national government, by 26 PP for those whose intervention

works job was in some other industry, and by 39 percentage points for those whose intervention works

job was with a health care provider. The same general pattern and proportionate relation of impacts

obtained for the other outcomes except for the outcome in any job on the survey date where those with

health care providers had a 41 percentage points boost while the impact for the other two groups was

roughly equivalent being 21 and 22 PP. Neither of these industry groups had a statistically significant

impact of intervention works on average monthly earnings.

7.5 The timing of response to intervention works participation

Two tables presented in this section show the timing of exit from the unemployment register to

reemployment in a normal non-subsidized job. They are used to illustrate the pattern of the

reemployment effects of intervention works. Table 7.5.1 compares exits from the unemployment

register for intervention works participants and comparison group members for a maximum 28-month

time period starting as early as January 1995.

For both participant and comparison group members who were registered as unemployed on or before January 1995, the first month considered in the series is January 1995 and the possibility of reemployment is observed for up to 28 months. For those whose spell of registered unemployment began sometime after January 1995, the first month in the series is the month of registration and their reemployment activity is observed for something less than 28 months.

In the hazard analysis presented here, exit from the unemployment register to reemployment is defined to occur when the first new job begins after having registered as unemployed during the reference spell of joblessness. Referring back to Table 3.9.1 for intervention works, it can be seen that the initial risk sets are slightly smaller than the full sample sizes of 2,412 program participants and 2,410 comparison group members. This is because for a small number of observations in the sample, the recorded date of the first new job is before the recorded start date of the unemployment spell.[34]

Table 7.5.1 shows how many people started new non-subsidized jobs from the comparison and intervention works groups in each month since they registered as unemployed. The proportion who started jobs, or the exit rate from unemployment to employment, and the difference between participant and comparison group members in the rate of exit. This last quantity is listed in the right most column and is also the intervention works impact on the exit rate for a given month. In this analysis, over the 28 month period intervention works participants are generally seen to exit the unemployment register for a job at about the same rate as those in the comparison group. The intervention works participants exit rate is lower for the first 6 months, but then is higher in months 7 to 16 with the advantage being large and statistically significant in each of these 10 months. There are no statistically significant differences between the two groups in month 17 or the months thereafter. This pattern shows that the requirement of 6 months registered unemployment before intervention works lowers the participants exit rate early in their unemployment spells, that intervention works participation significantly boosts reemployment prospects around the period of exit from intervention works, and that intervention works

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[34]The rules used for sample definition here are the same as those which were carefully described in footnotes to the hazard analysis of retraining impacts in Section 4.5.

participation does not appreciably diminish reemployment chances in months significantly after intervention works program participation ends.

To sharpen the contrast in examining exits from unemployment to normal non-subsidized jobs, in Table 7.5.2 we compare exits from the same comparison risk set examined in Table 7.5.1 starting at the date of registering as unemployed with exits of intervention works participants starting at the time of completing intervention works. The risk set for intervention works participants is expanded to include everyone in the data set who had a date for leaving the ALP after January 1995.[35] The idea behind this redefinition is to compare the time until reemployment of newly registered unemployed who receive no ALP services, with the time until reemployment of persons just leaving an intervention works subsidized job who are otherwise similar in terms of observable characteristics like age, gender, education and so forth. In this analysis the intervention works impact on reemployment in a normal job is positive, large, and statistically significant the first two months. Indeed it appears that nearly all the advantage of the intervention works job experience in getting reemployed occurs almost immediately after leaving the intervention works job. No statistically significant positive gains for intervention works participation are observed after month eight. Nonetheless, the overall gain in reemployment success enjoyed by intervention works participants is impressive.

7.6 Impact of intervention works on unemployment compensation costs

Survey respondents were asked about their main activity in each month during the 24 month period January 1995 through December 1997.[36] Responses to this question allowed independent estimates of intervention works impact on employed months (EMMONTHS) and unemployed months (UNMONTHS) since the most recent registration as unemployed. Because we also know labor market

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[35]For the participant group in Table 7.5.2 the risk set is defined at the month in which exit from intervention works occurs. The risk sets change for reasons analogous to those described in Section 4.5.

[36]This data came in response to survey question 2 asked of intervention works participants (Record Type E) and question 8 asked of comparison group members (Record Type B).

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status at the survey date between February 15 and April 15, 1997, it was possible to lengthen the observation period somewhat.

Net impact estimates for the effect of intervention works on these various outcomes in Poland were estimated in three different ways. The first set were computed as simple differences between means of the participant and comparison group on the outcomes of interest. Since the comparison group was selected by a matched pairs process these are net impact estimates adjusted for sample composition. That is, the sampling method nets out any sample selection bias which may have occurred in enrolling registered unemployed into retraining programs.

The second set of results reported in Table 7.6 are labeled ES interaction, where ES stands for the Employment Service. These estimates were computed while adjusting for the fact that many program participants also used other reemployment assistance provided by the ES. The method of computing these estimates is explained in Appendix B under the heading Method for Separating out Impacts of Multiple Programs. In addition to accounting for the effect of the ES, the third set of results reported in Table 7.6 also adjusts for observable characteristics in computing net program impacts. Controlling for observable characteristics in net impact estimation is also explained in Appendix B.

In contrasting the employment and unemployment months of intervention works participant and comparison group members it should be recalled that the former group spent the intervention works period unavailable for reemployment or full time job search, and that differences in durations between these two groups will be influenced by this fact. This factor is less important for examining impacts on outcomes summarized in Table 7.2. Employment rates and usual monthly earnings are less affected by the intervention works time out of the labor market. Particularly since the mean duration of intervention works was 6.3 months and the follow-up surveys were conducted long after intervention works completion.

Estimates of the impact of intervention works on months of employment during the observation period differ across the estimation methods. Controlling for the use of the employment service reveals

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the impact to be significantly larger. The impact estimate is virtually unchanged when factors beyond the ES are controlled for in estimation. The most involved estimation scheme indicates that intervention works participants spent 2.00 more months employed and 5.47 fewer months unemployed than the comparison group during the observation period.

Data drawn from the employment register for both intervention works participants and comparison group members also provided for creation of a variable summarizing months of unemployment compensation drawn (UCMONTHS) since most recent registration as unemployed. Because the unemployment compensation months data was drawn from the register rather than through surveys, it was possible to get data from January 1994 right through April 1997. Also, since unemployment benefits were paid at a fixed rate of 36 percent of the average national monthly wage to eligible beneficiaries we can easily approximate the monetary value of unemployment compensation paid to intervention works participants and comparison group members during the observation period.[37] Controlling for use of the ES and other factors Table 7.6 shows that intervention works participants drew 2.26 fewer months and approximately 546 Polish zloty less in UC benefits than did members of the comparison group.

7.7 Benefit-cost analysis of intervention works

This section presents estimates of the net benefits of intervention works computed for three different perspectives: the National Labor Office (or Ministry), all government, and society.[38] The estimates presented in Table 7.7 are extremely conservative. Computations are based only on the period of observation from registration as unemployed through the survey date in early 1997. The estimates are computed on a per participant basis. They are not aggregated over all participants.

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[37]Following the reasoning laid out in Section 4.6, we assume that the monthly UI benefit was 36 percent of the national average wage.

[38]In this concise analysis, no attempt is made to adjust for displacement. Notes to Section 4.7 of this report present the reasoning for this decision.

The most narrow view of net benefits of a intervention works program is that from the National Labor Office itself. As can be seen in Table 7.7, when computing net benefits from the perspective of National Labor Office (or Ministry) the benefit is any savings in UC payments and the costs are the direct costs of paying for intervention works to be done and the administrative cost of contracting, monitoring, referring participants and follow-up. The UC impact estimate used was drawn from Table 7.7 under the heading regression-adjusted ES interaction. For the direct cost of intervention works the average for 1995 and 1996 per participant costs summarized in Tables 3.5 and 3.8 are used for each separate voivod, and for the cost of administration a figure from Poznan voivod is used.[39] The estimated net benefits of intervention works for the National Labor Office is estimated to be a cost of 1,292 Zl per participant. Participation in this program has also been estimated to significantly increase the probability of reemployment in a normal non-subsidized job. To assess cost effectiveness this response should be considered in figuring the net cost.

A somewhat broader perspective in assessing the net benefits of a public program is all government. By all government we mean the collection of all agencies which collect taxes and dispense public services. Net benefits to all government depend on the benefit from any saving in UC payments which might not be made, and the additional tax revenue which would accrue to governmental agencies due to longer employment or higher wages which might result.[40] The costs to government include the direct costs of operating the program and the administrative costs for the program. In Table 7.7, for all government we see the net cost to be lower than that for the National Labor Office by the amount of 199 Zl in additional tax revenue per intervention works participant.

The final measure of acceptability for a program is whether it generates positive net benefits for society as a whole. Real gains to society accrue if the aggregate value of economic output increases.

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[39]Computations which yielded the estimate used are summarized in Section 4.7 of this report. The figures for earnings and employment were drawn from Tables 7.2 and 7.6 for the participant and comparison groups.

[40]The tax rate used is 20 percent of gross income. The complete methodology is described in Section 4.7.

Additions to social economic output are estimated by the increased value of earnings plus the value of any direct contribution to social product made by the goods and services produced by intervention works projects.[41] From this we must deduct costs which society incurs by having intervention works which would not have been otherwise experienced. These costs include the direct and administrative costs of the program. The impact on unemployment compensation payments does not figure into the social net benefit computation as these are simply transfer payments from one group in society to another, and transfer payments have no affect on total social economic output. The small administrative costs and earnings gain together with the sizeable direct costs are swamped by the huge per participant value of public goods and services. This happy outcome is due to the social value of projects estimated for Poznan voivod. Without the social product component, net costs per participant for intervention works would be about 33 percent more than those for retraining, and about half that for public works.

7.8 A summary of the intervention works evaluation

Intervention works in Poland is estimated to increase the probability of ever finding a normal job by 26 percentage points and of being in a normal job on the survey date by 24 percentage points. Broadening the definition of reemployment to also include subsidized jobs after intervention works, the impact on ever getting into any job was 23 percentage points and the impact on being in any job on the survey date was 24 percentage points.

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[41]The impact on earnings is the difference between during the period of observation for the participant group and the comparison group. Average monthly earnings were drawn from Table 7.2 while months of work during the period of observation were drawn from Table 7.6. For both components of income, comparison group means were used together with the difference for the participants as estimated from the regresion adjusted ES interaction procedure. The value of public goods and services produced by intervention works is based on figures provided for Poznan voivod. The value per participant it the total estimated value of project outputs in 1996 divided by the number of project participants in 1997. The estimate used per participant in intervention works is the same as that used for public works in Section 6.7 of this report.

A subgroup analysis of intervention works impact on employment and earnings was done. It revealed that intervention works boosted female reemployment rates significantly more than men by the survey date. For females there was no impact on earnings, but intervention works appeared to lower current earnings for male participants. There were no statistically significant differences across the three age groups examined for any of the outcome measures. However, the tendency is for older workers to benefit more from intervention works in terms of both employment and earnings. Across educational attainment groups, the only statistically significant difference was that those in the highest education group (EDCOLL—some higher education) had their reemployment rate in a normal job on the survey date reduced 16.9 percentage points by participation in intervention works. While not statistically significant there tended to be a slightly higher impact of intervention works on the reemployment outcomes for those in the least educated group (EDELEM—eight or fewer years of schooling).

The impact of intervention works participation on employment and earnings did not differ by whether or not the prior separation from employment was voluntary, but the voluntary separations group appeared to have been more successful in ever getting a normal job. The voluntarily unemployed appeared to be somewhat more choosey in terms of reemployment wages, with intervention works having a statistically significant negative impact on earnings for the involuntarily unemployed. A large and statistically significant difference appeared indicating that those who are not long-term unemployed benefit appreciably more from intervention works in terms of reemployment than those who were long-term unemployed. Indeed those who were not long-term unemployed appeared to capture all the gains in terms of employment effects, while those with more than 12 months of registered unemployment generally had their reemployment success hurt by participation in intervention works. While not statistically significant the negative impact on earnings was also greater for the long-term unemployed.

Intervention works provided a significant boost to reemployment prospects for those without prior work experience, it had a negative effect on those with work experience of less than 3 years, and had a negligible effect on those with more than three years work experience. Furthermore, these differences between groups on prior work experience were SS. The same general pattern of results

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emerged in estimates of the intervention works impact on earnings, however the most experienced workers actually suffered an earnings decline.

Intervention works had positive and statistically significant impacts on reemployment in both areas with low and high unemployment. There was a statistically significant outcome difference between the groups on employed at the survey date in any job with those in high unemployment areas faring 7 percentage points better. Also, while intervention works participation negatively impacted average monthly earnings of those in low unemployment areas, it had no effect on earnings in high unemployment rate areas.

The impact on reemployment of both short-term and long-term intervention works was quite similar, while the 6-month intervention works participation had larger positive impact which was statistically significantly different from impacts for the shorter and longer duration categories. For the important outcome "employed in a normal job on the survey date" the same pattern of statistically significant impacts and differences appeared with the impact estimates being: 16 percentage points for short-term, 27 percentage points for 6 months, and 8 percentage points for long-term intervention works participation. Also, long-term intervention works participation was estimated to reduce average monthly earnings by 20 Zl.

There was no measurable difference due to public or private ownership of the employer in the impact of intervention works on reemployment in a normal non-subsidized job. However, it does appear that having worked for a publicly owned enterprise on an intervention works job boosts the reemployment in any job including those subsidized by the government by a statistically significant greater amount than if the project was run by a private firm.

Reemployment success in getting a normal job was boosted 14 percentage points for those who had an intervention works job in national government, by 26 percentage points for those whose intervention works job was in some other industry, and by 39 percentage points for those whose

intervention works job was with a health care provider. The same general pattern and proportionate relation of impacts obtained for the other employment outcomes.

Intervention works was found to be associated with a shorter duration and amount of unemployment compensation. Very rough net benefit computations suggest that intervention works imposes net costs on the National Labor Office and the government as a whole. While the computations suggest sizeable net benefits to society of intervention works, this result hinges on the assumed social value of intervention works projects. Without the direct social product component, net costs per participant for intervention works would be about 2.4 times that for retraining, and about 22 percent of that for public works.

Table 7.1   Means of Descriptive Characteristics for Comparison Group and Participant Samples for Intervention Works

	Comparison group	Intervention works	Difference	t-statistic on difference
EARNPRE	295	308	13	1.27
MALE	0.41	0.41	0.00	0.24
AGE	23.36	23.35	-0.01	0.06
EDELEM	0.09	0.08	0.00	0.37
EDVOC1	0.49	0.49	0.01	0.38
EDVOC2	0.35	0.35	0.00	0.10
EDGYM	0.06	0.05	0.00	0.51
EDCOLL	0.01	0.01	0.00	0.13
OCCMGR	0.00	0.00	0.00	0.58
OCCPROF	0.01	0.01	0.00	0.15
OCCTECH	0.02	0.03	0.01**	2.55
OCCSERVE	0.12	0.12	0.01	0.65
OCCSKILL	0.20	0.24	0.04**	3.08
OCCUNSKL	0.11	0.12	0.01	1.38
OCCCLERK	0.03	0.05	0.02**	3.84
PHYSDIS	0.01	0.00	-0.01**	2.40
HHSIZE	3.27	3.24	-0.02	0.52
SPOUSEHM	0.60	0.59	-0.01	0.56
SPEMPL	0.69	0.73	0.03	1.49
OTHEREMP	1.15	1.18	0.03	0.97
DEPEND1	0.49	0.50	0.01	0.36
DEPEND2	1.07	1.07	0.01	0.22
LOOKWORK	0.26	0.25	-0.01	0.72
EARN5	520	573	53**	2.85

 * Statistically significant at the 90 percent confidence level in a two-tailed test.
** Statistically significant at the 95 percent confidence level in a two-tailed test.

Table 7.1.1   Use of the Employment Service by Intervention Works Participants

	Those Who Were Reemployed		Those Who Were Not Reemployed	
	Number	%	Number	%
Job interview referrals	390	25.8	317	35.1
Skills assessment	156	10.3	94	10.4
Counseling	14	0.9	16	1.8
Job club	36	2.4	14	1.6
Other services	16	1.1	14	1.6
No services	898	59.5	447	49.5
Group size	1510		902	

Table 7.1.2   Employer Retention of Intervention Works Participants

Were you retained by program operator?	Number	%
Have no data	15	0.6
I don't know	36	1.5
Yes	1439	59.7
No	922	38.2
Cumulative	2412	100.0

Table 7.1.3   Employer Retention of Intervention Works Participants for Public and Privately Owned Program Operators

	Public		Private	
Retained by program operator?	Number	%	Number	%
Have no data	3	0.4	10	0.8
I don't know	9	1.3	20	1.7
Yes	422	60.4	720	60.7
No	265	37.9	437	36.8
Cumulative	699	100.0	1,187	100.0

Table 7.1.4   Still at Intervention Works Employer

Still employed by program operator	Number	%
Have no data	1	0.1
I don't know	3	0.2
Yes	1167	81.1
No	268	18.6
Cumulative	1439	100.0

Table 7.1.5   Still at Intervention Works Employer for Public and Privately Owned Program Operators

Still employed by program operator	Public		Private	
	Number	%	Number	%
Have no data	0	0	1	0.1
I don't know	1	0.2	1	0.1
Yes	369	87.4	554	76.9
No	52	12.3	164	22.8
Cumulative	422	100.0	720	100.0

Table 7.1.6   Reasons for Unemployment among Intervention Works Participants

Why are you not currently employed?	Number	%
Have no data	23	3.3
Other	170	24.1
Wanted job, no vacancies in my field	320	45.4
Wanted job, wages too low	65	9.2
Couldn't look for job, health problems	36	5.1
In eve/wkend school, adds difficulty	57	8.1
Expecting to serve in military soon	34	4.8
Cumulative	705	100.0

Table 7.1.7   Compensation to Unemployed Intervention Works Participants

Received by those not currently employed	Number	%
Have no data	30	4.3
No response	26	3.7
Regular unemployment compensation	297	42.1
Social welfare assistance	32	4.5
Both unemp comp & welfare assist	25	3.5
No benefits	295	41.8
Cumulative	705	100.0

Table 7.2   Impact of Intervention Works on Employment and Earnings in Poland

	Comparison group	Intervention works	Impact	t-statistic on impact	Comparison sample size	Participant sample size
Difference						
EMPNORM	0.52	0.78	0.26**	19.10	2346	2360
EMPANY	0.57	0.80	0.23**	17.29	2346	2360
EMPNOWN	0.38	0.62	0.23**	16.69	2379	2394
EMPNOWA	0.46	0.70	0.24**	16.97	2335	2347
EARNNOW	485	485	0	0.01	1200	1767
ES Interaction[1]						
EMPNORM			0.26**	10.06		
EMPANY			0.23**	7.57		
EMPNOWN			0.23**	7.94		
EMPNOWA			0.24**	8.38		
EARNNOW			0	1.32		
Regression Adjusted ES Interaction[2]						
EMPNORM			0.26**	10.84		
EMPANY			0.23**	7.97		
EMPNOWN			0.24**	9.60		
EMPNOWA			0.24**	9.63		
EARNNOW			3	0.14		
Sample	2410	2412				

 * Statistically significant at the 90 percent level in a two-tailed test.
** Statistically significant at the 95 percent level in a two-tailed test.
EMPNORM - Ever employed in a non-subsidized job since program participation
EMPANY - Ever employed in any job since program participation
EMPNOWN - Now employed in a non-subsidized job
EMPNOWA - Now employed in any job
EARNNOW - Average monthly wage on current job

[1]   The ES interaction estimates were computed from a regression model as described in Appendix B in the section entitled Method for Separating out Impacts of Multiple Programs.

[2]   The regression adjusted ES interaction estimates were computed from a regression model as described in Appendix B in the section entitled Method for Separating out Impacts of Multiple Programs and also included the variables listed in Table 3.10.1 with the exception of EARNPRE, SPOUSEHM, and SPEMPL which were omitted because of a high proportion of missing values. The regression also included indicator variables for the voivods with the omitted reference voivod being Radom.

Table 7.3   Net Impact Estimates of Intervention Works by Subgroup

Variable/label	Proportion in comparison group	Net Program Impacts				
		EMPNORM	EMPANY	EMPNOWN	EMPNOWA	EARNNOW
FEMALE - Respondent is female~	0.592	0.160**	0.145**	0.145**##	0.161**#	-8.204
MALE - Respondent is male	0.408	0.151**	0.113**	**0.079**	0.109**	-31.875*
AGELT30 - Age ≤ 30	0.892	0.156**	0.131**	0.109**	0.134**	-20.160
AGE3044 - Age between 30 and 44	0.093	0.165**	0.141**	0.185**	0.163**	-18.766
AGEGE45 - Age is 45 or over~	0.015	0.142	0.150	0.215*	0.301**	117.614
EDELEM - 8 years/or less schooling	0.087	0.183**	0.150**	0.150**	0.183**	-7.733
EDVOC - Vocational secondary~	0.840	0.158**	0.135**	0.117**	0.134**	-20.166
EDGYM - General secondary	0.058	0.111**	0.077	0.153**	0.202**	-3.407
EDCOLL - Some higher education	0.015	0.086	0.046	-0.169##	-0.042	-2.897
WHITECOL - White Collar Occupation	0.179	0.159**	0.116**	.099**	0.154**	-5.037
BLUECOL - Blue Collar Occupation~	0.313	0.148**	0.126**	.074**	0.099**	-2.113
OTHEROCC - Other Occupation	0.507	0.161**	0.143**	.158**##	0.162**	-35.006*
VOLUN - Voluntarily unemployed	0.084	0.167**	0.124**	.092**	0.133**	11.595
NONVOL - Not voluntarily unemployed~	0.916	0.155**	0.133**	.133**	0.140**	-20.703*
LTU - Long-term unemployed	0.514	-0.080**##	-0.091**##	-0.052*##	0.012**	-34.250
NONLTU - Not unemployed long-term~	0.486	0.281**	0.249**	0.207**	0.206**	-9.321
EXP0 - Work experience = zero	0.504	0.270**##	0.230**##	0.149**##	0.169##	2.981
EXPLE3 - Work experience ≤ 3 years	0.366	-0.066##	-0.037##	-0.215**##	-0.108##	-128.785*
EXPGT3 - Work experience > 3 years~	0.130	0.036	0.051	-0.011	0.040	-75.635*
LOWURATE - Low unemployment area	0.372	0.167**	0.147**	0.092**	0.094**##	-37.196*
HIURATE - High Unemployment area~	0.628	0.150**	0.123	0.133**	0.166**	-6.543
GORZOW - Voivod is Gorzów	0.108	0.092**	0.064*	0.156**	0.131**	-12.223
KATOWICE - Voivod is Katowice	0.257	0.180**	0.156**	0.078**##	0.111**##	-31.883
KONIN - Voivod is Konin	0.089	0.239**	0.193**	0.192**	0.218**	-17.739
KRAKOW - Voivod is Kraków	0.054	0.177**	0.168**	0.243**	0.115**	-95.509**
LUBLIN - Voivod is Lublin	0.121	0.101**	0.090**	0.024##	0.099**##	-11.377
OLSZTYN - Voivod is Olsztyn	0.177	0.167**	0.143**	0.132**	0.175**	12.509
POZNAN - Voivod is Poznan	0.061	0.102**	0.092*	0.002##	-0.022##	-12.932
RADOM - Voivod is Radom~	0.132	0.169**	0.137**	0.194**	0.214**	-5.174

  * 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 7.4 Impacts of Various Aspects of Intervention Works

	Group proportion	EMPNORM	EMPANY	EMPNOWN	EMPNOWA	EARNNOW
Comparison group mean		0.52**	0.57**	0.38**	0.46**	485**
Intervention works impact		0.26**	0.23**	0.23**	0.24**	0
Duration of intervention works						
Less than 6 months	0.196	0.20**	0.18**	0.16**	0.18**	28
6 months	0.617	0.25**aa	0.23**aa	0.27**aa	0.26**aa	-2
7 or more months	0.187	0.19**bb	0.16**bb	0.08**aa	0.12**abb	-20a
Regression coefficients on[c]						
Months		0.034**	0.030**	0.027**	0.039**	0
Months squared		-0.002**	-0.001**	-0.002**	-0.003**	0
Ownership status of intervention works provider						
Public	0.290	0.26**	0.24**	0.25**	0.29**	6
Private	0.492	0.28**	0.24**	0.25**	0.23**aa	4
Industry of intervention works provider						
National government	0.084	0.14**	0.14**	0.14**	0.21**	-13
Health care provider	0.073	0.39**aa	0.34**aa	0.42**aa	0.41**aa	-13
Other	0.843	0.26**aabb	0.23**aabb	0.23**aabb	0.22**bb	0

*   Difference statistically significant at the 90 percent level in a two-tailed test.
**   Difference statistically significant at the 95 percent level in a two-tailed test.
[a]   Statistically significantly different from the first category at the 90 percent level.
[aa]   Statistically significantly different from the first category at the 95 percent level.
[b]   Statistically significantly different from the second category at the 90 percent level.
[bb]   Statistically significantly different from the second category at the 95 percent level.
[c]   The regressions also included indicator variables for 6 months and 12 months as duration of time spent in Intervention Works.

EMPNORM - Ever employed in a non-subsidized job since program participation
EMPANY - Ever employed in any job since program participation
EMPNOWN - Now employed in a non-subsidized job
EMPNOWA - Now employed in any job
EARNNOW - Average monthly wage on current job

Table 7.4.1   Frequency Distribution of Intervention Works Subsidized Employment

Duration in months	Number	%	Cumulative number	Cumulative %
0	35	1.8	35	1.8
1	63	3.2	98	5.0
2	59	3.0	157	8.1
3	99	5.1	256	13.1
4	53	2.7	309	15.9
5	73	3.7	382	19.6
6	1,203	61.7	1,585	81.3
7	70	3.6	1,655	84.9
8	30	1.5	1,685	86.5
9	20	1.0	1,705	87.5
10	21	1.1	1,726	88.6
11	18	0.9	1,744	89.5
12	158	8.1	1,902	97.6
13	7	0.4	1,909	97.9
14	4	0.2	1,913	98.2
15	5	0.3	1,918	98.4
16	10	0.5	1,928	98.9
17	5	0.3	1,933	99.2
18	13	0.7	1,946	99.8
19	2	0.1	1,948	99.9
21	1	0.1	1,949	100.0

Number missing = 463

Table 7.4.2   Frequency Distribution of Ownership Status of Intervention Works Provider

Ownership	Number	%	Cumulative number	Cumulative %
Missing	104	4.3	104	4.3
Public	699	29.0	803	33.3
Private	1,187	49.2	1,990	82.5
Different	395	16.4	2,385	98.9
Other	27	1.1	2,412	100.0

Table 7.4.3   Frequency Distribution of Industry of Intervention Works Provider

Provider	Number	%	Cumulative number	Cumulative %
National government	180	8.4	180	8.4
Health provider	156	7.3	336	15.7
Other industry	1,809	84.3	2,145	100.0

Table 7.5.1 Impact of Intervention Works on the Timing of Reemployment (or the timing of exit from unemployment)

Months until finding job	Control risk set	Control started new job	Control exit rate	Treatment risk set	Treatment started new job	Treatment exit rate	Treatment impact
1	2081	34	1.63	2304	11	0.48	-1.16**
2	2047	30	1.47	2293	30	1.31	-0.16
3	2017	53	2.63	2263	23	1.02	-1.61**
4	1964	43	2.19	2240	35	1.56	-0.63
5	1921	47	2.45	2205	51	2.31	-0.13
6	1874	50	2.67	2154	42	1.95	-0.72
7	1824	46	2.52	2112	109	5.16	2.64**
8	1778	59	3.32	2003	148	7.39	4.07**
9	1719	73	4.25	1855	150	8.09	3.84**
10	1646	72	4.37	1705	140	8.21	3.84**
11	1574	57	3.62	1565	107	6.84	3.22**
12	1517	34	2.24	1458	89	6.10	3.86**
13	1483	75	5.06	1369	111	8.11	3.05**
14	1408	57	4.05	1258	83	6.60	2.55**
15	1351	49	3.63	1175	95	8.09	4.46**
16	1302	48	3.69	1080	75	6.94	3.26**
17	1254	58	4.63	1005	45	4.48	-0.15
18	1196	39	3.26	960	44	4.58	1.32
19	1157	34	2.94	916	25	2.73	-0.21
20	1123	20	1.78	891	15	1.68	-0.10
21	1103	32	2.90	876	24	2.74	-0.16
22	1071	28	2.61	852	14	1.64	-0.97
23	1043	21	2.01	838	16	1.91	-0.10
24	1022	7	0.68	822	10	1.22	0.53
25	1015	8	0.79	812	10	1.23	0.44
26	1007	6	0.60	802	8	1.00	0.40
27	1001	7	0.70	794	10	1.26	0.56
28	994	1	0.10	784	0	0.00	-0.10
Cumulative	2081	1088	52.28	2304	1520	65.97	13.69

 * Statistically significant at the 90 percent confidence level in a two-tailed test.
** Statistically significant at the 95 percent confidence level in a two-tailed test.

Table 7.5.2 Impact of Intervention Works on the Timing of Reemployment (or the timing of exit from unemployment) for Intervention Works Participants' Time Starts When Intervention Works Ends

Months until finding job	Control risk set	Control started new job	Control exit rate	Treatment risk set	Treatment started new job	Treatment exit rate	Treatment impact
1	2081	34	1.63	2311	699	30.25	28.61**
2	2047	30	1.47	1612	173	10.73	9.27**
3	2017	53	2.63	1439	45	3.13	0.50
4	1964	43	2.19	1394	32	2.30	0.11
5	1921	47	2.45	1362	29	2.13	-0.32
6	1874	50	2.67	1333	36	2.70	0.03
7	1824	46	2.52	1297	54	4.16	1.64**
8	1778	59	3.32	1243	52	4.18	0.87
9	1719	73	4.25	1191	32	2.69	-1.56**
10	1646	72	4.37	1159	41	3.54	-0.84
11	1574	57	3.62	1118	31	2.77	-0.85
12	1517	34	2.24	1087	29	2.67	0.43
13	1483	75	5.06	1058	48	4.54	-0.52
14	1408	57	4.05	1010	37	3.66	-0.38
15	1351	49	3.63	973	46	4.73	1.10
16	1302	48	3.69	927	35	3.78	0.09
17	1254	58	4.63	892	32	3.59	-1.04
18	1196	39	3.26	860	28	3.26	-0.01
19	1157	34	2.94	832	12	1.44	-1.50**
20	1123	20	1.78	820	5	0.61	-1.17**
21	1103	32	2.90	815	6	0.74	-2.16**
22	1071	28	2.61	809	5	0.62	-2.00**
23	1043	21	2.01	804	8	1.00	-1.02*
24	1022	7	0.68	796	4	0.50	-0.18
25	1015	8	0.79	792	2	0.25	-0.54
26	1007	6	0.60	790	1	0.13	-0.47*
27	1001	7	0.70	789	5	0.63	-0.07
28	994	1	0.10	784	0	0.00	-0.10
Cumulative	1088	52.28	2311	1252	1527	66.08	13.79**

 * Statistically significant at the 90 percent confidence level in a two-tailed test.
** Statistically significant at the 95 percent confidence level in a two-tailed test.

Table 7.6   **Impact of Intervention Works on Months of Employment, Unemployment and Unemployment Compensation in Poland**

	Comparison group	Intervention works	Impact	t-statistic on impact
Difference				
EMMONTHS	5.95	6.31	0.36**	3.15
UNMONTHS	11.82	6.49	-3.11**	27.62
UCMONTHS	9.36	7.34	-2.02**	12.34
UCPAY	2077	1586	-490**	12.91
ES Interaction[1]				
EMMONTHS			1.99**	4.87
UNMONTHS			-5.30**	19.58
UCMONTHS			-2.04**	7.90
UCPAY			-492**	8.59
Regression Adjusted ES Interaction[2]				
EMMONTHS			2.00**	6.08
UNMONTHS			-5.47**	22.66
UCMONTHS			-2.26**	10.60
UCPAY			-546**	11.30
Sample	2410	2412		

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

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

EMMONTHS - Months employed since most recent registration with the employment service.

UNMONTHS - Months unemployed since most recent registration with the employment service.

UCMONTHS - Months of unemployment compensation since most recent ES registration.

UCPAY - Amount of unemployment compensation since most recent ES registration.

[1]   The ES interaction estimates were computed from a regression model as described in Appendix B in the section entitled Method for separating out Impacts of Multiple Programs.

[2]   The regression adjusted ES interaction estimates were computed from a regression model as described in Appendix B in the section entitled Method for Separating out Impacts of Multiple Programs and also included the variables listed in Table 3.10.1 with the exception of EARNPRE, SPOUSEHM, and SPEMPL which were omitted because of a high proportion of missing values. The regression also included indicator variables for the voivods with the omitted reference voivod being Radom.

Table 7.7   Estimated Net Benefits per Participant in Intervention Works
(in 1996 Zl)

Perspective of the National Labor Office (or Ministry)

Unemployment compensation saved (benefit)	546 Zl
Direct cost of operating the program (cost)	-1692
Administrative cost of program (cost)	-90
Total net benefits to the National Labor Office:	-1236

Perspective of the National Government

Unemployment compensation saved (benefit)	546 Zl
Direct cost of operating the program (cost)	-1692
Administrative cost of program (cost)	-90
Tax revenue from increased earnings (benefit)	199
Total net benefits to the National Government:	-1037

Perspective of All Society

Increased earnings (benefit)	994 Zl
Value of public goods and services produced (benefit)	18697
Direct cost of operating the program (cost)	-1692
Administrative Cost of Program (cost)	-90
Total net benefits to All Society:	17909

8. Evaluation of Self-employment

Self-employment assistance is provided through a loan program to a small fraction of those who are registered as unemployed. The maximum loan given under the program is limited to 20 times the national average wage.[42] This is a relatively small amount in absolute terms, but is significant compared to the alternative income sources available to those without a job. As mentioned above the usual benefit amount for a full month of insured unemployment is 36 percent of the national average wage. So that a self-employment loan would amount to nearly 60 times the monthly UC amount. In other words, five years of UC benefits, while the maximum entitled duration of UC is 12 months. Self-employment 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 the promise to forgive 50 percent of the original loan amount for those who remain self-employed at least 2 years.

In recent years self-employment has received a small share of spending among all ALPs, it has averaged 0.8 percent of all ALP spending in the last few years (Table 2.3). However, in order to be effective self-employment assistance must be highly targeted and closely managed. It is not a realistic avenue to stable long-term employment for a large fraction of the registered unemployed. In 1996 there were a total of 5,110 self-employment loan recipients in Poland who were given 55.6 million Zl in loans for an average loan amount of 10,881 Zl (Tables 2.4 and 2.5). As seen in Table 3.11.4 self-employment participants tend to be male, 30 to 44 years old, have a vocational secondary or some higher education, and have significantly more years of work experience than the general population of registered unemployed. In Table 8.1 we see that on the characteristics of gender, age, education and prior average monthly earnings, the selected comparison group accords quite closely with those who participated in self-employment and were randomly selected for the evaluation. Overall there are nine significant differences between

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[42]As described above the national average wage based on earnings in six industries is set quarterly by the Central Statistical Office with headquarters in Warsaw.

the groups among the 24 exogenous prior characteristics examined. The main differences are that the comparison group has a lower proportion of persons in service occupations and a higher proportion in skilled and unskilled manual occupations. Also, the self-employment loan recipients were more likely to have dependents and a spouse who was not working.

The exposition of impact estimates for self-employment in Poland presented in this chapter proceeds with a review of descriptive outcomes from the survey. This is followed by a report on net impacts for the main employment and earnings measures. Section 3 of this chapter presents a subgroup analysis of self-employment impacts on employment and earnings, Section 4 reports net impacts on various features of self-employment, Section 5 reports on the timing of response to self-employment, Section 6 reports on the impact on employment, unemployment and unemployment compensation, and the final section of the chapter attempts a concise net benefit analysis of the self-employment program.

8.1 A descriptive overview of self-employment outcomes

This section presents a series of frequency distributions based on survey questions asked of self-employment program participants. As shown in Table 3.9.2 net impact analysis of self-employment presented in following sections was based on a participant sample of 709 and a comparison group sample of 700. The descriptive information which follows divides these samples in various ways. There are five tables summarizing survey responses which are presented in this section. Tables 8.1.1 to 8.1.3 show responses separately for those who continued self-employment after the last payment on the self-employment loan and those who did not.[43] Table 8.1.4 presents the same breakdown of responses among those who continued their self-employment at least up to the survey date or did not.[44] Table 8.1.5 focuses on the future prospects for those who did continue at least up to the survey date.

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[43]Response c for question 2 in record type F in Appendix A, variable name **continue**.

[44]Response c for question 3 in record type F in Appendix A, variable name **same**.

Table 8.1.1 summarizes the subjective assessments of respondents about the value of the self-employment assistance provided them from the Labor Fund.[45] Among those who continued self employment after assistance ended fully 92.2 percent rated the assistance as valuable in helping them start their self-employment activity, with just over half saying it was extremely valuable, and only 5 percent said it had little value or less. Among those who did not continue self-employment after assistance ended 57.1 percent still rated the assistance as valuable in helping them start their self-employment activity, while 19.6 percent said it had little value or less.

Table 8.1.2 summarizes the assessment of respondents about whether or not the self-employment assistance provided them from the Labor Fund was critical to their start-up.[46] Among those who continued self employment after assistance 28.2 percent said it was critical to them in starting their self-employment activity, while 54.2 percent said it was not. Among those who did not continue self-employment after assistance ended 23.2 percent said it was critical to them in starting their self-employment activity, while 41.1 percent said it was not.

Since all the respondents actually started self-employment, Table 8.1.3 summarizes the assessment of respondents about whether or not they would have started their self-employment later had they not received the assistance provided them from the Labor Fund.[47] Among those who continued self employment after assistance 34.6 percent said they would have started later, while 28.3 said they would not have started later, and 36.4 percent said they did not know how it would have affected the timing of their self-employment. Among those who stopped self-employment after the assistance ended 19.6 percent said they would have started later, while 41.1

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[45]Question 7 in record type F in Appendix A, variable name **value**.

[46]Question 8 in record type F in Appendix A, variable name **started1**.

[47]Question 9 in record type F in Appendix A, variable name **started2**.

said they would not have started later, and 30.4 percent said they did not know how it would have affected the timing of their self-employment.

Table 8.1.4 summarizes how much of their own money respondents put into their self-employment endeavor.[48] Among those who were still self-employment on the survey date, fully 90.2 percent said they put some of their own money into the venture (46.6 percent put in less than 5,000 Zl, 37.9 percent put in 5,000 to 20,000 Zl, and 5.7 percent put in more than 20,000 Zl), while only 7.9 percent said they contributed nothing. Among those who were not still self-employment on the survey date, 77.8 percent said they put some of their own money into the venture (47.2 percent put in less than 5,000 Zl, 27.8 percent put in 5,000 to 20,000 Zl, and 2.8 percent put in more than 20,000 Zl), while 15.9 percent said they contributed nothing. This provides some evidence that those who committed some of their own pre-loan finances to the self-employment activity were more likely to continue successfully.

Table 8.1.5 reports on the subjective evaluation of respondents who were still self-employed on the survey date what their prospects are for continued self-employment.[49] Only 3.5 percent of those asked stated an intention to stop their activity, while 15.3 percent admitted uncertainty about the future, fully 54.0 percent said the activity will remain stable, and 23.0 percent were optimistic that the enterprise would be expanded in the future.

8.2 Impact estimates of self-employment on employment and earnings

Impact estimates presented in this section focus on two main outcomes: employment and earnings. Various delineations of these are presented.   Just as in Section 4.2 on retraining, the outcome measures examined are: EMPNORM, EMPANY, EMPNOWN, EMPNOWA, and EARNNOW. However, the meaning of these outcomes in the context of self-employment are

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[48]Question 5 in record type F in Appendix A, variable name **ownmoney**.

[49]Question 6 in record type F in Appendix A, variable name **prospect**.

slightly different from those applied in chapters 4 through 7 of this report. Their definitions as applied to self-employment follow:

EMPNORM - Continued in self-employment or became employed in a non-subsidized job since program self-employment assistance from the Labor Fund ended.[50]

EMPANY - Continued in self-employment or employed in any other job since program participation[51]

EMPNOWN - In self-employment or employed in a non-subsidized job on the survey date.[52]

EMPNOWA - In self-employment or employed in any job on the survey date.[53]

EARNNOW - Average monthly earnings on the survey date.[54]

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[50]EMPNORM takes a value of 1 when question 2 in record type F in Appendix A (variable name **continue)** takes values c or d; if **continue** has values e or f then EMPNORM is zero; and if **continue** has values a or b then EMPNORM is set to missing.

[51]EMPANY takes a value of 1 when question 2 in record type F in Appendix A (variable name **continue)** takes values c, d, or e; if **continue** has value f then EMPANY is zero; and if **continue** has values a or b then EMPANY is set to missing.

[52]EMPNOWN takes a value of 0 when question 3 in record type F in Appendix A (variable name **same)** takes value e; if **same** has values a or f then EMPNOWN is set to missing; if **same** has value c then EMPNOWN is 1, if **same** is b or d and **main1296** (question 10.24 in record type F in Appendix A) has values b or c then EMPNOWN is 1, if **same** is b or d and **main1296** has a value d through k then EMPNOWN is given the value 0, while if **same** is b or d and **main1296** is value a then EMPNOWN is set to missing.

[53]EMPNOWA takes a value of 0 when question 3 in record type F in Appendix A (variable name **same)** takes value e; if **same** has values a, b, or f then EMPNOWA is set to missing; if **same** has value c or d then EMPNOWA is given the value 1.

[54]EARNNOW is based on responses to question 13 in record type F in Appendix A (variable names **earn1** and **earn2).** Continuous responses for **earn1** were combined with numerical values imputed to the categorical responses for **earn2** to give an average monthly earnings figure.

Table 8.2 presents net impact estimates for the effect of self-employment assistance on the various measures of employment and earnings in Poland estimated in three different ways. The first set were computed as simple differences between means of the participant and comparison group on the outcomes of interest. Since the comparison group was selected by a matched pairs process these are net impact estimates adjusted for sample composition; that is, the sampling method nets out any sample selection bias which may have occurred in enrolling registered unemployed persons into self-employment assistance.

The second set of results reported in Table 8.2 is "ES interaction," where ES stands for the Employment Service. These estimates were computed while adjusting for the fact that many program participants also used other reemployment assistance provided by the ES. The method of computing these estimates is explained in Appendix B under the heading Method for Separating out Impacts of Multiple Programs. The third set of results reported in Table 8.2, in addition to accounting for the effect of the ES, also adjusts for observable characteristics in computing net program impacts.

The sample sizes mean that standard errors are reasonably small so that there is statistical significance for all the net impact estimates reported in Table 8.2. The range of point estimates for the net impact of self-employment assistance on the probability of ever getting back into a normal job or self-employment is 29 to 31 percentage points; for the outcome in a normal job or self-employment on the survey date the range is 27 to 29 percentage points. The point estimates of the impact of self-employment assistance on employment including possibly subsidized work are between 28 and 30 percentage points for ever getting such work, and for being in such a job on the survey date the gain is 24 to 28 percentage points.

Self-employment had statistically significant net impact on average monthly earnings, with employed participants each earning an average of 203 to 212 Polish zloty per month more than comparison group members.

A secondary impact of interest in considering benefits from self-employment is how many others became employed in enterprises originally started with a self-employment loan. Table 8.2.1 reports that 73.3 percent, or 520 of the 709 self-employment loan recipients studied, hired no additional workers for their enterprise. However, 14.2 percent hired one employee, 5.2 percent hired two employees, 2.4 percent hired three employees, and 1.1 percent hired four employees. There were 26 self-employment loan recipients who hired five or more employees, one of these claims to have hired 73 employees. The mean number of workers hired was 0.83, and among the 189 self-employment loan recipients who hired employees the mean number hired was 3.13.

8.3 A subgroup analysis of self-employment impacts

We examine treatment impacts by population subgroup so as to provide information on how policymakers might consider targeting ALPs to certain groups like those without a specialization or older unemployed persons. The estimates are also provided to identify any possible biases in the effects, because a program that benefits only a few particular demographic subgroups such as one gender or certain education level groups may not be considered good policy even if it is cost effective.

Just as for the subgroup analysis of retraining impact estimates were computed simultaneously, that is, self-employment impact estimates for females were computed while adjusting for the fact that registered unemployed females tend to have more schooling and are less likely to work in blue-collar occupations than their male counterparts. Details of the subgroup estimation methodology are given in Appendix B to this report.

Table 8.3 presents net impact estimates of self-employment by subgroup on the employment outcome variables EMPNORM, EMPANY, EMPNOWN, EMPNOWA, and on the earnings measure EARNNOW. Subgroups are defined by 29 categorical variables for gender, age, education, occupation, whether or not the person became voluntarily unemployed, whether or not the person was long-term unemployed (meaning registered unemployed at least six months

prior to entering self-employment), categories of prior work experience, whether unemployment in the voivod of residence is high or low, and indicators for each of the eight voivods.[55]

By gender the results indicate that self-employment boosted female reemployment rates significantly more than it boosted those for men. The impact on earnings was positive and statistically significant for both genders, though not statistically significantly different being 114.7 Zl for females and 118.9 for male participants.

The tendency is for the oldest age group of workers to benefit more from self-employment in terms of both employment and earnings. In fact the gain in employment rates for the group of self-employment loan recipients aged 45 or over was statistically significantly larger than for the youngest group which was aged less than 30 years. For example on the outcome ever in a normal job or self-employment, the oldest age groups was boosted 38.7 percentage points, while the youngest age group gained 18.1 percentage points. Estimated earnings gains were statistically significant only for the middle group aged 30 to 44, but the tendency was for earnings impacts to increase with age.

In the employment outcomes there were no statistically significant differences in self-employment impacts across educational attainment groups, however there was a statistically significant difference in earnings where completers of general secondary education suffered a 124 Zl decline in their average monthly earnings, while those with secondary vocational training

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[55]The three occupation categories were based on information in question 2.1 extracted from the unemployment register (Record Type A) given in Appendix A. Coded as white-collar were service, technical, clerk, manager, and professional; as blue-collar, skilled and unskilled; the other category included data values I = other, J = no response, and A = no data. The high unemployment rate group includes Gorzów, Lublin, Konin, Olsztyn, and Radom while the low unemployment group includes Katowice, Kraków, and Poznan. Since the regional unemployment indicators are exact linear combinations of the voivod indicators, these last two sets of subgroup effects were estimated in separate models.

had their earnings raised 146 Zl, and the lowest and highest education groups had positive earnings impacts which were not statistically significant. In the employment outcomes, the gain also was smallest for those who stopped their education after general secondary training. Self-employment raised reemployment rates the most for the group which had attained only eight years or less of formal schooling. The largest proportion of self-employment loan recipients were those who completed vocational secondary schooling, and the self-employment reemployment impact for this group was on a par with that for the small proportion of the sample who had completed some higher education.

Three occupational categories were established for the subgroup analysis. There was a statistically significant positive employment benefit from participating in self-employment for those whose previous experience was in a blue-collar occupation, and these impacts were statistically significantly larger than the gains enjoyed by those whose previous job was in a white-collar occupation. This statistically significant difference occurred for the outcome EMPNORM, and EMPANY. While not a statistically significant difference, the blue-collar group also gained a larger boost in their average monthly earnings which was 145 ZL versus 100 Zl for the white-collar group.

The impact of a self-employment loan on employment had a statistically significant larger impact on the outcome "ever reemployed in any job" for the group whose prior separation from employment was voluntary compared to those for whom it was involuntary. The voluntary separations group also appear to have been more successful in ever getting a normal job, but at the survey date self-employment participants who were involuntarily separated from work showed higher rates of being in any job. While they had higher rates ever in a job, the voluntarily unemployed appeared to get a somewhat smaller gain in terms of earnings, with the involuntarily unemployed reporting a statistically significant mean 126 Zl gain while the voluntarily unemployed gain was about 88 Zl.

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To examine whether self-employment impacts differed by the duration of unemployment we examined the distribution of that duration. Very few self-employment loan recipients experienced lengthy spells of registered unemployment. The judgment was made to compare program impacts for those with any unemployment with those who had zero months of registered unemployment prior to receiving a self-employment loan. Among the self-employment loan recipients who had at least one month of unemployment, the impact of the loan on reemployment was somewhat larger, but not statistically significantly larger than for those who had not experienced unemployment. However, for the employment outcomes measured on the survey date, those who had no unemployment had a statistically significant larger positive impact on employment compared to those who reported unemployment. The self-employment loan program also had a statistically significant difference on earnings across the groups with those with some unemployment seeing a gain in average monthly earnings of 197 Zl, while those with at least one month of unemployment seeing average monthly earnings drop by 40 Zl.[56]

In terms of ever getting into a normal job or into any job, self-employment provided a significant boost for those without prior work experience. However, in terms of securing employment at least through the survey date, self-employment helped those with a positive but low level of prior work experience of less than three years. The self-employment loan impact on average monthly earnings at the survey date was also positive and largest for those in the positive but less than three years of prior work experience group. This group had an earnings gain of 206 Zl which was about double that for any of the other three experience groups.

Self-employment had positive and statistically significant impacts on reemployment in both areas with low and high unemployment. There was a statistically significant outcome difference between the groups on the outcomes EMPNORM and EMPANY with those in low unemployment areas appreciably better. However, for the important outcome EMPNOWA, the

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[56]Because of some ambiguity due to the **regdte** variable from question 1.2. in record type A in Appendix A, experience with unemployment was judged by responses to questions **main0195 - main1296** in record type B and record type F in Appendix A.

impact was virtually identical for both groups being 13.9 percent for the low unemployment areas and 14.0 percent for the high unemployment areas. While the difference was not statistically significant, average monthly earnings was boosted 148 Zl by self-employment in low unemployment areas while being raised about 100 Zl in the high unemployment areas.

8.4 Net impacts of various self-employment program features

Since there is variation in self-employment projects it is useful to investigate how the different dimensions of the activities impact on the outcome measures for employment and earnings. Unfortunately there are not many objective ways to group the self-employment loan recipients. In particular, we are hindered in understanding effects by not knowing the size of the self-employment loan amounts.[57] Table 8.4 presents net impact estimates of self-employment by the various industry groups in which loan recipients set up operations.

For analysis of industry cross branch effects of self-employment, four industry groups were formed.[58] Table 8.4 summarizes how self-employment affected employment and earnings outcomes differently in each of the industry groups. Table 8.4.1 shows the sample sizes in each group. In terms of ever getting reemployed, the largest positive impacts were for those in national administration or manufacturing and construction. Regarding employment status on the

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[57]While we do know how much personal wealth was invested in the projects as summarized in Table 8.1.4, we cannot examine how success varied by the personal amount invested since the level of investment is not exogenous. That is, the level of personal wealth put into the self-employment project was partly determined after evidence of likely success was already known. We investigate industry effects in this section on the assumption that these did not change after the project was started.

[58] Industry indicator variables were formed based on information drawn from the unemployment register and recorded for response to question 8.2 in record type A in Appendix A—code for the branch of industry. Using the code, groups were formed as follows: national administration, 751; services, 602-744 and 803-930; trade and restaurants, 501-555; manufacturing and construction, 151- 454. Of the 709 self-employment loan recipients there were 242 with missing or erroneous values for **compay2**.

survey date, impacts on employment in a normal job were smallest among those in manufacturing and construction. The impact on earnings was largest for those in services, and this was significantly different from the earnings impact for those in trade and restaurants.

8.5 Some timing aspects of self-employment loan assistance

This section examines the survival of self-employment endeavors of loan recipients. The duration of survival is examined three ways. First in Table 8.5.1 an administrative compliance aspect of survival is summarized; that is, the number of months which pass until the self-employment loan is repaid to the Labor Fund. Table 8.5.2 presents a simple frequency distribution of the number of months in total that the self-employment enterprises survive. Finally, Table 8.5.3 examines the duration of self-employment following loan repayment.

After a self-employment loan is granted until it is fully repaid, each month local labor offices monitor whether or not the agreement to make periodic loan repayments is being satisfied. Table 8.5.1 presents a frequency distribution showing among the 709 self-employment loan recipients, how many fully repaid their obligation to the Labor Fund in each month after their loan was granted. As of the survey date we see 350 loans had been repaid and that 359 (50.6 percent) of the 709 loans examined were still in the process of being repaid. Recall that enterprises which survive at least 24 months have 50 percent of their loan amount forgiven. It can be seen that by the survey date, among the 709 loans observed only 12.7 percent had been repaid before the 24th month. Also notice that in the 24th month 5.1 percent of the loans were paid off. In the six months starting with the 24th month, 22.8 percent of the loans were paid off, and this is 46.2 percent of all loans paid off up to the survey date. The incentive for prolonged self-employment appear to operate at least through the loan compliance period, the next table investigates actual survival of the self-employment enterprises.

In Table 8.5.2 we see that of the 705 loan recipients for whom we have complete data, only 109 had ceased operations as being self-employed through the 24th month after receiving a loan. This is 17 fewer than had paid off their loan within the period, suggesting that at least some had repaid their loan early voluntarily. While 14.0 percent stopped operations as self-employed before the 24th month, only 8.8 percent closed shop in the six months starting with the 24th month after receiving the loan. This suggests that there was not a large fraction of self-employment loan recipients who just hung on until the 24th month to gain a 50 percent reduction in their total loan repayment. Most who continued up to the 24th month appeared to have the intention to continue indefinitely as self-employed. As of the survey date, 268 (38 percent) of loan recipients had ceased operations as self-employed, while 437 (62 percent) continued in their self-employment activity. We cannot now observe the ultimate full duration of survival among those still in operation, but the mean observed duration of survival among those still in business on the survey date is 37.3 months.[59] If even half of the surviving enterprises last 60 months, it will be an impressive record of business start-up survival, and this among people who were registered as unemployed.

Table 8.5.3 summarizes the duration of self-employment survival among the 350 loan recipients observed to have repaid their loan. The first row shows that 102 (29.1 percent) loan repayers did not survive beyond the month of loan repayment, indeed 33 of these ceased operations even before the month in which the loan was completely paid off. Seven stopped operations in the month after loan repayment, the failure rate then quickly fell to a steady trickle. An impressive 193 (55.1 percent) of those repaying loans survived up to at least the survey date,

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[59]The self-employment spells which had not ended by the survey date can be measured only in a truncated fashion. We know the starting date of self-employment, and we know that on the survey date self-employment is continuing, but we do not know the end date of self-employment. Among these 437 the mean duration so far is 37.3 months with a standard deviation of 7.2.

meaning that self-employment survival lasted at least three years after loan repayment for these 193 persons.[60]

8.6 Impact of self-employment on unemployment compensation costs

Survey respondents were asked about their main activity in each month during the 24-month period from January 1995 through December 1996.[61] Responses to this question allowed independent estimates of self-employment impact on employed months (EMMONTHS) and unemployed months (UNMONTHS) since the most recent registration as unemployed. Since we also know labor market status at the survey date (between February 15 and April 15, 1997), it was possible to lengthen the observation period somewhat.

Net impact estimates for the effect of self-employment assistance on these various outcomes in Poland were estimated in three different ways (Table 8.6). The first set were computed as simple differences between means of the participant and comparison group on the outcomes of interest. Since the comparison group was selected by a matched pairs process, these are net impact estimates adjusted for sample composition; that is, the sampling method nets out any sample selection bias which may have occurred in enrolling registered unemployed into retraining programs.

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[60]Narrowing analysis of self-employment survival to those who have paid off their loans suggested that other outcomes might be fruitfully compared between this group and the full comparison groups. Impacts on all employment, earnings, unemployment and unemployment compensation outcomes, that is all outcomes given in Tables 8.2 and 8.6, were reestimated using these samples. There were no statistically significant differences in the impact estimates computed between the comparison group and either all self-employment assistance recipients or only those who had paid off their loans.

[61]This data came in response to survey question 2 asked of self employment participants (Record Type D) and question 8 asked of comparison group members (Record Type B).

The second set of results reported in Table 8.6, labeled ES interaction, were computed while adjusting for the fact that many program participants also used other reemployment assistance provided by the ES. The third set of results reported in Table 8.6, in addition to accounting for the effect of the ES, also adjusts for observable characteristics in computing net program impacts.

In contrasting the employment and unemployment months of self-employment participant and comparison group members, it should be recalled that the loan recipients are considered to be employed in the month they receive their loan and start their self-employment activity, and differences in durations between these two groups will be influenced by this fact. This factor is less important for examining impacts on outcomes summarized in Table 8.2; that is, employment rates and usual monthly earnings are less affected by the precise timing of events.

The range of point estimates given in Table 8.6 indicate that self-employment participants spent between 3.69 and 4.10 fewer months employed and between 5.79 and 6.20 fewer months unemployed than the comparison group during the observation period.

Data drawn from the employment register for both self-employment participants and comparison group members also provided for creation of a variable summarizing months of unemployment compensation drawn (UCMONTHS) since the most recent registration as unemployed. Because this data was drawn from the register rather than through surveys, it was possible to get data from January 1994 right through April 1997. Also, since unemployment benefits were paid at a fixed rate of 36 percent of the average national monthly wage to eligible beneficiaries, we can easily approximate the monetary value of UC during the observation period.[62] The range of point estimates in Table 8.6 indicates that self-employment participants

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[62]Following the reasoning laid out in Section 4.6, we assume that the monthly UC benefit was 36 percent of the national average wage.

drew between 3.64 and 3.73 fewer months and between approximately 792 and 815 Zl less in UC benefits than did members of the comparison group.

8.7 Benefit-cost analysis of self-employment

This section presents estimates of the net benefits of self-employment computed for three different perspectives: the National Labor Office (or Ministry), all government, and society.[63] The estimates presented in Table 8.7 are extremely conservative. Computations are based only on the period of observation from registration as unemployed through the survey date in early 1998. The estimates are computed on a per participant basis. They are not aggregated over all participants.

The most narrow view of net benefits of a self-employment program is that from the National Labor Office itself. As can be seen in Table 8.7, when computing net benefits from the perspective of National Labor Office (or Ministry) the benefit is any savings in UC payments and the costs are the direct costs of paying for self-employment to be done and the administrative cost of contracting, monitoring, referring participants and follow-up. The estimated UC savings of 792 per participant was presented in Table 8.6 estimated by the regression adjusted ES interaction method. For the direct cost of self-employment the average for 1995 and 1996 per participant costs summarized in Tables 3.5 and 3.8 are used for each separate voivod, and for the cost of administration a figure from Poznan voivod is used.[64] The estimated net benefits of self-employment for the National Labor Office is estimated to be a cost of 7,797 Zl per participant.

A somewhat broader perspective in assessing the net benefits of a public program is all government. By all government we mean the collection of all agencies which collect taxes and

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[63]In this concise analysis, no attempt is made to adjust for displacement. Notes to Section 4.7 of this report present the reasoning for this decision.

[64]Computations which yielded the estimate used are summarized in Section 4.7 of this report.

dispense public services. Net benefits to all government depend on the benefit from any saving in UC payments which might not be made, and the change in tax revenue to governmental agencies resulting from the change in earnings resulting from the self-employment assistance.[65] The costs to government include the direct costs of operating the program and the administrative costs for the program. In Table 8.7, for all government we see the net cost to be higher than that for the National Labor Office by the amount of 172 Zl in lost tax revenue per self-employment participant.

The final measure of acceptability for a program is whether it generates positive net benefits for society as a whole. Real gains to society accrue if the aggregate value of economic output increases. Additions to social economic output are estimated by the increased value of earnings.[66] From this we must deduct costs which society incurs by having self-employment which would not have been otherwise experienced. These costs include the direct and administrative costs of the program. The impact on unemployment compensation payments does not figure into the social net benefit computation as these are simply transfer payments from one group in society to another, and transfer payments have no affect on total social economic output. The small administrative costs combined with the earnings loss and the sizeable direct costs yields a net social cost of 9,459 Zl per person. Since there is a negative earnings impact, for self-employment the net cost from the perspective of all society exceeds that from the two narrower perspectives of the ministry and the government.

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[65]The tax rate used is 20 percent of gross income. The complete methodology is described in Section 4.7.

[66]The estimated impact is the difference in earnings between program participants and comparison group members over the period of observation. Average monthly earnings are drawn from Table 8.2. They are 593 for the comparison group and 212 higher for the participant group using the regression-adjusted ES interaction methodology. Months of employment estimates are drawn from Table 8.6. They are 11.54 for the comparison group and 4.10 lower for the participant group using the regression-adjusted ES interaction methodology.

8.8 A summary of the self-employment evaluation

Self-employment in Poland is estimated to increase the probability of getting into a normal job or non-subsidized self-employment by 29 percent and to raise the chance of a similar outcome at the survey date by 27 percentage points. Broadening the definition of reemployment to also include subsidized jobs after self-employment, the impact on ever getting into any job was 28 percentage points and the impact on being in any job on the survey date was 24 percentage points.

It was also found that 26.7 percent of those receiving a self-employment loan hired at least one other worker for their enterprise. Indeed one successful loan recipient claims to have hired 73 workers. The mean number of workers hired by those who did hire someone was 3.13 employees. The mean hired over all loan recipients was 0.83 employees.

The subgroup analysis results indicated that self-employment boosted female reemployment rates significantly more than it boosted those for men, and while it raised average monthly earnings for both genders there was no statistically significant difference between them.

The tendency is for the oldest age group (45 years and over) of workers to benefit more from self-employment in terms of both employment and earnings. In fact the gain in employment rates for this group was statistically significantly larger than for the youngest group which was aged less than 30 years.

There were no statistically significant differences across educational attainment groups in impacts on the employment outcomes, however there was a statistically significant difference in earnings impacts where completers of general secondary education suffered a decline in their average monthly earnings, while those with secondary vocational training had their earnings raised. The employment gain was also smallest for those who stopped their education after general secondary training, while reemployment rates were raised the most for the group which had attained only eight years or less of formal schooling.

Those whose previous experience was in a blue-collar occupation gained statistically significant more employment success than those whose previous job was in a white-collar occupation. While not a statistically significant difference the blue-collar group also gained a larger boost in their average monthly earnings compared to the white-collar group.

Those whose prior separation from employment was voluntary benefitted more in terms of reemployment success than those who were forced out of their prior job. However, while not statistically significant, on the survey date self-employment participants who were involuntarily separated from work showed higher rates of being in any job. The involuntarily separated also reported higher average monthly earnings on their current job.

The majority of self-employment loan recipients had at least one week of registered unemployment prior to getting a self-employment loan, and the impact of the loan on their ever getting reemployed was somewhat larger than for those who had no prior months of registered unemployment. However, for the outcome EMPNOWA those with no prior registered unemployment before getting a self-employment loan had a statistically significant large positive impact compared to a negative impact for those with prior registered unemployment. The self-employment loan program also had a statistically significant difference on earnings, those without prior unemployment saw a gain in average monthly earnings while those with prior unemployment saw a drop.

In terms of ever getting into a normal job or into any job, self-employment provided a significant boost for those without prior work experience. However, in terms of securing employment at least through the survey date, self-employment helped those with a positive but low level of prior work experience of less than three years. The self-employment loan impact on average monthly earnings at the survey date was also positive and largest for those in the positive but less than three years of prior work experience group.

Self-employment improved reemployment and earnings for those in both low and high unemployment areas, but those in low unemployment areas fared appreciably better in both employment and earnings. However, for the important outcome EMPNOWA the impact was virtually identical for both groups.

Publicly owned enterprises showed a slight advantage in the employment outcomes while privately owned enterprises have a small advantage in earnings, but there are no statistically significant differences across the ownership categories in any of the program impacts.

Self-employment loan recipients in national government enjoyed a slight advantage in the impact on ever getting into a job, as well as a slight advantage in average monthly earnings on the current job, but neither of these impacts was statistically significantly different from the other industry category. Overall there were no statistically significant differences in the employment or earnings outcomes for self-employment loan recipients across these two industry groups.

Self-employment was found to be associated with a significantly shorter duration and amount of unemployment compensation. Very rough net benefit computations suggest that self-employment imposes net costs on the National Labor Office and the government as a whole. The computations also suggest sizeable net costs to society of self-employment. However, these computations ignore the prospects for long terms employment and earnings stability and the secondary employment effects which may also persist.

Table 8.1   Means of Descriptive Characteristics for Comparison Group and Participant Samples for Self-employment

	Comparison group	Self-employment	Difference	t-statistic on difference
EARNPRE	351	376	25	1.25
MALE	0.58	0.60	0.03	0.96
AGE	34.04	33.92	0.11	0.27
EDELEM	0.10	0.11	0.01	0.35
EDVOC1	0.43	0.43	0.00	0.10
EDVOC2	0.38	0.38	0.00	0.02
EDGYM	0.05	0.05	0.00	0.30
EDCOLL	0.03	0.03	0.00	0.10
OCCMGR	0.01	0.01	0.00	0.61
OCCPROF	0.03	0.03	0.00	0.12
OCCTECH	0.06	0.05	-0.01	1.01
OCCSERVE	0.13	0.20	0.07**	3.80
OCCSKILL	0.34	0.28	-0.06**	2.47
OCCUNSKL	0.18	0.11	-0.06**	3.37
OCCCLERK	0.10	0.10	0.01	0.54
PHYSDIS	0.02	0.01	-0.01	1.62
HHSIZE	2.89	3.03	0.14*	1.79
SPOUSEHM	0.87	0.91	0.05**	2.56
SPEMPL	0.72	0.66	-0.07**	2.34
OTHEREMP	0.55	0.47	-0.08*	1.84
DEPEND1	1.25	1.64	0.40**	5.68
DEPEND2	1.34	1.50	0.16**	2.69
LOOKWORK	0.18	0.16	-0.02	0.85
EARN5	439	419	20	0.61

 * Statistically significant at the 90 percent confidence level in a two-tailed test.
** Statistically significant at the 95 percent confidence level in a two-tailed test.

Table 8.1.1   Value of Assistance for Self-employment

How valuable was assistance?	Continued Self-employment		Stopped Self-employment	
	Number	%	Number	%
Have no data	2	0.3	2	3.6
Don't know	16	2.5	11	19.6
Extremely valuable	329	50.4	20	35.7
Very valuable	215	32.9	7	12.5
Valuable	58	8.9	5	8.9
Of little value	21	3.2	3	5.4
Worthless	12	1.8	8	14.3
Cumulative	653	100.0	56	100.0

Table 8.1.2   Was Self-employment Assistance Critical to Start-up

Would you still have started without assistance?	Continued Self-employment		Stopped Self-employment	
	Number	%	Number	%
Have no data	4	0.6	6	10.7
I don't know	111	17.0	14	25.0
Yes	184	28.2	13	23.2
No	354	54.2	23	41.1
Cumulative	653	100.0	56	100.0

Table 8.1.3   Self-employment Assistance and Start-up Timing

Would you have started later without assistance?	Continued Self-employment		Stopped Self-employment	
	Number	%	Number	%
Have no data	4	0.6	5	8.9
I don't know	238	36.4	17	30.4
Yes	226	34.6	11	19.6
No	185	28.3	23	41.1
Cumulative	653	100.0	56	100.0

Table 8.1.4   Own Money Invested in Self-employment

Amount of own money	Self-employed on Survey Date		Stopped Self-employment	
	Number	%	Number	%
Have no data	9	2.0	16	6.3
None	36	7.9	40	15.9
Less than 5,000 Zl	213	46.6	119	47.2
Between 5,000 and 20,000 Zl	173	37.9	70	27.8
More than 20,000 Zl	26	5.7	7	2.8
Cumulative	457	100.0	252	100.0

Table 8.1.5   Prospects for Continued Self-employment Among Those Still Operating on the Survey Date

Prospect	Number	%
Have no data	12	2.6
It can be expanded	105	23.0
It will remain stable	247	54.0
I am uncertain about the future	70	15.3
I plan to stop the activity	16	3.5
Question was skipped	7	1.5
Cumulative	457	100.0

Table 8.2   Impact of Self-employment on Employment and Earnings in Poland

	Comparison group	Self-employment	Impact	t-statistic on impact	Comparison sample size	Participant sample size
Difference						
EMPNORM	0.66	0.97	0.31**	16.31	678	698
EMPANY	0.68	0.97	0.30**	15.93	678	698
EMPNOWN	0.52	0.82	0.29**	11.93	686	667
EMPNOWA	0.59	0.87	0.28**	11.99	679	660
EARNNOW	593	796	203**	6.63	436	549
ES Interaction[1]						
EMPNORM			0.30**	12.07		
EMPANY			0.29**	11.16		
EMPNOWN			0.30**	9.16		
EMPNOWA			0.28**	8.93		
EARNNOW			212**	5.10		
Regression-adjusted ES Interaction[2]						
EMPNORM			0.29**	11.31		
EMPANY			0.28**	10.53		
EMPNOWN			0.27**	8.15		
EMPNOWA			0.24**	7.64		
EARNNOW			212**	5.44		
Sample	700	709				

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

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

EMPNORM - Remained self-employed or became reemployed in a normal non-subsidized job.

EMPANY - Remained self-employed or became reemployed in any job, including possibly a subsidized job.

EMPNOWN - Employed on the survey date in self-employment or a normal non-subsidized job.

EMPNOWA - Employed on the survey date in self-employment or any job, including possibly a subsidized job.

EARNNOW - Average monthly earnings on the current job if employed.

[1] The ES interaction estimates were computed from a regression model as described in Appendix B in the section entitled Method for Separating out Impacts of Multiple Programs.

[2] The regression adjusted ES interaction estimates were computed from a regression model as described in Appendix B in the section entitled Method for Separating out Impacts of Multiple Programs and also included the variables listed in Table 3.10.1 with the exception of EARNPRE, SPOUSEHM, and SPEMPL which were omitted because of a high proportion of missing values. The regression also included indicator variables for the voivods with the omitted reference voivod being Radom.

Table 8.2.1   Frequency Distribution of Employees Working at Self-employment Enterprises on the Survey Date, Not Counting the Loan Recipient

Number of employees	Number	%	Cumulative Number	Cumulative %
0	520	73.3	520	73.3
1	101	14.2	621	87.6
2	37	5.2	658	92.8
3	17	2.4	675	95.2
4	8	1.1	683	96.3
5	6	0.8	689	97.2
6	6	0.8	695	98.0
8	1	0.1	696	98.2
11	5	0.7	701	98.9
12	1	0.1	702	99.0
14	1	0.1	703	99.2
15	1	0.1	704	99.3
17	1	0.1	705	99.4
21	2	0.3	707	99.7
31	1	0.1	708	99.9
73	1	0.1	709	100.0

Table 8.3   Net Impact Estimates of Self-employment by Subgroup

Variable/label	Proportion in comparison group	Net Program Impacts				
		EMPNORM	EMPANY	EMPNOWN	EMPNOWA	EARNNOW
FEMALE - Respondent is female~	0.423	0.384**##	0.368**##	0.286**##	0.257##	114.659**
MALE - Respondent is male	0.577	0.167**	0.159**	0.030	0.058*	118.947**
AGELT30 - Age < 30	0.331	0.181**##	0.154**##	0.050	0.39	38.757
AGE3044 - Age between 30 and 44	0.570	0.278**	0.276**	0.185**	0.195**	154.543**
AGEGE45 - Age is 45 or over~	0.099	0.387**	0.375**	0.137*	0.169**	169.294
EDELEM - 8 years/or less schooling	0.103	0.341**	0.332**	0.210**	0.171**	15.124
EDVOC - Vocational secondary~	0.810	0.253**	0.239**	0.137**	0.149**	146.417**
EDGYM - General secondary	0.054	0.143**	0.136*	0.054	0.050	-124.014##
EDCOLL - Some higher education	0.033	0.243**	0.273**	-0.025	-0.039	111.877
WHITECOL - White-collar occupation	0.314	0.172**##	0.171**##	0.078*#	0.085**	100.071*
BLUECOL - Blue-collar occupation~	0.516	0.304**	0.293**	0.176**	0.168**	145.265**
OTHEROCC - Other occupation	0.170	0.295**	0.265**	0.144**	0.173**	82.702
VOLUN - Voluntarily unemployed	0.244	0.300**	0.301**#	0.099*	0.119**	87.966
NONVOL - Not voluntarily unemployed~	0.756	0.242**	0.227**	0.146**	0.146**	126.195**
U_SE - Prior unemployment for self employed	0.543	0.287**	0.277**	-0.041##	-0.011##	-40.120##
ENONU_SE - No prior months of unemployment~	0.457	0.241**	0.229**	0.225**	0.216**	196.933**
EXP0 - Work experience = zero	0.136	0.363**	0.399**##	0.167**	0.145#	119.896
EXPLE3 - Work experience ≤ 3 years	0.174	0.289**	0.294**	0.254**#	0.283**##	206.298**
EXP3T10 - Work experience 3-10 years	0.247	0.247**	0.229**	0.088	0.078	89.814
EXPGT10 - Work experience ≥ 10 years~	0.443	0.236	0.214**	0.092**	0.091**	97.832
LOWURATE - Low unemployment area	0.351	0.321**##	0.319**##	0.132**	0.139**	148.171**
HIURATE - High Unemployment area~	0.649	0.220**	0.204**	0.137**	0.140**	100.255**
GORZOW - Voivod is Gorzów	0.114	0.094	0.069##	0.079	0.163**	255.848**
KATOWICE - Voivod is Katowice	0.171	0.292**	0.283**	0.150**	0.181**	167.069**
KONIN - Voivod is Konin	0.100	0.179**	0.167**	0.149*	0.162**	-178.548*##
KRAKOW - Voivod is Kraków	0.083	0.412**#	0.413**##	0.136	0.139*	63.580
LUBLIN - Voivod is Lublin	0.160	0.179**	0.167**	0.084	0.053	73.783
OLSZTYN - Voivod is Olsztyn	0.134	0.322**	0.304**	0.184**	0.224**	161.503**
POZNAN - Voivod is Poznan	0.097	0.298**	0.304**	0.105	0.085	177.827**
RADOM - Voivod is Radom~	0.140	0.270**	0.249**	0.191**	0.129**	94.595

 * 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 8.4   Unadjusted Impacts of Self-employment in Various Industries

	Group proportion	EMPNORM	EMPANY	EMPNOWN	EMPNOWA	EARNNOW
Comparison group mean		0.66**	0.68**	0.52**	0.59**	593**
Self-employment impact		0.31**	0.30**	0.29**	0.28**	203**
Industry of Self-employment[d]						
National administration	0.157	0.266**	0.250**	0.266**	0.228**	186**
Services	0.123	0.231**	0.215**	0.256**	0.229**	254**
Trade and Restaurants	0.261	0.228**	0.218**	0.263**	0.235**	120**[b]
Manufacturing and construction	0.118	0.266**	0.250**	0.162**	0.236**	136**

  * Difference statistically significant at the 90 percent level in a two-tailed test.
** Difference statistically significant at the 95 percent level in a two-tailed test.

[a] Statistically significantly different from the first category at the 90 percent level.
[b] Statistically significantly different from the second category at the 90 percent level.
[c] Statistically significantly different from the third category at the 90 percent level.
[d] The branch of industry of the self-employment activity was set using the variable **compay2** from question 8.2 in record type A in Appendix A. **compay2** industry codes were grouped as follows: national administration, 751; services, 602-744 and 803-930; trade and restaurants, 501-555; manufacturing and construction, 151-454. Of the 709 self-employment loan recipients there were 242 with missing or erroneous values for **compay2**.
EMPNORM - Became reemployed in a normal non-subsidized job.
EMPANY - Became reemployed in any job , including possibly a subsidized job.
EMPNOWN - Employed on the survey date in a normal non-subsidized job.
EMPNOWA - employed on the survey date in any job, including possibly a subsidized job.
EARNNOW - Average monthly earnings on the current job if employed.

Table 8.4.1   Frequency Distribution of Industry of Self-employment Loan Recipient

Provider	Number	%	Cumulative Number	Cumulative %
National administration	111	15.7	111	15.7
Services	87	12.3	198	20.2
Trade and restaurants	185	26.1	383	46.3
Manufacturing and construction	84	11.8	467	58.1
Missing data	242	34.1	709	100

Table 8.5.1   Frequency Distribution of Self-employment Loan Activity: Months Until Loan Repayment

Duration in months	Number	%	Cumulative number	Cumulative %
0	8	1.1	8	1.1
1	1	0.1	9	1.3
2	3	0.4	12	1.7
3	3	0.4	15	2.1
5	1	0.1	16	2.3
6	3	0.4	19	2.7
7	2	0.3	21	3.0
8	4	0.6	25	3.5
9	7	1.0	32	4.5
10	8	1.1	40	5.6
11	2	0.3	42	5.9
12	7	1.0	49	6.9
13	2	0.3	51	7.2
14	1	0.1	52	7.3
15	3	0.4	55	7.8
16	3	0.4	58	8.2
17	3	0.4	61	8.6
18	7	1.0	68	9.6
19	4	0.6	72	10.2
20	9	1.3	81	11.4
22	3	0.4	84	11.8
23	6	0.8	90	12.7
24	36	5.1	126	17.8
25	25	3.5	151	21.3
26	45	6.3	196	27.6
27	25	3.5	221	31.2
28	19	2.7	240	33.9
29	12	1.7	252	35.5
30	18	2.5	270	38.1
31	13	1.8	283	39.9
32	14	2.0	297	41.9
33	7	1.0	304	42.9
34	3	0.4	307	43.3
35	6	0.8	313	44.1
36	7	1.0	320	45.1
37	4	0.6	324	45.7
38	7	1.0	331	46.7
39	2	0.3	333	47.0
40	3	0.4	336	47.4
41	1	0.1	337	47.5
42	2	0.3	339	47.8
43	2	0.3	341	48.1
44	5	0.7	346	48.8
45	3	0.4	349	49.2
47	1	0.1	350	49.4
Not repaid	359	50.6	709	100.0

Table 8.5.2   Frequency Distribution of Self-employment Duration

Duration in months	Number	%	Cumulative number	Cumulative %
0	2	0.3	2	0.3
1	3	0.4	5	0.7
2	3	0.4	8	1.1
3	5	0.7	13	1.8
5	3	0.4	16	2.3
6	2	0.3	18	2.6
7	4	0.6	22	3.1
8	5	0.7	27	3.8
9	8	1.1	35	5.0
10	11	1.6	46	6.5
11	2	0.3	48	6.8
12	3	0.4	51	7.2
13	3	0.4	54	7.7
14	3	0.4	57	8.1
15	3	0.4	60	8.5
16	5	0.7	65	9.2
17	5	0.7	70	9.9
18	4	0.6	74	10.5
19	6	0.9	80	11.3
20	6	0.9	86	12.2
21	3	0.4	89	12.6
22	5	0.7	94	13.3
23	5	0.7	99	14.0
24	10	1.4	109	15.5
25	13	1.8	122	17.3
26	9	1.3	131	18.6
27	12	1.7	143	20.3
28	12	1.7	155	22.0
29	6	0.9	161	22.8
30	3	0.4	164	23.3
31	8	1.1	172	24.4
32	8	1.1	180	25.5
33	8	1.1	188	26.7
34	8	1.1	196	27.8
35	2	0.3	198	28.1
36	4	0.6	202	28.7
37	2	0.3	204	28.9
38	7	1.0	211	29.9
39	3	0.4	214	30.4
40	3	0.4	217	30.8
41	7	1.0	224	31.8
42	6	0.9	230	32.6
43	10	1.4	240	34.0
44	6	0.9	246	34.9
45	5	0.7	251	35.6
46	7	1.0	258	36.6
47	3	0.4	261	37.0
48	6	0.9	267	37.9
50	1	0.1	268	38.0
Continuing	437	62.0	705	100.0

Table 8.5.3   Duration of Self-Employment Following Loan Repayment

Duration in Months	Number	%	Cumulative Number	Cumulative %
0	102	29.1	102	29.1
1	7	2.0	109	31.1
2	5	1.4	114	32.6
3	4	1.1	118	33.7
4	3	0.9	121	34.6
5	4	1.1	125	35.7
6	0	0.0	125	35.7
7	4	1.1	129	36.9
8	3	0.9	132	37.7
9	2	0.6	134	38.3
10	0	0.0	134	38.3
11	2	0.6	136	38.9
12	2	0.6	138	39.4
13	3	0.9	141	40.3
14	3	0.9	144	41.1
15	0	0.0	144	41.1
16	1	0.3	145	41.4
17	5	1.4	150	42.9
18	0	0.0	150	42.9
19	1	0.3	151	43.1
20	0	0.0	151	43.1
21	1	0.3	152	43.4
22	1	0.3	153	43.7
23	1	0.3	154	44.0
24	1	0.3	155	44.3
25	0	0.0	155	44.3
26	0	0.0	155	44.3
27	0	0.0	155	44.3
28	0	0.0	155	44.3
29	0	0.0	155	44.3
30	0	0.0	155	44.3
31	0	0.0	155	44.3
32	0	0.0	155	44.3
33	1	0.3	156	44.6
34	0	0.0	156	44.6
35	1	0.3	157	44.9
Continuing	193	55.1	350	100.0

Table 8.6   Impact of Self-employment on Months of Employment, Unemployment and Unemployment Compensation in Poland

	Comparison group	Self-employment	Impact	t-statistic on impact
Difference				
EMMONTHS	11.54	7.58	-3.96**	7.68
UNMONTHS	7.04	1.14	-5.91**	16.64
UCMONTHS	6.14	2.46	-3.68**	11.70
UCPAY	1261	463	-797**	11.52
ES Interaction				
EMMONTHS			-3.69**	4.61
UNMONTHS			-6.20**	15.60
UCMONTHS			-3.73**	10.26
UCPAY			-815**	10.30
Regression Adjusted ES Interaction[2]				
EMMONTHS			-4.10**	4.76
UNMONTHS			-5.79**	15.51
UCMONTHS			-3.64**	9.79
UCPAY			-792**	9.89
Sample	700	709		

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

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

EMMONTHS - Months employed since most recent registration with the employment service.

UNMONTHS - Months unemployed since most recent registration with the employment service.

UCMONTHS - Months of unemployment compensation since most recent ES registration.

UCPAY - Amount of unemployment compensation since most recent ES registration.

[1]   The ES interaction estimates were computed from a regression model as described in Appendix B in the section entitled Method for Separating out Impacts of Multiple Programs.

[2]   The regression adjusted ES interaction estimates were computed from a regression model as described in Appendix B in the section entitled Method for Separating out Impacts of Multiple Programs and also included the variables listed in Table 3.10.1 with the exception of EARNPRE, SPOUSEHM, and SPEMPL, which were omitted because of a high proportion of missing values. The regression also included indicator variables for the voivods, with the omitted reference voivod being Radom.

Table 8.7   **Estimated Net Benefits per Participant in Self-employment**
(in 1996 Zl)

Perspective of the National Labor Office (or Ministry)

Unemployment compensation saved (benefit)	792 Zl
Direct cost of operating the program (cost)	-8509
Administrative cost of program (cost)	-90
Net benefits to the National Labor Office:	-7797

Perspective of the National Government

Unemployment compensation saved (benefit)	792 Zl
Direct cost of operating the program (cost)	-8509
Administrative cost of program (cost)	-90
Tax revenue from increased earnings (benefit)	-172
Net benefits to the National Government:	-7979

Perspective of All Society

Increased earnings (benefit)	-805 Zl
Direct cost of operating the program (cost)	-8509
Administrative Cost of Program (cost)	-90
Net benefits to All Society:	-9459

Appendix A

Questionnaires

Instructions for Interviewers

Before beginning an interview survey workers should check if the data extracted from the register (Record Type - A) is complete. Any data missing from the register data should be completed during the interview.

Attention: Data drawn for Record Type - A was drawn from the official registration form.

After you check that the data is complete you should do the following:

Take the questionnaire corresponding to the ALP for the person to be interviewed.

Complete identification data: PESEL (social insurance identity number), Name, Address

Check if the person is still registered as unemployed and check the most recent date of visit.

Inform the proper placement officer about your intention to conduct an interview.

Conduct the interview according to the instructions.

Sign and date the questionnaire form used for the interview.

Enter the data into the database record marked with the same PESEL number.

Print the full questionnaire form.

Compare the data in the questionaire with the printout of the form and correct any errors.

Sign the printed form to confirm accuracy.

Record the PESEL number on the completed interview list.

Note: **Variable names used in the analysis of the data gathered with these questionnaires follow the survey questions in parentheses in bold.**

INSTRUCTIONS FOR CONDUCTING THE INTERVIEW

1. The interview should be conducted at the local labor office if the person is still registered as unemployed during a normal regular visit to the local labor office (LLO).

2. People who do not contact the LLO shall be contacted at their home. The interview can be conducted only with the selected person (not with another household member). If the person is absent, an appointment should be made. A note should be left for the person (text of the note is provided).

    For interviews to be conducted outside the area of the LLO, local authorities (local self governments) should be asked for help in contacting persons prior to traveling the distance to the residence.

3. Prior to the interview the person should be informed about the reasons for the interview. If the interview is conducted outside the LLO, the interviewer should present identification and a letter from the director of the voivod labor office.

4. During the interview the basic data should be confirmed (PESEL, date of birth, name of ALP) and any missing information needed to complete record type A should be completed on the backside of the questionaire used.

5. During the interview please read the questions, check understanding, repeat the answer given, wait for confirmation, and record the answer.

Attention:

   (1) If the person does not understand the question, try to explain it without suggesting answers.

   (2) In surveys you can often find the statement "Have no data = A" as a possible answer. Please note, that this possibility is for the control of accuracy of data entry process only. Do not offer this as a possible response to a question.

6. After the interview, offer thanks for cooperation and inform the person that the results of the study will be published in the local newspaper.

1. Information about the person registered as unemployed

   1.1 Place of registration

   code of the voivodship cc, **(reg1)**

   code of the local labor office ccc, **(reg2)**

   1.2 Start date of registered unemployment

      1.2.a   most recent registration dd/mm/yy, **(regdte)**
      1.2.b   first registration dd/mm/yy, **(firstdte)**

   1.3 Unique respondent identifier, **(id)**

   1.3.1 date of birth   dd/mm/yy, **(birthdte)**

   1.3.2 sex   1=male, 2=female, **(sex)**

   1.4 Sirname, firstname, middlename

   Father's name firstname

   1.5 Address (for conducting surveys, including postal code ccccc)

   1.6 Highest educational attainment, **(educ)**

      none = 0
      8 years or less = 1
      basic vocational school = 2
      completed secondary vocational school (Technichum) = 3
      Completed general secondary school (Lyceum) = 4
      Some higher education = 5

   1.7 Situation prior to registering as unemployed, **(priorsit)**
      Have no data = A
      Previously employed = B
      Student or recent school graduate = C
      Other = D

1.8 The average gross (brutto) monthly earnings (zarobki)
prior to registering as unemployed at the beginning of
the current spell?   New zloty per month: **(earn1)**

A= have no data
B= no response
C= less than minimum wage
D= minimum wage
E= average wage
F= above the average wage, **(earn2)**

2.   About the last workplace before registration

2.1 The qualification (personnel group of employment), **(lastwork)**
0. Have no data
1. Top manager
2. Specialist\Professional
3. Technician without university degree
4. Clerk\Administrator
5. Service worker
6. Skilled
7. Unskilled
8. Other
9. No response

2.2 Job classification code (3 digit code),   **(jobcode)**

3.1 Does the person have a physical disability which limits the ability to do work? **(disable)**

Don't know = 0   Yes = 1   No = 2

3.2 What is the level of disability as scored by ZUS. **(zuslevel)**

First group = 1
Second group = 2
Third group = 3

4.   Is the person currently registered as unemployed with the public employment service?
Yes = 1   No = 0   Don't know = 9, **(esreg)**

5. Circle which of the following months the person received cash unemployment benefits (will be presented as a matrix with 1 = yes, 2 = no, 4=don't know), **(unem0194-unem1296)**

a.	Jan. 1994	m.	Jan. 1995	y.	Jan. 1996
b.	Feb. 1994	n.	Feb. 1995	z.	Feb. 1996
c.	Mar. 1994	o.	Mar. 1995	aa.	Mar. 1996
d.	Apr. 1994	p.	Apr. 1995	ab.	Apr. 1996
e.	May 1994	q.	May 1995	ac.	May 1996
f.	June 1994	r.	June 1995	ad.	June 1996
g.	July 1994	s.	July 1995	ae.	July 1996
h.	Aug. 1994	t.	Aug. 1995	af.	Aug. 1996
i.	Sept 1994	u.	Sept 1995	ag.	Sept 1996
j.	Oct. 1994	v.	Oct. 1995	ah.	Oct. 1996
k.	Nov. 1994	w.	Nov. 1995	ai.	Nov. 1996
l.	Dec. 1994	x.	Dec. 1995	aj.	Dec. 1996

6. How many job interviews has the labor office arranged for the person since the most recent date of registration as unemployed? **(inter)**

    Number of interviews (between 0 and 9, with 9 meaning 9 or more)

7. Which of the following active labor program has the person participated in since the most recent date of registration as unemployed? **(program)**

    We have no data = A
    Don't know/ other = B
    None = C
    Group Retraining = D
    Individual retraining = E
    Public works = F
    Intervention works = G
    Self-employment = H

8. If the person was/is participating in an active labor program, provide the following
    information about the company or agency operating the activity

    8.1 Name of program operator
    8.2 Branch of industry   ccc, **(compay2)**
    8.3 What is the sector of operator: **(compay3)**
         Have no data = 0, Public =1, Private = 2, Different = 3, Unknown=6
    8.4 Start date of participation in ALP dd/mm/yy, **(compay4)**
    8.5 End date of participation in ALP   dd/mm/yy, **(compay5)**
    8.6 Status of the person at the end of the control period for the program (control period is 2
         years for loans, and 3 months for training, intervention works, and public works),
         (compay6)
         1 = present in the register   0 = absent from the register

9. Did the person receive unemployment benefits after the first of January, 1994? **(uc019)**
    1 = yes   2 = no

10. Does this person receive UC at the present time? **(ucnow)**
    0 = no data   1 = yes   2 = no

11. Total months of work experience prior to registering as unemployed? (as recorded in their
    employment certificates)
        Total months: **(workep)**

12. Reason for leaving prior emloyment: **(reason)**
        0 = Have no data
        1 = group layoff by the employer with notice
        2 = worker leaves without notice
        3 = fired due to worker's behavior (notice not required)
        4 = arrested by the police
        5 = terminated by the employee with notice
        6 = terminated by the employer with notice
        7 = labor contract expired
        8 = by mutual agreement of worker and employer
        9 = other

Date of printing the register data: (Interviewer will have to fill in more recent data if several
months have passed.)

Signature of interviewer: _____

Name of Respondent: Unique respondent identifier: **(id)**
PESEL:
Address of Respondent: (city, street)   Postal code: ccccc

1. Have you been involved in one or more active labor programs since you registered at the
    beginning of your current spell of unemployment? (indicate all that apply) **(program)**

        We have no data = A
        Don't know / other = B
        None = C
        Group retraining = D
        Individual retraining = E
        Public works = F
        Intervention works = G
        Self-employment = H

2. Have you started a new job or self-employment since you registered at the beginning of your
    current spell of unemployment? **(employed)**

    a. Have no data
    b. Don't know/ I do not understand
    c. Yes, I got employed
    d. Yes, I got self-employed
    e. No, I did not get employed

    (If you answered e, please skip forward to question 4 and then 7.)

3. Did the public employment service help you to find this job? **(pubemp)**

    a. Have no data
    b. Don't know/ I do not understand
    c. Yes
    d. No
    e. Answer is skipped

4. Which of the following services of the public employment service did you use while looking
    for a job? (more than one response is acceptable) **(service1-service7)** 1=yes, 0=no

    a. Have no data
    b. Don't know/ I do not understand / none, **(service1)**
    c. job interview referrals, **(service2)**
    d. participating on other labor market programs, **(service3)**
    e. skills assessment and aptitude testing, **(service4)**
    f. counseling, **(service5)**
    g. job club, **(service6)**
    h. other, **(service7)**

5. When did you start your first new job after you registered at the beginning of your current
    spell of unemployment? **(firstjob)**

    Year: _____   Month: _____

6. Which of the following best describes your first new job after you registered at the beginning
    of your current spell of unemployment? **(jobdesc)**

    a. Have no data
    b. other
    c. regular non-subsidized
    d. a public works job
    e. the wage was subsidized by the labor fund
    f. answer is skipped

7. Are you now employed or self-employed? **(empnow)**

    a. Have no data
    b. Don't know/ I do not understand
    c. Yes, I am employed
    d. Yes, I am self-employed
    e. No, I am not employed

8. Please indicate which of the following best describes your main activity in each month:
    (main0195-main1296)

    a. have no data
    b. non-subisidized job
    c. non-subisidized self-employment
    d. subisidized job (including public works)
    e. subsidized self-employment
    f. labor market program with no employment
    g. child care allowance, pension, military, or student
    h. unemployed and seeking a job
    i. out of work and not seeking a job
    j. different activities
    k. social assistance

8.1.	Jan. 1995	a	b	c	d	e	f	g	h	i	j	k
8.2.	Feb. 1995	a	b	c	d	e	f	g	h	i	j	k
8.3.	Mar. 1995	a	b	c	d	e	f	g	h	i	j	k
8.4.	Apr. 1995	a	b	c	d	e	f	g	h	i	j	k
8.5.	May. 1995	a	b	c	d	e	f	g	h	i	j	k
8.6.	Jun. 1995	a	b	c	d	e	f	g	h	i	j	k
8.7.	Jul. 1995	a	b	c	d	e	f	g	h	i	j	k
8.8.	Aug. 1995	a	b	c	d	e	f	g	h	i	j	k
8.9.	Sep. 1995	a	b	c	d	e	f	g	h	i	j	k
8.10.	Oct. 1995	a	b	c	d	e	f	g	h	i	j	k
8.11.	Nov. 1995	a	b	c	d	e	f	g	h	i	j	k
8.12.	Dec. 1995	a	b	c	d	e	f	g	h	i	j	k
8.13.	Jan. 1996	a	b	c	d	e	f	g	h	i	j	k
8.14.	Feb. 1996	a	b	c	d	e	f	g	h	i	j	k
8.15.	Mar. 1996	a	b	c	d	e	f	g	h	i	j	k
8.16.	Apr. 1996	a	b	c	d	e	f	g	h	i	j	k
8.17.	May. 1996	a	b	c	d	e	f	g	h	i	j	k
8.18.	Jun. 1996	a	b	c	d	e	f	g	h	i	j	k
8.19.	Jul. 1996	a	b	c	d	e	f	g	h	i	j	k
8.20.	Aug. 1996	a	b	c	d	e	f	g	h	i	j	k
8.21.	Sep. 1996	a	b	c	d	e	f	g	h	i	j	k
8.22.	Oct. 1996	a	b	c	d	e	f	g	h	i	j	k
8.23.	Nov. 1996	a	b	c	d	e	f	g	h	i	j	k
8.24.	Dec. 1996	a	b	c	d	e	f	g	h	i	j	k

9. What was your average (over the last 3 months) gross (brutto) monthly earnings (zarobki) on
    your last job prior to registering as unemployed at the beginning of your current spell?

     new zloty per month:_____   **(earn1)**

     a. Have no data
     b. no response
     c. less than minimum wage
     d. minimum wage
     e. average wage
     f. above the average wage, **(earn2)**

10. What was your average (over the last 3 months) gross
     (brutto) monthly earnings (zarobki) on your most recent job?
     new zloty per month:_____   **(earn3)**

     a. Have no data
     b. no response
     c. less than minimum wage
     d. minimum wage
     e. average wage
     f. above the average wage, **(earn4)**

11. If you are not currently employed, why are you not employed? **(notwhy)**

     a. have no data
     b. other
     c. I wanted a job, but there were no vacancies in my field
     d. I wanted a job, but the wages offered were too low
     e. I could not look for a job, because of health problems
     f. I have been enrolled in evening or weekend school which
         makes it difficult for me to find a job
     g. I am expecting to do military service soon

12. If you are not employed and not self-employed, what benefits do you receive? **(benefits)**

    a. have no data
    b. no response
    c. Regular unemployment compensation
    d. Social welfare assistance
    e. Both regular unemployment compensation and social welfare assistance
    f. No benefits

13. Please state the number of people living with you in the same household: **(hhsize)**

    0   1   2   3   4   5   6   7   8   9 or more

14. Do you have a spouse living in the same household? **(spouse)**

    a.   no response
    b.   Yes
    c   No (skip to question 16.)

15.   Is your spouse in a job or self-employed? **(spousemp)**

    a.   no response
    b.   Yes
    c.   No
    d.   answer skipped

16. Total number of other employed and self-employed members of
    the houesehold (excluding yourself and your spouse):   **(otheremp)**

    0   1   2   3   4   5   6   7   8   9 or more

17. What is the number of people living with you in your
    household who depend on you economically? **(depend1)**

    0   1   2   3   4   5   6   7   8   9 or more

18. How many of your dependents are under 18 years of age, or
     receive old age pensions or disability pensions? **(depend2)**

     0   1   2   3   4   5   6   7   8   9 or more

19. Please state the number of persons living in your household, excluding yourself, who are not
    working but are looking for work: **(lookwork)**

     0   1   2   3   4   5   6   7   8   9 or more

20. Excluding yourself, what was the average (over the last 3 months) gross (brutto) monthly
    income including earnings (zarobki) pension (enerytura) or other sources for all persons in
    your household?

    new zloty per month:_____ **(earn5)**

       (or a category) **(earn6)**

       a. have no data
       b. no response
       c. less than 300 pzl.
       d. between 301 and 600 pzl.
       e. between 601 and 900 pzl.
       f. between 901 and 1500 pzl.
       g. above 1500 pzl.

Date survey completed: Day:___ Month:_____ Year:___

Signature of interviewer: _____

Name of Respondent: Unique respondent identifier: **(id)**
PESEL:
Course Code Number:
Address of Respondent: (city, street, postal code ccccc)
Date of leaving retraining: mm/yy **(leavedte)**

1. Have you started a new job or self-employment since participating in retraining? **(newjob)**
    a. have no data
    b. no response (don't know)
    c. Yes, I got employed
    d. Yes, I got self-employed
    e. No, I did not get employed

    (If you answered e, please skip forward to question 3 and then question 7.)

2. Did the public employment service help you to find this job? **(pubemp)**
    a. have no data
    b. I do not know/I do not understand
    c. Yes
    d. No
    e. answer is skipped

3. Which of the following services of the public employment service did you use while looking
    for a job? (more than one response is acceptable) **(service1-service7)** 1=yes, 0=no
    a. have no data
    b. none / no response, **(service1)**
    c. job interview referrals, **(service2)**
    d. participating on other labor market programs, **(service3)**
    e. skills assessment and aptitude testing, **(service4)**
    f. counseling, **(service5)**
    g. job club, **(service6)**
    h. other, **(service7)**

4. When did you start your first new job after the retraining course ended (do not include
    intervention works and public works)? **(firstjob)**

    Year:__yy__   Month: __mm__

5. Which of the following best describes your first new job after the retraining course ended?
    (jobdesc)
    a. have no data
    b. other / no response
    c. regular non-subsidized
    d. a public works job
    e. the wage was subsidized by the local labor office
    f. answer is skipped

6. On your current job, what is the value of the skills learned in your retraining course?
    (skvalue)
    a. have no data   e. valuable
    b. difficult to see/no response   f. of little value
    c. extremely valuable   g. worthless
    d. very valuable   h. question is skipped

7. Are you now employed or self-employed? **(empnow)**
    a. have no data   d. Yes, I am self-employed
    b. no response   e. No, I am not employed
    c. Yes, I am employed

8. Please indicate which of the following best describes your main activity in each month.
    (main0195-main1296)
    a. have no data
    b. non-subisidized job
    c. non-subsidized self-employment
    d. subisidized job (including public works)
    e. subsidized self-employment
    f. labor market program with no employment
    g. child care allowance, pension, military, or student
    h. unemployed and seeking a job
    i. out of work and not seeking a job
    j. different activities
    k. social assistance

8.1.	Jan. 1995	a	b	c	d	e	f	g	h	i	j	k
8.2.	Feb. 1995	a	b	c	d	e	f	g	h	i	j	k
8.3.	Mar. 1995	a	b	c	d	e	f	g	h	i	j	k
8.4.	Apr. 1995	a	b	c	d	e	f	g	h	i	j	k
8.5.	May. 1995	a	b	c	d	e	f	g	h	i	j	k
8.6.	Jun. 1995	a	b	c	d	e	f	g	h	i	j	k

8.7.   Jul. 1995   a   b   c   d   e   f   g   h   i   j   k
8.8.   Aug. 1995   a   b   c   d   e   f   g   h   i   j   k
8.9.   Sep. 1995   a   b   c   d   e   f   g   h   i   j   k
8.10.   Oct. 1995   a   b   c   d   e   f   g   h   i   j   k
8.11.   Nov. 1995   a   b   c   d   e   f   g   h   i   j   k
8.12.   Dec. 1995   a   b   c   d   e   f   g   h   i   j   k

8.13.   Jan. 1996   a   b   c   d   e   f   g   h   i   j   k
8.14.   Feb. 1996   a   b   c   d   e   f   g   h   i   j   k
8.15.   Mar. 1996   a   b   c   d   e   f   g   h   i   j   k
8.16.   Apr. 1996   a   b   c   d   e   f   g   h   i   j   k
8.17.   May. 1996 a   b   c   d   e   f   g   h   i   j   k
8.18.   Jun. 1996   a   b   c   d   e   f   g   h   i   j   k
8.19.   Jul. 1996   a   b   c   d   e   f   g   h   i   j   k
8.20.   Aug. 1996   a   b   c   d   e   f   g   h   i   j   k
8.21.   Sep. 1996   a   b   c   d   e   f   g   h   i   j   k
8.22.   Oct. 1996   a   b   c   d   e   f   g   h   i   j   k
8.23.   Nov. 1996   a   b   c   d   e   f   g   h   i   j   k
8.24.   Dec. 1996   a   b   c   d   e   f   g   h   i   j   k

9. What was your average (over the last 3 months) gross (brutto) monthly earnings (zarobki) on
    your last job prior to registering as unemployed at the beginning of your current spell?
        new zloty per month:_____ **(earn1)**
        a. have no data
        b. no response
        c. less than minimum wage
        d. minimum wage
        e. average wage
        f. above the average wage, **(earn2)**

10. What was your average (over the last 3 months) gross (brutto) monthly earnings (zarobki) on
    your most recent job?
        new zloty per month:_____ **(earn3)**
        a. have no data
        b. no response
        c. less than minimum wage
        d. minimum wage
        e. average wage
        f. above the average wage, **(earn4)**

11. If you are not currently employed, why are you not employed? (**notwhy**)
   a.   have no data
   b.   other reasons / no response
   c.   I wanted a job, but there were no vacancies in my field
   d.   I wanted a job, but the wages offered were too low
   e.   I could not look for a job, because of health problems
   f.   I have been enrolled in evening or weekend school which
            makes it difficult for me to find a job
   g.   I am expecting to do military service soon

12. If you are not employed and not self-employed, what benefits do you receive? (**benefits**)
   a.   have no data
   b.   no response
   c.   Regular unemployment compensation
   d.   Social welfare assistance
   e.   Both regular unemployment compensation and social welfare assistance
   f.   No benefits

13. Please state the number of people living with you in the same household: (**hhsize**)

   0   1   2   3   4   5   6   7   8   9 or more

14. Do you have a spouse living in the same household? (**spouse**)
   a.   have no data
   b.   Yes
   c   No (skip to question 16.)

15.   Is your spouse in a job or self-employed? (**spousemp**)
   a.   have no data
   b.   Yes
   c.   No
   d.   Question is skipped

16. Total number of other employed and self-employed members of
     the houesehold (excluding yourself and your spouse): (**otheremp**)

   0   1   2   3   4   5   6   7   8   9 or more

17. What is the number of people living with you in your household who depend on you
economically? **(depend1)**

    0   1   2   3   4   5   6   7   8   9 or more

18. How many of your dependents are under 18 years of age, or
receive old age pensions or disability pensions? **(depend2)**

    0   1   2   3   4   5   6   7   8   9 or more

19. Please state the number of persons living in your household, excluding yourself, who are not
working but are looking for work: **(lookwork)**

    0   1   2   3   4   5   6   7   8   9 or more

20. Excluding yourself, what was the average (over the last 3 months) gross (brutto) monthly
income including earnings (zarobki) pension (enerytura) or other sources for all persons in
your household?

    new zloty per month:_____   **(earn5)** (or a category) **(earn6)**

        a. have no data
        b. no response
        c. less than 300 pzl.
        d. between 301 and 600 pzl.
        e. between 601 and 900 pzl.
        f. between 901 and 1500 pzl.
        g. above 1500 pzl.

Date survey completed: Day:___ Month:_____ Year:___ **(compdate)**

Signature of interviewer: _____

Follow-up Survey for Public Works--page 1   Record Type - D

Name of Respondent: Unique respondent identifier: **(id)**
PESEL:
Public Works Project Code Number:
Address of Respondent (with postal code):
Date of leaving the public works program: mm/yy **(leavedte)**

1. When were you first employed on an public works project? **(empdate)**

    Year   yy   Month   mm

2. Please indicate which of the following best describes your main activity in each month.
(main0195-main1296)
   a. have no data
   b. non-subisidized job
   c. non-subsidized self-employment
   d. subisidized job (including public works)
   e. subsidized self-employment
   f. labor market program with no employment
   g. child care allowance, pension, military, or student
   h. unemployed and seeking a job
   i. out of work and not seeking a job
   j. different activities
   k. social assistance

2.1.	Jan. 1995	a	b	c	d	e	f	g	h	i	j	k
2.2.	Feb. 1995	a	b	c	d	e	f	g	h	i	j	k
2.3.	Mar. 1995	a	b	c	d	e	f	g	h	i	j	k
2.4.	Apr. 1995	a	b	c	d	e	f	g	h	i	j	k
2.5.	May. 1995	a	b	c	d	e	f	g	h	i	j	k
2.6.	Jun. 1995	a	b	c	d	e	f	g	h	i	j	k
2.7.	Jul. 1995	a	b	c	d	e	f	g	h	i	j	k
2.8.	Aug. 1995	a	b	c	d	e	f	g	h	i	j	k
2.9.	Sep. 1995	a	b	c	d	e	f	g	h	i	j	k
2.10.	Oct. 1995	a	b	c	d	e	f	g	h	i	j	k
2.11.	Nov. 1995	a	b	c	d	e	f	g	h	i	j	k
2.12.	Dec. 1995	a	b	c	d	e	f	g	h	i	j	k

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2.14.	Feb. 1996	a	b	c	d	e	f	g	h	i	j	k
2.15.	Mar. 1996	a	b	c	d	e	f	g	h	i	j	k
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2.18.	Jun. 1996	a	b	c	d	e	f	g	h	i	j	k
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2.20.	Aug. 1996	a	b	c	d	e	f	g	h	i	j	k
2.21.	Sep. 1996	a	b	c	d	e	f	g	h	i	j	k
2.22.	Oct. 1996	a	b	c	d	e	f	g	h	i	j	k
2.23.	Nov. 1996	a	b	c	d	e	f	g	h	i	j	k
2.24.	Dec. 1996	a	b	c	d	e	f	g	h	i	j	k

3. Are you now employed on a public works project? **(emppub)**

   a. have no data
   b. I don't know
   c. Yes
   d. No

4. Did your public works employer retain you as an employee after the wage subsidy stopped? **(retain)**

   a. have no data
   b. I don't know
   c. Yes
   d. No

5. Are you still working for the same employer who hired you for a public works project? **(stillemp)**

   a. have no data
   b. don't know
   c. Yes
   d. No

6. What was your average (brutto) monthly earnings during public works program?

    new zloty per month:_____ **(earning1)** (or a category) **(earning2)**

    a. have no data
    b. no response
    c. less than minimum wage
    d. minimum wage
    e. average wage
    f. above the average wage

7. Have you started a new job or self-employment since you first worked on an public works project? **(newjob)**

    a. have no data
    b. no response
    c. Yes, I gained a regular non-subsidized job
    d. Yes, I got a new job with subsidized wages
    e. No, I did not get employed

    (If you answered e, please skip forward to question 10.)

8. When did you start your first new job after the end of your first public works project? **(firstjob)**

    Year: ___ Month: _____

9. Did the public employment service help you to look for a job other than on an public works project? **(pubemp)**
    a. have no data
    b. I don't know
    c. Yes
    d. No
    e. question is skipped

10. Which of the following services of the public employment service did you use while looking for a job? (more than one response is acceptable) **(service1-service7)** 1=yes, 0=no
    a. have no data
    b. none - no response, **(service1)**
    c. job interview referrals, **(service2)**
    d. participating on other labor market programs, **(service3)**
    e. skills assessment and aptitude testing, **(service4)**
    f. counseling, **(service5)**
    g. job club, **(service6)**
    h. other, **(service7)**

11. Are you now employed or self-employed? **(empnow)**
    a.   have no data
    b.   no response
    c. Yes, I am employed
    d. Yes, I am self-employed
    e. No, I am not employed

12. What was your average (over the last 3 months) gross (brutto) monthly earnings (zarobki) on your last job prior to registering as unemployed at the beginning of your current spell?

    new zloty per month:_____ **(earn1)** (or a category) **(earn2)**
    a. have no data
    b. no response
    c. less than minimum wage
    d. minimum wage
    e. average wage
    f. above the average wage

13. What was your average (over the last 3 months) gross (brutto) monthly earnings (zarobki) on your most recent job?

    new zloty per month:_____ **(earn3)** (or a category) **(earn4)**
    a. have no data
    b. no response
    c. less than minimum wage
    d. minimum wage
    e. average wage
    f. above the average wage

14. If you are not currently employed, why are you not employed? (**notwhy**)
   a.   have no data
   b.   other reasons
   c.   I wanted a job, but there were no vacancies in my field
   d.   I wanted a job, but the wages offered were too low
   e.   I could not look for a job, because of health problems
   f.   I have been enrolled in evening or weekend school which
          makes it difficult for me to find a job
   g.   I am expecting to do military service soon

15. If you are not employed and not self-employed, what benefits do you receive? (**benefits**)
   a.   have no data
   b.   no response
   c.   Regular unemployment compensation
   d.   Social welfare benefit
   e.   Regular unemployment compensation and social welfare benefit
   f.   no benefits

16. Please state the number of people living with you in the same household: (**hhsize**)

   0   1   2   3   4   5   6   7   8   9 or more

17. Do you have a spouse living in the same household? (**spouse**)
   a.   have no data
   b.   Yes
   c   No (skip to question 19.)

18.   Is your spouse in a job or self-employed? (**spousemp**)
   a.   have no data
   b.   Yes
   c.   No
   d.   question is skipped

19. Total number of other employed and self-employed members of the houesehold (excluding
    yourself and your spouse): (**otheremp**)

   0   1   2   3   4   5   6   7   8   9 or more

20. What is the number of people living with you in your household who depend on you
    economically? **(depend1)**

   0   1   2   3   4   5   6   7   8   9 or more

21. How many of your dependents are under 18 years of age, or receive old age pensions or
    disability pensions? **(depend2)**

   0   1   2   3   4   5   6   7   8   9 or more

22. Please state the number of persons living in your household, excluding yourself, who are not
    working but are looking for work: **(lookwork)**

   0   1   2   3   4   5   6   7   8   9 or more

23. Excluding yourself, what was the average (over the last 3 months) gross (brutto) monthly
    income including earnings (zarobki) pension (enerytura) or other sources for all persons in
    your household?

   new zloty per month:_____ **(earn5)** (or a category) **(earn6)**

      a. have no data
      b. no response
      c. less than 300 pzl.
      d. between 301 and 600 pzl.
      e. between 601 and 900 pzl.
      f. between 901 and 1500 pzl.
      g. above 1500 pzl.

Date survey completed: Day:___ Month:_____ Year:____ **(compdate)**

Signature of interviewer: _____

Name of Respondent: Unique respondent identifier: **(id)**
PESEL:
Intervention Works Project Code Number: Address of Respondent (with postal code):
Date of leaving the intervention works program: __mm/yy__ **(leavedte)**

1. When were you first employed on an intervention works project?
    Year: __yy__ Month: ___mm___ **(empdate)**

2. Please indicate which of the following best describes your main activity in each month.
    (main0195-1296)
    a. have no data
    b. non-subisidized job
    c. non-subisidized self-employment
    d. subisidized job (including public works)
    e. subsidized self-employment
    f. labor market program with no employment
    g. child care allowance, pension, military, or student
    h. unemployed and seeking a job
    i. out of work and not seeking a job
    j. different activities
    k. social assistance

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2.7.	Jul. 1995	a	b	c	d	e	f	g	h	i	j	k
2.8.	Aug. 1995	a	b	c	d	e	f	g	h	i	j	k
2.9.	Sep. 1995	a	b	c	d	e	f	g	h	i	j	k
2.10.	Oct. 1995	a	b	c	d	e	f	g	h	i	j	k
2.11.	Nov. 1995	a	b	c	d	e	f	g	h	i	j	k
2.12.	Dec. 1995	a	b	c	d	e	f	g	h	i	j	k
2.13.	Jan. 1996	a	b	c	d	e	f	g	h	i	j	k
2.14.	Feb. 1996	a	b	c	d	e	f	g	h	i	j	k
2.15.	Mar. 1996	a	b	c	d	e	f	g	h	i	j	k
2.16.	Apr. 1996	a	b	c	d	e	f	g	h	i	j	k
2.17.	May 1996	a	b	c	d	e	f	g	h	i	j	k
2.18.	Jun. 1996	a	b	c	d	e	f	g	h	i	j	k

2.19.   Jul. 1996   a   b   c   d   e   f   g   h   i   j   k
2.20.   Aug. 1996   a   b   c   d   e   f   g   h   i   j   k
2.21.   Sep. 1996   a   b   c   d   e   f   g   h   i   j   k
2.22.   Oct. 1996   a   b   c   d   e   f   g   h   i   j   k
2.23.   Nov. 1996   a   b   c   d   e   f   g   h   i   j   k
2.24.   Dec. 1996   a   b   c   d   e   f   g   h   i   j   k

3. Are you now employed on an intervention works project? **(empiw)**

   a.   have no data
   b.   I don't know
   c.   Yes
   d.   No

4. Did your intervention works employer retain you as an employee after the wage subsidy
    stopped? **(retain)**

   a. have no data
   b. I don't know
   c. Yes
   d. No

5. Are you still working for the same employer who hired you for an intervention works project?
    (stillemp)

   a. have no data
   b. don't know
   c. Yes
   d. No

6. What was your average (brutto) monthly earnings during intervention works program?

   new zloty per month:_____ **(earning)** (or a category) **(earning2)**

      a. have no data
      b. no response
      c. less than minimum wage
      d. minimum wage
      e. average wage
      f. above the average wage

7. Have you started a new job or self-employment since you first worked on an intervention works project? **(newjob)**

    a. have no data
    b. no answer
    c. Yes, I gained a regular non-subsidized job
    d. Yes, I got a new job with subsidized wages
    e. No, I did not get employed

    (If the answer was e, please skip forward to question 10)

8. When did you start your first new job after the end of your first intervention works project? **(firstjob)**

    Year: ___ Month: _____

9. Did the public employment service help you to look for a job other than on an intervention works project? **(pubemp)**
    a. have no data
    b. no answer
    c. Yes
    d. No
    e. question is skipped

10. Which of the following services of the public employment service did you use while looking for a job? (more than one response is acceptable) **(service1-service2)** 1=yes, 0=no
    a. have no data
    b. none / no answer, **(service1)**
    c. job interview referrals, **(service2)**
    d. participating on other labor market programs, **(service3)**
    e. skills assessment and aptitude testing, **(service4)**
    f. counseling, **(service5)**
    g. job club, **(service6)**
    h. other, **(service7)**

11. Are you now employed or self-employed? **(empnow)**
    a. have no data
    b. no response
    c. Yes, I am employed
    d. Yes, I am self-employed
    e. No, I am not employed

12. What was your average (over the last 3 months) gross (brutto) monthly earnings (zarobki) on
    your last job prior to registering as unemployed at the beginning of your current spell?

    new zloty per month:_____ **(earn1)** (or a category) **(earn2)**
    a. have no data
    b. no response
    c. less than minimum wage
    d. minimum wage
    e. average wage
    f. above the average wage

13. What was your average (over the last 3 months) gross (brutto) monthly earnings (zarobki) on
    your most recent job?

    new zloty per month:_____ **(earn3)** (or a category) **(earn4)**
    a. have no data
    b. no response
    c. less than minimum wage
    d. minimum wage
    e. average wage
    f. above the average wage

14. If you are not currently employed, why are you not employed? **(notwhy)**
    a. have no data
    b. other reasons
    c. I wanted a job, but there were no vacancies in my field
    d. I wanted a job, but the wages offered were too low
    e. I could not look for a job, because of health problems
    f. I have been enrolled in evening or weekend school which
          makes it difficult for me to find a job
    g. I am expecting to do military service soon

15. If you are not employed and not self-employed, what benefits do you receive? **(benefits)**
    a. have no data
    b. no response
    c. Regular unemployment compensation
    d. Social welfare benefit
    e. Regular unemployment compensation and social welfare benefit
    f. no benefits

16. Please state the number of people living with you in the same household: **(hhsize)**

    0   1   2   3   4   5   6   7   8   9 or more

17. Do you have a spouse living in the same household? **(spouse)**
    a. have no data
    b. Yes
    c   No (skip to question 19.)

18.   Is your spouse in a job or self-employed? **(spousemp)**
    a. have no data
    b. Yes
    c. No
    d. question was skipped

19. Total number of other employed and self-employed members of the houesehold (excluding yourself and your spouse): **(otheremp)**

    0   1   2   3   4   5   6   7   8   9 or more

20. What is the number of people living with you in your household who depend on you economically? **(depend1)**

    0   1   2   3   4   5   6   7   8   9 or more

21. How many of your dependents are under 18 years of age, or receive old age pensions or disability pensions? **(depend2)**

    0   1   2   3   4   5   6   7   8   9 or more

22. Please state the number of persons living in your household, excluding yourself, who are not working but are looking for work: **(lookwork)**

    0   1   2   3   4   5   6   7   8   9 or more

23. Excluding yourself, what was the average (over the last 3 months) gross (brutto) monthly
    income including earnings (zarobki) pension (enerytura) or other sources for all persons in
    your household?

   new zloty per month: _____ **(earn5)** (or a category) **(earn6)**

       a. have no data
       b. no response
       c. less than 300 pzl.
       d. between 301 and 600 pzl.
       e. between 601 and 900 pzl.
       f. between 901 and 1500 pzl.
       g. above 1500 pzl.

Date survey completed: Day:___ Month:_____ Year:____ **(compdate)**

Signature of interviewer: _____

Name of Respondent: Unique respondent identifier: **(id)**
Project Code Number:
Address of Respondent (with postal code ccccc):
Date when first loan money was given to self-employed: mm/yy **(loandate)**

1. When did you start your first self-employment activity with the assistance from the Labor
    Fund? **(empstart)**

    Year   Month

2. Did you continue in your self-employment activity after the last payment from your
    self-employment loan? **(continue)**
    a. have no data
    b. I do not know/I do not understand
    c. Yes
    d. No, I gained employment in a regular non-subsidized job
    e. No, I gained employment in a subsidized job
    f. No, I became unemployed again

    (If answered d, e, or f please skip forward to question 5.)

3. Are you now continuing the same self-employment activity you started with the loan? **(same)**
    a. have no data
    b. I'm not sure
    c. Yes, I am currently self-employed
    d. No, I work for someone else (go to question 5.)
    e. No, I am unemployed (go to question 5.)
    f. question was skipped

4. Excluding yourself, how many people work in your self-employment activity? **(employ1)**
    a. have no data
    b. None
    c. some positive number of people hired

    4.c.1. Number of employees: 1 through 99 (99 = 99 or more) **(employ2)**

    4.c.2. Number hired who were previously unemployed:___ **(employ3)**

    d. question was skipped

5. How much of your own money have you invested in your self-employment activity?
    (ownmoney)

    a. have no data
    b. none
    c. less than 5,000 pzl.
    d. between 5,000 and 20,000 pzl.
    e. more than 20,000 pzl.

6. What are the prospects for your self-employment activity?   **(prospect)**

    a. have no data
    b. It can be expanded

      6.b.1: Number of employees who will be hired: _____   **(prospct2)**

    c. It will remain stable
    d. I am uncertain about the future
    e. I plan to stop the activity
    f. question was skipped

7. In starting your self-employment activity, how valuable was the assistance you received from
    the Labor Fund? **(value)**

    a. have no data
    b. I don't know
    c. extremely valuable
    d. very valuable
    e. valuable
    f. of little value
    g. worthless

8. If you had not received assistance from the labor fund, would you have started your
    self-employment? **(started1)**

    a. have no data
    b. don't know
    c. yes
    d. no

9. If you had not received assistance from the labor fund, might you have started your self-employment later? **(started2)**

    a. have no data
    b. don't know
    c. yes
    d. no

10. Please indicate which of the following best describes your main activity in each month.
    (main0195-main1296)
    a. have no data
    b. non-subisidized job
    c. non-subsidized self-employment
    d. subisidized job (including public works)
    e. subsidized self-employment
    f. labor market program with no employment
    g. child care allowance, pension, military, or student
    h. unemployed and seeking a job
    i. out of work and not seeking a job
    j. different activities
    k. social assistance

10.1.	Jan. 1995	a	b	c	d	e	f	g	h	i	j	k
10.2.	Feb. 1995	a	b	c	d	e	f	g	h	i	j	k
10.3.	Mar. 1995	a	b	c	d	e	f	g	h	i	j	k
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10.13.	Jan. 1996	a	b	c	d	e	f	g	h	i	j	k
10.14.	Feb. 1996	a	b	c	d	e	f	g	h	i	j	k
10.15.	Mar. 1996	a	b	c	d	e	f	g	h	i	j	k
10.16.	Apr. 1996	a	b	c	d	e	f	g	h	i	j	k
10.17.	May 1996	a	b	c	d	e	f	g	h	i	j	k
10.18.	Jun. 1996	a	b	c	d	e	f	g	h	i	j	k

10.19. Jul. 1996   a   b   c   d   e   f   g   h   i   j   k
10.20. Aug. 1996   a   b   c   d   e   f   g   h   i   j   k
10.21. Sep. 1996   a   b   c   d   e   f   g   h   i   j   k
10.22. Oct. 1996   a   b   c   d   e   f   g   h   i   j   k
10.23. Nov. 1996   a   b   c   d   e   f   g   h   i   j   k
10.24. Dec. 1996   a   b   c   d   e   f   g   h   i   j   k

11. Which of the following services of the public employment service did you use while looking
    for a job? (more than one response is acceptable) **(service1-service7)** 1=yes, 0=no
    a. have no data
    b. none, **(service1)**
    c. job interview referrals, **(service2)**
    d. participating on other labor market programs, **(service3)**
    e. skills assessment and aptitude testing, **(service4)**
    f. counseling, **(service5)**
    g. job club, **(service6)**
    h. other, **(service7)**

12. Did the public employment service help you to become employed? **(pubemp)**
    a. have no data
    b. I do not know/I do not understand
    c. Yes
    d. No

13. What was your average (over the last 3 months) gross (brutto) monthly earnings (zarobki) on
    your last job prior to registering as unemployed at the beginning of your current spell?
         new zloty per month:_____ **(earn1)** (or a category) **(earn2)**

    a. have no data
    b. no response
    c. less than minimum wage
    d. minimum wage
    e. average wage
    f. above the average wage

14. What was your average (over the last 3 months) gross (brutto) monthly earnings (zarobki) on
    your most recent job?

     new zloty per month: _____   **(earn3)** (or a category) **(earn4)**

     a. have no data
     b. no response
     c. less than minimum wage
     d. minimum wage
     e. average wage
     f. above the average wage

15. If you are not currently employed, why are you not employed? **(notwhy)**
     a. have no data
     b. other reasons
     c. I wanted a job, but there were no vacancies in my field
     d. I wanted a job, but the wages offered were too low
     e. I could not look for a job, because of health problems
     f. I have been enrolled in evening or weekend school which
        makes it difficult for me to find a job
     g. I am expecting to do military service soon

16. If you are not employed and not self-employed, what benefits do you receive? **(benefits)**
     a. have no data
     b. no response
     c. Regular unemployment compensation
     d. Social welfare benefit
     e. Regular unemployment compensation and social welfare benefit
     f. no benefits

17. Please state the number of people living with you in the same household: **(hhsize)**

   0   1   2   3   4   5   6   7   8   9 or more

18. Do you have a spouse living in the same household? **(spouse)**
     a. have no data
     b. Yes
     c   No (skip to question 20.)

19. Is your spouse in a job or self-employed? **(spousemp)**
    a. have no data   c. No
    b. Yes   d. question was skipped

20. Total number of other employed and self-employed members of the houesehold (excluding
    yourself and your spouse): **(otheremp)**

    0 1 2 3 4 5 6 7 8 9 or more

21. What is the number of people living with you in your household who depend on you
    economically? **(depend1)**

    0 1 2 3 4 5 6 7 8 9 or more

22. How many of your dependents are under 18 years of age, or receive old age pensions or
    disability pensions? **(depend2)**

    0 1 2 3 4 5 6 7 8 9 or more

23. Please state the number of persons living in your household, excluding yourself, who are not
    working but are looking for work: **(lookwork)**

    0 1 2 3 4 5 6 7 8 9 or more

24. Excluding yourself, what was the average (over the last 3 months) gross (brutto) monthly
    income including earnings (zarobki) pension (enerytura) or other sources for all persons in
    your household?

    new zloty per month: _____   **(earn5)** (or a category) **(earn6)**

    a. have no data   e. between 601 and 900 pzl.
    b. no response   f. between 901 and 1500 pzl.
    c. less than 300 pzl.   g. above 1500 pzl.
    d. between 301 and 600 pzl.

Date survey completed: Day:____ Month:_____ Year:____ **(compdate)**

Signature of interviewer: _____

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Appendix B

Notes on Evaluation Methodology

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Notes on Evaluation Methodology[67]

Since there is a possibility of selection bias in assigning registered unemployed to active labor programs (ALPs), special care must be taken in evaluating the impacts of these programs on labor market success. To appreciate the results presented in this report, it is useful to have knowledge of three separate ways net program impact estimation methods: (1) simple unadjusted comparison of means, (2) comparison of means using a matched pairs comparison group, and (3) regression adjusted impact estimates. The following is a brief description of each of these procedures. Also given is a concise statement of the subgroup impact estimation methodology.

Unadjusted Impact Estimates

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.[68] When random assignment has been achieved, modeling of behavior and complex econometric methods are not needed to estimate reliable 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, or:

(1) $E(y_p) - E(y_c),$

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[67]A major part of the review presented in this appendix is adapted from O'Leary (1997).

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

where E is the expectation operator yielding means of the random variables, y is an outcome of interest, and the index p denotes the sample of program participants while c denotes the comparison sample. Tests of significance are done using t-statistics.

The result of the computation stated in equation (1) is equivalent to the slope coefficient estimated by ordinary least squares (OLS) applied to a simple bivariate regression model. That is, program impacts can be estimated by running the OLS model:

(2) $y_i = a_0 + a_1 P_i + u_i,$

on a pooled sample of comparison group members and program participants, where y is the outcome of interest, a_1 is the impact of the program on the outcome for the ALP participants, a_0 is the mean value of the outcome for comparison group members, P is a dummy variable with a value of 1 for active labor program (ALP) participants and 0 otherwise, u_i is a normally distributed mean zero error term, and i is an index denoting individuals in either the participant or comparison group samples. Tests for significance of program impacts are simply t-tests on the parameter a_1.

Given that the ALP participant and comparison group samples were matched prior to conducting the surveys, most of the basic program impact estimates presented in this report were computed by a simple difference of means.

Impact Estimates Using a Matched Pairs Comparison Group

When participant group and comparison group members differ significantly in terms of observable characteristics, it would not be surprising to observe different labor market success across program participant and comparison groups even in the absence of ALPs. To put the

assessment of ALPs on an even footing, a separate comparison group for each sample of ALP participants may be formed using a matched pairs methodology.[69]

For this study in Poland comparison groups were strategically selected by comparing persons in the unemployment register with those in the ALP participant samples using the standardized Mahalanobis distance measure:

(3) $d_{pc} = Sum_k (Z_{pk} - Z_{ck})^2$

where, the index p represents observations in an ALP participant sample and the index c represents observations from the unemployment register, the index k runs over the n exogenous characteristics on which the observations are matched, and Z represents the standardized value of a characteristic where the mean and standard deviation of the characteristic is computed on the pooled sample of the comparison group sampling frame and the participants in the relevant ALP.

Using this distance measure, separate comparison groups were selected for each ALP. The person with the smallest d_{pc} from the comparison group sampling frame was selected for inclusion in the comparison group, with ties being resolved randomly and each person in the ALP sample being compared to all those remaining in the comparison group sampling frame.[70]

After forming the comparison groups, program impact estimates were computed using a simple difference of means, with significance of impacts being judged by t-tests.

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[69]See Fraker and Maynard (1987) for an interesting review and application of comparison group designs for evaluating employment-related programs.

[70]That is, sampling was done without replacement.

Regression Adjusted Impact Estimates

Multivariate regression analysis is a natural method for assessing the net impact of program participation on labor market success when observable characteristics of participant and comparison group members are dramatically different. This method involves a simple extension of equation (2). In such cases, estimation of the model:

(4) $y_i = a_0 + a_1 P_i + b_1 X_{1i} + b_2 X_{2i} + ...+ b_n X_{ni} + u_i,$

by OLS on the pooled sample yields net program impact estimates.[71] In equation (4) y is the outcome of interest, a_0 is the mean value of the outcome for comparison group members evaluated at the mean of all observable characteristics included in the regression, P is a dummy variable with a value of 1 for program participation and 0 otherwise, a_1 is the impact of the program on the outcome for the program participants evaluated at the mean of all observable characteristics, X_1 to X_n are observable characteristics measured as deviations from their mean values, u_i is a normally distributed mean zero error term, and i is an index denoting individuals in either the participant or comparison group samples.[72]

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[71]In this report, since the main dependent variable of interest—in a normal job—is binary, the regression model predicts the probability of reemployment. The OLS estimation is a linear probability model, which may yield biased estimates. OLS estimates may be biased since the range of variation in the dependent variable is constrained to the zero-one interval. Maddala (1982, Chapter 1) suggests using the logit estimator in such cases. Bias is usually most severe when the bulk of probability clusters at one or other extreme of the zero-one interval Since reemployment probabilities for the ALP and comparison groups generally range from about 40 to 60 percent, the limited range of the dependent variable is not a likely source of severe bias in estimating parameters by OLS.

[72]In this application the regression model is a statement of an analysis of covariance methodology, where X_1 to X_n are the covariates. Mohr (1992, pp. 83-87) discusses extending a regression model for program impacts to include control variables.

This method yields net program impacts adjusted for observable characteristics.[73] The estimates are called net because, the comparison and program participant groups are statistically adjusted so as to remove heterogeniety across the samples. That is, the only remaining factor contributing to a difference in the outcome measure is exposure to the program treatment. The estimation methodology nets out all other observable factors affecting the outcome.

Subgroup Net Impact Estimation Methodology

For each separate ALP, subgroup treatment impacts were simultaneously estimated in a single regression model. The specification employed allows the treatment response for each subgroup to be estimated controlling for the influence of other subgroup characteristics. For example, the model allows estimation of treatment impacts associated with being female controlling for the fact that females are more likely to have more formal education and less likely to work in a blue-collar occupation.

Suppressing subscripts and using matrix notation, the regression equation used to estimate subgroup net impact estimates can be written:

(5) $Y = a + PB + GC + GPD' + u$

where Y is the outcome measure, a is the intercept, B, C, and D, are conformable parameter vectors, P is the indicator of participation in an ALP, G is the matrix of dummy variables which code for membership in a subgroup, and u is a mean zero normally distributed random error term. Equation (5) specifies a complete one-way interaction model. It allows simultaneous estimation of all subgroup treatment impacts, but imposes linear restrictions on the estimates. Treatment

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[73]The obvious next procedure to adjust for differences across samples is to account for differences in unobservable characteristics. The technique, which involves applying the methods of Heckman (1976), is problematic because instruments are usually not available to explain program participation independent of reemployment success.

impacts for a particular subgroup are computed as the sum of the parameter estimate on the product of the subgroup dummy variable and the treatment indicator plus the sum of parameter estimates on the product of subgroup dummy variables and the treatment indicator multiplied by their respective population shares. In each computation, parameter estimates for the complement to the subgroup of interest are omitted.

The subgroup impact estimates may be considered to be regression adjusted in the sense that each subgroup impact is estimated while simultaneously allowing impacts to vary across other subgroups considered.

Methodology for Estimation of Program Components

To estimate the impact of separate features of an ALP on outcomes of interest, new program variables are defined from the single program variable P_i such that the vectors for the new variables add up to the vector for the old variable. For example, if P_i has a value of 1 if participated in an ALP and 0 otherwise, to examine the separate impacts of the ALP operated by public and private enterprises on outcomes of interest we may define $P_{1i} = 1$ if participated in an ALP operated by a public enterprise and 0 otherwise, and $P_{2i} = 1$ if participated in an ALP operated by a private enterprise and 0 otherwise. Therefore $P_i = P_{1i} + P_{2i}$, and the separate impacts of the ALP run by public and private enterprises on outcomes of interest can be estimated by OLS regression applied to a simple model like:

(6) $y_i = b_0 + b_1 P_{1i} + b_2 P_{2i} + u_i.$

From this model the parameter estimate for b_1 is the impact of intervention works run by public enterprise on outcome of interest, while b_2 is the impact of intervention works run by private enterprise. The model of equation (6) can be applied to other partitions of the program experience, such as short and long duration participation, or to partitions which are more than

two way, such as three industry groups for program operators. This method was used in sections 4.4, 5.4, 6.4, 7.4, and 8.4 in this report.

Notice, that in this case the full set of indicator variables is included in the equation for OLS estimation. For this procedure the full set of program treatment indicators does not introduce singularity in estimation, because the program vectors include data on both program participants and comparison group members.   Equation (6) also presumes that the participant and comparison groups are homogenous in observable characteristics. If this is not the case, control variables should be added to the specification as was shown in equation (4).

Method for Separating out Impacts of Multiple Programs

It is very possible that an individual may have participated in more than one ALP. In particular, it is a frequent occurance that a participant in an ALP such as retraining or public works will also use the services of the employment service (ES) in an effort to gain reemployment. To estimate the impact of a single program when some in a sample being analyzed have used more than one program, a simple regression model may be used. Suppose that someone uses both an ALP and the ES, then a model like the following might be estimated:

(7) $y_i = a_0 + b_1 ALP_i + b_2 ES_i + b_3 ALP_i * ES_i + c_1 X_i + u_i,$

where ALP represents participation in an ALP, ES represents use of an ES service, X represents 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 OLS, 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. Similarly the marginal effect of the ES on y is estimated by the sum of $b_2 + b_3 * E(ALP)$. Tests of confidence on these sums of estimates may easily be performed as F-tests.

Methods for Analysis of the Timing of Response

To examine the impact of ALP participation on the time pattern of reemployment, conditional exit rates are examined for each month. The exit rate is computed by dividing the number of registered unemployed who left the register for reemployment in a given month by the number of claimants in the group at the start of that month. Letting h(t) denote the conditional exit rate in month t, and R_t the number of registered unemployed at the start of month t, then

(8) $h(t) = (R_t - R_{t+1})/R_t,$

is a conditional measure of a change in behavior because it depends on the number who had yet to change their behavior regarding the outcome at the start of each month (R_t). The expression h(t) is the popular Kaplan-Meier exit rate discussed thoroughly by Kiefer (1988). The number of registered unemployed at the start of each time period (R_t) is called the "risk set" because it is the number of job seekers "at risk" of changing behavior in the subsequent month. Note that in the tables in Sections 4.5, 5.5, 6.5, and 7.5 in this report it is always the case that the risk set in month t+1 equals the risk set in the previous month times one minus the exit rate for that month [$R_{t+1} = R_t (1 - h(t))$].

Sample Size Requirements for Power Tests of ALP Effects

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. 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, $f(p) = 2\arcsin \sqrt{p}$ and the effect size is h = |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 (p_p - p_c) = 0.05 when p_p is around 0.5 then h = 0.1. To perform

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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 $[(p_p - p_c) = 0.05]$ are smaller.

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