

Effectiveness of Active Employment Policy Programs in European Countries before the Great Recession¹

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Abstract: In this paper, we discuss the effectiveness of Active Employment Policy (AEP) Programs in European countries before the Great Recession. In the first part, we summarize the results of empirical studies of effectiveness for old EU member states, whereas in the second part we provide a comparison of evaluations of AEP programs for new EU member states and for European transition countries. The results are mixed, with more favorable results, on average, for the second set of countries. Propensity score matching approach that is often used for assessing the effectiveness of Active Employment Policy Programs is also presented.

Key words: active employment policy, unemployment, propensity score matching.

Date of Submission: 07-02-2020

Date of Acceptance: 22-02-2020

I. Introduction

The aim of this paper is to give an overview of effectiveness of some Active Employment Policy (AEP) Programs in European countries before the last recession. The main question that should be answered by analyzing the efficiency of active labor market policy is whether AEP measures reduce unemployment. Unemployment is the result of imbalances in the labor market, namely the differences between the supply of labor, which is determined by demographic and social trends, and demand for labor that stems from economic activity. The unemployment rate is, at least in the short term, determined by fluctuations in economic activity, since the labor supply is rather stable. AEP measures that would effectively reduce unemployment should affect labor supply and/or demand.

This paper is structured as follows. Section 2 summarizes the methodological approach of propensity score matching that is often used for evaluation of AEP programs. Section 3 presents an overview of results of AEP evaluations for old EU member states, whereas Section 4 provides a comparison of results of empirical studies for new EU member states and for European transition countries. The implications are examined in Section 5 - Conclusion.

II. Propensity Score Matching

A statistical method of matching is often used to measure effectiveness of a treatment in a population. A subset of non-treated individuals is called the control group, whereas the set of treated individuals is called the experimental group (or treatment group). For applications of matching to the labor market, population is made up of all the unemployed in a given period of time, while the treatment group consists of all individuals participating in a specific AEP program.

Performance of AEP programs is typically measured with the average treatment effect on the treated (ATT). ATT simply put represents the difference between the expected probability of employment for the experimental group and the probability in the case that given individuals from experimental group would not have participated in AEP program. The second probability can only be approximately estimated. The first step involves logit or probit models with relevant explanatory variables to calculate the propensity for participation in the observed AEP measure. In the second step, for each individual in the experimental group, one finds one or more persons in the control group with the same or at least a similar enough propensity for participation. With this subgroup of the control group the probability needed for ATT is estimated (Stuart, 2010; Murn et al., 2008).

¹This study describes some of the results of project No. V5-1045 entitled "Evaluation of the largest programs of active labour market policy, including measures against economic and financial crisis". The project was funded by the Slovenian Research Agency, Ministry of Labour, Family and Social Affairs and Ministry of Economic Development and Technology.

III. Effectiveness of Active Employment Policy Programs in old EU member states

Active employment policy measures are widely used throughout the European area to eliminate and alleviate frictions in the labor market, and their implementation in the EU Member States has increased in the last two decades. The programs are very differently designed and focused on different target groups. This raises the problem of evaluating individual programs, which, however, is a problem that has improved considerably over the past 20 years with the use of different (statistical) methods. As part of a study for the European Commission, Kluve (2006) conducted a meta-analysis of individual empirical studies of program effectiveness. The following is a summary of the results. The author notes that training programs are the most commonly used measure of AEP in the labor markets in Europe. The estimates of their effectiveness show rather mixed results; the estimates of the effects are negative in some cases, while also often not significant or moderately positive. However, there are still indications that training programs increase the likelihood of participants' employment after the completion of the programs, especially for those with better perspectives on the labor market and for women. However, this pattern does not hold true for all studies, since the locking-in effect is often mentioned in relation to training programs, although it is still unclear to what extent it is truly entirely undesirable.

The more recent literature on the evaluation of training programs emphasizes the need to consider long-term impacts as well. From these studies, it is possible to discern signs indicating the long-term positive effects of training programs. Even if the negative locking-in effects were significant, they would be outweighed by the long-term benefits of people's participation in the programs. In addition, the existence and direction of the relationship between the business cycle and the effectiveness of training programs are often unclear, with some studies reporting a pro-cyclical relationship pattern and others the contrary.

Incentive programs implemented in the private sector include wage subsidies and corporate start-up loans. While the latter have rarely been evaluated in European countries, there are quite a few evaluations of the effectiveness of wage subsidy schemes. The findings are generally positive, as almost all studies evaluating private sector wage subsidy programs, such as there are in Denmark, Sweden, Norway or Italy, have found that subsidies have a positive impact on the individual's likelihood of employment. The encouraging findings above, however, must only be believed to a certain extent, since studies do not usually consider the potential substitution and deadweight effects that may be associated with wage subsidy systems.

Kluve (2006) concludes that it is difficult to detect consistent patterns of the effectiveness of AEP programs from the descriptive assessment, however, some indicative findings can be made: direct job creation in the public sector often seems to have negative effects on employment, while training measures show mixed or modestly positive effects. On the other hand, the quantitative analysis is surprisingly clear. Considering the type of program, there is only a weak systematic link between the effectiveness of AEP programs and many other contextual factors, including country or time period, where or when the research was conducted, the macroeconomic environment and various indicators of institutional frameworks in the labor market. The only institutional factor that has a significant systematic effect on the effectiveness of the program seems to be the presence of stricter rules on redundancy of workers, yet is this effect also small considering the effect of the type of program.

Kluve (2006) also concludes that traditional training programs have a low likelihood of positive effects on participants' employment after the program has concluded. Compared to training programs, incentive programs in the private sector show better results. The author thus concludes that incentive programs are 40-50 percent more likely to have positive effects than traditional training programs. In comparison, evaluations of AEP programs based on direct employment in the public sector show 30-40 percent less chance of a positive impact on employment after the conclusion of the programs. Also important is the target group, as programs aimed exclusively at young people show significantly lower effectiveness evaluation than programs aimed at the older population.

Due to the rarely found positive effectiveness of direct job creation programs in the public sector, and often also to the detrimental impact on the employment opportunities of participants in these programs, AEP designers should consider continuing the implementation of such programs or at least redefine their goals. In regards to the problem of youth programs, it would also be better if the policymakers in the labor market focused on such measures that would in the first place prevent young people from being disadvantaged in the labor market.

IV. Effectiveness of Active Employment Policy Programs in new EU member states and European transition countries

Much research has also been done on the effects of AEP programs in transition countries. Table 1 provides an overview of a larger number of studies addressing the effectiveness of AEP measures in new EU member states and transition countries over a 20 year-period before the Great Recession. The training programs are implemented through vocational training, retraining, education, etc. (Puhani 1998; Hayo 2004; Lubyova, van Ours 1999). The effectiveness of such programs for transition countries shows very favorable results (Lehman

1995). Bonin and Rinne (2006) find that the likelihood of participants in a training program being unemployed is reduced by 7%. If a person attended a training program and was temporarily employed, the probability of unemployment decreases by 13%. Other authors' assessments (Walsh, Kotzeva, Dölle&Dornbush 2001) also show positive effects, as the likelihood of the participants in the training / retraining program becoming unemployed is reduced by 11%. The results of individual retraining in Hungary showed that 11% more people received regular non-subsidized employment and 9% more people also had regular employment on the day of the survey (O'Leary 1998a). Training programs are also effective in environments with high unemployment rates - the case of Latvia between 1998 and 2003 (Dmitrijeva&Hazans 2007) and Ukraine (Kupets 2000). Lechner, Miquel and Wunsch (2005) find that generally, the studied training programs increase long-term employment opportunities and earnings. Only male program participants are the exception since on average, the longer training does not help them (Lechner, Miquel, & Wunsch 2005). Different results come from a study by Mikhed (2007) for Ukraine, where the results of the training programs are not significantly positive; in his meta-analysis, Kluge (2006) obtained similar results.

Authors also often study the wage subsidy programs (directly or indirectly), which help create jobs or keep existing ones. The results of the effectiveness of these programs in transition countries, however, show a mixed picture. On the one hand, wage subsidies are expected to have a very positive effect on reducing unemployment (Bocean, 2007; Terrell & Sorm, 1999). On the other, however, Kluge, Lehmann, and Schmidt (2001) and O'Leary (1998a) have pointed out that wage subsidies stimulate negative effects. Most studies also disregard the substitution effect and the so-called "locking-in" and "deadweight" effects. The substitution effect occurs when subsidized workers replace the non-subsidized workers or when employers hire subsidized workers who are then fired after the subsidy period ends (Boeri, & Burda, 1996; van Ours, 2004; World Bank, 2008). A locking-in effect occurs when AEP participants reduce their job search intensity due to the participation in the program (van Ours 2004). A deadweight loss, also known as allocation inefficiency, is the loss of economic efficiency that occurs when supply and demand are out of balance, which can be due to a number of reasons, such as monopoly pricing, binding upper / lower price caps, externalities, taxes or, in our case, subsidies. This means the loss of profit (both for the employer and the employee) that would have been earned if there had been no interference (with subsidies) in the labor market (World Bank 2008). Individuals who find employment through subsidies are often more qualified than other job seekers, and many of them could find employment also without this program.

Table 1: Review of studies on the effectiveness of AEP in new EU member states and European transition countries

Author(s)	Period under study	Country	Method	Program type	Target group	Main results
Murn, Burger and Rojec (2008)	1998 - 2006	Slovenia	Matching method	Training, education	Employees	Positive effect on wages; low impact on productivity growth
Klužer (2008)	1994 - 2002	Slovenia	Matching function	Training and education, public employment program	Unemployed	Small positive impact
Južnik-Rotar (2008)	2008	Slovenia	Logit model, probit model	Assistance in finding employment, subsidies, education, job creation	Young unemployed	The likelihood of joining one of the AEPs decreases with the age of the candidate; the fall is greater for women
Vodopivec (1998)	1992 - 1996	Slovenia	Multinomial logit model, probit model	Public employment program	Unemployed	Short-term positive impact on unemployment reduction; long-term negative impact on unemployment reduction
Domadenik and Pastore (2003)	1997 - 2002	Slovenia, Poland	Multinomial logit model, sequential logit model	Training, education	Young unemployed	Training and education, the risk of unemployment
Puhani (1998)	1992 - 1996	Poland	Matching method, duration models	Training, public employment program, job brokering	Unemployed	Training has a positive impact, while public employment programs and job brokering have a negative impact
Jerusalnski and Tyrowicz (2009)	2000 - 2008	Poland	Matching function, SFA method,	Employment	Unemployed	Aggregations are highly dependent on fluctuations in demand, while the

			DiDestimator			unemployment structure, AEP and individual labor offices have little explanatory effect
Kluve, Lehmann and Schmidt (2001)	1992 - 1996	Poland	Propensity score matching	Training, wage subsidies	Unemployed elderly	Training has a positive effect, wage subsidies have a negative effect, especially for men
Kluve, Lehmann and Schmit (1999)	1992 - 1996	Poland	DiD estimator	Training, public employment program	Unemployed	Training for women and men: a positive effect on the likelihood of employment Public training program: negative effect for men, no effect for women
O'Leary (1998b)	1994 - 1996	Poland	Mean comparison, regression	Training, public employment program, self-employment assistance, public sector employment	Unemployed	Training: 12% more full-time employments Public employment program: 8% less full-time employments Job placement: 26% more full-time employments Self-employment: 29% more full-time employments
van Ours (2004)	1993 - 1998	Slovakia	Multivariate duration model	Temporary job subsidy	Unemployed	The "locking-in" effect is important.
Bonin and Rinne (2006)	2004 - 2005	Serbia	Propensity score matching	Training, temporary work	Unemployed in construction	Training and temporary work: 13% increase in employment Training only: 7% increase Only temporary work: no effect; Subjective well-being through training and temporary work: positive effect
Terrell and Sorm (1999)	1992 - 1993	Czech Republic	Risk function	Unemployment compensation system	Unemployed	Reduction of the duration of unemployment
Boerie and Burda (1996)	1991 - 1994	Czech Republic	Augmented matching function	Training, public employment program, self-employment, public sector employment	Unemployed	Positive effects of all measures of studied AEPs

Author(s)	Period under study	Country	Method	Program type	Target group	Main results
Mikhed (2007)	2001 - 2003	Ukraine	Kaplan-Meier estimator, matching method	Training, public employment program	Unemployed	Measures have no statistically significant effects on the duration of unemployment
Kupets (2000)	1996 - 1999	Ukraine	Augmented matching function	Training, public employment program	Unemployed	Training is more effective than public employment program
Nivorozhkin (2005)	2000-2002	Russia	Matching method	Vocational training	Unemployed	Zero to positive effect on unemployment reduction
Micklewright and Nagy (2005)	2005	Hungary	Duration model	Monitoring	Recipients of unemployment compensation	Generally zero effects. A positive and statistically significant effect noted only for women over 30
O'Leary (1998a)	1995 - 1997	Hungary	Mean comparison, regression	Training, public employment program, self-employment assistance, public sector employment	Unemployed	Individual training: 11% more full-time employments Group training: 9% more full-time jobs Job search assistance: 2% less full-time employments

						Public service: 26% less full-time employments Wage subsidies: 11% less Self-employment: 14% more
Leetmaa and Vörk (2004)	2000-2002	Estonia	Matching method	Training	Unemployed elderly	Training has positive effects
Dmitrijeva and Hazans (2007)	1998 - 2003	Latvia	Augmented matching function	Training	Unemployed	Training has positive effects
Bocean (2007)	2000 - 2005	Romania	Macroeconomic approach	Public employment program, training, wage subsidies	Unemployed	Wage subsidies: a great positive effect Public works, training: positive impact
Rodriguez-Planas and Benus (2010)	1999 - 2002	Romania	Matching method	Training, public employment program, self-employment assistance	Unemployed	Public employment program, training, self-employment assistance: a great positive effect Public sector employment: positive impact
Walsh, Kotzeva, Dölle and Dorenbos (2001)	1998 - 1999	Bulgaria	Matching method, regression	Training, public employment program, self-employment assistance, public sector employment	Unemployed invalids, young unemployed	Positive effects
Lechner and Wunsch (2005)	1990 - 2002	East Germany	Matching method	Training	Unemployed	Increases long-term employment prospects and earnings, except for men
World Bank (2008)		Macedonia	Several methods	Training, public employment program, self-employment assistance, public sector employment	Unemployed	Youth training and employment counselling programs show more positive effects than in industrialized countries
Lehmann and Kluve (2010)	1991 - 2007	Eastern European countries	Augmented matching function, survival analysis	Training, direct job creation, public sector employment	Unemployed	Public sector employment and training: positive impact Public employment program: negative effect

V. Conclusion

In this paper, we discussed the effectiveness of Active Employment Policy Programs in European countries before the Great Recession. In the first part, we summarize the results of empirical studies of effectiveness for old EU member states, whereas in the second part we provided a comparison of evaluations of AEP programs for new EU member states and for European transition countries. The analysis revealed mixed results for the effectiveness of different Active Employment Policy Programs in European countries, from negative or insignificant to positive. The results are, on average, more positive for the second set of countries.

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Alenka Kavkler. "Effectiveness of Active Employment Policy Programs in European Countries before the Great Recession." *IOSR Journal of Economics and Finance (IOSR-JEF)*, **11**(1), 2020, pp. 13-18.