



Of carrots and sticks: The effect of workfare announcements on the job search behaviour and reservation wage of welfare recipients

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Abstract

The German workfare scheme One-Euro-Jobs, which provides additional jobs of public interest for welfare recipients, has a number of different goals. On the one hand, One-Euro-Jobs are intended to increase the participants' employment prospects in the medium term. On the other hand, they can be used to test welfare recipients' willingness to work. We use survey data from the Panel Study Labour Market and Social Security and propensity score matching methods to study the effect of receiving a One-Euro-Job announcement on job search behaviour, reservation wage and labour market performance of welfare recipients. We find that receiving a One-Euro-Job announcement increases job search activities significantly and decreases the reservation for women and individuals who have been employed within the last four years, but does not affect the short-term employment probability.

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1. Introduction

Unemployment benefits provide individuals with income support in the case of unemployment, but also reduce work incentives. Job search requirements and active labour market programmes (ALMPs) can increase work incentives because they can make unemployment benefit receipt less attractive. The German Hartz reforms in the early 2000s implemented a principle of rights and duty and implied a shift towards activation (Eichhorst *et al.*, 2010). Benefit recipients are required to take up any job or participate in ALMPs. Moreover, more possibilities than before the reforms are available to assist unemployed individuals in taking up a job. Activation policies thus have enabling as well as demanding elements. This is particularly evident for One-Euro-Jobs, a large-scale workfare programme, which was introduced for welfare recipients. One-Euro-Jobs are temporary jobs, which have to be additional and of public interest. On the one hand, they aim at improving employment prospects of hard-to-place individuals, who ideally get used to regular work schedules again and improve their social integration during participation. On the other hand, One-Euro-Jobs can be used to test welfare recipients' willingness to work.

Recent studies find lock-in effects of participating in a One-Euro-Job in the short term and moderate positive effects on the medium-term employment prospects for several groups of participants (e.g., Hohmeyer, 2012; Hohmeyer and Wolff, 2012). However, it is most likely that not only actual participation affects individual behaviour but that the mere announcement of participation does so as well. Therefore, classical evaluation studies on the effects of actual participation capture programme effects only partially. The paper at hand studies the effect of receiving a One-Euro-Job announcement on the job search behaviour, the reservation wage and the short-term labour market performance of welfare recipients receiving such an announcement.

According to the literature, announcement effects can be regarded as a type of threat effect (Bjørn *et al.*, 2005). An announcement means that job-seekers are informed about a potential participation in a programme. A threat effect can however already occur beforehand even prior to unemployment, e.g., if people are aware of compulsory programme participation during a potential future period of welfare benefit receipt and therefore put more effort into avoiding job loss. However, the label "threat effect" is somewhat misleading as a welfare recipient might regard One-Euro-Job participation either as beneficial or detrimental. There are several reasons for announcement effects (Bjørn *et al.*, 2005). On the one hand, welfare

recipients could increase their job search activities and lower reservation wages to circumvent participation in an announced One-Euro-Job. One reason for this response is that welfare recipients could expect potential employers to perceive One-Euro-Job participation as an adverse signal of their employability. Another reason could be a mismatch between the programme and the participants, in the sense that participation does not improve their employability, but takes away time that they could have allocated to more productive job search. Moreover, participation generally reduces time that could have been allocated to other activities including leisure, household production or activities in the shadow economy, from which welfare recipients derive some utility. On the other hand, beneficial factors might dominate at least for some welfare recipients, if they expect to improve their employability and derive some direct utility from participation (e.g., due to the psychosocial functions of work such as time structure, social contacts, participation in collective purposes, status and identity, and regular activity (Jahoda, 1982)). In response, they could reduce their search activities and increase reservation wages due to the announcement of a potential One-Euro-Job participation (also known as “attraction effect”). Overall, announcement effects are likely whereas the sign of the effect is theoretically ambiguous. Therefore, a comprehensive assessment of programme effects must also include announcement effects.

This paper is the first to provide evidence on announcement effects of the large-scale German workfare programme. In contrast to most previous studies on ex ante effects of ALMPs, our estimates on threat effects are based on data surveying One-Euro-Job announcements and their timing directly within the Panel study “Labour Market and Social Security” (PASS). We find that receiving a One-Euro-Job announcement increases job search activities and decreases the reservation wage for some groups significantly, whereas we find no effects on the short-term employment probability.

Section 2 turns to key features of the relevant institutional framework. Section 3 discusses the theoretical background of our study and section 4 reviews the literature on announcement effects of ALMPs. Section 5 presents our data and the applied methods, while section 6 presents the results of our analysis. Section 7 concludes.

2. Institutional framework

In 2005, the last step of the Hartz reforms merged the former unemployment assistance and social assistance to form a new means-tested welfare benefit (Unemployment Benefit II, UB

II) for needy individuals capable of working. One aim of the reform was activating a broad group of needy individuals with the goal of integrating them into the labour market (Eichhorst *et al.*, 2010). Compared with other countries, being capable of working is defined very broadly as by being able to work for at least three hours per day. Neediness is determined on household level (*Bedarfsgemeinschaft*). In contrast to the former system of unemployment assistance, all members of a needy household capable of working are in principle supposed to help reduce the household's dependence on welfare benefits. The basic principle of the system is “*Fördern* (enabling)” and “*Fordern* (demanding)”, i.e., supporting the jobseekers on the one hand and demanding individual effort on the other hand. One demanding and enabling element of the Hartz reforms was the introduction of a workfare programme called One-Euro-Jobs. In the first years after their introduction, One-Euro-Jobs were one of the most widely used ALMPs in Germany. Between 2006 and 2009, more than 700,000 welfare recipients started the programme per year. The programme inflow decreased in the following years to 261,000 new participants in 2014 (Department for Statistics of the Federal Employment Agency, 2015).

One-Euro-Jobs are temporary jobs, which are supposed to be additional and of public interest and from April 2012 also neutral in terms of the effect on competition. These requirements should prevent negative effects on regular employment and windfall gains of subsidised employment. People performing One-Euro-Jobs continue to receive their welfare benefit plus one to two Euros per hour as an allowance for their additional expenses.

Participation in a One-Euro-Job can have various goals. One of these goals is to increase the medium-term employment prospects of participants. Given that the programme is designed to provide additional jobs of public interest, this goal is mainly pursued by providing participants, who often have been out of work for several years, with social contacts and a daily routine. This goal is related to improving the social integration of participating welfare recipients. Another goal of One-Euro-Jobs is to make welfare recipients reciprocate for receiving their benefit. Once assigned to the programme, participation is compulsory and benefits can be cut in the case of non-participation without good reason (Wolff and Moczall, 2012). Overall, One-Euro-Jobs have an ambivalent character and can be used both as a “carrot” and as a “stick”.

Participation is subordinate to regular employment or participation in other ALMPs. Given this “last resort” character and the design of the programme, the primary target group of the programme comprises hard-to-place individuals who cannot find a job otherwise. However,

given the potential use of One-Euro-Jobs as a work test, welfare recipients with good labour market prospects can be a target group of the programme as well.

There are no explicit rules that determine when during his or her spell of benefit receipt a welfare recipient should participate in a One-Euro-Job. Whether and when a welfare recipient is assigned to a One-Euro-Job largely lies at the discretion of the case worker. Different steps can lead to assignment to and participation in a One-Euro-Job (Hohmeyer and Kopf, 2009). In a typical assignment procedure, the first step would be that the welfare recipient and the case worker talk about One-Euro-Job participation in general. In about two thirds (63%) of the cases, the caseworker mentions One-Euro-Jobs as a topic first.¹ Eventually, the caseworker suggests a concrete One-Euro-Job for participation. Often, a job interview takes place in the operating establishment. The final participation in the programme always works through a written assignment to a concrete One-Euro-Job. Non-participation in a reasonable One-Euro-Job that the welfare recipients has been assigned to can be sanctioned. About 58% actually participate in the One-Euro-Job they had been announced.² Main reasons for non-participation are illness, disinterest and rejection by the establishment (Hohmeyer and Wolff, 2015). Only in a minority of cases is taking up employment or leaving welfare receipt the reason for non-participation.

3. Theoretical background

The framework of the job search model enables us to discuss the impact of receiving a One-Euro-Job announcement on the job search behaviour and reservation wages of participants. In the basic job search model with endogenous search effort, unemployed individuals maximize their expected utility by choosing the reservation wage x (the lowest wage that they will accept) and the job search intensity e (Cahuc and Zylberberg, 2004). The reservation wage x is defined by

$$x = b - c(e) + \frac{\alpha\lambda(e)}{r + q} \int_x^{+\infty} (w - x) dH(w)$$

¹ Own calculations, Source: PASS, weighted.

² Own calculations, Source: PASS, weighted. We measure participations that started before the interview of the next wave.

with gains b (e.g., unemployment benefits) and costs c associated with job search periods, an indicator of the labour market state α and the arrival rate of job offers $\lambda(e)$ and the real interest rate r . In each short period, jobs disappear with the rate q . The real wage w is the only relevant aspect of jobs offered. The job seekers do not know the exact wage each job pays but only the cumulative distribution $H(w)$ of possible wages. The expected unemployment duration is determined by the reservation wage and the arrival rate of job offers, which are themselves influenced by factors such as job search intensity or personal characteristics. To study announcement effects of ALMPs, van den Berg *et al.* (2009) integrate the perceived treatment probability by an ALMP and the expected treatment effect into the job search model framework. The treatment can affect the job finding rate and the wage offer distribution. If the expected gain of the treatment is positive, then a positive perceived treatment probability leads to a decrease in job search and an increase in the reservation wage. If welfare recipients expect a loss by treatment, then the search intensity increases and the reservation wage decreases.

If we regard receiving a One-Euro-Job announcement as an increase in the perceived treatment probability, then the effect of this announcement on the job search intensity and the reservation wage depends on whether respondents expect treatment to be beneficial or not: If welfare recipients expect the One-Euro-Job participation to be beneficial, then their job search intensity decreases and their reservation wage increases in response to the announcement (also known as attraction effect or Ashenfelter's Dip (1978)). If recipients of the announcement expect the One-Euro-Job participation to harm their job finding rate and the arrival rate of job offers, then they increase their job search intensity and decrease the reservation wage to circumvent or shorten participation by finding a job quickly.³

Remember that more than half of the welfare recipients receiving a One-Euro-Job announcement also participate in this One-Euro-Job before the next interview, i.e. before outcomes are measured. Therefore, we cannot explicitly distinguish announcement from participation effects here. Participation in an ALMP reduces the time available for job search (also known as lock-in effects). Besides, the short-term effects of participation also depend on the welfare recipient's perception of the programme: If participation reduces the value of benefit receipt, we would expect an increase in job search intensity and a decrease in the

³ The main reasons for a welfare recipient's beneficial or detrimental expectation concerning the consequences of an announced One-Euro-Job participation were already discussed in the introduction.

reservation wage due to participation. If the treatment is beneficial to the welfare recipient, reservation wages could in contrast increase and job search intensity decrease.

Overall, the effect receiving an announcement depends very much on the perception and the use of One-Euro-Jobs. Considering that One-Euro-Jobs as a workfare programme can be used as a work test, we would expect positive overall effects on the job search intensity and negative effects on the reservation wage.

4. Literature review: Announcement effects of ALMPs

In recent years, evidence on ex ante effects of ALMPs has been increasing (for a literature review see, e.g., Andersen, 2013). Despite all differences between ALMPs and benefit regimes studied, most studies find evidence that individuals change their job search and labour market behaviour when participation in an ALMP is approaching. Most studies identify a threat effect, while an attraction effect is found less often. There are different approaches to study ex ante effects of ALMPs. Several studies estimate the effect of the perceived ALMP participation probability on job search behaviour and labour market outcomes (e.g., Rosholm and Svarer, 2008; van den Berg *et al.*, 2009; Bergemann *et al.*, 2011). Bergemann *et al.* (2011) and van den Berg *et al.* (2009) use survey data to study the effect of the perceived ALMP participation probability on job search behaviour and reservation wages of newly unemployed individuals in Germany. They identify a negative effect on the reservation wage and a positive effect on job search efforts. Other studies make use of the fact that ALMP participation is mandatory only for some (age) groups of benefit recipients (e.g., Toomet, 2008; Cockx and Dejemeppe, 2012) or at some points in time during benefit receipt, partly exploiting changes in rules (e.g., Geerdsen, 2006; Lalive *et al.*, 2008; Tuomala, 2011; Graversen and Larsen, 2013).

Most relevant to us are studies investigating the effect of receiving a concrete announcement of participation in an ALMP. Most of these studies are based on experimental data. First, the selection problem can be overcome if participants are randomly selected. Second, in an experimental design, information on programme assignment is available. In contrast, in a non-experimental design based on administrative data, which is often used for programme evaluations as it provides sufficient numbers of observations, this piece of information is often missing. One exception is a study by Crépon *et al.* (2014), who use administrative data on training notifications in Paris. They find training notifications to come along with a lower

probability of leaving unemployment (attraction effect). Using experimental data from the “Worker Profiling and Reemployment Services”, Black *et al.* (2003) observe a sharp increase in early exits from unemployment insurance benefit receipt, after benefit recipients had been informed about their programme participation. Similarly, using experimental data from Denmark, Graversen and van Ours (2008) find that being assigned to a mandatory activation programme increases job finding rates of newly unemployed. Using data from three experiments in Sweden, Hägglund (2011) provides evidence on increased exit rates from unemployment insurance benefit receipt due to programme assignment in Jämtland, where a broad group of unemployment insurance recipients was targeted. In contrast, he does not find well-determined threat effects in Uppsala and Östergötland, where locally specific groups were targeted. To our knowledge, there is only one study for Germany based on experimental data. Büttner (2008) observes that announcement of training programme participation increases exit rates from unemployment for women looking for part-time employment and unemployed persons aged between 20 and 27 years.

Overall, evidence is still limited with few studies on Germany and none on workfare announcements for the group of welfare recipients so far. In contrast to most existing studies, we not only look at labour market outcomes, such as employment or unemployment, but also study job search behaviour and reservation wages. Whereas labour market outcomes result from an interaction of different factors, we can have a look into the black box studying job search behaviour and reservation wages directly.

5. Data and method

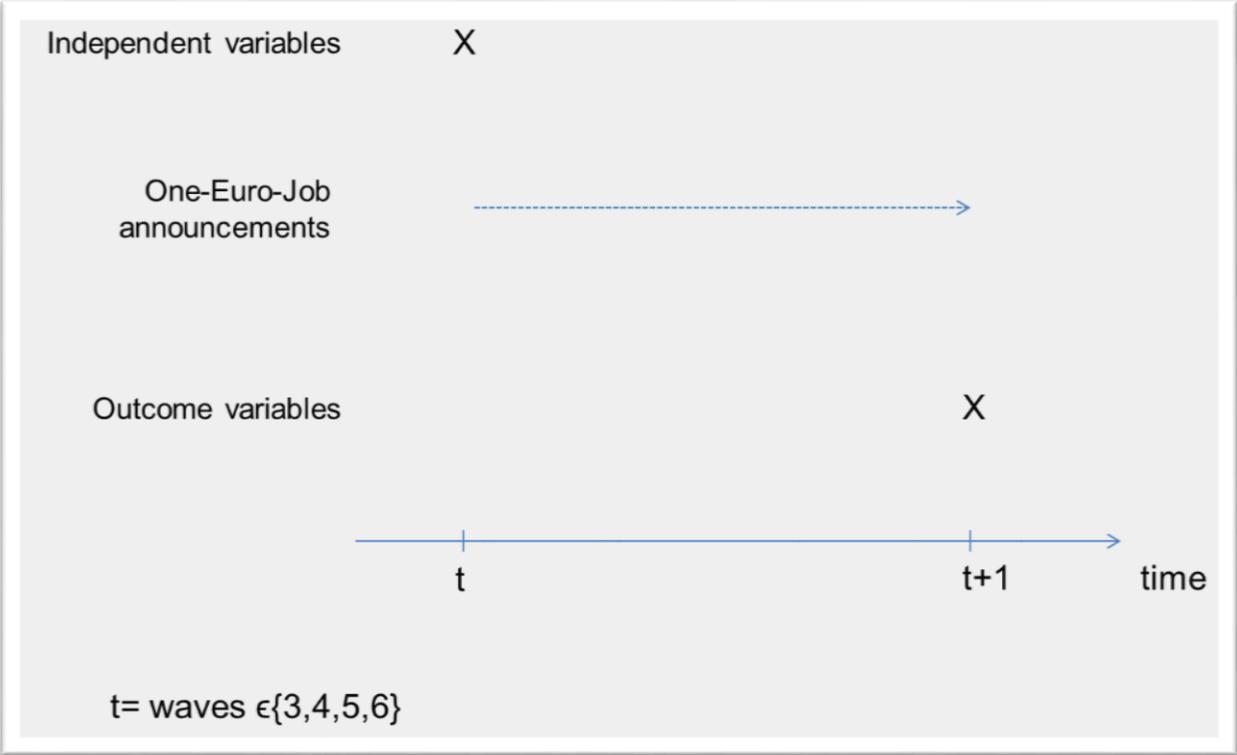
Data and sample design

Our analyses are based on survey data from the first seven waves of the Panel Study “Labour Market and Social Security” (PASS) (for a description see Trappmann *et al.* (2013)). The PASS provides data on topics such as unemployment, poverty and the social situation of households receiving welfare benefits. We use the subsample of the PASS of households receiving welfare benefits the July before entering the panel survey, drawn from recipient registers at the Federal Employment Agency.

The PASS surveys One-Euro-Job announcements and participations from wave four onwards. Persons (excluding pupils/students) aged between 15 and 64 years who indicate that they

know One-Euro-Jobs and who live in a household that received welfare benefits for some time during the last year are asked, whether and in which month the job centre announced a particular One-Euro-Job to them that they should participate in.⁴ Whether this announcement was in written or oral form is left open. Waves four to seven contain information on the One-Euro-Job announcements between the current and the previous wave. Interviews on announcements were conducted between February 2010 and September 2013 and the reported announcements date from the period between January 2009 and June 2013. To ensure that the covariates in our models are not influenced by the treatment, they are measured at the time of the interview of the previous wave (see Figure 1 on sample design). Therefore, our final sample only comprises individuals who also were interviewed in the previous wave (i.e., wave three to six respectively).

Figure 1: Design of the study



We selected the sample as follows: We started with 21,493 observations of respondents to waves 4 to 7 who were also interviewed in the previous wave (Table 1). The questions

⁴ The question is phrased as follows „Irrespective whether in such a discussion or in another situation: Was at least once [since the previous interview] a definite One-Euro-Job pointed out to you by the [job centre], in which you were supposed to participate? Please also indicate One-Euro-Jobs that you did not participate in, after all.“

concerning One-Euro-Jobs were posed to 12,493 of these cases, who received UB II at some point in time during the previous year. In the next step, we restricted the sample to 7,831 observations at risk of receiving a One-Euro-Job announcement at the time of the previous interview. This step mainly consisted in excluding observations of respondents with no UB II receipt at the time of the previous interview as well as those who were employed, in education, retired or on maternity/parental leave. After excluding observations with missing information as well as observations starting a contributory job or leaving benefit receipt before the (hypothetical) announcement date (see next Section *Method and Operationalisation*), we are left with 5,500 observations. 707 (12.9%) of these observations received a One-Euro-Job announcement (Table 2).

Table 1: Sample selection

Total number of observations waves 4 to 7	31,099
thereof with interview in previous wave	21,493
Observations excluded due to:	
<i>Questionnaire design of One-Euro-Job module</i>	
student	963
no UB II receipt since previous wave	7,940
One-Euro-Job questions not posed by mistake	97
<i>Excluding individuals not at risk of One-Euro-Job announcement (at the time of the previous interview) due to...</i>	
Current One-Euro-Job participation	483
no UB II receipt	1,577
in school, education, (alternative) military service	610
maternity / parental leave	177
retired	172
sick, incapable of working	61
socially insured employment	1,582
<i>Missing information concerning...</i>	
(Date of) One-Euro-Job announcement	33
Covariates	214
Outcomes variables	1,143
End of UB II receipt or start of employment before (random) announcement date	931
Remaining number of observations	5,500

Source: PASS_0613_v1

Table 2: Number of observations by wave

	Wave 4	Wave 5	Wave 6	Wave 7	Total
Number of observations	1,286	1,283	1,518	1,413	5,500
thereof with One-Euro- Job participation	240	182	148	137	707
(in %)	18.7	14.2	9.8	9.7	12.9

Source: PASS_0613_v1

Method and Operationalisation

We applied propensity score matching to estimate the effect of receiving a One-Euro-Job announcement on the job search behaviour, reservation wage and labour market performance. Basic idea of this approach is to compare the outcomes of treated individuals to non-treated individuals comparable in all relevant characteristics influencing both treatment status and outcomes (Roy, 1951; Rubin, 1974). Our parameter of interest is the average treatment effect on the treated (ATT)

$$E(Y_i^1 - Y_i^0 | D = 1)$$

which is the expected difference in the outcomes in case of treatment Y_i^1 and non-treatment Y_i^0 for treated ($D=1$).

The crucial, non-verifiable assumption is that we observe all relevant aspects and selection into treatment is solely on observables (Conditional Independence Assumption (CIA)). If the CIA holds, the ATT can be estimated by first computing for each treated person the difference between her or his outcome and the average outcome of the matched controls and then by computing the mean of these differences.

We use the propensity score as a balancing score. Hence, we first use a probit model to estimate the parameters of pre-treatment characteristics X that determine a treatment equation and predict each individual's treatment probability. We then match treated and controls on their predicted treatment probability using algorithms of nearest neighbour matching with replacement and radius-calliper matching (Rosenbaum and Rubin, 1983). We thus select for each treated person controls with the lowest (absolute) differences between their propensity score and the one of the treated person. This approach requires observations to have a participation probability larger than 0 and smaller than 1 (common support). Furthermore, the distributions of the participation probabilities of treated and potential controls have to overlap such that for each participant there is a sufficient number of non-participants with similar propensity score values. The consideration of the effect for single individuals requires that

neither the participation probability nor the job search behaviour of an individual is influenced by the treatment status of other individuals (Stable Unit Treatment Value Assumption) (Sianesi, 2004). The large number of One-Euro-Job announcements particularly in the beginning of our observation period may give reason to question this assumption. Therefore, results have to be interpreted with care.

To make sure that effects are not biased because control individuals enter employment and/or leave welfare very early after the interview, we computed hypothetical announcement months for members of the control group, randomly drawn from the distribution of announcement dates of the treatment group. Respondents who between the interview and their (hypothetical) announcement date already successfully found contributory jobs or exited benefit receipt (even temporarily) were excluded from the analyses.

The PASS allows us to control for a large variety of pre-treatment characteristics such as sociodemographic characteristics, household composition, labour market status and history of the individual and the partner and regional information. In contrast to evaluation studies based on administrative data, we can also control for “soft factors” such as attitudes towards work, previous reservation wage, deprivation, life satisfaction or perceived social integration. Taken together, these variables should also very closely proxy unobserved determinants of the treatment and the outcomes, like the motivation to find work. Given this large variety of information, we are confident that the CIA holds and differences in outcomes between treated and matched controls can be traced back to treatment. For the actual selection of covariates in the participation equation, we chose to exclude some covariates, if they were highly insignificant according to Wald tests. To give an example of the selection of covariates, Table A1 displays the results of the probit estimates for the main model.

Results on the announcement effects displayed in Section 6 are based on radius calliper matching with exact matching on gender, region and wave and with a calliper as the 99th percentile of the absolute differences between the propensity score of treated and controls resulting from nearest neighbour one-to-one matching with replacement (calliper is 0.0105).⁵ We study the effects on different outcomes concerning job search behaviour, reservation

⁵ For comparison, we also applied nearest neighbour matching with one neighbour and with five neighbours as well as radius calliper matching using the 90th percentile of the absolute differences between the propensity score of treated and controls. Furthermore, we ran all estimations weighted by population weights. The chosen option was superior to these alternatives with respect to matching quality. Selected results of the robustness checks using nearest neighbour matching are discussed below.

wage, employment and income. However, we cannot disentangle the pure announcement effect from a participation effect, because our outcomes on job search behaviour and reservation wages are reported at the subsequent interview. By that time, the One-Euro-Job participation might already have started. To learn about effect heterogeneity, we estimated the effects by gender, region and time since the end of the last contributory job.

6. Results

Selectivity of One-Euro-Job announcements

To give an impression of the selectivity of One-Euro-Job announcements, we highlight some selected results of the probit estimates of the participation equation (Table A.1 in the Appendix). In line with previous evidence on the selectivity of One-Euro-Jobs (e.g., Hohmeyer and Kopf, 2009), we find that women in West Germany have a lower probability of receiving a One-Euro-Job announcement than the other groups. Given the reduced inflow numbers into One-Euro-Jobs in recent years, it is not surprising that the participation probability decreases with more recent waves.

Furthermore, we find some support that One-Euro-Jobs indeed target welfare recipients with particular difficulties finding a job. First, we turn to schooling degrees: Welfare recipients without a degree/with other degree/information missing or with an intermediate degree have a higher probability of receiving an announcement than welfare recipients with a secondary schooling degree. Likewise, individuals without an occupational degree are more likely to receive a One-Euro-Job announcement than those with a vocational training degree. Second, welfare recipients whose last contributory job ended six or more years ago are more likely to receive an announcement than those whose last job ended less than two years ago.

Moreover, One-Euro-Job announcements target individuals who generally draw the attention of job centres. Announcements are more likely for welfare recipients who signed an integration agreement, who are obliged to search for a job and who were in contact with the job centre more than twenty times during the previous year.

Matching Quality

Before presenting results on the treatment effects, we show that the balancing of the relevant variables between treated and matched controls succeeded. The standardised absolute bias measures the distance in the marginal distribution of the covariates. Before matching, the mean standardised absolute bias (MSB) ranges from nine to 12 (Tables 3 and 4). After Matching, the MSB is reduced to numbers below four. There is no theoretically defined threshold below which a value of the MSB implies a success of a matching procedure. However, following Caliendo and Kopeinig (2008), a reduction to values between three and five is in most studies regarded as sufficient. Furthermore, we used t-tests to check the balancing of the single covariates after matching. There are no statistically significant differences in covariates between treated and matched controls after matching (results available on request).

Main analyses

We estimated the effects of receiving a One-Euro-Job announcement on different job search and application activity outcomes, the reservation wage, income and employment. Treatment effects of our propensity score matching analyses and mean outcomes for matched controls are displayed in Table 3.

As a first group of outcomes we consider different aspects of job search behaviour. These job search activities (and the application activities discussed below) are surveyed for the period of the four weeks prior to each interview. First of all, we find that a One-Euro-Job announcement increases the probability of active job search by 5.5 percentage points from a base level of 54%. More specifically, we find an increased likelihood of between four and six percentage points for job search via newspapers, internet and family and friends, but no increased probability of using employment agency resources (via internet or placement officers) for job search due to a One-Euro-Job announcement. The number of different job search channels used increases by about one fourth (0.24).

For application activities, we find that receiving a One-Euro-Job announcement increases the likelihood of replying to a job advertisement and of asking for a job at the company itself significantly by five to six percentage points. Though, the likelihood of application for a job more than 100 km away from the current residence does not increase. Apparently, there is no increased willingness to make a concession concerning commuting over a longer distance (or

moving). However, the likelihood of looking for any possible job increases by five percentage points from a base level of 28% for the matched controls.

Data on the hourly reservation wage show that an announcement of a One-Euro-Job tends to decrease the hourly reservation wage by €0.16 from a base level of €6.80, which is already quite low. However, the effect is not statistically significant.

Table 3: ATT of receiving a One-Euro-Job announcement and mean outcomes for matched controls

	Mean outcome for matched controls	ATT
<i>Job search activities during past four weeks</i>		
Job search: yes	0.537	0.055 *
<i>Job search via ...</i>		
... job advertisements in newspapers	0.426	0.057 *
... employment agencies' online job market	0.341	0.026
... other internet sources	0.348	0.046 *
... family and friends	0.347	0.062 **
... placement officer at the employment agency	0.293	0.012
... private job placement service	0.103	0.008
... other, not coded	0.027	0.008
No. of different search channels	1.943	0.243 **
<i>Application activities during past four weeks</i>		
Replied to job advertisements	0.351	0.047 *
Placed an 'employment wanted' advertisement	0.030	0.005
Asked for a job at the company itself	0.307	0.064 **
Submitted application without concrete job advertisement	0.236	-0.006
Job application >100km away from current residence	0.054	0.011
No. of applications for job advertisements	1.848	0.169
No. of pro-active applications	1.026	0.012
Total No. of applications	2.873	0.182
No. of ways of looking for a job	0.924	0.111 *
Looked for any possible job	0.277	0.054 *
<i>Reservation wage</i>		
Hourly reservation wage after tax in € ¹⁾	6.797	-0.159
<i>Employment and income</i>		
Socially insured employment	0.072	-0.013
Minor employment	0.181	-0.022
Household receives UB II	0.913	0.020 †
Equivalent household income in € ^{1), 2)}	704.622	-20.719
Treated	707	
Treated on support	689	
Potential controls	4,793	
MSB before Matching	9.540	
MSB after Matching	1.430	

Notes: 1) Deflated to price level 2010=1. 2) This income measure covers all sorts of income sources, also from social benefits. For details see Berg et al. (2013).

Source: PASS_0613_v1; Effects on share of a positive answer (0=no, 1=yes) unless stated otherwise; †p < .10;

*p < .05; **p < .01; ***p < .001

Concerning the employment situation, we do not find One-Euro-Job announcements to lead to (well-determined) changes in the likelihood of being in contributory or minor employment. This result implies that the increased job search intensity and willingness to make a concession does not lead to employment gains in the very short term for welfare recipients. Moreover, we have to consider that more than half of the welfare recipients receiving an announcement also start to participate in the programme. Therefore, lock-in effects are likely as well.

With respect to the income situation, we find that the overall equivalent income (including benefits) tends to decrease by €21 from a base level of €705 (not significant), while the likelihood of receiving welfare benefits increases slightly but significantly by two percentage points from a high base level of 91%. The reasons for the latter result could be manifold: Those welfare recipients who perceive One-Euro-Job participation as beneficial might decrease their job search activities both before and during participation; their rate of taking up jobs that end welfare receipt (temporarily) declines. But also the reaction of welfare recipients who perceive the announced participation as a threat might be responsible for the increase of receiving welfare benefit: In the short run, they might be more likely to take up low-paid jobs to avoid participation. These jobs do not provide sufficient earnings to end welfare receipt. As a consequence, these welfare recipients might need longer to find better paid jobs to leave welfare.

Overall, receiving a One-Euro-Job announcement increases several aspects of job search intensity and applications activities. Also, the willingness to make a concession with respect to accepting any job increases, but not with respect to looking for a job more than 100km away from the current residence. These effects on the job search behaviour and the willingness to make a concession do not lead to employment gains in the short term, but come along with an increased likelihood of receiving welfare benefit.

Table 4: ATT of receiving a One-Euro-Job announcement and mean outcomes for matched controls for subgroups

	Last regular job ended											
	Men		Women		East Germany		West Germany		<4 years ago		≥ 4 years ago, never employed, missing	
	Mean	ATT	Mean	ATT	Mean	ATT	Mean	ATT	Mean	ATT	Mean	ATT
<i>Job search activities during past four weeks</i>												
Job search: yes	0.566	0.058 †	0.505	0.043	0.548	0.061 †	0.535	0.033	0.564	0.029	0.528	0.068 *
<i>Job search via ...</i>												
... job advertisements in newspapers	0.438	0.048	0.431	0.040	0.442	0.040	0.430	0.054 †	0.442	0.058	0.422	0.068 *
... employment agencies' online job market	0.350	0.011	0.348	0.002	0.335	0.059 †	0.351	-0.016	0.352	0.011	0.356	0.009
... other internet sources	0.365	0.034	0.347	0.038	0.337	0.041	0.374	0.040	0.395	-0.005	0.352	0.051 †
... family and friends	0.362	0.079 *	0.340	0.029	0.380	0.044	0.354	0.036	0.396	0.027	0.339	0.070 **
... placement officer at the employment agency	0.288	0.034	0.263	0.017	0.317	0.019	0.251	0.029	0.281	0.038	0.284	0.021
... private job placement service	0.107	0.012	0.102	-0.004	0.103	0.028	0.088	0.005	0.113	-0.020	0.088	0.022
... other, not coded	0.024	-0.004	0.031	0.012	0.034	0.017	0.021	-0.001	0.033	0.017	0.020	0.009
No. of different search channels	1.989	0.243 †	1.914	0.153	2.013	0.278 *	1.913	0.162	2.069	0.123	1.917	0.278 *
<i>Application activities during past four weeks</i>												
Replied to job advertisements	0.390	0.005	0.333	0.061 †	0.348	0.034	0.372	0.060 *	0.388	0.002	0.349	0.056 *
Placed an 'employment wanted' advertisement	0.033	-0.002	0.029	0.001	0.033	0.007	0.025	0.004	0.026	0.013	0.035	0.001
Asked for a job at the company itself	0.346	0.075 *	0.271	0.037	0.335	0.071 *	0.275	0.063 *	0.320	0.048	0.281	0.094 ***
Submitted application without concrete job advertisement	0.252	-0.024	0.209	0.015	0.232	0.014	0.244	-0.029	0.239	-0.008	0.232	-0.004

Table 4 continued.

	Last regular job ended											
	Men		Women		East Germany		West Germany		<4 years ago		≥ 4 years ago, never employed, missing	
	Mean	ATT	Mean	ATT	Mean	ATT	Mean	ATT	Mean	ATT	Mean	ATT
Job application >100km away from current residence	0.088	0.003	0.031	0.009	0.066	0.012	0.054	0.001	0.082	0.006	0.052	0.011
No. of applications for job advertisements	2.046	-0.066	1.914	0.148	1.721	0.283	2.106	0.023	2.059	0.479	1.856	0.026
No. of pro-active applications	1.128	0.002	0.957	-0.046	0.948	-0.090	1.074	0.109	1.016	0.451	0.969	-0.112
Total No. of applications	3.174	-0.064	2.871	0.101	2.668	0.192	3.180	0.132	3.075	0.930	2.825	-0.086
No. of ways of looking for a job	1.022	0.054	0.843	0.114	0.947	0.126	0.916	0.098	0.972	0.055	0.897	0.147 *
Looked for any possible job	0.287	0.041	0.276	0.059 †	0.311	0.031	0.270	0.054 †	0.265	-0.001	0.300	0.055 *
<i>Reservation wage</i>												
Hourly reservation wage after tax in € ¹⁾	7.031	-0.140	6.652	-0.275 †	6.361	-0.134	7.189	-0.137	7.248	-0.456 *	6.787	-0.194
<i>Employment and income</i>												
Socially insured employment	0.073	-0.016	0.071	-0.009	0.082	-0.018	0.068	-0.013	0.132	-0.027	0.049	-0.014
Minor employment	0.162	-0.029	0.213	-0.025	0.201	-0.032	0.169	-0.018	0.199	-0.040	0.176	-0.005
Household receives UB II	0.920	0.023	0.910	0.016	0.914	0.019	0.919	0.013	0.872	0.018	0.948	0.011
Equivalent household income in € ^{1), 2)}	708.014	-23.294	702.692	-20.881	657.780	-14.546	769.504	-39.386 †	726.220	0.153	723.913	-54.895 *
Treated	369		338		352		355		203		497	
Treated on support	354		325		330		343		182		482	
Potential controls	2,201		2,592		1,738		3,055		1,593		3,164	
MSB before Matching	9.186		12.162		9.186		10.194		12.208		10.689	
MSB after Matching	1.756		2.280		1.890		1.358		3.590		1.702	

Notes: 1) Deflated to price level 2010=1. 2) This income measure covers all sorts of income sources, also from social benefits. For details see Berg et al. (2013).

Source: PASS_0613_v1; Effects on share of a positive answer (0=no, 1=yes) unless stated otherwise; † p < .10; *p < .05; **p < .01; ***p < .001 †

Subgroup analyses

The comparatively small number of observations limits our opportunities of studying effect heterogeneity. Due to the small sample sizes, estimates of the treatment effects in the subgroups are more frequently not and/or less well-determined than for the entire sample. The 95% confidence intervals of the estimated treatment effects (not displayed) indicate no significant differences between the effects for different groups. Therefore, we only briefly discuss selected results of our subgroup analyses (displayed in Table 4).

First, we split the sample by gender and region to capture the differences in the labour market situation between men and women and between East and West Germany. Whereas we find an increase in the likelihood of informing about jobs via family and friends and asking for a job at the company itself for men, women are more likely to reply to job advertisements due to the One-Euro-Job announcement. Furthermore, women but not men show an increased willingness to make a concession due to receiving a One-Euro-Job announcement with respect to looking for any job and accepting a lower wage. Receiving a One-Euro-Job announcement leads to a decrease of female reservation wages by €0.28 from a base level of €6.65, which is already quite low and below the average reservation wage of men in our sample of matched controls with €7.03.

Concerning the two regions, we find that while One-Euro-Job announcements increase job search and application activities in East Germany and to some extent in West Germany. They raise the likelihood of looking for any possible job only in West Germany by five percentage points. As the initial willingness to look for any possible job is somewhat lower in West Germany (27% compared to 31% (East)), there might be more scope for adjustments due to treatment.

Second, to capture one aspect of job finding prospects, we split the sample into two groups by the duration since the end of their last contributory job (less than four years; equal to or more than four years, never employed, information missing). We find that those who have not been employed for four years or more or have never been employed respond to a One-Euro-Job announcement by increasing their job search and application activities and by looking for any possible job: Apparently persons who have not been employed for a very long time, become motivated to look for jobs again. However, no significant reduction of their reservation wage occurs. This may be because their reservation wage is already quite low (€6.79 compared to €7.25 for those whose last job ended within the previous four years). Furthermore, One-Euro-

Job announcements lead to a reduction in the total equivalent income by about €54.90 for the group of those who have not worked for four years or more or have never been employed.

Robustness of Results With Respect to the Matching Algorithm

To check the robustness of our results, we applied different matching algorithms, such as nearest neighbour matching with five neighbours and with one neighbour (in both cases with replacement) and radius calliper matching with different callipers. Here, we would like to mention the results from nearest neighbour 5-to-1-matching with exact matching on gender, region and wave (Table A2).

The effects for the main group are qualitatively robust with effects of similar sizes. Only the effect of the reservation wage becomes significant on 10% level, while the effect on the household equivalent income is no longer significant.

7. Conclusions

The Hartz reforms in the early 2000s changed the unemployment benefit system in Germany dramatically and implied a shift towards activation. As one means of activation, a workfare programme called One-Euro-Jobs was introduced in 2005 on a large scale. So far, only knowledge on effects of actual participation on labour market performance exists. It is most likely that not only actual participation affects individual behaviour but that the mere announcement of participation does so as well. We provide first evidence on the effect of receiving a One-Euro-Job announcement on job search behaviour, reservation wage and short-term employment performance of welfare recipients.

Our results show that receiving a One-Euro-Job announcement increases job search and application activities. Also, the willingness to make a concession with respect to accepting any job or – for some groups – a lower wage increases, but not the willingness to look for a job more than 100km away from the current residence. These results indicate that welfare recipients on average would like to circumvent an announced One-Euro-Job participation. As our group of participants mainly comprises hard-to-place individuals, increased job search intensity and willingness to make concessions does not lead to employment gains in the very short term.

Though, as we cannot explicitly distinguish between announcement and treatment effects, the increased job search activities might also partly be the result of the treatment itself. This could

be the case if some participants are more motivated to look for jobs, e.g. because they feel that they increased their employability. However, as previous research (e. g., Hohmeyer, 2012; Hohmeyer and Wolff, 2012) has shown that One-Euro-Job participation leads to lock-in effects in the short term, job search intensity on average is likely to decrease during participation. Therefore, the positive effect of receiving a One-Euro-Job announcement on job search activities that we have found cannot be entirely explained by a participation effect, but indicates that also announcement effects occur. These announcement effects have to be taken into account in a comprehensive assessment of the programme. Furthermore, our results indicate that although treatment effects are often regarded as moderate, workfare can be a useful tool for reducing the problem of moral hazard of unemployment benefit receipt. However, potential undesirable side effects on employment, earnings and job quality have to be considered and would be an issue for future research.

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Appendix

Table A.1: Coefficients of probit estimates

	Coefficient	p-value
Female	-0.379	0.222
West Germany	1.027	0.040
Female* West Germany	-0.216	0.028
<i>Wave</i>	<i>Reference: Wave 4 (2010)</i>	
Wave 5 (2011)	-0.144	0.037
Wave 6 (2012)	-0.317	0.000
Wave 7 (2013)	-0.287	0.000
<i>Age in years</i>	<i>Reference: 15-24 years</i>	
25-34 years	-0.246	0.016
35-44 years	-0.185	0.105
45-54 years	-0.133	0.261
55-64 years	-0.197	0.157
<i>Migration background</i>	<i>Reference: none</i>	
Information missing	0.026	0.853
Person is immigrated	-0.057	0.555
At least one (grand-)parent immigrated	0.065	0.331
<i>Health problems</i>	<i>Reference: none</i>	
Health restrictions	0.048	0.245
Any mental disorders	0.079	0.138
<i>School degree</i>	<i>Reference: Secondary school</i>	
No degree, other degree, information missing	0.315	0.001
Intermediate school	0.148	0.003
Upper secondary school	-0.123	0.221
<i>Occupational degree</i>	<i>Reference: none, semi-skilled</i>	
Vocational training	-0.254	0.008
University degree	-0.080	0.646
Female*vocational training	0.205	0.290
Female*university degree	-0.023	0.932
<i>Time since last occupational degree</i>	<i>Reference: up to 10 years</i>	
Information missing	0.010	0.941
11 to 20 years	0.008	0.953
21 to 30 years	0.000	0.999
> 30 years	0.081	0.476
Female*information missing	0.462	0.044
Female*no degree	0.326	0.133
Female*11 to 20 years	0.346	0.110
Female*21 to 30 years	0.366	0.081
Female*> 30 years	0.162	0.358
<i>Own children living in the household</i>	<i>Reference: none</i>	

	Coefficient	p-value
Child aged 0 to 6 years	0.011	0.939
Child aged 7 to 14 years	0.028	0.841
Child aged 15 or above	0.253	0.027
Female*child aged 0 to 6 years	0.016	0.927
Female*child aged 7 to 14 years	-0.100	0.589
Female*child aged 15 years or above	-0.132	0.296
<i>Current status</i>		
Providing informal care to relative or friend	0.005	0.957
Social engagement	-0.013	0.841
Minor employment	-0.318	0.000
Registered as unemployed	-0.106	0.729
Obligated to search for a job	0.173	0.013
<i>Frequency of job centre contact during previous year</i> <i>Reference: 0 to 1x</i>		
2-10x	-0.001	0.990
11-20x	-0.018	0.879
>20x	0.186	0.081
Integration agreement signed	0.261	0.000
<i>Time since last contributory job ended</i> <i>Reference: <2 years ago</i>		
Never employed	0.072	0.533
Information missing	0.205	0.078
2 to <6 years ago	0.107	0.153
≥ 6 years ago	0.199	0.003
<i>Occupational status in last job</i> <i>Reference: blue collar</i>		
White-collar worker	-0.082	0.059
Else: Civil servant, self-employed, family worker	-0.129	0.095
<i>Unemployment during previous year</i> <i>Reference: none</i>		
Some time unemployed	0.181	0.620
Unemployed throughout the year	0.220	0.543
Some time unemployed*female	-0.049	0.834
Unemployed throughout the year*female	-0.123	0.563
Some time out of labour force during previous year	-0.098	0.069
<i>Living together with a partner</i> <i>Reference: no</i>		
Partner without further information in the data	-0.156	0.310
Partner with further information in the data, non-married	-0.068	0.583
Partner with further information in the data, married	-0.486	0.000
Female*partner without further information in the data	0.140	0.505
Female*partner with further information in the data, non-married	0.154	0.403
Female*partner with further information in the data, married	0.522	0.000
<i>Household receives UB II for</i> <i>Reference: up to 5 months</i>		
6 to 11 months	-0.098	0.512
12 months and more	-0.020	0.886

	Coefficient	p-value
<i>Deprivation index, weighted (item sum: 11.08)</i>	<i>Reference: ≤1</i>	
1.1 to 2	0.059	0.412
2.1 to 3	-0.042	0.535
3.1 to 4	-0.047	0.572
>4	0.200	0.059
<i>Regional labour market situation</i>		
Regional unemployment rate missing	1.070	0.009
Unemployment rate*East Germany	0.155	0.000
Long-term unemployment rate*East Germany	-0.225	0.000
Vacancy-Unemployment rate*East Germany	1.856	0.346
Unemployment rate*West Germany	0.050	0.187
Long-term unemployment rate*West Germany	-0.104	0.161
Vacancy-Unemployment rate*West Germany	-0.658	0.196
<i>Regional indicator for urban-rural ratio (BIK)</i>	<i>Reference: <20,000 inhabitants</i>	
20,000-49,999 inhabitants; struct. type 1-4	-0.053	0.707
50,000-99,999 inhabitants; struct. type 2-4	-0.006	0.967
50,000-99,999 inhabitants; struct. type 1	0.012	0.921
100,000-499,999 inhabitants; struct. type 2-4	0.167	0.233
100,000-499,999 inhabitants; struct. type 1	-0.055	0.615
500,000+ inhabitants; struct. type 2-4	0.107	0.460
500,000+ inhabitants; struct. type 1	0.044	0.679
Constant	-2.148	0.000
Pseudo-R2	0.098	
Number of observations	5,500	

Notes: dependent variable: receiving a One-Euro-Job announcement

Source: PASS_0613_v1

Table A2: Robustness check - ATT of receiving a One-Euro-Job announcement, results from Nearest Neighbour 5-to-1-Matching

	Total	Men	Women	East Germany	West Germany	Last regular job ended ≥ 4 years ago, never employed, < 4 years ago	missing
<i>Job search activities during past four weeks</i>							
Job search: yes	0.070 **	0.058 †	0.044	0.058 †	0.035	0.029	0.059 *
Job search via ...							
... job advertisements in newspapers	0.070 **	0.060 †	0.042	0.026	0.052	0.060	0.057 *
... employment agencies' online job market	0.033	0.008	0.016	0.053	-0.020	-0.001	-0.007
... other internet sources	0.043 †	0.034	0.038	0.039	0.050	-0.013	0.037
... family and friends	0.071 **	0.072 *	0.023	0.039	0.049	0.025	0.063 *
... placement officer at the employment agency	0.021	0.043	0.025	0.023	0.037	0.034	0.016
... private job placement service	0.006	0.014	-0.005	0.023	0.000	-0.020	0.015
... other, not coded	0.008	0.000	0.011	0.014	-0.003	0.023	0.007
No. of different search channels	0.281 **	0.262 †	0.168	0.235	0.174	0.101	0.216 †
<i>Application activities during past four weeks</i>							
Replied to job advertisements	0.053 *	0.002	0.062 †	0.031	0.042	0.010	0.041
Placed an 'employment wanted' advertisement	0.006	-0.002	0.001	0.005	-0.004	0.014	0.000
Asked for a job at the company itself	0.073 ***	0.085 **	0.045	0.067 *	0.054 †	0.046	0.101 ***
Submitted application without concrete job advertisement	0.001	-0.016	0.015	0.001	-0.022	-0.011	-0.017
Job application >100km away from current residence	0.016	0.007	0.004	0.010	-0.014	0.019	0.006
No. of applications for job advertisements	0.268	0.139	0.074	0.269	-0.098	0.419	-0.138
No. of pro-active applications	0.129	0.055	0.020	-0.117	-0.122	0.293	-0.154
Total No. of applications	0.398	0.194	0.094	0.152	-0.220	0.712	-0.292
No. of ways of looking for a job	0.133 *	0.069	0.123	0.104	0.071	0.060	0.126 †

	Total	Men	Women	East Germany	West Germany	Last regular job ended	
						< 4 years ago	≥ 4 years ago, never employed, missing
Looked for any possible job	0.058 **	0.042	0.061 †	0.019	0.071 *	-0.008	0.050 †
<i>Reservation wage</i>							
Hourly reservation wage after tax in € ¹⁾	-0.217 *	-0.067	-0.282	-0.113	-0.306 *	-0.540 *	-0.260 †
<i>Employment and income</i>							
Socially insured employment	-0.016	-0.009	-0.007	-0.022	-0.012	-0.014	-0.019 †
Minor employment	-0.018	-0.029	-0.025	-0.040	-0.028	-0.045	-0.010
Household receives UB II	0.017	0.019	0.004	0.031 †	0.012	0.014	0.011
Equivalent household income in € ^{1), 2)}	-14.221	-11.252	-18.071	-20.175	-90.713 **	-1.702	-70.140 *
Treated	707	369	338	352	355	203	497
Treated on support	695	357	329	333	344	184	486
Potential controls	4,793	2,201	2,592	1,738	3,055	1,593	3,164
MSB before Matching	9.540	9.186	12.162	9.186	10.063	12.208	10.689
MSB after Matching	1.638	2.491	2.928	2.567	1.888	3.250	2.004

Notes: Results from nearest neighbour 5-to-1 matching with exact matching on gender, region and wave. Effects on share of a positive answer (0=no, 1=yes) unless stated otherwise; source: PASS_0613_v1; † p < .10; *p < .05; **p < .01; ***p < .001

1) Deflated to price level 2010=1. 2) This income measure covers all sorts of income sources, also from social benefits. For details see Berg et al. (2013).