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ABSTRACT

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Measures of Active Labor Market Policy are widely used in European countries, but despite many econometric evaluation studies no conclusive cross-country evidence exists regarding "what program works for what target group under what (economic and institutional) circumstances?". This paper results from an extensive research project for the European Commission aimed at answering that question using a meta-analytical framework. The empirical results 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 matters for program effectiveness. While direct employment programs in the public sector appear detrimental, wage subsidies and "Services and Sanctions" can be effective in increasing participants' employment probability.

JEL Classification: J00, J68

Keywords: Active Labor Market Policy, program evaluation, meta analysis

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1. Introduction

Active Labor Market Policies – including measures such as job search assistance, labor market training, wage subsidies to the private sector, and direct job creation in the public sector – are an important element of European countries' effort to combat unemployment. For EU member states, Active Labor Market Policies (ALMPs) constitute a central part of their *European Employment Strategy*, which defines employment as one key objective of a joint economic policy. While such active policies 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.

A substantial number of evaluations of ALMP effectiveness has been conducted in Member States and other European countries (e.g. 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 the short-term employment effects of active measures for the treated population, disregarding the possibility of positive or negative interactions between ALMP 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 Labor Market Policies actually reduce unemployment or raise the number of employed workers, and which type of program seems most promising. In particular, it is anything but evident what any one country can learn from ALMP experiences in another country. Few overview studies exist (Martin 2000, Martin and Grubb 2001), and while providing important surveys of programs and evaluation studies at the time, their largely descriptive nature does not allow the deduction of firm policy conclusions.

It is the objective of this paper to overcome this deficit, by utilizing an appropriate conceptual framework that allows drawing systematic conclusions and deriving policy recommendations from the available cross-country evidence on ALMP effectiveness. The analysis, in principle, is set against the backdrop of two frames. The first frame is given by a discussion and definition of active labor market program types, and program expenditure by country and type of measure. The most important ALMP categories across European countries are (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. It is important to note that 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 active labor market programs for the disabled, very few evaluations of these measures exist.

The second frame regards the methodology of program evaluation. Since the cross-European analysis of ALMP effectiveness must necessarily rely on credible evaluation studies from all countries involved, appropriate outcome variables and cost measures, as well as feasible identification strategies that can help solve the so-called "evaluation problem" (i.e. the inherent unobservability of the counterfactual no-program situation) must be discussed and properly specified. In order to not unnecessarily inflate the volume of the paper, we abstain from a detailed assessment and refer to the fact that the methodological aspects of evaluating ALMPs by now have been discussed extensively in the literature (cf., for instance, Heckman, LaLonde, Smith 1999, Blundell and Costas-Dias 2000, Kluve and Schmidt 2002, and many others) and can be considered as rather well-established. Recent evaluation studies from across Europe also prove an increasing awareness and elaborateness regarding the use of particular identification approaches to assess causal effects of treatments.

Logically building on these frames as a backdrop, the subsequent analysis of ALMP effectiveness concentrates on two focal points. First, we present a collection of recent evaluation studies from Europe that were conducted since the earlier systematic European reviews in Heckman et al (1999) and Kluve and Schmidt (2002). This collection amounts to a substantial set of studies. We present those analyses study-by-study in an overview table, and summarize their findings in a descriptive manner.

Second, we complement these tentative findings with a quantitative analysis of the available evidence. This meta-analysis constitutes the core part of the paper, and is intended to allow a systematic assessment and interpretation of the existing cross-country evidence. The analysis correlates the effectiveness of the program – i.e. whether the reported treatment effect on employment probability is positive, negative, or zero – with a set of variables capturing (a) the type of program, (b) the study 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. We will see that the picture that emerges from this quantitative analysis is surprisingly clear-cut, showing that once the *type* of the program is taken into account, there is little systematic relationship between program effectiveness and the other contextual factors.

The paper is structured as follows. In the next section we present a classification of ALMP measures appropriate for a systematic analysis, and shortly discuss ALMP spending in European countries. Section 3 gives a descriptive summary of the empirical evidence on ALMP effectiveness available from recent studies. The fourth section presents the meta analysis of these studies' findings to systematize the review. Section 5 concludes.

2. Types of ALMPs and ALMP expenditure

A large variety of different ALMP 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 measures 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 manufactural 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 to alter employer and/or worker behavior regarding private sector employment. The most prominent measure in this category are wage subsidies. 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 are frequently targeted on 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 subsidies in the private sector, 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 mainly 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 ordinary 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, y**outh 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.

Since specific national programs frequently combine two or more of these categories (e.g. the trainee replacement schemes in Sweden, which entail both training and job creation, cf. Calmfors et al. 2002), a strict classification is not always feasible. In general, training programs, wage subsidies and direct job creation entail aspects that encourage desirable behavior, which are often called "carrots". In contrast, benefit sanctions that exert threats and impose sanctions on undesirable behavior are often called "sticks" (cf. e.g. Kluve and Schmidt 2002).

The growing interest and activity in utilizing ALMPs as a policy measure to combat unemployment is reflected in the money that is being spent on these measures. EU member

states are spending large amounts on active measures; for instance, total spending on ALMPs was 66.6 billion euros for the EU15 in 2003 (Eurostat 2005).

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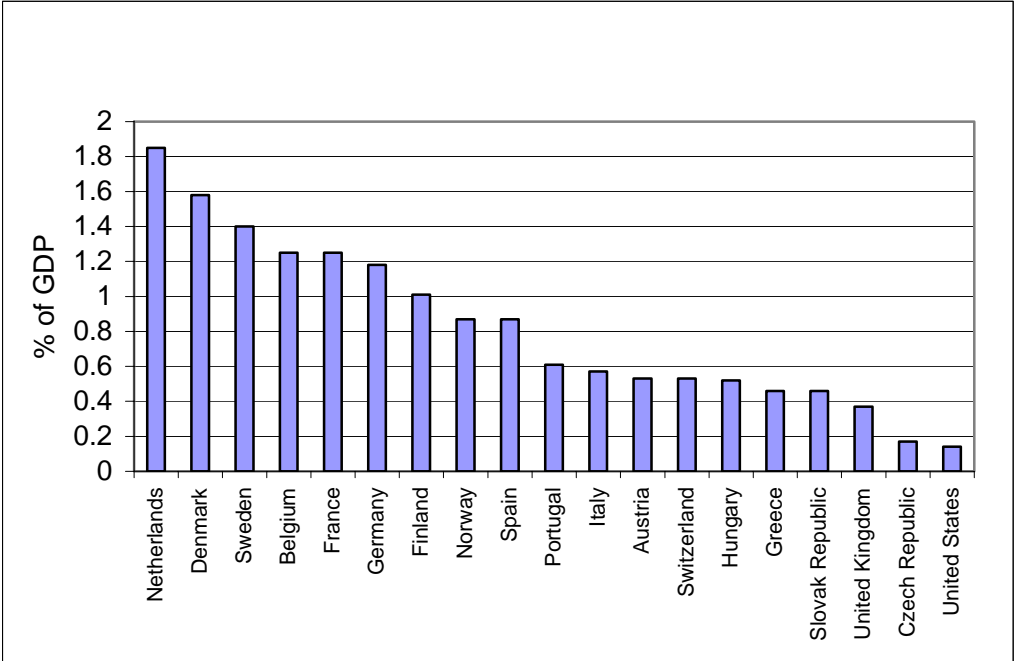
Source: OECD (2004).

Nevertheless, there is a large heterogeneity across member states. Figure 1 depicts expenditure on ALMPs as a percentage of GDP in 2002 and shows a wide disparity of spending on active measures among EU countries. There are numerous countries with high public spending on ALMP (more than 1 percent of GDP) including Belgium, Denmark, Finland, France, Germany, Sweden and especially the Netherlands with the highest amount of spending (1.85 % of GDP) on active measures. In contrast, there are still a few countries with rather modest spending on ALMPs (less than 0.5%) including Greece, the Slovak Republic, the United Kingdom, and the Czech Republic (with the lowest spending of only 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 contrast, active measures receive rather little attention in the United States; their spending of only 0.13% of GDP is lower than for any European country.

Figure 2 illustrates the spending by type for the EU15 in 2003. Training measures amount to the largest share of active spending with around 40 percent. Private sector employment incentives (excluding start-up grants) and public sector job creation schemes each receive about 20% of spending, while self employment grants take up approximately

5%. The expenditure on measures for the disabled amounts to 16 percent. Spending on measures of Job Search Assistance, unfortunately, is not reported, since data are not comparable across countries (cf. Eurostat 2005).

Figure 2. Spending on active measures by type in the EU15, 2003
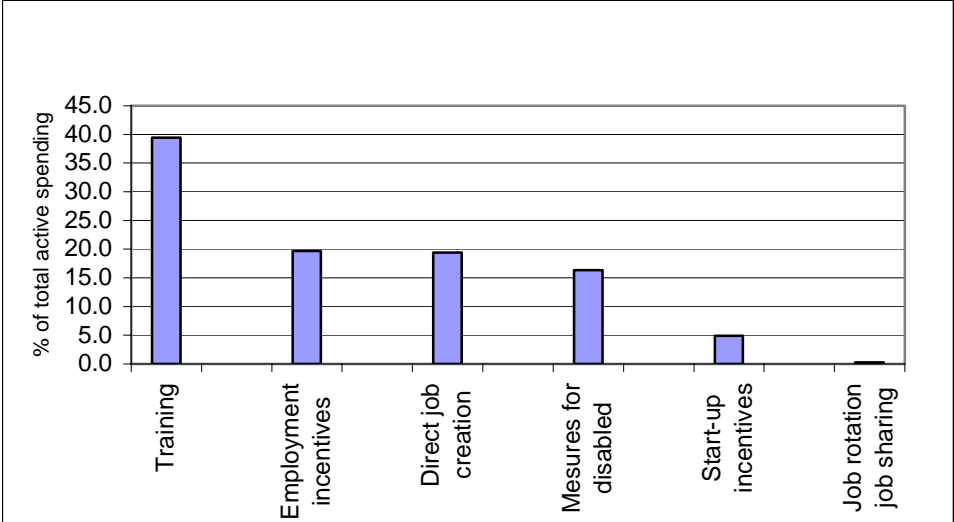
Source: Eurostat (2005).

3. Review of existing evaluation studies

Accompanying the increased interest by European policy makers in the evaluation of comprehensively utilized active labor market measures, especially in the context of the European Employment Strategy, recent years have also seen a growing academic interest in the evaluation of ALMPs. This has resulted in an increasing number of evaluation studies, entailing both a huge step forward in the amount of empirical evidence available, and remarkable advances in analytical techniques for program evaluation. This paper focuses mainly on what could be called "third-generation" evaluation studies, i.e. studies that were conducted at some point in time since the late 1990s, predominantly already in the 2000s, and that are characterized by applying a set of relatively mature and standard (by now) methods from the econometric toolbox. At the same time, these studies evaluate recent programs that were implemented in the 1990s and the 2000s. Before turning to these third-generation studies in detail, we will first give a concise overview about evaluation studies that have been conducted and whose results have been summarized beforehand.

Previous econometric research has been analyzed in overview studies by Heckman et al. (1999) on European program evaluations before 1994 and by Kluve and Schmidt (2002) for subsequent evaluation studies on programs until 1999. Both articles give a study-by-study

review of econometric analyses. The former could be called "first-generation" evaluation studies, since they entail, in general, evaluations of rather new policies at the time, applying rather new econometric techniques on the basis of often still rudimental data. The latter constitute the second generation of European evaluation studies and are mostly characterized by both more mature and a more extensive set of policies, by a deepened and rapidly developing methodological know-how, and frequently much improved data. Both overview studies also juxtapose the respective US and European "evaluation cultures". Additional surveys of ALMP experience are given in Martin (2000) and Martin and Grubb (2001), who give a descriptive account of OECD countries' experience with active labor market measures.

The article by Heckman et al. (1999) presents a thorough overview of microeconomic studies for the US and for Europe, in which the authors emphasize several differences between the two. Whereas US researchers began conducting evaluation studies already in the mid-1970s, European efforts in this field began later, much in line with the later beginning of comprehensive use of such policies. Another difference is that many European evaluations focus on unemployed youth, whereas the US studies focus on more disadvantaged unemployed of all ages. Overall, the authors stress that no clear pattern emerges about the performance of different active measures. For the US, the evidence suggests that government employment and training programs (a) can improve the economic prosperity of low-skilled persons, and (b) have markedly varying impacts on different demographic and skill groups. In particular, the evidence for youths is not encouraging. The general conclusion regarding ALMP effectiveness in the US is that if there are any positive treatment effects at all, then these will be small. Frequently, individual gains from programs are not sufficiently large to lift many participants out of poverty, as is the principal goal in many US programs. For Europe, on the basis of a rather preliminary set of evaluation studies at the time, the authors "[…] do not observe any pattern that leads [them] to conclude that any one active labor market policy consistently yields greater employment impact than another" (Heckman et al. 1999).

Kluve and Schmidt (2002) investigate European evaluation studies covering programs conducted during the time period 1983-1999, but mostly during the 1990s. From an initial quantitative analysis – that also includes the studies reviewed in Heckman et al. (1999) and that is discussed further in the next section – they conclude that studies on ALMP show a large heterogeneity regarding their effects. One of their main results emphasizes that training programs seem likely to improve the labor market prospects of unemployed workers. Furthermore, direct job creation in the public sector has been of little success, whereas

subsidies in the private sector might show at least some positive effects. One consistent result for both Europe and the US are positive effects for job search assistance programs, which are in general the least expensive measures. By contrast, youth programs usually show negative effects also in Europe.

Adding to these earlier reviews, this paper considers a comprehensive set of additional evaluation studies that have been conducted since. All these studies, which sum up to more than the studies in Heckman et al. (1999) and Kluve and Schmidt (2002) taken together, are presented country-by-country in Table A1 in the Appendix. The following discussion in this section merely gives a summary of the main findings of this extensive set of studies, while the upcoming meta-analysis in the next section will intend to systematically review the evidence originating in the studies.

Most of the recent empirical evidence still comes from the microeconomic field, investigating average treatment effects for the treated individuals and neglecting aggregate-level impacts, in particular potential displacement and substitution effects. Relative to this increasingly large set of micro studies, the existing literature on the macroeconomic effects of ALMPs has remained small (cf. the study by Kluve, Card, Fertig et. al. 2005 for an overview). This paper therefore focuses exclusively on a summary of the third generation of microeconomic studies that have been conducted since 2002.[3]

Recent microeconomic studies differ substantially in various aspects. There is a large variety of programs with different design and focus on different target groups. Furthermore, across countries it is clear that programs take place in differing economic environments against a backdrop of specific institutional settings. Table A1 depicts key features – specifically program type, target group, study design, observation period, outcome variables and identification strategy – and results of 73 microeconomic evaluation studies of European ALMPs. Looking at these features, we observe that the studies show some disparity of evaluation design and estimation techniques. The vast majority of studies is based on non-experimental data. Regarding identification strategies in this regard, the "third generation" of program evaluation generally uses either matching estimators or duration models, with few exceptions. It is still common to focus solely on short-run impacts, though some more recent studies try to assess long-term effects if suitable data are available (e.g. Lechner et al. 2004, 2005). While few studies take into account the effects on participants' earnings, most studies estimate the impact of participation on unemployment and employment as the main outcome variables, which is in line with the general objective of such policies in Europe to combat

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[3] The analysis also includes a few evaluation studies conducted before 2002 that have not been reviewed in Kluve and Schmidt (2002).

unemployment, rather than alleviate poverty (as is often the case in the US). Unfortunately, it remains uncommon to conduct rigorous cost-benefit analyses about the efficiency of labor market programs, and only few of the studies mentioned include such an effort.

Training programs are the most widely used active labor market measure in Europe. The assessment of their effectiveness shows rather mixed results; treatment effect estimates are negative in a few cases, and often insignificant or modestly positive. Still, there are several indications that training programs do increase participants' post-treatment employment probability, in particular for participants with better labor market prospects and for women. However, this pattern does not hold for all studies. Locking-in effects of training are frequently reported, though it remains unclear to what extent these are really entirely undesirable, and not rather a necessary element of this type of program.

The more recent literature on the evaluation of training emphasizes the need to consider long-run impacts. Such an assessment has become increasingly possible due to extended data. There are indeed indications from these studies that positive treatment effects of training exist in the long-run. Moreover, if negative locking-in effects were to matter, these would be outweighed by the long-run benefits of program participation. The existence and direction of a relation between the business cycle and the effectiveness of training programs is not clear from the evidence: Some studies report a pro-cyclical pattern, while others report the opposite.

Private sector incentive programs entail wage subsidies and start-up loans. Whereas the latter have rarely been evaluated in European countries, several evaluations of wage subsidy schemes exist. The findings are generally positive. Virtually all studies that evaluate private sector wage subsidy programs – such as several studies from Denmark, but also evidence from Sweden, Norway, Italy, etc – assert beneficial impacts on individual employment probability. These encouraging findings, however, have to be qualified to some extent, since the studies usually disregard potential displacement and substitution effects or deadweight loss that may be associated with wage subsidy schemes.

In contrast to the positive results for private sector incentive programs, direct employment in the public sector rarely shows positive effects. The evidence across countries suggests that treatment effects of public sector job creation on individual employment probabilities are often insignificant, and frequently negative. Some studies identify positive effects for certain socio-demographic groups, but no clear general pattern emerges from these findings. Potential general-equilibrium effects are usually not taken into account. Although these measures may therefore not be justified for efficiency reasons, they may be justified for

equity reasons, possibly exerting positive social impacts by preventing discouragement and social exclusion among participants. Corresponding outcome measures, however, are difficult to assess empirically, such that the literature has focused on treatment impacts on actual employment.

A general assessment of Services and Sanctions across countries indicates that these measures can be an effective means to reduce unemployment. The results appear even more promising given that these measures are generally the least expensive type of ALMP. Moreover, several experimental studies exist for this program type, producing particularly robust evaluation results. There are some indications that services such as job search assistance or counseling and monitoring mainly work for individuals with sufficient skills and better labor market prospects, but less so for the more disadvantaged individuals. This pattern, however, is not entirely clear, since some studies conclude that the opposite is the case.

Whereas in many countries some type of sanction for non-compliance with job search requirements exists, only few sanction regimes have been evaluated. The studies generally find a positive effect on re-employment rates, both for actually imposing sanctions and for having a benefit system including sanctions. A particularly well-balanced system of job search services and sanctions, combined with a set of other active measures such as training and employment subsidies, appears to be the "New Deal" in the UK. This points to the conjecture that the interplay between the services provided by the PES, the requirements demanded from the unemployed individual, and the portfolio of active measures plays an important role regarding ALMP effectiveness. The comprehensive activation approach implemented in Denmark, for instance, also appears promising, even though it clearly requires substantial effort.

For youth programs, no clear pattern arises from the cross-country summary of studies. There are some indications that wage subsidies work for young unemployed individuals, especially for those youths with a more advantaged background. However, some studies do not find this effect, and again potential general-equilibrium effects are disregarded. Youth training programs sometimes display positive treatment effects on employment probability, but negative results are also reported. Whereas the extensive "New Deal" in the UK illustrates the potential effectiveness of Services and Sanctions for youths, this result is not found in evaluations from other countries (e.g. Portugal).

Regarding programs for the disabled, due to a lack of evaluation studies no conclusive evidence exists. The results of the limited empirical evidence available are rather disappointing. Vocational rehabilitation programs seem to have no positive and significant

impact on the employment rates of disabled unemployed.

In summary, looking at the overall assessment of the available evidence, it is difficult to detect consistent patterns, even though some tentative findings emerge. The following quantitative analysis builds on these tentative findings and constitutes an attempt to systematize the evidence and identify such consistent patterns.

4. Quantitative Analysis

The previous section has given a concise summary of a large number of studies and a substantial body of evidence on the effectiveness of ALMPs across Europe. Several preliminary hypotheses are suggested by this collection of evidence. First, sanctions and job search services appear to be relatively effective in raising employment outcomes. Second, training programs seem to have relatively small effects at best, and often have a significant employment impact only in the longer run. Third, programs based on direct employment in the public sector typically have no significant effect, or even a negative effect, on participants' post-program employment outcomes. Given the heterogeneity of specific programs, however, and the difficulties in comparing programs across countries, it is difficult to draw any firm conclusions on the fundamental questions of "Which programs work? For whom? And under what conditions?"

The goal of this chapter is to try to systematically synthesize the evidence reviewed in the earlier chapters, and to assess whether the available data support a set of stronger conclusions than can be derived from any single study. The framework is that of *meta-analysis*: a technique for analyzing and summarizing the results of different studies, each of which is focused on the same question (in our case, the size and direction of the impact of a particular ALMP on post-program employment probabilities). This idea was first implemented by Kluve and Schmidt (2002), who summarized a total of 53 European active labor market programs. In this chapter we describe the meta analysis approach in more detail, and attempt to summarize all European evaluation studies that are available to date.

The basic idea of a meta-analysis is to construct and analyze a data set in which each observation represents a particular program evaluation. For each observation in the data set the outcome of interest is an indicator for whether the program was found to have a positive, zero, or negative effect. The goal of the meta-analysis is to relate this outcome to quantitative information on the nature of the underlying program – including the type of program and the institutional and economic environment in which it was offered – and on the evaluation

methodology used to derive the estimated impact. Using standard multiple regression techniques, it is possible to obtain a *quantitative* assessment of the factors associated with relative success or failure of various types of ALMPs, in different European countries and in different economic and institutional contexts. Meta-analysis techniques are widely used in the medical sciences, and have also been used with great success in other areas of social sciences (cf. Higgins and Green 2005). They are particularly appropriate in the ALMP context because of the wide variety of different programs and evaluation methods that have been used in the literature, and because of the clear importance of being able to draw palpable and credible findings from this diverse literature to inform future policy choices. A meta-analysis has significant advantages over simple descriptive reviews of existing programs and studies because the analysis helps to identify systematic differences across the different types of ALMPs, while controlling for other factors, like economic conditions during the period of the evaluation or the particular methodology used to derive the estimated impact. Given the rapid growth in the number of ALMP evaluations in the past few years, it is also an opportune time to incorporate the newest studies into our summary.

The meta analysis is based on a data set that is constructed from available microeconometric evaluation studies across European countries. A similar exercise would clearly be desirable for macroeconomic studies as well; unfortunately, however, the small number of macro studies precludes such an analysis. The micro studies listed in Table A1 constitute the basis of the data. The sample includes a large number of recent studies, as well as many studies from the 1980s and early 1990s that are analyzed in Heckman et al. (1999) and Kluve and Schmidt (2002).

Each observation in the data 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, we have N=137 observations in the data, a substantially larger number than Kluve and Schmidt (2002) were able to use for their meta-analysis (N=53). These 137 observations originate from 95 different evaluation studies[4].

For each observation, the outcome variable of interest is given by the treatment effect that is found for the program being evaluated. The quantitative analysis (below) first considers a binomial outcome, i.e. whether the study finds a positive treatment effect or not. This is the procedure used in Kluve and Schmidt (2002). Given the much larger number of

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[4] Not all studies in Table A1 could be included in the quantitative analysis. For some this is not feasible, if e.g. the study merely pools several programs together and only reports overall effects, or if treatment effects are reported relative to results from other programs, rather than non-participation.

studies, it is also possible in a second step to refine this analysis using a trinomial outcome, and take into account whether the effect is positive, zero, or negative. We present results for both approaches. In the overall sample, 75 studies (i.e. 54.7%) find a positive effect, whereas 62 (i.e. 45.3%) do not. Further distinguishing between zero and negative treatment effect estimates, 29 studies (21.2%) find a negative impact, whereas 33 studies (i.e. 24.1%) attribute an effect of zero to the program.

In the meta-analysis the program effect from each study is related to four broad "categories" of independent variables, capturing (a) the type of program, (b) the study design, and (c) the institutional context and (d) the economic background in the country at the time the specific program was run. This analysis is conducted using either a probit framework (in the case where outcomes are classified as positive or not) or a multinomial probit (in the case where the evaluation outcome is classified into three categories). The types of ALMP programs considered are exactly 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.[5] 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)[6].

A key feature of our analysis is that we control for the methodology or "study design" used to derive the estimated impact. The gold standard of scientific evaluation is a randomized design. Hence, we include an indicator for whether the evaluation was based on a randomized experiment, which is the case for N=9 observations. Also, we include dummies for the decade in which the program was run. Most programs for which evaluations exist were implemented in the 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≤N≤10000), or large (N>10000)[7]. 43% of the studies are small, 40% are medium-sized, and 17% are based on large samples.

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[5] 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.

[6] The indicator for disabled has been excluded, because only three observations were available.

[7] 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.

Four indicators are 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. The variable representing the willingness of participants to take jobs is the gross replacement rate, taken from OECD 2004 "Benefits and Wages: OECD Indicators". This takes on values between 17.5% (for UK in the late 1990s) and 63.7% (for Denmark in 1996).

Finally, the economic background against which we would like to interpret program effectiveness 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).

Empirical results

As outlined above, the implementation of the quantitative analysis first considers a binomial outcome, i.e. whether the evaluation of a program finds a positive treatment effect or not. Table 1 reports the marginal effects of the basic specification of a corresponding probit regression.

Looking first at the set of variables summarizing the program type (in panel (a)), we adopt as a base category the "classic" ALMP training programs aimed at human capital enhancement. Relative to this baseline, the estimates show that both private sector incentive schemes and Services and Sanctions are associated with a higher probability of yielding a positive treatment effect. For Services and Sanctions, the increased likelihood of a positive impact is 37.7 percentage points (evaluated at the sample mean) -- a very large effect. At the

same time, direct employment programs in the public sector are associated with a significantly lower probability of showing positive treatment effects. A highly significant negative relation also exists between programs targeted at young workers and the probability to display positive treatment effects; that probability is almost 36 percentage points lower if young people are the target group of the program.

Table 1. Effectiveness of European ALMP: Quantitative Analysis, Specification 1

	Marginal Effect	t-ratio
(a) Type of program and target group:		
Direct employment program	**–0.314**	–2.32
Private sector incentive scheme	**0.283**	2.26
Services and Sanctions	**0.377**	2.11
Young workers	*–0.357*	–2.99
(b) Study design and time period:		
Experimental design	–0.351	–1.43
Program implemented in the		
1970s	0.353	1.52
1980s	0.224	1.55
2000s	0.077	0.59
(c) Institutional context on the labor market:		
Index for dismissal protection regulation	**–0.151**	–2.11
Index for fixed-term contracts regulation	0.042	0.85
Index for temporary work regulation	0.005	0.13
Gross replacement rate	–0.006	–1.53
(d) Macroeconomic background:		
Unemployment rate	*0.051*	2.81
ALMP expenditure (% of GDP)	–0.077	–0.84
GDP growth	–0.036	–0.89
Number of observations = 137. – Pseudo R^2= 0.204.		

Notes: The dependent variable is an indicator (1/0) variable, reflecting a positive estimate of the program effect. Table entries document the marginal effect (evaluated at the sample mean) in the corresponding probit regression, i.e. the difference in the predicted probability for achieving a 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 the third column. Marginal effects printed in *italics* indicate marginal significance (10%-level), marginal effects printed in **boldface** indicate statistical significance (5%-level), and marginal effects printed in ***boldface and italics*** indicate high significance (1%-level). The underlying standard errors adjust for clustering by study.

The variables summarizing the study design and time of implementation of the program (panel (b)) do not show significant relations with the outcome variable. With respect to the time period, the 1990s are used as a base category. Most studies in the sample originate in the

1990s, and since that time it can be assumed that the main methodological challenges of program evaluation along with a set of feasible solutions are widely recognized.

The institutional background controls (panel (c)) show a statistically significant negative correlation between the degree of strictness of dismissal protection regulation and the probability of estimating positive treatment effects on employment probability. This result is consistent with the notion that regulatory barriers to job dismissal generate a barrier to new hiring, making firms reluctant to hire new workers if these cannot be dismissed again. Such behavior would then affect unemployed workers, decreasing their employment chances even after participation in ALMP. The other institutional features do not significantly affect the likelihood of finding a positive program impact.

Finally, the covariates on the macroeconomic context (panel (d)) seem to indicate that a higher unemployment rate is highly significantly associated with a higher probability of estimating positive treatment effects, although the size of the marginal effect is small (indicating a 5 percentage points higher probability). One possible explanation of this phenomenon is that in times of high unemployment the share of better qualified individuals in the unemployment pool will be higher, so that the estimate might result from "cream skimming" of the potentially more successful program participants. The remaining economic variables on ALMP expenditure and GDP growth do not play a significant role. It is interesting to note that spending more money on active measures at the aggregate level does not necessarily seem to relate to increasing individual participants' employment probability.

Table 2 reports empirical results for a second specification, which includes country dummies. Again, the outcome variable is a binomial indicator of positive treatment effects or not. The advantage of this specification is that it controls for any permanent features of different countries that may influence the relative success of ALMPs. We use Sweden as the omitted country in the base category, i.e. the country effects are judged relative to Sweden. 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 positive impact. Note that the last country dummy in Table 2 is labeled "Small country". This category collects those countries from which only one or two program evaluations exist in the data, leading to perfectly predicted outcomes in the estimation. Also, regarding the time period, all decades other than the 1990s are used as a base category.

Table 2. Effectiveness of European ALMP: Quantitative Analysis, Specification 2

	Marginal Effect	t-ratio
(a) Type of program and target group:		
Direct employment program	**–0.338**	–2.33
Private sector incentive scheme	**0.309**	2.34
Services and Sanctions	*0.346*	1.70
Young workers	***–0.519***	–3.90
(b) Study design and time period:		
Experimental design	*–0.462*	–1.93
Program implemented in the 1990s	–0.211	–1.46
(c) Institutional context on the labor market:		
Index for dismissal protection regulation	–0.326	–1.64
Index for fixed-term contracts regulation	–0.166	–1.40
Index for temporary work regulation	0.085	1.43
Gross replacement rate	0.004	0.34
(d) Macroeconomic background:		
Unemployment rate	0.013	0.38
ALMP expenditure (% of GDP)	0.036	0.15
GDP growth	–0.030	–0.60
(e) Country dummies:		
Austria	0.299	0.69
Denmark	–0.308	–0.59
France	0.481	1.57
Germany	0.226	0.84
Ireland	0.367	1.04
Netherland	–0.087	–0.18
Norway	0.257	0.72
United Kingdom	–0.062	–0.09
Switzerland	–0.422	–0.79
Finland	*0.469*	1.71
Small country	0.256	0.57

Number of observations = 137. – Pseudo R^2= 0.246.

Notes: The dependent variable is an indicator (1/0) variable, reflecting a positive estimate of the program effect. Table entries document the marginal effect (evaluated at the sample mean) in the corresponding probit regression, i.e. the difference in the predicted probability for achieving a 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 the third column. Marginal effects printed in *italics* indicate marginal significance (10%-level), marginal effects printed in **boldface** indicate statistical significance (5%-level), and marginal effects printed in ***boldface and italics*** indicate high significance (1%-level). The underlying standard errors adjust for clustering by study.

The results presented in Table 2 are generally consistent with the findings from our first

specification. Direct employment programs in the public sector are associated with a significantly lower probability of displaying positive treatment effects (-33.8 percentage points), relative to training, while the opposite is the case for private sector incentive schemes (+30.9 percentage points). Services and sanctions also show a positive and marginally significant effect. As in Table 1, 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. For this reason, the findings on program type are particularly credible.

There is some indication from the model in Table 2 that experimental evaluations are less likely to produce positive treatment effect estimates. Regarding both the institutional and the economic context, no significant correlations are found. Interestingly, the marginal effect of the unemployment rate is insignificant, and almost zero in size. This implies that the significant positive coefficient found in specification 1 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. Looking at the country dummies themselves, only studies from Finland seem to have a slightly higher probability of finding positive effects.

In a final specification using the binary outcome, we restrict the sample to evaluations of programs that were implemented in 1990 or later. One reason for considering the later programs is that more recent evaluations presumably use more sophisticated evaluation methods, and may be more reliable. This restriction slightly reduces the sample to 109 observations. We continue to include indicators for the size of the sample used in the evaluation study (for the classification cf. above). The estimates are reported in Table 3.

The results regarding program type and target group are even more pronounced in this specification. The marginal effects on both private sector incentive programs and Services and Sanctions are highly significant and fairly large, amounting to 43.9 percentage points and 55.7 percentage points, respectively, relative to the base category. Public sector employment programs again show a statistically significant negative correlation with the probability of positive treatment effects. Programs targeted at young workers also are markedly less likely to display positive effects, with a probability 62.6 percentage points lower than that of adult workers.

Table 3. Effectiveness of European ALMP: Quantitative Analysis, Specification 3

	Marginal Effect	t-ratio
(a) Type of program and target group:		
Direct employment program	**–0.336**	–2.20
Private sector incentive scheme	***0.439***	2.68
Services and Sanctions	***0.557***	3.70
Young workers	***–0.626***	–3.31
(b) Study design, timing, and sample size:		
Experimental design	***–0.632***	–3.23
Program implemented in the 1990s	–0.229	–1.20
Small	–0.115	–0.65
Large	0.033	0.15
(c) Institutional context on the labor market:		
Index for dismissal protection regulation	**–0.485**	–2.04
Index for fixed-term contracts regulation	–0.093	–0.74
Index for temporary work regulation	*0.122*	1.74
Gross replacement rate	0.019	1.18
(d) Macroeconomic background:		
Unemployment rate	0.066	1.33
ALMP expenditure (% of GDP)	–0.315	–1.08
GDP growth	–0.000	–0.00
(e) Country dummies:		
Austria	–0.373	–0.65
Denmark	*–0.713*	–1.85
France	–0.205	–0.34
Germany	–0.267	–0.77
Ireland	–0.087	–0.14
Netherland	–0.580	–1.53
Norway	–0.487	–1.05
United Kingdom	–0.538	–0.82
Switzerland	*–0.622*	–1.87
Finland	0.121	0.26
Small country	–0.638	–1.42

Number of observations = 109. – Pseudo R^2= 0.339.

Notes: The dependent variable is an indicator (1/0) variable, reflecting a positive estimate of the program effect. Table entries document the marginal effect (evaluated at the sample mean) in the corresponding probit regression, i.e. the difference in the predicted probability for achieving a 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 the third column. Marginal effects printed in *italics* indicate marginal significance (10%-level), marginal effects printed in **boldface** indicate statistical significance (5%-level), and marginal effects printed in ***boldface and italics*** indicate high significance (1%-level). The underlying standard errors adjust for clustering by study.

The covariates in Panel (b) do not show any relation between the sample size of a study and the corresponding treatment effect estimate. Experimental study design, however, is significantly negatively associated with the likelihood of finding a positive effect. This finding is potentially worrisome, since the vast majority of evaluations are non-experimental, and the negative coefficient in Panel (b) suggests that there may be a tendency toward "overly optimistic" results in the non-experimental evaluations. Another possible interpretation is that experimental designs have been used selectively to evaluate programs that are somewhat less successful than average.

Panel (c) shows a significant negative correlation between the strictness of dismissal protection legislation and program effectiveness among evaluations in the 1990s. This parallels the finding in specification 1. It is also worth noting that even in the broader sample used in Table 2, the impact of dismissal legislation is marginally significant (t=1.64). Taken as a whole, the series of specifications therefore provide relatively consistent evidence on the impact of this form of labor market regulation on the measured effectiveness of ALMPs. By comparison, in all three specifications none of the other institutional factors are found to affect the measured impact of the programs. The country dummies display weak associations only for Denmark and Switzerland, whose program evaluations appear to be less likely to estimate positive treatment effects, relative to Sweden.

As we noted earlier we have access to a much larger set of evaluation studies than was used in Kluve and Schmidt (2002). The larger sample size has an important payoff, allowing us to fit more richly specified models (including the models in Tables 2 and 3 that include country dummies), and better identify some of the key patterns in the data. In the second main step of our analysis, we extend the specification to distinguish not only between positive and non-positive outcomes, but also between evaluation studies that report negative versus zero impacts. That is, we complement the previous analysis by considering a trinomial dependent variable taking on the values –1 for a negative treatment effect estimate, 0 for an estimate of zero, and +1 for a positive estimate. The following tables 4 through 6 present the results for the corresponding ordered probit regressions. In these regressions the same three specifications for the set of covariates as in the binomial case are used.

Table 4 presents estimates of the marginal effects for obtaining a negative (column 2) and positive outcome (column 4), respectively, for the entire sample without the country dummies. In interpreting these estimates it is useful to compare the sign and magnitude of the coefficients for each independent variable on two margins: the margin between a negative versus a zero effect (coefficients reported in column 1); and the margin between a positive

versus a zero effect (coefficients reported in column 3). Note that one would generally expect these coefficients to be opposite in sign: a covariate that is associated with a higher likelihood of a positive versus a zero effect will tend to be associated with a lower likelihood of a negative versus a zero effect.

Table 4. Effectiveness of European ALMP: Quantitative Analysis, Specification 4

	Negative treatment effect		Positive treatment effect	
	Marginal Effect	t-ratio	Marginal Effect	t-ratio
(a) Type of program and target group:				
Direct employment program	**0.165**	2.06	**–0.227**	–2.30
Private sector incentive scheme	***–0.141***	–3.39	***0.270***	2,76
Services and Sanctions	***–0.203***	–3.82	***0.427***	4.45
Young workers	*0.135*	1.78	*–0.195*	–1.92
(b) Study design and time period:				
Experimental design	0.263	1.25	*–0.312*	–1.67
Program implemented in the				
1970s	–0.120	–1.40	0.248	1.05
1980s	–0.116	–1.59	0.205	1.61
2000s	0.036	0.41	–0.056	–0.43
(c) Institutional context on the labor market:				
Index for dismissal protection regulation	*0.072*	1.83	*–0.115*	–1.84
Index for fixed-term contracts regulation	–0.023	–0.79	0.037	0.80
Index for temporary work regulation	–0.001	–0.04	0.001	0.04
Gross replacement rate	0.003	1.52	–0.006	–1.55
(d) Macroeconomic background:				
Unemployment rate	**–0.022**	–2.07	*0.035*	1.86
ALMP expenditure (% of GDP)	0.059	1.07	–0.094	–1.08
GDP growth	0.010	0.37	–0.016	–0.37

Number of observations = 137. – Pseudo R^2= 0.133.

Notes: The dependent variable is a categorical variable indicating whether the estimate of the program effect is negative (–1), zero (0), or positive (+1). Table entries 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 the third and fifth column, respectively. Marginal effects printed in *italics* indicate marginal significance (10%-level), marginal effects printed in **boldface** indicate statistical significance (5%-level), and marginal effects printed in ***boldface and italics*** indicate high significance (1%-level). The underlying standard errors adjust for clustering by study.

The results in Table 4 tend to reinforce our findings from Table 1. In particular, we find that ALMPs based on 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 ALMPs based on conventional training programs. On the other hand, direct public sector 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. There is also some indication that experimental studies have a lower probability of yielding positive effects, that strict dismissal protection is associated with both a higher probability of negative impacts and a lower probability of positive impacts, and that higher unemployment lowers the probability of a negative estimated program impact while raising (slightly) the likelihood of a positive impact. Other factors, including the variables representing the time period and the institutional and economic background do not seem to play a role.

The model in Table 5 parallels the specification in Table 2, and includes the same variables as in Table 4, along with country dummies. As we found using a binary outcome variable, the addition of the country dummies has little impact on the size or significance of the coefficients representing the different program types, but does lead to a reduction in the estimated effect of unemployment. Indeed, a striking result in Table 5 is that – with the sole exception of the variable indicating whether the evaluation used an experimental design – not a single variable describing the time period (Panel b), the institutional setting (c), the macroeconomic background (d), or the country (e) displays an even marginally significant correlation with either a negative or positive treatment effect estimate. Looking at the program types in Panel (a), on the other hand, a clear and statistically significant picture emerges once again: Relative to the base category of training programs, private sector incentive schemes and Services and Sanctions have lower probabilities of negative treatment effects, and higher probability of positive treatment effects. The opposite is the case for direct employment in the public sector. The opposite is also the case for programs targeting young workers.

Table 5. Effectiveness of European ALMP: Quantitative Analysis, Specification 5

	Negative treatment effect		Positive treatment effect	
	Marginal Effect	t-ratio	Marginal Effect	t-ratio
(a) Type of program and target group:				
Direct employment program	**0.181**	2.06	**–0.250**	–2.32
Private sector incentive scheme	*–0.145*	–3.75	*0.291*	3.13
Services and Sanctions	*–0.194*	–3.56	*0.422*	3.92
Young workers	**0.165**	2.20	**–0.239**	–2.45
(b) Study design and time period:				
Experimental design	0.358	1.53	**–0.395**	–2.23
Program implemented in the 1990s	0.090	1.02	–0.152	–1.04
(c) Institutional context on the labor market:				
Index for dismissal protection regulation	0.106	1.11	–0.175	–1.08
Index for fixed-term contracts regulation	0.028	0.41	–0.046	–0.41
Index for temporary work regulation	–0.023	–0.70	0.039	0.69
Gross replacement rate	–0.002	–0.26	0.003	0.26
(d) Macroeconomic background:				
Unemployment rate	–0.014	–0.78	0.024	0.77
ALMP expenditure (% of GDP)	–0.057	0.46	–0.095	–0.46
GDP growth	0.014	0.55	–0.024	–0.55
(e) Country dummies:				
Austria	–0.035	–0.13	0.061	0.12
Denmark	0.205	0,48	–0.268	–0.59
France	–0.064	–0.34	0.118	0.30
Germany	–0.045	–0.34	0.080	0.32
Ireland	–0.136	–1.58	0.308	1.25
Netherland	0.116	0.34	–0.165	–0.40
Norway	–0.085	–0.63	0.162	0.55
United Kingdom	0.012	0.03	–0.020	–0.03
Switzerland	0.350	0.65	–0.382	–0.96
Finland	–0.122	–1.15	0.259	0.89
Small country	0.018	0.07	–0.287	–0.07

Number of observations = 137. – Pseudo R^2= 0.149.

Notes: The dependent variable is a categorical variable indicating whether the estimate of the program effect is negative (–1), zero (0), or positive (+1). Table entries 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 the third and fifth column, respectively. Marginal effects printed in *italics* indicate marginal significance (10%-level), marginal effects printed in **boldface** indicate statistical significance (5%-level), and marginal effects printed in ***boldface and italics*** indicate high significance (1%-level). The underlying standard errors adjust for clustering by study.

Table 6. Effectiveness of European ALMP: Quantitative Analysis, Specification 6

	Negative treatment effect		Positive treatment effect	
	Marginal Effect	t-ratio	Marginal Effect	t-ratio
(a) Type of program and target group:				
Direct employment program	**0.195**	2.11	**–0.275**	–2.36
Private sector incentive scheme	***–0.181***	–4.18	***0.391***	3.60
Services and Sanctions	***–0.230***	–3.98	***0.535***	9.06
Young workers	*0.166*	1.93	**–0.244**	–2.15
(b) Study design, timing, and sample size:				
Experimental design	***0.736***	5.17	***–0.586***	–9.16
Program implemented in the 1990s	0.079	0.79	–0.142	–0.77
Small	0.079	0.85	–0.131	–0.90
Large	0.119	0.83	–0.176	–0.95
(c) Institutional context on the labor market:				
Index for dismissal protection regulation	0.116	1.08	–0.198	–1.08
Index for fixed-term contracts regulation	–0.012	–0.17	0.020	0.17
Index for temporary work regulation	–0.045	–1.33	0.076	1.32
Gross replacement rate	–0.006	–0.89	0.011	0.88
(d) Macroeconomic environment:				
Unemployment rate	–0.032	–1.40	0.055	1.34
ALMP expenditure (% of GDP)	0.195	1.24	–0.331	–1.34
GDP growth	0.005	0.15	–0.008	–0.15
(e) Country dummies:				
Austria	0.472	0.76	–0.457	–1.38
Denmark	0.630	1.40	**–0.584**	–2.51
France	0.488	1.07	*–0.496*	–1.83
Germany	0.185	0.68	–0.255	–0.87
Ireland	–0.062	–0.30	0.118	0.27
Netherland	0.294	0.63	–0.341	–0.91
Norway	0.207	0.52	–0.273	–0.67
United Kingdom	0.414	0.51	–0.427	–0.84
Switzerland	*0.718*	1.71	**–0.574**	–3.99
Finland	0.071	0.25	–0.109	–0.28
Small country	0.606	1.58	***–0.577***	–2.86

Number of observations = 109. – Pseudo R^2= 0.202.

Notes: The dependent variable is a categorical variable indicating whether the estimate of the program effect is negative (–1), zero (0), or positive (+1). Table entries 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 the third and fifth column, respectively. Marginal effects printed in *italics* indicate marginal significance (10%-level), marginal effects printed in **boldface** indicate statistical significance (5%-level), and marginal effects printed in ***boldface and italics*** indicate high significance (1%-level). The underlying standard errors adjust for clustering by study.

The results from our final specification are presented in Table 6. This model is fit to the subset of evaluations for programs conducted in the 1990s, and includes controls for the sample size used in the evaluation. In general, the results are very similar to the findings in Table 5. In the 1990s subsample the country dummies for Denmark, Switzerland, and for the group of small countries all show a more pronounced negative effect on the likelihood of a positive program impact, relative to the baseline country (Sweden). In this subsample there is also a stronger tendency for experimental studies to yield more negative impact estimates. But apart from these small differences, the results confirm our earlier conclusions from the model in Table 5. In particular, none of the variables representing the timing, institutional setting or economic situation appears to have an important effect on program effectiveness. Rather, the likelihood of a positive program impact seems to be largely determined by the type of ALMP program. The base category, training, has a reasonably large share of positive effects. For the 70 evaluations of training programs, 38 yield a positive impact, 14 are zero, and 18 are negative. Relative to this baseline, Private Sector incentive schemes and Services and Sanctions perform significantly better, while public sector employment programs and programs targeted at young workers perform significantly worse.

5. Conclusions and Policy Recommendations

This paper provides a review of the extensive set of recent evaluation studies on the effectiveness of European ALMPs. In summary, assessing the available evidence in a merely descriptive manner, it is difficult to detect consistent patterns, even though some tentative findings emerge: Services and Sanctions may be a promising measure, direct job creation in the public sector often seems to produce negative employment effects, and training measures show mixed and modestly positive effects.

On the basis of these tentative findings, it has been the objective of the meta analysis to draw systematic lessons from the more than 100 evaluations that have been conducted on ALMPs in Europe, to complement the descriptive review. Most of the evaluation studies considered have been conducted on programs that were in operation in the period after 1990. This reflects the fact that the past 15 years have seen an increasing use of ALMPs in EU member states, and some improvement in the methodologies used to evaluate these programs. Thus, we believe that lessons drawn from our meta-analysis are highly relevant to the current policy discussions throughout Europe on the appropriate design of ALMPs.

The picture that emerges from the quantitative analysis is surprisingly clear-cut. Once

the type of the program is taken into account, the analysis shows that there is little systematic relationship between program effectiveness and a host of other contextual factors, including the country or time period when it was implemented, the macroeconomic environment, and a variety of indicators for institutional features of the labor market. The only institutional factor that appears to have an important systematic effect on program effectiveness is the presence of more restrictive dismissal regulations. But even this effect is small relative to the effect of the program type.

Traditional training programs are found to have a modest likelihood of recording a positive impact on post-program employment rates. Relative to these programs, private sector incentive programs and Services and Sanctions show a significantly better performance. Indeed, we find that evaluations of these types of programs are 40-50 percent more likely to report a positive impact than traditional training programs. By comparison, evaluations of ALMPs that are based on direct employment in the public sector are 30-40 percent less likely to show a positive impact on post-program employment outcomes. Also the target group seems to matter, as programs aimed specifically at young workers fare significantly worse than programs targeted at adults, displaying a 40-60 percentage points lower probability of reporting a positive effect.

The general policy implications that follow from these findings are rather straightforward. Decision makers should clearly focus on the type of program in developing their ALMP portfolio: Training programs should be continued, and private sector incentive schemes should be fostered. Particular attention should be paid to Services and Sanctions, which turns out to be a particularly promising and, due to its rather inexpensive nature, cost-effective type of measure. A well-balanced design of basic services such as job search assistance and counseling and monitoring, along with appropriate sanctions for non-compliance, seems to be able to go a long way in enhancing job search effectiveness. If further combined with other active measures such as training and employment subsidies, this effectiveness could be increased, even for youths, as promising results from the UK's "New Deal" show.

Direct employment programs in the public sector, on the other hand, are rarely effective and frequently detrimental regarding participants' employment prospects. On this account they should be discontinued, unless other justifications such as equity reasons can be found. Some countries have already resorted to redefining the objective of direct employment programs such that they should increase "employability" rather than actual employment, an outcome that is notoriously difficult to assess empirically.

Young people appear to be particularly hard to assist. It is not clear if it follows from this disappointing result that youth programs should be abolished, or rather that such programs should be re-designed and given particular attention. It might also be the case that active labor market policies are not at all the appropriate policy for this group, and public policy should therefore focus on measures that prevent the very young from becoming disadvantaged on the labor market in the first place.

The development of a proper "evaluation culture" has been positive across European countries, though different countries clearly find themselves at different stages of that development. One evident conclusion of this study is that evaluation efforts should be continued and extended. An ever-refined meta-analysis of an ever-extended set of European evaluation studies would continue to produce important insight into the effectiveness of ALMPs, in particular as data quality and methodology will likely continue to improve. The substantial advances in non-experimental program evaluation notwithstanding, more European governments interested in the effectiveness of their policies should consider implementing randomized experiments, in light of the strength of the evidence they produce.

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Table A1. Microeconomic evaluations of European ALMP

Study	Type of program	Target group	Design	Observation period	Outcome(s)	Identification strategy	Results	Notes / Comments [# observations for meta-data]
Austria								
Zweimüller, Winter-Ebmer (1996)	Training programs	Unemployed adults	Non-experimental	1986-1987	Employment stability: occurrence of repeated unemployment spells 12 months after individual leaves unemployment register	Bivariate probit model for repeated unemployment and selection into training. Earnings replacement ratio of UI benefits used as instrument	+ Positive effects for men. Disadvantaged and less motivated unemployed are given priority in program enrollment. Programs improve employment stability.	[1]
Winter-Ebmer (2001)	Training programs with job search counseling	Workers laid off in steel industry	Non-experimental	1987	Employment stability, wage growth	IV	+ Positive effects for men and overall. Wage gains for a period of 5 years, Improved employment prospects. 0 no effect for women.	Favorable factors: long term orientation of occupational reorientation, interaction of training and job-counseling, cooperative and financial structure of the foundation [1]
Weber, Hofer (2003)	1)Training programs 2) Job search programs	Unemployed adults	Non-experimental	1999, 2000	Unemployment durations	Multivariate hazard model, timing-of-events method	Training programs increase unemployment durations: – for men, – overall, 0 for women. Job search programs shorten unemployment, + for men, + for women, + overall.	[2]
Weber, Hofer (2004)	Job search programs	Unemployed adults	Non-experimental	1999, 2000	Unemployment durations; effects depending on timing of program entry	Multivariate hazard model, timing-of-events method	+ Men and women: Positive program effects for entry into job search during first 12 months of unemployment, no effects for long-term unemployed.	[0; results contained in Weber and Hofer 2003]
Belgium								
Cockx, Göbel (2004)	Subsidized employment	Young unemployed	Non-experimental	1998-2000	Transition rate from employment to unemployment	Mixed proportional hazard (MPH) model	+ Positive effects for women – Positive effects for men only in the first year, negative in the second. Simulated increase of employment duration for women 8.7 months, for men 3.1 months	[1]
Cockx (2003)	Vocational training	Unemployed	Non-experimental	1989-1993	Transition rate from unemployment	Control function estimator	+ Positive effect on the transition rate Simulated decrease of unemployment duration 4 to 6 month	[1]

Table A1. Microeconomic evaluations of European ALMP (ctd)

Study	Type of program	Target group	Design	Observation period	Outcome(s)	Identification strategy	Results	Notes / Comments [# observations for meta-data]
Denmark								
Kyhl (2001)	Several programs pooled, i.e. program type not explicitly included in the analysis	UI benefit recipients, 25-59 years of age	Non-experimental	1995-1998	Unemployment duration	Comparison of results for different years with different timing of ALMP	+ Evidence of threat effects	Results not directly generalizable, but adds to evidence on threat effects [0; specific program type not identifiable]
Geerdsen (2003)	Several programs pooled, i.e. program type not explicitly included in the analysis	UI benefit recipients, 17-67 years of age	Quasi-experimental	1994-1998	Unemployment duration	Legislative changes in time limit for participation in ALMP	+ Evidence of threat effects	Results not directly generalizable, but adds to evidence on threat effects [0; specific program type not identifiable]
Geerdsen and Holm (2004)	Several programs pooled, i.e. program type not explicitly included in the analysis	UI benefit recipients (analysis only on males, 25-47 years of age in 1994)	Quasi-experimental	1995-1998	Unemployment duration	Legislative changes in time limit for participation in ALMP, combined with modeling individual probability of participation in ALMP	+ Evidence of threat effects	Results not directly generalizable, but adds to evidence on threat effects [0; specific program type not identifiable]
Rosholm and Svarer (2004)	Private sector employment programs, public sector employment program, training programs, other programs	UI benefit recipients (analysis only on males, 25-59 years of age)	Non-experimental	1998-2002	Unemployment duration	Timing-of-events and functional form specification of hazard rate out of unemployment	+ Strong threat effects, + private sector employment programs reduce unemployment duration, – all other program types increase unemployment duration	Informative about different types of effects of ALMPs, attempts to estimate the effects of an active labor market policy regime compared to the counterfactual situation of a passive regime [4]
Jensen, Rosholm and Svarer (2003)	Specially designed vocational education programs	Unemployed youths (receiving UI benefits, <25 years, no formal educ. beyond 2ndary school)	Experimental (quasi)	1996	Unemployment duration	Random assignment due to capacity constraints	0 No significant threat effect, + increased transition rate to schooling, 0 weaker effect on transition rate to employment	The findings regarding the combination of benefits, incentives and sanctions could be relevant for other countries (as part of labor market reform) [1]

Table A1. Microeconomic evaluations of European ALMP (ctd)

Study	Type of program	Target group	Design	Observation period	Outcome(s)	Identification strategy	Results	Notes / Comments [# observations for meta-data]
Denmark (ctd)								
Bolvig, Jensen and Rosholm (2003)	Employment programs, training programs, other programs	Welfare benefit recipients	Non-experimental	1997-1999	Unemployment duration, subsequent employment duration	Timing-of-events	+ Employment programs have positive effects, – training and other programs have negative effects	[2]
Graversen (2004)	Private sector employment programs, public sector employment program, training programs, other programs	Welfare benefit recipients (analysis only on males, above 25 years of age)	Non-experimental	1994-1998	Unemployment duration	Timing-of-events and intended timing by municipalities	+ Modest threat effects, + private sector employment programs reduce unemployment duration, – all other program types increase unemployment duration	Informative about different types of effects of ALMPs [3]
Graversen and Jensen (2004)	Private sector employment programs, public sector employment program, training programs, other programs	Welfare benefit recipients (analysis only on males, 18-59 years of age)	Non-experimental	1994-1998	Employment rates 12 months after participation	Common factor structure (plus instrument for selection)	0 No significant mean effects of private sector employment programs compared to all other program types	Authors suggest improvement in allocation to programs [0; results contained in Graversen 2004]
Hogelund and Holm (2005)	Vocational education	Disabled: long-term "sick-listed" workers	Non-experimental	1995-1999	Re-employment rates	Competing risk duration model	0 No significant effect of educational measures on the return to work of the sick-listed	[1]
Estonia								
Leetmaa, Võrk (2004)	Training	Unemployed adults	Non-experimental	2000-2002	Employment rates	Propensity Score Matching	+ Training has positive effects	Evidence of cream skimming: case workers seem to select more promising candidates to labor market training. Training programs could be expanded, but this should be done hand in hand with careful evaluations. [1]
Finland								
Nätti, Aho, Halme (2000)	1) Labor market training, 2) Start-up grants, 3) Public sector subsidized employment	Registered unemployed	Non-experimental	1990-1995	Employment rates	Regression (Cross-section)	+ Labor market training + Start-up grants – Subsidized employment in municipal and state sector	[3]

Table A1. Microeconomic evaluations of European ALMP (ctd)

Study	Type of program	Target group	Design	Observation period	Outcome(s)	Identification strategy	Results	Notes / Comments [# observations for meta-data]
Finland								
Malmberg-Heimonen, Vuori (2005)	Financial incentives and job-search training	Unemployed	Experimental	1998-2000	Re-employment	-	0 No significant overall impact + Positive for individuals with financial incentives – No positive effects for more disadvantaged	[1]
Hämäläinen, Ollikainen (2004)	Labor market training (LMT), empl. subsidy in private and public sector (SEM), youth practical training (YPT)	Young unemployed	Non-experimental	1988-2000	Six different outcomes	Propensity score matching	+ Increased employment and earnings for LMT + Increased employment and earnings for SEM – Slightly negative impact on all outcomes for YPT	[3]
Hämäläinen (2002)	Labor market training	Unemployed	Non-experimental	1989-1994	Employment probability	Bivariate probit model	+ Positive impact, which is negatively related to overall unemployment	[1]
France								
Cavaco, Fougère, Pouget (2005)	Retraining for displaced workers	Unemployed	Non-experimental	1995-1998	Unemployment duration and employment probability	Dependent competing risks duration model	+ Positive effect, increased employment probability by 8 points Higher benefits for high skilled and high educated workers	[1]
Crépon, Dejemeppe, Gurgand (2005)	Counseling and job-assistance schemes	Unemployed	Non-experimental	2001-2004	Transition to employment and unemployment recurrence	Duration models	+ Positive and significant impact on transition to employment (increase 1 percentage point) and on unemployment recurrence (decrease more than 6 percentage points)	[1]
Fougere, Pradel, Roger (2005)	Public Job Search Assistance	Unemployed workers	Non-experimental	1986-1988	Exit rate from unemployment	Structural partial equilibrium search model	+ Increased exit rate from unemployment through public employment services, especially for low-educated and unskilled workers	[1]
Brodaty, Crepon, Fougere (2002)	Workplace training programs (private sector), workfare programs (public sector) and other programs (e.g. training)	Young unemployed	Non-experimental	1986-1988, 1995-1998	Transition to employment	Propensity score matching	+ Positive effects for all programs in the first cohort, higher effects for workplace training programs (for short-term unemployed), 'other programs' more effective for long-term unemployed – Negative effects for all programs for the cohort 95-98	[5; 2 for first cohort, 3 for second cohort]

Table A1. Microeconomic evaluations of European ALMP (ctd)

Study	Type of program	Target group	Design	Observation period	Outcome(s)	Identification strategy	Results	Notes / Comments [# observations for meta-data]
Germany								
Eichler, Lechner (2002)	Job Creation Scheme	Long-term unemployed and other hard to place persons	Non-experimental	1992-1997	i) Unemployment rates ii) Employment rates, both observed up to ca. 5 years after participation started	Partial propensity score matching (with nearest neighbor) combined with DiD	+ Significant and substantial reduction in unemployment rate; for men this is due to higher employment rate; 0 for women this is due to higher non-participation rates	Location: Federal state of Sachsen-Anhalt, East Germany. Rather small sample sizes. [1]
Bergemann (2005)	Job Creation Scheme	Long-term unemployed and other hard to place persons	Non-experimental	1990-1999	i) reemployment probabilities (hazard) ii) probability to remain employed (hazard), observed up to three years after participation started	Propensity score matching combined with CDiDHR	0 No significant effect for men; + significantly positive effects on women's reemployment probability + Significantly positive effects on men's and women's probability to remain employed	Location: East Germany. [1]
Bergemann, Fitzenberger, Schultz, Speckesser (2000)	1) Job Creation Scheme 2) Training	Long-term unemployed and other hard to place persons	Non-experimental	1990-1998	Employment rates	Propensity score matching combined with DiD in a repeated participation framework	–/0 First treatment: significant negative effect on employment; 2nd treatment: no significant effect –/0 First treatment: sign. negative effect on employment; 2nd treatment: no significant effect, except for women (+ sign. positive)	Location: Federal state of Sachsen-Anhalt, East Germany. Small sample size (min. treatment group n=146). Study covers period after unification, therefore not generalizable. [2]
Caliendo, Hujer, Thomsen (2005a, b,c)	Job Creation Scheme	Long-term unemployed and other hard to place persons	Non-experimental	2000-2002	employment rates i) of socio-demographic groups observed for up to 3 years after treatment started ii) in specific sectors, iii) in regions	Propensity score matching (Nearest neighbor)	I1) Locking-in effects in all subgroups i2) 0 West Germany: no sign. effects for men; + positive mid-term effects for women; i3) – East: negative medium-term effects; i4) Evidence for effect heterogeneity: + Positive effects in West for women over 50, long-term unemployed, hard-to-place women; in East: – female long-term unemployed ii) –/0 Negative or insignificant effects in all sectors iii) – Sign. negative effects in all regions; negative effects stronger in regions with above average labor market performance	i) Policy implication: labor agencies should target JCS better iii) might be interpreted as evidence for stigma effects of JC [1]
Fitzenberger, Speckesser (2005)	Training	Unemployed and those threatened by unemployment	Non-experimental	1993-1997	Employment rates observed up to three years after participation started	Propensity score matching (stratification)	+ West Germany: Lock-in effect in the short run and sign. positive effect on employment rates in the long run, 0 East Germany: lock-in effect in the short run and less significantly positive effect	[1]

Table A1. Microeconomic evaluations of European ALMP (ctd)

Study	Type of program	Target group	Design	Observation period	Outcome(s)	Identification strategy	Results	Notes / Comments [# observations for meta-data]
Germany (ctd)								
Hujer, Thomsen, Zeiss (2004)	Training, i) short-term (1-3 months) ii) medium term (6 months) iii) long-term (12 months)	Unemployed and those threatened by unemployment	Non-experimental	1999-2002	Duration of unemployment and locking-in effect	Multivariate duration model (simultaneous model of duration until treatment and duration until transition into employment)	0 No significant evidence, neither on locking-in nor on effect on unemployment duration 0 significant locking-in, no significant effect on U duration – significant locking-in, significantly rises U duration	Location: East Germany. Evidence of locking-in effects for programs of 6 and 12 months. Acc. to the authors, one has to take severe shortage of labor demand in East Germany into account when interpreting the results. [1]
Hujer, Wellner (2000)	Training	Unemployed and those threatened by unemployment	Non-experimental	1985-1992 West 1990-1992 East	duration of unemployment after treatment (hazard rate of transition from U to E)	Propensity score matching (West: oversampling)	+ West: treatment significantly reduces unemployment duration, 0 East: no significant effect; Short-term programs perform better than long-term programs	Rather small sample size (treatment group West Germany: n=87). Moreover, results for East Germany refer to peculiar period shortly after unification. [1]
Klose, Bender (2000)	Training	Unemployed and those threatened by unemployment	Non-experimental	1986-1990	i) Unemployment duration ii) employment stability both observed up to 3 years after completing the measure	Hierarchical covariate matching	0 No significant effect of training on unemployment duration – training significantly reduces job stability	Location: West Germany. [1]
Lechner (2000)	Training	Unemployed and those threatened by unemployment	Non-experimental	1990-1994	Unemployment rate observed up to 3 years after completing the training measure	Partial propensity score matching (with varying caliper)	–/0 In the short run, training significantly increases unemployment rates; in the long run (3 years), no significant effects	Location: East Germany. Negative results might be due to short period of observation (see Lechner/Miquel/Wunsch (2005). Rather small sample size (max n= 116). Study covers period shortly after unification, therefore rather not generalizable. [1]

Table A1. Microeconomic evaluations of European ALMP (ctd)

Study	Type of program	Target group	Design	Observation period	Outcome(s)	Identification strategy	Results	Notes / Comments [# observations for meta-data]
Germany (ctd)								
Lechner, Miquel, Wunsch (2004)	Training in West Germany	Unemployed and those threatened by unemployment	Non-experimental	1993-2002	i) Employment ii) unemployment iii) monthly earnings all outcomes observed up to seven years after participation started	Propensity score matching (Nearest neighbour matching with weighted oversampling) in a multiple treatment framework	i) + Short training: significantly positive effect on employment in short and long run +/0 Long training: significantly positive effect on employment in short run, no significant effect in the long run + Retraining: sign. negative effect in the short run, sign. positive effect in the long run 0 Practice firm: no significant effects ii) 0 No significant positive effect on unemployment for all programs iii) + Significantly positive effects on monthly earnings for short and long training	Examination of compensation of locking-in effects after 7 years in terms of total time in employment: - positive gain in total time employed for short training (6 months) and long training (3 months) - no sign. result for practice firms - loss in total time employed for retraining; similar results for time of benefit receipt. Study gives insights on long-term effects of training programs & stresses need for long-term perspective. [1]
Lechner, Miquel, Wunsch (2005)	Training in East Germany	Unemployed and those threatened by unemployment	Non-experimental	1993-2002	i) Employment ii) unemployment iii) monthly earnings all outcomes observed up to eight years after participation started	propensity score matching (Nearest neighbour matching with weighted oversampling) in a multiple treatment framework	i) + Short training: sign. negative effect in the very short run and positive effect in the long run on employment 0 Long training: sign. negative effect in the short run and insignificant effect in the long run on employment + Retraining: sign. negative effect in the short run and sign. positive effect on the long run on employment ii) in the short run vice versa to i) and in the long run zero iii) + increase in 100 to 200 EUR in the long run for all programs, except practice firms	Locking-in effects are over compensated in the long run (after one to three years). Some peculiarities in the allocation of training measures after unification need special attention, especially men being extensively re-trained in the construction sector before the sector collapsed.The study stresses the need for a long-term perspective when effects of training measures are examined. [1]
Hujer, Caliendo, Thomsen, (2005)	Placement Assistance, Job Search Assistance	Unemployed	Non-experimental	2001-2002	Employment rates observed up to 21 months after participation started	Propensity score matching (nearest neighbour without replacement)	+ Significant positive effect of placement assistance for men and women; significant positive effect of job search assistance for women in southern region; – significant negative effect of job search assistance for men	Location: Federal state of Hessen, West Germany. [1]

Table A1. Microeconomic evaluations of European ALMP (ctd)

Study	Type of program	Target group	Design	Observation period	Outcome(s)	Identification strategy	Results	Notes / Comments [# observations for meta-data]
Germany (ctd)								
Hujer, Caliendo, Radi (2004)	Wage subsidies (EGZ, ABM, SAM)	Unemployed (hard-to-place)	Non-experimental	1995-1999	Firm's employment development	Propensity score matching combined with CDiD	0 No significant employment effect	Location: West Germany. Unit of observation is firm; Degree of homogeneity of pooled measures unclear. [1]
Jaenichen (2002)	Wage subsidies (EGZ)	Unemployed, hard-to-place	Non-experimental	1999-2001	Being registered as unemployed observed up to 23 months after participation started	Propensity score matching (nearest neighbor)	+ Treatment significantly reduces unemployment rates	[1]
Hungary								
Micklewright and Nagy (2003)	Monitoring	Unemploy-ment benefits recipients	Experimental	2003	Re-employment rates	Duration model	0 overall + Only positive and significant effect on women over age 30	Results modestly generalizable due to special character of the Hungarian unemployment benefit system. [1]
Italy								
Paggiaro, Rettore, Trivellato (2005)	Italian Mobility List	Workers in the List	Non-experimental	1995-1999	Probability of transition to a new job	Propensity score matching	+ positive impact for men eligible for the active component only. 0 no significant effect for females.	[1]
Caroleo, Pastore (2002)	The various ALMP targeted to the youth long term unemployed	Young unemployed	Non-experimental	March to June 2000	Probability of transition to a different labor market status (unemployed, formal, informal sector, apprenticeship contract, etc…)	Multinomial logit model	0 no significant impact of the policy variables.	[1]

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Study	Type of program	Target group	Design	Observation period	Outcome(s)	Identification strategy	Results	Notes / Comments [# observations for meta-data]
Netherlands								
Abbring, Van den Berg, Van Ours (2005)	Sanctions	Unemploy-ment insurance recipients	Non-experimental	1992-1993	Re-employment rates	Bivariate duration model	+ Substantial and significant increase in re-employment rates	Policy in its current content is successful. Results appear generalizable. [1]
De Jong, Lindeboom, Van der Klaauw (2005)	Screening of eligibility criteria	Potential disability insurance applicants	Experimental	2001-2003	Sickness absenteeism and disability insurance inflow rates	Difference-in-difference	+ Stricter screening reduces sickness absenteeism and number of disability insurance applications	Screening reduces moral hazard of benefits programs. Authors recommend introduction of policy also in control regions. [1]
Gorter and Kalb (1996)	1) counseling, 2) monitoring	Unemploy-ment insurance recipients	Experimental	1989-1990	Re-employment rates	Duration model	0 mixed, pointing towards an insignificant effect. – for temporary contract workers	Large agreements with international literature on similar policies. [1]
Van den Berg, Van der Klaauw (2006)	1) counseling, 2) monitoring	Unemploy-ment insurance recipients with relatively good labor market prospects	Experimental	1998-1999	Re-employment rates	Duration models	0 Small and insignificant positive effect	Large agreements with international literature on similar policies. Policy might be more successful for other target populations. [1]
Van den Berg, Van der Klaauw, Van Ours (2004)	Sanctions	Welfare recipients	Non-experimental	1994-1996	Re-employment rates	Bivariate duration model	+ Substantial and significant increase in re-employment rates	Policy in its current content is successful. Results appear generalizable. [1]
Norway								
Lorentzen, Dahl (2005)	Employment programs and training programs	Social assistance recipients	Non-experimental	1992-1999	Annual gross earnings	Propensity score matching	- Negative and non-significant effects for employment programs, at least positive gains for individuals with medium chances + Positive but modest effects for training	[2]
Røed, Raaum (2003)	1) Training 2) Temporary public employment 3) wage subsidies 4) work practice schemes	Unemployed	Non-experimental	1989-2002	Unemployment duration and transition to employment	Dependent risk hazard rate model	0 Average net effect is around zero + Substantial positive effects for individuals with poor prospects Benefits do not exceed the costs except for male immigrants	The various types of programs are pooled together in the empirical analysis. [0; program type not distinguishable]

Table A1. Microeconomic evaluations of European ALMP (ctd)

Study	Type of program	Target group	Design	Observation period	Outcome(s)	Identification strategy	Results	Notes / Comments [# observations for meta-data]
Norway (ctd)								
Zhang (2003)	Training, wage subsidies, employment programs	Unemployed	Non-experimental	1990-2000	Transition to employment	Mixed proportional hazard rate (MPH) model	+ Positive effects for training + Positive effects for wage subsidies 0 No overall effects for employment programs, but some benefits for youth	[3]
Aakvik (2003), Aakvik and Dahl (2006)	Educational programs	Disabled	Non-experimental	1995-1998	Transition to employment	Selection models	0 No significant effect	[2]
Raaum, Torp, Zhang (2002)	Training	Unemployed	Non-experimental	1992-1997	Earnings	Propensity score matching	+ Positive effects for participants with recent labor market experience 0 Lower or insignificant effects for labor market entrants Cost-beneficial for experienced women Benefits for experienced men close to direct costs and lower for labor market entrants	[1]
Hardoy (2001)	Employment, vocational, training programs and combination programs	Young unemployed	Non-experimental	1989-1993	Employment probability and education level	Maximum likelihood method	0 Overall, no positive effects on employment or education - Negative effects for (classroom) training - Negative effects for vocational programs Increased employment probability for employment and combination programs for women No effects for men of any program	[2]
Poland								
Kluve, Lehmann, Schmidt (2005)	1) Training, 2) Wage subsidies	Unemployed adults	Non-experimental	1992-1996	Employment rates	Exact Covariate Matching	+ Training has positive effects, – wage subsidies negative effects, particularly for men	Evidence of "benefit churning": In wage subsidy scheme, individuals participate to restore eligibility. [2]
Portugal								
Centeno, Centeno, Novo (2004)	Job search assistance and small basic skills courses	(Young) unemployed	Non-experimental	1997-2001	Unemployment duration and wages	Propensity score matching and difference-in-difference estimators	0 Small, insignificant impact on unemployment duration - Negative but insignificant effect on wages, large negative impact for men, no impact for women	[2]

Table A1. Microeconomic evaluations of European ALMP (ctd)

Study	Type of program	Target group	Design	Observation period	Outcome(s)	Identification strategy	Results	Notes / Comments [# observations for meta-data]
Spain								
Arellano (2005)	Training	Unemployed	Non-experimental	2000-2001		Mixed proportional hazard rate (MPH) model	+ Positive effects, higher for women than for men	[1]
Sweden								
Albrecht, van den Berg, Vroman (2005)	Adult Education Initiative	25-55 old unemployed adults	Non-experimental	1990-2000	Earnings, employment probability	Fixed effects, conditional difference-in-differences, conditional probit	+ Positive employment effects for young men, 0 no average income effects for men and no significant effects for women at all	[1]
Andrén, Andrén (2002)	Labor market training	Unemployed	Non-experimental	1993-1997	Employment probability	Latent index sample selection model	+ Small positive effects for Swedish-born, –/+ Negative effects for Foreign-born in the first year, positive afterwards	[1]
Andrén, Gustafsson (2002)	Labor market training	Unemployed	Non-experimental	1984/1985 1987/1988 1990/1991	Earnings	Switching regression model	+ Positive effects for Swedish-born and Foreign-born for the first two cohorts; –/ 0 Negative effects for Foreign-born and no effects for Swedish-born for the last cohort; –/0 Negative or low pay-off for young adults and individuals with primary education; Better pay-off for males than for women	[3]
Carling, Gustafson (1999)	1) Self-employment grants 2) employment subsidies	Inflow during the period June 1995 to Dec. 1996	Non-experimental	1995-1999	Employment duration	IV, hazard regression model	+ Employment duration is higher for participants in self-employment grants relative to subsidized employment participants.	[0; effectiveness relative to non-participation unclear]
Forslund, Johansson, Lindqvist (2004)	Employment subsidies in the private sector	Unemployed	Non-experimental	1998-2002	Unemployment duration	Exact matching, instrumental variable (IV) methods	+ Positive effect, decreased duration by 8 months, – indications for large dead-weight and substitution effects.	[1]
Fredriksson, Johansson (2003)	Job creation programs, training	Unemployed	Non-experimental	1993-1997	Outflow to employment	Propensity score matching	– Reduced outflow to employment by around 40 percent for both programs, – long-run effects more negative for job creation schemes.	[2]
Harkman, Jansson, Tamás (1996)	Labor market training		Non-experimental	1993	Regular employment and wages after 6 months and 2,5 years		+/0 Positive effect for long-term employment and earnings, no short-term effect for employment	[1]

Table A1. Microeconomic evaluations of European ALMP (ctd)

Study	Type of program	Target group	Design	Observation period	Outcome(s)	Identification strategy	Results	Notes / Comments [# observations for meta-data]
Sweden (ctd)								
Larsson (2002)	1) Youth practice, 2) labor market training	20-24 years old youth	Non-experimental	1985-1995	(i)Earnings, (ii)employment probability, (iii) probability of entering studies	OLS, Probit, Matching	– Negative effects on earnings and employment probability.	[2]
Richardson, van den Berg (2001)	Vocational employment-training program	Unemployed	Non-experimental	1993-2000	Transition rate from unemployment to employment	Bivariate duration models	0/+ Net effect on unemployment duration about zero (taking time spent within the program in account), Significantly higher transition rate from unemployment to employment after participation	[1]
Sacklén (2002)	Employment subsidy in the public sector	Unemployed	Non-experimental	1991-1997	Re-employment probability	Multiple equation model and maximum likelihood estimation method	+ Increased (long-term) employment probability by 5 to 10 percentage points.	[1]
Stenberg (2003)	1) Adult Education Initiative 2) vocational part of Labor Market Training	Unemployed	Non-experimental	1996-2000	Earnings, mobility between branches	OLS, IV, Logit	– Negative effect on wage and mobility compared to LMT vocational part	[0; effectiveness relative to non-participation unclear]
Stenberg (2005)	1) Adult Education Initiative 2) Labor Market Training	Unemployed	Non-experimental	1997-2002	Incidence of Unemployment, Unemployment duration	Bivariate probit model, Powell IV	0 Decreased incidence of unemployment, but increased unemployment duration compared to LMT	[0; effectiveness relative to non-participation unclear]
Switzerland								
Steiger (2005)	9 different programs incl. training, employment programs and interim jobs	Unemployed	Non-experimental	1996-1999	8 different outcomes	Propensity score matching	Results sensitive to the definition of nonparticipation. – Negative results for most programs compared to nonparticipation. + Positive results for most programs compared to a delayed participation	[0; program types not distinguishable]

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Table A1. Microeconomic evaluations of European ALMP (ctd)

Study	Type of program	Target group	Design	Observation period	Outcome(s)	Identification strategy	Results	Notes / Comments [# observations for meta-data]
Switzerland (ctd)								
Lalive, Van Ours and Zweimuller (2005)	Sanctions	Unemploy-ment insurance recipients	Non-experimental	1997-1999	Re-employment rates	Bivariate duration model	+ Substantial and significant effct of both sanctions and warnings	Authors conclude that having a benefit system with sanctions is as important as actually imposing sanctions. [1]
UK								
Blundell, Costas Dias, Meghir, van Reenen (2004)	Job search assistance and wage subsidies	Young unemployed	Non-experimental	1982-1999	Outflow to employment	Various difference-in-differences approaches	+ Positive effects for men within the first 4 month, increased outflow to employment of around 5 percentage points (at least 1 percentage point due to job search assistance + Positive effects for women, which are smaller and less precise	[2]
Van Reenen (2003)	Job search assistance and wage subsidies	Young unemployed	Non-experimental	1982-1999	Outflow to employment	Difference-in-differences approach	+ Social benefits outweigh its social costs, job search assistance more cost effective	[0; results contained in Blundell et al. 2004]
Dolton, O'Neill (2002)	Monitoring and job search assistance	Young unemployed	Experimental	1982-1994	Unemployment rate	-	+ Unemployment rate six percentage points lower for men after 5 years, 0 No significant long-term benefit for women Cost-effective to reduce LTU	[1]

Notes: Columns are self-explaining. The column "Results" includes "+", "–", and "0" signs to indicate qualitatively positive, negative, or zero effects, respectively. The last column contains – in addition to Notes/Comments where applicable – in [brackets] the number of observations that the study contributes to the data for the meta analysis. In general, multiple observations arise if the study discusses several programs. If program types are not sufficiently distinguishable, results usually could not be included in the meta data.