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Effectiveness of sequences of One-Euro-Jobs

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Mit der Reihe „IAB-Discussion Paper“ will das Forschungsinstitut der Bundesagentur für Arbeit den Dialog mit der externen Wissenschaft intensivieren. Durch die rasche Verbreitung von Forschungsergebnissen über das Internet soll noch vor Drucklegung Kritik angeregt und Qualität gesichert werden.

The “IAB-Discussion Paper” is published by the research institute of the German Federal Employment Agency in order to intensify the dialogue with the scientific community. The prompt publication of the latest research results via the internet intends to stimulate criticism and to ensure research quality at an early stage before printing.

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Abstract

Many studies have analysed the effectiveness of single active labour market programmes (ALMPs) for welfare recipients in different countries. As empirical evidence reveals that welfare recipients in Germany often participate in multiple programmes, I evaluate the sequential participation of unemployment benefit II (UB-II)-recipients in ALMPs in Germany. My study uses comprehensive, administrative data to control for dynamic selection that arises in the evaluation of sequences. Using a dynamic matching approach and an inflow sample of UB-II-recipients, I analyse the effects of sequences of One-Euro-Jobs and/or UB-II-receipt on labour market outcomes. I focus on two questions: Is participating in two consecutive One-Euro-Jobs compared with receiving UB II for two consecutive periods better for individuals' employment outcomes? Is it more effective to take part in a One-Euro-Job directly after entry into UB II or in a later period? For female participants in One-Euro-Jobs in the first period, especially in West Germany, I find that participating in two consecutive One-Euro-Jobs compared with receiving UB-II-receipt for two consecutive periods better facilitates integration into regular employment. It is also more effective for participants in One-Euro-Jobs in the first period to take part in a One-Euro-Job directly after entry into UB II rather than take part in a One-Euro-Job in a later period, especially for East German men (although not for West German women). However, I also find evidence of so-called programme careers and stepwise integration into regular employment through direct job creation schemes (without One-Euro-Jobs).

Zusammenfassung

Viele Studien haben die Wirkungen von einzelnen aktiven Arbeitsmarktprogrammen für Leistungsbezieher/innen in verschiedenen Ländern untersucht. Da es aber empirische Evidenz gibt, dass Arbeitslosengeld II (ALG II)-Bezieher/innen in Deutschland häufig an mehreren Programmen teilnehmen, werden in dieser Studie sequentielle Teilnahmen an aktiven Arbeitsmarktprogrammen für ALG-II-Bezieher/innen in Deutschland untersucht. Es werden administrative Daten verwendet, um für dynamische Selektionsprobleme, die bei der Evaluation von Sequenzen entstehen, kontrollieren zu können. Mit Hilfe eines dynamischen Matching Ansatzes und einer Zugangsstichprobe von ALG-II-Beziehern/innen, werden die Wirkungen von Sequenzen, die aus Ein-Euro-Jobs und/oder ALG-II-Bezug bestehen, untersucht.

Der Artikel konzentriert sich hierbei auf zwei Fragestellungen: Ist es besser an zwei aufeinanderfolgenden Ein-Euro-Jobs teilzunehmen oder nur ALG II zu beziehen? Ist es besser einen Ein-Euro-Job direkt nach Eintritt in den ALG-II-Bezug zu starten oder zu warten und einen Ein-Euro-Job in einer späteren, zweiten Periode zu beginnen? Die Ergebnisse der ersten Fragestellung zeigen positive reguläre Beschäftigungseffekte für (westdeutsche) Frauen: Weibliche Teilnehmerinnen an einem Ein-Euro-Job in der ersten Periode haben positive reguläre Beschäftigungseffekte, wenn sie an zwei aufeinanderfolgenden Ein-Euro-Jobs versus nur ALG-II-Bezug teilnehmen. Auch ist es besser für Männer in West- und

Ostdeutschland sowie für Frauen in Ostdeutschland, die an einem Ein-Euro-Job in der ersten Periode teilnehmen, direkt nach Eintritt in ALG II an einem Ein-Euro-Job teilzunehmen versus einen Ein-Euro-Job in einer späteren, zweiten Periode. Es finden sich aber auch Hinweise auf Maßnahmekarrieren sowie Hinweise auf eine schrittweise Integration in reguläre Beschäftigung mit Hilfe von beschäftigungsschaffenden Maßnahmen (Arbeitsbeschaffungsmaßnahmen, Arbeitsgelegenheiten in der Entgeltvariante und Beschäftigungszuschuss).

JEL classification: C31, I38, J68

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1 Introduction

Sequences, i.e., consecutive participation in several ALMPs or other states, increasingly arise for welfare recipients, as Europe and the US place greater emphasis on the activation of welfare recipients, e.g., through ALMPs (Eichhorst et al. 2008). Most studies on ALMPs consider only the effectiveness of the first ALMP, ignoring the effects of potential subsequent programmes. More detailed knowledge of the outcomes of sequences on labour market performance, the effectiveness of sequences for particular groups of individuals and the best strategic mix of programmes may help job centres more effectively place the right individuals in the right sequences, improve the efficiency of the labour market and foster the successful integration of welfare recipients into the labour market.

Major reforms in Germany in 2005 introduced a new means-tested welfare benefit, the unemployment benefit II (UB II), for individuals capable of working, emphasising the activation of all welfare recipients through a system of mutual obligation. The reforms implemented several ALMPs to activate welfare recipients and integrate them into the labour market; thus, sequences of ALMPs have emerged (Dengler/Hohmeyer 2010). Sequential participation in ALMPs can also help integrate welfare recipients who have been unemployed for extended periods into regular employment. I concentrate on sequences consisting of the most widely used ALMP for welfare recipients: One-Euro-Jobs, a public employment programme for welfare recipients who are especially hard-to-place in employment.

Traditional models such as the Roy-Rubin model (Roy 1951; Rubin 1974) are commonly used to evaluate ALMPs. A static causal model, however, is not appropriate for addressing selection problems that arise during a sequence. In the evaluation of sequences, intermediate outcomes play an important role: assignment to the first programme differs from assignment to the second programme because participation in the first programme generates new information. For example, people may increase the intensity of their job search to avoid further ALMP participations. I apply the dynamic causal model of Lechner[1] that addresses dynamic selection problems during a sequence by considering intermediate outcomes, but I use a different period definition that takes more the duration of programme participation into account.

I analyse sequences of One-Euro-Jobs and/or UB-II-receipt and address two questions: First, is it better to participate in two consecutive One-Euro-Jobs or receive UB II for two consecutive periods? Second, what are the effects of waiting: Is it better to participate in a One-Euro-Job immediately after entry into UB-II-receipt or to wait and participate in a later period? The first question is the basic counterpart to the static evaluation of single One-Euro-Jobs compared with non-participation. Moreover, participation in more than one One-Euro-Job may be necessary to raise the employability of a welfare recipient. In addition, the second question focuses on a specific strategy, the timing of One-Euro-Jobs.

[1] For example, see Lechner (2004).

Although no empirical study has evaluated sequences by welfare recipients in Germany, knowledge of the effects of sequences is essential from a policy perspective. A mismatch between a welfare recipient and an ALMP could increase negative effects and could have long-term negative consequences. If job centres assign individuals to sequences, such negative effects from a mismatch could be strengthened. Thus, knowledge of the effects of sequences should help job centres assign welfare recipients to the most effective sequences. Moreover, with such knowledge, job centres can better prevent so-called programme careers, i.e., individuals taking part in several ALMPs over many years without improved prospects such as obtaining regular employment. In particular, knowledge of the effectiveness of sequences consisting of One-Euro-Jobs is important, as One-Euro-Jobs are a large-scale programme, and sequences consisting of consecutive One-Euro-Jobs are the most common type of sequence.[2]

Using a dynamic matching approach combined with rich, administrative data, I find that, it is more effective for female participants of One-Euro-Jobs in the first period, especially for those in West Germany, to participate in two consecutive One-Euro-Jobs compared with UB-II-receipt for two consecutive periods. It is also more effective for participants of One-Euro-Jobs in the first period to participate in a One-Euro-Job directly after entry into UB-II-receipt than to participate in a later period, especially for East German men (although not for West German women). However, I also find evidence of programme careers and stepwise integration into regular employment through direct job creation schemes (without One-Euro-Jobs).

The paper is organised as follows. Section 2 describes the institutional framework. Section 3 derives hypotheses on the effects of One-Euro-Jobs and considered sequences from a theoretical point of view. Section 4 presents previous empirical findings with respect to One-Euro-Jobs as single programmes and summarises empirical evidence on the effects of sequences in Germany as well as internationally. Section 5 describes the methodology employed, while section 6 describes the data used, the definition of sequences and periods and the description of variables. Section 7 presents the results. Finally, section 8 concludes.

2 Institutional Framework

At the start of 2005, a new means-tested benefit, UB II, for needy individuals capable of working[3] replaced the former means-tested unemployment assistance and social assistance as a final milestone of major reforms to the German unemployment compensation system (the so-called ‘Hartz IV’ reforms).[4] Implementation of the new principle of supporting and demanding the job search efforts of unemployed welfare recipients has created a system of mutual obligations with individual action plans: job centres demand that unemployed welfare

2 See Dengler/Hohmeyer (2010).

3 Individuals aged between 15 and 64 years that could work at least three hours per day.

4 Currently (since January 2013), a single individual receives a welfare benefit of 382 Euros per month plus costs of heating and accommodations.

recipients make specific efforts to search for jobs but should also support their job search efforts. In cases of non-compliance by welfare recipients, job centres use benefit sanctions.[5]

As a result of the introduction of UB II, job centres activate all members capable of working in needy households to find regular employment and reduce their dependence on welfare. Before the reform, social assistance recipients and members of unemployment assistance recipient households were often not activated.[6] As a means of activation, several ALMPs are available for UB-II-recipients and are mostly categorised as public employment programmes, wage subsidy programmes, qualification programmes, placement services and other programmes.[7] I focus here on sequences consisting of One-Euro-Jobs, a public employment programme. One-Euro-Jobs have the highest inflow of all ALMPs from 2005 to 2009: between 600,000 and 700,000 individuals entered One-Euro-Jobs each year during this period (see Table 1).

Below, I describe the main characteristics and rules of One-Euro-Jobs during the 2005 and 2009 period. One-Euro-Jobs ('Arbeitsgelegenheiten in der Mehraufwandsvariante') are work opportunities providing additional jobs in the sense that they would not be undertaken without the subsidy and are of public interest for welfare recipients who are especially hard-to-place in employment. While participating in One-Euro-Jobs, welfare recipients continue to receive welfare benefits plus 1 to 2 Euros per hour worked (Hohmeyer/Wolff 2012). The German government implemented One-Euro-Jobs via enforcement of Social Code (SC) II. One-Euro-Jobs (regulated in Article 16 d, SC II) aim to raise the employability of the long-term unemployed and increase their chances of finding regular employment (Federal Employment Agency 2009). Welfare recipients' willingness to work is also tested under the programme. Furthermore, One-Euro-Jobs aim to socially integrate welfare recipients.

One-Euro-Jobs focus on specific target groups such as young adults at the point of transition into the labour market, individuals without education, older unemployed individuals, individuals with migration background and women who face specific placement barriers (Federal Employment Agency 2006). By law, job centres must place young adults in employment, vocational training or, as a last resort, One-Euro-Jobs without delay.[8] The duration of the programme is determined at the discretion of caseworkers, but One-Euro-Jobs must not be permanent substitutes for regular employments. Usually, the duration of participation is about half a year. One-Euro-Jobs may also include a qualification part. To avoid lock-in effects, participants must have sufficient time to search for regular employment. Normally, the average working time is no more than 30 hours per week.

5 For a detailed description of the UB-II-system, see Eichhorst/Grienberger-Zingerle/Konle-Seidl (2010).

6 See Hohmeyer/Wolff (2012) for details.

7 For further information on ALMPs and the Hartz reforms, see Jacobi/Kluve (2007).

8 Since 2012, job centres are no longer required to place young adults in One-Euro-Jobs without delay.

3 Theory

From a theoretical perspective, the effectiveness of sequences is unclear a priori. In general, job search models (Mortensen 1986) and matching theory (Pissarides 1979) indicate that single ALMPs have both positive and negative effects on wages and employment (Calmfors 1994). Matching theory focuses on the match between a job seeker and a vacancy. By contrast, job search models focus on the job search effectiveness of the job seeker. ALMPs might influence match quality and/or job search effectiveness in negative or positive ways. Thus, sequences of ALMPs may strengthen both positive and negative effects.

I first propose hypotheses regarding the theoretical and microeconomic effects of One-Euro-Jobs. Second, I propose hypotheses regarding the effects of sequences.

3.1 One-Euro-Jobs

Job search models and matching theory suggest that One-Euro-Jobs have positive as well as negative effects on wages and employment: On the one hand, One-Euro-Jobs raise the employment prospects of participants. First, the qualifications of job seekers adapt to the structure of labour market demand, as participants are trained on the job and become accustomed to regular work schemes. Second, obligatory participation raises participants' job search intensity, as their free time is reduced and it is more difficult to earn additional money through illegal employment. Third, One-Euro-Jobs signal to employers the individual's willingness to work and the potential productivity of the participants.

On the other hand, One-Euro-Jobs may have adverse effects on wages and employment: Lock-in effects, whereby job search efforts made by the unemployed welfare recipients to find employment are reduced, may set in. Participants' job search effort may decline during One-Euro-Job participation, because the participants have less time to search for jobs. Furthermore, there may be financial disincentives, if job centres incur additional costs associated with the programme. Job search efforts may also decline before participation starts (Ashenfelter`s Dip), if the individuals know about the programme participation before the start. If employers regard One-Euro-Jobs as a negative signal, there are also stigma effects. Such a stigma is a notable concern with One-Euro-Jobs, as such programmes are directed towards people with severe impediments. As One-Euro-Jobs are additional in the sense that they would be not undertaken without the subsidy, job training through One-Euro-Jobs may be of little value for employers.[9]

In summary, the effects of One-Euro-Jobs are unclear a priori. It is left to empirical research to analyse the effects.[10]

[9] For further information on the theoretical effects of One-Euro-Jobs, see, e.g., Hohmeyer/Wolff (2012).

[10] For an overview of studies on the effects of One-Euro-Jobs, see Section 4.1.

3.2 Sequences and Sequences of One-Euro-Jobs

In some cases, participation in more than one programme is necessary to raise the employability of a welfare recipient. Sequences can also be part of the activation strategy of hard-to-place individuals who have extreme difficulties finding jobs and require more assistance from job centres. Such individuals are thus more likely to participate in sequences. In the best case, job centres integrate individuals stepwise into regular employment by employing a strategic mix of programmes that increasingly aim to integrate such individuals into regular employment.

In general, job centres aim to target welfare recipients to specific ALMPs. Negative effects are more likely to emerge if job centres do not consider the suitability of a specific ALMP for a welfare recipient and simply assign individuals to various programmes. If individuals take part in a sequence, targeting plays an even more important role. Strategic sequences targeted at specific welfare recipients are more likely to have positive effects.

Thus, before focusing on the theoretical effects of sequences, I note several reasons why inappropriate targeting of welfare recipients in ALMPs may occur. First, job centres might assign people to programmes to decrease the unemployment rate, as low unemployment rates are an important target of governments. Second, the job centre staff might have little time to consider the specific needs of job seekers because of high caseloads (caseworker to client ratio).[11] Third, in the early stages of the UB-II-system, job centre staff might have little experience in activating welfare recipients. In addition, reforms to ALMPs since 2005 (e.g., the modification of existing ALMPs, abolishment of ALMPs or the introduction of new ALMPs) might lead to a loss in experience with ALMPs.

Fourth, job centres must also focus on specific target groups, such as people less than 25 years of age. By law, job centres must place young adults in employment, vocational training or, as a last resort, One-Euro-Jobs without delay.[12] Thus, inefficiencies might arise as young people are placed in specific programmes such as One-Euro-Jobs that are not suitable for them but rather are suitable for welfare recipients in a different target group. Moreover, young welfare recipients could also find a job without any programme participation. Fifth, creaming could also lead to inefficiencies. Job centres more frequently assign welfare recipients with good employment prospects to programmes, as such participants may have higher employment rates, and job centres may present these high rates as signs of the success of their programmes. However, the high employment rates are not due to programme participation, which might have little impact on individuals' labour market prospects.

[11] Hainmueller et al. (2011) study the effectiveness of ALMPs in light of lower caseloads. They use a pilot project of the German Federal Employment Agency that reduced the caseload in some local employment offices and find that lower caseloads lead to lower unemployment rates.

[12] Since 2012, job centres are no longer required to place young adults in One-Euro-Jobs without delay.

Thus, the behaviour of job centres and other determinants related to job centre processes have strong effects on the employment prospects of welfare recipients, especially if individuals participate in a sequence.

Next, I describe the theoretical effects of sequences. I focus on different sequences consisting of One-Euro-Jobs or/and UB-II-receipt. First, I consider participating in two consecutive One-Euro-Jobs compared with UB-II-receipt for two consecutive periods. A sequence of two One-Euro-Jobs has both positive and negative effects. On the one hand, there may be higher lock-in or stigma effects due to the longer duration of participation. On the other hand, individuals receive more basic work experience and knowledge and become more accustomed to regular work schedules. Thus, the positive effects of One-Euro-Jobs may be strengthened. Individuals who have greater difficulties in finding jobs (e.g., individuals who are jobless for many years) are more likely to participate in two consecutive One-Euro-Jobs, as more intensive treatment is necessary for them.

The effect of a sequence of two One-Euro-Jobs also depends on the type of One-Euro-Job that the individual takes. In particular, a sequence of two One-Euro-Jobs is likely to be beneficial if the programmes build on one another, with increasing requirements for the participants, e.g., the first One-Euro-Job may be an intensive job orientation programme, while the second could be a typical One-Euro-Job. However, a sequence of two One-Euro-Jobs could have negative effects for participants, as participants could become stuck in One-Euro-Jobs.

Thus, I expect to find positive effects of participation in two consecutive One-Euro-Jobs compared with non-participation, whereas lock-in effects should not play a major role. If job centres use One-Euro-Jobs as test for the welfare recipients' willingness to work, it is also easier to prevent illegal employment in cases where individuals are assigned two consecutive One-Euro-Jobs.

Second, I analyse sequences consisting of a One-Euro-Job first and then UB-II-receipt, or vice versa. Individuals who immediately receive a One-Euro-Job during their welfare spell are integrated into the labour market more quickly than individuals who must wait for their first One-Euro-Job. In such a case, the loss in human capital and matching efforts may be reduced, as the unemployment durations for such individuals are relatively brief. However, individuals who wait for their first One-Euro-Job are more likely to receive an appropriate One-Euro-Job, e.g., a One-Euro-Job that takes into account their preferences for specific tasks and former job skills.

In summary, the effects of sequences on different labour market outcomes are unclear a priori and must be quantified by econometric research.

4 Literature Review

In the following section, I summarise existing empirical evidence on One-Euro-Jobs, evaluated as single programmes. I then describe the results of evaluation studies that analyse sequences in Germany as well as internationally. Empirical evidence on the effects of sequences in Germany and for individuals who receive welfare benefits such as UB II is sparse.

4.1 Empirical Evidence on One-Euro-Jobs

Several evaluation studies that use propensity score matching to investigate the effectiveness of One-Euro-Jobs do not consider the effects of consecutive programmes.[13]

Hohmeyer/Wolff (2012) analyse the labour market impact of One-Euro-Job participation compared with non-participation for participants who entered the programme at the beginning of 2005. Using a stock sample of unemployed welfare recipients for January 2005, they find that One-Euro-Jobs have small lock-in effects in the short term (at most approximately –4 percentage points on the regular employment rate). However, participation increases the regular employment rate of women (by approximately 3 percentage points by the 20th month after the start of the programme for West German women). For participants younger than 25 years old, the effects on regular employment are negative or not significant, and lock-in effects on regular employment are stronger for this age group. One-Euro-Jobs are also more effective for participants with low employment prospects, e.g., those who have been jobless for several years, but not for unskilled participants.

Hohmeyer (2012) investigates the effects of different types of One-Euro-Job participations on participants, in terms of planned duration and weekly working hours, compared with non-participation. In addition, she directly compares the different programme types of One-Euro-Jobs. She uses the same stock sample as Hohmeyer/Wolff (2012). She, first, analyses the effects of One-Euro-Job participation compared with non-participation on labour market outcomes: she finds lock-in effects for regular employment of up to –4 percentage points in the short run and small positive effects in the medium run that are strongest for women in West Germany (approximately 3 percentage points 16 months after the programme start). Second, she analyses the employment effects in terms of planned duration and working hours: her results indicate that lock-in effects are larger for One-Euro-Jobs with a planned duration of more than four months in the short run, but she finds no clear relationship between working hours and lock-in effects in the short run. In the medium run, more intensive participation is found to decrease the employment probability of East German men. For example, One-Euro-Jobs with planned durations of eight to 12 months reduces the employment probability by approximately –2 percentage points 28 months after the start of the programme compared with non-participation. However, the most positive effects are found for East German women with a medium level of working hours between 21 and 29 hours (approximately 3 percentage points). For West Germany, participation with a planned

[13] I do not consider studies that focus on specific groups such as young adults or lone mothers, as my study does not concern such groups.

duration longer than four months increases employment prospects. Thus, the short-term performance of short programmes compared with longer programmes is increased at the expense of positive employment effects in the medium run.

Hohmeyer/Wolff (2010) analyse and compare the effects of different job creation schemes (traditional job creation schemes, work opportunities as contributory employment and One-Euro-Jobs) on labour market outcomes for participants who started their programmes in mid-2005. They use a stock sample of unemployed welfare recipients from April 2005. First, they find negative effects of participating in traditional job creation schemes and One-Euro-Jobs on regular employment compared with non-participation during the first months after the start of the programme, that are higher (by up to –6 percentage points) for male participants in traditional direct job creation schemes. Strong effects on regular employment (by approximately 11 percentage points) are found for West German women participating in traditional job creation schemes three years after the start of the programme. Second, they consider effects on annual gross earnings: for 2005 and 2006, One-Euro-Jobs show negative or slightly positive earnings effects compared with non-participation ranging from –414 to 180 Euros. In 2007, the earnings effects are higher for One-Euro-Job participants (approximately 357 Euros for West German women). Third, they analyse the effects of job creation schemes on UB-II-receipt: participants in traditional job creation schemes and work opportunities as contributory employment have high probabilities of not receiving UB II six months after the start of the programme compared with non-participation. However, One-Euro-Job participants have an approximately 6 percentage point reduced probability of receiving UB II. In general, the results regarding employment, annual gross earnings and UB-II-receipt show that traditional job creation schemes and work opportunities as contributory employment have more beneficial effects than One-Euro-Jobs for participants. Their main finding is that work opportunities as contributory employment have the most beneficial effects.

Huber et al. (2010) evaluate short-term trainings, further vocational trainings and One-Euro-Jobs that started between October 2006 and March 2007 based on survey, administrative and regional data. Their results indicate that participation in any of the programmes has no significant effect on welfare receipt compared with non-participation. They find positive and weakly significant employment effects of One-Euro-Jobs for men who are not lone parents and have no migration background (approximately 7 percentage points between seven and 17 months after the programme start).

Thomsen/Walter (2010) use an inflow sample, drawn from administrative data, of welfare recipients in 2006 to analyse the effects of One-Euro-Jobs compared with non-participation on the drop-off rate from welfare among immigrants and natives. Their results imply negative effects for One-Euro-Jobs. The effects are strongest if a One-Euro-Job begins during the first six months after entry into welfare (an approximately –4 percentage point lower employment rate one year after the start of the programme). The effects are mostly not as adverse for immigrants as for natives.

In summary, most studies find lock-in effects for One-Euro-Jobs in the short run (of between –2 and –4 percentage points) and small positive employment effects after one or two years. However, the effects for One-Euro-Jobs to leave welfare receipt are mostly negative. However, the impacts vary over different participant groups.

4.2 Empirical Evidence on Sequences for Germany

To my knowledge, two studies exist that analyse the effects of sequences in Germany. None, however, examine the effects of sequences for welfare recipients.

Using a traditional Roy-Rubin model[14] and administrative data of the Federal Employment Agency, Jaenichen/Stephan (2011) estimate the average treatment effect on the treated of wage subsidies paid to employers for hiring hard-to-place workers. The authors define three control groups of subsidised individuals and estimate three different effects: the effect of taking up a subsidised job versus remaining unemployed (first effect), the effect of taking up a subsidised job versus taking up an unsubsidised job (second effect) and the effect of taking up a subsidised job (only long subsidies with a duration of six to 12 months) after on-the-job training versus participation in on-the-job training only (third effect). For the first and second effects, the treatment sample consists of individuals who have begun a subsidised employment during the second quarter of 2002 and have been unemployed previously. The third effect is the effect I am interested in: the treatment sample consists of individuals who started on-the-job training during the first half of 2002 with a maximum duration of three months and took up a subsidised employment three months after the end of on-the-job training. However, the third effect is also estimated within a traditional Roy-Rubin framework; therefore, intermediate outcomes that occur as a result of participation in on-the-job training are not considered. The outcomes for all three effects concern whether an individual is in unsubsidised employment and whether an individual is not unemployed (not registered as unemployed or as participating in an ALMP). The results show that subsidised jobs enhance employment prospects. While treatment effects for the first effect are strong, they tend to be lower for the third effect.

Lechner/Miquel (2010) evaluate training programmes for unemployed in West Germany, using a dynamic causal model, that solves the dynamic selection problem, as intermediate outcomes can be taken into account. Individuals who entered unemployment between January 1992 and December 1993 and received unemployment insurance or unemployment assistance benefits are considered. The reference period zero is the first month in unemployment. Three treatments are considered: remaining unemployed (U), participation in a vocational training programme (T) and participation in a retraining programme (R). However, the authors aggregate the data into quarters and estimate the effects of participating in different programmes on the employment probability over four quarters (TTTT versus RRRR, TTTT versus UUUU, and RRRR versus UUUU). Thus, the definition of periods into quarters is unclear: TTTT may be four different programmes of the same type or one programme that lasts one year, and the definition of sequences does not take

[14] For more details on the traditional Roy-Rubin model, see section 5.

programme durations into account. For example, individuals with better labour market prospects may participate in a programme with a short duration, and if this programme is not successful, they may enter a second programme of the same type. However, individuals with worse labour market prospects may participate in a longer programme from the start. Lechner and Miquel's results show a 35 percentage point increase in the employment probability four years after participating in a one-year retraining programme compared with remaining unemployed one year. A comparison between one year of vocational training and one year of retraining shows that vocational training increases employment prospects.

4.3 International Empirical Evidence on Sequences

International evidence on sequences is not as sparse as evidence for Germany, but it is for welfare recipients. Two studies use the timing-of-events approach, while all other studies use the dynamic causal model.

Lalive/van Ours/Zweimüller (2000) investigate the effects of ALMPs on the duration of unemployment for unemployment benefit recipients in Switzerland. They use a database comprising all entrants into unemployment between December 1997 and March 1998 and a follow-up period that lasts through May 1999. Only individuals eligible for unemployment benefits are considered. They estimate the treatment effects of the first ALMP on the transition rate from unemployment to regular employment. Using a multivariate duration model, timing-of-events, to estimate the treatment effects, the authors obtain the following results: ALMPs have positive effects (although for men they are not significant) on the transition rate after participation in a programme, whereas the effects are negative during participation. For a sensitivity analysis, they evaluate the effects of a second programme on the transition rate from unemployment to regular employment, obtaining effects very similar to those of the first programme. However, they do not describe how they estimate this second programme effect. Notably, the effect of the second programme is independent of the type of the first programme.[15]

Lechner (2004) analyses the effects of Swiss ALMPs on labour market outcomes for unemployed, using a dynamic causal model. Employing a sequential version of the propensity score matching estimator and administrative data for Switzerland, he defines a sequence as two periods in four different states (unemployment (U), training courses (C), employment programmes (E) and temporary wage subsidies (T)) for individuals who entered unemployment in the last quarter of 1997. One period is an interval of two months; therefore, the treatment occurred between January and April 1998. For example, he compares EE to CC, i.e., four months of employment programmes to four months of training courses. Lechner only considers sequences involving the same status over two periods, i.e., CC, EE, TT and UU. Again, however, given this definition of sequences, the same problem as that in Lechner/Miquel (2010) arises: a sequence with the same status over two periods may be a sequence of two different programmes of the same type or one programme that lasts four

[15] This IZA Discussion Paper was published 2008 in the Economic Journal, but the results for the second programme are not reported (Lalive/van Ours/Zweimüller 2008).

months. The outcome variables are the probability of unsubsidised employment and monthly earnings between May 1998 and December 1999. The results in Lechner (2004) are similar to those in Gerfin/Lechner (2002), who only investigate the effects of the first programme: employment programmes have negative effects, whereas training courses show mixed results and only temporary wage subsidies appear to be successful. In addition, Lechner (2009) employs another method, the inverse probability weighting (IPW) estimator[16]. In summary, participating in a training course or receiving a temporary wage subsidy for two periods is better than being unemployed for two periods.

Using a timing-of-events approach, Graversen (2004) investigates the effects of different sequences in Denmark on the transition to employment for individuals who are ineligible for unemployment benefits and receive welfare benefits for unemployment.[17] Using administrative data, he draws a 10% random sample of the Danish population between 17 and 66 years of age, which was followed up from 1984 to 1998. He analyses four different ALMPs: private sector employment programmes, public sector employment programmes, classroom trainings[18] and other programmes. The author estimates treatment effects, whereas programme periods are part of the welfare spell. The results suggest that significant lock-in effects for all considered programmes occur during the first programme period; thus, the transition rate from welfare to employment declines. However, the transition rate after the end of the first programme for private sector employment programmes, public sector employment programmes and classroom trainings increases (positive treatment effects). Lock-in effects also occur for the second programme. The treatment effects depend on the types of the first and second programmes. In particular, the second programme reduces the transition rate from welfare to employment when this programme has a lower treatment effect than the first programme. The transition rate from welfare to employment is increased by a second programme only for some individuals. A shortcoming of this study is that the treatment effects are constant for all individuals and over time.

Lechner/Wiehler (2007) investigate sequences in the Austrian labour market for unemployment benefit recipients, using a dynamic causal model and an IPW estimator. The authors focus on the first inflow of individuals from employment to unemployment between 2000 and 2002, with a follow up period until 2005. They define a sequence as three trimesters in different states: unemployment (UE), orientation measures (OMs), qualification measures (QMs), active job search (AJS) and course subsidies (CS). In this study, longer programmes are not broken down into trimesters but are excluded from the analysis, and spells need not cover whole trimesters. The authors, first, estimate the effects of the timing of programmes on outcomes such as employment, unemployment and earnings three years after first entry into unemployment. They find no differences in the effects of programmes that start in the first trimester compared with programmes that start in the second trimester,

[16] The IPW estimator re-weights the observations of a specific treatment group towards the target population, based on inverse selection probabilities.

[17] In Denmark, unemployed who are not eligible for unemployment insurance benefits receive welfare benefits because of unemployment.

[18] The aim of the programme is to increase the educational levels of participants.

e.g., (QM,UE,UE) versus (UE,QM,UE). However, the unemployment rate is found to decline, if programmes start in the first trimester rather than in the third trimester, e.g., (QM,UE,UE) versus (UE,UE,QM). The same is true for programme participation in the second trimester compared with in the third trimester. Therefore, earlier programme participation has beneficial effects for the unemployed. Second, the authors also investigate the order and frequency of different ALMPs. The results suggest that AJS after a QM has more beneficial effects, as chances of re-employment are potentially higher after a QM. In addition, two QMs are found to have more positive effects on earnings than a single QM.

5 Method

The Roy-Rubin model (Roy 1951; Rubin 1974) is commonly used in the static evaluation of ALMPs. To evaluate the effect of a programme, the effects of participation (D=1) as well as the effects of non-participation (D=0) for an individual i are compared. The outcome Y for an individual, however, is never observed in the treatment state Y^1 and in the non-treatment state Y^0 simultaneously (fundamental evaluation problem):

$$Y_i = D_i Y_i^1 + (1 - D_i) Y_i^0$$

The main parameter of interest is the average treatment effect on the treated (ATT), the difference between expectations of outcomes with and without participation for the participants:

$$ATT_i = E(\Delta_i | D_i = 1) = E\left(Y_i^1 \middle| D_i = 1\right) - E(Y_i^0 | D_i = 1)$$

To estimate the ATT, one compares outcomes with and without treatment of participants and non-participants:

$$\begin{aligned} &E\left(Y_i^1 \middle| D_i = 1\right) - E\left(Y_i^0 \middle| D_i = 0\right) \\ &\quad = E\left(Y_i^1 \middle| D_i = 1\right) - E\left(Y_i^0 \middle| D_i = 1\right) + \left[E\left(Y_i^0 \middle| D_i = 1\right) - E\left(Y_i^0 \middle| D_i = 0\right)\right] \end{aligned}$$

In a non-experimental design, selection bias arises because participants and non-participants differ systematically. The last term on the right-hand side denotes the selection bias, when outcomes differ for observed untreated individuals and the unobserved counterfactual of what the treated would have received if they had not been treated.

Matching solves the problem of selection bias by assigning to each participant a non-participant with similar covariates X. I use propensity score matching, as exact matching on all covariates X is not feasible. Several assumptions must be made. First, the conditional independence assumption (CIA) must hold, i.e., potential outcomes must be independent of participation when all relevant and observable covariates are controlled for. If potential outcomes are independent of the treatment, conditional on covariates X, they are also independent of treatment, conditional on propensity scores (Caliendo/Kopeinig 2008). The common support requirement must also hold: an individual with covariates X must be both a participant and a non-participant with positive probability. A further assumption is the stable

unit treatment value assumption (SUTVA): the participation and potential outcomes of an individual do not depend on the participation and outcomes of other individuals.

As the static causal model cannot address dynamic selection problems that occur during a sequence, I use the dynamic causal model of Lechner.[19] The dynamic causal model is based on the traditional Roy-Rubin model and uses a sequential version of the propensity score matching estimator. It considers the effects of previous treatments, which influence the choice of subsequent ALMPs (intermediate outcomes).

I consider three periods $t, \tau \in \{0,1,2\}$ and two states: One-Euro-Job participation (1EJ) and UB-II-receipt without One-Euro-Job participation (UBII). The vector of random variables $S = (S_0, S_1, S_2)$ describes the full treatment (or sequence) that an individual receives up to period 2, measured at the start of each period. A particular realisation of S_t is denoted by $s_t \in \{0,1\}$. A bar below a variable, e.g., $\underline{s}_2 = (s_1, s_2)$, denotes the history of variables up to period 2. To differentiate between sequences, I use the index j. In period 0, all individuals are in the same state, $s_0 = 0$ (e.g., UB-II-receipt and no contributory employment). From period 1 onwards, S_t can have two values. In period 1, an individual can participate in a programme $(s_1 = 1)$ or not $(s_1 = 0)$. In period 2, an individual can participate in one of the following sequences: (0,0), (1,0), (0,1), (1,1) or, in my study, (UBII,UBII), (1EJ,UBII), (UBII,1EJ), (1EJ,1EJ).

Lechner defines average causal effects similarly to the way they are defined in the static model: the average causal effect of a sequence k of single states up to period τ ($\underline{s}_\tau^k$) compared with an alternative sequence h of the same length ($\underline{s}_\tau^h$) for a specific population ($\underline{s}_{\tilde{\tau}}^j$) in period $\tilde{\tau}$. Potential outcomes are indexed by the treatments, as in $Y_t^{\underline{s}_\tau^k}$, and measured, e.g., at the end of the period t ($t \geq \tau$).

$$\theta_t^{\underline{s}_\tau^k, \underline{s}_\tau^h}(\underline{s}_{\tilde{\tau}}^j) := E\left(Y_t^{\underline{s}_\tau^k} \middle| \underline{S}_{\tilde{\tau}} = \underline{s}_{\tilde{\tau}}^j\right) - E(Y_t^{\underline{s}_\tau^h} | \underline{S}_{\tilde{\tau}} = \underline{s}_{\tilde{\tau}}^j)$$

with $0 \leq \tilde{\tau} \leq 2,\ 1 \leq \tau \leq 2,\ \tilde{\tau} \leq \tau,\ k \neq h,\ k, h \in (1, \ldots 2^\tau),\ j \in (1, \ldots 2^{\tilde{\tau}})$

For example, I compare a sequence k, such as (1EJ,1EJ), defined up to period 2, to a sequence h, such as (UBII,UBII), of the same length (up to period 2) for those participating in period 1 in a One-Euro-Job: $\theta_2^{(1EJ,1EJ)(UBII,UBII)}(1EJ)$.

I can rewrite the average treatment effect (ATE) of One-Euro-Job participation compared with non-participation in a static causal model, using the above notation: $\theta_2^{(1EJ)(UBII)}$. Then, the average treatment effect on the treated (ATT) is written $\theta_2^{(1EJ)(UBII)}(1EJ)$. For the dynamic causal model, Lechner defines similar but dynamic effects: the dynamic average treatment

[19] For more details on the dynamic causal model, see Lechner (2004), Lechner (2006), Lechner (2009) and Lechner/Miquel (2010). The notation, definitions of effects and assumptions in my study are based on these studies.

effect (DATE) is denoted as $\theta_2^{\underline{s_2}^k,\underline{s_2}^h}(s_0 = 0) = \theta_2^{\underline{s_2}^k,\underline{s_2}^h}$, whereas the dynamic average treatment effect on the treated (DATET) is written $\theta_2^{\underline{s_2}^k,\underline{s_2}^h}(\underline{s_2}^k)$, and the dynamic average treatment effect on the non-treated (DATENT) is written $\theta_2^{\underline{s_2}^k,\underline{s_2}^h}(\underline{s_2}^h)$.

To identify the treatment effects, different assumptions are necessary.[20] In dynamic systems, by contrast with non-dynamic but sequential models, information on observable outcomes of previous periods (except for period 0) is included. Specific average treatment effects are identified when variables that influence the selection as well as the outcomes at each stage are observable. This assumption is the so-called weak dynamic conditional independence assumption (W-DCIA), which requires that potential outcomes are independent of the treatment choice in period 1, conditional on covariates of period 0 (X_0), the usual pre-treatment covariates, as well as independent of the treatment choice in period 2, conditional on participation in period 1, the observable outcomes and covariates of period 0 and period 1.[21] Covariates of period 1 are intermediate outcomes that are influenced by the first treatment and measured at the end of the first period. Thus, not all causal effects can be identified—only those for a specific population defined by their treatment status in period 0 or period 1. Only these causal effects are identified because, although the treatment choice in the first period is random, conditional on exogenous variables (X_0), which is the result of the initial condition in period 0, in the second period, randomisation into these treatments is conditional on variables already influenced by the treatment in the first period. To identify all effects, the W-DCIA must be strengthened: intermediate outcomes must be exogenous so that a static multiple treatment model can be applied. It is therefore possible to identify the following three effects:

1) DATE for the population defined by the treatment state in period 0 ($s_0 = 0$, everybody is in the same state): $\theta_2^{\underline{s_2}^k,\underline{s_2}^h}(s_0 = 0) = \theta_2^{\underline{s_2}^k,\underline{s_2}^h}$.

2) DATET and DATENT for populations defined by the treatment state in period 1: $\theta_2^{\underline{s_2}^k,\underline{s_2}^h}(s_1^k)$ and $\theta_2^{\underline{s_2}^k,\underline{s_2}^h}(s_1^h)$.

3) DATET and DATENT for populations defined by the treatment states in period 1 and period 2 (full sequence), if the states in period 1 are the same for the sequences and the population: $\theta_2^{(s_{1,}^k s_2^k),(s_1^k,s_2^h)}(s_1^k, s_2^j)$.

Thus, it is not possible to estimate effects such as $\theta_2^{(1EJ,1EJ)(UBII,UBII)}(1EJ, 1EJ)$ because the states in period 1 are not the same for both sequences and the population. The treatment choice of populations, defined by their treatment state in the first period, is random, conditional on exogenous variables, as all individuals are in the same state $s_0 = 0$. However,

[20] See Lechner (2004).

[21] The traditional common support requirement and the SUTVA of the traditional Roy-Rubin model must also hold.

the treatment choice of populations defined by their treatment state in the second period or subsequent periods is not random, as the treatment choice in the second period is influenced by intermediate variables of the first state. Thus, the W-DCIA is violated. If no intermediate outcomes influence the selection in the second state or if the full sequences are randomised in the first period, the effect is identified.[22] For example, if the states in period 1 are the same for the sequences and the population, e.g., $\theta_2^{(1EJ,1EJ)(1EJ,UBII)}(1EJ,1EJ)$, the W-DCIA is not violated. All individuals have the same participation in the first period: a One-Euro-Job.

However, I can estimate the DATE, $\theta_2^{(1EJ,1EJ)(UBII,UBII)}$, or DATET/DATENT for a population defined by their treatment state in period 1, $\theta_2^{(1EJ,1EJ)(UBII,UBII)}(1EJ)$ and $\theta_2^{(1EJ,1EJ)(UBII,UBII)}(UBII)$. Below, I focus on the DATET for the population defined by the treatment state in period 1.

I use a sequential version of the propensity score matching estimator for the estimation. Each step is similar to its counterpart in the static matching approach. In Table 2, I describe the steps of a sequential matching estimator for $\theta_2^{(\underline{s_2^k},\underline{s_2^h})}(s_1^k)$.[23] First, I define the sequences, $\underline{s_2^k}$ and $\underline{s_2^h}$, and the population, s_1^k (see section 6.2). In step B, I match the sequence h to the population s_1^k in two propensity score matching steps. I therefore estimate two probit models: one for the probability of participating in s_1^h versus s_1^k (step B.2.), including pre-treatment covariates of period 0, and one for the probability of participating in sequence h versus s_1^k (step B.5.), including pre-treatment covariates of period 0 and intermediate outcomes of period 1. The first matching step matches s_1^k to s_1^{h} (step B.4.), based on the propensity score of the first probit model and using nearest neighbour matching (one-to-one) with replacement. The observations in s_1^k are recoded with the propensity scores of their match partners of s_1^{h}, as similar propensity scores are matched. Thus, the propensity scores could change over different sequential matching steps owing to imprecise matching.[24] The second matching step matches s_1^k to the sequence h ($\underline{s_2^h}$) (step B.7.) based on both propensity scores (of the first and second probit model), using Mahalanobis matching (one-to-one).[25] In step C, I match the sequence k to the population s_1^k. For the propensity score, I estimate a probit model of the probability of participating in the sequence k versus s_1^k (step C.2.), including pre-treatment covariates of period 0 and intermediate outcomes of period 1. As the state in the first period is the same, only one matching step is necessary: the match of s_1^k to

[22] See Lechner/Miquel (2010), section 4.2.

[23] My matching protocol is based on that of Lechner (2006).

[24] See Lechner (2006).

[25] Mahalanobis matching uses the Mahalanobis distance metric that calculates the distance between treated and controls on covariates X to obtain similarity. The Mahalanobis metric is the quadratic distance between covariates X for the treated and controls weighted by the inverse of the sample covariance matrix (Rubin 1980; Rubin/Thomas 2000). For sequential matching, the Mahalanobis matching is used to calculate similarity on both propensity scores.

the sequence $\underline{s_2^k}$ (step C.4.) using caliper or nearest neighbour matching (one-to-one) with replacement.[26]

Before each matching step, I also check the common support (steps B.3., B.6. and C.3.). In the end, I calculate the appropriate weights for each sequence. In steps B.8. and C.5., the weights $w_i^{\underline{s_2^h}}$ and $w_i^{\underline{s_2^k}}$ increase by 1 if an individual of the respective sequence is matched. Step D corrects the respective weights, if people drop out owing to the common support check before each matching step.

The last step E is the calculation of the DATET and variances. The idea is to re-weight the outcomes/variances of the respective sequences $\underline{s_2^k}$ and $\underline{s_2^h}$ according to the population s_1^k with the weights $w_i^{\underline{s_2^h}}$ and $w_i^{\underline{s_2^k}}$. More precisely, I compare the labour market outcomes of participants in the population s_1^k if it is more effective for them to participate in the sequence $\underline{s_2^k}$ compared with the sequence $\underline{s_2^h}$.

In my paper, I compare sequence k (1EJ,1EJ) to sequence h (UBII,UBII) and sequence k (1EJ,UBII) to sequence h (UBII,1EJ) for the population participating in One-Euro-Jobs in the first period.

6 Data and Implementation

6.1 Data

I use rich administrative data from the German Federal Employment Agency, data prepared for scientific use by the Institute for Employment Research. These data provide daily information on unemployed and employed individuals in Germany. The dynamic causal model for evaluating sequences requires a large number of observations as well as rich information about individuals, e.g., sociodemographic variables, variables on the labour market history, household variables and variables on earnings.

The sample is based on all individuals who enter UB-II-receipt between October 1st, 2005 and September 30th, 2006 (approximately 2 million).[27] I exclude from the sample individuals in contributory employment (approximately 9%), recipients of UB II in the last three months prior to entering the sample (approximately 18%), individuals already participating in an ALMP at the entry date (approximately 3%) and individuals receiving unemployment benefit I (UB I)[28] at the entry date (approximately 13%). Programme combinations starting on the same day are also not considered (approximately 2%). I also impose some sampling restrictions (approximately 7% of the sample was dropped), e.g., to individuals aged 18 to 57 years and if individuals participate in a programme, I restrict the sample to participants in no

[26] For more details on calipers, see section 7.2.

[27] Individuals can enter UB-II-receipt from different labour market states, e.g., they could have received UB I before, where they already have participated in programmes. To control for this factor, I use the previous labour market history as covariates.

[28] Unemployment insurance benefits are labelled UB I in Germany.

more than six programmes. In the end, my sample consists of 1,019,067 individuals.[29] In general, the upper limit of my observation window is October 2009 and data on employment information are restricted to December 2008.

Table 3 displays some descriptive statistics of my sample: approximately 70% are from West Germany, and half are women. Approximately 38% of individuals in the sample are aged 25-38 years, and approximately 36% have no observed education. In addition, approximately 30% have no last contributory employment prior to the entry date, and approximately 42% have a partner.

Next, I present some figures on programme participation and common sequences found in the sample. Table 4 displays the shares of different types of first programme participation after entering UB II, defined as the percentage of all first programme participations (267,013 observations). Until the start of a programme, individuals must be permanently receiving UB II (gaps of less than one month are allowed) and cannot have a contributory employment. I consider public employment programmes, which consist of traditional job creation schemes[30], work opportunities as contributory employment[31] and One-Euro-Jobs. I also look at wage subsidies including wage subsidies for employers[32], wage subsidies for employees and start-up subsidies[33]. Qualification programmes consist of further vocational trainings, such as apprenticeship, and classroom trainings as well as on-the-job trainings. Private placement services and all other programmes, such as drug rehabilitation, are also included. The most common first programme is One-Euro-Jobs, characterising approximately 36% of all first programme participations in my sample. Classroom trainings are also very common as a first programme after entry into UB II (approximately 23%). Thus, I restrict my analysis of sequences to the most common first programme after entry into UB II: One-Euro-Jobs.

Table 5 displays the frequency of sequences of first and second programmes, defined as the percentage of all first programme participations (267,013 observations). Again, until the start of a programme, individuals must be permanently receiving UB II (gaps of less than one month are allowed) and cannot have a contributory employment. Column 1 shows that second programmes are more likely after participation in One-Euro-Jobs, classroom trainings, private placement services, further vocational trainings and on-the-job trainings. The most common sequence is a One-Euro-Job followed by a second One-Euro-Job (approximately 35%).[34] Sequences consisting of two classroom trainings, classroom training

[29] I exclude individuals administered by local authorities because of incomplete data.

[30] Traditional job creation schemes consist of subsidised public employment, which must be of public utility and additional in the sense that they would not be undertaken without the subsidy.

[31] In contrast to One-Euro-Jobs, work opportunities as contributory employment need not be of public interest and additional and are contributory employments.

[32] Employers who hire needy employable individuals with at least 15 working hours per week receive a subsidy for a limited period.

[33] Unemployed can obtain a subsidy when entering regular employment with at least 15 working hours per week or when starting their own business.

[34] Dengler/Hohmeyer (2010) also show that the most common sequence consists of One-Euro-Jobs.

and One-Euro-Job, two further vocational trainings, two on-the-job trainings or two start-up subsidies are also very common (approximately 12-14%).[35]

Thus, my analysis focuses on sequences consisting of the most common programme or the most common sequence of two programmes: One-Euro-Jobs. In the next section, I will define the selected sequences and periods.

6.2 Definition of Sequences and Periods

I compare sequences of type k to different sequences of type h with two consecutive states. I define two different states: 1EJ and UBII. In period 0, every individual has the same state determined by the sample definition (see Figure 1): entry into UB II and no contributory employment ($s_0 = 0$). In the first period, an individual can start a One-Euro-Job ($s_1 = 1$) or receive only UB II ($s_1 = 0$), defined as the first state. In the second period, an individual can start a (consecutive) One-Euro-Job ($s_2 = 1$) or again receive only UB II ($s_2 = 0$), defined as the second state. Thus, I obtain six different subpopulations (see Table 6): individuals defined by their status in period 1, 1EJ or UBII, and individuals defined by their status up to period 2 (a sequence), (1EJ,1EJ), (1EJ,UBII), (UBII,1EJ) or (UBII,UBII).[36] In my study, I compare (1EJ,1EJ) to (UBII,UBII) and (1EJ,UBII) to (UBII,1EJ).

Lechner defines a period as an interval of time such as one month or one quarter splitting data into such intervals. For example, he splits a programme such as One-Euro-Jobs with duration of six months into six intervals of one month each. Thus, under Lechner's approach, the sequence (1EJ,1EJ) could also be one One-Euro-Job that lasts for only two time intervals. I wish to define periods in a way that takes the duration of programme participation into account. A sequence such as (1EJ,1EJ) in the present study consists of two One-Euro-Jobs, not simply two time intervals in which One-Euro-Jobs are taken, i.e., I do not split the data into intervals in the manner of Lechner. Using a period of average planned duration[37] of One-Euro-Jobs, I define a first individual window in my paper. One-Euro-Jobs as first programmes have an average planned duration of about half a year. Thus, I only consider One-Euro-Jobs with planned durations of up to half a year (183 days) to decrease variation and to define my first individual window by this average planned duration.

Following the timing-of-events approach of Sianesi (2004), I only allow individuals to start One-Euro-Jobs ($s_1 = 1$) or not ($s_1 = 0$) up to 122 days after entry into UB II: the first starting window.[38] If a One-Euro-Job does not start within 122 days of the entry date, I define

[35] The shares fall, when I examine sequences of the first and third, the first and fourth, the first and fifth and the first and sixth programme, but the order of frequency does not change. Tables are available upon request.

[36] Sequences are denoted by parentheses. For example, (1EJ,UBII) defines a sequence with One-Euro-Job as the first state in the first period and UB-II-receipt as the second state in the second period.

[37] I use planned duration because programme participation cannot influence planned duration.

[38] I tested several possible durations of start windows. The trade-off was not only to obtain a short start window but also to have enough starts within this window to provide a sufficient number of observations.

UB-II-receipt as the first state in which different programmes are allowed to start. Taking the first starting window and the first individual window together, I have my first period.

Table 7 indicates the number of observations of One-Euro-Jobs as first programmes (row 1) and the number of observations of One-Euro-Jobs that have a planned duration of up to 183 days and that start in the first starting window: approximately 24% of all first One-Euro-Jobs.

Additionally, I calculate random programme starts for UBII compared with 1EJ as the first state, which is used to define the first individual window and the second period. Until the start of a programme, individuals must be permanently receiving UB II (gaps of less than one month are allowed) and cannot have a contributory employment. Random programme starts must also occur in this welfare spell without any contributory employment (exit condition). I define random programme starts as random durations of time after entry date. Thus, I randomly draw durations from the empirical distribution of durations of One-Euro-Jobs that start within 122 days of the entry date. I add 183 days to the random programme start to define the end of the first period and the start of the second period.

For the second period, the procedure is the same: I define a second starting window and a second individual window. I specify the second starting window in which One-Euro-Jobs are allowed to start as one to 122 day after the end of the first individual window. Note that a sequence of two consecutive One-Euro-Jobs need not consist of the first and second One-Euro-Job an individual takes. I also calculate random programme starts for UBII compared with 1EJ in the second state and add 183 days to the (random) programme start to obtain my second individual window. The (random) programme starts in the second period must also occur during the same welfare spell (permanently receiving UB II without any contributory employment).

In summary, I consider two periods and define two starting windows as well as two individual windows, which are flexible and depend on the (random) programme starts, for the first and second state of a sequence. Figure 2 displays the definitions of my flexible starting windows and individual windows. Let us consider an example: an individual enters my sample on January 15th, 2006. The first One-Euro-Job is allowed to start within 122 days after the entry date, i.e., up to May 17th, 2006. If no One-Euro-Job is taken in this first starting window, the individual's first state is UB II. I assume that a One-Euro-Job starts on March 15th, 2006. I then calculate the end of the first individual window, which would be March 15th, 2006, plus 183 days, i.e.: September 14th, 2006. The second state is allowed to ensue between September 15th, 2006 plus 122 days (January 15th, 2007). Again, I assume that a One-Euro-Job starts on November 30th, 2006, and adding 183 days, I obtain the end of the second individual window as June 1st, 2007. I have thereby constructed the sequence (1EJ,1EJ).

Sequences of two consecutive programmes need not consist of the first and second programmes in which an individual participates. They may consist of the first through the sixth programme in which an individual participates but must fall within the same welfare spell. First programmes can occur between October 2005 and January 2007. Consecutive programmes can occur between April 2006 and November 2007.

Table 8 shows the sample sizes of the four sequences (1EJ,1EJ), (UBII,UBII), (UBII,1EJ) and (1EJ,UBII). The first row shows the total number of observations, if One-Euro-Jobs or other programmes start within the first or second individual window. Additionally, however, I construct a different treatment definition to conduct a robustness check: a treatment definition in which no programme starts within the first or second individual window. In general, the number of observations is large enough for the estimation, but for the sequence (1EJ,1EJ), the number of observations becomes quite low, e.g., for the different treatment definition the observations are smaller than 200 for women.

6.3 Variables used for the Propensity Score Estimation and Outcomes

Rich information on individuals is necessary to justify the static CIA and to identify causal effects (Heckman et al. 1998). As with a static framework, I use information on participants and non-participants before the (random) programme start to estimate the propensity score (pre-treatment variables of period 0 measured at the entry date or before).

Before discussing the different variables, I describe the selection process, i.e., how job centres assign unemployed welfare recipients to specific programmes. In general, the job centre and the unemployed welfare recipients sign an individual action plan that describes the individual's and the job centre's obligations. The job centre is obligated to activate unemployed welfare recipients, returning them to employment. The decision of a job centre to offer an ALMP to an unemployed welfare recipient and the type of ALMP offered will depend on the welfare recipient's success in completing a specific programme, the employment prospects of the welfare recipient, the regional labour market situation and economic efficiency (highest likelihood of success at the lowest cost).[39,40] In addition, some legal requirements may play an important role in assignment into a programme. For example, One-Euro-Jobs focus on specific target groups, such as young people.[41]

A comprehensive set of variables before period 1 drive programme selection. First, I include a set of sociodemographic variables, such as age and education at the entry date. Age is an important factor, as young individuals are a special target group of not only SC II but also One-Euro-Jobs. Age and education also capture information on the success of a programme and employment prospects. Second, I include a set of variables on the labour market history capturing information on employment prospects such as cumulated duration of unemployment assistance, whether one was out of labour force[42] before December 31st, 2004, cumulated duration of UB-II-receipt (after January 1st, 2005) one year

[39] Normally, the job centre decides together with the unemployed welfare recipients whether individuals participate in programmes and the type of programme in which individuals will participate. If an unemployed welfare recipient refuses to participate in a programme, he/she also risks his/her benefit receipt due to sanctions.

[40] See Lechner/Miquel/Wunsch (2011).

[41] For more details, see section 2.

[42] An individual is out of labour force before December 31st, 2004, if no administrative information is available in my data, i.e., I have no information on employment, benefit receipt, job seeking status and ALMP participation. This includes all former social assistance recipients, as no information in my data is available for them before December 31st, 2004.

before the entry date, participation in ALMPs five years before the entry date, cumulated duration of contributory employment, minor employment, job seeking and UB-I-receipt five years before the entry date. Third, I include variables on the last contributory employment such as time since one's last employment, professional status and monthly wages. These variables contribute to individual's work experience and hence are indicative of employment prospects.

Fourth, I include household (the so-called 'Bedarfsgemeinschaft') variables, such whether the individual has a partner, number of children at the entry date and equivalent household income from welfare receipt[43]. If an individual has a partner at the entry date, I consider the age and the cumulated duration of contributory employment five years before the entry date as well. For example, if the partner has labour market experience, welfare recipients may benefit from their partners. Additionally, to be eligible for UB-II-benefits, the whole household must be needy. Thus, if the partner obtains a job with wages that are above the means-tested level, the household is no longer eligible for UB II. Children also influence programme participation. If no child care is available, the welfare recipient may not take part in a programme or take part in a programme only for a limited amount of time. Fifth, I include regional variables, taking into account the regional labour market situation, such as the unemployment rate, number of vacancies per unemployed and long-term unemployed as a portion of the unemployed at the district level at the entry date.

In a dynamic framework, one must take intermediate outcomes into account—variables that are influenced by the treatment in period 1 and that drive the dynamic programme selection (variables before period 2 and measured at or before the end of the first individual window). First, job centres will place an individual in a further programme, depending on the individual's labour market prospects during a sequence and on his/her intermediate development. Thus, I consider information on the individual's labour market history: cumulated duration of minor employment and UB-II-receipt (after January 1st, 2005) one year before the second period starts. Financial factors, such as equivalent household income from welfare in the month of the end of the first individual window, and individual factors, such as the number of children at the end of the first individual window, also influence the selection.

Outcomes are measured starting one month after the (random) start of the programme in the second period. I concentrate on three sets of outcomes to measure performance of individuals in the labour market. First, I consider regular, unsubsidised employment as employment outcome. Second, I consider different ALMP outcomes as indicators of further participating in programmes and of so-called programme careers. I include i) One-Euro-Jobs, ii) other ALMPs, including qualification programmes, wage subsidies and private placement services (see Table 4 for information on the included programme types) and iii) direct job creation schemes (without One-Euro-Jobs), including work opportunities as contributory employments, JobPerspectives and traditional job creation schemes. Direct job creation schemes are similar to One-Euro-Jobs, as they provide jobs to unemployed welfare

[43] The OECD modified scale assigns the head of a household a weight of 1, each additional adult a weight of 0.5 and each child a weight of 0.3.

recipients and differ only in a few features.[44] Third, I consider an unemployment outcome: receipt of UB II by a household. There are various reasons why a household may not longer receive UB II. One possible reason is that the household is no longer needy because the individual in question or other household members receive earnings or the household composition has changed. A second possible reason is that the household no longer applies for UB II.

7 Results

First, I present selective descriptive statistics and results of probit models for the six considered subpopulations to gain some insight into programme selectivity. Second, I present the results on matching quality. Third, I present the DATET for the sequence (1EJ,1EJ) versus the sequence (UBII,UBII) and for the sequence (1EJ,UBII) versus the sequence (UBII,1EJ) for the population of 1EJ in the first period: $\theta_2^{(1\mathrm{EJ},1\mathrm{EJ})(\mathrm{UBII},\mathrm{UBII})}(1\mathrm{EJ})$ and $\theta_2^{(1\mathrm{EJ},\mathrm{UBII})(\mathrm{UBII},1\mathrm{EJ})}(1\mathrm{EJ})$. Fourth, I analyse the DATET, using a different treatment definition.

The large differences between West and East Germany in terms of economic performance (Jacobi/Kluve 2007) and gender—for example, previous labour market experience or gaps in employment history—may influence the frequencies and types of sequences. In addition, however, heterogeneous treatment effects of sequences could emerge. Thus, I will display my results for four subgroups: men and women in West and East Germany.

7.1 Selectivity

To gain some insight into programme selectivity, I discuss the results of the probit models[45] and some selective descriptive statistics for all six subpopulations as well as the outcomes for all controls, all treated, matched controls and matched treated.

Table 9 to Table 11 display some selective descriptive statistics for the six subpopulations (1EJ, UBII, (1EJ,1EJ), (UBII,UBII), (1EJ,UBII), (UBII,1EJ)).[46] Individuals who take One-Euro-Jobs, especially those participating in One-Euro-Jobs in the first period (1EJ, (1EJ,UBII) and (1EJ,1EJ)), have a lower average age at the entry date compared with individuals receiving UB II in the first period (UBII, (UBII,1EJ) and (UBII,UBII)). As individuals aged younger than 25 years have been a special target group of One-Euro-Jobs until 2012, this result is not surprising. The probit coefficients for UB-II-receipt in the first period versus One-Euro-Jobs in

[44] Work opportunities as contributory employments, JobPerspectives and traditional job creation schemes offer participants regular earnings, whereas One-Euro-Job participants receive their welfare benefit plus 1 to 2 Euros per hour worked. Moreover, One-Euro-Jobs and traditional job creation schemes provide additional jobs of public interest. For more information on work opportunities as contributory employments, traditional job creation schemes and One-Euro-Jobs, see Hohmeyer/Wolff (2010). For more information on JobPerspectives, see Dengler et al. (2013).

[45] The probit coefficients are available upon request.

[46] Note that the sample sizes of sequences in Table 8 do not sum to the combined sample sizes of the subpopulations in Table 9, as observations drop out in the second period owing to the exit condition described in section 6.2. For example, the observations of (1EJ,1EJ) and (1EJ,UBII) do not sum to the subpopulation 1EJ, as the (random) programme starts in the second period must be in the same welfare spell (permanently receiving UB II without any contributory employment since entry into UB II).

the first period also confirm this descriptive result. All subpopulations have a high share of no children, except West German women in the subpopulations UBII and (UBII,UBII). However, individuals with One-Euro-Jobs, relative to other subpopulations, have a slightly higher share of no children. The probit coefficients also confirm these results: e.g., individuals with children are more likely to receive UB II in the first period compared with those participating in One-Euro-Jobs in the first period.

Participants in One-Euro-Jobs in the first period compared with those with UB-II-receipt in the first period received UB II for a longer period before the entry date and participated more frequently in ALMPs in the five years before the entry date. The probit coefficients for UBII versus 1EJ also confirm this result. A high share of individuals in all six subpopulations had a last contributory employment before the entry date. The average equivalent household income from welfare in the month of entry date is higher for subpopulations participating in a One-Euro-Job in the first period. In summary, participants in One-Euro-Jobs in the first period or in the sequence (1EJ,1EJ) are younger and have fewer children compared with members of the subpopulations UBII, (UBII,1EJ) and (UBII,UBII)). They appear to be caught in the UB-II-system, as they have received UB II and ALMPs in the past.

The intermediate variables for the subpopulations characterised by the sequences (1EJ,UBII) and (1EJ,1EJ) show a greater number of days in minor employment one year before period 2, compared with subpopulations characterised by the sequences (UBII,1EJ) and (UBII,UBII), but show no large differences in terms of UB-II-receipt one year before period 2 for the different subpopulations. In general, all subpopulations have more children compared with the number of children at the entry date. Average equivalent household income from welfare before period 2 decreased for members of the subpopulation(1EJ,1EJ) and for East Germans characterised by (1EJ,UBII) and (UBII,1EJ) compared with average equivalent household income at the entry date. Thus, the intermediate variables appear to change after the first state and accordingly influence the second treatment.

Table 12 displays the outcomes for all controls, all treated, matched controls and matched treated to gain further insight into programme selectivity. For West German men, I find that participants in the sequence (1EJ,1EJ) show positive selection, as a higher proportion of matched controls for (UBII,UBII) are in regular employment compared with all controls for (UBII,UBII). Thus, job centres do not assign hard-to-place men in West Germany to the sequence (1EJ,1EJ) to integrate them stepwise into regular employment and do not take into account the suitability of the sequence for the welfare recipients. A possible explanation might be creaming. Participants in the sequence (1EJ,UBII) compared with participants in the sequence (UBII,1EJ) also show positive selection in West Germany. Thus, individuals with better labour market prospects immediately obtain One-Euro-Jobs in West Germany.

7.2 Matching Quality

As I condition on the propensity score and not on all covariates, I control for balancing. For each of the three matching steps, I calculate for each subgroup and covariate included in the respective probit models the means for the treated, all controls and matched controls as well as the p-value of the t-test for differences between the treated and the controls before and after matching.

For the DATET of (1EJ,1EJ) versus (UBII,UBII), I check the matching quality of 1EJ to UBII, of (UBII,UBII) to 1EJ and of (1EJ,1EJ) to 1EJ. For the DATET of (1EJ,UBII) versus (UBII,1EJ), I check the matching quality of 1EJ to UBII, of (UBII,1EJ) to 1EJ and of (1EJ,UBII) to 1EJ. As the matching quality for the last matching step (Table 2, C.4.), of (1EJ,1EJ) to 1EJ and (1EJ,UBII) to 1EJ is not very good using nearest neighbour matching with replacement, I use caliper matching.[47] Thus the matching quality is very good after each of the three matching steps.[48]

Moreover, for the propensity score matching, I assume that a common support exists: the propensity scores lie between zero and one and the distribution of the propensity scores for the treated and controls overlaps. Before each matching step, some observations must be dropped to ensure that the common support assumption holds.

Furthermore, I check the matching quality of the considered sequences, (1EJ,1EJ) to (UBII,UBII) and (1EJ,UBII) to (UBII,1EJ), for all covariates and subgroups in the end and not only after each matching step. Table 13 to Table 20 show the results for overall matching quality. The first three columns provide information on which covariate is included in the respective probit model, as the exclusion of covariates in one or more probit models could lead to a poorer total matching quality for this covariate. Columns 4 to 7 show the mean differences between the (matched) treated and (matched) controls before and after matching, together with the t-values.[49]

The results on matching quality of (1EJ,1EJ) to (UBII,UBII) show some significant differences at the 1% significance level after matching, but the mean differences and t-values mostly decline after the matching procedure. In particular, some sociodemographic variables, such as age and whether the individual has children; intermediate variables; the variable number of long-term unemployed as a portion of the unemployed and some variables concerning the labour market history show mostly significant differences for all four subgroups after matching, which might lead to biased results.

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[47] To calculate the respective calipers, I estimate the 75th percentile of the differences between the propensity scores of treated and controls, using nearest neighbour matching (one-to-one) with replacement. I choose the 75th percentile as a caliper, as smaller calipers do not improve the matching quality. Thus, I drop the poorest 25% of matches.

[48] The results are available upon request.

[49] Before matching, the mean differences and t-statistics between treated and all controls for each covariate are calculated with a usual mean-comparison test (t-test). After matching, I calculate the mean differences and t-statistics between matched treated and matched controls for each covariate, using the formulas in Table 2, step E.

Individuals participating in (1EJ,1EJ) versus (UBII,UBII) appear to be a selective group, even after matching: those participating in (1EJ,1EJ) are younger, have fewer children, live in regions with high long-term unemployment and have participated in more ALMPs in the past compared with individuals participating in (UBII,UBII) after matching. Thus, the direction of the bias of the effects on the outcomes could be upward or downward regarding the group of individuals. Individuals participating in (1EJ,1EJ) versus (UBII,UBII) are younger and have fewer children; thus, they might have better employment prospects. Individuals participating in (1EJ,1EJ) versus (UBII,UBII) appear to be caught in the UB-II-system (living in regions with high long-term unemployment and more past participation in ALMPs); thus, they might have poorer employment prospects.

Thus, for those individuals with better employment prospects, I expect upward biased effects with respect to employment outcomes and downward biased effects with respect to ALMP outcomes and UB-II-receipt. However, for those individuals with poorer employment prospects, I expect downward biased effects with respect to employment outcomes and upward biased effects with respect to ALMP outcomes and UB-II-receipt.

The matching quality of (1EJ,UBII) to (UBII,1EJ) is better compared with the matching quality of (1EJ,1EJ) to (UBII,UBII), but the results also reveal some significant mean differences at the 1% significance level after matching. For West German men, only the variable on ALMPs five years before the entry date shows a significant and positive difference after matching, whereas for the remaining three subgroups, the variable on age and the intermediate variables still show significant differences after matching. For West German women, the matching quality is even worse, as also variables on the labour market history show significant differences after matching. Again, individuals participating in (1EJ,UBII) versus (UBII,1EJ) appear to be a selective group in the same way that individuals participating in (1EJ,1EJ) versus (UBII,UBII) are a selective group. Thus, I expect bias in the same direction as with (1EJ,1EJ) versus (UBII,UBII).

In summary, the matching quality after each of the three matching steps was very good but not the overall matching quality.

7.3 Effects

First, I discuss the DATET for (1EJ,1EJ) versus (UBII,UBII) for the population 1EJ in the first period. Second, I discuss the DATET for (1EJ,UBII) versus (UBII,1EJ) for the population 1EJ in the first period.

I analyse all effects for different employment, ALMP and unemployment outcomes separately for men and women in West and East Germany. All outcomes are observed up to 21 months after the (random) start of the programme in the second period (at the latest, in August 2009), except for regular employment that I only observe up to 13 months later (at the latest, in December 2008).

7.3.1 DATET for (1EJ,1EJ) versus (UBII,UBII)

In the following section, I present the DATET for (1EJ,1EJ) versus (UBII,UBII) for the population 1EJ in Figure 3 to Figure 7. Do participants in One-Euro-Jobs in the first period have better employment prospects if they participate in a sequence of two One-Euro-Jobs or a sequence of two periods of UB-II-receipt?

Figure 3 shows the DATET for (1EJ,1EJ) versus (UBII,UBII) for individuals participating in 1EJ in the first period on regular employment for men and women in West and East Germany. One would expect lock-in effects for regular employment in the first six months after the start of the second programme, as One-Euro-Jobs usually last up to six months. However, I do not find lock-in effects for any subgroup. West German men and East German men and women show negative effects on regular employment in the first four months, but these effects are negligible and not well determined. As working time in One-Euro-Jobs is limited to 30 hours per week, participants could have sufficient time to search for a job while holding a One-Euro-Job. Incentive effects to leave One-Euro-Jobs also play an important role, as the participants of One-Euro-Jobs receive only the UB II plus 1 to 2 Euros per hour. However, previous studies examining One-Euro-Jobs as a single programme mostly find small lock-in effects in the short run.[50]

For men, the effects on regular employment turn positive at about four months after the start of the second programme, although the effects are not well determined. In contrast, a sequence of two One-Euro-Jobs leads to regular employment for women about half a year after the start of the second programme. Female participants in 1EJ in the first period in West Germany show positive well determined employment effects five months after the start of the second programme if they participate in the sequence (1EJ,1EJ) compared with the sequence (UBII,UBII). The effects even increase up to 12 percentage points 13 months after the start of the second programme. Female East German participants in 1EJ in the first period have high regular employment effects, reaching up to 8 percentage points, if they participate in the sequence (1EJ,1EJ) versus (UBII,UBII).

In qualitative terms, the effects on regular employment in my study are similar to those found in studies on participation in a single One-Euro-Job versus non-participation. Most previous studies find positive employment effects in the medium run for West German women.

Overall, most of the regular employment effects for West and East German men are not significant at the 10% significance level. In particular, men in East Germany, where unemployment is high, appear to be stuck in One-Euro-Jobs without any improvement in their regular employment rate. Thus, One-Euro-Jobs may be the only chance for them to work, but their employment prospects are thereby harmed.

Participation in (1EJ,1EJ), however, leads to regular employment for women, especially for West German women. Thus, the effectiveness of sequences of One-Euro-Jobs could be raised by targeting women. Women could be jobless or out of work for a long period because

[50] See section 4.1.

of child care; thus, One-Euro-Jobs could reaccustom them to regular work schedules, enabling them to re-enter the labour market. The results of Hohmeyer/Wolff (2012) also indicate that One-Euro-Jobs are highly effective for individuals who have been jobless for many years. Moreover, One-Euro-Jobs could also be more helpful for women than for men, as the types and tasks of One-Euro-Jobs may be more appropriate for women, given their former job skills or preferences. For example, women more frequently participate in One-Euro-Jobs that involve child care and elderly care compared with men (Hohmeyer/Kopf 2009) and gain work experience in a type of job for which labour demand is very high.

In addition, I consider the DATET for (1EJ,1EJ) versus (UBII,UBII) for individuals participating in 1EJ in the first period on participation in different ALMPs, as One-Euro-Jobs should be a first step towards employability. Thus, participations in additional programmes could be necessary for integration into regular employment, but programme careers could also emerge. To gain more insight into this issue, I consider three different categories of ALMPs: i) direct job creation schemes (without One-Euro-Jobs), ii) only One-Euro-Jobs, and iii) a category of other ALMPs including qualification programmes, wage subsidies and private placement services. Direct job creation schemes are similar to One-Euro-Jobs but are a little bit more demanding for participants.

Figure 4 presents the DATET on direct job creation schemes for (1EJ,1EJ) versus (UBII,UBII). West German male participants in 1EJ in the first period have well determined positive effects on direct job creation schemes half a year after the start of the second programme that ultimately rise to 3 percentage points if they participate in the sequence (1EJ,1EJ) versus the sequence (UBII,UBII). Female participants in West Germany have positive but mostly not well determined effects on direct job creation schemes. With respect to East German men, I find negative and significant effects on direct job creation schemes in the first six months after the start of the second programme. The effects on direct job creation schemes reveal some well determined and positive effects for East German female participants in 1EJ in the first period if they participate in the sequence (1EJ,1EJ) compared with the sequence (UBII,UBII), approximately 5 percentage points 13 months after the start of the second programme.

Thus, West German men and to a lesser extent East German women participate in additional direct job creation schemes, additional programmes that may be necessary for their integration into regular employment. Although these schemes are similar to One-Euro-Jobs, they subsidise jobs that need not be additional jobs of public interest (except for traditional job creation schemes) and pay regular wages. As these schemes tend to target regular employment to a greater degree than One-Euro-Jobs, the results suggest stepwise integration into regular employment for male participants in West Germany and for female participants in East Germany.

Turning to the DATET for (1EJ,1EJ) versus (UBII,UBII) for individuals participating in 1EJ in the first period on One-Euro-Jobs (see Figure 5), I observe for all four subgroups very high and significant effects of up to 90 percentage points at the beginning that fall to less than 20

percentage points after seven months after the start of the second programme. The effects for East German men and women are nearly twice as high as the effects for their respective counterparts in West Germany 21 months after the start of the second programme. The reason for the high participation rates in One-Euro-Jobs at the beginning is that participants are still in the second One-Euro-Job during the first six months after the start of the second programme.

The results concerning One-Euro-Jobs as outcome show indications of programme careers, especially in East Germany. Because the unemployment rate is higher in East Germany than in West Germany, welfare recipients may not find regular employment and One-Euro-Jobs could be the only alternative for them.

Figure 6 presents the DATET for (1EJ,1EJ) versus (UBII,UBII) for individuals participating in 1EJ in the first period on other ALMPs (qualification programmes, wage subsidies and private placement services). The effects are significant and negative in the first three or four months but not well determined beyond that point. Thus, participants in 1EJ in the first period who participate in the sequence (1EJ,1EJ) versus the sequence (UBII,UBII) do not take part in additional programmes, such as qualification programmes, wage subsidies or private placement services that increasingly integrate into regular employment.

Finally, I consider the DATET for (1EJ,1EJ) versus (UBII,UBII) for individuals participating in 1EJ in the first period on receiving UB II (see Figure 7). I find some positive and significant effects on UB-II-receipt in the first months after the start of the second programme (except for East German men, who show positive effects over a longer period). Women, especially West German women, show positive regular employment effects but also no well determined effects of not receiving UB II. One possible reason for these results is that participants take up jobs that are not full time or receive wages that are too low. Thus, I cannot conclude that the sequence (1EJ,1EJ) versus the sequence (UBII,UBII) avoids UB-II-receipt.

In summary, I find positive regular employment effects for women, especially in West Germany. However, I also find evidence of programme careers, as the effects on One-Euro-Jobs are very high for all subgroups, and other kinds of ALMPs, such as qualification programmes, wage subsidies and private placement services, do not play any role. Only direct job creation schemes (without One-Euro-Jobs) show some positive effects for West German men and East German women, suggesting stepwise integration into regular employment. However, the sequence (1EJ,1EJ) versus the sequence (UBII,UBII) is least effective for East German men, as the results only indicate that these individuals have programme careers of One-Euro-Jobs.

7.3.2 DATET for (1EJ,UBII) versus (UBII,1EJ)

Is it more effective for participants in 1EJ in the first period to participate in a One-Euro-Job in the first period or to wait for their first One-Euro-Job? In this section, I will analyse the DATET for (1EJ,UBII) versus (UBII,1EJ) for the population of 1EJ, as presented in Figure 8 to Figure 12.

First, I discuss the DATET for (1EJ,UBII) versus (UBII,1EJ) for individuals participating in 1EJ in the first period on regular employment (see Figure 8). Male participants in 1EJ in the first period, especially in East Germany, have well determined positive effects on regular employment if they participate in the sequence (1EJ,UBII) versus the sequence (UBII,1EJ): up to 6 percentage points 13 months after the start of the second programme. I also find positive regular employment effects (of at most 3 percentage points) for women in East Germany. However, for female participants in West Germany, almost no significant effects on regular employment emerge. Lock-in effects do not play any role for all four subgroups.

In contrast to the DATET for (1EJ,1EJ) versus (UBII,UBII), the effects on regular employment show a different picture. For men in West Germany and women in East Germany, but especially for East German men, it is very important to immediately participate in a One-Euro-Job rather than participate in a One-Euro-Job in the second period. With an immediate One-Euro-Job, the loss in human capital is reduced, and labour market integration is achieved more quickly. However, for West German women, it may be better to wait for the appropriate One-Euro-Job, one that better fits their former tasks, skills and preferences. As noted above, West German women appear to gain work experience in One-Euro-Jobs that helps them find regular employments. Thus, it may be more important for them to obtain an appropriate One-Euro-Job.

Next, I discuss the DATET for (1EJ,UBII) versus (UBII,1EJ) for individuals participating in 1EJ in the first period on different ALMP outcomes. The effects on direct job creation schemes (excluding One-Euro-Jobs) differ between West and East Germany (see Figure 9). In East Germany, positive effects emerge, especially in the first nine months after the start of the second programme: up to 2 percentage points for men and 3 percentage points for women. However, in West Germany, I observe no well determined effects in the first months and negative and significant effects one year after the start of the second programme.

East German men and women may require additional direct job creation schemes similar to One-Euro-Jobs for successful integration into regular employment; thus, the reasons for such a result could be stepwise integration. However, as the unemployment rate is higher in East Germany than in West Germany, direct job creation schemes could also be the only way to ‘employ’ benefit recipients. Thus, the positive effects on direct job creation schemes could also lead to programme careers, as individuals get stuck in programmes similar to One-Euro-Jobs.

Figure 10 presents the DATET for (1EJ,UBII) versus (UBII,1EJ) for individuals participating in 1EJ in the first period on One-Euro-Jobs. I find well determined negative effects for all four subgroups that are very high in the beginning (approximately –70 to –80 percentage points) and fall to approximately –3 to –6 percentage points. Thus, programme careers of One-Euro-Jobs do not emerge for participants in One-Euro-Jobs in the first period if they take part in the sequence (1EJ,UBII) versus the sequence (UBII,1EJ). However, a stepwise integration through other ALMPs, including qualification programmes, wage subsidies and private

placement services, is also not observable: I find very well determined and negative effects for all four subgroups (see Figure 11).

The DATET for (1EJ,UBII) versus (UBII,1EJ) for individuals participating in 1EJ in the first period on UB-II-receipt are mostly well determined (for West German women the effects are not significant after one year) and negative (see Figure 12). Thus, the sequence (1EJ,UBII) versus the sequence (UBII,1EJ) avoids UB-II-receipt for participants in 1EJ in the first period.

In summary, my results indicate that the sequence (1EJ,UBII) versus the sequence (UBII,1EJ) very effectively improves employment outcomes, especially for East German men (although not for West German women). My results also indicate no programme careers of One-Euro-Jobs and the avoidance of UB-II-receipt. However, direct job creation schemes play an important role in East Germany, suggesting stepwise integration or programme careers.

7.4 Different Treatment Definition

In this section, I present the results from using a different treatment definition. Thus far, One-Euro-Jobs or other ALMPs could start in the first or second individual window. Now, I consider only the four sequences (1EJ,1EJ), (UBII,UBII), (1EJ,UBII) and (UBII,1EJ) in cases where no programme starts in the first or second individual window at all. As the number of observations is too small to estimate DATET for all four subgroups, I analyse the effects only for West German men. Table 8 displays sample sizes for the considered sequences, if all programmes are allowed to start in the first or second individual window (row 1) and if no programmes are allowed to start in the first or second individual window (row 2).

This alternative and tighter treatment definition can be considered a robustness check of the effect on regular employment. However, through the tighter treatment definition in this section compared with in section 7.3, the effects on ALMP outcomes and on UB-II-receipt should change, by definition, and are not subject to a robustness check.

I also check the overall matching quality of the considered sequences, (1EJ,1EJ) to (UBII,UBII) and (1EJ,UBII) to (UBII,1EJ), for all covariates and subgroups.[51,52] Table 21 presents the matching quality of (1EJ,1EJ) versus (UBII,UBII), and Table 22 presents the matching quality of (1EJ,UBII) versus (UBII,1EJ) for West German men. I observe no significant (at the 1% significance level) mean differences for (1EJ,1EJ) versus (UBII,UBII) as well as for (1EJ,UBII) versus (UBII,1EJ) after matching. Thus, the matching quality greatly improves for this tighter treatment definition compared with the matching quality in section 7.2, highlighting the importance of the treatment definition.

First, I discuss the DATET for (1EJ,1EJ) versus (UBII,UBII) for the population 1EJ for West German men (see Figure 13 and Figure 14). The effects on regular employment are again not well determined and show a pattern very similar to that observed before. As the tighter

[51] Results regarding the matching quality after each matching step are available upon request.

[52] I do not use caliper matching in step C.4. and rather use nearest neighbour matching (one-to-one).

treatment definition is a robustness check of the outcome for regular employment, I can conclude that my results are robust.

The effects on different ALMP outcomes should change compared with those observed in section 7.3 because of the alternative treatment definition. Thus, a comparison with the previous results is not possible. Nevertheless, for West German men, the effects do not change very much from those found in section 7.3. As the effects on One-Euro-Jobs (see Figure 14), but not on other ALMPs (see Figure 13), are significant and positive, programme careers of One-Euro-Jobs emerge. A stepwise integration into the labour market is not observable, except with direct job creation schemes, as the effects on direct job creation schemes (see Figure 13) are well determined and positive in months 19 to 21 (approximately 4 percentage points). The dependence on UB-II-receipt does not decrease, as the effects on UB-II-receipt are not significant (see Figure 13).

Second, I discuss the DATET for (1EJ,UBII) versus (UBII,1EJ) for the population 1EJ for West German men (see Figure 15 and Figure 16). The effects on regular employment are well determined only in month three and four after the start of the second programme: approximately –3 percentage points (see Figure 15). In section 7.3, the effects on regular employment are also not well determined, but I find positive effects for month six to 10 after the start of the second programme. Thus, the alternative treatment definition in some way alters the results: I do not find successful integration into regular employment.

I also do not find any evidence of programme careers for the DATET of (1EJ,UBII) versus (UBII,1EJ), as the effects on One-Euro-Jobs are negative (see Figure 16). As the effects on direct job creation schemes reveal only significant and negative effects one year after the start of the second programme, and all effects on other ALMPs are well determined and negative, I also do not find any stepwise integration through these programmes. However, a reduction in UB-II-dependence is observable for West German men in the first year after the start of the second programme. Thus, the question arises of where the West German men have gone. Further analysis of different outcomes (not presented here) reveals positive and well determined effects on qualification programmes and wage subsidies for employers and employees in the first three months after the start of the second programme.

8 Summary and Conclusions

In this paper, I study the effects of sequences of One-Euro-Jobs and/or UB-II-receipt on different labour market outcomes. I focus on two questions: Is it better to participate in two consecutive One-Euro-Jobs or receive UB II for two consecutive periods? Is it better to participate in a One-Euro-Job immediately after entry into UB-II-receipt or to wait and participate in a later period? I use a dynamic matching approach to evaluate sequences, as intermediate outcomes play an important role. This method requires a large number of observations as well as rich individual information. Thus, I use comprehensive administrative data from the Federal Employment Agency with daily information on, e.g., sociodemographic variables, variables on the labour market history, household variables and variables on earnings.

This paper is the first one to analyse sequences of welfare recipients in Germany. My study provides explanations and the first empirical evidence regarding the phenomenon of welfare recipients in Germany taking part in more than one ALMP. I apply the dynamic matching approach of Lechner, but I use a different period definition that takes the duration of programme participation into account. Additionally, I control for matching quality not only after each matching step but also for the overall matching quality of the considered sequences. Compared with many previous studies that analyse One-Euro-Jobs as single programmes, I draw a rich inflow sample based on all individuals who enter UB-II-receipt with no contributory employment between October 1st, 2005 and September 30th, 2006.

I analyse the DATET of the sequence (1EJ,1EJ) versus the sequence (UBII,UBII) and the sequence (1EJ,UBII) versus the sequence (UBII,1EJ) for participants in 1EJ in the first period separately for men and women in West and East Germany. I consider outcomes on regular employment, direct job creation schemes (without One-Euro-Jobs), other ALMPs (qualification programmes, wage subsidies and private placement services), One-Euro-Jobs and UB-II-receipt. Outcomes are measured starting one month after the (random) start of the programme in the second period.

I find positive regular employment effects for female participants in 1EJ in the first period, especially in West Germany, if they take part in the sequence (1EJ,1EJ) compared with the sequence (UBII,UBII). The tasks of One-Euro-Jobs could be more appropriate for women in terms of their former job skills or preferences, but they may also gain work experience in One-Euro-Jobs. For example, women more often participate in One-Euro-Jobs in the child care sector compared with men (Hohmeyer/Kopf 2009), which may lead to successful job matches. Thus, the effectiveness of sequences of One-Euro-Jobs could be increased by targeting women or by creating One-Euro-Jobs that are more appropriate for men.

I also consider the effects of the sequence (1EJ,1EJ) versus the sequence (UBII,UBII) on participation in different ALMPs, as One-Euro-Jobs should be only the first step in achieving employability. Thus, participations in additional programmes may be necessary for integration into regular employment, but programme careers may also emerge. I find evidence of programme careers of One-Euro-Jobs among women and men in West and East Germany. Stepwise integration through additional programmes, such as qualification programmes, wage subsidies or private placement services, that increasingly integrate individuals into regular employment is not observable, except through direct job creation schemes for West German men and East German women.

My results also indicate that participants in 1EJ in the first period have positive regular employment effects (although not for West German women), if they participate in the sequence (1EJ,UBII) compared with the sequence (UBII,1EJ). Thus, in the former case, the loss in human capital is not large and labour market integration is achieved more quickly. However, for West German women, it may be better to wait for the appropriate One-Euro-Job, one that better fits their former tasks, skills and preferences. The effects of (1EJ,UBII) versus (UBII,1EJ) on direct job creation schemes differ between West and East Germany.

East German participants in 1EJ in the first period have well determined and positive effects on direct job creation schemes for participating in the sequence (1EJ,UBII) versus the sequence (UBII,1EJ). For West Germany, however, the opposite effects are observed. The reason for these results may be twofold: First, East German men and women may require additional direct job creation schemes for successful integration into regular employment. Second, as the unemployment rate is higher in East Germany than in West Germany, direct job creation schemes may also be the only way to 'employ' benefit recipients. Thus, the positive effects on direct job creation schemes could also indicate the existence of programme careers.

In summary, the sequence (1EJ,1EJ) versus the sequence (UBII,UBII) as well as the sequence (1EJ,UBII) versus the sequence (UBII,1EJ) does not harm participants in 1EJ in the first period; indeed, the effects are quite positive. Thus, one should focus more on integration into regular employment and should avoid programme careers. However, it is possible that labour demand is low for welfare recipients, especially for disadvantaged welfare recipients, or that such individuals do not match well to existing vacancies; thus, one should consider other solutions, such as the creation of a social labour market instead of programme careers.

Several extensions of this study are worthy for future research: First, it would be interesting to analyse different types of sequences consisting of other ALMPs. As stated in the theoretical section, strategic sequences lead to positive effects, i.e., job centres integrate individuals stepwise into regular employment by assigning them to strategic mixes of programmes that aim to increasingly integrate individuals into regular employment. In my study, I only analysed sequences that include One-Euro-Jobs. However, it would be also worthwhile i) to analyse different types of One-Euro-Jobs that build on one another, e.g., a typical One-Euro-Job followed by a One-Euro-Job with a qualification part and ii) to analyse sequences that include other ALMPs and that may consist, e.g., of a One-Euro-Job followed by classroom training.

Second, it would be worthwhile to analyse longer sequences consisting of three or more programmes, as I find evidence of programme careers of One-Euro-Jobs and to some extent of direct job creation schemes. By analyzing longer sequences, greater insight into programme careers may be gained: participants may require more assistance through additional One-Euro-Jobs or direct job creation schemes until successful integration into regular employment is achieved. However the evidence of programme careers may also be strengthened. In this study, it was not possible to analyse this issue, as the number of observations fur such an analysis are too low. As my sample is already based on rich data, better data sets would be difficult to obtain for Germany. Possible solutions are using a different period definition, pooling the four subgroups (men/women in West/East Germany) or using a different method, such as timing-of-events approach, as dynamic matching is very data hungry.

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Figures and Tables

Figure 1
Notation and definition of treatments

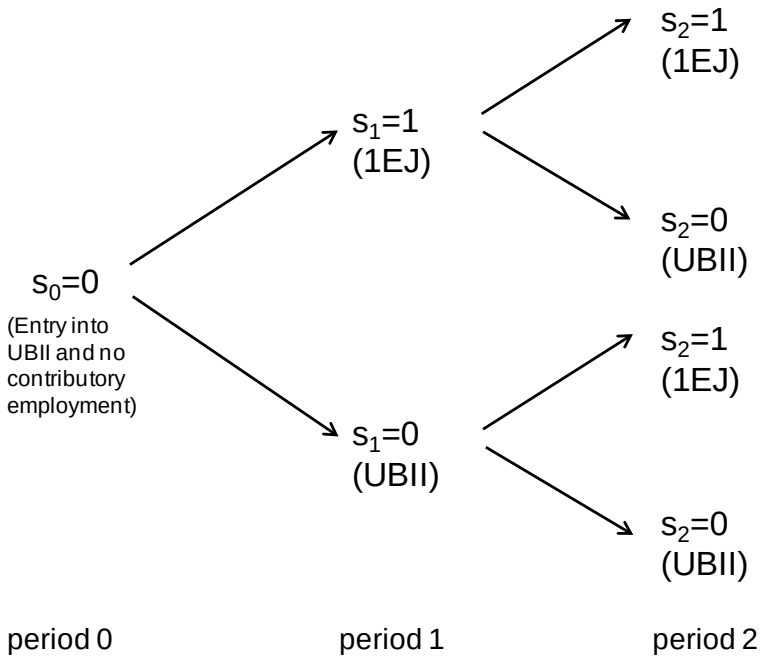

Figure 2
Definition of flexible start and individual windows

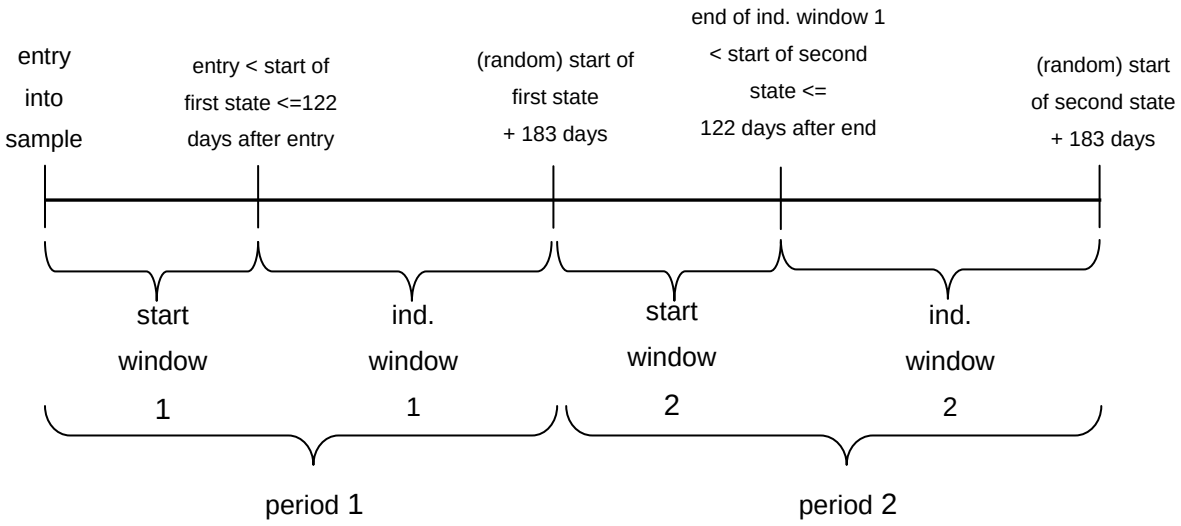

Figure 3
DATET for (1EJ,1EJ) versus (UBII,UBII) for 1EJ on regular employment

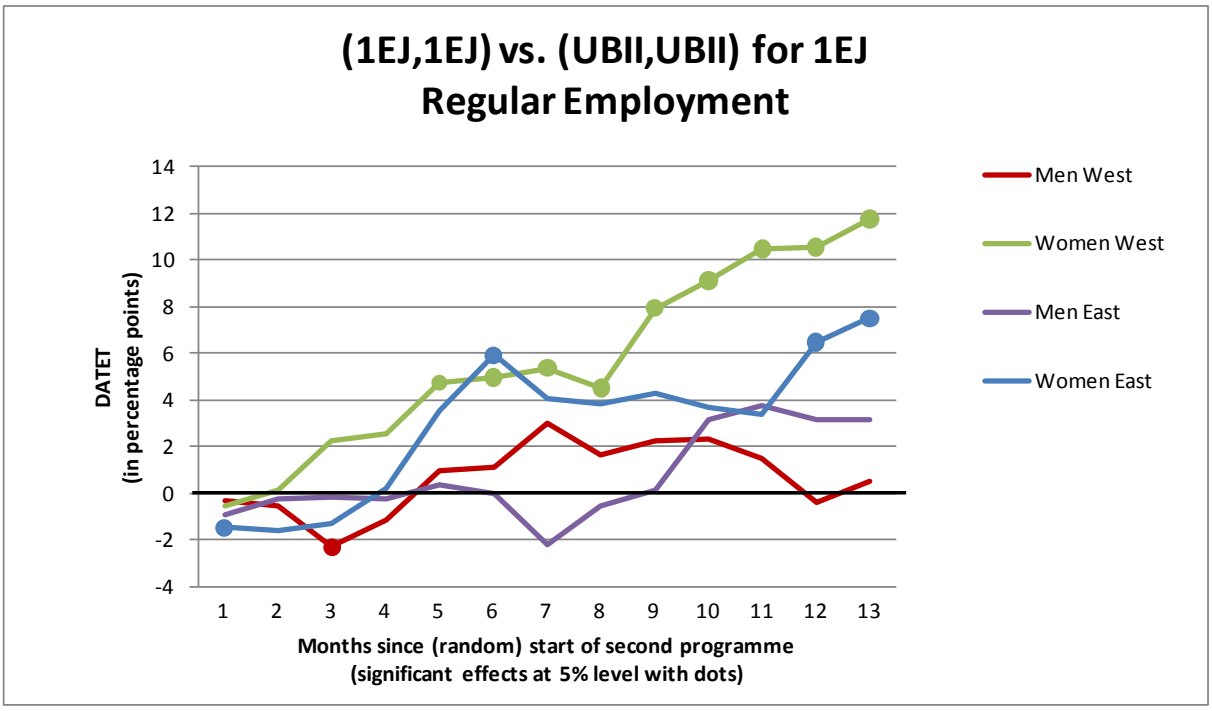

Figure 4
DATET for (1EJ,1EJ) versus (UBII,UBII) for 1EJ on direct job creation schemes

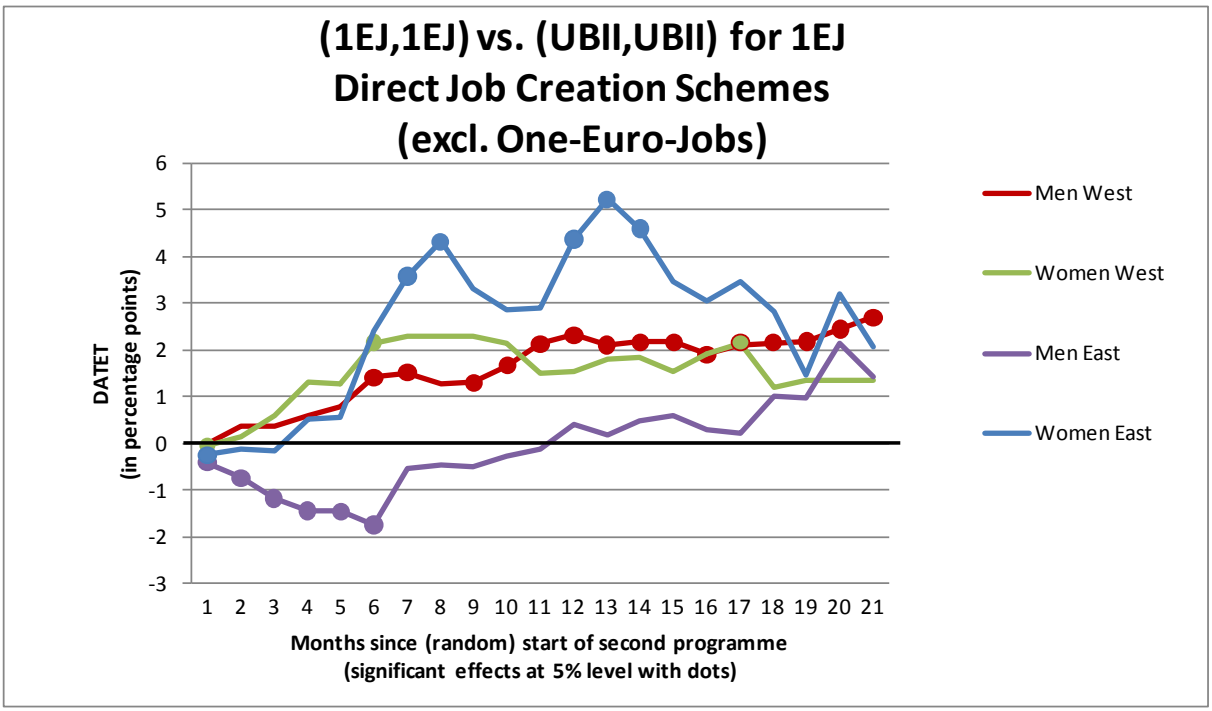

Figure 5
DATET for (1EJ,1EJ) versus (UBII,UBII) for 1EJ on One-Euro-Jobs

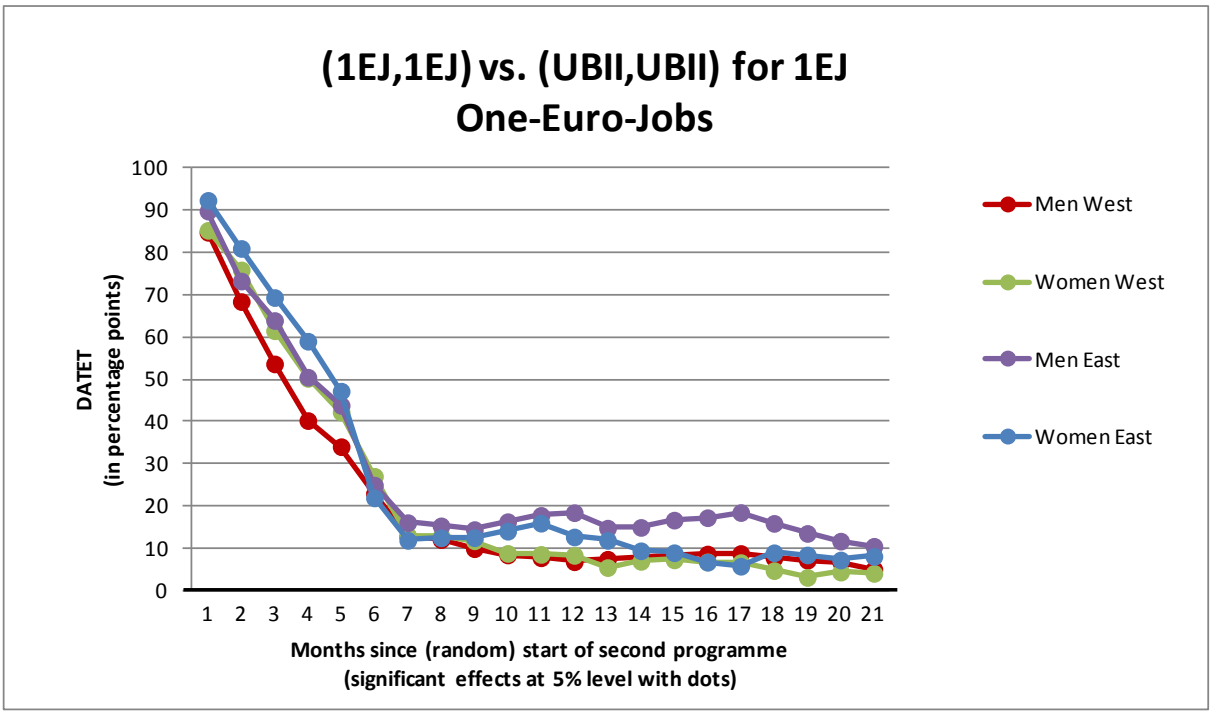

Figure 6
DATET for (1EJ,1EJ) versus (UBII,UBII) for 1EJ on other ALMPs

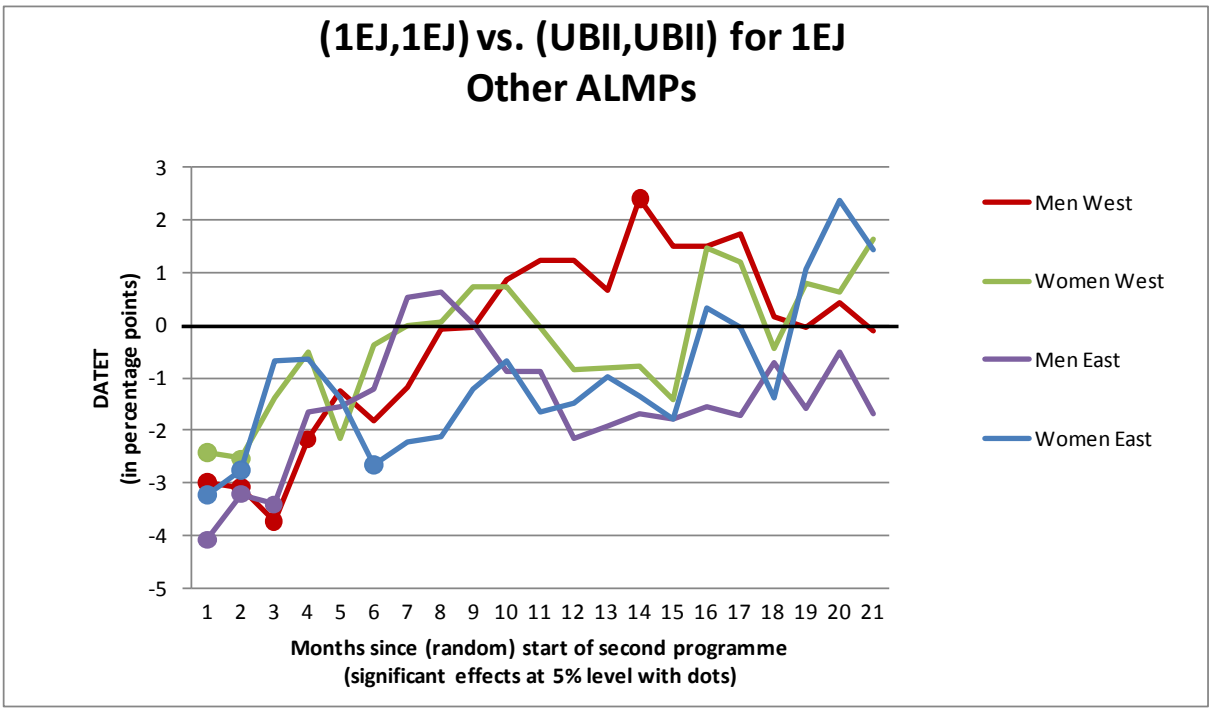

Figure 7
DATET for (1EJ,1EJ) versus (UBII,UBII) for 1EJ on UB-II-receipt

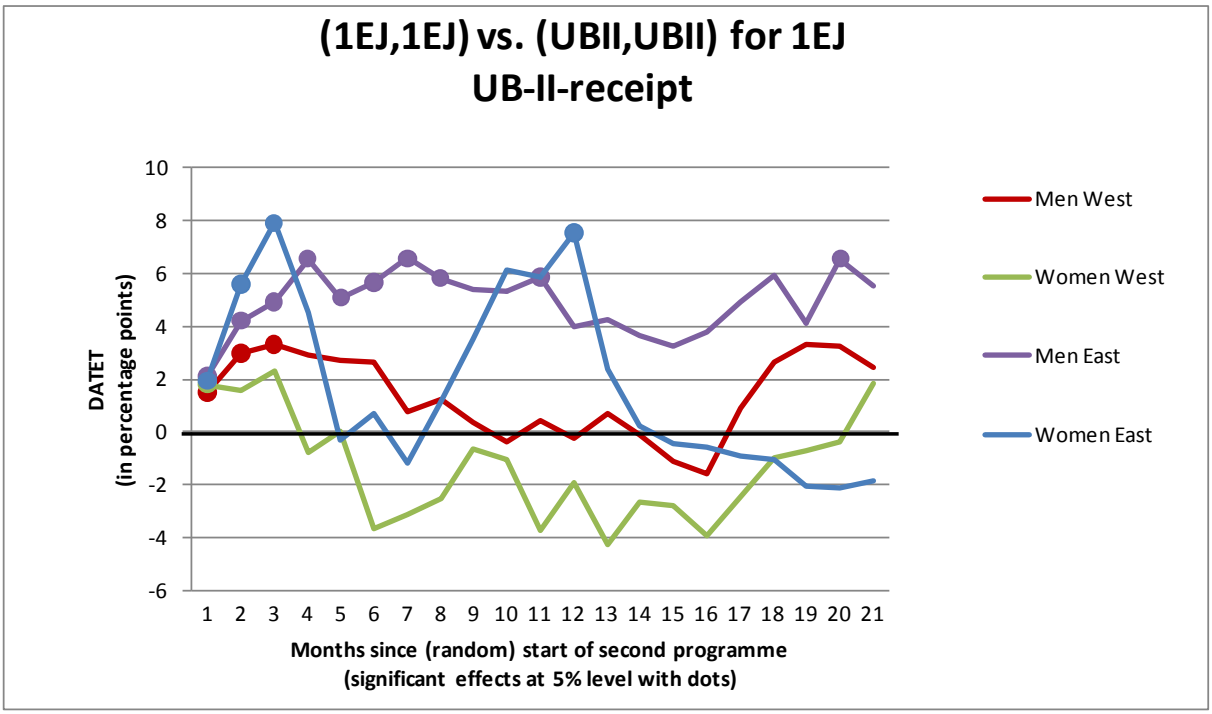

Figure 8
DATET for (1EJ,UBII) versus (UBII,1EJ) for 1EJ on regular employment

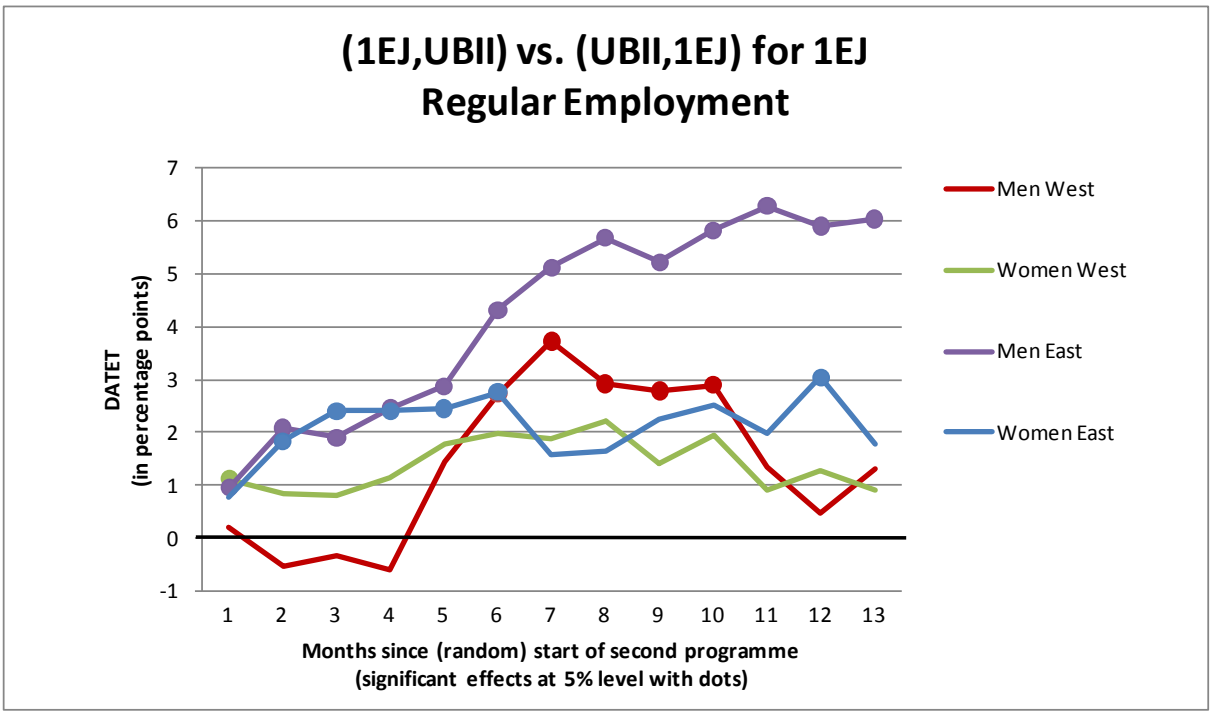

Figure 9
DATET for (1EJ,UBII) versus (UBII,1EJ) for 1EJ on direct job creation schemes

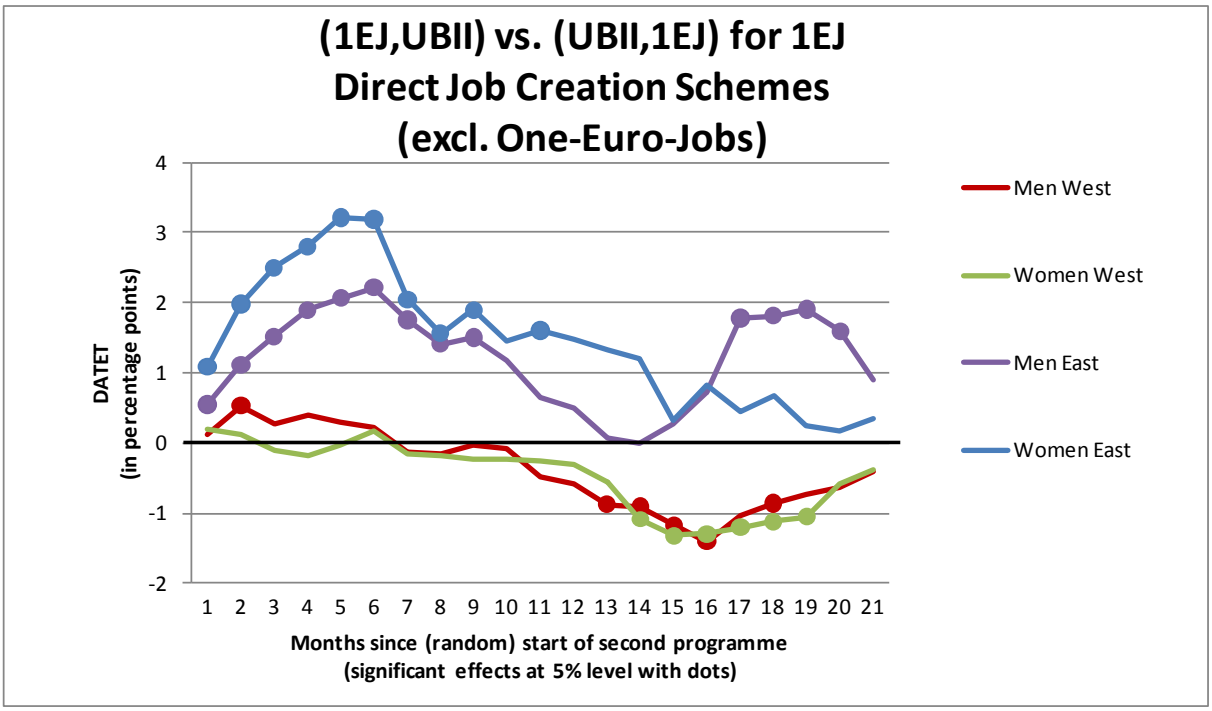

Figure 10
DATET for (1EJ,UBII) versus (UBII,1EJ) for 1EJ on One-Euro-Jobs

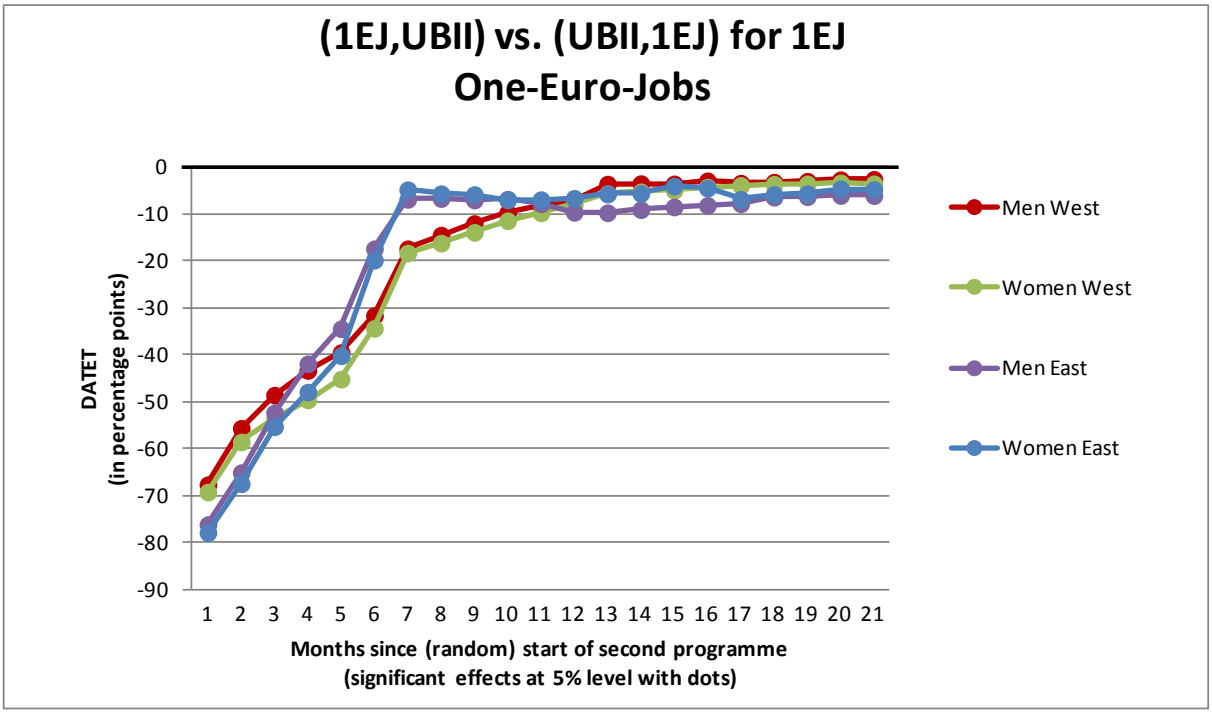

Figure 11
DATET for (1EJ,UBII) versus (UBII,1EJ) for 1EJ on other ALMPs

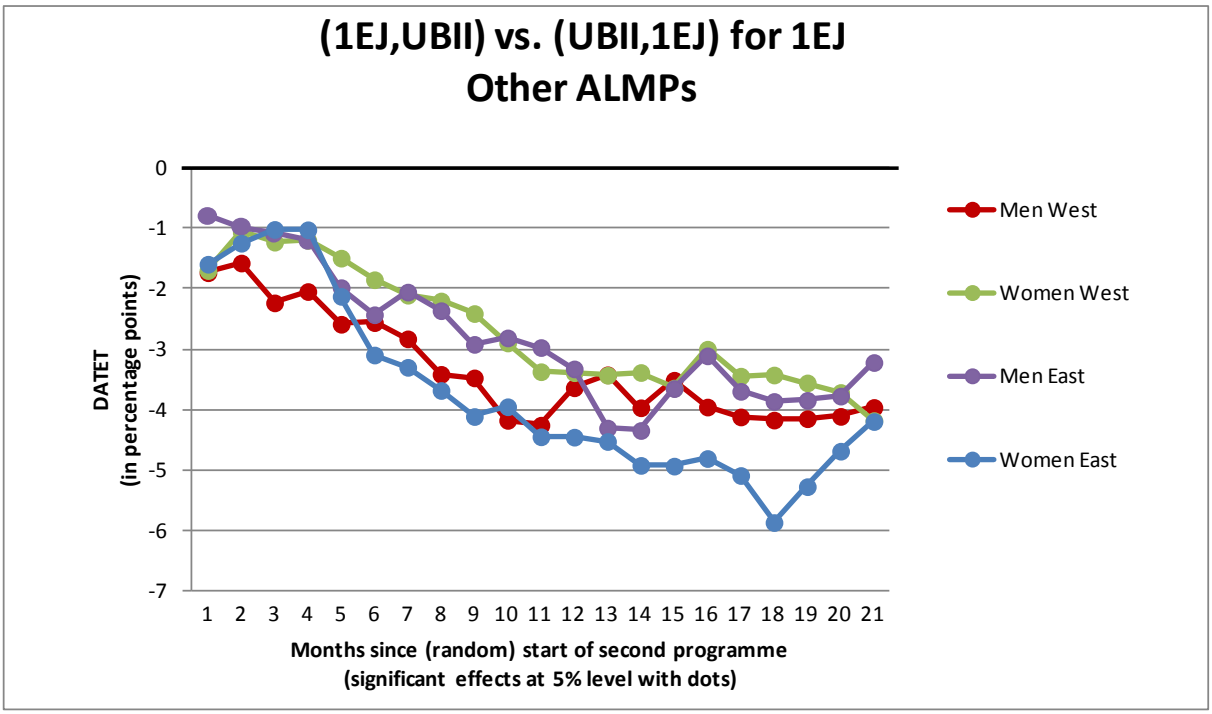

Figure 12
DATET for (1EJ,UBII) versus (UBII,1EJ) for 1EJ on UB-II-receipt

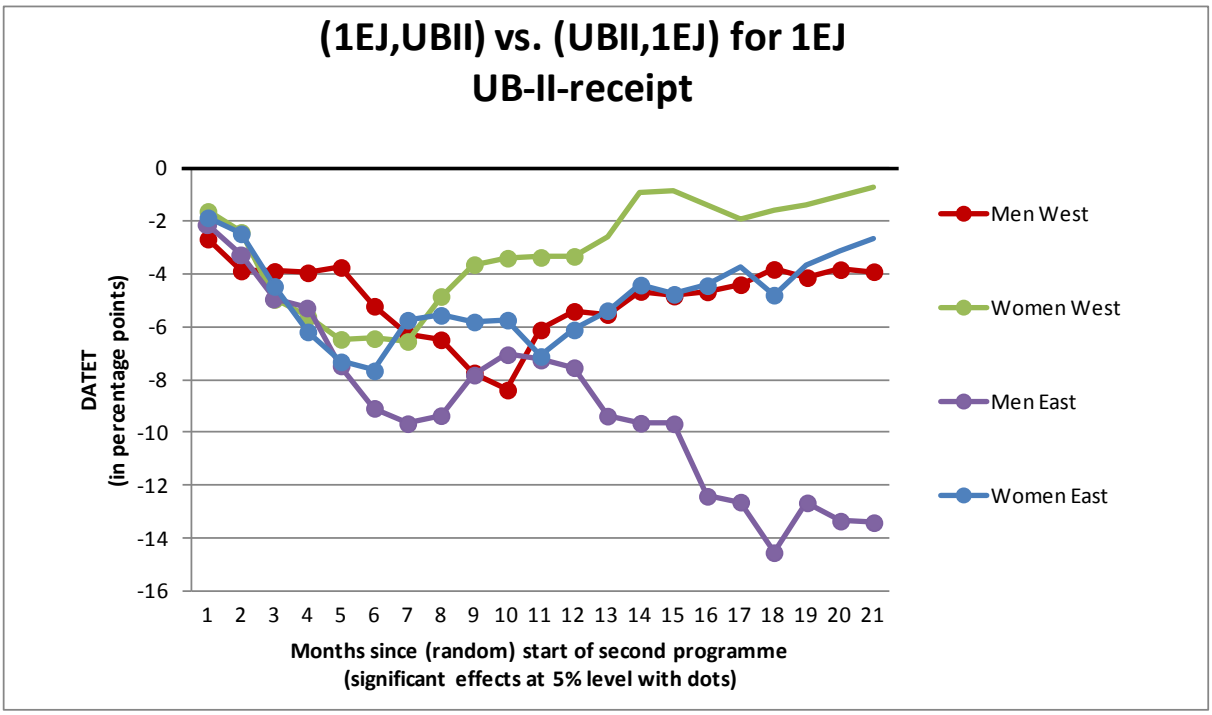

Figure 13
DATET for (1EJ,1EJ) versus (UBII,UBII) for 1EJ – different treatment definition

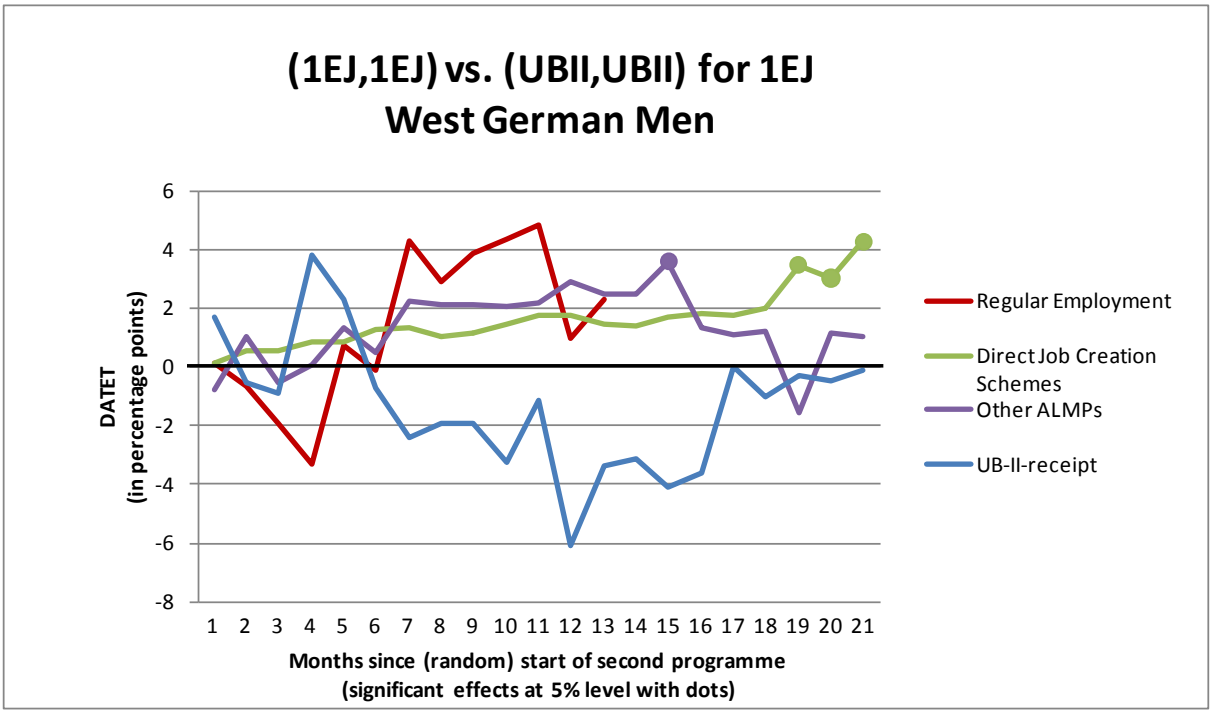

Figure 14
DATET for (1EJ,1EJ) versus (UBII,UBII) for 1EJ – different treatment definition

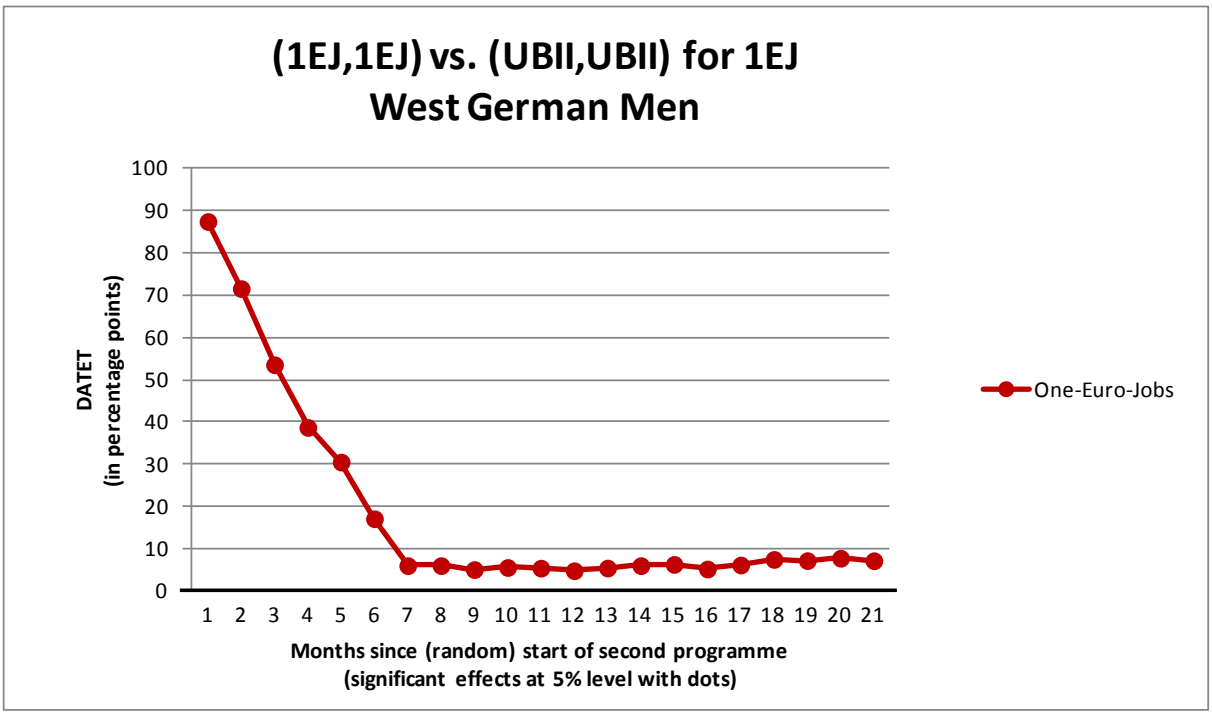

Figure 15
DATET for (1EJ,UBII) versus (UBII,1EJ) for 1EJ – different treatment definition

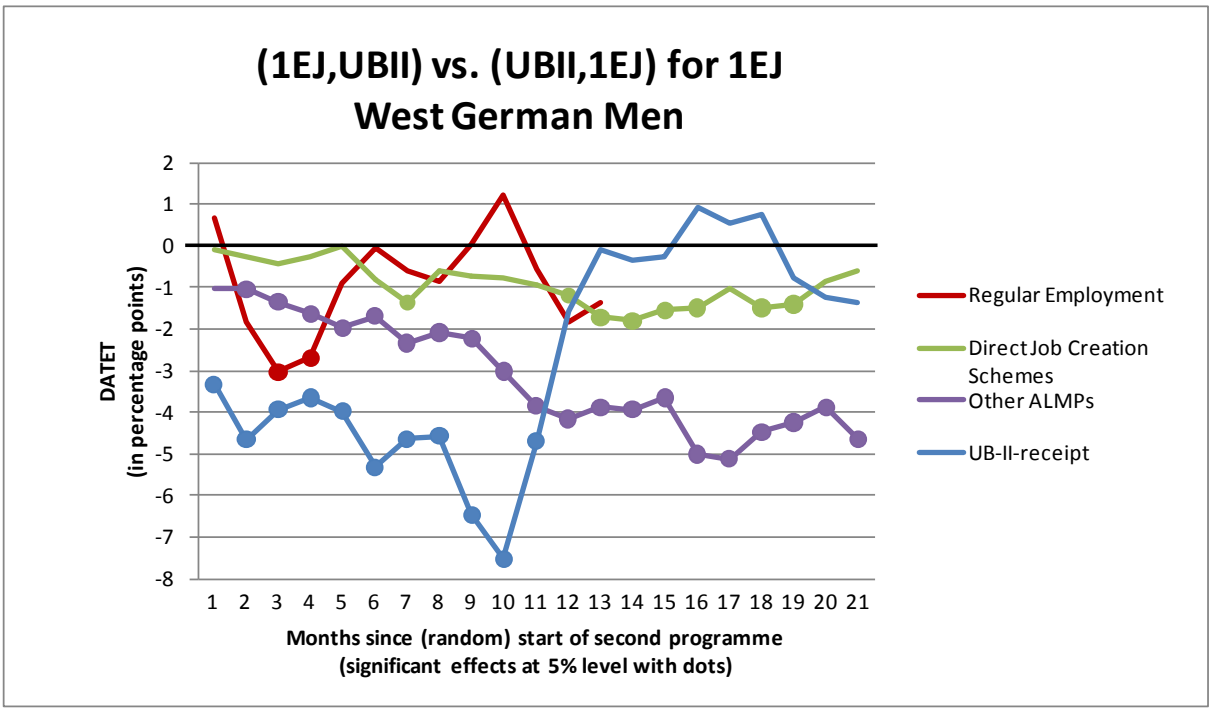

Figure 16
DATET for (1EJ,UBII) versus (UBII,1EJ) for 1EJ – different treatment definition

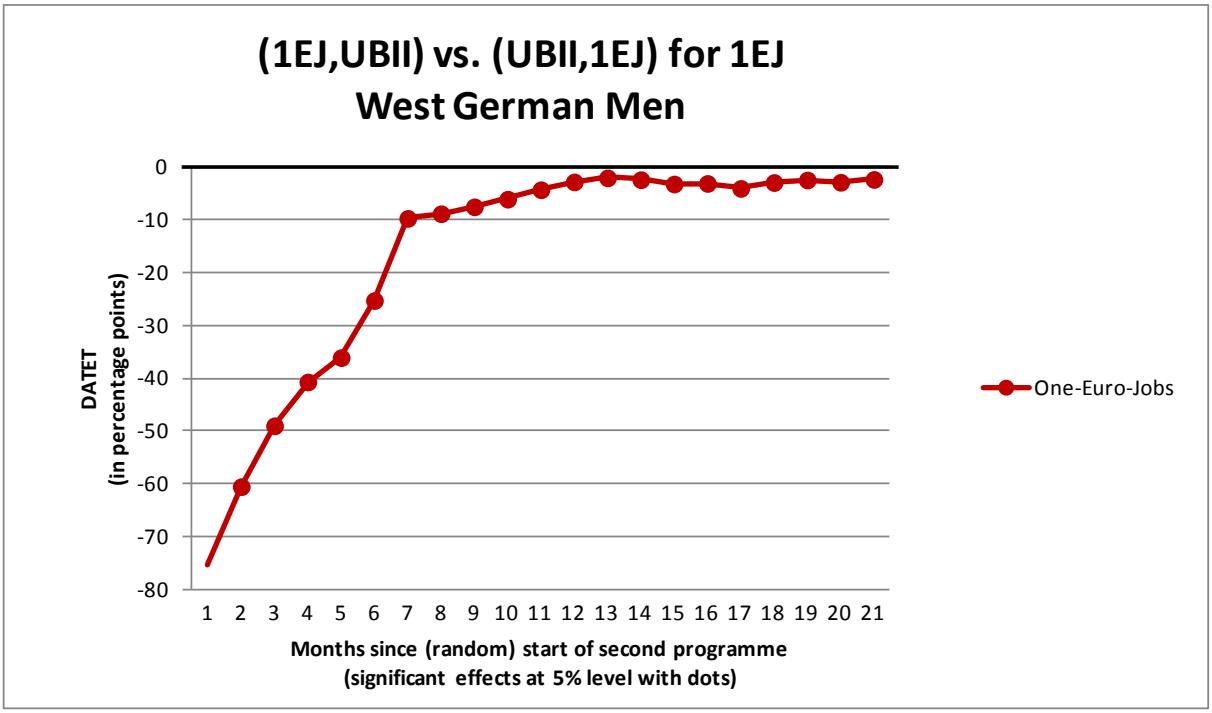

Table 1
Average stock of unemployed UB-II-recipients and inflow into different ALMPs (in 1,000)

Year	2005	2006	2007	2008	2009
Average stock of unemployed UB-II-recipients	2,402	2,444	2,183	1,961	1,944
Share of total unemployed stock (in %)	53.5	59.5	63.7	66.1	62.0
Inflow into different ALMPs					
Public employment programmes					
Trad. job creation schemes	62	62	50	60	-
Work opportunity as contributory employment	26	37	37	52	85
One-Euro-Job	603	704	669	648	599
Wage subsidies					
Wage subsidy for employees	3	15	19	21	18
Start-up subsidies	17	33	30	23	18
Wage subsidy for employers	61	105	125	120	103
Qualification					
Further vocational training	65	102	140	185	200
Classroom training	408	444	479	489	-
On-the-job training	132	186	204	187	-
Placement Service					
Privat placement service	273	149	113	176	-

Source: Department for Statistics of the Federal Employment Agency (2013).
Data without information from local authorities.

Table 2
Short matching protocol (see Lechner (2004))

A. Definition of the sequences ($\underline{s_2^h}$ and $\underline{s_2^k}$) and the population s_1^k

B. Matching of $\underline{s_2^h} = (s_1^h, s_2^h)$ to s_1^k

1. Definition of weight $w_i^{s_2^h} = 0$ for units of $\underline{s_2^h}$

2. Estimation of probit $P\left(S_1 = s_1^h \middle| \underline{X_o} = \underline{x_o}\right) = p^{s_1^h}$

3. Common Support

4. Matching of s_1^k to s_1^h that is closest in terms of $p^{s_1^h}$ using nearest neighbour matching (one-to-one) with replacement

5. Estimation of probit $P\left(S_2 = s_2^h \middle| S_1 = s_1^h, \underline{X_1} = \underline{x_1}\right) = p^{s_2^h|s_1^h}$

6. Common Support

7. Matching of s_1^k to $\underline{s_2^h}$ that is closest in terms of $p^{s_1^h}$ and $p^{s_2^h|s_1^h}$ using the Mahalanobis metric

8. Increase of weight $w_i^{s_2^h}$ by 1 every time an observation in $\underline{s_2^h}$ is matched

C. Matching of $\underline{s_2^k} = (s_1^k, s_2^k)$ to s_1^k

1. Definition of weight $w_i^{s_2^k} = 0$ for units of $\underline{s_2^k}$

2. Estimation of probit $P\left(S_2 = s_2^k \middle| S_1 = s_{1,}^k \underline{X_1} = \underline{x_1}\right) = p^{s_2^k|s_1^k}$

3. Common Support

4. Matching of s_1^k to $\underline{s_2^k}$ that is closest in term of $p^{s_2^k|s_1^k}$ using caliper matching or nearest neighbour matching (one-to-one) with replacement

5. Increase of weight $w_i^{s_2^k}$ by 1 every time an observation in $\underline{s_2^k}$ is matched

D. Joint Common Support

1. Reduction of $w_i^{s_2^k}$ by 1 for every observation i matched to s_1^k, but deleted in B.3 or B.6

2. Reduction of $w_i^{s_2^h}$ by 1 for every observation i matched to s_1^k, but deleted in C.3

E. Estimation of DATET and variance

1. Estimation of DATET:

$$\hat{\theta}_2^{\underline{s_2}^k,\underline{s_2}^h}(s_1^k) = \frac{1}{\sum_{i\in\underline{s_2}^k} w_i^{\underline{s_2}^k}} \sum_{i\in\underline{s_2}^k} w_i^{\underline{s_2}^k} y_i - \frac{1}{\sum_{i\in\underline{s_2}^h} w_i^{\underline{s_2}^h}} \sum_{i\in\underline{s_2}^h} w_i^{\underline{s_2}^h} y_i$$

2. Estimation of variance:

$$Var\left(\hat{\theta}_2^{\underline{s_2}^k,\underline{s_2}^h}(s_1^k)\right) = \frac{\sum_{i\in\underline{s_2}^k}(w_i^{\underline{s_2}^k})^2\, Var\left(\widehat{Y_2|S} = \underline{s_2}^k\right)}{(\sum_{i\in\underline{s_2}^k} w_i^{\underline{s_2}^k})^2} + \frac{\sum_{i\in\underline{s_2}^h}(w_i^{\underline{s_2}^h})^2\, Var\left(\widehat{Y_2|S} = \underline{s_2}^h\right)}{(\sum_{i\in\underline{s_2}^h} w_i^{\underline{s_2}^h})^2}$$

with

$$\widehat{Var}\left(Y_2|S = \underline{s_2}\right) = \frac{1}{N^{\underline{s_2}}}\sum_{i\in\underline{s_2}}(y_i - \overline{y}_t^{\underline{s_2}})^2\,,\ \overline{y}_t^{\underline{s_2}} = \frac{1}{N^{\underline{s_2}}}\sum_{i\in\underline{s_2}} y_{ti},\ N^{\underline{s_2}} = \sum_i \underline{1}\,(\underline{s_{2,i}} = \underline{s_2})$$

Table 3
Descriptive statistics of the sample

	Total	West Germany		East Germany	
		Men	Women	Men	Women
Total	1,019,067	350,578	364,185	158,345	145,959
thereof (in %):					
Age (in years)					
18-24	31.0	29.0	30.8	32.0	35.2
25-38	37.7	38.9	39.8	34.7	32.9
39-50	22.5	23.7	21.6	23.1	21.4
50-57	8.8	8.4	7.9	10.3	10.4
Education					
No observed education	36.0	33.4	45.8	26.0	28.5
Special school/secondary school	31.2	41.8	29.2	25.4	16.9
GCSE/A-levels/college	32.9	24.8	25.1	48.6	54.5
Any last contributory employment before entry					
Yes	70.9	77.5	64.0	75.0	62.2
No	29.1	22.5	36.0	25.0	30.0
Partner					
Yes	41.9	36.4	48.0	33.8	48.5
No or implausbility[1)]	58.1	63.6	52.0	66.2	51.5

1) Implausibility means that an individual should have a partner, but no partner could be found in the data or vice versa.

Table 4
Share of different types of first programme participations

	Total	West Germany		East Germany	
		Men	Women	Men	Women
Total	267,013	105,980	78,621	47,328	35,084
thereof (in %):					
Public employment programmes					
Trad. job creation schemes	0.2	0.1	0.1	0.4	0.2
Work opportunity as contributory employment	0.4	0.3	0.3	0.5	0.5
One-Euro-Job	35.8	34.0	31.7	41.3	43.3
Wage subsidies					
Wage subsidy for employees	0.1	0.1	0.1	0.1	0.1
Start-up subsidy	2.6	2.6	1.8	3.7	2.5
Wage subsidy for employers	0.4	0.4	0.4	0.3	0.4
Qualification					
Further vocational training	9.0	8.7	9.3	9.7	8.6
Classroom training	22.7	23.1	27.2	17.0	18.9
On-the-job training	14.3	15.0	9.9	18.5	16.5
Placement service					
Privat placement service	12.1	13.0	16.5	6.4	7.0
Other programmes	2.5	2.7	2.7	2.1	1.9

Table 5
Sequences of first and second programme (in %)

	Type of second programme											
		Public employment programmes			Subsidised employments			Qualification			Placement service	Other programmes
	No second programme	Trad. job creation schemes	Work opportunity as contributory employment	One-Euro-Job	Wage subsidy for employees	Start-up subsidy	Wage subsidy for employers	Further vocational training	Classroom training	On-the-job training	Privat placement service	
Total	60.9	0.1	0.3	18.3	0.0	0.9	0.3	4.4	5.8	5.2	3.3	0.6
Type of first programme												
Public employment programmes												
Trad. job creation schemes	84.6	3.4	0.9	5.2	0.0	0.0	0.0	1.4	2.9	0.7	0.5	0.5
Work opportunity as contributory employment	85.0	0.2	4.2	5.3	0.0	0.0	0.2	0.6	1.1	1.8	0.9	0.5
One-Euro-Job	52.0	0.1	0.4	34.6	0.0	0.2	0.2	2.7	4.0	3.4	2.0	0.5
Subsidised employments												
Wage subsidy for employees	88.0	0.0	0.0	1.4	2.9	1.4	0.5	1.0	1.9	2.4	0.5	0.0
Start-up subsidy	80.4	0.0	0.0	0.8	0.1	12.5	0.2	1.5	1.9	1.2	1.2	0.1
Wage subsidy for employers	96.9	0.0	0.0	0.4	0.5	0.1	0.6	0.3	0.5	0.6	0.2	0.1
Qualification												
Further vocational training	67.1	0.1	0.2	6.4	0.1	0.9	0.6	12.0	3.3	6.2	2.8	0.3
Classroom training	57.3	0.1	0.2	14.0	0.0	1.2	0.2	5.6	11.8	5.1	3.8	0.7
On-the-job training	72.5	0.0	0.1	5.7	0.1	0.7	0.5	3.4	3.3	11.6	1.5	0.4
Placement service												
Privat placement service	65.8	0.1	0.2	9.1	0.1	0.5	0.3	3.7	5.9	4.6	9.0	0.6
Other programmes	75.5	0.0	0.1	8.9	0.0	0.4	0.2	2.4	3.9	3.0	2.2	3.4

Table 6
Subpopulations and sequences

Subpopulations/sequences		
1EJ		
UBII		
(1EJ,1EJ)		
(1EJ,UBII)		
(UBII,1EJ)		
(UBII,UBII)		
Comparisons of sequences		
(1EJ,1EJ)	versus	(UBII,UBII)
(1EJ,UBII)	versus	(UBII,1EJ)

Table 7
One-Euro-Job as first programme

	Total	West Germany		East Germany	
		Men	Women	Men	Women
First programme: One-Euro-Job	**95,676**	**36,014**	**24,923**	**19,542**	**15,197**
Start of 1EJ 122 days after entry + planned duration					
<183 days	**23,073**	**9,836**	**5,215**	**4,746**	**3,276**
thereof:					
Consecutive 1EJs with planned duration<183 days	7,373	3,164	1,676	1,538	995
thereof:					
Start of consecutive 1EJ in 2nd start window	1,759	754	367	399	239

Table 8
Sample sizes for all sequences under consideration

Sequence	Total	West Germany		East Germany	
		Men	Women	Men	Women
(1EJ,1EJ)					
all	1,759	754	367	399	239
no prog. in 1st or 2nd ind. window	853	339	161	213	140
(UBII,UBII)					
all	466,889	141,516	191,837	66,262	67,274
no prog. in 1st or 2nd ind. window	387,687	110,368	167,791	52,288	57,240
(UBII,1EJ)					
all	12,468	4,892	3,167	2,537	1,872
no prog. in 1st or 2nd ind. window	6,196	2,202	1,432	1,465	1,097
(1EJ,UBII)					
all	8,693	3,346	2,153	1,792	1,402
no prog. in 1st or 2nd ind. window	4,900	1,799	1,242	982	877

Table 9
Selective descriptive statistics for the subpopulations of 1EJ and UBII

	Subpopulation: 1EJ				Subpopulation: UBII			
	West Germany		East Germany		West Germany		East Germany	
	Men	Women	Men	Women	Men	Women	Men	Women
Observations	9,836	5,215	4,746	3,276	280,970	310,503	127,388	119,282
Variables at/before entry								
Average age at entry	30.3	30.5	30.6	33.2	33.1	32.4	32.9	32.0
Education at entry (in %)								
no observ. education	33.1	31.1	23.0	15.5	34.2	47.0	27.0	30.1
Special school / secondary school (also QA)	49.0	40.1	35.5	24.4	41.0	28.9	24.7	16.7
GCSE / A-levels / college	17.9	28.8	41.5	60.1	24.8	24.1	48.3	53.2
Children at entry (in %)								
no	86.9	75.5	90.8	74.1	77.1	49.6	83.0	62.8
yes	13.1	24.5	9.2	25.9	22.9	50.4	17.0	37.2
Partner at entry (in %)								
partner	25.7	29.3	24.9	43.2	36.8	48.7	33.8	48.0
no partner/no information	74.3	70.7	75.1	56.8	63.2	51.3	66.2	52.0
Average cum. duration of minor employment 5 years before entry (in days)	88.4	176.3	67.5	143.2	113.8	244.1	93.4	162.5
Cum. duration of UB II 1 year before entry (in days)	43.8	32.8	65.4	57.7	33.8	23.9	46.6	34.9
Average cum. duration of contributory employment 5 years before entry (in days)	381.0	290.7	436.3	362.7	423.0	294.0	386.0	359.3
ALMP 5 years before entry (in %)								
no	41.4	54.5	31.8	37.8	58.0	76.3	52.4	62.7
yes	58.6	45.5	68.2	62.2	42.0	23.7	47.6	37.3
Any last contributory employment before entry (in %)								
yes	77.5	67.5	76.7	74.0	76.6	62.9	74.0	65.9
no	22.5	32.5	23.3	26.0	23.4	37.1	26.0	34.1
Average equivalent household income from welfare in the month at entry (in Euros)	410.4	388.5	415.2	342.3	383.3	299.5	376.8	289.8

Table 10
Selective descriptive statistics for the sequences of (1EJ,UBII) and (UBII,1EJ)

	Sequence (1EJ,UBII)				Sequence (UBII,1EJ)			
	West Germany		East Germany		West Germany		East Germany	
	Men	Women	Men	Women	Men	Women	Men	Women
Observations	3,346	2,153	1,792	1,402	4,892	3,167	2,537	1,872
Variables at/before entry								
Average age at entry	32.0	31.5	31.2	33.1	33.0	33.1	33.2	34.8
Education at entry (in %)								
no observ. education	33.5	32.8	24.0	17.7	36.5	40.0	27.2	20.8
Special school / secondary school (also QA)	47.6	39.8	35.9	26.7	44.5	37.6	33.5	25.9
GCSE / A-levels / college	18.9	27.4	40.1	55.6	19.0	22.5	39.3	53.4
Children at entry (in %)								
no	84.5	72.9	90.5	72.7	83.1	63.9	88.2	68.5
yes	15.5	27.1	9.5	27.3	16.9	36.1	11.8	31.5
Partner at entry (in %)								
partner	29.5	30.5	24.5	41.6	30.3	33.7	27.0	45.9
no partner/no information	70.5	69.5	75.5	58.4	69.7	66.3	73.0	54.1
Average cum. duration of minor employment 5 years before entry (in days)	87.4	166.9	59.7	134.3	80.8	168.4	72.1	150.6
Cum. duration of UB II 1 year before entry (in days)	40.2	30.2	65.2	58.6	36.7	28.1	63.2	57.7
Average cum. duration of contributory employment 5 years before entry (in days)	351.9	261.5	423.0	343.8	383.3	249.9	392.6	324.0
ALMP 5 years before entry (in %)								
no	43.1	55.7	30.8	36.8	49.0	63.2	36.5	41.2
yes	56.9	44.3	69.2	63.2	51.0	36.8	63.5	58.8
Any last contributory employment before entry (in %)								
yes	76.4	66.9	76.4	72.6	75.4	65.6	76.7	73.7
no	23.6	33.1	23.6	27.4	24.6	34.4	23.3	26.3
Average equivalent household income from welfare in the month at entry (in Euros)	424.3	412.3	425.9	364.9	417.3	378.0	405.2	324.5
Intermediate variables (before period 2)								
Intermediate: Average cum. duration of minor employment 1 year before period 2 (in days)	20.9	35.9	18.0	34.1	18.7	29.7	12.4	27.0
Intermediate: Average cum. duration of UB II 1 year before period 2 (in days)	246.7	248.8	247.7	247.8	246.0	247.3	256.3	255.5
Intermediate: Children (in %)								
no observable children	80.8	68.6	87.0	69.6	79.4	62.4	85.0	67.9
yes	19.2	31.4	13.0	30.4	20.6	37.6	15.0	32.1
Intermediate: Average equivalent household income from welfare in the month before period 2 (in Euros)	462.4	439.1	421.7	362.1	419.8	400.6	370.6	305.1

Table 11
Selective descriptive statistics for the sequences of (1EJ,1EJ) and (UBII,UBII)

	Sequence (1EJ,1EJ)				Sequence (UBII,UBII)			
	West Germany		East Germany		West Germany		East Germany	
	Men	Women	Men	Women	Men	Women	Men	Women
Observations	754	367	399	239	141,516	191,837	66,262	67,274
Variables at/before entry								
Average age at entry	31.6	30.7	30.9	33.6	34.5	32.9	33.9	32.3
Education at entry (in %)								
no observ. education	34.0	35.4	24.1	15.5	38.0	50.2	31.2	33.9
Special school / secondary school (also QA)	50.7	40.1	38.6	30.1	38.9	28.7	24.4	17.6
GCSE / A-levels / college	15.4	24.5	37.3	54.4	23.1	21.1	44.3	48.5
Children at entry (in %)								
no	87.4	76.8	91.5	72.4	74.9	45.7	81.8	60.0
yes	12.6	23.2	8.5	27.6	25.1	54.3	18.2	40.0
Partner at entry (in %)								
partner	22.8	28.6	23.6	45.6	38.4	49.6	34.5	48.1
no partner/no information	77.2	71.4	76.4	54.4	61.6	50.4	65.5	51.9
Average cum. duration of minor employment 5 years before entry (in days)	82.3	153.6	43.3	120.2	106.5	232.6	88.4	149.5
Cum. duration of UB II 1 year before entry (in days)	42.7	28.5	60.4	75.2	29.4	21.2	42.8	33.3
Average cum. duration of contributory employment 5 years before entry (in days)	350.7	258.3	422.2	357.8	366.2	258.4	328.6	332.5
ALMP 5 years before entry (in %)								
no	38.6	56.9	24.8	27.6	61.2	78.0	55.1	64.3
yes	61.4	43.1	75.2	72.4	38.8	22.0	44.9	35.7
Any last contributory employment before entry (in %)								
yes	79.3	64.9	77.2	77.8	73.8	60.1	72.2	63.3
no	20.7	35.1	22.8	22.2	26.2	39.9	27.8	36.7
Average equivalent household income from welfare in the month at entry (in Euros)	440.4	397.2	415.5	348.0	392.3	306.7	377.6	299.6
Intermediate variables (before period 2)								
Intermediate: Average cum. duration of minor employment 1 year before period 2 (in days)	37.4	56.6	29.6	42.5	12.9	21.3	10.5	30.7
Intermediate: Average cum. duration of UB II 1 year before period 2 (in days)	245.6	246.3	247.0	247.3	244.9	247.3	253.4	256.5
Intermediate: Children (in %)								
no observable children	82.8	74.4	88.7	74.1	70.6	39.6	77.8	52.2
yes	17.2	25.6	11.3	25.9	29.4	60.4	22.2	47.8
Intermediate: Average equivalent household income from welfare in the month before period 2 (in Euros)	427.7	387.3	396.5	335.3	410.2	368.4	397.6	304.3

Table 12
Outcomes for all controls, all treated, matched controls and matched treated 12 months after programme start (in %)

	Men - West Germany				Women - West Germany				Men - East Germany				Women - East Germany			
Proportion in	All controls	All treated	Matched controls	Matched treated	All controls	All treated	Matched controls	Matched treated	All controls	All treated	Matched controls	Matched treated	All controls	All treated	Matched controls	Matched treated
(1EJ,1EJ) vs. (UBII,UBII)																
Regular Employment	17.7	18.4	18.2	18.0	10.9	19.1	10.6	18.7	14.6	18.1	14.4	17.7	13.8	17.2	12.7	13.9
Direct Job Creation Schemes (excl. One-Euro-Jobs)	0.5	2.7	0.4	3.0	0.2	1.6	0.3	2.0	1.8	2.3	2.1	1.8	1.3	4.6	1.8	5.3
One-Euro-Jobs	1.8	9.4	1.9	9.5	1.1	8.5	1.3	8.3	2.1	15.5	2.6	17.4	1.8	13.4	2.2	14.4
Other ALMPs	5.1	5.4	5.2	5.7	2.7	2.5	3.4	2.3	5.1	5.3	5.4	4.9	3.3	2.5	3.7	2.4
UB-II-receipt	68.0	66.5	67.3	66.9	75.4	74.4	75.4	75.0	70.9	74.4	70.7	75.5	73.5	77.8	73.3	80.9
(1EJ,UBII) vs. (UBII,1EJ)																
Regular Employment	18.0	19.8	18.2	19.2	15.0	17.2	15.5	17.3	11.8	18.6	11.0	18.0	11.5	14.7	10.9	14.2
Direct Job Creation Schemes (excl. One-Euro-Jobs)	1.9	1.1	1.8	1.3	1.5	1.1	1.7	1.3	2.4	3.3	2.7	3.5	2.3	4.1	2.4	4.7
One-Euro-Jobs	11.2	4.7	11.7	4.9	11.1	3.4	11.3	3.5	14.2	6.1	15.7	6.0	12.7	6.1	13.0	6.6
Other ALMPs	5.4	6.1	5.7	6.6	4.7	2.1	4.7	2.1	5.4	6.2	5.5	4.9	5.4	1.3	5.5	0.9
UB-II-receipt	71.9	67.1	72.5	67.1	76.8	71.8	76.4	71.7	77.7	70.0	77.4	69.1	79.4	74.0	79.6	73.5

Table 13
Matching quality (1EJ,1EJ) versus (UBII,UBII) for covariates – West German men

	Men - West Germany						
	Considered variables in the respective probit models (yes/no)			Mean differences and t-values between (matched) treated and (matched) controls			
				before matching		after matching	
	UBII vs.1EJ	(UBII,UBII) vs.1EJ	(1EJ,1EJ) vs.1EJ	diff	t-value	diff	t-value
Variables at/before entry							
Age at entry	yes	yes	yes	-2.878	-6.855	-2.782	-4.781
Age²/1000	yes	yes	yes	-0.182	-5.990	-0.186	-4.504
Education at entry							
Special school / secondary school (also QA)	yes	yes	yes	0.117	6.596	0.049	2.011
GCSE / A-levels / college	yes	yes	yes	-0.077	-5.016	-0.043	-2.294
Children at entry							
yes	yes	yes	yes	-0.125	-7.930	-0.062	-3.757
Partner at entry							
no partner/no information	yes	yes	yes	0.156	8.794	0.068	3.208
Cum. duration of minor employment 5 years before entry (in days)	yes	yes	no	-24.189	-2.643	-8.780	-0.793
Cum. duration of job seeking 5 years before entry (in days)	yes	yes	yes	72.183	13.365	21.711	2.113
Cum. duration of UB II before entry (in days)	yes	yes	no	13.345	5.492	2.090	0.549
Cum. duration of UB I 5 years before entry (in days)	yes	yes	no	-4.937	-0.634	-10.952	-1.060
Cum. duration of contributory employment 5 years before entry (in days)	yes	no	yes	-15.502	-0.917	-4.601	-0.214
Cum. duration of UA 5 years before 12/31/2004 (in days)	yes	yes	yes	-2.219	-0.175	-20.070	-1.130
Cum. duration of out of labour force 5 years before 12/31/2004 (in days)	yes	no	no	-12.814	-0.480	27.199	0.814
ALMP 5 years before entry							
yes	yes	yes	no	0.226	12.685	0.111	4.646
Any last contributory employment before entry							
no	yes	yes	yes	-0.055	-3.430	-0.009	-0.506
Time since last contributory employment (in months)							
>12 - 24	yes	yes	yes	0.029	2.243	0.003	0.158
>24	yes	yes	yes	-0.009	-0.532	-0.046	-1.929
Status in last contributory employment							
skilled worker,master/employee	yes	yes	no	-0.091	-5.716	-0.081	-4.201
homeworker/not full-time	yes	yes	no	0.002	0.226	0.008	0.574
Wage per month in last contributory employment							
>500 - 1000 Euros	yes	no	yes	0.021	1.772	0.034	1.983
>1000 Euros	yes	no	yes	-0.038	-2.075	-0.040	-1.632

Table 13 (continued)
Matching quality (1EJ,1EJ) versus (UBII,UBII) for covariates – West German men

	Men - West Germany						
	Considered variables in the respective probit models (yes/no)			Mean differences and t-values between (matched) treated and (matched) controls			
				before matching		after matching	
	UBII vs.1EJ	(UBII,UBII) vs.1EJ	(1EJ,1EJ) vs.1EJ	diff	t-value	diff	t-value
Equivalent household income from welfare in the month at entry (in Euros)	yes	yes	no	48.077	3.977	-7.395	-0.480
Partner variables							
Partner: Age (LHG)							
>40	no	no	no	-0.047	-3.713	-0.022	-1.458
Partner: Cum. duration of contributory employment 5 years before entry (in months)							
>12 - 60	yes	yes	yes	-0.072	-5.813	-0.030	-2.355
Regional variables							
Vacancies per unemployed	yes	yes	yes	0.001	0.335	0.000	-0.111
Unemployment rate	yes	yes	yes	-0.002	-1.420	-0.003	-1.689
Long-term unemployed per unemployed person	yes	yes	yes	-0.005	-1.763	-0.013	-2.922
Intermediate variables (before period 2)							
Intermediate: Cum. duration of minor employment 1 year before period 2 (in days)	no	yes	yes	-24.504	-7.425	-14.328	-5.649
Intermediate: Cum. duration of UB II 1 year before period 2 (in days)	no	yes	yes	-0.697	-0.560	-7.616	-4.604
Intermediate: Children							
yes	no	yes	no	-0.122	-7.337	-0.062	-3.543
Intermediate: Equivalent household income from welfare in the month before period 2 (in Euros)	no	yes	no	-17.462	-1.203	-47.418	-2.635

Table 14
Matching quality (1EJ,1EJ) versus (UBII,UBII) for covariates – West German women

	Women - West Germany						
	Considered variables in the respective probit models (yes/no)			Mean differences and t-values between (matched) treated and (matched) controls			
				before matching		after matching	
	UBII vs.1EJ	(UBII,UBII) vs.1EJ	(1EJ,1EJ) vs.1EJ	diff	t-value	diff	t-value
Variables at/before entry							
Age at entry	yes	yes	yes	-2.170	-3.724	-1.903	-2.156
Age²/1000	yes	yes	yes	-0.115	-2.764	-0.101	-1.651
Education at entry							
Special school / secondary school (also QA)	yes	yes	yes	0.114	4.823	0.094	2.619
GCSE / A-levels / college	yes	yes	yes	0.034	1.594	0.013	0.401
Children at entry							
yes	yes	yes	yes	-0.312	-11.979	-0.251	-7.920
Partner at entry							
no partner/no information	yes	yes	yes	0.210	8.024	0.141	4.144
Cum. duration of minor employment 5 years before entry (in days)	yes	yes	no	-78.963	-3.523	-20.277	-0.790
Cum. duration of job seeking 5 years before entry (in days)	yes	yes	no	54.296	7.850	44.355	3.286
Cum. duration of UB II before entry (in days)	yes	yes	yes	7.314	2.457	6.601	1.351
Cum. duration of UB I 5 years before entry (in days)	yes	yes	no	42.133	5.083	26.300	1.835
Cum. duration of contributory employment 5 years before entry (in days)	yes	yes	no	-0.060	-0.003	-10.988	-0.367
Cum. duration of UA 5 years before 12/31/2004 (in days)	no	no	no	45.338	4.041	12.623	0.596
Cum. duration of out of labour force 5 years before 12/31/2004 (in days)	yes	yes	no	-55.858	-1.545	-37.340	-0.719
ALMP 5 years before entry							
yes	yes	yes	no	0.211	9.743	0.171	4.702
Any last contributory employment before entry							
no	yes	yes	yes	-0.047	-1.848	-0.037	-1.094
Time since last contributory employment (in months)							
>12 - 24	yes	yes	no	0.003	0.174	-0.008	-0.365
>24	yes	yes	no	-0.027	-1.097	-0.039	-1.134
Status in last contributory employment							
skilled worker,master/employee	yes	yes	no	-0.015	-0.724	-0.011	-0.383
homeworker/not full-time	yes	yes	no	0.007	0.353	0.033	1.147
Wage per month in last contributory employment							
>500 - 1000 Euros	no	yes	no	0.017	0.890	0.032	1.119
>1000 Euros	no	yes	no	0.021	0.911	-0.015	-0.448

Table 14 (continued)
Matching quality (1EJ,1EJ) versus (UBII,UBII) for covariates – West German women

	Women - West Germany						
	Considered variables in the respective probit models (yes/no)			Mean differences and t-values between (matched) treated and (matched) controls			
				before matching		after matching	
	UBII vs.1EJ	(UBII,UBII) vs.1EJ	(1EJ,1EJ) vs.1EJ	diff	t-value	diff	t-value
Equivalent household income from welfare in the month at entry (in Euros)	yes	yes	no	90.482	5.784	46.966	2.194
Partner variables							
Partner: Age (LHG)							
>40	yes	yes	yes	-0.053	-2.463	-0.063	-2.143
Partner: Cum. duration of contributory employment 5 years before entry (in months)							
>12 - 60	yes	yes	yes	-0.162	-6.792	-0.132	-5.192
Regional variables							
Vacancies per unemployed	yes	yes	yes	0.009	2.213	0.020	3.166
Unemployment rate	yes	yes	yes	0.000	0.220	-0.002	-0.995
Long-term unemployed per unemployed person	yes	yes	yes	-0.001	-0.266	-0.008	-1.409
Intermediate variables (before period 2)							
Intermediate: Cum. duration of minor employment 1 year before period 2 (in days)	no	yes	yes	-35.299	-5.867	-15.813	-2.924
Intermediate: Cum. duration of UB II 1 year before period 2 (in days)	no	yes	yes	0.938	0.520	-7.909	-3.167
Intermediate: Children							
yes	no	yes	no	-0.348	-13.618	-0.304	-9.570
Intermediate: Equivalent household income from welfare in the month before period 2 (in Euros)	no	yes	no	-18.850	-0.806	-71.012	-2.753

Table 15
Matching quality (1EJ,1EJ) versus (UBII,UBII) for covariates – East German men

	Men - East Germany						
	Considered variables in the respective probit models (yes/no)			Mean differences and t-values between (matched) treated and (matched) controls			
				before matching		after matching	
	UBII vs.1EJ	(UBII,UBII) vs.1EJ	(1EJ,1EJ) vs.1EJ	diff	t-value	diff	t-value
Variables at/before entry							
Age at entry	yes	yes	yes	-2.996	-5.058	-2.972	-3.240
Age²/1000	yes	yes	yes	-0.163	-3.803	-0.180	-2.740
Education at entry							
Special school / secondary school (also QA)	yes	yes	yes	0.142	6.557	0.067	1.989
GCSE / A-levels / college	yes	yes	yes	-0.070	-2.801	-0.020	-0.580
Children at entry							
yes	yes	yes	yes	-0.097	-4.993	-0.075	-4.107
Partner at entry							
no partner/no information	yes	yes	yes	0.110	4.597	0.102	3.440
Cum. duration of minor employment 5 years before entry (in days)	yes	yes	yes	-45.086	-3.949	-29.996	-3.256
Cum. duration of job seeking 5 years before entry (in days)	yes	yes	no	62.033	6.573	49.985	3.229
Cum. duration of UB II before entry (in days)	yes	yes	yes	17.586	4.465	12.105	1.886
Cum. duration of UB I 5 years before entry (in days)	no	yes	yes	34.202	3.170	11.293	0.714
Cum. duration of contributory employment 5 years before entry (in days)	yes	yes	no	93.658	4.392	33.718	1.122
Cum. duration of UA 5 years before 12/31/2004 (in days)	yes	no	no	7.694	0.362	-30.451	-1.026
Cum. duration of out of labour force 5 years before 12/31/2004 (in days)	no	no	no	-99.103	-2.630	11.247	0.224
ALMP 5 years before entry							
yes	yes	yes	yes	0.303	12.132	0.121	3.987
Any last contributory employment before entry							
no	yes	yes	yes	-0.050	-2.231	0.019	0.703
Time since last contributory employment (in months)							
>12 - 24	yes	yes	yes	0.052	3.258	-0.009	-0.353
>24	yes	yes	yes	-0.102	-4.345	-0.079	-2.730
Status in last contributory employment							
skilled worker,master/employee	yes	yes	no	-0.087	-3.717	-0.093	-3.036
homeworker/not full-time	yes	yes	no	0.036	2.315	0.033	1.305
Wage per month in last contributory employment							
>500 - 1000 Euros	yes	yes	no	0.073	3.802	0.065	2.109
>1000 Euros	yes	yes	no	-0.112	-4.531	-0.117	-3.601

Table 15 (continued)
Matching quality (1EJ,1EJ) versus (UBII,UBII) for covariates – East German men

	Men - East Germany						
	Considered variables in the respective probit models (yes/no)			Mean differences and t-values between (matched) treated and (matched) controls			
				before matching		after matching	
	UBII vs.1EJ	(UBII,UBII) vs.1EJ	(1EJ,1EJ) vs.1EJ	diff	t-value	diff	t-value
Equivalent household income from welfare in the month at entry (in Euros)	yes	yes	no	37.872	2.417	18.425	0.876
Partner variables							
Partner: Age (LHG)							
>40	yes	yes	yes	0.000	-0.002	-0.028	-1.062
Partner: Cum. duration of contributory employment 5 years before entry (in months)							
>12 - 60	no	yes	yes	-0.047	-2.541	-0.052	-2.248
Regional variables							
Vacancies per unemployed	yes	yes	yes	0.004	1.907	0.001	0.316
Unemployment rate	yes	yes	yes	0.009	6.313	0.002	0.865
Long-term unemployed per unemployed person	yes	yes	yes	-0.025	-10.433	-0.010	-2.499
Intermediate variables (before period 2)							
Intermediate: Cum. duration of minor employment 1 year before period 2 (in days)	yes	yes	no	-19.132	-4.760	-15.205	-5.005
Intermediate: Cum. duration of UB II 1 year before period 2 (in days)	yes	no	no	6.411	3.709	5.735	2.683
Intermediate: Children							
yes	yes	yes	no	-0.109	-5.229	-0.059	-2.894
Intermediate: Equivalent household income from welfare in the month before period 2 (in Euros)	yes	yes	no	1.094	0.057	-38.068	-1.564

Table 16
Matching quality (1EJ,1EJ) versus (UBII,UBII) for covariates – East German women

	Women - East Germany						
	Considered variables in the respective probit models (yes/no)			Mean differences and t-values between (matched) treated and (matched) controls			
				before matching		after matching	
	UBII vs.1EJ	(UBII,UBII) vs.1EJ	(1EJ,1EJ) vs.1EJ	diff	t-value	diff	t-value
Variables at/before entry							
Age at entry	yes	yes	yes	1.361	1.756	0.864	0.709
Age²/1000	yes	yes	yes	0.126	2.274	0.075	0.859
Education at entry							
Special school / secondary school (also QA)	yes	yes	yes	0.125	5.080	0.020	0.467
GCSE / A-levels / college	yes	yes	yes	0.058	1.805	0.131	2.881
Children at entry							
yes	yes	yes	yes	-0.124	-3.908	-0.077	-1.840
Partner at entry							
no partner/no information	yes	yes	yes	0.025	0.759	0.046	1.001
Cum. duration of minor employment 5 years before entry (in days)	yes	yes	yes	-29.347	-1.360	-39.499	-1.386
Cum. duration of job seeking 5 years before entry (in days)	yes	yes	no	141.076	11.650	117.251	5.077
Cum. duration of UB II before entry (in days)	yes	no	no	41.874	9.211	22.023	2.444
Cum. duration of UB I 5 years before entry (in days)	yes	yes	no	62.494	5.097	75.045	3.845
Cum. duration of contributory employment 5 years before entry (in days)	yes	yes	no	25.319	0.802	97.383	2.718
Cum. duration of UA 5 years before 12/31/2004 (in days)	yes	yes	no	169.025	6.090	100.259	1.998
Cum. duration of out of labour force 5 years before 12/31/2004 (in days)	yes	yes	no	-224.220	-4.546	-204.543	-3.015
ALMP 5 years before entry							
yes	yes	yes	yes	0.367	11.815	0.255	6.459
Any last contributory employment before entry							
no	yes	yes	yes	-0.145	-4.656	-0.135	-3.840
Time since last contributory employment (in months)							
>12 - 24	yes	yes	no	0.041	2.142	0.063	1.959
>24	yes	yes	no	-0.066	-2.297	-0.086	-2.271
Status in last contributory employment							
skilled worker,master/employee	yes	yes	no	-0.038	-1.336	-0.019	-0.490
homeworker/not full-time	yes	yes	no	0.102	4.068	0.096	2.263
Wage per month in last contributory employment							
>500 - 1000 Euros	no	yes	no	0.173	6.811	0.130	2.902
>1000 Euros	no	yes	no	0.004	0.124	0.033	0.782

Table 16 (continued)
Matching quality (1EJ,1EJ) versus (UBII,UBII) for covariates – East German women

	Women - East Germany						
	Considered variables in the respective probit models (yes/no)			Mean differences and t-values between (matched) treated and (matched) controls			
				before matching		after matching	
	UBII vs.1EJ	(UBII,UBII) vs.1EJ	(1EJ,1EJ) vs.1EJ	diff	t-value	diff	t-value
Equivalent household income from welfare in the month at entry (in Euros)	yes	yes	no	48.317	2.702	47.191	1.993
Partner variables							
Partner: Age (LHG)							
>40	yes	yes	no	0.065	2.357	0.049	1.132
Partner: Cum. duration of contributory employment 5 years before entry (in months)							
>12 - 60	yes	yes	no	0.021	0.702	-0.004	-0.097
Regional variables							
Vacancies per unemployed	yes	yes	yes	-0.003	-1.189	-0.004	-0.840
Unemployment rate	yes	yes	yes	0.013	6.818	0.003	0.897
Long-term unemployed per unemployed person	yes	yes	yes	-0.022	-7.129	-0.012	-2.503
Intermediate variables (before period 2)							
Intermediate: Cum. duration of minor employment 1 year before period 2 (in days)	yes	yes	yes	-11.827	-1.814	-9.917	-1.173
Intermediate: Cum. duration of UB II 1 year before period 2 (in days)	yes	yes	yes	9.200	4.036	-0.735	-0.248
Intermediate: Children							
yes	yes	yes	no	-0.218	-6.753	-0.134	-3.248
Intermediate: Equivalent household income from welfare in the month before period 2 (in Euros)	yes	yes	no	-30.963	-1.366	-10.322	-0.354

Table 17
Matching quality (1EJ,UBII) versus (UBII,1EJ) for covariates – West German men

	Men - West Germany						
	Considered variables in the respective probit models (yes/no)			Mean differences and t-values between (matched) treated and (matched) controls			
				before matching		after matching	
	UBII vs.1EJ	(UBII,1EJ) vs.1EJ	(1EJ,UBII) vs.1EJ	diff	t-value	diff	t-value
Variables at/before entry							
Age at entry	yes	yes	yes	-1.088	-4.261	-0.489	-1.385
Age²/1000	yes	yes	yes	-0.071	-3.976	-0.033	-1.281
Education at entry							
Special school / secondary school (also QA)	yes	yes	yes	0.031	2.755	0.029	1.829
GCSE / A-levels / college	yes	yes	yes	-0.001	-0.059	-0.010	-0.766
Children at entry							
yes	yes	yes	yes	-0.015	-1.754	-0.013	-1.094
Partner at entry							
no partner/no information	yes	yes	yes	0.008	0.746	0.026	1.785
Cum. duration of minor employment 5 years before entry (in days)	yes	yes	no	6.551	1.380	0.980	0.141
Cum. duration of job seeking 5 years before entry (in days)	yes	yes	no	16.804	4.244	12.169	2.129
Cum. duration of UB II before entry (in days)	yes	no	yes	3.534	2.100	4.279	1.819
Cum. duration of UB I 5 years before entry (in days)	yes	no	no	-12.773	-2.739	1.619	0.240
Cum. duration of contributory employment 5 years before entry (in days)	yes	no	yes	-31.321	-3.110	-1.133	-0.079
Cum. duration of UA 5 years before 12/31/2004 (in days)	yes	no	no	4.127	0.517	1.540	0.133
Cum. duration of out of labour force 5 years before 12/31/2004 (in days)	yes	no	no	11.231	0.706	-17.758	-0.815
ALMP 5 years before entry							
yes	yes	yes	no	0.060	5.328	0.045	2.905
Any last contributory employment before entry							
no	yes	yes	yes	-0.010	-1.031	-0.021	-1.693
Time since last contributory employment (in months)							
>12 - 24	yes	yes	yes	0.002	0.210	0.012	0.962
>24	yes	yes	yes	0.025	2.375	0.030	2.036
Status in last contributory employment							
skilled worker,master/employee	yes	yes	no	-0.029	-3.313	-0.008	-0.655
homeworker/not full-time	yes	yes	no	0.008	1.355	-0.003	-0.406
Wage per month in last contributory employment							
>500 - 1000 Euros	yes	no	no	0.020	2.599	0.001	0.069
>1000 Euros	yes	no	no	-0.025	-2.237	0.007	0.433

Table 17 (continued)
Matching quality (1EJ,UBII) versus (UBII,1EJ) for covariates – West German men

	Men - West Germany						
	Considered variables in the respective probit models (yes/no)			Mean differences and t-values between (matched) treated and (matched) controls			
				before matching		after matching	
	UBII vs.1EJ	(UBII,1EJ) vs.1EJ	(1EJ,UBII) vs.1EJ	diff	t-value	diff	t-value
Equivalent household income from welfare in the month at entry (in Euros)	yes	yes	yes	7.000	0.952	11.164	1.193
Partner variables							
Partner: Age (LHG)							
>40	no	no	no	-0.006	-0.807	-0.007	-0.701
Partner: Cum. duration of contributory employment 5 years before entry (in months)							
>12 - 60	yes	no	yes	-0.012	-1.814	-0.016	-1.672
Regional variables							
Vacancies per unemployed	yes	yes	yes	0.000	-0.082	0.000	0.126
Unemployment rate	yes	yes	yes	-0.001	-1.242	0.000	-0.410
Long-term unemployed per unemployed person	yes	yes	yes	0.001	0.410	0.001	0.539
Intermediate variables (before period 2)							
Intermediate: Cum. duration of minor employment 1 year before period 2 (in days)	no	no	no	-2.192	-1.530	-2.867	-1.434
Intermediate: Cum. duration of UB II 1 year before period 2 (in days)	no	yes	yes	-0.653	-0.855	-0.284	-0.269
Intermediate: Children							
yes	no	yes	no	-0.014	-1.591	-0.018	-1.456
Intermediate: Equivalent household income from welfare in the month before period 2 (in Euros)	no	yes	yes	-42.609	-4.769	-26.808	-2.346

Table 18
Matching quality (1EJ,UBII) versus (UBII,1EJ) for covariates – West German women

	Women - West Germany						
	Considered variables in the respective probit models (yes/no)			Mean differences and t-values between (matched) treated and (matched) controls			
				before matching		after matching	
	UBII vs.1EJ	(UBII,1EJ) vs.1EJ	(1EJ,UBII) vs.1EJ	diff	t-value	diff	t-value
Variables at/before entry							
Age at entry	yes	yes	yes	-1.619	-4.922	-1.084	-2.507
Age²/1000	yes	yes	yes	-0.099	-4.315	-0.063	-2.055
Education at entry							
Special school / secondary school (also QA)	yes	yes	yes	0.022	1.641	0.020	1.111
GCSE / A-levels / college	yes	yes	yes	0.049	4.094	0.036	2.156
Children at entry							
yes	yes	yes	yes	-0.090	-6.885	-0.069	-3.923
Partner at entry							
no partner/no information	yes	yes	yes	0.033	2.490	0.041	2.353
Cum. duration of minor employment 5 years before entry (in days)	yes	yes	no	-1.424	-0.148	-4.555	-0.343
Cum. duration of job seeking 5 years before entry (in days)	yes	yes	yes	25.358	5.582	19.442	3.021
Cum. duration of UB II before entry (in days)	yes	no	yes	2.089	1.134	-3.318	-1.375
Cum. duration of UB I 5 years before entry (in days)	yes	yes	yes	6.965	1.372	9.515	1.332
Cum. duration of contributory employment 5 years before entry (in days)	yes	no	no	11.565	1.032	17.638	1.141
Cum. duration of UA 5 years before 12/31/2004 (in days)	no	no	no	-0.786	-0.105	1.498	0.144
Cum. duration of out of labour force 5 years before 12/31/2004 (in days)	yes	yes	no	-17.440	-0.906	-20.832	-0.807
ALMP 5 years before entry							
yes	yes	yes	no	0.075	5.494	0.060	3.273
Any last contributory employment before entry							
no	yes	yes	yes	-0.012	-0.936	0.008	0.479
Time since last contributory employment (in months)							
>12 - 24	yes	yes	yes	0.001	0.104	0.001	0.110
>24	yes	yes	yes	-0.034	-2.566	-0.047	-2.656
Status in last contributory employment							
skilled worker,master/employee	yes	no	no	-0.016	-1.503	-0.016	-1.156
homeworker/not full-time	yes	no	no	-0.001	-0.064	-0.007	-0.447
Wage per month in last contributory employment							
>500 - 1000 Euros	no	no	no	0.009	0.868	0.007	0.483
>1000 Euros	no	no	no	0.004	0.295	-0.008	-0.486

Table 18 (continued)
Matching quality (1EJ,UBII) versus (UBII,1EJ) for covariates – West German women

	Women - West Germany						
	Considered variables in the respective probit models (yes/no)			Mean differences and t-values between (matched) treated and (matched) controls			
				before matching		after matching	
	UBII vs.1EJ	(UBII,1EJ) vs.1EJ	(1EJ,UBII) vs.1EJ	diff	t-value	diff	t-value
Equivalent household income from welfare in the month at entry (in Euros)	yes	yes	yes	34.314	3.916	18.255	1.702
Partner variables							
Partner: Age (LHG)							
>40	yes	no	no	-0.034	-3.144	-0.038	-2.639
Partner: Cum. duration of contributory employment 5 years before entry (in months)							
>12 - 60	yes	yes	yes	-0.039	-3.734	-0.036	-2.560
Regional variables							
Vacancies per unemployed	yes	yes	yes	0.008	3.063	0.002	0.855
Unemployment rate	yes	yes	yes	-0.001	-1.073	0.000	-0.327
Long-term unemployed per unemployed person	yes	yes	yes	-0.001	-0.370	0.002	0.843
Intermediate variables (before period 2)							
Intermediate: Cum. duration of minor employment 1 year before period 2 (in days)	no	no	no	-6.275	-2.639	-4.101	-1.279
Intermediate: Cum. duration of UB II 1 year before period 2 (in days)	no	yes	yes	-1.449	-1.518	-2.029	-1.615
Intermediate: Children							
yes	no	yes	yes	-0.063	-4.701	-0.058	-3.291
Intermediate: Equivalent household income from welfare in the month before period 2 (in Euros)	no	yes	yes	-38.469	-3.518	-28.811	-2.131

Table 19
Matching quality (1EJ,UBII) versus (UBII,1EJ) for covariates – East German men

	Men - East Germany						
	Considered variables in the respective probit models (yes/no)			Mean differences and t-values between (matched) treated and (matched) controls			
				before matching		after matching	
	UBII vs.1EJ	(UBII,1EJ) vs.1EJ	(1EJ,UBII) vs.1EJ	diff	t-value	diff	t-value
Variables at/before entry							
Age at entry	yes	yes	yes	-2.069	-5.366	-1.693	-3.349
Age²/1000	yes	yes	yes	-0.143	-5.213	-0.115	-3.137
Education at entry							
Special school / secondary school (also QA)	yes	yes	yes	0.024	1.648	0.021	1.110
GCSE / A-levels / college	yes	yes	yes	0.008	0.546	-0.007	-0.356
Children at entry							
yes	yes	yes	yes	-0.023	-2.377	-0.010	-0.794
Partner at entry							
no partner/no information	yes	yes	yes	0.025	1.850	0.024	1.318
Cum. duration of minor employment 5 years before entry (in days)	yes	yes	no	-12.407	-2.124	-11.177	-1.402
Cum. duration of job seeking 5 years before entry (in days)	yes	yes	no	8.184	1.214	1.884	0.204
Cum. duration of UB II before entry (in days)	yes	no	yes	1.994	0.718	0.848	0.228
Cum. duration of UB I 5 years before entry (in days)	no	no	no	7.872	1.131	4.258	0.451
Cum. duration of contributory employment 5 years before entry (in days)	yes	no	no	30.440	2.280	30.568	1.703
Cum. duration of UA 5 years before 12/31/2004 (in days)	yes	yes	no	-56.354	-4.035	-38.092	-2.003
Cum. duration of out of labour force 5 years before 12/31/2004 (in days)	no	yes	no	12.305	0.544	5.464	0.193
ALMP 5 years before entry							
yes	yes	yes	no	0.057	3.899	0.039	2.057
Any last contributory employment before entry							
no	yes	yes	yes	0.003	0.267	0.005	0.320
Time since last contributory employment (in months)							
>12 - 24	yes	yes	no	0.000	0.014	0.003	0.201
>24	yes	yes	no	-0.002	-0.150	-0.005	-0.308
Status in last contributory employment							
skilled worker,master/employee	yes	yes	no	-0.022	-1.616	-0.010	-0.521
homeworker/not full-time	yes	yes	no	-0.021	-1.839	-0.009	-0.572
Wage per month in last contributory employment							
>500 - 1000 Euros	yes	no	yes	-0.010	-0.748	-0.008	-0.421
>1000 Euros	yes	no	yes	-0.025	-1.693	-0.018	-0.905

Table 19 (continued)
Matching quality (1EJ,UBII) versus (UBII,1EJ) for covariates – East German men

	Men - East Germany						
	Considered variables in the respective probit models (yes/no)			Mean differences and t-values between (matched) treated and (matched) controls			
				before matching		after matching	
	UBII vs.1EJ	(UBII,1EJ) vs.1EJ	(1EJ,UBII) vs.1EJ	diff	t-value	diff	t-value
Equivalent household income from welfare in the month at entry (in Euros)	yes	yes	no	20.683	2.180	14.246	1.247
Partner variables							
Partner: Age (LHG)							
>40	yes	no	no	-0.022	-2.029	-0.033	-2.143
Partner: Cum. duration of contributory employment 5 years before entry (in months)							
>12 - 60	no	no	no	-0.015	-1.371	-0.011	-0.723
Regional variables							
Vacancies per unemployed	yes	yes	yes	0.003	1.606	0.001	0.547
Unemployment rate	yes	yes	yes	0.001	0.671	0.001	0.475
Long-term unemployed per unemployed person	yes	yes	yes	-0.002	-0.979	-0.001	-0.419
Intermediate variables (before period 2)							
Intermediate: Cum. duration of minor employment 1 year before period 2 (in days)	no	no	no	-5.551	-3.208	-7.688	-3.284
Intermediate: Cum. duration of UB II 1 year before period 2 (in days)	no	yes	yes	8.691	8.237	4.668	3.476
Intermediate: Children							
yes	no	no	no	-0.020	-1.837	-0.011	-0.822
Intermediate: Equivalent household income from welfare in the month before period 2 (in Euros)	no	yes	yes	-51.163	-4.470	-38.561	-2.744

Table 20
Matching quality (1EJ,UBII) versus (UBII,1EJ) for covariates – East German women

	Women - East Germany						
	Considered variables in the respective probit models (yes/no)			Mean differences and t-values between (matched) treated and (matched) controls			
				before matching		after matching	
	UBII vs.1EJ	(UBII,1EJ) vs.1EJ	(1EJ,UBII) vs.1EJ	diff	t-value	diff	t-value
Variables at/before entry							
Age at entry	yes	yes	yes	-1.665	-3.629	-1.828	-3.165
Age²/1000	yes	yes	yes	-0.098	-2.988	-0.115	-2.724
Education at entry							
Special school / secondary school (also QA)	yes	yes	yes	0.009	0.575	-0.027	-1.357
GCSE / A-levels / college	yes	yes	yes	0.022	1.249	0.042	1.881
Children at entry							
yes	yes	yes	yes	-0.041	-2.571	-0.036	-1.718
Partner at entry							
no partner/no information	yes	yes	yes	0.044	2.486	0.018	0.813
Cum. duration of minor employment 5 years before entry (in days)	yes	yes	yes	-16.277	-1.475	-10.851	-0.731
Cum. duration of job seeking 5 years before entry (in days)	yes	yes	no	22.956	2.805	14.880	1.376
Cum. duration of UB II before entry (in days)	yes	no	no	0.928	0.301	0.561	0.141
Cum. duration of UB I 5 years before entry (in days)	yes	yes	yes	6.282	0.824	3.550	0.351
Cum. duration of contributory employment 5 years before entry (in days)	yes	no	no	19.722	1.391	29.491	1.597
Cum. duration of UA 5 years before 12/31/2004 (in days)	yes	no	no	-51.585	-2.699	-61.565	-2.444
Cum. duration of out of labour force 5 years before 12/31/2004 (in days)	yes	no	no	46.677	1.733	56.642	1.711
ALMP 5 years before entry							
yes	yes	no	no	0.044	2.572	0.033	1.560
Any last contributory employment before entry							
no	yes	yes	yes	0.011	0.708	0.005	0.255
Time since last contributory employment (in months)							
>12 - 24	yes	yes	yes	0.008	0.663	0.003	0.186
>24	yes	yes	yes	-0.034	-2.154	-0.032	-1.550
Status in last contributory employment							
skilled worker,master/employee	yes	no	yes	-0.008	-0.520	0.003	0.126
homeworker/not full-time	yes	no	yes	0.008	0.539	-0.003	-0.153
Wage per month in last contributory employment							
>500 - 1000 Euros	no	no	no	0.004	0.227	0.011	0.531
>1000 Euros	no	no	no	-0.023	-1.433	-0.016	-0.742

Table 20 (continued)
Matching quality (1EJ,UBII) versus (UBII,1EJ) for covariates – East German women

	Women - East Germany						
	Considered variables in the respective probit models (yes/no)			Mean differences and t-values between (matched) treated and (matched) controls			
				before matching		after matching	
	UBII vs.1EJ	(UBII,1EJ) vs.1EJ	(1EJ,UBII) vs.1EJ	diff	t-value	diff	t-value
Equivalent household income from welfare in the month at entry (in Euros)	yes	yes	yes	40.322	4.076	20.166	1.759
Partner variables							
Partner: Age (LHG)							
>40	yes	yes	no	-0.015	-0.928	-0.013	-0.605
Partner: Cum. duration of contributory employment 5 years before entry (in months)							
>12 - 60	yes	no	no	-0.034	-2.105	-0.023	-1.110
Regional variables							
Vacancies per unemployed	yes	yes	yes	0.004	1.603	0.001	0.338
Unemployment rate	yes	yes	yes	0.001	0.927	0.002	1.309
Long-term unemployed per unemployed person	yes	yes	yes	0.001	0.493	0.002	0.662
Intermediate variables (before period 2)							
Intermediate: Cum. duration of minor employment 1 year before period 2 (in days)	no	no	no	-7.127	-2.381	-4.965	-1.257
Intermediate: Cum. duration of UB II 1 year before period 2 (in days)	no	yes	yes	7.674	6.422	4.641	3.087
Intermediate: Children							
yes	no	yes	no	-0.017	-1.017	-0.019	-0.925
Intermediate: Equivalent household income from welfare in the month before period 2 (in Euros)	no	yes	yes	-57.033	-4.682	-30.694	-2.094

Table 21
Matching quality (1EJ,1EJ) versus (UBII,UBII) for covariates – West German men (different treatment definition)

	Men - West Germany						
	Considered variables in the respective probit models (yes/no)			Mean differences and t-values between (matched) treated and (matched) controls			
				before matching		after matching	
	UBII vs.1EJ	(UBII,UBII) vs.1EJ	(1EJ,1EJ) vs.1EJ	diff	t-value	diff	t-value
Variables at/before entry							
Age at entry	yes	yes	yes	-2.861	-4.475	-1.334	-1.459
Age²/1000	yes	yes	yes	-0.191	-4.097	-0.089	-1.365
Education at entry							
Special school / secondary school (also QA)	yes	yes	yes	0.118	4.468	-0.039	-0.997
GCSE / A-levels / college	yes	yes	yes	-0.035	-1.552	0.032	1.025
Children at entry							
yes	yes	yes	yes	-0.133	-5.564	-0.043	-1.620
Partner at entry							
no partner/no information	yes	yes	yes	0.151	5.701	0.042	1.241
Cum. duration of minor employment 5 years before entry (in days)	yes	yes	no	-9.865	-0.717	13.455	0.643
Cum. duration of job seeking 5 years before entry (in days)	yes	yes	yes	77.040	9.722	-16.181	-0.981
Cum. duration of UB II before entry (in days)	yes	yes	no	14.774	4.157	7.808	1.251
Cum. duration of UB I 5 years before entry (in days)	yes	yes	yes	19.509	1.675	-13.449	-0.791
Cum. duration of contributory employment 5 years before entry (in days)	yes	no	no	31.823	1.284	-21.214	-0.605
Cum. duration of UA 5 years before 12/31/2004 (in days)	yes	yes	no	-24.737	-1.303	-35.249	-1.498
Cum. duration of out of labour force 5 years before 12/31/2004 (in days)	yes	no	yes	-60.899	-1.524	27.482	0.521
ALMP 5 years before entry							
yes	yes	yes	no	0.208	7.960	-0.046	-1.202
Any last contributory employment before entry							
no	yes	yes	yes	-0.083	-3.393	0.021	0.742
Time since last contributory employment (in months)							
>12 - 24	yes	yes	no	0.036	1.935	0.003	0.096
>24	yes	yes	no	-0.016	-0.614	0.023	0.603
Status in last contributory employment							
skilled worker,master/employee	yes	yes	yes	-0.061	-2.594	-0.030	-0.951
homeworker/not full-time	yes	yes	yes	0.001	0.068	0.028	1.346
Wage per month in last contributory employment							
>500 - 1000 Euros	yes	no	yes	0.018	1.029	0.019	0.729
>1000 Euros	yes	no	yes	-0.024	-0.878	-0.029	-0.755

Table 21 (continued)
Matching quality (1EJ,1EJ) versus (UBII,UBII) for covariates – West German men (different treatment definition)

	Men - West Germany						
	Considered variables in the respective probit models (yes/no)			Mean differences and t-values between (matched) treated and (matched) controls			
				before matching		after matching	
	UBII vs.1EJ	(UBII,UBII) vs.1EJ	(1EJ,1EJ) vs.1EJ	diff	t-value	diff	t-value
Equivalent household income from welfare in the month at entry (in Euros)	yes	yes	no	51.981	2.881	-32.129	-1.280
Partner variables							
Partner: Age (LHG)							
>40	yes	yes	no	-0.056	-2.927	-0.020	-0.839
Partner: Cum. duration of contributory employment 5 years before entry (in months)							
>12 - 60	yes	yes	no	-0.064	-3.395	-0.021	-0.944
Regional variables							
Vacancies per unemployed	yes	yes	yes	-0.002	-0.549	0.000	0.078
Unemployment rate	yes	yes	yes	-0.001	-0.551	0.002	0.675
Long-term unemployed per unemployed person	yes	yes	yes	-0.001	-0.272	-0.002	-0.276
Intermediate variables (before period 2)							
Intermediate: Cum. duration of minor employment 1 year before period 2 (in days)	no	yes	no	-23.418	-4.637	-3.548	-0.777
Intermediate: Cum. duration of UB II 1 year before period 2 (in days)	no	yes	no	-1.870	-1.009	-1.252	-0.474
Intermediate: Children							
yes	no	yes	no	-0.134	-5.358	-0.022	-0.771
Intermediate: Equivalent household income from welfare in the month before period 2 (in Euros)	no	yes	no	-11.984	-0.550	-49.461	-1.723

Table 22
Matching quality (1EJ,UBII) versus (UBII,1EJ) for covariates – West German men (different treatment definition)

	Men - West Germany						
	Considered variables in the respective probit models (yes/no)			Mean differences and t-values between (matched) treated and (matched) controls			
				before matching		after matching	
	UBII vs.1EJ	(UBII,1EJ) vs.1EJ	(1EJ,UBII) vs.1EJ	diff	t-value	diff	t-value
Variables at/before entry							
Age at entry	yes	yes	yes	-0.767	-2.137	-0.589	-1.091
Age²/1000	yes	yes	yes	-0.044	-1.737	-0.048	-1.221
Education at entry							
Special school / secondary school (also QA)	yes	yes	yes	0.048	3.075	0.000	0.002
GCSE / A-levels / college	yes	yes	yes	-0.004	-0.286	0.002	0.106
Children at entry							
yes	yes	yes	yes	-0.023	-1.903	0.009	0.482
Partner at entry							
no partner/no information	yes	yes	yes	0.013	0.874	0.016	0.700
Cum. duration of minor employment 5 years before entry (in days)	yes	yes	no	9.241	1.379	8.125	0.788
Cum. duration of job seeking 5 years before entry (in days)	yes	yes	yes	12.647	2.320	-8.240	-0.975
Cum. duration of UB II before entry (in days)	yes	no	yes	2.941	1.241	-1.066	-0.301
Cum. duration of UB I 5 years before entry (in days)	yes	no	yes	-15.294	-2.349	-8.827	-0.864
Cum. duration of contributory employment 5 years before entry (in days)	yes	no	no	-36.121	-2.567	-29.781	-1.363
Cum. duration of UA 5 years before 12/31/2004 (in days)	yes	no	no	9.543	0.827	9.347	0.513
Cum. duration of out of labour force 5 years before 12/31/2004 (in days)	yes	no	no	9.665	0.431	14.813	0.448
ALMP 5 years before entry							
yes	yes	yes	no	0.053	3.333	-0.023	-0.954
Any last contributory employment before entry							
no	yes	yes	yes	-0.001	-0.070	0.006	0.302
Time since last contributory employment (in months)							
>12 - 24	yes	no	yes	0.002	0.170	0.001	0.062
>24	yes	no	yes	0.031	2.074	0.004	0.175
Status in last contributory employment							
skilled worker,master/employee	yes	no	no	-0.030	-2.426	-0.020	-1.062
homeworker/not full-time	yes	no	no	0.005	0.579	0.008	0.618
Wage per month in last contributory employment							
>500 - 1000 Euros	yes	no	yes	0.023	2.013	0.021	1.217
>1000 Euros	yes	no	yes	-0.046	-2.917	-0.023	-0.959

Table 22 (continued)
Matching quality (1EJ,UBII) versus (UBII,1EJ) for covariates – West German men (different treatment definition)

	Men - West Germany						
	Considered variables in the respective probit models (yes/no)			Mean differences and t-values between (matched) treated and (matched) controls			
				before matching		after matching	
	UBII vs.1EJ	(UBII,1EJ) vs.1EJ	(1EJ,UBII) vs.1EJ	diff	t-value	diff	t-value
Equivalent household income from welfare in the month at entry (in Euros)	yes	yes	no	15.425	1.489	7.977	0.567
Partner variables							
Partner: Age (LHG)							
>40	yes	no	yes	-0.006	-0.581	-0.009	-0.534
Partner: Cum. duration of contributory employment 5 years before entry (in months)							
>12 - 60	yes	no	yes	-0.018	-1.921	-0.019	-1.300
Regional variables							
Vacancies per unemployed	yes	yes	yes	0.000	0.089	-0.002	-0.462
Unemployment rate	yes	yes	yes	0.000	-0.130	0.000	-0.205
Long-term unemployed per unemployed person	yes	yes	yes	0.005	2.105	0.000	0.065
Intermediate variables (before period 2)							
Intermediate: Cum. duration of minor employment 1 year before period 2 (in days)	no	yes	yes	-2.642	-1.266	0.513	0.168
Intermediate: Cum. duration of UB II 1 year before period 2 (in days)	no	yes	yes	-0.096	-0.087	0.494	0.303
Intermediate: Children							
yes	no	yes	no	-0.017	-1.309	0.006	0.316
Intermediate: Equivalent household income from welfare in the month before period 2 (in Euros)	no	yes	yes	-52.408	-4.129	6.483	0.376

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