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Microeconometric Evaluation of Selected ESF-funded ALMP-Programmes

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Abstract

The study evaluates different ESF-funded labour market programmes by comparing the labour market status at different points in time after the treatment. In order to solve the selection problem we employ a standard matching algorithm with a multi-dimensional distance measure. The effects of the analyzed programmes (wage subsidies, start-up subsidies and qualification measures for recipients of social welfare) are very heterogeneous. It can be observed that the direct integration into the regular labour market provides an advantage for the supported individuals. Its lasting effects, however, strongly depend on the group of persons being supported, the type of treatment and the employers' financial share.

JEL classification: J68, C14

Keywords: Evaluation, Labour Market Policy

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Mikroökonometrische Evaluation ausgewählter ESF-geförderter arbeitsmarktpolitischer Programme

Zusammenfassung

In der Studie werden verschiedene ESF-geförderte Arbeitsmarktprogramme über einen Vergleich des Arbeitsmarktstatus zu verschiedenen Zeitpunkten nach der Teilnahme evaluiert. Um das Selektionsproblem zu lösen, wird ein Standard-Matching-Ansatz mit einem multidimensionalen Distanzmaß genutzt. Die Wirkungen der untersuchten Programme (Einstellungszuschüsse, Existenzgründungsförderung, Qualifizierungs- und Beschäftigungsmaßnahmen für Sozialhilfeempfänger) sind unterschiedlich. Zusammenfassend kann festgestellt werden, dass die direkte Integration in den regulären Arbeitsmarkt die Beschäftigungschancen der geförderten Personen verbessert. Letztendlich hängt die Wirkung allerdings davon ab, welche Personengruppe gefördert wird, welcher Maßnahmetyp eingesetzt wird und wie hoch die finanzielle Beteiligung des Arbeitgebers ist.

JEL Klassifikation: J68, C14

Schlagworte: Evaluation, Arbeitsmarktpolitik

Microeconometric Evaluation of Selected ESF-funded ALMP-Programmes

1. Introduction

The European Social Fund (ESF) is the second-largest of the EU's Structural Funds. As part of the European Employment Strategy this fund supports measures to prevent and reduce unemployment, to promote training und to improve labour market functions. The ESF complements the financial effort of specific programmes implemented by the Federal Labour Office or the Federal State Governments. This policy includes education and vocational training projects, schemes to promote and encourage employment and entrepreneurship, initiatives to generate new sources of employment, improvements to national, regional and local employment services and innovative measures to create work in local communities. According to the guidelines given by the EU (see *Deeke et al.*, 2004), all ESF co-financed programmes have to be evaluated in different stages of implementation.

The policy measures evaluated in this study are part of the programme for structural advancement of the free state of Saxony. Within the scope of the update of the mid-term evaluation the effects of labour market programmes that were implemented about five years ago are analysed. These programmes are: wage subsidies, start-up subsidies, as well as qualification and employment measures for recipients of social welfare. Measures for recipients of social welfare are "traditional qualification" (qualification plus one year of non-profit employment at a social organization) and the "Chemnitz Model" (qualification plus one year employment in a private business). These programmes differ from the labour market programmes of the Federal Labour Office mainly in terms of target groups and objectives. For instance, the start-up subsidies are co-financed by ESF mainly for persons who are not eligible to receive unemployment benefits, and the "Chemnitz Model" is an innovative measure to create work in local communities.

Wage subsidies and start-up subsidies of the Federal Labour Office are subject of several actual studies: Within the scope of the evaluation of the recent labour market reforms ("Hartz Reforms"), the evaluators find significant positive effects of wage subsidies and start-up subsidies (see *IAB et al.*, 2006; *ZEW et al.*, 2006; or *Jacobi, Kluve*, 2006). Similar results are found by *Deeke et al.* (2005) when evaluating ESF-supported labour market programmes of the Federal Employment Office. Especially for the start-up subsidies they find positive effects on the survival of new established businesses. Based on these evaluation results, *Schneider et al.* (2006) recommend the concentration of active labour market policy on three programmes: temporary wage subsidies, training measures and financial incentives for start-ups.

Fertig (2004) evaluates the effectiveness of ESF co-financed on-the-job-qualification in Saxony in terms of employment protection. He finds positive effects for different subgroups. This evaluation study is comparable with our study by means of the region, the employed matching method and the ESF support. The differences between both studies concern the evaluated programmes and the control group.

This study is organised as follows: Section 2 gives a short overview of the fundamental evaluation problem. In sections 3 to 5 the matching approach, the database and the selcted matching variables are described. The results are presented in section 6. Section 7 concludes the paper.

2. The microeconometric evaluation problem

Microeconometric evaluation of ALMP-measures is concerned with the assessment of potential changes in the labour market situation of individuals because of the participation in these programmes. Information about changes can be obtained by comparing the situation resulting from the treatment to one without participation.[1] However, it is not possible to observe both situations in a single person. An individual effect consequently cannot be estimated, as the observed result cannot be compared.

Instead of the individual effect, the average effect for the participants is estimated.[2] This requires individuals who do not participate in the measure but who would be in the same situation after participation as the participants.[3] That means, individuals in both groups must not differ in any characteristics relevant for the observed situation and the participation in the measure. This includes observable characteristics as well as unobservable ones. In practice this condition is not necessarily fulfilled, since the participants in an ESF co-financed ALMP-measure usually represent a selected group of individuals with specific characteristics and cannot simply be compared with the non-participants.

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1 For microeconometric evaluation the situation without participation is assumed to be representative of the situation without measures. This assumption is valid if only direct effects on the participating individuals are observed. See *Heckman, LaLonde, Smith* (1999).

2 This estimator permits an estimation without restricting the heterogeneity of the observed participants. See *Schmidt* (1999). Other estimators can be found in *Aakvik, Heckman, Vytlacil* (2005).

3 A basic condition for the estimation of average effects independent of size and composition of the participation group is referred to as “Stable Unit Treatment Value Assumption”. It states that the individual effect of a measure must not be influenced by the participation of other individuals in the same measure. See *Hujer, Caliendo, Radić* (2001).

Instead, a group of non-treated persons with – on average – the same relevant observable and unobservable characteristics as the participation group has to be found. If this is not exactly possible the estimation results will be distorted by a selection bias.[4]

Matching is one of the most popular methods to overcome the problem of selection bias. The basic idea is that the outcome of a well chosen group of non-treated persons is a good proxy for the counterfactual non-participation outcome as long as the persons in both groups have the same observable characteristics.

3. Solving the selection problem by means of matching

The simplicity of this idea as well as the unrestricted heterogeneity of individual effects are the main reasons for the frequent application of matching. Furthermore, like for all non-parametric methods no functional or distributional assumptions are necessary.

The identifying assumption of matching requires that – conditional on the considered characteristics – the assignment to the participation and the non-participation group is independent of the potential outcomes. This conditional independence assumption[5] is satisfied only if all variables that influence both the selection process and the potential outcome are used for matching. This also implies that all relevant characteristics must be observable – or adequate proxy variables can be found for the unobserved characteristics.

A further necessary condition for identifying an unbiased treatment effect is the common support condition which states that for each combination of the considered characteristics it must be possible to find both participants and non-participants.[6]

The matching control group consists of individual counterfactual outcomes ("statistical twins") for each participant. These counterfactual outcomes are determined in this study as the outcome of one special non-participant who is similar to the participant in the

4 If the participants belong to a group of persons with specific labour market problems, the treatment effect will be underestimated. See *Konle-Seidl* (2005).

5 In the literature, this assumption is also referred to as "Ignorable Treatment Assignment" (see *Rosenbaum, Rubin*, 1983), or "Unconfoundedness" (see *Imbens*, 2004).

6 *Heckman, Ichimura, Todd* (1997) decompose the conventional bias measure into different components and show that failure of the common support condition (one component of the bias) results in a substantial increase of the bias.

relevant characteristics. This technique is commonly referred to as "nearest neighbour matching".[7]

The first step of the assignment process is to assess the similarity between each participant and each non-participant. *Fröhlich* (2004) recommends to use the principal covariates affecting the outcome in addition to the commonly used propensity score for matching of relatively small samples. In this study we apply a multi-dimensional distance measure that uses personal characteristics as well as the participation tendency. The included characteristics are differently scaled. As is pointed out in statistical literature it is inappropriate to measure differently scaled covariates with one and the same distance measure.[8] It is necessary to implement an aggregated distance measure. The most common way to construct such distance measures is a two step procedure (see e.g. *Kaufmann, Pape,* 1996). In a first step scale-specific distance measures are quantified. Then, after a suitable standardisation the distances are weighted with the number of the included variables in each distance measure.

The similarity of the metrically scaled characteristics is determined via the Mahalanobis Distance. This is a multi-dimensional measure, which regards the distance between particular characteristics as well as their correlations. For nominally scaled variables the generalized Matching Coefficient is employed. This is also a multi-dimensional distance measure, which allows the inclusion and adequate weighting of characteristics with different numbers of parameter values. In order to prevent an unevenly strong influence of the two distance measurements, an additional factor is included, which ensures that the medians of both partial measures have the same dimensions.

Regarding the assignment of participants and non-participants matching without replacement is usually applied when the number of non-participants markedly exceeds the number of participants – which is the case in our study. The assignment process we use is to randomly order the participants, successively find the closest non-participant from the particular sub-sample and remove the matched pair from the pool of considered persons. This standard procedure in the empirical literature is referred to as "random matching" (see *Dehejia, Wahba,* 2002).[9]

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7 For a short survey of different nearest neighbour matching approaches see *Heckman, LaLonde, Smith* (1999).

8 Regarding e.g. quantitative covariates as qualitative ones or vice versa, results in loss of information from the data or an overvaluation of the qualitative variables. See *Opitz* (1980).

9 This process was introduced by Lechner (1998) and is very often applied for empirical evaluation studies, see e.g. *Augurzky* (2000) or *Gerfin, Lechner* (2002).

The quality of the Matching result is verified by comparing the means and the distribution of selected characteristics in participant and control group.

4. Database for participant group and potential control group

Data for the evaluation are available from different sources. The participant's data are collected in the course of the evaluation of ESF measures, priority 4 of the Operational Programme of the EU structural funds intervention and technical assistance (ESF) in the Free State of Saxony.[10] The first interviews were conducted in 2003 and included measures until 2002, the updates in spring 2005 cover the period 2000-2004. It is ensured that one participant is not interviewed twice. A noteworthy feature is that in part data for one ESF programme may come from two different sources.

Table 1:
Survey of data sources of participants' data, as well as size of samples and corrected samples

	wage subsidies	subsidies for business start-ups		traditional qualification (QAS)	Chemnitz model (QASC)	
data source	isg (2003)	isg (2003)	isw (2005)	isg (2003)	isg (2003)	isw (2005)
survey	ESF wage subsidies	ESF subsidised entrepreneurs	ESF subsidised entrepreneurs	qualification accompanying work creation schemes as well as QAS	qualification accompanying work creation schemes as well as QAS	qualification and employment for recipients of social welfare
number of cases						
sample	254	856	97	149	37	121
corrected sample	183	739		95	76	

Source: *isg* (2003) and *isw* (2005).

With regard to their use for microeconometric evaluation, the data structure in the update surveys was defined to match the respective structure of the already existing data

10 The interviews were realised by the Institute for Social Research and Social Policy and by the Institute for Structural Policy and Economic Development. See *isg* (2003) and *isw* (2005) for details.

adequately. Therefore it is possible to combine and analyse the records from the different surveys of the particular ESF programmes. This has the advantage that – despite some corrections necessary for the evaluation – even small numbers of documented cases can be enhanced. The correction of data is necessary since the microeconometric evaluation can only incorporate records that contain complete details about the result variables and the matching variables. This correction can reduce the available observations from the surveys considerably (see table 1). Thus, the number of records for wage subsidies diminishes from originally 254 to 183, for business start-ups from 953 to 739, for qualification and employment measures for social welfare recipients (QAS) from 149 to 95, and for measures according to the "Chemnitz Model" (QASC) from 158 to 76.

The reduction of incorporated cases may impair the representativeness of the data for the participant groups. A comparison before and after the correction, however, shows that the distribution of essential characteristics of the population according to master data list procedure (Stammblattverfahren) is by and large reflected in the sample (see table 2). Due to the partly different structure of the corrected sample the informational value for the population according to the master data is limited. No master data is available for the wage subsidies.

The potential control group is generated from the survey waves of the "Periodic Micro Census of Saxony" of January 2000, January 2001 and January 2002. The Saxon Micro Census contains very differentiated information about the situation of the households and the persons living in those households. Additionally, once a year the employment history of the persons old enough to be able to work is collected in form of a retrospective question. Derived from this question, quarterly details about the labour market status of the interviewed persons are available for the period from 1989 until the end of 2001 (depending on the available survey wave).[11] The overlap of the period of observation with the participants' one is not very large. However, since the labour market situation in Saxony has not changed radically in recent years, this should have no significant influence on the results of the evaluation.

The potential control group is supposed to represent the alternative situation in which the participants would have been without the participation in the programmes. As the programmes under examination primarily address unemployed persons, or persons threatened by unemployment, it can be assumed that those individuals would be unemployed in the alternative situation. Other possible employment situations are rather unlikely. Therefore only unemployment spells without any participation period in labour

11 For further information on this data see *Reinowski, Schultz, Wiemers* (2005).

market programmes are chosen as potential control group persons. According to this selection, 10,425 control group spells are available for the analysis.

Table 2:
Comparison of selected characteristics of supported individuals in ESF co-financed programmes according to master data lists and in the corrected samples

labour market measure	characteristics	population according to master data list analysis	corrected sample
Subsidies for business start-ups	average age in years	34.4	40.0
	proportion of women in %	47.0	51.0
	proportion of persons with university entrance qualification or advanced technical college entrance qualification in %	36.0	29.0
	proportion of persons unemployed up to 6 months prior to the beginning of treatment in %	41.0	61.0
	proportion of persons unemployed 7 to 12 months prior to the beginning of treatment in %	23.0	20.0
QAS	proportion of women in %	45.5	48.4
	proportion of persons older than 50 years of age in %	12.2	18.0
	duration of unemployment before commencement of measure in quarters	4.3	3.4
QASC	proportion of women in %	42.0	61.8
	proportion of persons older than 50 years of age in %	7.6	7.0
	duration of unemployment before commencement of measure in quarters	3.0	3.5

Source: Analysis of master data lists, *isg* (2003) and *isw* (2005).

5. Selection of characteristics for the Matching

Out of the available information the participation tendency (the latent variable of the propensity score estimation) is estimated for all individuals. Since this one-dimensional indicator is not sufficient in small samples to correctly evaluate the employment prospects generated by one of the programmes (see *Fröhlich*, 2004), other important characteristics are included into the distance measure. The choice of additional information used in the matching process is guided by considerations from human capital theory and by results of former empirical studies.[12]

One important socio-economic factor influencing the prospect of employment is the age of a person. A negative influence on the chance of getting employment is expected, because increasing age tends to be connected to a decrease in the demand for labour. Due to varying employment prospects for men and women, gender is also taken into consideration. In addition, the form of education influences employment prospects. The chance to re-enter the first labour market is better for persons with a higher qualification. On the other hand, not completed professional training is one of the major causes for long-term unemployment. Other important factors like number and age of children, marital status, and household income cannot be taken into account in this survey, as no data are available.

Besides the participation tendency, gender, age, and the level of education of a person are thus taken into account as important socio-economic factors. Furthermore, information about the labour market status of a person before the entry into a measure is included into the assignment process. If the former status is unemployment, only individuals who have been unemployed at least as long as the participant prior to the measure are regarded as potential partners.

After matching, no significant differences in means and distributions of the characteristics under examination between participation and non-participation group are found.

12 This corresponds to e.g. *Hujer, Maurer, Wellner* (1997) and *Christensen* (2001).

6. Results for the analysed programmes

The microeconometric evaluation covers four different ESF co-financed programmes:

- wage subsidies
- start-up subsidies
- qualification and employment measures for recipients of social welfare
    - "traditional qualification" (qualification plus one year of non-profit employment at a social organization) and
    - the "Chemnitz Model" (qualification plus one year employment in a private business).

The success criterion for the evaluation is the labour market status at a certain point of time after finishing a particular measure. Here, three situations are distinguished:

- employment (dependent employment or self-employed)
- unemployment in the broader sense (unemployment and participation in an ALMP-measure) and
- not gainfully employed (includes vocational training).

The point of time for the evaluation is not arbitrary, but is predetermined by the participant's data. It is different for each of the evaluated programmes. The evaluation times are placed relatively close in time to the measure. The results therefore refer to the short-term effect of a measure. Long-term effects of the individual programmes cannot be estimated.

The estimated effect is the comparison between participation in a measure and unemployment in the status quo. Comparing the different programmes, however, is only possible to some extent, due to (partly) different groups of participants (see table 3).

Besides the examined direct effects conclusions can be drawn to some extent about windfall gain effects. Windfall gain effects arise, if the supported employment contracts would have been also accomplished without the subsidy. In the research structure of the "statistical twins" which is employed here, the proportion of non-participants who found employment without subsidy can be interpreted as the windfall gain effect of the evaluated measure. Only the difference in the proportion of employed persons for participants and non-participants can be referred to as the measure effect.

The different programmes show very heterogeneous results, which on one hand can be ascribed to their different modes of action and on the other hand to the different groups of participants.

Table 3:
Description of selected characteristics of participants in the analysed ESF co-financed programmes.

	proportion in %, or average			
	wage subsidies	start-up subsidies	QAS	QASC
women	94.0	51.0	48.4	61.8
age (in years)	44	42	45	43
highest school degree				
secondary school degree without university entrance qualification	74.3	68.1	60.0	57.9
advanced technical college entrance qualification	6.6	6.2	17.9	15.8
university entrance qualification	16.4	23.0	6.3	13.2
highest professional degree				
skilled worker/master craftsman	73.2	70.9	58.9	43.4
technical college/university	10.9	21.5	10.5	5.3
status prior to participation in measure				
employed	9.3	14.5	4.2	7.9
unemployed in the broader sense	86.3	81.6	79.0	75.0
not gainfully employed	4.4	3.9	16.9	17.1

Source: *isg* (2003) and *isw* (2005).

Wage subsidies

Wage subsidies are supposed to support the employment of unemployed persons from specific target groups on the first labour market. The supported groups are adolescents up to the age of 25, women above the age of 50, single parents, and handicapped persons. Reducing the employers' costs evolving from new employment is supposed to provide an incentive for hiring unemployed persons. This should give unemployed persons an opportunity to be employed on the first labour market.

The success of this programme is evaluated at two different times. One year after the beginning of the support approximately 90% of the supported individuals are employed (see table 4). The predominant part of those individuals are still employed in the same (before supported) job. This is not surprising, since the average duration of the support is one year. The part of unemployed persons in this group is at 6%. At the same time, about a quarter of the persons in the control group are gainfully employed and more than 60% are unemployed. Thus, one year after the beginning, the supported individuals have achieved a clearly advantaged position on the labour market. However, an evaluation solely at this point of time would be misleading, because the majority of the employed individuals are still in supported employment.

Table 4:
Comparison of the labour market situation of participants and non-participants for wage subsidies

status	proportions in %					
	1 year after beginning of measure			2 years after beginning of measure		
	participants (n=183)	non-participants (n=183)	measure effect	participants (n=183)	non-participants (n=183)	measure effect
dependent employment	91.3	25.7	65.6	70.5	38.2	32.3
thereof in the same job	*88.5*	*0.00*	*88.5*	*67.2*	*0.0*	*67.2*
self-employed	0.0	1.6	-1.6	0.5	2.2	-1.7
	91.3	27.3	64.0	71.0	40.4	30.6
unemployment	5.5	39.9	-34.4	11.5	21.3	-9.8
participation in ALMP	0.5	21.9	-21.4	0.0	14.8	-14.8
	6.0	61.8	-55.8	11.5	36.1	-24.6
vocational training	1.1	3.8	-2.7	2.7	5.5	-2.8
not gainfully employed	1.6	7.1	-5.5	1.1	9.8	-8.7
	2.7	10.9	-8.2	3.8	15.3	-11.5
not specified				13.7	8.2	
total	100.0	100.0		100.0	100.0	

Source: *isg* (2003) and *isw* (2005), Micro Census of Saxony; own calculations.

Therefore, the results are compared with that at a later point of time. Two years after the beginning the fraction of employed persons among the participants is with approximately 70% lower than at the time of the first observation. The fraction of unemployed individuals has risen slightly to 11%. In the control group, on the other hand, the fraction of employed persons has distinctly risen to 40%, whereas the one of unemployed individuals is almost split in half.

All in all, this results show that wage subsidies significantly improve the position of the supported individuals on the labour market. However, the difference between participants and non-participants declines over time. This is also observable in the measure effect, which is calculated as the difference between the proportions of the respective status for participants and non-participants. For the employment status the measure effect is 65.6 percentage points one year after the beginning. Another year later it is split in half to approximately 30 percentage points. Unemployment in the broader sense, on the other hand, is temporarily reduced by approximately 55 percentage points by participation in the measure and 12 months later is nevertheless still lower by 25 percentage points.

How the proportion of employed individuals will develop afterwards cannot be observed from the available data. It can be assumed, however, that the supported persons not only get a subsidised advantage for the start, but that wage subsidies durably improve their labour market position.

Start-up subsidies

Start-up subsidies are supposed to encourage unemployed individuals and persons threatened by unemployment to realize their own business ideas. Persons in this programme are mainly not eligible to receive unemployment benefits. Subsidies to the costs for social insurance and living during the first six months make entrepreneurship easier and at the same time are supposed to lower the risk of the market entry.

In order to evaluate the success of the subsidy, the labour market status of the supported individuals is compared to that of the persons of the control group six months after the subsidy ended.[13] At this point the majority (approximately 95%) of the supported entrepreneurs are still self-employed (see table 5). The proportion of unemployed individuals is approximately 2%. In the control group half the persons are unemployed or in some ALMP-measure; about 40% are employed. So at least for a short term a business start-up subsidy improves the position of the supported person on the labour market significantly. Whether this improvement is a lasting effect, however, cannot be concluded from the data at hand. Six months after the end of the subsidy the measure effect on employment is about 60 percentage points and unemployment has been reduced through participation by approximately 50 percentage points.

13 It is assumed that the business start-up subsidy is drawn on for the maximum duration of 6 months.

Table 5:
Comparison of the labour market situation of participants and non-participants 6 months after the end of the business start-up subsidy

status	proportions in %		
	participants (n=739)	non-participants (n=739)	measure effect
dependent employment	1.2	36.7	-35.5
self-employed	95.5	3.3	92.2
	96.7	40.0	56.7
unemployment	2.2	33.5	-31.3
measure participation	0.1	19.1	-19.0
	2.3	52.6	-50.3
vocational training	0.1	4.1	-4.0
not gainfully employed	0.8	3.3	-2.5
	0.9	7.1	-6.2
total	100.0	100.0	

Source: *isg* (2003) and *isw* (2005), Micro Census of Saxony; own calculations.

The participants of these two analysed measures belong to different groups of persons, i.e., it is not possible to find "statistical twins" for one measure in the group of the participants of the other measure. Consequently, they cannot be compared and it is not possible to assess which measure is more successful.

Qualification and employment measures for social welfare recipients

Qualification and employment measures for welfare recipients are supposed to enhance the individuals' opportunities of a reintegration by means of a combination of systematic further training and job opportunities. Basic skills like keeping a regular daily schedule or the organisation of personal actions are supposed to be activated. Another important goal of these measures is to adapt individual skills to the needs of regional employers. The two evaluated measures differ in the type of the supplied job opportunity. While the "traditional qualification" (QAS) combines a qualification phase with non-profit employment at a social organisation, the "Chemnitz Model" (QASC) includes an occupation in a private business subsequent to a measure of further training, for which the employer has only low costs to bear.

In order to correctly estimate the counterfactual status for every participant 6 months after the expiration of the measure, the exact duration of the measure is taken into consideration. In the case of missing data the average value is assumed as the duration.

In the traditional qualification measure, a significant decline of the participants' employment chances on the first labour market is observed. Six months after finishing the measure only approximately 10% of the participants are employed, whereas in the control group approximately 40% are employed (see table 6). Accordingly, the proportions of unemployed individuals differ significantly between the two groups: 73% of the supported social welfare recipients vs. 45% of the members of the control group. In contrast, in the "Chemnitz Model" no significant difference in the proportions of employed and unemployed persons is observed between the two groups. The proportions of employed individuals are with approximately 37% identical in both groups. Also the proportion of unemployed individuals is similar in both groups (49% vs. 47%).

Table 6:
Comparison of the labour market situation of participants and non-participants 6 months after the end of QAS and QASC measure

status	proportions in %					
	QAS			QASC		
	participants (n=95)	non-participants (n=95)	measure effect	participants (n=76)	non-participants (n=76)	measure effect
dependent employment	11.7	42.6	-30.9	38.9	36.8	2.1
self-employed	0.0	0.0	0.0	0.0	0.0	0.0
	11.7	42.6	-30.9	38.9	36.8	2.1
unemployment	64.9	33.0	31.9	40.3	36.8	3.5
measure participation	8.5	12.8	-4.3	11.1	10.5	0.6
	73.4	45.8	27.6	51.4	47.3	4.1
vocational training	2.1	2.1	0.0	2.8	3.9	-1.1
not gainfully employed	12.8	9.6	3.2	6.9	11.8	-4.9
	14.9	11.7	3.2	10.7	15.7	-5.0
total	100.0	100.0		100.0	100.0	

Source: *isg* (2003) and *isw* (2005), Micro Census of Saxony; own calculations.

The measure effect of QAS-measures on employment is approximately -30 percentage points, compared to the "Chemnitz Model" with +2 percentage points. Accordingly, unemployment rose with participation by almost 30 percentage points for QAS, while rising only about 5 percentage points for QASC. This indicates that the "Chemnitz Model" tends to be more successful than the traditional qualification measure for social welfare recipients.

A direct comparison between the two models (in the sense of "statistical twins") is again not possible. However, the characteristics of both participant groups do not differ significantly. Therefore, the comparatively better employment prospects for participants in the "Chemnitz Model" can be interpreted as a "success" of the measure as such and not as a result of systematic differences in the participant groups.

7. Summary of the results

The effects of the analysed programmes are very heterogeneous, though not randomly (see table 7). It can be observed that the direct integration into the regular labour market at first provides an advantage for the supported individuals. Its lasting effects, however, strongly depend on the group of persons being supported, the type of measure, as well as the employers' (financial) share. For the group of individuals supported by wage subsidies, assistance in overcoming the employment barrier suffices to warrant a successful integration into the labour market. A different situation arises for the supported welfare recipients, who start out with less favourable conditions. Compared to the above mentioned group of persons they have on average a lower level of education and were longer unemployed previous to the measure. A temporary occupation with potential employers does not improve their situation on the labour market compared to the status quo. However, supporting those individuals on the first labour market appears more promising than an occupation with non-profit organisations. It can be assumed that the greater the financial share of the employers, the more successful can be the measure. It remains an open question, however, whether the realisation of the programme is still possible with larger financial burden for the employers, especially for individuals with very particular employment problems.

The business start-up subsidy affects the labour market position of the participants positively. However, this is partly due to the characteristics of the supported group of persons. The entrepreneurs are characterised by an education level above the average and by a short unemployment duration previous to the treatment. Furthermore, due to the high financial risk of entrepreneurship, a strong personal motivation can be assumed. Thus, the observed success of the subsidy for business start-ups cannot simply be transferred to other groups of individuals.

Unfortunately, long run effects for the analysed measures cannot be observed with the available data.

All in all our results for wage subsidies and start-up-subsidies correspond to the findings of the above mentioned studies of *IAB et al.* (2006), *ZEW et al.* (2006), *Jacobi, Kluve*

(2006), and *Deeke et al.* (2005). Comparable studies of qualification and employment measures for recipients of social welfare are not available.

Table 7:
Summary of the evaluation results of the analysed ESF co-financed programmes

effect on	wage subsidies		subsidy of business start-ups	QAS	QASC
	1 year after beginning of subsidy	2 years after beginning of subsidy	6 months after end of subsidy	6 months after end of measure	6 months after end of measure
employment	significantly higher for participants	significantly higher for participants	significantly higher for participants	significantly lower for participants	insignificant
unemployment in the broader sense	significantly lower for participants	significantly lower for participants	significantly lower for participants	significantly higher for participants	insignificant
not gainfully employed	significantly lower for participants	significantly lower for participants	significantly lower for participants	insignificant	insignificant

Note: differences between participants and control group significant at 5 % (t-test)

Source: *isg* (2003) and *isw* (2005), Micro Census of Saxony; own calculations.

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