Should I Stay or Should I Go? Mobility Assistance and Job Finding Strategies

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Abstract

Supporting regional mobility among the unemployed potentially reduces unemployment in depressed regions and eliminates the shortage of labor in prosperity areas. We show theoretically that mobility programs encourage job seekers to shift their search effort from local to distant labor markets, however the effect on overall job finding probabilities remains theoretically ambiguous. Based on two waves of rich survey data, we investigate empirically the effect of these programs on the individual job finding strategies of unemployed job seekers and resulting consequences on employment prospects. In order to estimate causal effects, we apply a two-stage instrumental variable approach exploiting regional differences with respect to the local employment agencies preferences for mobility programs. Our analysis shows that job seekers whose search behavior is affected by the provision of the program, spend more effort into overall job search which results in a significantly higher probability to leave unemployment into regular jobs, while they are less likely to found their own (subsidized) business.

Keywords: Evaluation, Active Labor Market Policy, Labor Market Mobility, Instrumental Variable Approach

JEL codes: J61, J68, D04, C21

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1 Introduction

In many economic models regional labor market mobility is seen as one of the most efficient adjustment mechanisms to equalize regional disparities in terms of unemployment (e.g. Borjas, 2006), especially caused by macroeconomic shocks (e.g. Blanchard et al., 1992). Besides differences in real wages and labor productivity across regions, regional disparities in unemployment rates can be particularly attributed to regional labor market tightness and a mismatch of vacancies and skills on a regional level (Taylor and Bradley, 1997; Giannetti, 2002). Given these theoretical predictions and existing regional disparities in terms of unemployment rates within (and between) many European countries, it is surprising that labor market mobility among unemployed job seekers is very low compared to the US (e.g. Puhani, 2001; Decressin and Fatás, 1995). Therefore, the public support of unemployed job seekers when searching for distant jobs seems to be promising strategy in order to utilize the existing adjustment mechanism more efficiently. The German Social Security Code provides several measures, the so called mobility assistance, which should increase the labor market mobility of the unemployed by supporting e.g. the traveling to distant job interviews, the daily commuting to work or the relocation to a new working place.[1]

In economic models of migration the decision to move can be integrated in some broader form of human-capital or job-search theory. Early models of migration - following the seminal work by Sjaastad (1962) - model the decision within a framework of utility maximization. Moving entails benefits (e.g. higher wages or expectations about future employment prospects) and pecuniary costs and individuals decide to migrate if the expected net present value of moving is positive. In later models expectations about future employment prospects and non-pecuniary moving costs were included (e.g. Harris and Todaro, 1983). In search models of migration individuals migrate in order to search for a new job ('speculative migration') or because they have already found a new job ('contracted migration', Pekkala and Tervo, 2002). In most cases it is assumed that search precedes migration or that migration precedes search. The latter is especially true if individuals know the wage distribution in their current location, but need to move to another location to get to know the wage distribution there (Topel, 1986).

[1] See our previous study for an evaluation of the relocation assistance and consequences for post-relocation outcomes (Caliendo et al., 2014).

Following more recent studies by Damm and Rosholm (2003) and Arntz (2005), we allow for parallel job search in two different labor markets —within, respectively outside commuting time—, including different search costs and additional costs of accepting distant job offers. Job seekers chose the effort spend into local and distant job search in order to equalize the marginal return from local and distant job search and accept any wage offer which exceeds their reservation wage. Within this framework, paying a mobility assistance reduces the marginal costs of distant job search, respectively the costs of accepting a distant job offer, which encourage job seekers to spend more effort into nationwide job search activities. However, the consequences for local job search remain theoretically unclear, as job seekers might substitute local for distant job search. Moreover, due to the increasing number of job offers unemployed individuals become more picky with respect to choice of their new employment. Therefore, our empirical exercise investigates the consequences on employment prospects in different types of jobs for a group of individuals whose search behavior is actually affected by the availability of the mobility programs.

Previous empirical evidence with respect to the migration decision mostly focuses on the determinants of migration (e.g. Dustmann and Preston, 2007; Zaiceva and Zimmermann, 2008) or labor market outcomes, like wages or employment prospects, in the post-migration period (e.g. Yankow, 2003; Lehmer and Ludsteck, 2011). However, above all, the willingness to move in order to find a new employment is likely to affect the initial job finding probability. When evaluating the effect of regional mobility on job finding probabilities or unemployment durations, previous studies face the problem that the moving decision, at least within a country, is highly correlated with the overall probability to find an employment. Typically, job-seekers just move only if they already found a new job. However, using the *IZA Evaluation Dataset* we are able to observe the individual job search behavior, including the willingness to move in order to find a new employment, for unemployed job-seekers in Germany in a very detailed way. This allows us to examine the importance of a variety of non-standard individual characteristics for determine the unemployeds willingness to apply for distant vacancies and the actual moving decision, as well as potential differences between both decisions.

In order to estimate the causal effect of searching for distant jobs on the job finding probability we apply an instrumental variable strategy. In the first stage we estimate the willingness to move for a new employment using regional variations with respect to the

local employment agencies (LEA) preferences for mobility programs as an instrumental variable. Therefore, we define the local treatment intensity as the lagged ratio of total entries into mobility assistance programs and the stock of unemployed in each agency district. As each LEA receives a yearly fixed budget for ALMP programs (based on the local labor market conditions) and decides at the beginning of each year which share of this budget to spend on which ALMP program, i.e., each agency creates an agency-specific policy mix, the instrument is expected to represent the preference of the LEA towards mobility programs. The idea is that unemployed individuals living in a LEA district characterized by a high treatment intensity face a higher probability to receive knowledge about the existence of the mobility assistance which is expected to increase their willingness to apply for vacancies which involves a relocation. As the unemployed individual has no influence on the agency-specific policy mix, the instrument is expected to generate exogenous variation with respect to the search behavior. In the second stage we use these exogenous differences with respect to the individual search behavior to estimate the effect on employment probabilities local and distant regular employment, respectively self-employment. Following Imbens and Angrist (1994), this two-step procedure yields the local average treatment effect (LATE) on those job-seekers whose search behavior is actually affected by the availability of the mobility assistance.[2]

The rest of the paper is organized as follows. The next Section presents the institutional and theoretical background, as well as the IZA Evaluation Dataset in more detail. Section 3 presents the identification strategy of the causal effects, Section 4 shows the estimation results, while Section 5 concludes.

2 Institutional Settings, Data and Theoretical Background

2.1 Institutional Settings in Germany

The mobility assistances, which combines programs designed to encourage the inter-regional and general labor market mobility among unemployed job seekers have been introduced in 1998 in Germany, whereby the use of these programs increased with the

[2]Germany is a good example to study the effects of such a policy as its labor market is characterized by high regional disparities in terms of unemployment rates and wage levels (e.g. Lehmer and Ludsteck, 2011) while —until now— the inter-regional mobility among unemployed workers is rather low. For instance, 68.5% of the prime-age population in Germany still lived in the same federal state in 2008 as where they have grown up (Source: European Value Survey, own calculations). Moreover, (Bonin et al., 2008) report that the share of the population that has moved their place residence within Germany (compared to the year before) is relatively low and constant at about 1.3% within the period 1995-2006.

implementation of the major labor market reform in Germany between 2003 and 2005, the so-called "Hartz-Reform". In its current version, the program offers unemployed job seekers a wide range of support, starting from subsidies which are not related to the regional mobility of the unemployed like equipment assistance, over reimbursement of travel expenses for distant job interviews, up to financial support of commuting costs or full coverage of transportation costs.

In this study, we are interested in the effect of these subsidies on a job seekers willingness to become regional mobile in order to find a new employment and the resulting effect on the job finding probability. Overall, the German Social Security Code contains six types of subsidies under the name of mobility assistance. Two of these, the equipment and the transition assistance are not related to the inter-regional mobility at all, but aim to increase a job seeker's overall flexibility. The equipment assistance supports the acquisition of work clothes and tools up to an amount of €260 given that the employer is not legally responsible to provide the equipment. The transition assistance contains an interest-free loan up to €1,000, in order to cover the costs of subsistence until the first wage payment of the new job.

The other four types of mobility programs are directly designed to increase the inter-regional mobility of unemployed job-seekers. The travel cost assistance supports travel expenses for distant job interviews up to an amount of €300 which is expected to reduce to costs of job search. The commuting assistance supports the daily commuting to work for a distant job with 20 cent per kilometer. The subsidy can be paid for maximal 6 months after the beginning of the new employment. The separation assistance provides financial support for the costs associated with a temporary move in order to find employment. The subsidy covers a monthly payment of €260 for a period of maximal 6 months. There is no subsidy if the employer provides an accommodation. The relocation assistance provides full coverage of the transportation costs (with a maximum of €4,500) associated to a permanent move to the new workplace. The applicant has to provide three cost estimates to find the most cost-efficient offer and the subsidy is paid directly to the removalists. Alternatively, also the costs of a rental car can be taken on. The permanent relocation has to occur at least two years after the beginning of the new employment. For both subsidies, separation and relocation assistance, it is required that the daily commuting time from the current location to the location of the new job would exceed 2.5 hours. Commuting,

separation and relocation assistance require the beginning of a new employment and reduce the associated costs.

The application for all subsidies has to be submitted —when necessary, together with the employment contract— to the LEA before the founding event of the subsidy takes place.[3] The final decision about the permission of the relocation assistance is taken by the caseworker based on the individual labor market situation of the applicant and the available budget of the local employment agency for mobility assistance programs.

2.2 Mobility Assistance in a Spatial Job Search Model

We assume that any unemployed job-seeker searches sequentially for a job in a stationary environment. Similar to job search models by Hosios (1990) and Acemoglu (2001), who allow for simultaneous job search in different sectors, or Damm and Rosholm (2003) and Arntz (2005) who allow for job search different geographical labor markets, we distinguish between two types of jobs: 1) local jobs which can be reached by a job seeker within commuting time, i.e. these jobs do not require a residential relocation of the job seeker, and 2) distant jobs which require a job-seeker to move in order to take up the employment.[4] We assume that each job-seeker spends different amounts of effort into job search for both types of jobs, where e_l describes the effort spend in local and e_d in distant job search activities. The varying amounts of search effort imply different job offer arrival rates for local jobs $\alpha_l(e_l)$ and for distant jobs $\alpha_d(e_d)$ with increasing marginal returns, i.e. $\frac{\partial \alpha_l}{\partial e_l} > 0$ and $\frac{\partial \alpha_d}{\partial e_d} > 0$ (see for example Mortensen, 1986; Smith and Zenou, 2003, for job search models involving varying search effort). Job offers are drawn from the wage distributions $F_l(w_l)$ (for local jobs) and $F_d(w_d)$ (for distant jobs) which are known by the job-seekers, while each unemployed receives unemployment benefits b. When receiving a job offer, a job-seeker must decide whether to accept the offer or to reject it and search further. Accepting a distant job offer causes costs κ, while search costs are denoted by $c(e_l, \lambda e_d)$ depending on the effort spend in both types of job search, with $\lambda \geq 1$ characterizing the larger marginal costs of distant job search. Search cost are increasing with respect to both types of effort, i.e. $\frac{\partial c}{\partial e_l} > 0$, $\frac{\partial c}{\partial e_d} > 0$. When a job offer is accepted employment contracts

[3] This is either the buying of the work equipment, the job interview, the beginning of the commuting or the relocation.

[4] Following Rogers (1997) it would be also plausible to assume that each job is related to a continuous distant measure, however due the data structure the binary distinction between local and distant jobs seems to be more appropriate.

will be terminated with differing job destruction rates q_l, for local jobs, and q_d, for distant jobs.

The optimal search strategy is to accept any wage offer with a net wage that exceeds the individual reservation wage x and reject any offer with a net wage that is below x. The reservation wage is defined as the lowest net wage at which the job seeker is indifferent between accepting the job offer and remaining unemployed. For a given discount factor r, the inter-temporal value of accepting a job is defined as the actual net wage plus the expected value of a change with respect to the employment status in the future. Hence, we can denote the value functions of accepting a job as

$$rV_l = w_l + q_l\{V_u - V_l(w_l)\}, \quad \text{for local jobs, and} \tag{1}$$

$$rV_d = w_d - \kappa + q_d\{V_u - V_d(w_d)\} \quad \text{for distant jobs.} \tag{2}$$

The net wage of a local is simply given as w_l, while the wage of distant is reduced by the cost associated to the relocation and the chance of a subsequent unemployment occurs with the job destruction rate. Furthermore, the value of staying unemployed is given as the income during the unemployment spell b reduced by the job search costs c during the unemployment plus the expected utility from accepting a local or a distant job offer in the future.

$$\begin{aligned} rV_u = b - c(e_l, \lambda e_d) &+ \alpha_l(e_l)\int_0^{\infty}\{V_l(w_l) - V_u\}dF_l(w_l) \\ &+ \alpha_d(e_d)\int_0^{\infty}\{V_d(w_d) - V_u\}dF_d(w_d) \end{aligned} \tag{3}$$

By definition the reservation wage is equal to the inter-temporal utility of unemployment $\phi = rV_u$. Equalizing the expected utility from accepting a local or distant job offer and remaining unemployed yields the reservation wage as (e.g. Rogerson et al., 2005)

$$\begin{aligned} \phi = b - c(e_l, \lambda e_d) &+ \frac{\alpha_l(e_l)}{r + q_l}\int_{\phi}^{+\infty}\{w_l - \phi\}dF_l(w_l) \\ &+ \frac{\alpha_d(e_d)}{r + q_d}\int_{\phi+\kappa}^{+\infty}\{w_d - (\phi + \kappa)\}dF_d(w_d). \end{aligned} \tag{4}$$

Given the job offer rates, the cost function and the wage distribution a job seeker chooses the optimal level of effort on local and distant job search in order to maximizes his inter-temporal utility: $\frac{\partial\phi}{\partial e_l} = \frac{\partial\phi}{\partial e_d} = 0$. Hence, the equilibrium condition can be characterized

by,

$$\frac{1}{r+q_d}\frac{\partial \alpha_d}{\partial e_d}\int_{\phi+\kappa}^{+\infty}\{w_d-(\phi+\kappa)\}dF_d(w_d)-\lambda\frac{\partial c}{\partial e_d} = \frac{1}{r+q_l}\frac{\partial \alpha_l}{\partial e_l}\int_{\phi}^{+\infty}\{w_l-\phi\}dF_l(w_l)-\frac{\partial c}{\partial e_l}, \tag{5}$$

where he equalizes the marginal utility with respect to both types of job search, determined by the cost function of job search, the job offer arrival rates and the wage distribution of local and distant jobs.

Since a job-seeker becomes employed when he or she receives a local job offer that exceeds his or her reservation or a distant job that exceeds the reservation wage plus the costs of accepting the offer, the overall hazard rate from unemployment can be defined as the sum of the hazard rate in local and distant jobs:

$$h = h_l + h_d = \alpha_l(e_l)(1-F_l(w_l)) + \alpha_d(e_d)(1-F_d(w_d-\kappa)) \tag{6}$$

In order to identify the effect of the mobility programs on exit rates, respectively employment probabilities, — in other words the effectiveness of the program— it is necessary determine the effect on a job seekers effort spend into local and distant job search. For the ease of notation we assume that $R_d = \frac{1}{r+q_d}\int_{\phi+\kappa}^{+\infty}\{w_d-(\phi+\kappa)\}dF_d(w_d)$ and $R_l = \frac{1}{r+q_l}\int_{\phi}^{+\infty}\{w_l-\phi\}dF_l(w_l)$. Starting with the *transition* and *equipment assistance*, both subsidies reduces the overall costs of accepting a job offer, but have no influence on the relative costs and returns of distant, respectively local, job search. Hence, these mobility programs encourage job seekers to spend more effort into both types of job search, which has a positive effect on the hazard rate, but do affect the importance of distant job search relative to job search in the local labor market.

The *travel cost assistance* has a direct effect on the search behavior by reducing the marginal costs of distant job search λ. This causes the job seeker to increase the effort spend on distant job search e_d and leads to a higher job offer arrival rate of distant jobs $\alpha_d(d)$ which increases the hazard rate into distant jobs. However, the consequences on the search effort spend into local jobs is less clear. Decreasing the costs of distant job search allows the job seeker to spend more time, respectively effort, into job search activities. This endowment effect has a positive influence on both types of job search. However, local job search becomes more expensive relative to distant job search. This price effect reduces the level of local job search effort. The *separation* as well as the *relocation assistance*

eliminates (or reduces) the costs of accepting a distant job offer κ which increases the net wage for a given distant job offer. First of all, this directly increases the probability that a certain wage offer exceeds the reservation wage (see equation 6). Moreover, the increasing net wage of distant jobs makes these jobs more attractive and yields incentives to increase the effort spend into distant job search. On the other hand the effect on local search effort is likely to be negative, since the returns to distant job search increase relative to local job search, which would encourage job seeker's to shift their effort to distant job search.

Proposition 1. *Assuming that* $\frac{\partial^2 \alpha_d}{\partial e_d^2} < 0$ *and* $\frac{\partial^2 c}{\partial e_l \partial e_d} \not> \frac{\partial^2 c}{\partial e_d^2}$, *it follows that* $\frac{\partial e_d}{\partial \lambda} < 0$ *and* $\frac{\partial e_d}{\partial \kappa} < 0$. *Hence, the travel cost, the separation and the relocation assistance increases a job seeker's effort spend into distant job search.*

The first assumption simply describes decreasing marginal returns with respect to distant job search. Therefore, the effect is positive as long as increasing the level of distant search effort does not increases the marginal costs of local job search much stronger than those of distant job search. This is likely to be true, since the job seekers increasing preference for leisure and potential learning effects can be assumed to affect the marginal costs of local and distant job search in a similar way.

Proposition 2. *Assuming that* $\frac{\partial^2 \alpha_l}{\partial e_l^2} < 0$ *and* $\frac{\partial^2 c}{\partial e_l^2} > \lambda \frac{\partial^2 c}{\partial e_l \partial e_d}$, *it follows that* $\frac{\partial e_l}{\partial \lambda} > 0$ *and* $\frac{\partial e_l}{\partial \kappa} > 0$. *Hence, the travel cost, the separation and the relocation assistance reduces a job seeker's effort spend into local job search.*

Again, the first assumption describes decreasing marginal returns to local job search. However, the second assumption is less likely to hold compared to 1, since $\lambda > 1$. This shows that the effect on the effort spend into local job search is much more likely to be ambiguous.

Proposition 3. *The effect of the travel cost, the separation and the relocation assistance on the overall level of search effort is positive when:* $\frac{\partial e_d}{\partial \lambda} < 0$, *respectively* $\frac{\partial e_d}{\partial \kappa} < 0$, *and* $\frac{\partial e_l}{\partial \lambda} < 0$, *respectively* $R_d \frac{\partial^2 \alpha_d}{\partial e_d^2} - \lambda^2 \frac{\partial^2 c}{\partial e_d^2} > R_l \frac{\partial^2 \alpha_l}{\partial e_l^2} - \frac{\partial^2 c}{\partial e_l^2}$.

In order to create a positive effect on the overall level of search effort, the subsidies must either have a positive effect on both, the local and distant search effort, or the marginal net return with respect to distant search effort increases stronger than the marginal net return with respect to local search effort. Otherwise the reduction of local search effort exceeds

the raise in distant search effort (see Technical Appendix for details). The *commuting assistance* in principle has the same effect as the separation and relocation assistance, however it does not affect the costs of accepting a distant job offer which involves a relocation, but only commuting. As we are interested in the effect of applying for vacancies involving a relocation, the commuting assistance is more likely to reduce the costs of accepting a local job offer (in the sense that it is within commuting distance), which increases the net wage for local jobs. However, the question, whether a given job offer involves a relocation or not, is very subjective and the job seekers assessment can changes once he accepted the offer. Therefore, the availability of a commuting assistance might simultaneously increases the net wage for both types of jobs.

2.3 The IZA Evaluation Dataset

This study uses the *IZA Evaluation Dataset*, which was created by IZA with financial support of the Deutsche Post Foundation. The dataset consists of survey information on individuals who entered unemployment between June 2007 and May 2008 in Germany (see Caliendo et al., 2011). The dataset contains a 9% random sample, from the monthly unemployment inflows of approximately 206,000 individuals identified in the administrative records, which are selected for interview. From this gross sample of individuals aged between 16 and 54 years, representative samples of about 1,450 individuals are interviewed each month so that after one year twelve monthly cohorts were gathered.

The age restriction – 16-54 years at entry into unemployment – avoids any influence due to potential retirement decisions. Moreover, individuals who received unemployment benefit type II (subject to Social Code II, SGB II) at entry into unemployment are not included in the dataset, due to three reasons. First, unemployed individuals whose unemployment benefit type I entitlement elapses after being unemployed for a certain period (in most cases after 12 months) will be technically registered in the unemployment inflow statistic as an entry into unemployment benefit type II. In economic terms, however, this does not represent a new entry into unemployment and thus such individuals should be excluded from the sample. Second, the SGB II records are likely to be incomplete and third, individuals receiving unemployment benefit type II are not eligible to every active labor market program (ALMP). Therefore, excluding unemployment benefit type II recipients narrows the sample towards the specified target population.

The first wave of interviews takes place shortly after the entry into unemployment, in median 10 weeks after the registration. Besides the extensive set of individual-level characteristics and labor market outcomes, the individuals are asked a variety of non-standard questions about search behavior, social networks, psychological factors, cognitive and non-cognitive skills, subjective assessments on future outcomes, and attitudes. One year later 8,915 individuals are interviewed again for the second wave of the Evaluation Dataset in order to gather information about the individual labor market performance since the last interview. Finally, the third wave of the interviews takes place 36 months after the initial entry into unemployment. For this third wave 5,786 individuals are interviewed again. Further details about the IZA ED Survey can be found in the user manual (Arni et al., 2013).

For the purpose of the study we further restrict our estimation sample to all individuals who report to search actively for a new employment. Since we are interested in the effect of a distant job search on the probability to find a new employment we divide the sample into two groups: 1) those individuals who state in the first wave that they applied for vacancies which they have to move (*distant job-seekers*) and 2) those individuals who search for a new employment only locally (*local job-seekers*). The estimation sample comprises 5,016 local and 1,823 distant job-seekers. In order to determine the effect of distant job search on the job finding prospect we consider several outcome variables generated by using information from the second wave of the survey. As shown in Table 3 distant job seekers are more likely to be regular employed (54% vs. 49%) as well as self-employed (9% vs. 7%) at wave 2. Moreover distant job seekers face significantly higher exit rates from unemployment into regular employment and self-employment.

[Insert Table 3 about here]

With respect to socio-demographic characteristics, distant job-seekers are better educated, a higher share has a upper secondary school leaving degree or an university degree, younger and are less likely to have family obligations. They spend less time in employment relative to their age and are more likely to live in East-Germany, respectively regions with higher unemployment rates. Moreover, there are differences with respect to the personality of distant and local job seekers. Distant job seekers tend to be more open, less neurotic and have an more internal locus of control, means that they are more likely to believe to control their life. Additionally, they expect better employment prospects and higher wages

in the future, are less likely to have home ownership and spend more effort into overall job search.

3 Estimation Strategy

3.1 The Local Treatment Intensity as Instrumental Variable

As shown in Section 2.2 it is a priori unknown in which way the willingness to move, and especially the availability of mobility programs, affects the likelihood to leave unemployment and start a new employment. The major problem when estimating the effect of distant job search using non-experimental data is the simultaneous correlation of unobserved variables, like the motivation of a job-seeker, with the search behavior and the job finding probability. In order to estimate unbiased results, we use the local treatment intensity at the level of the local employment agency (LEA) as an instrumental variable which affects the probability to search for a distant job but not a job seeker's labor market prospects. The local treatment intensity is defined as the log of the ratio of entries into mobility assistance programs (as presented in Section 2.1) and the average stock of unemployed in each LEA district j:

$$Z_j = \log\left[\frac{N_j^{ma}}{N_j^{ue}} \times 100\right], \tag{7}$$

where N_j^{ma} denotes the number of recipients of mobility assistance and N_j^{ue} denotes the average stock of unemployed in the LEA district j.[5] Both numbers are measured in the year before the considered entry window into unemployment. This ensures that our estimation sample will not contribute to the construction of the instrumental variable and time-dependent regional differences will have no influence on our estimation results. In the following we refer to this as the lagged treatment intensity. Hence, the system of equations is given by:

$$Y_i = \beta_1 D_i + \beta_2 X_i + v_i \tag{8}$$

$$D_i = \gamma_1 Z_j + \gamma_2 X_i + u_i, \tag{9}$$

where Y_i denotes the potential outcome variable, i.e. a dummy variable which indicates an exit from unemployment within a certain period or the employment probability, D_i is a

[5] Similar regional variations are used as instrumental variables for instance by Briggs and Kuhn (2008), Frölich and Lechner (2010) and Card and Krueger (1993).

dummy which indicates distant job search and Z_j is the instrumental variable characterizing the local employment agencies preferences for mobility programs, while X_i contains control variables on the individual and regional level.

As discussed in Imbens and Angrist (1994), an instrumental variable has to fulfill two conditions in order to estimate causal effects. First, the instrument has to be relevant, which means that the instrument has to be correlated with the endogenous variable. Within the IV literature, usually a F-statistic of larger than 10 is considered to suggest sufficiently strong instruments (Staiger and Stock, 1997). As shown in the next section, this condition is fulfilled for all of our specifications in order that we do not face a weak instrument problem.

The second condition requires that the instrument is uncorrelated with the error term. Since this assumption is not directly testable, we argue that lagged treatment intensity is a measure for the LEA's preferences for mobility programs(see Caliendo et al., 2014, for details). However, apart from exogenous differences caused by preferences, the treatment intensity is likely to depend on regional labor market characteristics and differences with respect to the stock of unemployed job-seekers between the LEA districts. Therefore, we include several regional characteristics, like the unemployment rate, GDP, vacancy rate, industry structure and population size as control variables. Moreover, we construct three different instruments based on the different types of mobility programs (see Table 4). The type I instrument is defined as the treatment intensity among all types of mobility assistance. The type II instrument is defined as the intensity through all types, except for relocation and separation assistance. The idea is that these two subsidies are most likely to affect a job-seekers willingness to apply for vacancies which involve a relocation. Hence, unobserved variables which affects the treatment intensity and the willingness to move simultaneously are most likely to be caused by these two programs. Similar, the type III instrument defined as the treatment intensity only through equipment and transition assistance, which are not associated to participants regional mobility at all. Excluding those programs from the construction of the instrument eliminates, respectively reduces, potential bias due to unobserved heterogeneity.[6]

Additionally, as shown in Table 2, our estimation procedure includes a variety of non-standard information on personality traits, socio-cultural characteristics, expectations and

[6]We provide further evidence for the satisfaction of the exogeneity assumption in Appendix A.2.

job search behavior. Since the exogeneity condition requires the instrument to be independent of outcome variables conditioned on the set of control variables, this variety of conditioning variables reduces the likelihood of potential correlation between unobserved regional differences that influence the local demand for mobility assistance and labor market outcomes simultaneously. Furthermore, estimation results from our previous study (Caliendo et al., 2014), which allows to control for regional fixed effects, show that these unobserved region heterogeneity has only a small impact on the estimation results when evaluating the effect of the relocation, respectively separation assistance.

[Insert Table 4 about here]

3.2 The Local Average Treatment Effect

Using instrumental variable methods have been widely used when evaluating the effect of social programs (e.g. Angrist, 1995), while recent work has discussed the interpretation of the IV estimates and heterogeneity among the population of interest (e.g. Angrist et al., 1996; Heckman, 1997; Heckman and Vytlacil, 2005). Imbens and Angrist (1994) state that in general an instrumental variable approach identifies only the treatment effect for individuals who react to a change of the instrument. This so called local average treatment effect (LATE) is the mean effect on the subpopulation of compliers, in our case, those job-seekers who search for distant jobs if the local treatment intensity is high but would search only locally if the treatment intensity is low. Most of the literature on LATE focusses on the case where the instrumental variable itself is exogenous which means no control variables are necessary, while Heckman and Vytlacil (1999) or Imbens (2001) discuss the LATE including covariates. Let $P(Z)$ denote the probability that a job-seeker apply for distant jobs $Pr(D = 1|X, Z)$. Following Heckman and Vytlacil (1999), the LATE for individual i is defined as:

$$\Delta^{LATE}(X, P(Z), P(Z')) = \frac{E(Y|X, P(Z)) - E(Y|X, P(Z'))}{P(Z) - P(Z')}. \tag{10}$$

It yields the differences between the expected outcome given the actual realizations of X and Z and a counterfactual situation which is equivalent, apart from the fact that the instrument, in our case the treatment intensity, differs. Given the exclusion restriction holds, this would induce only a non-zero effect when the change of the treatment intensity is sufficient to induce a change of the individual job search radius. Regarding the construction of our instrument, the local treatment intensity, the LATE concept is highly useful when interpreting our estimation results. Using the LEA's preferences for the mobility assistance

as the instrumental variable and the individual job search behavior as the endogenous variable, rather than the actual participation in a program allows us to determine the effectiveness of the policy for a highly relevant subgroup of job-seekers, namely those who actually change their individual behavior due to the policy style of the employment agency.

4 Estimation Results

In order to show the relevance of the instrumental variable the upper part of Table 9 presents the first stage estimation results for the three different types of instrumental variables (see Table 4). As indicated by the F-statistic all types of treatment intensities are sufficient to not suffering a weak instrument problem. For example, considering the type I treatment intensity, including all programs, doubling the treatment intensity would increase the share of distant job-seekers about 4.1 percentage points. Unsurprisingly, the effects are slightly lower for the type II and type III instrument, but still statistically significant at the 1%-level. In order to test the robustness of our instrumental variable with respect to potentially time-invariant unobserved regional heterogeneity, we additionally show estimation results including federal state fixed effects. However, as shown in column 6-8, this has nearly no impact on the estimated effects.

4.1 Job Search Behavior

As discussed in Section 2.2 the subsidies might effect the search effort spend into distant and local jobs differently. Since we have information on the job-seekers number of job applications for all types of jobs, as well as for jobs which involve a relocation, we can directly test the effect of the mobility programs on the job search behavior using the average weekly number of job applications between the entry into unemployment and the interview. Unsurprisingly, our results show a statistically significant higher number of distant job applications for both OLS and 2SLS. However, the main interest should lie on the effect on the effort spend on local job search as a potential substitution effect from local to distant job search should mirror into a negative effect on this variable. While the purely descriptive comparison shows no difference between local and distant job seekers, we find a negative and significant effect when we include control variables. This effect becomes even larger when we apply the instrumental variable strategy, while the

reduction of local job applications is about one third of the rise in distant job applications. Overall, the availability of the mobility programs leads to one more job application per week, significant at the 1%-level.

4.2 Labor Market Outcomes

However, the pure number of job applications can only proxy the effective job search effort. For example, the availability of the mobility programs might increase the quantity, but might lower the quality of job applications. To analyze the consequences of these behavioral changes we estimate the effects on different employment probabilities, namely for regular employment, marginal employment and subsidized, respectively unsubsidized self-employment, separately. The idea is that job seekers are expected to search for distant jobs in order to start regular employment, while founding his/her own business or entering marginal employment might be an alternative strategy in order to avoid a relocation. The lower part of Table 9 presents the results for these employment probabilities at the second interview (12-15 months after the entry into unemployment). Column (1) shows the raw differences without controlling for any covariates. The distant job seekers face an about 5 percentage points higher probability of being regular employed, while the probability of being marginal employed is reduced by nearly the same amount. With respect to self-employment, we find small positive effects for both, subsidized and unsubsidized self-employment. However, including control variables (see column 2) causal all these significant differences to vanish.

Applying the instrumental variable strategy changes the estimation results substantially. As stated in the previous section this estimation procedure generates the LATE on the subpopulation of compliers, which are —given the choice of our instrument— those job seekers who apply for distant jobs due to the policy of their local employment agency. Since the results are nearly constant among the different types instruments we only discuss the results for the type II instrument which we also use for further sensitivity analysis. With respect to the employment status in wave 2, distant job seekers have a 17.3 percentage points higher probability of being regular employed and a 15.4 percentage points higher probability to be marginal employed, both statistically significant at the 1%-level. With respect to self-employment, distant job search reduces the likelihood of using a start-up subsidy about 6.5 percentage points, statistically significant at the 5%-level, while there

is no effect unsubsidized self-employment.

[Insert Table 9 about here]

Linking the estimation results to the spatial job search model from Section 2.2, the availability of mobility programs increases the job seekers overall effort spend on job search, while the increase of distant search effort is about twice as large as corresponding reduction in local job search activities. These changes of the job search behavior result in higher overall employment probabilities in regular employment, but also marginal employment. The latter is somewhat surprising since job seekers are not expected to move in order to start a marginal employment whose gains are probably not sufficient to compensate for the high moving costs.[7] Hence, this result indicates that unemployed job seekers who search for distant jobs due to the availability of the program and fail to find a distant job, respectively those who decide not to accept a distant offer, are more likely to end up in marginal employment. This is likely to be induced by the reduction of effort spend into local job search. Moreover, we find a reduction in self-employment activities due to the mobility programs, which is about half of the magnitude of the positive effect on regular employment, while the major part of this effect can be attributed to a reduction of subsidized self-employment.

Moreover, we estimate the effect on the log of the monthly net household income in wave 2. While there is a significant negative effect using OLS the IV estimates show an about 27% higher income for households with a job seeker who applies for distant jobs due to the policy mix of the local employment agency. This is in line with our previous findings (see Caliendo et al., 2014), where we find a similar effect on the wage of recipients of the relocation assistance. However, examine the effect on household income instead of individual income shows that the positive wage effects of the relocation does not simultaneously involve a reduction of the partner's income.

4.3 Job Finding Probabilities

So far, we focused only on employment probabilities, for different types of jobs, at the moment of the second interview. Hence, in order to control for potential duration dependence, we estimate the effect of distant job search on the monthly exit rates from unemployment

[7] Further analysis shows that the effect is completely driven by local marginal jobs, rather than distant marginal employment. Estimation results are available upon request by the authors.

between the entry and the second interview. We use a discrete time duration model, however in contrast to the standard literature —which uses a logit or complementary log-log specification— we specify this as a linear probability model in order to apply the 2SLS estimator which allows us to control for the endogeneity of the search behavior and can be interpreted as the LATE on job seekers who change their search behavior with respect to LEA's policy style.

The estimation results are presented in Table 6. As suggested by the effect on employment probabilities in wave 2, we find a higher exit rate for distant job seekers into regular jobs which is about 4 percentage points and lower exit rates into subsidized self-employment which is about 0.5 percentage points, both statistically significant at the 5%-level. However, in contrast to our previous findings, there is no effect on the exit rate into marginal employment, which indicates that distant and local job seekers face the same likelihood to start a marginal job, but distant job seekers are more likely to stay in these jobs until the second interview. As for the baseline estimates there is no effect for unsubsidized self-employment. Moreover, this estimation strategy allows us to control in detailed way for participation in other active labor market policy programs during the time of the initial unemployment spell. This ensures that the overall allocation of programs within a LEA district does not effect the treatment intensity with respect to mobility programs and the job finding probabilities simultaneously. However, as shown in column 6 our estimation results are quite robust with respect to this potential source of endogeneity.

[Insert Table 6 about here]

4.4 Heterogenous Effects wrt to Distant Search Effort

So far, we only compare those job seekers who stated that they applied for at least one job offer which would involve a relocation since they entered unemployment with those who did not apply for any distant job. However, as shown in Figure 1, the number of job applications differs substantially among job seekers. To take into account the differing effort levels with respect to distant job search we divide the distant job seekers with respect to the average weekly number of distant job applications. For individuals who send out only a few number of applications on distant vacancies it is not clear whether those job seekers are actually willing to move in order to start a new employment, while we assume that this is more likely to be the case for job seekers who send out a lot of applications to

distant firms.

[Insert Figure 1 about here]

Hence, Table 7 shows the estimation results using only distant job seekers in the upper quartile of the distant effort distribution (all distant job seekers to the left of the 75%-line are excluded), while Table 8 presents the results for the low effort distant job seekers (all distant job seekers to the right of the 75%-line are excluded). For high effort distant job seekers we find a substantially larger effect on the probability of being regular employer in wave 2 and the log household income, while there is nearly no effect on marginal employment. However, for low effort distant job seekers there is even a negative effect on regular employment but a substantially larger effect on marginal employment. Hence, it seems to be the case that distant job search is only efficient when the effort spend into these activities exceeds a certain threshold, in our case about 1 application which would involve a relocation per week. Otherwise, the effort spend into distant job search is not sufficient generate positive effects on employment prospects in distant labor markets, but the reduction in local job search activities has deleterious effects on the chances to find a regular job in the local labor market in order that low effort distant job seekers are more likely to end up in marginal jobs.[8] With respect to (subsidized and unsubsidized) self-employment, we find no clear evidence for difference between low and high effort distant job seekers. The overall patterns are similar to the baseline results for both groups.

[Insert Table 7 and Table 8 about here]

5 Conclusion

The aim of the study is to investigate the effectiveness of the German system of mobility assistance with respect to the labor market prospects of unemployed job seekers. The mobility assistance comprises several subsidies which support the traveling to distant job interviews, the daily commuting to work and temporary, as well as permanent, changes of the place residence in order to start a new employment. Our theoretical model from Section 2.2 shows that under fairly weak assumptions travel cost, separation and relocation assistance reduces the marginal costs of distant job search, respectively increases the

[8] However, as in the previous section, there is no difference with respect to the probability to find a marginal job, but to stay in marginal employment for a longer period.

marginal returns, which encourages job seekers to spend more effort into distant search activities and increases their chances to find a job that involves a relocation. However, this raise of distant search effort is likely to cause a decline in local job search activities in order that overall effect of the mobility programs remains ambiguous.

In contrast to most previous studies, our survey data contain very detailed information which allows us to determine the effect of the program on the individual job search behavior, especially search intensities, and consequences on job finding and employment prospects. The rich dataset allows us to control for variety of information are which typical for evaluation studies, like socio-demographic characteristics, labor market histories and regional information, but also a large set of usually unobserved variables, like personality traits, expectations and socio-cultural characteristics. However, to take into account unobserved heterogeneity with respect to the individual labor market mobility, we exploit regional differences with respect to local employment agencies preferences for mobility programs and apply an instrumental variable approach. The idea is that individuals, living in employment agency district with a high preferences for mobility programs, are more likely to be informed about the availability of the subsidies which encourages them to spend (more) effort into distant job search. This estimation procedure generates the local average treatment effect on those individuals who apply for distant vacancies due to the policy style of the responsible employment agency which is highly policy relevant.

Our estimation results show that those job seekers whose distant search activities are induced by the policy of the employment agency increase their overall search effort which results in higher exit and employment rates into regular employment, but negative effects on the probability to found an own business. Since the latter is only true for subsidized self-employment, the subsidies seem to reduce the dependence of other forms of governmental support. Moreover, we find also positive effect of distant job search, induced by the mobility programs, on employment probabilities in marginal employment which is driven by those job seekers who spend relatively low effort into distant job search. This implies that the reduction in local job search activities has deleterious effects on the chances to find a regular job in the local labor market, but the small effort spend into distant job search is not sufficient to generate positive effects on distant employment prospects which forces them to spend more time in marginal employment.

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Tables and Figures

Table 1: Entries into Mobility Programs in 1,000

	2005	2006	2007	2008
Entries into unemployment	8,427	8,129	8,155	8,302
Entries into ALMP programs				
Mobility assistance (total)	221	281	352	375
Equipment assistance	32	37	42	42
Transition assistance	14	20	31	40
Travel cost assistance	37	47	54	52
Commuting assistance	91	117	156	172
Separation assistance	23	26	30	26
Relocation assistance	23	29	38	41
Vocational training	152	265	360	447
Job creation schemes	78	79	66	67
Wage subsidies	144	226	262	264
Start-up subsidies	91	76	126	119

Source: Statistic of the German Federal Employment Agency.

Table 2: Overview - Control Variables

Category	Control variables
1) **Baseline variables**	*Socio-demographic characteristics* Gender, Marital status, German citizenship, Migration background, Number of children, Searching for full- or part-time employment *Labor market history* Month of entry into unemployment, Time between entry into unemployment and interview, Unemployment benefit recipient, Level of unemployment benefits, Lifetime months in unemployment (div. by age-18), Lifetime months in employment (div. by age-18), Employment status before unemployment *Regional characteristics* Living in West-Germany, Local unemployment rate, GDP (real) per capita, Local vacancy rate, Share of working population in different sectors (agriculture, service and industry), No. of inhabitants in local employment agency district
2) **Personality traits**	Openness, Conscientiousness, Extraversion, Neuroticism, Locus of control
3) **Socio-cultural characteristics**	Number of good friends outside the family, Father has A-level qualification, Employment status of partner, Problems with child care, Life satisfaction, Writing and language skills in German/English
4) **Job search and employment outlook**	Expected income from next job, Expected probability to find a job in next six months, Expected probability of program participation, Usage of different job search channels (posting an advertisement myself, using job information system, contacting friends or acquaintances, contacting an agent of the unemployment agency, contacting a private agent with/without agency voucher, research on the internet, direct applications at companies)

Table 3: Selected Descriptive Statistics

	Local job seekers	Distant job seekers	P-value
No. of observations	5,016	1,823	
Labor market outcomes			
Relocation between wave 1 and wave 2 (on county level)	0.03	0.12	0.00
Regular employed at wave 2	0.49	0.54	0.00
Local employment	0.48	0.45	0.08
Distant employment	0.01	0.09	0.00
Self-employed at wave 2	0.07	0.09	0.00
Average weekly number of total applications	1.25	2.15	0.00
Average weekly number of distant applications	0.00	0.91	0.00
Socio-demographic characteristics			
Specialized upper secondary school	0.25	0.40	0.00
Technical college or university degree	0.17	0.35	0.00
Female	0.54	0.39	0.00
Living in West Germany	0.71	0.65	0.00
Age in years	37.18	31.57	0.00
Married (or cohabiting)	0.46	0.21	0.00
Two (or more) children	0.17	0.07	0.00
Searching for for part-time employment	0.19	0.01	0.00
Labor market history			
Unemployment benefit recipient (1=yes)	0.76	0.74	0.09
Level of UB (missings=0)	479.21	494.29	0.24
Months in employment (div. by age-18)	8.34	6.96	0.00
Regional characteristics			
Local unemployment rate in %	8.99	9.45	0.00
GDP (real) per capita in €1000	26.30	26.56	0.43
Local vacancy rate in %	11.37	11.08	0.11
Share of working population in %			
in industry sector	26.37	25.48	0.00
in service sector	71.55	72.56	0.00
Personality traits			
Openness	4.97	5.23	0.00
Conscientiousness	6.21	6.20	0.61
Extraversion	5.14	5.21	0.01
Neuroticism	3.82	3.60	0.00
Locus of control	4.99	5.13	0.00
Socio-cultural characteristics			
Number of good friends outside the family	4.73	5.11	0.01
Father has A-level qualifications (1=yes)	0.15	0.23	0.00
Partner is full-time employed	0.50	0.30	0.00
Big problems with child care	0.04	0.01	0.00
High language skills English	0.24	0.45	0.00
Homeowner (1=yes)	0.42	0.30	0.00
Expectations and employment outlook			
Subjective (overall) probability of treatment			
low	0.25	0.24	0.44
high	0.24	0.24	0.65
Expected probability to find a job in the next 6 months			
improbable	0.10	0.06	0.00
very probable	0.30	0.36	0.00
Expected monthly net income			
> 75%-Quantil	0.13	0.25	0.00
Job search characteristics			
Number of own applications (mean)	12.21	21.36	0.00
Use of search channel			
posting an advertisement myself	0.10	0.16	0.00
research on the internet	0.81	0.91	0.00
contacting a private agent without agency voucher	0.12	0.19	0.00
direct application at companies	0.61	0.68	0.00

Note: All numbers are percentages unless otherwise indicated. Personality traits are measured with different items on a 7-Point Likert-Scale. P-values are based on two-tailed t-tests on equal means between local and distant job seekers.

Table 4: Mobility Programs and the Treatment Intensity as Instrumental Variable

Mobility programs	Treatment intensity Type I	Type II	Type III	Description
Equipment assistance	Yes	Yes	Yes	Financial support of work equipment and work clothes up to €260
Transition assistance	Yes	Yes	Yes	Interest-free loan up to €1000 for transition period until the first wage payment
Travel cost assistance	Yes	Yes	No	Supports travel expenses for distant job interviews up to €300
Commuting assistance	Yes	Yes	No	Supports daily commuting to work with 20 cent per km for the first six months
Separation assistance[1]	Yes	No	No	Supports double housekeeping up to €260 for the first six months
Relocation assistance[1]	Yes	No	No	Coverage of full transportation costs when permanent movement is necessary

Note: Depicted are descriptions of the six types of mobility assistance and the corresponding definitions of three types of instrumental variables.
[1]Separation and relocation assistance require that the daily commuting distance to the new workplace would exceed 2.5 hours.

Table 5: Baseline Estimation Results: Distant vs. Local Job Seekers

	OLS (1)	OLS (2)	2SLS (3)	2SLS (4)	2SLS (5)	2SLS (6)	2SLS (7)	2SLS (8)
First stage estimation: The effect of local treatment intensities on distant job search								
Log treatment intensity								
Type I			0.041***			0.039***		
			(0.009)			(0.013)		
Type II				0.035***			0.034***	
				(0.008)			(0.01)	
Type III					0.028***			0.022**
					(0.007)			(0.009)
Second stage estimation: The effect of distant job search on outcome variables								
Average weekly number of job applications (wave 1)								
Distant jobs	0.905***	0.824***	1.628***	1.618***	1.605***	1.571***	1.565***	1.564***
	(0.029)	(0.025)	(0.126)	(0.123)	(0.126)	(0.123)	(0.12)	(0.123)
Local jobs	0.025	-.131*	-.570**	-.552**	-.544*	-.470*	-.452*	-.453*
	(0.068)	(0.068)	(0.285)	(0.275)	(0.287)	(0.242)	(0.237)	(0.256)
Overall	0.930***	0.693***	1.058***	1.066***	1.062***	1.101***	1.113***	1.111***
	(0.077)	(0.076)	(0.306)	(0.297)	(0.305)	(0.269)	(0.263)	(0.279)
Employment status (wave 2)								
Regular employed	0.049***	-.006	0.172**	0.173**	0.191***	0.168**	0.17**	0.194***
	(0.013)	(0.014)	(0.071)	(0.071)	(0.072)	(0.074)	(0.073)	(0.074)
Marginal employed	-.045***	-.009	0.155***	0.154***	0.165***	0.162***	0.161***	0.168***
	(0.006)	(0.006)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.051)
Subsidized self-employed	0.009*	0.006	-.067**	-.065**	-.065**	-.071**	-.068**	-.069**
	(0.005)	(0.006)	(0.031)	(0.031)	(0.031)	(0.031)	(0.03)	(0.032)
Unsubsidized self-employed	0.014**	0.01	-.017	-.020	-.014	-.016	-.018	-.021
	(0.006)	(0.006)	(0.032)	(0.032)	(0.033)	(0.033)	(0.033)	(0.034)
Log household income (wave 2)	-.114***	-.050**	0.275**	0.267**	0.271**	0.302***	0.298***	0.302***
	(0.023)	(0.025)	(0.119)	(0.120)	(0.121)	(0.116)	(0.116)	(0.117)
Including control variables	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Including federal state fixed effects	No	No	No	No	No	Yes	Yes	Yes
Instrumental variable	—	—	Type I	Type II	Type III	Type I	Type II	Type III
F-statistic for weak identification	—	—	20.29	21.46	15.10	9.06	10.41	6.50
No. of observations	6,839	6,839	6,839	6,839	6,839	6,839	6,839	6,839

Note: Depicted are estimated differences between distant and local job seekers for several outcome variables using OLS (column 1-2) and 2SLS (column 3-8), as well as first stage estimation results for the 2SLS estimates. Standard errors are shown in parenthesis and are clustered at the regional level (LEA district). ***/**/* indicate statistically significance at the 1%/5%/10%-level. The set of control variables includes socio-demographic characteristics, labor market histories, regional information, personality traits, socio-cultural characteristic, expectations and job search characteristics (see Table 2).

Table 6: Discrete Time Duration Model: Exit Rates from Unemployment

	OLS (1)	OLS (2)	2SLS (3)	2SLS (4)	2SLS (5)	2SLS (6)
Exit rate from unemployment to						
Any employment	0.022***	0.004	-.015	-.015	-.014	-.011
	(0.004)	(0.005)	(0.022)	(0.022)	(0.023)	(0.022)
Regular employment	0.01***	-.001	0.036**	0.036**	0.039**	0.036**
	(0.003)	(0.004)	(0.017)	(0.017)	(0.017)	(0.017)
Marginal employment	-.001***	-.0001	0.0003	0.0003	0.0002	0.0002
	(0.0003)	(0.0003)	(0.002)	(0.002)	(0.002)	(0.002)
Subsidized self-employment	0.0006*	0.0006	-.004**	-.004**	-.004**	-.006***
	(0.0003)	(0.0004)	(0.002)	(0.002)	(0.002)	(0.002)
Unsubsidized self-employment	0.0005*	0.0002	0.0002	0.00007	0.0003	-.00002
	(0.0003)	(0.0003)	(0.002)	(0.002)	(0.002)	(0.002)
Including standard control variables	No	Yes	Yes	Yes	Yes	Yes
Controlling for other ALMP participation	No	No	No	No	No	Yes
Instrumental Variable	—	—	Type I	Type II	Type III	Type II
No. of observations	6,839	6,839	6,839	6,839	6,839	6,839

Note: Depicted are estimated effects of distant job search on hazard rates to regular employment and self-employment using linear probability models. Standard errors are shown in parenthesis and are clustered at the individual level. ***/**/* indicate statistically significance at the 1%/5%/10%-level. The set of control variables includes socio-demographic characteristics, labor market histories, regional information, personality traits, socio-cultural characteristic, expectations, job search characteristics (see Table 2) and participation in other active labor market policy programs during the unemployment spell (only column 6). Additionally, we control in each specification for duration dependence.

Table 7: Sensitivity Analysis: High Effort Distant vs. Local Job Seekers

	OLS (1)	OLS (2)	2SLS (3)	2SLS (4)	2SLS (5)
First stage estimation: The effect of local treatment intensities on distant job search					
Log treatment intensity					
Type I			0.031***		
			(0.007)		
Type II				0.028***	
				(0.006)	
Type III					0.023***
					(0.006)
Second stage estimation: The effect of distant job search on outcome variables					
Average weekly number of job applications (wave 1)					
Local jobs	0.153	-.103	-.457*	-.427	-.438*
	(0.129)	(0.123)	(0.262)	(0.263)	(0.259)
Overall	2.707***	2.438***	2.219***	2.238***	2.209***
	(0.155)	(0.15)	(0.286)	(0.285)	(0.278)
Employment status (wave 2)					
Regular employed	0.095***	0.045	0.25***	0.254***	0.256***
	(0.027)	(0.028)	(0.066)	(0.066)	(0.068)
Marginal employed	-.046***	-.005	0.036	0.037	0.045
	(0.011)	(0.012)	(0.037)	(0.037)	(0.038)
Subsidized self-employed	0.006	0.0008	-.084***	-.086***	-.085***
	(0.01)	(0.011)	(0.026)	(0.026)	(0.026)
Unsubsidized self-employed	0.022**	0.013	0.0009	-.001	0.001
	(0.011)	(0.011)	(0.035)	(0.035)	(0.036)
Log household income (wave 2)	-.096*	-.065	0.357***	0.362***	0.34***
	(0.056)	(0.06)	(0.113)	(0.112)	(0.112)
Including control variables	No	Yes	Yes	Yes	Yes
Instrumental variable	—	—	Type I	Type II	Type III
F-statistic for weak identification	—	—	17.54	18.72	16.28
No. of observations	5,444	5,444	5,444	5,444	5,444

Note: Depicted are estimated differences between distant job seeker, in the upper quartile of the effort distribution, and local job seekers for several outcome variables using OLS (column 1-2) and 2SLS (column 3-5), as well as first stage estimation results for the 2SLS estimates. Standard errors are shown in parenthesis and are clustered at the regional level (LEA district). ***/**/* indicate statistically significance at the 1%/5%/10%-level. The set of control variables includes socio-demographic characteristics, labor market histories, regional information, personality traits, socio-cultural characteristic, expectations and job search characteristics (see Table 2).

Table 8: Sensitivity Analysis: Low Effort Distant vs. Local Job Seekers

	OLS (1)	OLS (2)	2SLS (3)	2SLS (4)	2SLS (5)
First stage estimation: The effect of local treatment intensities on distant job search					
Log treatment intensity					
Type I			0.028***		
			(0.008)		
Type II				0.025***	
				(0.007)	
Type III					0.020***
					(0.007)
Second stage estimation: The effect of distant job search on outcome variables					
Average weekly number of job applications (wave 1)					
Local jobs	-.014	-.162**	-.578*	-.580*	-.522
	(0.079)	(0.082)	(0.327)	(0.316)	(0.329)
Overall	0.385***	0.228***	-.044	-.045	0.016
	(0.08)	(0.083)	(0.329)	(0.318)	(0.332)
Employment status (wave 2)					
Regular employed	0.035***	-.013	0.142	0.143	0.156*
	(0.014)	(0.014)	(0.088)	(0.087)	(0.089)
Marginal employed	-.044***	-.008	0.21***	0.207***	0.216***
	(0.007)	(0.007)	(0.059)	(0.059)	(0.06)
Subsidized self-employed	0.009*	0.006	-.059	-.056	-.056
	(0.005)	(0.006)	(0.038)	(0.037)	(0.038)
Unsubsidized self-employed	0.011*	0.008	-.036	-.037	-.029
	(0.007)	(0.007)	(0.037)	(0.036)	(0.037)
Log household income (wave 2)	-.119***	-.046*	0.300**	0.289*	0.299*
	(0.027)	(0.027)	(0.153)	(0.151)	(0.153)
Including control variables	No	Yes	Yes	Yes	Yes
Instrumental variable	—	—	Type I	Type II	Type III
F-statistic for weak identification	—	—	11.76	12.78	8.47
No. of observations	6,411	6,411	6,411	6,411	6,411

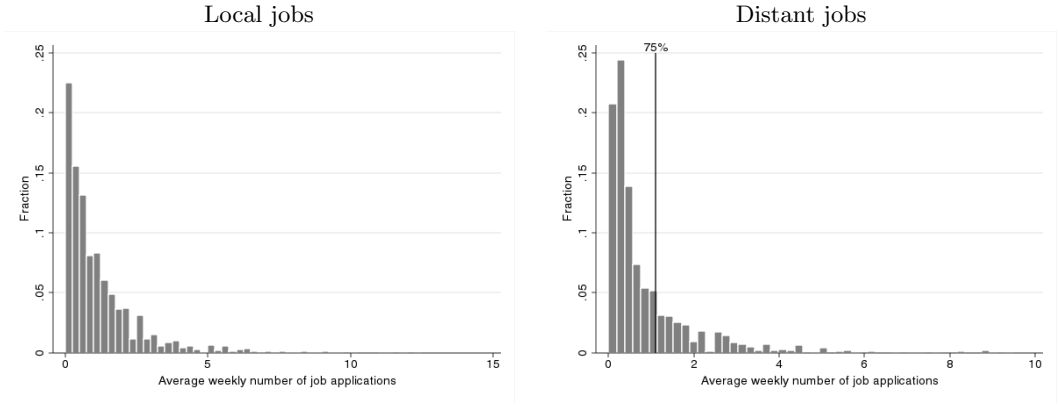
Note: Depicted are estimated differences between distant job seeker, in the lower three quartiles of the effort distribution, and local job seekers for several outcome variables using OLS (column 1-2) and 2SLS (column 3-5), as well as first stage estimation results for the 2SLS estimates. Standard errors are shown in parenthesis and are clustered at the regional level (LEA district). ***/**/* indicate statistically significance at the 1%/5%/10%-level. The set of control variables includes socio-demographic characteristics, labor market histories, regional information, personality traits, socio-cultural characteristic, expectations and job search characteristics (see Table 2).

Table 9: Baseline Estimation Results: Distant vs. Local Job Seekers

	OLS (1)	OLS (2)	2SLS (3)	2SLS (4)	2SLS (5)	2SLS (6)	2SLS (7)	2SLS (8)
Advertisement in a newspaper	-.017**	-.016**	-.061	-.062*	-.061	-.047	-.049	-.048
	(0.007)	(0.008)	(0.038)	(0.038)	(0.038)	(0.038)	(0.038)	(0.039)
Posting an advertisement myself	0.001	0.0002	0.007	0.006	0.004	0.003	0.002	0.0006
	(0.002)	(0.002)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Using job information system (SIS)	-.003	-.008**	-.011	-.011	-.010	-.016	-.016	-.014
	(0.003)	(0.004)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)
Contacting friends, acquaintances, family etc.	-.010	-.005	0.073	0.074	0.073	0.088*	0.088*	0.095*
	(0.009)	(0.01)	(0.053)	(0.052)	(0.053)	(0.051)	(0.051)	(0.052)
Contacting an agent of the unemployment agency	0.005	0.003	-.040	-.037	-.035	-.053	-.049	-.046
	(0.006)	(0.007)	(0.033)	(0.033)	(0.034)	(0.034)	(0.033)	(0.034)
Research on the internet	0.069***	0.028***	0.199***	0.204***	0.212***	0.21***	0.215***	0.218***
	(0.009)	(0.009)	(0.04)	(0.04)	(0.041)	(0.039)	(0.039)	(0.04)
Contacting a private agent without agency voucher	0.005**	0.0007	0.028**	0.025*	0.029**	0.022	0.019	0.025*
	(0.003)	(0.003)	(0.014)	(0.013)	(0.014)	(0.013)	(0.013)	(0.013)
Contacting a private agent with agency voucher	0.003	0.003	0.016	0.016	0.014	0.013	0.013	0.011
	(0.003)	(0.003)	(0.014)	(0.014)	(0.013)	(0.014)	(0.014)	(0.013)
Direct application at companies	-.006	-.012*	-.024	-.026	-.020	-.041	-.041	-.035
	(0.007)	(0.007)	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)
Including control variables	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Including federal state fixed effects	No	No	No	No	No	Yes	Yes	Yes
Instrumental variable	—	—	Type I	Type II	Type III	Type I	Type II	Type III
F-statistic for weak identification	—	—	20.29	21.46	15.10	9.06	10.41	6.50
No. of observations	6,839	6,839	6,839	6,839	6,839	6,839	6,839	6,839

Note: Depicted are estimated differences between distant and local job seekers for several outcome variables using OLS (column 1-2) and 2SLS (column 3-8), as well as first stage estimation results for the 2SLS estimates. Standard errors are shown in parenthesis and are clustered at the regional level (LEA district). ***/**/* indicate statistically significance at the 1%/5%/10%-level. The set of control variables includes socio-demographic characteristics, labor market histories, regional information, personality traits, socio-cultural characteristic, expectations and job search characteristics (see Table 2).

Figure 1: Distribution of Job Search Effort



Note: Depicted are the distributions of the average weekly number of job applications in local job for all individuals (N=6,839) and distant jobs only for distant job seekers (N=1,823).

A Appendix

A.1 Notes on the Spatial Job Search Model

For condition 5 being a maximum, it must be true that:

$$\frac{\partial^2\phi}{\partial e_d^2}\frac{\partial^2\phi}{\partial e_l^2} - \frac{\partial^2\phi}{\partial e_d e_l} = \left(R_d\frac{\partial^2\alpha_d}{\partial e_d^2} - \lambda^2\frac{\partial^2 c}{\partial e_d^2}\right)\left(R_l\frac{\partial^2\alpha_l}{\partial e_l^2} - \frac{\partial^2 c}{\partial e_l^2}\right) - \lambda\frac{\partial^2 c}{\partial e_l \partial e_d} > 0 \tag{11}$$

$$\text{and} \quad \frac{\partial^2\phi}{\partial e_d^2} = R_d\frac{\partial^2\alpha_d}{\partial e_d^2} - \lambda^2\frac{\partial^2 c}{\partial e_d^2} < 0. \tag{12}$$

The effect of λ, respectively κ, on e_d and e_l can be derived by taking the total differential of equation 5, which is given as:

$$\left(R_d\frac{\partial^2\alpha_d}{\partial e_d^2} - \lambda^2\frac{\partial^2 c}{\partial e_d^2} + \lambda\frac{\partial^2 c}{\partial e_l^2 \partial e_d^2}\right)de_d - \frac{\partial R_d}{\partial\kappa}\frac{\partial\alpha_d}{\partial e_d}d\kappa \tag{13}$$

$$= \left(R_l\frac{\partial^2\alpha_l}{\partial e_l^2} - \frac{\partial^2 c}{\partial e_l^2} + \lambda\frac{\partial^2 c}{\partial e_l^2 \partial e_d^2}\right)de_l - \left(e_d\lambda\frac{\partial^2 c}{\partial e_d^2} + \frac{\partial c}{\partial e_d}\right)d\lambda. \tag{14}$$

By assuming that $d\kappa = 0$ and $de_l = 0$, respectively $de_d = 0$, we can derive the derivative of e_d, respectively e_l, with respect to λ:

$$\frac{\partial e_d}{\partial\lambda} = e_d\frac{\lambda\frac{\partial^2 c}{\partial e_d^2} + \frac{\partial c}{\partial e_d}\frac{1}{e_d}}{R_d\frac{\partial^2\alpha_d}{\partial e_d^2} - \lambda^2\frac{\partial^2 c}{\partial e_d^2} + \lambda\frac{\partial^2 c}{\partial e_l^2\partial e_d^2}} \tag{15}$$

$$\frac{\partial e_l}{\partial\lambda} = -e_d\frac{\lambda\frac{\partial^2 c}{\partial e_d^2} + \frac{\partial c}{\partial e_d}\frac{1}{e_d}}{R_l\frac{\partial^2\alpha_l}{\partial e_l^2} - \frac{\partial^2 c}{\partial e_l^2} + \lambda\frac{\partial^2 c}{\partial e_l^2\partial e_d^2}} \tag{16}$$

Moreover, we can derive the effect of κ on e_d, respectively e_l, in a similar way:

$$\frac{\partial e_d}{\partial\kappa} = -\frac{\frac{\partial R_d}{\partial\kappa}\frac{\partial\alpha_d}{\partial e_d}}{R_d\frac{\partial^2\alpha_d}{\partial e_d^2} - \lambda^2\frac{\partial^2 c}{\partial e_d^2} + \lambda\frac{\partial^2 c}{\partial e_l^2\partial e_d^2}} \tag{17}$$

$$\frac{\partial e_l}{\partial\kappa} = \frac{\frac{\partial R_d}{\partial\kappa}\frac{\partial\alpha_d}{\partial e_d}}{R_l\frac{\partial^2\alpha_l}{\partial e_l^2} - \frac{\partial^2 c}{\partial e_l^2} + \lambda\frac{\partial^2 c}{\partial e_l^2\partial e_d^2}} \tag{18}$$

Assuming that the marginal costs of job search increases with respect to the level of effort: $\frac{\partial^2 c}{\partial e_d^2} > 0$ and $\frac{\partial^2 c}{\partial e_l^2} > 0$, the numerator of equation 15 and 16 becomes positive. Moreover, the numerator of 17 and 18 is negative without any further assumptions. Therefore, assuming

$$\lambda^2\frac{\partial^2 c}{\partial e_d^2} - R_d\frac{\partial^2\alpha_d}{\partial e_d^2} > \lambda\frac{\partial^2 c}{\partial e_l\partial e_d} \quad \text{and} \tag{19}$$

$$\frac{\partial^2 c}{\partial e_l^2} - R_l\frac{\partial^2\alpha_l}{\partial e_l^2} > \lambda\frac{\partial^2 c}{\partial e_l\partial e_d}, \tag{20}$$

ensures that

$$\frac{\partial e_d}{\partial\lambda} < 0 \quad \text{and} \quad \frac{\partial e_d}{\partial\kappa} < 0, \quad \text{respectively} \tag{21}$$

$$\frac{\partial e_l}{\partial\lambda} > 0 \quad \text{and} \quad \frac{\partial e_l}{\partial\kappa} > 0. \tag{22}$$

A.2 Verifying the Exogeneity of the Treatment Intensity

In order to provide evidence for the plausibility of the exogeneity assumption, we apply an estimation strategy which analyzes the correlation between the observed individual characteristics and the instrument as an indicator for potential correlation between unobserved characteristics and the instrument (see for example Altonji et al., 2005, who compare individual control variables based on different values of the instrument). As mentioned before, the treatment intensity is clearly correlated with regional characteristics included in our set of control variables. Therefore, we regress in a first step the instrument on these regional characteristics X_i^{rc}. In second step we regress the predicted residual $\hat{V}_i$ from this estimation on the individual characteristics X_i^{ind}:

$$Z_i = \alpha_1 X_i^{rc} + V_i \tag{23}$$

$$\hat{V}_i = \alpha_2 X_i^{ind} + U_i \tag{24}$$

The idea is that $\hat{V}_i$ reflects the variation of the instrument adjusted for regional economic conditions which can be translated into the exogenous preferences of the local employment agency for mobility programs. Table A.2 shows that only a few of the observed individual characteristics have a significant influence on the IV residuals conditioned on regional characteristics. In total, we observe 67 individual level characteristics, while only between 8 (type III instrument) and 12 (type I instrument) significant characteristics at the 10%-level, between 5(type III instrument) and 6 (type I and II instrument) at the 5%-level, while non of the variables has any significant impact at the 1%-level.

[Insert Table A.2 and A.1 about here]

Moreover, it can be seen that additionally including federal state fixed effects reduces the number of significant variables and the F-test that there is no longer a joint significant impact on the IV residuals. However, when we include LEA fixed effects, which are assumed to control for any form of potential unobserved regional differences, we can not see any further improvement of the results. Assuming that the influence of the unobserved characteristics on the instrument is similar to the influence of the observed characteristics these results can be interpreted as evidence that controlling for regional characteristics is sufficient to eliminate potential bias due to unobserved heterogeneity. This evidence is even more convincing considering the large set of control variables, like education, other socio-demographic characteristics, labor market histories, personality traits, job search behavior and some expectations.

Table A.1: Summary: Observed Characteristics and IV Residuals

Specification	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Level of significance									
10% (*)	12	10	8	3	6	4	9	7	10
5% (**)	6	6	5	1	3	3	5	5	3
1% (***)	—	—	—	—	—	1	2	2	—
F-test of joint significance	1.71	1.81	1.65	0.98	1.06	1.15	1.26	1.21	1.93
P-value	0.000	0.000	0.001	0.524	0.352	0.191	0.071	0.117	0.133
R^2	0.017	0.018	0.016	0.010	0.011	0.011	0.013	0.012	0.012
Adjusted R^2	0.007	0.008	0.006	-.0002	0.0006	0.001	0.003	0.002	0.002
Instrumental variable	Type I	Type II	Type III	Type I	Type II	Type III	Type I	Type II	Type III
Federal state fixed effects	No	No	No	Yes	Yes	Yes	No	No	No
LEA fixed effects	No	No	No	No	No	No	Yes	Yes	Yes

Note: Depicted are the number of statistically significant variables at the 10%/5%/1%-level, when estimating the effect of observed individual characteristics on predicted residuals after regressing the instrumental variable on regional characteristics.

Table A.2: OLS Estimation: The Effect of Observed Characteristics on IV Residuals

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
School leaving degree (None ref.)									
Lower secondary school	-.076*	-.087*	-.067	-.059*	-.069*	-.053	0.023*	0.025*	0.023
Middle secondary school	-.047	-.056	-.060	-.049	-.061	-.059	0.029**	0.031**	0.027*
Specialized upper secondary school	-.084*	-.101**	-.103*	-.043	-.060	-.039	0.036***	0.039***	0.027*
Higher Education (None ref.)									
Int. or ext. prof. training, others	0.03	0.03	0.05*	-.006	-.008	0.005	-.008	-.008	-.009
Technical college or university degree	0.054**	0.056*	0.079**	-.003	-.006	0.005	-.011	-.013	-.015
German citizenship	0.048	0.088**	0.095**	0.037	0.071**	0.093***	0.014	0.018	0.022*
Migration background (1=yes)	-.050**	-.048*	-.053*	0.0005	0.008	0.006	0.004	0.007	0.001
Female	0.019	0.02	0.015	0.007	0.007	0.0005	-.001	-.0008	-.002
Age									
17-24 years									
25-34 years	0.036*	0.037	0.026	0.023	0.023	0.017	-.003	-.006	0.001
35-44 years	0.007	0.003	-.011	0.005	0.0001	-.008	-.002	-.006	-.002
45-55 years	0.006	0.006	-.023	0.008	0.005	-.011	-.0007	-.003	0.003
Married (or cohabiting)	0.017	0.019	0.008	0.005	0.003	0.0005	0.005	0.005	0.004
Children (Ref.: No children)									
One child	-.025	-.024	-.032	-.007	-.006	-.006	-.002	-.003	-.002
Two (or more) children	-.003	-.008	-.011	-.011	-.016	-.011	0.007	0.008	0.015**
Unemployment Benefit Recipient (yes)	0.009	0.012	0.015	0.018	0.022	0.017	0.028***	0.032***	0.022**
Level of Unemployment Benefit in Euro/month	-.00002	-.00003	-.00005	-.00003	-.00003	-.00005**	-9.89e-07	1.91e-07	-1.00e-05
Level of UB in Euro/month	0.004	0.004	0.005	0.002	0.001	0.003	-.004**	-.004**	-.002
Months in unemployment (div. by age-18)	0.011**	0.013**	0.009	0.003	0.003	0.001	0.001	0.001	0.0008
Months in employment (div. by age-18)	-.001	-.001	-.001	-.0008	-.0009	-.0007	-.00004	-.00004	0.00004
Employment status before Unemployment									
Employed (ref.)	-.005	-.015	-.019	-.013	-.021	-.024	-.003	-.003	-.0007
Subsidized employment	0.004	-.011	0.007	-.041*	-.059**	-.049	-.006	-.007	0.0005
School, apprentice, military, etc.	0.052*	0.055*	0.049	0.005	0.004	-.004	0.004	0.004	0.009
Maternity leave	-.024	-.032	-.054	0.005	0.009	-.025	0.004	0.004	0.002
Personality traits									
Openness (standardized)	0.006	0.006	0.01	0.005	0.004	0.006	0.002	0.003	0.002
Conscientiousness (standardized)	1.00e-05	0.002	0.006	0.004	0.006	0.009	-.00004	0.0003	0.001
Extraversion (standardized)	-.008	-.009	-.019**	-.001	-.002	-.007	-.002	-.002	0.0002
Neuroticism (standardized)	-.009	-.010	-.009	-.006	-.005	-.006	-.003	-.003	-.004
Locus of control (standardized)	-.002	-.006	-.005	-.012**	-.015**	-.017**	-.002	-.003	-.004*
Number of good friends	-.0008	-.001	-.001	-.001	-.002*	-.002	-.0006*	-.0006	-.0007*
Some problems	0.028	0.038	0.038	0.015	0.022	0.017	-.005	-.004	-.010
Big problems	0.058*	0.052	0.043	0.02	0.009	0.003	0.001	0.002	-.007
Father: A-level qualifications (1=yes)	-.020	-.031	-.030	-.005	-.011	-.018	0.0005	-.0009	0.001
Full-time employed	-.004	-.0003	0.007	-.0004	0.004	0.011	0.003	0.003	0.005
Part-time employed	-.009	-.007	0.021	-.005	0.006	0.013	-.014*	-.015	-.014
Education	0.014	0.022	0.006	0.005	0.01	0.003	-.005	-.006	-.005

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Unemployment	0.002	0.009	0.035	-.002	0.008	0.023	-.009	-.011	-.008
Other	0.002	0.019	0.044	0.007	0.024	0.037	-.008	-.009	-.011
Life satisfaction									
low	-.008	-.011	-.011	-.027	-.035*	-.035	0.006	0.007	0.006
high	0.004	0.009	0.013	-.002	0.001	0.004	-.002	-.003	0.001
Subjective (overall) probability of treatment									
low	0.006	0.016	0.004	0.01	0.02	0.015	-.005	-.007	-.005
middle	0.002	0.013	-.006	0.001	0.01	-.006	0.005	0.003	0.0005
high	0.016	0.026	0.008	0.013	0.022	0.005	0.01	0.011	0.009
Expected probability to find a job									
improbable	-.016	-.002	-.022	-.001	0.009	-.018	-.001	-.001	-.001
probable	0.014	0.027	0.002	0.025	0.035	0.016	0.008	0.01	0.009
very probable	-.018	-.015	-.029	0.003	0.008	-.006	0.012*	0.014*	0.015*
High writing abilities German	0.025	0.026	0.023	0.038	0.041	0.043	-.019	-.020	-.001
High language skills German	-.010	-.011	-.012	0.02	0.02	0.019	0.01	0.011	0.013
High writing abilities English	0.001	-.007	-.018	-.011	-.018	-.034*	0.003	0.004	-.002
High language skills English	-.010	-.013	-.001	-.003	-.002	-.006	-.002	-.001	0.006
Number of own applications (mean)	-.0001	-.0001	-.0001	0.00007	0.0001	0.00009	0.00007	0.00008	0.00008
Use of search channel									
advertisements in a newspaper	-.010	-.008	-.006	-.001	0.002	0.002	0.005	0.005	0.005
posting an advertisement myself	0.003	-.002	-.011	0.011	0.008	0.005	-.0003	0.001	-.004
using the job information system (SIS)	0.029**	0.033**	0.04**	0.0008	0.0008	0.008	0.002	0.003	0.009**
contacting friends, acquaintances, family etc	-.020	-.021	-.007	-.013	-.011	-.003	-.010**	-.011**	-.006
contacting an agent of the unemployment agency	0.014	0.018	0.008	-.003	-.006	-.0007	0.003	0.003	0.001
research on the internet	-.042**	-.049**	-.044**	-.010	-.013	-.004	-.003	-.004	-.003
contacting a private agent with agency voucher	-.020	-.029	-.013	-.013	-.016	-.024	-.002	0.0002	0.005
contacting a private agent without agency voucher	-.001	-.003	-.024	-.016	-.024	-.017	-.007	-.008	-.007
direct application at companies	-.0007	0.001	-.008	-.004	-.002	-.010	-.004	-.004	-.007
others	0.002	0.001	0.001	0.003	0.005	0.001	0.0004	-.001	-.004
Job Search (full- or part-time ref.)									
for full-time employment	0.008	0.02	0.001	-.006	-.001	-.011	-.002	-.003	-.006
for part-time employment	-.043*	-.045	-.033	-.014	-.013	-.008	0.0008	0.001	-.006
Expected monthly net income									
$\leq$ 25%-Quantil	0.023	0.01	0.052	-.009	-.023	0.011	-.005	-.008	-.009
25-50%-Quantil	0.013	-.006	0.039	-.015	-.036	0.0003	-.006	-.009	-.005
50-75%-Quantil	-.009	-.030	0.006	-.002	-.018	0.013	-.011	-.012	-.016
$>$ 75%-Quantil	-.033	-.057	-.0009	-.010	-.027	0.013	-.006	-.007	-.007
Homeowner (1=yes)	0.026**	0.032**	0.026	0.006	0.007	0.005	0.0003	0.0007	-.001
Obs.	6839	6839	6839	6839	6839	6839	6839	6839	6839
Instrumental variable	Type I	Type II	Type III	Type I	Type II	Type III	Type I	Type II	Type III
Federal state fixed effects	No	No	No	Yes	Yes	Yes	No	No	No
LEA fixed effects	No	No	No	No	No	No	Yes	Yes	Yes

Note: Depicted are the effects of observed individual characteristics on predicted residuals of the instrumental variables after controlling for regional characteristics. All estimations additionally include control variables for month of entry into unemployment and the time between the entry and the interview. ***/**/* indicate statistically significance at the 1%/5%/10%- level.