



The effectiveness of European active labor market programs

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ARTICLE INFO

Article history:

Received 20 December 2007
 Received in revised form 23 January 2010
 Accepted 6 February 2010
 Available online 13 February 2010

JEL classification:

H53
 J00
 J68

Keywords:

Active Labor Market Policy
 Program evaluation
 Meta-analysis

ABSTRACT

Active Labor Market Programs are widely used in European countries, but despite many econometric evaluation studies analyzing particular programs no conclusive cross-country evidence exists regarding “what program works for what target group under what (economic and institutional) circumstances?”. This paper aims at answering this question using a meta-analysis based on a data set that comprises 137 program evaluations from 19 countries. The empirical results of the meta-analysis are surprisingly clear-cut: Rather than contextual factors such as labor market institutions or the business cycle, it is almost exclusively the program type that seems to matter for program effectiveness. While direct employment programs in the public sector frequently appear detrimental, wage subsidies and “Services and Sanctions” can be effective in increasing participants’ employment probability. Training programs – the most commonly used type of active policy – show modestly positive effects.

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1. Introduction

Active Labor Market Programs for unemployed workers and welfare recipients – such as job search assistance, labor market training, wage subsidies, and direct job creation in the public sector – are an important element of European countries’ efforts to combat unemployment. For EU member states, Active Labor Market Programs (ALMPs) constitute a central part of their *European Employment Strategy*, which defines employment as one key objective of a joint economic policy in the European Union. While such active programs have been in use for many years in most countries, there is a growing awareness of the need to develop scientifically-justified measures of the effectiveness of different ALMPs. Indeed, concerns about the effectiveness of active programs have become an increasingly important feature of the EU’s Broad Economic Policy Guidelines, the Employment Guidelines, and the Recommendations for Member States’ employment policies (cf. Kluve et al. 2007, chapter 1).

A substantial number of evaluations of ALMP effectiveness has been conducted in Member States and other European countries (in particular Switzerland and Norway), by independent researchers, by researchers commissioned by government bodies, as part of European Social Fund (ESF) programs, or as national studies contributing to the European Employment Strategy evaluation. In most cases, the focus of these evaluations has been on estimating the short-term employment effects of active programs for the treated population, disregarding the

possibility of positive or negative interactions between program participants and other employed and unemployed workers (so-called “general equilibrium” effects). But even within this narrow focus the evidence from existing evaluations remains inconclusive: there is little consensus on whether active programs actually reduce unemployment or raise the number of employed workers, on which type of program seems most promising, and on the question what a given country can learn from ALMP experiences in another country.

It is the objective of this paper to overcome this deficit, by utilizing a meta-analytical approach that allows the identification of systematic patterns from the available cross-country evidence on ALMP effectiveness. The meta-analysis is carried out on a comprehensive data set of 137 program evaluations from 19 European countries. The data set was brought together following a so-called “protocol”, i.e., certain requirements that the particular program evaluation had to fulfill in order to be included in the data.

The main focus of the empirical analysis lies in identifying the types of active programs that seem to be most effective. Four main categories of ALMP exist across European countries: (i) training programs, which essentially comprise all human capital enhancing measures, (ii) private sector incentive schemes, such as wage subsidies to private firms and start-up grants, (iii) direct employment programs, taking place in the public sector, and (iv) Services and Sanctions, a category comprising all measures aimed at increasing job search efficiency, such as counseling and monitoring, job search assistance, and corresponding sanctions in case of noncompliance. Moreover, many active labor market programs in European countries specifically target the young workers (25 years of age and younger) among the unemployed. Whereas several countries also have specific

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active labor market programs for the disabled, only few evaluations of these measures exist.

The idea of the meta-analysis is to investigate ALMPs in Europe by correlating the effectiveness of the program – i.e. whether the reported treatment effect on employment probability in a particular study is significantly positive, significantly negative, or insignificant – with a set of variables capturing (a) the type of program, (b) the research design, (c) the institutional context and (d) the economic background in the country at the time the particular program was run. All of these are factors that conceivably may influence the estimated performance of a specific ALMP measure.

Section 2 presents a classification of ALMPs appropriate for a systematic analysis, and discusses ALMP spending in European countries. Section 3 focuses on the meta-analytical approach: it discusses the method, presents the database, elaborates on the dependent and explanatory variables, and discusses challenges and caveats of the analysis. The fourth section presents the empirical results. Section 5 concludes.

2. Types of active programs and ALMP expenditure

A large variety of different active labor market programs exists among EU member states and other European countries. It is possible to classify these programs into a set of six core categories. The categories we use in this paper are very similar to corresponding classifications that have been suggested and used by the OECD and Eurostat. Note that the first four categories indeed describe *program types*, whereas the last two categories rather describe *target groups*, which is not mutually exclusive. That is, a youth training program obviously constitutes both a training program and a youth program.

The first program type, (labor market) training, encompasses programs like classroom training, on-the-job training and work experience. The measures can either provide a more general education (such as e.g. language courses, basic computer courses or other basic courses) or specific vocational skills (e.g. advanced computer courses or courses providing e.g. technical and manufacturing skills). Their main objective is to enhance the productivity and employability of the participants and to enhance human capital by increasing skills. On this note, training programs constitute the “classic” measure of Active Labor Market Policy.

Private sector incentive programs comprise all measures aimed at creating incentives that alter employer and/or worker behavior regarding private sector employment. The most prominent program in this category is a wage subsidy. The objective of subsidies is to encourage employers to hire new workers or to maintain jobs that would otherwise be broken up. These subsidies can either be direct wage subsidies to employers or financial incentives to workers for a limited period of time. They frequently target long-term unemployed and more disadvantaged individuals. Another type of subsidized private sector employment is self-employment grants: Unemployed individuals who start their own business will receive these grants and sometimes also advisory support for a fixed period of time.

In contrast to private sector subsidies, the third program type, direct employment programs in the public sector, focuses on the direct creation and provision of public works or other activities that produce public goods or services. These measures are typically targeted at the most disadvantaged individuals, pursuing the aim to keep them in contact with the labor market and preclude loss of human capital during a period of unemployment. Nevertheless, the created jobs are often additionally generated jobs not close to the actual labor market.

The fourth type of program, Services and Sanctions, encompasses all measures aimed at enhancing job search efficiency. Using this category, we propose a slight re-definition of the standard “Job Search Assistance” category, mainly by including sanctions. We believe that the overarching objective that all these measures – including job

search courses, job clubs, vocational guidance, counseling and monitoring, and sanctions in the case of noncompliance with job search requirements – share, justifies this classification: all are geared towards increasing the efficiency of the job matching process. Although public and private services exist in many member states, public services clearly prevail. The public employment services (PES) often target the disadvantaged and long-term unemployed, whereas private services focus on the more privileged employees and white-collar workers. These programs are usually the least expensive. Benefit sanctions (e.g. reduction of unemployment benefits) are imposed in some countries if the monitored job search behavior of an unemployed is not sufficient or if he refuses an acceptable job offer.

Regarding target groups of ALMP, youth programs comprise specific programs for disadvantaged and unemployed youth, including training programs, wage subsidies and job search assistance. Finally, the category measures for the disabled includes vocational rehabilitation, sheltered work programs or wage subsidies for individuals with physical, mental or social disabilities.

The relevance of active programs in EU countries’ efforts to combat unemployment is reflected in the money that is being spent on these policies. For instance, total spending on ALMPs was 66.6 billion Euros for the EU15 in 2003 (Eurostat 2005).

Nevertheless, there is large heterogeneity across member states. Fig. 1 depicts expenditure on ALMPs as a percentage of GDP in 2002 and shows a wide disparity of spending among EU countries. There are numerous countries with high public spending on active programs (more than 1% of GDP) including Belgium, Denmark, Finland, France, Germany, Sweden and especially the Netherlands with the highest amount of spending (1.85% of GDP). In contrast, there are still a few countries with rather modest expenditure on ALMPs (less than 0.5%) including Greece, the Slovak Republic, the United Kingdom, and the Czech Republic (with the lowest spending of 0.17% of GDP). Furthermore, the remaining countries (Austria, Hungary, Italy, Norway, Portugal, Spain and Switzerland) spent somewhere between 0.5 and 1% of their respective GDP. In the US, active measures receive relatively little attention: the US expenditure of only 0.13% of GDP is lower than for any European country.

Table 1 displays expenditure on labor market policy by program type and country, using data for 2005 from Eurostat (hence the US are not included). The countries depicted include 17 out of the 19 European countries for which evaluation studies are available for the meta-analysis (cf. below).¹ Table 1 shows the share of total labor market policy expenditure for each of the four active program types defined above (columns 1 to 4), along with the share that was spent on out-of-work income support, i.e. “passive” labor market policy (column 5). Countries are displayed in descending order of total spending on labor market policy.

The table shows that almost all countries spend between half and two thirds of their labor market policy expenditure on passive support. The UK stands out with just over a quarter of spending going into benefit payments, while Germany and Austria both devote more than 70% of their labor market policy budget to out-of-work income support. Looking at active programs, “Services and Sanctions” play by far the biggest role in the UK, with a share of 55% of total spending. Among the high-expenditure countries, “Services and Sanctions” appear to be important in the Netherlands and in Germany.

Training programs receive large expenditure shares in many countries, notably in Norway, Italy and Austria. Interestingly, Sweden – the European country with the longest tradition of using ALMP – devotes a larger share to private sector incentive schemes than to training. Finally, public sector employment plays an important role in

¹ Data for Poland are missing in the Eurostat publication from which the information in Table 1 was extracted. Data for Switzerland are generally not collected by Eurostat.

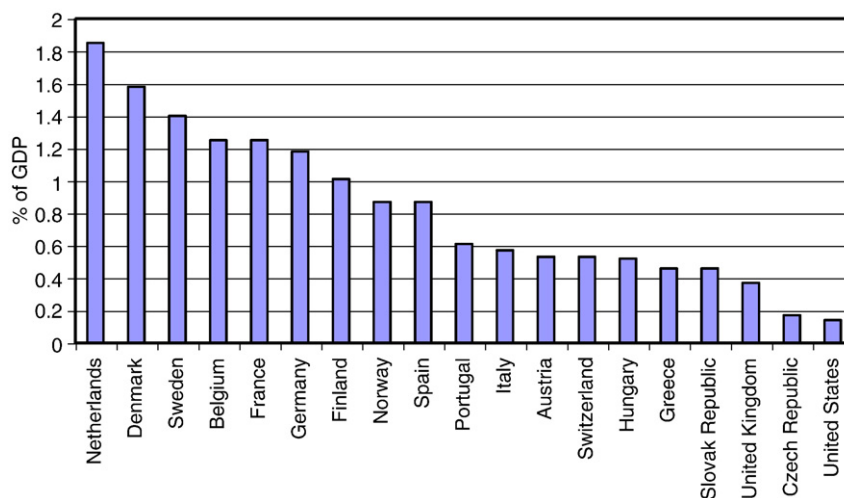


Fig. 1. Total spending on ALMPs in 2002.
Source: OECD (2004a).

Ireland, Norway, Belgium, and the Netherlands, where in the latter case this regards mostly rehabilitation programs.

3. Meta-analysis of ALMP evaluations

3.1. Method

Meta-analysis is a statistical tool for synthesizing research findings across a set of individual studies that all analyze the same or a similar

Table 1
Labor market policy expenditure by program type and country, 2005.

	(1) Services and sanctions	(2) Training	(3) Private sector incentives	(4) Public sector employment	(5) Out-of-work income support
EU-15	11.1	9.7	7.4	7.5	64.2
Denmark	3.8	12.4	10.9	11.7	61.3
Sweden	7.4	13.8	19.7	8.9	48.3
Netherlands	14.6	4.3	5.2	15.9	60.1
Belgium	6.7	5.9	4.9	13.9	68.6
Finland	5.0	13.4	4.7	6.0	69.2
Norway	7.6	23.1	2.3	13.4	53.7
France	9.3	11.4	5.1	9.8	64.4
Germany	10.6	7.5	4.3	6.8	70.8
Spain	4.3	6.9	16.0	4.0	68.3
Portugal	7.5	14.8	8.1	3.6	66.0
Ireland	12.6	14.1	3.5	14.4	55.4
Italy	2.2	15.3	19.1	0.8	62.5
Austria	8.0	15.3	2.8	3.5	70.6
Hungary	13.8	5.7	14.7	8.5	57.3
Slovak Republic	28.1	4.0	12.5	11.3	44.0
United Kingdom	55.1	12.9	2.2	2.1	27.8
Estonia	11.9	17.8	7.0	0.0	63.3

Source: Eurostat (2007).

Notes: Data for Poland missing. Table entries are the respective fraction of the total spending on labor market policy (LMP). Eurostat classifies labor market policy into 9 categories, which are summarized here as follows: column (1) "Services and Sanctions" = Eurostat Category 1, i.e. it includes spending on LMP administration, not only active measures (data for active measures that would be comparable across countries are not available). Column (2) "Training" = Eurostat Category 2 "Training". Column (3) "Private sector incentives" combines Eurostat Category 4 "Employment incentives" and Category 7 "Start-up incentives". Column (4) "Public sector employment" combines Eurostat Category 5 "Supported employment and rehabilitation" and Category 6 "Direct Job creation". Column (5) "Out-of-work income support" combines all types of unemployment benefits (Eurostat Category 8) and early retirement benefits (Eurostat Category 9). "Job rotation" measures (Eurostat Category 3) play a negligible role and are not considered here.

issue, in the same or a comparable way. Essentially, it consists of procedures for extracting empirical results and other information from these individual studies, assembling this information into a database, and then analyzing the resulting data using modified versions of standard statistical methods (Greenberg et al., 2003).²

Meta-analysis has its origin in health care analysis (cf. *The Cochrane Collaboration*, www.cochrane.org), where it is usually used to generate robust evidence on the effectiveness of certain clinical interventions by aggregating data from a set of clinical trials on the same drug, all of which were ideally subject to the same laboratory conditions. Whereas randomized clinical trials generally produce reliable results by virtue of their study design, sample sizes of these randomized trials are often small. Hence, meta-analysis is useful since it generates more precise treatment effect estimates due to larger sample sizes.

Meta-analysis is also used in several fields of the social sciences (cf. *The Campbell Collaboration*, www.campbellcollaboration.org). While empirical evidence in the social sciences often originates from much larger samples than those common in health care research, it is much less frequently based on randomized experiments, not to mention several identical randomized trials conducted in different places. Hence, in addition to improving upon single-study estimates of the effectiveness of similar (rather than identical) treatments administered in similar (rather than identical) environments, meta-analysis in the social sciences can also investigate the role of covariates, i.e. learning about the influence of surrounding factors in treatment effectiveness.

While being relatively new to economics, meta-analyses have already been used extensively in the context of environmental economics (Van den Bergh et al., 1997) and for analyzing issues as diverse as, for instance, tests of the Lucas critique and the gender wage gap (see the overview in Stanley 2001). Prominent examples in the labor economics literature include the minimum wage analysis by Card and Krueger (1995) and the meta study on estimates of the return to education by Ashenfelter et al. (1999). Greenberg, Michalopoulos and Robins (2003) synthesize findings from 31 evaluations of 15 government-funded training programs for the disadvantaged in the US. Focusing on earnings as the outcome, they find that treatment effects were largest for women, modest for men, and negligible for youths. They also find that skills training was apparently effective, while basic education was not, and that despite

² Many detailed descriptions of meta-analysis exist, cf. for instance Hedges (1992). See also Florax, de Groot and de Mooij (2002) and Greenberg, Michalopoulos and Robins (2003) and the references given therein.

three decades of experience in running training programs in the US, programs do not appear to have become more effective over time.

Stanley (2001) discusses advantages – most notably that it provides a more formal and objective process of reviewing an empirical literature – and limitations of meta-analysis, and juxtaposes it with the conventional narrative literature review, pointing out that “even the best narrative reviews can be improved through meta-analysis”. The discussion on ALMP effectiveness in Europe has so far been based on narrative literature reviews. Martin (2000) and Martin and Grubb (2001), for instance, provide important narrative overviews of OECD countries’ experience with active labor market programs. Heckman, LaLonde and Smith (1999, Table 25) were the first to systematically collect a list of European evaluation studies, including information on impact estimates and estimation method, but did not conduct a statistical analysis on the – quite limited – sample. Kluge and Schmidt (2002, Table 2) augmented this set of studies with program evaluations conducted since the collection by Heckman, LaLonde and Smith, and proceed to implement a first – rather basic – quantitative analysis. The book by Kluge et al. (2007) is based on a research project for the European Commission (see Acknowledgements below), as part of which the data set of evaluation studies used in the subsequent meta-analysis below was collected. The book focuses on a country-by-country review of experiences with active labor market programs and also provides an extensive narrative review of cross-country patterns.

3.2. The ALMP evaluations database

The core first step in conducting a meta-analysis consists of the appropriate procedure for extracting empirical findings and other information from individual studies. That is, the collection of the set of studies on which the analysis will be performed. This collection follows a so-called “protocol” (Higgins and Green 2005). For our study, this protocol was specified as follows:

- microeconomic studies assessing treatment effects at the individual level;
- empirical academic studies controlling for selection into treatment and control groups;
- studies evaluating particular programs (i.e. no pooling of measures);
- studies assessing effects relative to non-participation, not relative to other programs.

Besides imposing these restrictions, there is obviously an interest in considering as many studies as possible in order to obtain a data set large enough for a quantitative analysis.

Table 2 contains the microeconomic evaluation studies across European countries that we collected following this protocol. The data include a large number of program evaluations previously not reviewed ($N = 84$), in addition to a total of $N = 53$ evaluations taken from Heckman, LaLonde and Smith (1999) and Kluge and Schmidt (2002). Each observation in the data (and also each row in Table 2) corresponds to the evaluation of a particular program. That is, it is possible that a given evaluation study yields two or more data points, if e.g. the study evaluates both a training program and a wage subsidy program in a given country. In sum, the data consist of $N = 137$ observations, originating from 96 different evaluation studies conducted in 19 European countries.

For each evaluation, Table 2 gives the program type that is analyzed (according to the definition from Section 2), the target group (adults, youths, disabled), and the operating period during which the program was evaluated. The evaluation method distinguishes between experimental and nonexperimental techniques, the latter being classified as “Matching/DiD”, “Duration models”, and a residual category containing “OLS, selection models, and others”. Table 2 also displays whether the evaluation found a significant positive program

impact on individual employment probability, a significant negative program impact, or could not detect a significant impact.

3.3. The dependent variable

As Table 2 indicates, the outcome variable of interest is given by the program impact that the evaluation estimates for the program. The variable is categorized as a trinomial outcome “positive”, “negative”, and “insignificant”. This is clearly not the optimal approach, as ideally the meta-analysis would be based on both effect size and standard error, as is the case e.g. in Greenberg, Michalopoulos and Robins (2003) on the basis of the much more homogeneous and to a much larger share experiment-based evaluation studies in the US. In the European evaluation studies in our database, however, it is frequently impossible to identify a preferred or main impact estimate that could be extracted, and, moreover, results from the two main methodological approaches – matching and duration models – are hardly comparable, since the duration analyses generally do not specify implied effects on employment probabilities nor provide sufficient information such that these could be calculated. Nevertheless, considering the trinomial outcome is certainly an advance from the binomial outcome analysis (“positive impact estimate yes / no”) in Kluge and Schmidt (2002).

In our sample, 75 studies (i.e. 54.7%) estimate a significant positive effect, 29 studies (21.2%) find a significant negative impact, and 33 studies (i.e. 24.1%) do not find any significant program impact.

3.4. Explanatory variables

The meta-analysis uses a number of variables to try to explain the variation in the treatment impact. Specifically, we include information capturing (a) the type of program, (b) the research design, and (c) the institutional context along with (d) the economic background in the country at the time the specific program was run.

3.4.1. Program types

The types of ALMPs considered are those defined in Section 2, i.e. training programs, private sector incentive schemes, direct employment programs in the public sector, and Services and Sanctions. Slightly more than half of the observations (70) investigate the impact of training programs. 23 studies analyze private sector incentive schemes; whereas 26 studies investigate public sector employment programs and 21 studies focus on Services and Sanctions.³ We also include a dummy variable for programs specifically targeting the young among the unemployed, which is frequently the case (25.6% of the available evaluations)⁴.

3.4.2. Research design

This set of variables tries to control for methodology or the “study design” used to derive the estimated impact. Since the gold standard of scientific evaluation is a randomized design, we include an indicator for whether the evaluation was based on a randomized experiment, which is the case for $N = 9$ observations. That is, the large majority of evaluations is based on nonexperimental approaches, which are further distinguished regarding “Matching estimators” ($N = 51$), “Duration models” ($N = 42$), and a residual category capturing “OLS/Selection/others” ($N = 39$).⁵ Also, we include dummies for the decade in which the program was run. Most evaluations in the database analyze programs implemented in the

³ These numbers sum up to 140 rather than 137, since three observations consider incentive schemes mixing private and public sector and therefore cannot be differentiated in this regard.

⁴ A separate indicator for disabled is not considered, because only three observations are available.

⁵ Again, these sum up to $N = 141$, i.e. four studies apply more than one method.

Table 2
The ALMP evaluations database: core features.

Country	Evaluation study	Program type	Target group	Observation period	Evaluation method	Program effect		
Austria	Weber and Hofer (2003)	Services and Sanctions		1999–2001	Duration	Positive		
		Training		1999–2001	Duration	Negative		
Belgium	Winter-Ebmer(2001) Zweimüller and Winter-Ebmer (1996)	Training		1987	OLS/selection/other	Positive		
		Training		Late 80s	OLS/selection/other	Positive		
		Training		1989–1993	OLS/selection/other	Positive		
Denmark	Cockx (2003) Cockx and Göbel (2004)	Private sector incentive	Youths	1998–2000	Duration	Positive		
		Training		1997–1999	Duration	Negative		
Denmark	Bolvig et al. (2003) Graversen (2004) Høgelund and Holm (2005) Jensen et al. (2003) Jensen et al. (1993) Rosholm (1999) Rosholm and Svarer (2004)	Private sector incentive		1997–1999	Duration	Positive		
		Training		1994–1998	Duration	Negative		
		Private sector incentive		1994–1998	Duration	Positive		
		Public sector employment		1994–1998	Duration	Negative		
		Training	Disabled	1995–1999	Duration	Insignificant		
		Training	Youths	1996	Duration	Insignificant		
		Training		Late 80s	OLS/selection/other	Positive		
		Public sector employment		1983–1990	Duration	Insignificant		
		Private sector incentive		1983–1990	Duration	Positive		
		Services and Sanctions		1998–2002	Duration	Positive		
		Public sector employment		1998–2002	Duration	Negative		
		Private sector incentive		1998–2002	Duration	Positive		
Estonia	Westergard-Nielsen (1993) Leetmaa and Vörk (2004)	Training		1998–2002	Duration	Negative		
		Training		Late 80s	OLS/selection/other	Positive		
Finland	Nätti et al. (2000) Hämäläinen (2002) Hämäläinen and Ollikainen (2004)	Private sector incentive		2000–2002	Matching	Positive		
		Public sector employment		1990–1995	OLS/selection/other	Positive		
		Training		1990–1995	OLS/selection/other	Negative		
		Training		1989–1994	OLS/selection/other	Positive		
		Private sector incentive	Youths	1995–2000	Matching	Positive		
		Training	Youths	1995–2000	Matching	Insignificant		
		Training	Youths	1995–2000	Matching	Positive		
		Services and Sanctions		1998–2000	Experiment	Insignificant		
		Public sector employment	Youths	1986–1988	Duration	Insignificant		
		Training	Youths	1986–1988	Duration	Positive		
France	Bonnal et al. (1997) Brodaty et al. (2002) Cavaco et al. (2005) Crépon et al. (2005) Fougère et al. (2005) Thierry and Sollogoub (1995) Bergemann et al. (2000)	Training	Youths	1995–1998	Matching	Negative		
		Private sector incentive	Youths	1986–1988	Matching	Positive		
		Public sector employment	Youths	1995–1998	Matching	Negative		
		Private sector incentive	Youths	1995–1998	Matching	Negative		
		Public sector employment	Youths	1986–1988	Matching	Positive		
		Training	Youths	1986–1988	Matching	Positive		
		Training		1995–1998	Duration	Positive		
		Services and Sanctions		2001–2004	Duration	Positive		
		Services and Sanctions		1986–1988	Duration	Positive		
		Training	Youths	Late 80s	Duration	Positive		
		Training		1990–1998	Matching	Negative		
		Public sector employment		1990–1998	Matching	Negative		
Germany	Bergemann(2005) Caliendo et al. (2004) Eichler and Lechner (2002) Fitzenberger and Speckesser (2005) Hujer et al. (2005) Hujer Caliendo Radi (2004) Hujer, Thomsen and Zeiss (2004) Hujer and Wellner (2000) Jaenichen (2002) Klose and Bender (2000) Kraus et al. (1997) Lechner (2000) Lechner et al. (2004) Lechner et al. (2005)	Public sector employment		1990–1999	Matching	Positive		
		Public sector employment		2000–2002	Matching	Negative		
		Public sector employment		1992–1997	Matching	Positive		
		Training		1993–1997	Matching	Positive		
		Services and Sanctions		2001–2002	Matching	Positive		
		Public sector employment		1995–1999	Matching	Insignificant		
		Training		1999–2002	Duration	Negative		
		Training		1985–1992	Matching	Positive		
		Private sector incentive		1999–2001	Matching	Positive		
		Training		1986–1990	Matching	Insignificant		
		Training		Early 90s	Duration	Positive		
		Training		1990–1994	Matching	Insignificant		
		Training		1993–2002	Matching	Positive		
		Training		1993–2002	Matching	Positive		
		Services and Sanctions		2003	Experiment	Positive		
		Hungary	Micklewright and Nagy (2005)	Private sector incentive	Youths	Late 80s	OLS/selection/other	Positive
				Training	Youths	Early 80s	OLS/selection/other	Positive
		Ireland	Breen (1988) O'Connell and McGinnity (1997)	Public sector employment	Youths	Early 90s	OLS/selection/other	Insignificant
Private sector incentive	Youths			Early 90s	OLS/selection/other	Positive		
Training	Youths			Early 90s	OLS/selection/other	Positive		
Italy	Caroleo and Pastore (2001) Paggiaro et al. (2005)	Training	Youths	1999–2000	OLS/selection/other	Insignificant		
		Private sector incentive		1995–1999	Matching	Positive		
Netherlands	Abbring et al. (2005) De Jong et al. (2005) Gorter and Kalb (1996) Ridder (1986) Van den Berg et al. (2004) de Koning (1993)	Services and Sanctions		1992–1993	Duration	Positive		
		Services and Sanctions		2001–2003	Experiment/matching	Positive		
		Services and Sanctions		1989–1990	Experiment	Insignificant		
		Training		Early 80s	Duration	Negative		
		Public sector employment		Early 80s	Duration	Positive		
		Private sector incentive		Early 80s	Duration	Insignificant		
		Services and Sanctions		1994–1996	Duration	Positive		
Private sector incentive		Late 80s	OLS/selection/other	Positive				
Private sector incentive	Youths	Late 80s	OLS/selection/other	Insignificant				

Table 2 (continued)

Country	Evaluation study	Program type	Target group	Observation period	Evaluation method	Program effect	
Norway	de Koning et al. (1991)	Training		Late 80s	Matching/duration	Positive	
	van den Berg and van der Klaauw (2006)	Services and Sanctions		1998–1999	Experiment	Insignificant	
	Aakvik (2003)	Training	Disabled	1995–1998	OLS/selection/other	Insignificant	
	Aakvik and Dahl (2006)	Training	Disabled	1989–1994	OLS/selection/other	Insignificant	
	Hardoy (2001)	Public sector employment	Youths	1989–1993	OLS/selection/other	Insignificant	
		Training	Youths	1989–1993	OLS/selection/other	Negative	
	Lorentzen and Dahl (2005)	Public sector employment		1992–1999	Matching	Insignificant	
		Training		1992–1999	Matching	Positive	
	Raaum and Torp (2002)	Training		1989–1994	OLS/selection/other	Positive	
	Raaum et al. (2002)	Training		1992–1997	Matching	Positive	
	Torp et al. (1993)	Training		Early 90s	Experiment	Negative	
	Zhang (2003)	Training		1990–2000	Duration	Positive	
		Public sector employment		1990–2000	Duration	Insignificant	
		Private sector incentive		1990–2000	Duration	Positive	
Poland	Kluge et al. (1999)	Training		1992–1996	Matching	Positive	
		Public sector employment		1992–1996	Matching	Negative	
		Private sector incentive		1992–1996	Matching	Negative	
Portugal	Centeno et al. (2005)	Services and Sanctions	Youths	1997–2001	Matching	Insignificant	
		Services and Sanctions		1997–2002	Matching	Insignificant	
Slovak Rep.	van Ours (2001)	Training		1993–1998	Duration	Positive	
		Public sector employment		1993–1998	Duration	Insignificant	
Spain	Arellano (2005)	Training		2000–2001	Duration	Positive	
Sweden	Ackum (1991)	Training	Youths	Early 80s	OLS/selection/other	Insignificant	
	Albrecht et al. (2005)	Training		1990–2000	Matching	Positive	
	Andersson (1993)	Training		Late 80s	OLS/selection/other	Negative	
	Andrén and Andrén (2002)	Training		1993–1997	OLS/selection/other	Positive	
	Andrén and Gustafsson (2004)	Training		1987–1988	OLS/selection/other	Positive	
		Training		1990–1991	OLS/selection/other	Negative	
		Training		1984–1985	OLS/selection/other	Positive	
		Training		Early 80s	OLS/selection/other	Positive	
	Axelsson (1989)	Training		Late 70s	OLS/selection/other	Positive	
	Björklund (1994)	Training		Late 70s	OLS/selection/other	Positive	
	Delander (1978)	Services and Sanctions		Late 70s	Experiment	Positive	
	Edin (1988)	Training		Late 70s	OLS/selection/other	Negative	
	Engstrom et al. (1988)	Services and Sanctions		Early 80s	Duration	Insignificant	
	Forslund et al. (2004)	Private sector incentive		1998–2002	Duration	Positive	
	Frederiksson and Johansson (2003)	Public sector employment		1993–1997	Matching	Negative	
		Training		1993–1997	Matching	Negative	
		Training		Early 90s	Matching/other	Insignificant	
	Harkman et al. (1996)	Private sector incentive	Youths	1991–1997	Matching	Insignificant	
	Larsson (2002)	Training	Youths	1991–1997	Matching	Insignificant	
		Training	Youths	Early 90s	OLS/selection/other	Negative	
	Regner (1996)	Training		1987–1992	OLS/selection/other	Negative	
	Richardson and van den Berg (2001)	Training		1993–2000	Duration	Insignificant	
	Sacklén (2002)	Public sector employment		1991–1997	OLS/selection/other	Positive	
	Sianesi (2001)	Training		1994–1999	Matching	Negative	
	Switzerland	Gerfin and Lechner (2000)	Public sector employment		1997–1999	Matching	Negative
			Private sector incentive		1997–1999	Matching	Positive
			Training		1997–1998	Matching	Insignificant
UK	Lalive et al. (2005)	Services and Sanctions		1997–1999	Duration	Positive	
	Lalive et al. (2000)	Training		1997–1999	Duration	Negative	
	Bell et al. (1999)	Private sector incentive	Youths	1997–1998	Matching	Insignificant	
	Blundell et al. (2004)	Services and Sanctions	Youths	1998–1999	Matching	Positive	
		Private sector incentive	Youths	1998–1999	Matching	Positive	
	Dolton and O'Neill (1996)	Services and Sanctions		Early 90s	Duration	Positive	
	Dolton and O'Neill (2002)	Services and Sanctions		1987–1994	Experiment	Positive	
	Green et al. (1996)	Training	Youths	Late 80s	OLS/selection/other	Insignificant	
	Main (1985)	Training	Youths	Early 80s	OLS/selection/other	Positive	
	Main and Raffe (1983)	Training	Youths	Early 80s	OLS/selection/other	Positive	
	Payne et al. (1996)	Training		Early 90s	Matching	Positive	
		Public sector employment		Early 90s	Matching early	Insignificant	
	White and Lakey (1992)	Services and Sanctions		Late 80s	Experiment	Positive	
	Whitfield and Bourlakis (1991)	Training	Youths	Early 80s	OLS/Selection/other	Positive	

Notes to Table 2:

"Program type" as defined in Section 2. "Target group" is explicitly specified only if programs target either youths or disabled – all other programs target adult unemployed workers or welfare recipients. "Observation period" refers to the operating period of the program for which the evaluation is conducted. "Evaluation method" distinguishes between (i) "Experiment", (ii) "Matching" = matching estimator or differences-in-differences, (iii) "Duration model", and (iv) "OLS/selection/other" as residual category.

1990s (81 observations), whereas only 4 observations are from the 1970s. 16 observations come from the 2000s, and 36 from programs run in the 1980s. Moreover, in one specification we distinguish whether the size of the sample that the study uses is small ($N < 1000$), medium ($1000 \leq N \leq 10,000$), or large ($N > 10,000$)⁶. 43% of the studies are small, 40% are medium-sized, and 17% are based on large samples.

3.4.3. Institutional context

Since ALMPs aim at increasing participants' employment chances, other factors potentially determining employment chances in a particular labor market need to be taken into account. Four indicators are therefore used to capture the institutional labor market context, particularly the regulations that may influence the willingness of employers to hire ALMP participants, and the willingness of participants to take jobs. In the former category, we include an index for dismissal protection, and two indicators regarding fixed term and temporary employment. The dismissal protection index takes on values between 0.8 (for the UK in the early 1980s) to 4.3 (for Portugal in the late 1990s). The indicator of regulation over fixed-term contracts takes on values from 0 (for several countries including the UK) to 5.3 (for Belgium in the early 1990s). The index of control over temporary-work agencies takes on values from 0.5 (for several countries including Denmark) to 5.5 (for Sweden, during the period from the 1970s to the early 1990s). All three indicators are taken from the 2004 OECD Employment Outlook (OECD 2004a). The variable representing the willingness of participants to take jobs is the gross replacement rate, taken from the OECD publication "Benefits and Wages: OECD Indicators" (OECD 2004b). This takes on values between 17.5% (for UK in the late 1990s) and 63.7% (for Denmark in 1996).

3.4.4. Macroeconomic conditions

Finally, the economic background against which we would like to interpret program effectiveness in a given country is captured by three variables: the unemployment rate; the annual growth rate of GDP; and the current rate of expenditures on ALMP as a percentage of GDP. These variables are measured at the time when the particular program was actually running. If the period of program operation spans several years, the respective averages are considered. In the data, the unemployment rate ranges from 1.9% (for Sweden in the late 1970s) to 16.5% (for Ireland in the late 1980s). GDP growth varies between -0.7 (for Finland during the time period 1990–1995) and $+7.1$ (for Estonia during 2000–2002). The ALMP spending index ranges from 0.03% of GDP (Slovak Republic 1993–1998) to 2.68% of GDP (Sweden in the early 1990s).

Table 3 gives an overview of these summary statistics. It is important to emphasize that the variables capturing the institutional and economic background are time-variant, i.e. they are always measured in the specific country at the particular time when the particular program was run.

3.5. Challenges and caveats

While the advantages of conducting a meta-analysis in the given context have been highlighted above (also with reference to Stanley 2001), several challenges and caveats need to be mentioned. First, collecting the data following the above-specified protocol implies taking the results of the evaluation studies at "face value". Whereas it is very likely the case that most empirical researchers in economics would immediately believe results produced by an experiment, this cannot be said for any one of the many available nonexperimental techniques. Despite substantial increases in data quality and advances

Table 3
Meta-data on European ALMP: summary statistics.

	Number of studies	Mean (SD)
(a) Types of programs and target groups		
Training	70	
Direct employment program	26	
Private sector incentive scheme	23	
Services and Sanctions	21	
Programs for young workers	35	
(b) Research design and time period		
Experiment	9	
Matching estimator	51	
Duration model	42	
OLS, Selection, other	39	
Program implemented in the 1970s	4	
Program implemented in the 1980s	36	
Program implemented in the 1990s	81	
Program implemented in the 2000s	16	
(c) Institutional context on the labor market		
Index for dismissal protection regulation		2.29 (.75)
Index for fixed-term contracts regulation		2.16 (1.16)
Index for temporary work regulation		2.34 (1.66)
Gross replacement rate		35.65 (11.8)
(d) Macroeconomic background		
Unemployment rate		7.82 (3.27)
ALMP expenditure (% of GDP)		1.23 (.59)
GDP growth		2.54 (1.35)
(e) Major countries		
Austria	4	
Denmark	15	
France	12	
Finland	8	
Germany	16	
Ireland	5	
Netherlands	11	
Norway	12	
Sweden	23	
Switzerland	5	
United Kingdom	12	

Notes: All institutional variables (c) and macro variables (d) are time-variant and always measured at the time when the particular program was run. In the data, the OECD index for dismissal protection varies from 0.8 to 4.3, the OECD index for fixed-term contracts varies from 0 to 5.3, and the OECD index for temporary work varies from 0.5 to 5.5.

in evaluation methodology (Blundell and Costas-Dias 2000, Heckman et al., 1999), it still depends on the particular context which identification strategy is appropriate. All of matching estimators, duration models, control functions, etc can be the right but also the wrong thing to do when evaluating a given program. Since the assumptions needed for identification of average treatment effects are not statistically testable, no objective measure exists that could describe how good or appropriate the approach chosen by an evaluation study is. Hence, the ALMP evaluations database has to rely on the assumption that the requirements imposed by the protocol identify those studies that can be trusted.⁷

This also implies, secondly, that possible estimation biases cannot be addressed. Potential sources of bias in the estimates could be (a) changes in behavior before entry into a program (so-called "threat effects"), which may bias downwards impact the estimates for sanctions, direct employment programs and youth programs. Since long-run data are typically still not available, long-term impacts are observed only for a small part of the studies. This may (b) bias downwards the impact estimates of training programs in particular, since e.g. recent studies by Lechner, Miquel and Wunsch (2004 and

⁶ Besides these thresholds on total sample size it is required that both treated and comparison samples are sufficiently large (about half the corresponding threshold) to enter a higher category. That is, for instance, a study using a sample of 100 program participants and 900 comparison individuals would still be a "small" study.

⁷ Of course the fact whether a study is published in a refereed journal could serve as an objective quality indicator, and journal ranking could in addition even generate a quality scale. This would, however, exclude more than half the studies in our database, and also the issue of publication bias would arise (see below).

Table 4
Correlates of ALMP effectiveness.

	(1) Negative treatment estimate		(2) Positive treatment estimate		(3) Negative treatment estimate		(4) Positive treatment estimate	
	Marginal effect	<i>t</i>	Marginal effect	<i>t</i>	Marginal effect	<i>t</i>	Marginal effect	<i>t</i>
(a) Type of program and target group (omitted: training; adults/disabled)								
Direct employment program	0.155	1.92	-0.216	-2.13	0.174	1.99	-0.248	-2.25
Private sector incentive scheme	-0.144	-3.52	0.280	2.91	-0.148	-4.00	0.309	3.34
Services and Sanctions	-0.205	-3.87	0.436	4.63	-0.195	-3.69	0.441	4.29
Young workers	0.140	1.79	-0.202	-1.94	0.162	2.19	-0.239	-2.39
(b) Research design and timing (omitted: OLS/selection/others; studies from the 1970s and 1980s)								
Experiment	0.314	1.32	-0.356	-1.87	0.322	1.30	-0.372	-1.86
Matching	0.061	0.88	-0.095	-0.94	0.000	0.00	0.000	0.00
Duration	0.041	0.50	-0.064	-0.52	-0.041	-0.52	0.072	0.51
Study from the 1990s	0.115	1.45	-0.192	-1.50	0.210	1.91	-0.368	-2.08
Study from the 2000s	0.190	1.30	-0.248	-1.61	0.416	1.76	-0.457	-2.65
(c) Institutional context on the labor market								
Index for dismissal protection regulation	0.067	1.77	-0.109	-1.76	0.120	1.09	-0.204	-1.05
Index for fixed-term contracts regulation	-0.023	-0.80	0.037	0.80	0.029	0.39	-0.049	-0.39
Index for temporary work regulation	0.001	0.03	-0.001	-0.03	0.005	0.12	-0.008	-0.12
Gross replacement rate	0.004	1.40	-0.006	-1.41	0.004	0.51	-0.006	-0.52
(d) Macroeconomic environment								
Unemployment rate	-0.022	-2.13	0.035	1.95	-0.007	-0.36	0.012	0.36
ALMP expenditure (% of GDP)	0.060	1.12	-0.097	-1.13	-0.050	-0.38	0.084	0.38
GDP growth	0.009	0.35	-0.015	-0.35	0.031	1.08	-0.053	-1.09
(e) Country dummies: (omitted: Sweden)								
Austria					-0.130	-1.65	0.305	1.19
Denmark					-0.023	-0.08	0.041	0.08
France					-0.145	-1.62	0.328	1.23
Germany					-0.138	-1.70	0.298	1.43
Ireland					-0.153	-2.70	0.392	2.52
Netherlands					-0.077	-0.41	0.151	0.36
Norway					-0.173	-2.95	0.421	2.94
United Kingdom					-0.007	-0.02	0.013	0.02
Switzerland					0.140	0.28	-0.194	-0.34
Finland					-0.156	-2.65	0.383	2.07
Countries with few evaluations					-0.173	-2.25	0.412	1.90
N	137				137			
Pseudo R ²	0.136				0.165			

Notes: The dependent variable is a categorical variable indicating whether the estimate of the program effect is negative (-1), insignificant (0), or positive (+1). Table entries in columns (1)–(4) document the marginal effects (evaluated at the sample mean) from the corresponding ordered probit regression for the negative and positive outcomes, respectively i.e. the difference in the predicted probability for achieving a negative (positive) treatment effect which arises from a marginal change in a continuous explanatory factor (such as the GDP growth rate) or which arises from changing an indicator among the explanatory factors (such as the indicator for an experimental study design) from 0 to 1. *T*-ratios of the marginal effects are reported in adjacent columns. The underlying standard errors adjust for clustering by study.

2005) show that training impacts may materialize several years after participation. Finally, (c) the question on whether or not a given evaluation fails to correct for selection on unobservables cannot be addressed.

A third challenge that arises in any meta-analysis is the issue of publication bias, i.e. whether there may exist a tendency for studies with significantly positive (or at least significant) results to get published (and therefore disproportionately represented in the meta data), while studies with insignificant impact estimates remain in the “file drawer”. Publication bias is typically investigated using “funnel plots” plotting the size of the estimated effect against either sample size or standard error (Higgins and Green 2005). For instance, Ashenfelter et al. (1999) analyze estimates of the rate of return to schooling and indeed find evidence for publication bias.

Given that the ALMP evaluations database does not contain effect size, such a formal procedure cannot be implemented. At the time of data collection, 66 of the evaluations were published, and 71 were not. Among the published evaluations, 35 find significantly positive impacts, 10 find significantly negative impacts, and 21 find no significant impact. Among the unpublished evaluations, 40 find significantly positive impacts, 19 find significantly negative impacts, and 12 find no significant impact. Looking at these raw distributions, there appears to be no indication that in the ALMP database significant

impacts would have a stronger tendency to get published. Also, the correlation coefficient between “Evaluation finds a significant impact” and “Evaluation is published” is -0.17.⁸

4. Empirical results

4.1. Full sample

To investigate the correlates of ALMP effectiveness, we fit ordered probit models to the database of evaluation studies. The outcome of interest is a trinomial dependent variable taking on the values -1 for a significant negative impact estimate, 0 for an insignificant impact estimate, and +1 for a significant positive impact estimate. Table 4 presents estimates of the marginal effects for obtaining a negative

⁸ Including a dummy variable “published in the meta regressions yields an insignificant coefficient close to zero in size, and also does not alter any of the other results. The same happens when further separating the 66 published studies into “high impact publications” (20 studies, including, in this context, articles published in Economic Journal, Journal of the European Economic Association, Review of Economic Studies, Journal of Human Resources, Journal of Labor Economics, Journal of Applied Econometrics, Labour Economics) and “low impact publications” (other journals, and articles in collected volumes). Hence these results are not reported in the empirical section.

Table 5
Correlates of ALMP effectiveness: restricted sample.

	(1) Negative treatment estimate		(2) Positive treatment estimate		(3) Negative treatment estimate		(4) Positive treatment estimate	
	Marginal effect	t	Marginal effect	t	Marginal effect	t	Marginal effect	t
(a) Type of program and target group (omitted: training; adults/disabled)								
Direct employment program	0.161	1.98	−0.230	−2.15	0.197	2.14	−0.288	−2.46
Private sector incentive scheme	−0.186	−4.18	0.392	3.57	−0.179	−4.20	0.415	3.71
Services and Sanctions	−0.227	−3.88	0.517	8.17	−0.223	−3.86	0.548	9.68
Young workers	0.159	1.65	−0.231	−1.82	0.129	1.69	−0.204	−1.81
(b) Research design, sample size, and timing (omitted: OLS/selection/others; small samples; studies from the 1970s and 1980s)								
Experiment	0.666	3.48	−0.559	−6.52	0.737	3.92	−0.592	−7.42
Matching	0.155	1.73	−0.243	−2.07	0.037	0.28	−0.065	−0.28
Duration	0.046	0.49	−0.074	−0.50	−0.088	−0.90	0.168	0.88
Medium sized sample	−0.086	−1.10	0.148	1.11	−0.086	−1.03	0.159	1.04
Large sample	−0.030	−0.33	0.053	0.32	0.025	0.24	−0.044	−0.25
Study from the 1990s	0.156	1.61	−0.289	−1.70	0.205	2.02	−0.418	−2.10
Study from the 2000s	0.370	1.92	−0.423	−2.88	0.534	2.02	−0.550	−3.30
(c) Institutional context on the labor market								
Index for dismissal protection regulation	0.067	1.49	−0.112	−1.51	0.147	1.26	−0.264	−1.20
Index for fixed-term contracts regulation	−0.024	−0.69	0.039	0.70	0.009	0.10	−0.016	−0.10
Index for temporary work regulation	−0.023	−0.75	0.038	0.73	−0.017	−0.38	0.031	0.38
Gross replacement rate	0.004	0.92	−0.006	−0.96	0.000	0.05	−0.001	−0.05
(d) Macroeconomic environment								
Unemployment rate	−0.030	−2.30	0.051	2.05	−0.023	−0.93	0.041	0.92
ALMP expenditure (% of GDP)	0.038	0.65	−0.064	−0.65	0.030	0.18	−0.054	−0.18
GDP growth	−0.009	−0.31	0.015	0.31	0.021	0.56	−0.038	−0.57
(e) Country dummies: (omitted: Sweden)								
Austria					0.053	0.13	−0.087	−0.14
Denmark					0.321	0.58	−0.392	−0.83
France					0.104	0.24	−0.161	−0.28
Germany					−0.074	−0.44	0.150	0.38
Ireland					−0.106	−0.82	0.247	0.65
Netherlands					−0.023	−0.09	0.044	0.09
Norway					−0.124	−1.12	0.286	0.85
United Kingdom					0.320	0.39	−0.369	−0.59
Switzerland					0.464	0.64	−0.467	−1.15
Finland					−0.112	−0.98	0.260	0.72
Countries with few evaluations					−0.057	−0.22	0.112	0.19
N	109				109			
Pseudo R ²	0.192				0.230			

Notes: See Table 4.

(column 1) and positive outcome (column 2), respectively, for the full sample and the set of explanatory variables (a)–(d). A second specification (columns 3 and 4) includes country dummies. In interpreting these estimates it is clearly useful to compare the sign and magnitude of the coefficients for each independent variable on two margins: the margin between a significant negative versus an insignificant effect (columns 1 and 3); and the margin between a significant positive versus an insignificant effect (columns 2 and 4). Generally, one would expect these coefficients to be opposite in sign.

The results of panel (a) in Table 4 indicate that the program type is highly correlated with program effectiveness. Both private sector incentive schemes and Services and Sanctions are significantly more likely to yield a *higher* probability of positive treatment effects and a *lower* probability of negative treatment effects, relative to training programs. On the other hand, direct employment programs are associated with a significantly higher probability of negative treatment effects and a significantly lower probability of positive treatment effects. For youths, the same pattern holds, though the effects are a little less pronounced. Significance levels of the “youths” dummy are higher in the specification with country dummies

(columns 3 and 4), while the patterns regarding program type remain expressed.

Looking at the covariates in panel (b), there is some indication that experimental studies have a lower probability of yielding significant positive effects. No pattern emerges regarding the nonexperimental approaches. In the specification with country fixed effects, the more recent studies from the 1990s and 2000s seem to be less likely to estimate significant positive treatment impacts.

Perhaps surprisingly, the contextual factors regarding labor market regulations (panel c) appear to play no significant role when it comes to the effectiveness of active programs. There is a slight indication that strict dismissal protection may be associated with both a higher probability of negative impacts and a lower probability of positive impacts. Among the macro variables (d), ALMP expenditure and GDP display no significant influence, while a higher unemployment rate is significantly associated with a lower probability of a negative impact estimate, and a higher likelihood of a positive impact.

Columns 3 and 4 report results for the specification with country dummies, controlling for any permanent features of different countries that may influence the relative success of ALMPs. We use Sweden as the

Table 6
Correlates of ALMP effectiveness: training programs.

	(1) Negative treatment estimate		(2) Positive treatment estimate		(3) Negative treatment estimate		(4) Positive treatment estimate	
	Marginal effect	<i>t</i>	Marginal effect	<i>t</i>	Marginal effect	<i>t</i>	Marginal effect	<i>t</i>
(a) Target group (omitted: adults/disabled)								
Young workers	0.241	1.86	−0.298	−2.21	0.221	1.64	−0.292	−1.89
(b) Research design and timing (omitted: experiment and OLS/others; studies from the 1970s and 1980s)								
Matching	0.060	0.59	−0.084	−0.61	−0.092	−0.83	0.148	0.80
Duration	0.092	0.69	−0.125	−0.75	−0.106	−0.83	0.178	0.77
Study from the 1990s	0.171	1.41	−0.251	−1.42	0.241	1.88	−0.379	−1.97
Study from the 2000s	0.684	4.97	−0.573	−6.33	0.856	11.89	−0.664	−9.74
(c) Institutional context on the labor market								
Index for dismissal protection regulation	0.032	0.32	−0.046	−0.33	−0.008	−0.08	0.012	0.08
Index for fixed-term contracts regulation	−0.036	−0.57	0.052	0.60	−0.069	−1.17	0.107	1.26
Index for temporary work regulation	0.003	0.07	−0.004	−0.07	−0.007	−0.17	0.011	0.17
Gross replacement rate	0.006	0.92	−0.008	−0.97	0.032	2.14	−0.049	−2.33
(d) Macroeconomic environment								
Unemployment rate	−0.056	−3.29	0.081	3.12	−0.075	−3.15	0.117	3.19
ALMP expenditure (% of GDP)	0.171	1.74	−0.245	−1.69	0.269	1.77	−0.416	−1.78
GDP growth	−0.002	−0.06	0.003	0.06	0.052	1.03	−0.080	−1.00
(e) Country dummies: (omitted: Sweden)								
Denmark					−0.263	−3.26	0.555	6.09
France					0.382	1.01	−0.405	−1.47
Germany					0.433	1.40	−0.458	−1.98
Norway					−0.162	−1.78	0.316	1.44
Sweden					0.138	0.40	−0.192	−0.45
United Kingdom					0.434	0.96	−0.441	−1.47
<i>N</i>	70				70			
Pseudo <i>R</i> ²	0.198				0.232			

Notes: See Table 4.

omitted country in the base category. Sweden is the European country with the longest tradition of ALMP. It also has a tradition of extensive data collection and thorough evaluation of the active labor market programs. A total of 23 observations in the data originate in Swedish evaluation studies, 9 of which find a significant positive impact (39%, quite a bit below the full sample average of 55%). Note that the last country dummy in Table 4 is labeled “Countries with few evaluations”, a residual category containing those countries with only one or two program evaluations in the data.

The results of this second specification are generally consistent with the findings from the first specification, in particular regarding program types and target group: Direct employment programs are associated with a significantly lower probability of displaying positive treatment effects (−24.8 percentage points) and higher probability of negative effects (+17.4 percentage points) relative to training, while the opposite is the case for private sector incentive schemes (+30.9 percentage points in the probability of a significant positive impact estimate, −14.8 percentage points in the probability of a significant negative impact estimate). For Services and Sanctions this pattern is even more expressed.

Programs for young workers are particularly unlikely to yield positive employment impacts. It is worth emphasizing that these relative program effects are identified by comparing the relative impacts of different types of programs *in the same country*, and are therefore unaffected by unobserved country-specific factors that are correlated with the relative use of different types of ALMPs.

In addition, in the second specification a negative association between more recent evaluation studies and positive impact estimates emerges, while the negative association between strict dismissal regulations and positive impact estimates disappears. Similarly, the marginal effect of the unemployment rate becomes

insignificant, and almost zero in size. This implies that the significant association found in the first specification is largely driven by cross-country differences in unemployment rates that happen to be correlated with the relative impact of ALMPs, rather than by temporal variation in unemployment and the estimated program impacts. Given the limited variation of most of the contextual factors in (c) and (d) over time, the specification with country fixed effects thus tends to hide interesting patterns regarding dismissal protection and unemployment rate, such that the first specification would be preferable. The strong patterns regarding program type and target group are the same for both specifications.

4.2. Recent studies

Table 5 presents results of the meta regression restricting the sample to evaluations of programs that were implemented in 1990 or later. While this demarcation is somewhat arbitrary, the reasons for considering the later programs are that more recent evaluations are based on better data and are more likely to benefit from methodological advances, thus presumably producing results that are more reliable. This restriction reduces the sample to 109 observations. As explanatory variables we also include indicators for the size of the sample used in the evaluation study (for the classification cf. above).

The main patterns of the results in Table 5 are similar to the full sample results. First, program type matters: relative to training programs, evaluations of direct employment programs are significantly less likely to estimate significant positive impacts, and more likely to estimate significant negative effects. The opposite is true for both private sector incentive programs and Services and Sanctions,

Table 7
Correlates of ALMP effectiveness: youth programs.

	(1) Negative treatment estimate		(2) Positive treatment estimate	
	Marginal effect	<i>t</i>	Marginal effect	<i>t</i>
(a) Type of program and target group (omitted: training)				
Direct employment program	0.009	0.24	-0.064	-0.27
Private sector incentive scheme	-0.029	-1.00	0.295	2.16
Services and Sanctions	-0.024	-0.92	0.488	1.48
(b) Research design and timing (omitted: experiment and OLS/others; studies from the 1970s and 1980s)				
Matching	-0.006	-0.14	0.045	0.14
Duration	-0.029	-0.85	0.450	1.72
Study from the 1990s	0.107	1.04	-0.650	-2.44
Study from the 2000s	0.028	0.33	-0.137	-0.45
(c) Institutional context on the labor market				
Index for dismissal protection regulation	-0.002	-0.06	0.016	0.06
Index for fixed-term contracts regulation	0.002	0.14	-0.018	-0.15
Index for temporary work regulation	0.023	0.83	-0.177	-1.72
Gross replacement rate	0.001	1.08	-0.011	-1.12
(d) Macroeconomic environment				
Unemployment rate	0.001	0.16	-0.008	-0.16
ALMP expenditure (% of GDP)	-0.008	-0.22	0.066	0.21
GDP growth	-0.021	-0.75	0.164	0.83
<i>N</i>	35			
Pseudo <i>R</i> ²	0.400			

Notes: See Table 4.

and all corresponding marginal effects in Table 5 are statistically significant.

Second, active programs for young workers are less likely to be effective, though results for the restricted sample are on the margin of significance and not as expressed as for the full sample. Third, studies based on randomized experiments are less likely to estimate positive program impacts, and so do – in the preferred specification without country fixed effects – matching estimators. Fourth, no significant association between dismissal protection regulations and program effectiveness is found for the restricted sample, while the tentative finding that programs tend to be more effective when unemployment rates are higher still shows.

4.3. Training programs and programs for youths

In the meta regressions, training is used as the base category and the effects of other programs are interpreted relative to training. It is thus worthwhile to investigate further the effectiveness that training has itself. In the database, with 70 out of 137 evaluations, the large majority of ALMP evaluations considers training programs. 38 of these 70 training evaluations, i.e. 54.3%, find a significant positive effect. Relative to the other program types private sector incentive programs with 73.9% (17 out of 23 evaluations), public sector job creation with 26.9% (7 out of 26), and Services and Sanctions with 71.4% (15 out of 21), this probability seems modest, yet promising.

Table 6 presents results for the sample of training evaluations only, correlating the trinomial outcome (positive, negative, or insignificant impact estimate) with the set of explanatory variables used in the previous meta regressions. Columns 1 and 2 report the main specification, columns 3 and 4 add country dummies. Both specifications show that youth training programs have a significantly lower probability of showing a positive effect (Panel a), and that programs implemented more recently in particular have a significantly lower

probability of displaying positive effects (Panel b). This development could be in line with more recent evaluations based on better data and more robust methods, relative to the more optimistic findings on early training programs. In fact, also the raw probability of finding a significant positive training effect is lower for programs implemented after 1990 (45.6%, or 21 out of 46 evaluations).

Two more interesting correlations reported in Table 6 regard a consistent and significant association of high unemployment with high ALMP effectiveness, and a – marginally significant – association of high total ALMP spending with low ALMP effectiveness. The former could indicate that indeed in times of high unemployment training measures could benefit of a participant inflow with relatively better qualifications due to a larger pool of unemployed individuals. This pattern already showed in the meta regressions across all program types, but the results in Table 6 could imply that this is particularly true for training.

Finally, Table 7 presents results for programs targeting young workers only. While no significant association between the unemployment rate and estimated program impacts is found, there is some slight indication that programs may be less effective in getting young workers into the labor market when temporary work regulations are more restrictive, potentially generating a barrier to entry into the labor market. Regarding program type, private sector incentive schemes seem to be somewhat likely to be effective, but no other significant patterns emerge.

4.4. More on time effects

While we have demonstrated that more recent studies are less likely to estimate significantly positive program effects (Sections 4.1 and 4.2) and that this seems to be specifically the case for training (Section 4.3), it is worth investigating the dynamics of specific programs over time in more depth. Table 8 reports estimation results from a specification including in panel (b) interaction terms for each of the program types “Direct job creation”, “Private sector incentives”, and “Services and Sanctions” with a dummy variable indicating a “Modern study”. The latter combines the indicator variables for studies from the 1990s and the 2000s, and also enters the specification directly.

Several results from this regression are in line with results discussed above, such as the fact that contextual factors show little correlation with program effectiveness, except for dismissal protection regulation and the unemployment rate. The core findings in Table 8, however, are: (i) for the pre-1990 baseline period, there is no noticeable pattern regarding program types (panel a), (ii) the time effect of more recent studies finding less positive impacts is confirmed, and (iii) there is a strong divergence in the effectiveness between program types in the post-1990 period (panel b).

This result seems to indicate that the pronounced pattern of differential effectiveness by program type is a development of the last 10 to 15 years. It might also be that only the more recent studies using more “modern” evaluation designs were able to detect this differential performance. (The result is in line with the more expressed pattern by program type in Table 5 compared with Table 4). Hence, whereas a worrying general trend can be observed that analyses of modern active labor market programs demonstrate a lower degree of effectiveness of these programs, there is also a positive message to be drawn from these results: by contrast to earlier times, modern private sector incentive schemes appear to be set up in a way that works, and it is exactly the modern type of job search assistance programs – which are the ones that typically include sanction elements – that seem to be particularly effective. For modern training programs the evidence is not so clear – but it is certainly interesting to note that they seem to be much more affected by the state of the economy than other programs, showing positive impacts in particular at times when unemployment is high (Table 6; a finding e.g. also elaborated in detail for Germany in Lechner and Wunsch 2009).

Table 8
Correlates of ALMP effectiveness: time effects.

	(1) Negative treatment estimate		(2) Positive treatment estimate		(3) Negative treatment estimate		(4) Positive treatment estimate	
	Marginal effect	<i>t</i>	Marginal effect	<i>t</i>	Marginal effect	<i>t</i>	Marginal effect	<i>t</i>
(a) Type of program and target group (omitted: training; adults/disabled)								
Direct employment program	0.072	0.31	−0.110	−0.33	0.077	0.32	−0.122	−0.34
Private sector incentive scheme	−0.035	−0.34	0.059	0.33	−0.040	−0.38	0.073	0.37
Services and Sanctions	−0.098	−0.81	0.184	0.73	−0.106	−0.92	0.216	0.81
Young workers	0.166	1.96	−0.238	−2.18	0.175	2.29	−0.260	−2.54
(b) Research design and timing (omitted: OLS/selection/others; studies from the 1970s and 1980s)								
Experiment	0.267	1.06	−0.319	−1.46	0.265	0.93	−0.327	−1.29
Matching	0.067	0.94	−0.107	−1.01	−0.004	−0.05	0.008	0.05
Duration	0.048	0.54	−0.077	−0.57	−0.026	−0.31	0.046	0.30
Modern study: 1990s/2000s	0.148	2.14	−0.268	−2.00	0.216	2.76	−0.430	−2.88
Direct employment program*modern	0.084	0.33	−0.126	−0.37	0.108	0.40	−0.165	−0.46
Private sector incentive*modern	−0.148	−2.15	0.307	1.49	−0.149	−2.47	0.337	1.71
Services and Sanctions*modern	−0.174	−2.98	0.386	2.52	−0.172	−3.18	0.419	2.90
(c) Institutional context on the labor market								
Index for dismissal protection regulation	0.072	1.86	−0.118	−1.89	0.098	1.01	−0.171	−0.99
Index for fixed-term contracts regulation	−0.018	−0.62	0.030	0.62	0.005	0.08	−0.010	−0.08
Index for temporary work regulation	−0.007	−0.27	0.012	0.26	−0.002	−0.04	0.003	0.04
Gross replacement rate	0.004	1.21	−0.006	−1.27	0.001	0.09	−0.001	−0.09
(d) Macroeconomic environment								
Unemployment rate	−0.026	−2.13	0.043	1.90	−0.026	−1.15	0.045	1.11
ALMP expenditure (% of GDP)	0.051	0.95	−0.084	−0.96	−0.011	−0.08	0.019	0.08
GDP growth	0.009	0.35	−0.015	−0.35	0.030	1.09	−0.052	−1.10
(e) Country dummies: (omitted: Sweden)								
Austria					−0.100	−0.81	0.220	0.63
Denmark					0.101	0.26	−0.153	−0.29
France					−0.010	−0.04	0.017	0.04
Germany					−0.098	−0.90	0.202	0.78
Ireland					−0.135	−1.84	0.336	1.47
Netherlands					0.066	0.19	−0.104	−0.21
Norway					−0.154	−2.37	0.374	2.00
United Kingdom					−0.015	−0.05	0.029	0.05
Switzerland					0.117	0.27	−0.170	−0.32
Finland					−0.091	−0.61	0.192	0.50
Countries with few evaluations					−0.084	−0.43	0.169	0.37
<i>N</i>	137				137			
Pseudo <i>R</i> ²	0.151				0.181			

Notes: See Table 4.

5. Conclusion

This paper provides a meta-analysis of the effectiveness of active labor market programs in Europe. The analysis is based on a data set containing 137 program evaluations originating in 96 academic studies from 19 countries. The objective of the analysis is to investigate systematic patterns between ALMP impact estimates and type of program, the research method used in the evaluation, and the institutional and economic context of the implementation of the program. In the context of program evaluation, such a systematic analysis has so far only been implemented for US studies (Greenberg et al., 2003) and in a very basic version on the basis of a small sample for Europe (Kluge and Schmidt 2002). While several narrative reviews of European program evaluations exist (Martin 2000, Martin and Grubb 2001), they do not provide a quantitative analysis of correlates of estimated program effectiveness.

The picture that emerges from the meta regressions is surprisingly clear-cut. Once the type of program is taken into account, the analysis shows that there seems little systematic relationship between program effectiveness and a host of other contextual factors, including

in particular the macroeconomic environment and a variety of indicators for institutional features of the labor market.

The main patterns showing in the meta regression indeed regard the program type. Traditional training programs have a modest likelihood of generating a significant positive impact on post-program employment rates. Relative to training, both private sector incentive programs and Services and Sanctions show a significantly better performance. The meta-analysis finds that evaluations of these types of programs have a 30 to 50 percentage points higher probability of estimating a significant positive impact than training programs. Evaluations of direct employment programs on the other hand are around 25 percentage points less likely to estimate a significant positive impact on post-program employment outcomes. Moreover, we consistently find that programs targeting youths are significantly less likely to be effective.

There are three exceptions to the general observation that contextual factors play a negligible role. First, the fact that the more recent evaluations tend to have a lower probability of estimating significant positive treatment impacts. While the exact reason for this cannot be identified, rather than implying that programs have become less effective over time it is more likely the case that the more recent evaluations based on better

data come to less positive conclusions than earlier studies. At the same time this does, however, most certainly imply that general program performance has also not improved over time, a somewhat discouraging finding given several decades of experience with active programs (Greenberg, Michalopoulos and Robins find a similar result for US training programs). The positive finding in this regard, however, is that it seems to be the modern types of active programs that drive the pronounced differential pattern of program effectiveness. This implies that modern private sector incentive schemes are the ones that work, and that modern types of “Services and Sanctions” are particularly effective. This is certainly good news for the public employment services.

Second, there is some indication that strict dismissal protection regulations are associated with lower program effectiveness. Third, it also seems to be the case that active programs are more likely to work when the unemployment rate is higher. This result appears particularly robust for training programs.

In summary, the meta analysis in this paper substantiates several patterns of European ALMP that were previously not detected, at least and certainly not to such a pronounced extent. Directions for future research are rather obvious. Further effort would be useful to learn more about the dependent variable – effect size, standard error, long-run versus short-run, etc.⁹ Moreover, a continuing extension of the database used in this paper would be useful. Recurring meta analyses of the expanding European evaluations database could then produce further insight regarding which program works, and under what circumstances.

Acknowledgements

Part of this research has its origin in the project “Study on the effectiveness of ALMPs” conducted from Nov 2004 until Dec 2005 by RWI, together with a network of researchers, for the European Commission, Directorate General Employment, Social Affairs and Equal Opportunities, Contract No. VC/2004/0133. The network members Marek Góra (Poland), Peter Jensen (Denmark), Reelika Leetmaa (Estonia), Eleonora Patacchini (Italy), Bas van der Klaauw (The Netherlands), and Andrea Weber (Austria) provided essential country-specific information. I am also grateful to Lena Jacobi, Leonhard Nima, and Sandra Schaffner for invaluable research assistance, and to David Card, Michael Fertig, Dale Mortensen, Christoph Schmidt, participants of the EEA 2006 meetings in Vienna, of the EALE 2006 meetings in Prague, of a COST A23 network meeting at Essen, of the IFAU/IZA 2006 Program Evaluation Conference in Uppsala, of a seminar at CPB The Hague, of the SOLE 2007 meetings in Chicago, as well as to members of the respective Directorate General for many important comments and discussion. Suggestions made by two anonymous referees and the editor substantially improved the argumentation and presentation in the paper. The opinions expressed are those of the author only and do not represent the Commission’s official position.

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⁹ A first effort in this regard is made in a recent working paper by Card et al. (2009) on the basis of a new and different data collection.

¹⁰ Lechner et al. (2004, 2005) are also used in the meta-analysis but already cited in the above references.

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