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Methods for Evaluating Employment Programs in Sofia, Bulgaria

Christopher J. O'Leary
W.E. Upjohn Institute for Employment Research, oleary@upjohn.org

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Authors
Christopher J. O'Leary, *W.E. Upjohn Institute for Employment Research*

Upjohn Author(s) ORCID Identifier
https://orcid.org/0000-0002-3372-7527

February, 2004
Schedule in Sofia, Bulgaria

Overview:

Tuesday, February 24– arrive in Sofia
Wednesday, February 25 – morning seminars, afternoon consultations
Thursday, February 26 – morning seminars, afternoon consultations
Friday, February 27 – further consultations including visits to regional and local offices
Saturday, February 28 – leisure
Sunday, September 29 – depart Sofia

Tuesday, February 24– arrive in Sofia

Met at the airport by representatives of the USAID employment and pension project.

19:00 Chris, George and Piotr meet in the hotel lobby for dinner.

Wednesday, February 25, 2004

8:30 Informal Introductions at the Ministry of Labor

9:00 Opening Session of Seminars on Evaluating Employment Programs

Welcome by the Bulgarian host
Overview of the agenda

9:15 An Overview of Evaluation Methods–O'Leary

10:00 Question and Answer period

10:15 Coffee Break

10:30 Experience with Performance Indicators in Hungary--Lazar

10:45 Question and Answer period

11:00 Experience with Performance Indicators in Poland--Kolodziejczyk

11:15 Question and Answer period

11:30 Experience with Performance Indicators in Bulgaria--Local Expert

11:45 Question and Answer period

12:00 General discussion of topics covered in the morning

12:15 Lunch

13:30 Consultations with the Bulgarian side on future plans for performance monitoring.

15:00 Visit staff of Labor Ministry participant computer records section

16:00 Visit employment analysts in national statistics office

Thursday, February 25, 2004

9:00 Conducting a Net Impact Evaluation–O'Leary

9:30 Question and Answer period

9:45 Net Impact Evaluation Experience in Poland–Kolodziejczyk

10:00 Question and Answer period

10:15 Break

10:30 Net Impact Evaluation Experience in Hungary–Lazar

10:45 Question and Answer Period

11:00 Net Impact Evaluation Experience in Bulgaria–Local Expert

11:15 Question and Answer Period

11:30 New Evaluation Projects in Hungary—Lazar

11:45 General Discussion of Net Impact Evaluation

12:00 Lunch

13:30 Consultations with Bulgarian side on future plans for net impact evaluation

15:00 Visit employment analysts in national labor office

16:00 Meet with Labor Ministry policy analysts

Friday, February 26, 2004

9:00 Visit a Regional Labor Office

Examine data systems and management practices

13:30 Visit a Local Labor Office

Examine program enrollment and data records practices

Review reporting procedures and use of performance management data

Saturday, February 27, 2004

Leisure time. Perhaps a trip to the mountains surrounding Sofia.

Sunday, February 28, 2004

Depart Sofia for home.

Conducting a (Quasi-Experimental) Net Impact Evaluation

1. Evaluation Design Principles
2. Collecting data
3. Preliminary examination of data
4. Computation of overall program net impacts
5. Subgroup impact estimates
6. Impact of program features

1. Evaluation Design Principles

A comparison group design
Uniform eligibility conditions
Sufficient sample design
Equal probability in sampling
Operational design simplicity
Standard treatment delivery
Reasonable cost
Practical time line
Stable evaluation context
Account for other programs.

A Comparison Group Design

- Pre versus post program participation
- Participant versus comparison group

2. Collecting data

Administrative and Survey Data
Sample Size
Accounting for response rate and contamination
Site Selection
Sample selection
Survey Design
Survey Implementation

Table 4.3 Sample Size Requirements for Net Impact Evaluation

	Sample size for statistical tests with two-tailed confidence of 0.98 or 0.90 and effect size 1.0			
	Tests of proportions		Tests of means	
Power	0.98	0.9	0.98	0.9
0.25	546	188	547	189
0.5	1082	541	1083	542
0.6	1331	721	1332	721
0.67	1520	862	1552	862
0.7	1625	941	1627	942
0.75	1801	1076	1803	1076
0.8	2007	1237	2009	1237
0.85	2262	1438	2263	1438
0.9	2603	1713	2605	1713
0.95	3154	2164	3155	2165
0.99	4330	3154	4330	3155

Notes: Adapted from Cohen (1988). Sample size for tests of proportions from Table 6.4.1., page 205, and for tests of means from Table 2.4.1, page 54.

Survey Implementation

(a) training survey workers
(b) pilot testing the questionnaires
(c) revising questionnaires
(d) printing questionnaires
(e) distributing address lists and questionnaire copies to survey workers
(f) maintaining records of multiple call back attempts
(g) supervising accuracy and completeness
(h) computer key entry of survey data gathered
(i) error checking the computer files of survey data

3. Preliminary Examination of the Data

Response rate
Comparison of sample sizes to sample design
Contrast characteristics of samples

Table 4.5 Sample Sizes Designed, Drawn, and Interviewed in Hungary by ALMP

ALMP	Sample design	Sample drawn	Sample interviewed	Response rate
Individual training	1500	1555	1222	78.6
Group training	1500	1546	1321	85.4
Public service employment	1100	1356	1140	84.1
Wage subsidy	1500	1438	1131	78.7
Self-employment	1400	1257	1067	84.9
Comparison group	4000	4415	3338	75.6

Source: O'Leary (1998).

Table 7.1 Comparison Group and Wage Subsidy Means and Differences on Exogenous Characteristics

	Comparison Group	Wage Subsidy	Difference	*t*-statistic on Difference	Comparison Sample Size	Participant Sample Size
Avg. Mo. Earnings	15170	12828	-2342**	5.40	3338	1131
Age	33.91	33.79	-0.12	0.32	3338	1131
Male	0.56	0.56	0.00	0.07	3338	1131
Elementary Educ	0.35	0.26	-0.08**	5.24	3338	1131
Vocational Educ	0.41	0.43	0.02	1.02	3338	1131
Gymnazium Educ	0.21	0.27	0.05**	3.82	3338	1131
University Educ	0.03	0.04	0.01**	2.00	3338	1131
Manual	0.86	0.93	0.07**	2.25	332	141
Non-manual	0.14	0.07	-0.07**	2.25	332	141
Public Admin	0.02	0.03	0.01**	2.15	3337	1130
Professional	0.03	0.03	0.00	0.70	3337	1130
Technical	0.06	0.07	0.01	1.05	3337	1130
Clerical	0.08	0.10	0.02*	1.66	3337	1130
Service	0.12	0.11	-0.02	1.39	3337	1130
Skilled labor	0.03	0.03	0.00	0.13	3337	1130
Craft	0.29	0.36	0.08**	4.96	3337	1130
Machinist	0.10	0.11	0.02	1.60	3337	1130
Unskilled labor	0.26	0.15	-0.11**	7.67	3337	1130
Armed forces	0.00	0.00	0.00	0.03	3337	1130
Married	0.62	0.60	-0.02	1.12	3214	1091
Spouse working	0.64	0.65	0.00	0.20	1972	642
Dependents	0.46	0.53	0.07**	2.64	3338	1131
Pension	0.32	0.34	0.02	0.95	3338	1131
Kids under 6	0.32	0.24	-0.08**	3.72	3338	1131
Kids over 6	0.78	0.82	0.05	1.48	3338	1131
Family Earnings	38752	43151	4399**	3.78	3338	1131
COUNTY1	0.09	0.05	-0.03**	3.73	3338	1131
COUNTY2	0.09	0.10	0.01	0.73	3338	1131
COUNTY4	0.09	0.10	0.01	1.26	3338	1131
COUNTY5	0.13	0.19	0.06**	4.76	3338	1131
COUNTY6	7.00	0.10	0.02**	2.57	3338	1131
COUNTY7	0.09	0.10	0.01	0.86	3338	1131
COUNTY9	0.12	0.09	-0.03**	2.47	3338	1131
COUNTY13	0.12	0.04	-0.08**	7.98	3338	1131
COUNTY15	0.13	0.14	0.01	0.85	3338	1131
COUNTY18	0.07	0.10	0.02**	2.35	3338	1131

* 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.

4. Computation of overall program net impacts

Unadjusted difference between means on outcomes – Gross Impacts

$$E(y_p) - E(y_c),$$

$$y_i = a_0 + a_1 P_i + u_i,$$

Differences in means adjusted for characteristics – Net Impacts

$$y_i = a_0 + a_1 P_i + b_1 X_{1i} + b_2 X_{2i} + ... + b_n X_{ni} + u_i,$$

$$d_{pc} = Sum_k (Z_{pk} - Z_{ck})^2$$

$$y_i = a_0 + a_1 P_i + u_i,$$

Methods of adjusting for characteristics

- Matching on observable characteristics
- Matching on observable and unobservable characteristics
- Regression adjustment for observable characteristics
- Regression adjustment for observable and unobservable characteristics
- Differences in Differences

5. Estimation of program impacts by sub-group

$$Y = a + PB + GC + GPD' + u$$

6. Estimating impacts of program features

$$y_i = b_0 + b_1 P_{1i} + b_2 P_{2i} + u_i.$$

Method for Separating out Impacts of Multiple Programs

$$y_i = a_0 + b_1 ALMP_i + b_2 ES_i + b_3 ALMP_i\, ES_i + c_1 X_i + u_i,$$

Table 7.2.1 Wage Subsidy Impact Estimates on Employment and Earnings

HUNGARY	Control Group	Wage Subsidy	Impact	*t*-statistic on impact	Comparison Sample	Participant Sample
Unadjusted						
EMPLOY1	0.54	0.71	0.17**	9.96	3338	1131
EMPLOYS1	0.55	0.24	0.24**	14.42	3338	1131
EMPLOY2	0.43	0.20	0.20**	11.90	3338	1131
EMPLOYS2	0.44	0.21	0.21**	12.60	3338	1131
EARN1	18202	2538	2538**	3.51	1734	182
EARN2	22129	-660	-660*	1.70	1426	743
Regression Adjusted						
EMPLOY1	0.54		-0.09**	4.68	3213	1090
EMPLOYS1	0.55		0.00	0.06	3213	1090
EMPLOY2	0.43		-0.02	1.12	3213	1090
EMPLOYS2	0.44		0.00	0.11	3213	1090
EARN1	18202		2070**	2.99	1681	178
EARN2	22129		-1235**	3.04	1382	713
Matched Pairs						
EMPLOY1	0.81	0.71	-0.10**	5.57	1130	1130
EMPLOYS1	0.81	0.79	-0.02	1.32	1130	1130
EMPLOY2	0.65	0.63	-0.02	1.23	1130	1130
EMPLOYS2	0.66	0.65	-0.01	0.31	1130	1130
EARN1	18523	20740	2217**	2.69	881	182
EARN2	24170	21469	-2701**	5.76	709	743
ES Interact						
EMPLOY1	0.54		-0.11**	8.73	3213	1090
EMPLOYS1	0.55		-0.01**	4.15	3213	1090
EMPLOY2	0.43		-0.06**	7.51	3213	1090
EMPLOYS2	0.44		-0.03**	5.91	3213	1090
EARN1	18202		1836	0.28	1681	178
EARN2	22129		-1120	1.05	1382	713
Sample	3338	1131				

* 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.
EMPLOY1 - Ever reemployed in a non-subsidized job or self-employment
EMPLOYS1 - Ever reemployed in any job or self-employment
EMPLOY2 - Employed in a non-subsidized job or self-employment on the survey date
EMPLOYS2 - Employed in any job or self-employment on the survey date
EARN1 - Average monthly earnings at the start of the first new job or self-employment
EARN2 - Average monthly earnings from the job or self-employment on the survey date

Table 7.2.2 Treatment and Comparison Group Differences for Exogenous Variables Matched Pair Analysis of the Wage Subsidy

	Comparison Group	Wage Subsidy	Difference	*t*-statistic on Difference	Comparison Sample Size	Participant Sample Size
Avg. Mo. Earnings	16661	12835	-3827**	7.03	1130	1130
Age	33.86	33.79	-0.07	0.16	1130	1130
Male	0.59	0.56	-0.03	1.45	1130	1130
Elementary Educ	0.27	0.26	0.00	0.24	1130	1130
Vocational Educ	0.43	0.43	0.00	0.09	1130	1130
Gymnazium Educ	0.26	0.27	0.01	0.33	1130	1130
University Educ	0.04	0.04	0.00	0.0	1130	1130
Manual	0.86	0.94	0.09**	2.45	138	140
Non-manual	0.14	0.06	-0.09**	2.45	138	140
Public Admin	0.03	0.04	0.00	0.36	938	681
Professional	0.03	0.02	0.00	0.46	938	681
Technical	0.05	0.08	0.03**	2.18	938	681
Clerical	0.09	0.07	-0.02	1.09	938	681
Service	0.12	0.11	0.00	0.04	938	681
Skilled labor	0.02	0.05	0.03**	3.19	938	681
Craft	0.36	0.34	-0.03	1.05	938	681
Machinist	0.15	0.13	-0.02	1.20	938	681
Unskilled labor	0.15	0.16	0.01	0.58	938	681
Armed forces	0.00	0.00	0.00	1.00	938	681
Married	0.64	0.60	-0.04**	2.15	1100	1090
Spouse working	0.65	0.65	-0.01	0.31	688	641
Dependents	0.44	0.53	0.09**	2.63	1130	1130
Pension	0.31	0.34	0.03	1.14	1130	1130
Kids under 6	0.32	0.25	-0.07**	3.01	1130	1130
Kids over 6	0.82	0.82	0.01	0.17	1130	1130
Family Earnings	41507	43164	1657	1.39	1130	1130
COUNTY1	0.05	0.05	0.00	0.00	1130	1130
COUNTY2	0.10	0.10	0.00	0.21	1130	1130
COUNTY4	0.10	0.10	0.00	0.21	1130	1130
COUNTY5	0.18	0.19	0.00	0.16	1130	1130
COUNTY6	0.10	0.10	0.00	0.14	1130	1130
COUNTY7	0.10	0.10	0.00	0.00	1130	1130
COUNTY9	0.09	0.10	0.00	0.00	1130	1130
COUNTY13	0.04	0.04	0.00	0.24	1130	1130
COUNTY15	0.14	0.14	0.00	0.06	1130	1130
COUNTY18	0.10	0.10	0.00	0.21	1130	1130

*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.

Table 7.3 Net Impact Estimates of the Wage Subsidy by Subgroup

	EMPLOY1	EMPLOYS1	EMPLOY2	EMPLOYS2	EARN1	EARN2
MALE - Respondent is male	-0.006	0.071**	0.037	0.075**	1850*	-837#
FEMALE - Respondent is female~	0.034	0.121**	0.076**	0.105**	2297*	630
AGELT30 - Age < 30	-0.005	0.091**	0.029	0.067**	-639##	-655
AGE3044 - Age between 30 and 44	0.015	0.073**	0.059*	0.085**	1339##	491
AGEGE45 - Age is 45 or over~	0.039	0.138**	0.098**	0.139**	8989**	-532
EDELEM - 8 years of schooling	0.019	0.122**	0.089**	0.125**	-590	-127
EDVOC - Vocational	-0.002	0.080**	0.030	0.057*	4913**	142
EDGYM - General secondary	0.043	0.087**	0.065	0.106**	700	-482
EDCOLL - Some higher education~	-0.102	0.024	-0.049	-0.002	1194	-2900
WHITECOL - Non-manual occupation	0.046	0.148**	0.059	0.086*	1544	-1101
BLUECOL - Manual occupation	0.003	0.080**	0.053**	0.089**	2172**	37
LOST - Earlier lost job	0.063*##	0.148**##	0.077**	0.133**##	1605	131
SCHOOL - Earlier school leaver	0.064	0.157*	0.128	0.109	4086	3287#
OTHER - Earlier other~	-0.072**	0.004	0.008	0.020	2304**	-1285**
LTU - Long-term unemployed	0.328	0.121**	0.084**	0.117**	-400#	1108#
NONLTU - Not unemployed long term~	0.005	0.085**	0.045*	0.079**	2814**	-592
LOWURATE - Low unemployment area	0.076*##	0.131**	0.036	0.086**	1499	-305
MEDURATE - Med unemployment area	0.044##	0.096**	0.113**##	0.144**##	496##	-69
HIURATE - High Unemployment area~	-0.058**	0.067**	0.012	0.038	3843**	-221
Baranya - County 2	0.051	0.120**	0.113**	0.161**	3737	690
Bekes - County 4	0.089	0.140**	0.053	0.131**	2028	-125
Borsod - County 5	0.083*	0.184**	0.081*	0.122**	6012**	481
Csongrad - County 6	0.088	0.163**	0.138**	0.154**	267	-3010**
Fejer - County 7	0.159**	0.185**	0.185**	0.197**	262	1834
Hajdu - County 9	-0.186**##	-0.102*##	-0.098*	-0.090*##	1573	-1142
Pest - County 13	0.156**	0.195**	0.100	0.150*	-1819	-2404
Szabolcs - County 15	-0.086*##	0.141**	0.055	0.073	787	-750
Vas - County 18	0.048	0.144**	0.017	0.042	3111	1284
Budapest - Capital City 1~	0.101	0.145**	0.048	0.130*	2353	-119

* 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.
EMPLOY1 - Ever reemployed in a non-subsidized job or self-employment
EMPLOYS1 - Ever reemployed in any job or self-employment
EMPLOY2 - Employed in a non-subsidized job or self-employment on the survey date
EMPLOYS2 - Employed in any job or self-employment on the survey date
EARN1 - Average monthly earnings at the start of the first new job or self-employment
EARN2 - Average monthly earnings from the job or self-employment on the survey date

Table 7.4 Regression Adjusted Impacts of Various Aspects of Wage Subsidies

	Participant Group Proportion	EMPLOY1	EMPLOYS1	EMPLOY2	EMPLOYS2	EARN1	EARN2

Matched Comparison Mean		0.81	0.81	0.65	0.66	18523	24170
Adjusted Wage Subsidy Impact		-0.10**	-0.02	-0.02	-0.01	2271**	-2701**
Wage Subsidy Job Skill Level							
Non-manual	0.160	-0.082**	-0.002	-0.042	-0.011	2308	-1595**
Manual unskilled	0.129	-0.118**	-0.035	-0.059	-0.041	1191	-1518
Manual semi-skilled	0.278	-0.078**	0.028	-0.002	0.022	-125	-1155*
Manual skilled	0.433	-0.082**	-0.009	-0.012	0.008	3070**[c]	-1073**
Industry of Wage Subsidy Job							
Agriculture	0.095	-0.104**	0.011	0.018	0.040	3227	-961
Construction	0.075	-0.152**	-0.088*	-0.174**[a]	-0.167**[a]	-1096	3
Services	0.428	-0.082**	-0.007	-0.047*[b]	-0.019[b]	3083**	-2171**
Other	0.401	-0.071**	0.020[b]	0.028[bc]	0.050**[bc]	1304	-339[c]
Participant Sample Size	1131	1090	1090	1090	1090	178	713
Comparison Sample Size		3213	3213	3213	3213	1681	1382

*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.
EMPLOY1 - Ever reemployed in a non-subsidized job or self-employment
EMPLOYS1 - Ever reemployed in any job or self-employment
EMPLOY2 - Employed in a non-subsidized job or self-employment on the survey date
EMPLOYS2 - Employed in any job or self-employment on the survey date
EARN1 - Average monthly earnings at the start of the first new job or self-employment
EARN2 - Average monthly earnings from the job or self-employment on the survey date

Net Impact Estimation in Poland

1. Active Labor Programs Evaluated
2. Sample Considerations
3. Survey Process
4. Impacts on Employment, Earnings, and Unemployment Compensation
5. Sub-group Analysis of Impacts
6. Impacts of Various Program Features
7. Uses of Findings from the Evaluation

1. Active Labor Programs Evaluated in Poland

Retraining

Public Works

Intervention Works

Self-employment Loans

Employment Service

2. Sample Considerations

- Sample selection process
- Combining survey and administrative data
- Final samples for analysis

3. Survey Process in Poland

2 national coordinators
- 1 in the National Labor Office
- 1 in Poznan Voivod Labor Office

8 voivod coordinators
- in voivod labor offices

Staff of local labor offices
- at local labor offices
- and in house-to-house visits during off work hours

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

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

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

Differences of Participant Groups From the Registered Unemployed in Poland Samples

Characteristics	Retraining	Public Works	Intervention Works	Self-employment
Gender	Female	Male	Female	Male
Age	Younger	Younger	Older	Middle aged
Education	More	Less	More vocational	More vocational
Occupation	Less blue collar	Less blue collar	Less blue collar	More blue collar

4. Impacts on Employment, Earnings, and Unemployment Compensation

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

	EMPLOYED[1]	EMPLNOW[2]	EARNNOW[3]	UCMONTHS[4]	UCPAY[5]
Retraining	0.12**	0.12**	7**	1.14**	94**
Public works	-0.08**	-0.04**	-5**	0.93**	103**
Intervention works	0.26**	0.24**	1	-2.26**	-178**
Self-employment	0.29**	0.27**	69	-3.65**	-258**

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

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

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

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

[4] Months of unemployment compensation collected since January 1996

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

5. Sub-group Analysis of Impacts

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

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

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

Summary of Subgroup Net Impact Analysis for Poland

Characteristic	Training	Public Works	Intervention Works	Self-employment
Gender			Female	Female
Age				
Education			Less educated	
Occupation				Blue collar
Voluntarily unemployed				
Long term unemployed	Not LTU		Not LTU	Not LTU
Work experience	None		None	Little
Unemployment rate	High			

6. Impacts of Various Program Features

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

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

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

Summary of program feature net impact analysis, features with best impacts

Feature	Training	Public service employment	Wage subsidies	Self-employment
Duration of ALMP	1 month		6 month	
Ownership	private	private		
Provider	adult education, industry		health care	
Enterprise type				trade

Net Impact Estimation in Hungary

1. Active Labor Programs Evaluated
2. Sample Considerations
3. Survey Process
4. Impacts on Employment, Earnings, and Unemployment Compensation
5. Sub-group Analysis of Impacts
6. Impacts of Various Program Features
7. Uses of Findings from the Evaluation

1. Active Labor Programs Evaluated in Hungary

Individual Retraining

Group Retraining

Public Service Employment

Wage Subsidies

Self-employment

Employment Service

2. Sample Considerations

- Sample selection process
- Combining survey and administrative data
- Final samples for analysis

3. Survey Process in Hungary

2 national coordinators
in the National Labor Center

10 county coordinators
in county labor centers

Staff of local labor centers
at local labor centers
and in house-to-house visits during off work hours

Table 4.7 Composition of the ALMP Samples Contrasted with That of the Comparison Group in Hungary

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

Notes:
* Difference from the full comparison group is statistically significant at the 90 percent level in a two-tailed test.
** Difference from the full comparison group is statistically significant at the 95 percent level in a two-tailed test.
Source: O'Leary, Kolodziejczyk, and Lazar (1998).

Table 4.8 Differences of Participant Groups From the Registered Unemployed

Characteristics	Retraining	Public service employment	Wage subsidies	Self-employment
Gender	Female	Male		Male
Age	Younger	Older		Middle aged
Education	More	Less	More	Much more
Occupation	Less blue collar		Less blue collar	Less blue collar

4. Impacts on Employment, Earnings, and Unemployment Compensation Costs

Table 4.10 Net Impact of ALMPs on Employment, Earnings, and Unemployment Compensation in Hungary

	EMPLOYED[1]	EMPLNOW[2]	EARNNOW[3]	UCMONTHS[4]	UCPAY[5]
Hungary					
Individual training	0.11**	0.09**	7.0	-0.68**	-43.0**
Group training	0.09**	0.07**	5.0**	-0.50**	-27.00
Public service employment	-0.26**	-0.21**	9.0**	-0.19	-9.0**
Wage subsidy	-0.11**	-0.06**	-6.0	0.04**	7.0
Self-employment	0.14	0.16	-26.0	-1.64**	-120.0

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

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

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

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

[4] Months of unemployment compensation collected since January 1996

[5] Amount of unemployment compensation collected since January 1996, in US$ at exchange rate of US$1.00 = 175.75 Hungarian forints on 1 April 1997, approximately the survey date.

Source: O'Leary, Kolodziejczyk, and Lazar (1998).

5. Sub-group Analysis of Impacts

Table 4.11 Estimates of net impact of ALMPs by subgroup on whether participants were employed in an unsubsidized job or in self-employment on the survey date in Hungary

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

Notes:

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

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

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

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

~ Reference group for subgroup differences; excluded from estimation

Source: O'Leary, Kolodziejczyk, and Lazar (1998).

Table 4.12 Summary of Subgroup Net Impact Analysis

Characteristic	Training	Public service employment	Wage subsidies	Self-employment
Gender		Worse for males		
Age				Best for older persons
Education		Worse for the less educated		
Occupation				
Unemployment duration				
Unemployment rate			Best where unemployment is moderate	Best where unemployment is high

6. Impacts of Various Program Features

Table 4.13 Impact of Various Features of ALMPs on Whether Participants Were Employed in an Unsubsidized Job or in Self-employment on the Survey Date, in Hungary

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

Notes:

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

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

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

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

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

Source: O'Leary, Kolodziejczyk, and Lazar (1998).

Table 4.14 Summary of program feature net impact analysis

Feature	Training	Public service employment	Wage subsidies	Self-employment
Share in costs	Better with contribution (double but not significant)			
Duration of ALMP	3 to 12 months			
Organized by	Not district retraining center 20+ hrs/w			
Level of skill		Manual unskilled is worst	Outside of construction and services	Outside of services
Industry				
Sole proprietor vs. partnership				

An Overview of Evaluation Methods for Public Employment and Training Programs

1. Approaches to Program Evaluation

2. Concepts in Evaluation

3. Complementarity of Evaluation Techniques

4. Use of Evaluation Results in Management and Planning

5. Guidelines for Setting Performance Indicators

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1. Approaches to Program Evaluation

    a. Classically designed experiments

    b. Quasi-experimental econometric studies

    c. Performance monitoring

1. Approaches to Program Evaluation

    a. Classically Designed Experiments

        Process:

            Random assignment

            Repeating experimental conditions

            Large sample sizes

        Appeal:

            Simplicity of interpreting results

            Model free impact estimates

        Problems:

            Internal Validity

                Errors in random assignment

                Inconsistent experimental conditions

            External Validity

                Time horizon

                Learning effects

                Displacement effects

    b. Quasi-experimental Econometric Studies

Process (Statistically mimic an experiment):

Administrative Data

Demonstration

"Natural Experiment"

Surveys

Simulation

Appeal:

Inexpensive

Timely

Problems:

Selection Bias
Substitution Bias
Contamination Effects
Statistical Complexity
"A Snapshot" at a point in time

c. Performance Monitoring

Process:

- Nation-wide involvement
- Set goals
- Agree on performance indicators
- Consensus building--ownership
- Iterative refinement of indicators

Appeal:

- Develop an information system
- Culture of cost effectiveness
- Professionalism in employment service
- Establish survey skills
- Foundation for evaluation

Problems:

- Response Rates
- Data Tampering
- Cream Skimming
- Fiscal Substitution
- Deadweight Loss

2. Concepts in Evaluation

- Gross outcomes, gross impacts, and net impacts

An example: Rate of Reemployment

Program participants: 60%

Among all unemployed: 40%

Among matched pairs group: 50%

Gross outcome of program: 60%

Gross impact of program: 60% - 40% = 20%

Net impact of program: 60% - 50% = 10%

3. Complementarity of Evaluation Techniques

- Gross outcome monitoring

  Program management
  Annual planning

- Net impact estimation

4. Use of Evaluation Results in Management and Planning

Performance Indicators

Program Management:

To encourage cost effective use of funds

To target technical assistance

Annual Budget Process:

Performance and resources

Net Impact Estimation

Policy Decisions:

Program design
Strategic planning
Policy formulation
Return on investment
To continue, cancel, or modify a program

5. Guidelines for Setting Performance Indicators

Monitor outcomes instead of inputs.
Goals for programs should be explicitly stated.
Translate goals into performance indicators.
Performance indicators should be few in numbers.
Performance indicators should administrative data.
Follow-up surveys should be concise.
Performance indicators should permit comparison across regions and programs.
Performance indicators should all have compatible incentives.
Performance information should be available to all staff and customers.

Steps to Setting Up a Performance Monitoring System

Setting program goals
Developing performance indicators of program goals
Consensus building.

An Adjustment Methodology for Performance Indicators

Provide for comparisons across regions
Counteract management incentive for cream skimming

Performance Monitoring Systems for Active Labor Programs--HUNGARY

1. Implementation in Hungary
2. Performance Indicators for ALPs in Hungary
3. Results of Performance Measurement, 1994-2002
4. Uses of Performance Measurement
5. Innovation in the System of Performance Measurement

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1. Implementation in Hungary

   - 1990 a model system
   - 1992-93 revision
   - A practical approach--3 counties
   - Nation-wide involvement--partners for consensus
   - Set program goals
   - Agree on performance indicators
   - Developing follow-up surveys
   - Harmony with administrative data systems
   - Report of the auditor general
   - Nationwide training--October 1993
   - Implementation--January 1994
   - Refine ideas--1995 meeting and revisions

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2. Performance Indicators for ALPs in Hungary

Example: Retraining of unemployed in groups

A11 Average cost per trainee employed at follow-up

A12 Proportion of trainees who are employed at follow-up

A13 Average cost per training program entrant

A14 Average cost per trainee per hour of training

A15 Proportion of entrants who successfully complete training courses

A16 Proportion of employed trainees working in occupation of training at follow-up

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PERFORMANCE INDICATORS FOR ACTIVE LABOR PROGRAMS IN HUNGARY

RETRAINING OF UNEMPLOYED IN GROUPS

A11 Average cost per trainee employed at follow-up
A12 Proportion of trainees who are employed at follow-up
A13 Average cost per training program entrant
A14 Average cost per trainee per hour of training
A15 Proportion of entrants who successfully complete training courses
16 Proportion of employed trainees working in occupation of training at follow-up

RETRAINING OF UNEMPLOYED INDIVIDUALLY

A21 Average cost per trainee employed at follow-up
A22 Proportion of trainees who are employed at follow-up
A23 Average cost per training program entrant
A24 Average cost per trainee per hour of training
A25 Proportion of entrants who successfully complete training courses
26 Proportion of employed trainees working in occupation of training at follow-up

RETRAINING OF EMPLOYED

A31 Average cost per trainee employed at follow-up
A32 Proportion of trainees who are employed at follow-up
A33 Average cost per training program entrant
A35 Proportion of entrants who successfully complete training courses
36 Proportion of employed trainees working in occupation of training at follow-up

SELF EMPLOYMENT ASSISTANCE

B1 Average assistance per person still self-employed at follow-up
B2 Proportion of persons still self employed at follow-up
B3 Average subsidy per self-employed
4 Average added employment resulting from self employment assistance at follow-up

WAGE SUBSIDY FOR HIRING LONG TERM UNEMPLOYED

C1 Subsidy per worker still at subsidized employer at follow-up
C2 Proportion of subsidized workers who are in regular employment at follow-up
C3 Average cost of wage subsidy per subsidized employee

PUBLIC SERVICE EMPLOYMENT

D1 Average monthly subsidy per worker
D2 Proportion of subsidized workers who are in regular employment at follow-up

3. Results of Performance Measurement, 1994-2002

Labor market program	1994	1995	1996	1997	1998
Group training (A12)	44.9	36.1	44.5	46.3	46.8
Individual training (A22)	58.5	42.4	51.9	51.1	51.5
Retraining employed (A32)	82.2	93.6	92.8	90.4	94.7
Self-employment (B2)	91.9	90.6	90.2	88.1	91.7
Wage subsidy (C2)	71.1	71.4	70.1	66.3	59.1
Public Service Employment (D2)*	3.5	1.3	1.3	1.9	1.9

Source: National Employment Office, Budapest.

Table 3.4--continued Performance Measurement Results, 1999-2002

Labor market program	1999	2000	2001	2002	2003
Group training (A12)	46.8	48.4	45.4	43.3	
Individual training (A22)	50.0	52.0	49.3	45.8	
Retraining employed (A32)	94.8	94.9	94.2	n.a.	
Self-employment (B2)	90.5	89.4	89.2	90.7	
Wage subsidy (C2)	59.7	62.3	59.7	62.9	
Public Service Employment (D2)*	1.1	1.4	1.5	1.8	

*the percentages show only the ratio of those who were employed without any support at the same employer. who got the PSE subsidy earlier

4. Uses of Performance Measurement

Relative cost-effectiveness

Budget allocation

A culture of cost-effectiveness

5. Innovation in the System of Performance Measurement

An adjustment methodology

- Adjust for regional factors
- Adjust for participant factors (defeat creaming)
- Development of adjustment weights
- An example

Developing enterprise computing

- MIS in open IT architecture
- Transactions update MIS
- Performance Indicators integrated in MIS

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Performance Monitoring Systems for Active Labor Programs--POLAND

1. Decentralized Decisions and Accountability
2. Ownership and Consensus in Performance Management
3. Goals for Active Labor Programs
4. Follow-up Surveys and Information Systems
5. Experience in Poland
6. Uses of Performance Indicators

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1. Decentralized Decisions and Accountability

    Rejection of centralized bureaucracy

    National programs and local solutions

    Unobtrusive accountability

2. Ownership and Consensus in Performance Management

    Coordinate TOR 2 with TOR 3

    ALP goals

        Project steering committee
        Project supervisory committee

    Project team -- voivod labor directors

        Performance indicators
        Follow-up surveys
        Data system

3. Goals for Active Labor Programs

    From Goals to Outcome Measures of Performance

4. Follow-up Surveys and Information Systems

Administrative Systems and Data

National development

Provincial experience

Supplementary Data on Outcomes

Performance Measurement

Management Information

5. Experience in Poland

Outcome: Rate of Reemployment

ALP	1999	2000	2001	2002	2003
Group Retraining Individual Retraining Retraining Employed Self-employment Wage Subsidy PSE					

6. Uses of Performance Indicators

Relative Cost-effectiveness

Budget Allocation

A Culture of Cost-effectiveness

Management Responses