

Abraham, Martin et al.

Article

Unemployment and willingness to accept job offers: results of a factorial survey experiment

Journal for Labour Market Research

Provided in Cooperation with:

Institute for Employment Research (IAB)

Suggested Citation: Abraham, Martin et al. (2013) : Unemployment and willingness to accept job offers: results of a factorial survey experiment, Journal for Labour Market Research, ISSN 2510-5027, Springer, Heidelberg, Vol. 46, Iss. 4, pp. 283-305,
<https://doi.org/10.1007/s12651-013-0142-1>

This Version is available at:

<https://hdl.handle.net/10419/158802>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

Unemployment and willingness to accept job offers: results of a factorial survey experiment

Martin Abraham · Katrin Auspurg · Sebastian Bähr · Corinna Frodermann · Stefanie Gundert · Thomas Hinz

Published online: 20 November 2013
© Institut für Arbeitsmarkt- und Berufsforschung 2013

Abstract Matching individuals to jobs is a fundamental problem in any labour market. This paper focuses on job characteristics, such as wages, job quality, and distance from the current place of residence, and the impact of these characteristics on the willingness of employed and unemployed individuals to accept new job offers. Using an experimental factorial survey module (FSM) implemented in the fifth wave of a large population survey (Panel Study *Labour Market and Social Security*), the willingness of employed and unemployed labour market participants to accept new job offers was compared while considering job characteristics like gain of income or commuting distance. In this study, unemployed and employed individuals received the same set of hypothetical job offers. Consistent with theoretical arguments, the about 20,000 evaluations provided by about 4,000 respondents showed that unemployed participants generally exhibit a greater willingness to accept new job offers than employed ones. Moreover, unemployed individuals were likely to make more concessions than employed individuals with respect to job quality, such as accepting fixed-term job

offers. Interestingly, little evidence for different decision-making or weightings of mobility costs was found, which enables us to conclude that interregional unemployment disparities can scarcely be explained by unemployed individuals lacking the willingness to work or relocate.

Keywords Labour supply · Job offer acceptance · Factorial survey · Interregional mobility · Unemployment · Social inequality

JEL Classification J22 · J61 · J62 · J64

Arbeitslosigkeit und Stellenannahmefähigkeit: Erste Ergebnisse eines Faktoriellen Survey Moduls

Zusammenfassung Das Zusammenführen von Arbeitssuchenden mit offenen Stellen stellt eines der grundsätzlichen Probleme des Arbeitsmarktes dar. In diesem Artikel werden die Einflüsse von Stellenmerkmalen, wie beispielsweise dem Einkommen, der Qualität des Stellenangebots und der Entfernung vom derzeitigen Wohnort auf die Bereitschaft einen neuen Job anzunehmen, untersucht. Mit Hilfe eines in der fünften Welle des *Panel Arbeitsmarkt und soziale Sicherheit* (PASS) implementierten experimentellen Faktoriellen Survey Moduls (FSM) wurde die Stellenannahmefähigkeit erwerbstätiger und arbeitsloser Personen verglichen (ca. 20.000 Jobevaluationen von gut 4.000 Befragten). Entsprechend der theoretischen Argumente zeigte sich für arbeitslose Befragte generell eine höhere Stellenannahmewahrscheinlichkeit als für erwerbstätige Befragte. Zudem wiesen Arbeitslose eine größere Konzessionsbereitschaft hinsichtlich der Qualität der Stelle auf. Überraschenderweise ließen sich nur wenige Anzeichen für ein unterschiedliches Verhalten im Entscheidungsprozess oder in der Abwägung von Umzugskosten finden. Dies deutet darauf

M. Abraham · S. Bähr (✉)
Chair of Sociology and Empirical Social Research, Sociology of the Labour Market, Department of Business and Economics, University of Erlangen-Nuremberg, Findelgasse 7/9, 90402 Nuremberg, Germany
e-mail: sebastian.baehr@wiso.uni-erlangen.de

K. Auspurg · C. Frodermann · T. Hinz
Chair for Empirical Social Research, Department of History and Sociology, University of Konstanz, Box D 40, 78457 Konstanz, Germany

S. Gundert
Department E3, Panel Study “Labour Market and Social Security”, Institute for Employment Research (IAB), Regensburger Strasse 104, 90478 Nuremberg, Germany

hin, dass interregionale Unterschiede der Arbeitslosigkeitsrate nur schwer durch eine geringere Arbeits- oder Umzugsbereitschaft von arbeitslosen Personen erklärt werden können.

Schlüsselwörter Arbeitsangebot · Stellenannahmefähigkeit · Faktorieller Survey · Interregionale Mobilität · Arbeitsmarkt · Soziale Ungleichheit

1 Introduction

In Germany, as in most other Western countries, we simultaneously observe a substantial number of both vacant jobs and unemployed individuals. The problem of matching individuals to jobs is a classical topic of labour market research. There are three explanations for this problem. First, unemployed persons may not possess the skills that employers require to fill the vacant positions. Second, the wages offered by the employers may be too low, particularly compared with social welfare benefits for the unemployed. Third, transactions costs may prevent a successful match of unemployed individuals and vacancies. These costs result from any adaptation an unemployed person must make to assume a new job, such as acquiring new human capital or moving to a new location. In particular, the costs of relocation are often assumed to influence the efficiency of the job-matching process. Whereas the first explanation assumes that the unemployed cannot capitalise on an employment opportunity because of a skill mismatch, the other two arguments imply that the incentives to accept a job are not sufficiently high.

Although there is little doubt that these factors will affect an individual's willingness to accept a job offer, it is not completely clear whether and how employed and unemployed persons differ in their assessments of these incentives. Theoretical arguments based on search theory imply that unemployed individuals should make considerable concessions to obtain new jobs. However, there is little information regarding the way unemployed persons weigh various factors during this decision process. On the macro level, the considerable regional differences (for Germany, see, e.g., Blien 2001) between open jobs and unemployment rates may indicate that the willingness of unemployed individuals to relocate for new jobs is not sufficiently high. However, on the micro level, the empirical evidence is mixed. For Germany, certain studies report no clear connection between employment status and migration (Kley 2013), whereas others provide evidence of higher migration rates for unemployed persons (Birg and Flöthmann 1992; Boenisch and Schneider 2010). Nevertheless, it is an empirical fact that not all unemployed individuals simply relocate

to other regions with better job options. To understand why at least certain unemployed persons do not move, it is important to disentangle two types of explanation. On the one hand, unemployed individuals might be denied attractive job offers (the demand-side explanation) and therefore display comparatively low levels of mobility despite their general willingness to accept interregional job offers. On the other hand, job offers might be declined because of high mobility costs or a low willingness to work on the part of the unemployed (supply-side factors). Although there is a substantial body of literature on job-related interregional mobility, empirical studies on this topic have struggled to provide satisfactory explanations. This struggle is primarily the result of difficulties in disentangling these two causal mechanisms and a lack of a sufficient number of data to permit a detailed analysis of the decision-making process that underlies observed (im)mobility.

In this study, we take a step forward in investigating these questions by analysing the willingness to accept job offers in circumstance in which all individuals have access to the same job offers. Our approach is based on an experimental factorial survey module (FSM) that was incorporated into the Panel Study *Labour Market and Social Security* (PASS), a large-scale population survey with an overrepresentation of unemployed persons that is annually conducted by the German *Institute for Employment Research* (IAB) (see Trappmann et al. 2010 for an overview). Approximately 4,200 employed or unemployed respondents available to the labour market evaluated their willingness to accept hypothetical job offers (*vignettes*) that differed in experimentally varied characteristics, such as expected income, working hours, and regional distance from the respondent's home. Analyses of these evaluations make it possible to identify the dimensions that affect the willingness to accept job offers or to relocate.¹ Moreover, as a result of the experimental design, all of the respondents received job offers of the same quality, on average. Important demand-side characteristics are thereby standardised—in contrast to the real labour market. Thus, it is possible to focus solely on labour supply-side effects in the analysis. The PASS survey provides a sufficient number of cases for a comparison of unemployed and employed persons. These data facilitate an investigation of the dynamics of the decision-making process regarding job offers and testing of the assumptions derived from labour market and migration theories.

¹ There is a growing body of literature on the question of whether and to what extent hypothetical decisions in the context of experimental surveys correspond to actual decisions and behaviour in "real life" (Groß and Börensens 2009; Nisic and Auspurg 2009). The evidence suggests that both hypothetical and observed behaviour are influenced by similar factors (see the discussion for more details).

This paper is the first to examine the FSM in the PASS data. Registered unemployed individuals are compared with individuals in non-marginal employment who make social security contributions. Do unemployed persons differ from employed persons in their willingness to accept job offers when confronted with similar job offers? What role does the distance between the new job and the current residence play for both groups? Are supply- or demand-side effects prevalent in explaining the low mobility rates of unemployed individuals? What are the effects of job characteristics and relocation costs?

2 Theory and hypotheses

Central to our research question is the explanation of job offer acceptance in general and the mobility decision associated with interregional offers in particular. Consequently, theories from the fields of labour market research and migration research provide an analytical framework. Among labour market theories, the most important is *job search theory* (Mortensen 1986; 1976), which views job searching as a rational strategy, particularly for individuals trying to exit unemployment. By extending their search radius and making concessions to unfavourable job conditions, job seekers can increase the pool of potential job offers and improve their chances of receiving a suitable offer. However, this view only holds if offers are available to unemployed individuals, a group that is often characterised by low qualifications and a lack of access to beneficial networks.

Employed and unemployed individuals might differ not only in access to job offers but also in their consideration of income and other job characteristics when determining whether to accept available offers. Additionally, they might differ in their choices because their decision making is framed by different economic conditions, such as the monetary resources required to commute or relocate. Those differences in decision making are more easily detected if demand-side factors are standardised, i.e., if all individuals have access to the same job offers.

Another important idea from job search theory is that the acceptance of a given job offer is driven by (rational) expectations concerning future job offers. If a person expects to receive a better offer with a sufficient probability, he or she will decline the offer at hand and continue the search for a better one. Thus, prospective employees accept a (new) job only if it yields a higher utility than their current status (regardless of whether that status is employment or unemployment) (Logan 1996; Devine and Kiefer 1991). In this context, utility is determined by monetary and non-monetary characteristics. Differences in the observed behaviour of unemployed and employed individuals with respect to simi-

lar job offers would have to be attributable to differences in these underlying utility evaluations.

This approach provides arguments in favour of higher job offer acceptance by unemployed persons. An important concept associated with this theory is the reservation wage, which represents the minimum wage for which a person is willing to work and is defined as the relative ratio of utility from labour and leisure time (e.g., Borjas 2010: 41f.). Unemployed individuals compare the new job offer to their situation without a wage from paid labour. Thus, a standard prediction from search theory is that the reservation wage of unemployed persons is increased by the amount of social security benefits they receive from state agencies (e.g., Gangl 2004; Mortensen 1986). What is more important for the research at hand is that those social security benefits are, on average, lower than the income from paid work. Therefore, unemployed individuals have comparatively low income² but large amounts of leisure time. For a first argument, we follow the law of diminishing marginal returns and assume that unemployed persons are more willing to “trade” leisure for labour. For the same reasons, we expect that a given *absolute* increase in income is more relevant for individuals with a lower base level of income.³

In terms of search theory, this reasoning means that the same job offer is more likely to represent an above-average, high-quality offer for unemployed than for employed individuals. Technically speaking, the offer is more likely to correspond to the right tail of the distribution of wages related to the job offers that the job seekers expect to receive. Thus, the same offer is more likely to exceed their reservation wage and to be accepted by unemployed job searchers.

From these arguments, we derive the first general hypothesis:

H1: For given job offers, unemployed persons should display, on average, higher willingness to accept the job offers than employed persons.

²In Germany, this is particularly true for the unemployment benefit II rate that is paid in the case of long-term unemployment or the lack of entitlement to unemployment insurance, which amounts to 382 Euros for a single person (in addition to the payment of rent, German Federal Employment Agency 2013). Since the *Hartz reforms* of Social Code II in 2005, unemployment assistance in Germany has consisted of unemployment benefits I (unemployment insurance based on the duration of paid contributions, paid for up to 18 months) and unemployment benefits II (means-tested basic income support to individuals capable of work). Basically, every person who is able to work (defined as being able to work at least three hours a day), is between 15 and 64 years of age, generally lives in Germany, and is not fully able to cover his or her basic needs and those of her *needs unit* (*Bedarfsgemeinschaft*) by other social benefits is entitled to unemployment benefit II.

³Therefore, the gain in income should affect job offer acceptance at a diminishing rate. Statistically, job offer acceptance is expected to be primarily influenced by the *relative* (percentage increase) and not the absolute gain in income (Euros).

More fine-grained arguments for this difference between employed and unemployed individuals can be derived from the theory of *compensating wage differentials*. Within the classical job search model, as described before, no distinction is made between monetary and non-monetary returns on labour. However, it is well known that employees also value the non-monetary characteristics of jobs and may trade higher wages for better job conditions. Thus, the theory of compensating wage differentials (Brown 1980; for an overview, see Rosen 1986) implies a fundamental trade-off between monetary and non-monetary job aspects. In a perfect labour market with homogeneous workers, employers offering worse labour conditions than other employers will have to compensate their employees with higher wages. Unfavourable characteristics, such as a temporary contract or a high level of over-qualification for the position, should be offset by higher wages and vice versa. As a consequence, when controlling for wages, job acceptance should depend on non-monetary job characteristics.

However, a basic requirement for compensating wages is that workers can avoid unfavourable working conditions simply by choosing another employer. If workers differ in their opportunities to find other employers, those with fewer opportunities are forced to accept less favourable conditions *without monetary compensation*. In particular, unemployed individuals whom we assume to receive generally fewer and worse offers than employed individuals can be expected to be more willing to accept unfavourable job characteristics.

Moreover, only employed persons stand to lose firm-specific parts of their human capital (DaVanzo 1978: 505) and risk trading the advantages of their current job, such as tenured contracts, for disadvantages, such as temporary contracts or jobs with trial periods. Therefore, employed persons will be willing to accept other employment options only if their loss in human capital (or long-term contracts) is compensated by highly valued job characteristics (Melzer 2010: 306).

H2: Controlling for the increase in income, unemployed persons are more willing to accept job offers with unfavourable non-monetary characteristics (long working hours, short contract durations, few career prospects, and high levels of over-qualification) than employed persons.

So far, our theoretical argumentation implies that in general unemployed individuals are more likely to accept job offers with unfavourable working and career conditions than employed individuals. However, one focus of this study is on job offers requiring regional mobility. Accepting an interregional offer beyond daily commuting distances involves mobility costs that are likely to exceed the costs of accepting a job within commuting distances because in addition to the costs of finding appropriate accommodation and moving

house, interregional mobility implies the psychological cost of leaving a familiar location. Therefore, generally, interregional job offers can be expected to be less attractive than offers within commuting distance.

Although the first two hypotheses assume a general high willingness among unemployed persons to accept job offers, one can expect a lower willingness with regard to interregional jobs. Anticipated moving costs are more likely to prevent unemployed individuals from accepting job offers. Although migration might be associated with higher relative income gains, it poses a higher risk for unemployed persons because periods of unemployment increase the risk of becoming unemployed again in the future (Arulampalam et al. 2001; Ludwig-Mayerhofer 2008a: 214). This could be the case because employers have less information to evaluate the productivity of unemployed applicants, with detrimental effects on the quality of the match (Grassinger 1993). Awareness of this fact increases the risk of failure in the new job for unemployed persons and influences their assessment of the stability of the job on offer. This lower perceived job stability can be assumed to result in a comparatively lower propensity to accept interregional job offers. That is, it is likely that the actual costs of interregional migrations are assessed differentially by employed and unemployed individuals. The latter are more concerned with risk factors, such as the general employment options at the new location and the difficulty of finding new accommodations.

From this, we derive the following assumption:

H3a: For job offers that require relocation, unemployed persons display lower job offer acceptance than employed persons.

In particular, we assume the following:

H3b: Compared with employed persons, among unemployed persons, the decision to accept interregional job offers is affected to a stronger degree by risk factors, such as general low employment options at new locations and the difficulty of finding new accommodations.

Finally, all of the arguments on different decision making of employed and unemployed individuals—whether in favour of higher or lower acceptance—are assumed to intensify with the prolongation of unemployment. The human capital stock of unemployed individuals suffers from depreciation over time, which results in lower reservation wages. Similarly, the fear of stigmatisation by employers because of the negative signalling effects of unemployment is likely to increase in importance with increasing unemployment duration (Vishwanath 1989). Therefore, we can expect the long-

term unemployed to be even more willing to compromise with regard to non-monetary job characteristics.⁴

H4a: With increasing unemployment duration, individuals are more willing to accept job offers with unfavourable non-monetary characteristics.

In addition, the deterring effect of mobility costs associated with relocation can be assumed—analogue to hypotheses (3a) and (3b)—to be intensified with length of unemployment. In particular, long-term unemployed persons are likely to anticipate potentially lower job stability and thus are likely to be discouraged by mobility risks. One reason for this is the increasing stigmatisation and depreciation of human capital. Moreover, the risk of losing social networks through interregional household relocation might be particularly intimidating for the long-term unemployed. Given their long-term dependency on means-tested benefits, such individuals are more likely to rely heavily on informal local support networks.⁵ All of these mechanisms should result in an increasingly negative perception of the costs and risks associated with interregional mobility by the long-term unemployed.

H4b: With increasing unemployment duration, individuals are less willing to accept job offers requiring relocation, particularly to locations with unfavourable local labour and housing market conditions.

3 Literature review

To analyse the determinants of job offer acceptance, one can draw on literature from three strands of research. First, the *literature on job offer acceptance* is often based on the concept of a reservation wage, which permits empirical predictions concerning the duration of unemployment in relation to the number of available jobs and their wage level. These proposed relationships have been tested and confirmed extensively on an empirical level (Addison et al. 2010; Bloemen and Stancanelli 2001; for an overview, see Ludwig-Mayerhofer 2008a: 218 et seq.). One drawback of this approach has been that the separation of supply- and demand-side factors was barely feasible or only possible indirectly

with the help of strong assumptions (e.g., Blackaby et al. 2007). Therefore, it was not possible to determine whether below-average reservation wages were the result of less attractive job offers or of a lower willingness to accept offers that required other concessions on the part of the job seekers.

Second, in the field of *regional mobility research*, studies that depict the migration process as the result of a cost-benefit analysis in the tradition of rational choice approaches (e.g., Sjaastad 1962) are the most prevalent. It is beyond the scope of this paper to provide a comprehensive review of all of the relevant determinants of the mobility decision (for an overview of the economic literature, see Greenwood 1975, 1997; for an overview of the sociological literature, see Ritchey 1976). With few exceptions (e.g., Kley 2011, 2013; Drinkwater and Ingram 2009; Kalter 1997, 1998) most studies only presume the underlying motives of decision making indirectly on the basis of observed actions. This approach risks tautological argumentation if one assumes positive incentives to move from a realised relocation and vice versa (Nisic and Auspurg 2009). Issues of selectivity might also apply in cases in which it cannot be determined whether better chances for employment and earnings are in fact the consequence of mobility or whether the mobile population is only a particularly career-oriented group that would have been successful anyway. Similarly, it is difficult to conclude whether immobile individuals consciously choose to remain in a region or whether regional mobility was never an option for them. There have been attempts to correct for this selectivity (e.g., Antel 1980; DaVanzo and Hosek 1981; Nisic 2010). However, such analyses are complex because they must control for all of the determinants of employment and income potential or use longitudinal data, in which a low number of observed relocations is often highly problematic (see, e.g., Jürges 2005). Here, the advantages of the experimental design become clear (more details on this method in Sect. 4). Some studies have used a factorial survey approach in the context of mobility decision making (Abraham et al. 2010; Abraham and Schönholzer 2009; Auspurg and Abraham 2007). However, these studies have focused on intra-household and partnership dynamics or the trade-offs between different forms of mobility. The differences between employment status groups could not be addressed by these studies as they excluded the unemployed population.

Third, certain studies have focused on the *differences between unemployed and employed persons with regard to interregional mobility*. Several studies that use micro-data have found a positive relationship between individual unemployment and the willingness to relocate (for an overview, see Greenwood 1997: 683 et seq. or Herzog et al. 1993). Most of these studies used US data (e.g., Goss and Schoening 1984; DaVanzo 1978). The literature reports mixed findings for the European context. For Great Britain (Jackman and Savouri 1992; Pissarides and Wadsworth 1989;

⁴For monetary job characteristics, a similar argument could be made. However, most long-term unemployed individuals will already occupy the low-wage segment of the labour market, where there is only limited room for further wage concessions. Consistent with this argument, the study by Bender et al. (2008: 75) reported no decrease in reservation wages with increasing unemployment duration in Germany.

⁵From the literature on social networks, it is known that with time spent in unemployment, the networks of the unemployed contract and become more family-centred (Ludwig-Mayerhofer 2008b: 226; Diewald 2007; Paugam and Russell 2004). Therefore, dependence on informal support for coping with unemployment should increase as unemployment persists.

Hughes and McCormick 1989), Sweden (Westerlund 1998; Harkman 1989), and the Netherlands (Van Dijk et al. 1989), there is nearly invariable empirical evidence in favour of higher migration rates among the unemployed. However, for Spain (Antolin and Bover 1997) and Finland (Tervo 2000), there are no reports of more frequent migration among the unemployed. These inconsistent results reflect methodological issues (Sandefur and Tuma 1987; Greenwood 1997: 651 et seq.) and hint at significant disparities among countries that could be attributable to differences in labour market institutions (Van Dijk et al. 1989).

In the case of Germany, there have only been a few studies that have focused explicitly on the effects of personal unemployment on regional migration. Birg and Flöthmann analysed periods of unemployment in the context of biographical factors and their effect on regional migration. For women, they reported positive effects of unemployment on mobility. For men, the results are not as clear. Whereas men who had more periods of short unemployment exhibited increased levels of migration, men who had fewer but longer-lasting periods of unemployment exhibited decreased migration levels (Birg and Flöthmann 1992: 44).

Friedrichs and Stolle studied 1,451 unemployed persons in Eastern and Western Germany in 1990 and 1991 (Friedrichs 1995; Stolle 2000, 2005) and reported no significant influence of the duration of unemployment on job-related migration willingness.⁶ According to their data, the migration of unemployed individuals is hindered by the stressful search for new accommodations, the effort of settling into a new location, doubts regarding the permanence of a new job, and the challenges of reconciling a relocation with the career plans of a spouse (Friedrichs 1995: 256). The authors concluded that for unemployed individuals, these restrictions outweigh the uncertain benefits of relocation. However, they were unable to compare the behaviour of unemployed with employed individuals.

Windzio (2004) analysed regional migration based on a 1 % sample of German employees between 1984 and 1997 and found a positive effect of individual unemployment on migration. However, for unemployed persons who lived in regions with high unemployment rates, the likelihood of migration was decreased somewhat. Windzio refers to this phenomenon as an “unemployment trap” based on the interpretation that high unemployment in one’s social environment could result in discouragement effects (Windzio 2004: 274).

Arntz (2005) analysed the same dataset but restricted it to individuals who became unemployed between 1982 and 1995. Arntz’s focus was on the influence of local employment opportunities on the interregional migration of the unemployed. She reported that individual characteristics were

more important than labour market conditions in predicting migration for this group and that mobility increased with increasing duration of unemployment. However, her study did not permit comparisons with regard to personal employment status.

A common disadvantage of these studies is their reliance on observed mobility only, which limits the causal interpretation of the results. In contrast, the work of Bönisch and Schneider focused on mobility intentions using data from the German Socio-Economic Panel (GSOEP). They reported a positive effect of unemployment on mobility intentions, which was, however, only of minor importance in explaining actual mobility (Boenisch and Schneider 2010: 492). In a recent study by Kley (2013), the mobility of 1,165 respondents was analysed over three years. Kley modelled mobility as a three-part process beginning with mobility considerations, followed by concrete planning and the actual relocation. For the first two stages, she reported no statistically significant differences between employed and unemployed individuals. For the risk of leaving the current place of residence, she did not provide a direct comparison between unemployed and employed persons. As with other studies, the number of unemployed persons ($n = 45$) and the number of observed moves ($n = 139$) were low.

As the above discussion indicates, the topics of job offer acceptance by unemployed persons and interregional job-related mobility concern various fields of research and make high demands on the research strategy and the data used. All of the previous studies on these topics have struggled with problems of selectivity, the disentanglement of supply- and demand-side factors, and low observation numbers for unemployed individuals or migrations. These issues can be addressed using a factorial survey module (FSM), the implementation of which is described in the following section.

4 Data and methods

4.1 Survey and experimental design

Our research is based on a unique combination of survey data from the Panel Study *Labour Market and Social Security* (PASS), which is conducted annually by the German *Institute for Employment Research* (IAB), with a FSM (for an introduction, see Rossi 1979; Rossi and Anderson 1982).⁷ The PASS dataset makes it possible to research various questions concerning the labour market, the welfare

⁶Similarly, Bender et al. (2008: 75) did not observe decreasing reservation wages with increasing unemployment duration.

⁷A FSM combines survey research with an experiment. The key idea is that the respondents react to hypothetical descriptions of situations or objects (*vignettes*) instead of answering single-item questions. By independently varying the dimensions of the vignettes, the exact impact of each dimension on the respondents’ judgements or decisions can be estimated.

Table 1 Vignette Dimensions and Levels^a

Dimensions		Levels		
		1	2	3
1	Increase in net income of household ^b	5 levels, from plus 0 % to plus 80 %		
2	Weekly working hours	20 hours	30 hours	40 hours
3	Over-qualification for offered job	None	Slight	Considerable
4	Prospects of internal promotion	None	Few	Many
5	Contract duration	Permanent	Limited to 1 year	Limited to 3 years
6	Distance from home (one-way commuting time)	1 hour	4 hours	6 hours
7	Local employment opportunities compared with actual residence	Worse	Similar	Better
8	Difficulty of finding adequate housing	Very easy	Some effort	Considerable effort

^a Not displayed here is an additional dimension concerned with employment opportunities for the partner of the respondent at the new place of residence. This dimension was presented to 50 % of the respondents in partnerships. Because the internal partnership dynamics involved with mobility decisions are not the focus of this paper, we determined to forgo the consideration of this dimension in the analyses described here.

^b The increase in income was presented to the respondents as the resulting absolute Euro amount of household income after acceptance of the job offer. The amount represented the (experimentally varied) percentage increase in the actual household income, which respondents had indicated earlier in the interview. Absolute amounts rather than percentages were used to present more tangible job offers. In the experiment design, gains in income were weighted using the working hours to create realistic offers. High percentage increases were overrepresented to present attractive offers.

state, and poverty in Germany. The dataset consists of two sub-samples. The first is a random sample of households that receive unemployment benefit II, and the second is a random sample of households of the German residential population (Trappmann et al. 2010). The survey includes a *household questionnaire* answered by the head of the household and a *person questionnaire* answered by each individual older than 14 years. The dataset contains information on households' and persons' location, employment status, household income, education, age, family size and structure. Because of the two—in each case, representative—samples of unemployed individuals and the general population and the thorough information on labour market and household characteristics, the PASS data are ideally suited for the research questions at hand.

Within the FSM that was part of the fifth wave of PASS, the respondents were presented with five hypothetical job offers (*vignettes*).⁸ The vignettes differed in experimentally varied characteristics (*dimensions*), such as the expected income, the number of working hours, and contract duration (see Table 1 for all dimensions and levels; for a more detailed explanation of the vignette dimensions, see Sect. 4.2). In addition to job characteristics, the distance between the current place of residence and the location of the prospective new job was varied with three levels (one-way commuting times of one hour, four hours and six hours).

⁸The FSM was implemented as part of the research project *Precarious Employment and Regional Mobility* (Auspurg et al. 2011), which was funded by the German Research Foundation (DFG). For more information, see <http://www.sozioogie.uni-konstanz.de/professuren/prof-dr-thomas-hinz/forschung/aktuelle-forschungsprojekte/fs10/>.

That is, approximately two thirds of the vignettes described job offers beyond a daily commuting distance (more than one hour). As vignette sample a fractionalized, *D*-efficient design of 500 different vignettes was used (for details, see Frodermann et al. 2013). This design minimises correlations among the vignette dimensions, which enables estimation of their independent influences.⁹ The respondents were confronted with random selections of five vignettes each. The experimental design (standardisation and random allocation of job offers to respondents to prevent correlations between dimensions and respondent characteristics) makes it possible to observe whether decision making differs between respondent groups if all of the respondents receive similar job offers.

For each offer, the respondents were asked to separately evaluate the attractiveness of the job offer, their willingness to accept the job, and their willingness to move to the new location using an 11-point rating scale for each evaluation. The scale values ranged from 0 (*very unattractive/unlikely*) to 10 (*very attractive/likely*) (see Fig. 1 for an example). In this paper, we discuss only the willingness to accept the job offer.

⁹All possible combinations of all vignette dimensions result in more than 30,000 different vignettes. *D*-efficient designs are constructed using a computer algorithm that searches for a sample characterised by minimal inter-correlation among dimensions and interaction terms and maximal variance and balance of the frequency of levels. This algorithm ensures that the influence of interesting vignette dimensions and interaction terms are mutually uncorrelated. In addition, the design features result in minimal standard errors in regression estimations and therefore a maximum of statistical power to reveal the influence of individual dimensions (for more details: Kuhfeld et al. 1994; Frodermann et al. 2013). The sample yielded a *D*-efficiency of 94.5.

Fig. 1 Vignette Example
(English translation, varied
dimensions highlighted)

If you accept the offered job, your **net household income will rise to 3,510 euros**.
The **working hours** are approximately **20 hours** per week, and the **job requirements** are **significantly below**
your professional skills.
The job offers **many opportunities for internal promotion** and is **limited to 3 years**.
The **one-way trip** from your current place of residence to the location of the job is approximately **6 hours**.
The **labour market at the new location** is **worse** than at your current residence.
Finding appropriate housing there will require **considerable effort**.

a) **How attractive** is the job offer **to you**?

Very unattractive ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ Very attractive

b) **How likely** would you be to **accept the offer**?

Very unlikely ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ Very unlikely

c) **How likely** would you be to **completely move to the new location**?

Very unlikely ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ Very unlikely

Similarly to Arntz (2005: 10), we define one-way distances requiring one hour of commuting as changes of job location that lie within normal commuting distances. Distances that require commuting of four or six hours we interpret as job locations that would necessitate a household relocation. With approximately two thirds of offers being beyond a daily commuting distance, the experimental setting facilitates a detailed study of the willingness to relocate based on a sufficient number of cases of unemployed individuals. The random allocation of vignettes to respondents ensures that all of the respondents are presented with comparable job offers. These methodological advantages of the experimental design help us examine the dynamics of the decision-making process with respect to the acceptance of interregional job offers. By focussing on stated behaviour, we avoid the selectivity bias associated with the observation of actual relocations while using a good predictor of individual mobility behaviour (Boenisch and Schneider 2010: 489). If we find no (or a positive) correlation between the unemployment status and the acceptance of interregional job offers or at least find such a correlation after controlling for typical mobility costs, we conclude that unemployed persons are equally (or even more likely) than employed persons to relocate for comparable job opportunities. Regional disparities in unemployment rates and low migration rates of unemployed are then more likely to be the result of demand-side effects, i.e., employers being less likely to offer jobs to unemployed individuals from other regions or those offers not being noticed by the unemployed.

4.2 Data and variables

The FSM was applied to the computer-assisted personal interviewing (CAPI) sample of PASS surveyed in 2011 for all individuals who were available to the labour market (for a

detailed description of the module, see Frodermann et al. 2013).¹⁰ An indicator variable that distinguishes these two groups—individuals registered as unemployed (for reasons of brevity, hereinafter referred to as *unemployed*) and individuals in non-marginal employment making social security contributions (hereinafter referred to as *employed*)—will be the central variable for testing our hypotheses.¹¹ Thorough analyses revealed the experimental stimuli (vignette dimensions) to be balanced in terms of employment status and other characteristics of the respondents, including age, gender, education, and household income. Thus, the random allocation of experimental splits to treatment groups was successfully implemented. The restrictions placed on filtering respondents into the FSM and the focus on the two main subgroups of unemployed and employed individuals resulted in 20,858 vignettes evaluated by 4,199 respondents who provided valid data for the central variables used in our analyses.¹² Nearly half of the respondents ($n = 1,757$) were registered as unemployed at the time of the survey.¹³

¹⁰The selection criteria were the following: age between 15 and 58 years, either in employment or unemployment or housewife/househusband, not in education, not in military or civil service, not on any form of parental leave, and not in any form of retirement.

¹¹Because these are the principal groups of interest in this paper, we determined to focus on them and excluded all other status groups for which we could not assume that the members were following the logic of either group. This approach resulted in the elimination of a total of 441 individuals (inactive or sick persons and the group of housewives and househusbands) from the analysis.

¹²Because of missing data for certain dependent or independent variables, we could not use 997 evaluations 36.1 % of which were provided by unemployed respondents.

¹³The special sampling strategy of the PASS survey results in an overrepresentation of recipients of unemployment benefit II, who are predominantly long-term unemployed persons compared with unemployment benefit I recipients. Our unemployment sample includes 103 ben-

Our dataset consists of the dimensions of the vignettes that describe the monetary and non-monetary characteristics of the job offer and provide additional information on the new place of residence. A binary variable indicates the group of employed or unemployed persons, which is, as already stated, the central variable for testing our hypotheses. Furthermore, we include an extensive set of variables known to be relevant to job offer acceptance and mobility decisions to make individuals with different mobility costs comparable. The following section briefly discusses the rationale for using the set of vignette dimensions and control variables.

Job search theory states that an employee who expects to receive a better offer with a sufficient probability will decline an offer at hand and continue the search for a better one. Therefore, we would expect that the higher the (*monetary*) *gains of an offer*, the less likely an individual will be to find a better one and the more likely the job offer is to be accepted—provided that the analysis controls for the required *working hours*.

If a job requires considerably less qualification than the employee holds, he or she is likely to expect to find a better job match in the future. Additionally, there is a risk of human capital depreciation if the worker does not use his or her trained capabilities for a longer time period. Therefore, *over-qualification* is expected to reduce job acceptance when controlling for income gain. Employment security in the new job is an important non-monetary factor in the evaluation of the pay-out period and the probability of follow-up employment (e.g., Booth et al. 2002). Therefore, job offer acceptance is expected to increase with increasing *duration of the offered employment contract*. Similarly, career prospects in the new position can be viewed not only as a promise of higher future earnings but also as an indicator of job security. Therefore, it is reasonable to expect increasing acceptance of job offers with better *prospects of internal promotion*. However, following the theory of compensating wage differentials, we expect differences between employed and unemployed individuals. Unemployed and in particular long-term unemployed persons are likely to be more willing to make concessions with respect to all of these non-monetary job characteristics than employed persons (H2, H4a).

Because we are concerned with job offers that require a degree of regional mobility on the part of the employee, the costs of migration are assumed to influence the likelihood of

accepting a job offer. There is ample evidence that individuals generally prefer to avoid household relocation because of monetary, social and psychological costs (see e.g. Lee 1966; Sjaastad 1962; Mincer 1978). The most prevalent strand of migration research literature is related to the human capital framework. In this tradition, mobility decisions are cost-benefit evaluations, in which the benefits and the costs can assume various monetary and non-monetary forms (Sjaastad 1962; Shields and Shields 1989). The distance between the current place of residence and the location of the prospective new job is a good indicator of the financial and psychological mobility costs (Drinkwater and Ingram 2009). With increasing distance, commuting becomes less feasible. Therefore, household relocation is increasingly required. Household migration between regions implies high financial costs and leaving the old environment and settling into a new one, which creates information costs and psychological costs (Greenwood 1997: 666). Therefore, we expect that the greater *the distance is between one's home and the job's location* (measured here in terms of hours of commuting time), the greater the pressure is for a household relocation and the less attractive the job offer. The relocation costs are particularly problematic for (long-term) unemployed individuals who have fewer monetary resources, face higher risks of becoming unemployed again, and rely more heavily on local support networks. Thus, we expect the distance dimension to interact with the unemployment status (H3a) and the length of unemployment (H4a).

Similar arguments should apply to the two dimensions that pertain to details of the costs and risks associated with migration. If a household relocation is necessary, the cost of the search for *adequate housing opportunities* becomes part of the relocation cost (Oswald 1996, 1999). Empirically, this is important because regions with good employment opportunities are often those where housing is expensive. If the gains in job mobility are thwarted by the cost of renting a dwelling, the job offer becomes less preferable. Thus, the greater the expected difficulty of finding adequate housing is, the less likely it is that the job will be accepted. Finally, individuals are typically uncertain whether new job options will result in good, stable matches. Once hired by a new employer, an employee may find that the job characteristics do not suit him or her, or the employer may not be satisfied with the employee's performance. Therefore, a possibility remains that the employment contract will be terminated. In this case, all of the mobility expenses would be lost, at least in the case of the employee having difficulty finding another job in the new location. Consequently, a job offer becomes more attractive if there are better *local employment opportunities* at the new employer's location (DaVanzo 1978). We expect employed individuals to be more concerned with these risk factors, meaning that both dimensions should in-

efit I recipients and 1,581 benefit II recipients. (Note that unemployment benefit II is granted on the level of *needs units*, not individuals. Therefore, individual unemployment status and benefit receipt may differ). Additionally, there is a third category of registered unemployed persons who do not qualify for either unemployment benefit scheme. In our sample, there were 90 such individuals.

teract with the employment status (H3b) and the length of unemployment (H4b).

In addition to studies on job-related mobility factors, there is an extensive body of literature on the individual, household, and social influences on the general willingness to relocate that is relevant to the specification of the control variables. On an individual level, mobility is known to be related to *age*, with younger persons displaying higher rates of mobility. This phenomenon can be attributed to longer potential pay-out periods for younger persons (Clark 1986; Becker 1962), the absence of mobility impediments in earlier lifecycle stages (Rossi 1980), or lower levels of firm-specific human capital. Additionally, interregional mobility varies with the *level of education*. Although human capital argumentation based on observed mobility stresses higher mobility incentives for the more qualified, in our experimental design, the job offers are independent of the level of education. Thus, for individuals with lower levels of education who have generally less access to job offers than more highly qualified individuals, these offers should be comparatively more attractive. On the household level, the *presence of a (married) partner* who has a say in the mobility decision (Abraham et al. 2010; Abraham and Nisic 2009; Speare et al. 1975) or the presence of *school-age children* or *elderly or sick relatives* who require care is known to increase the costs of mobility and therefore reduce the willingness to relocate (Schaeffer 1987; DaVanzo 1981; Mincer 1978; Speare et al. 1975; Kalter 1997). In addition to personality traits and household structure, the embeddedness at the place of residence is recognised as a mobility-impeding factor. This factor can be represented by *property ownership* (Rossi 1980) or *local family and friendship ties* (DaVanzo 1981).

4.3 Data analysis: the double hurdle approach

Because we are addressing job offer acceptance in an interregional mobility context, it is not surprising to discover a substantial number of individuals who display no inclination to accept certain job offers. In our study, we found that 40.5 % of responses to the 11-point scale of job offer acceptance were zero, which indicated an absolute unwillingness to accept the respective job offer. Job offer acceptance is the result of a principal decision to participate in the labour market and a (separate) decision regarding how many hours to work (see, e.g., Borjas 2010 or Franz 2009: 22). In our study, the participation choice is often linked to the necessity of relocation. Migration research literature has long recognised migration as a multistage process (see Kalter 1997: 66; Rossi 1980: 149 et seq.), from the formulation of a mobility desire to concrete mobility intentions to the actual relocation. This multistage nature implies that there may be factors situated on the level of the respondent such as property

ownership or school-age children that cause individuals to refuse any migration, independently of the traits of the jobs on offer. Our sample includes not only unemployed persons and individuals who are currently searching for jobs but also employed persons who are content with their current jobs. Therefore, we examine the mobility decision of respondents with different frames of reference. Additionally, there are individuals who are characterised by high mobility costs that impede them from mobility regardless of the potential gains linked to job offers.

On an empirical level, this question requires addressing two issues, the theoretically proposed multi-stage process, and the simultaneous consideration of covariates situated on the level of the respondent and the job offer traits on the level of the individual vignette.

First, the two-stage nature of the decision behind accepting an interregional job offer implies that simple ordinary least squares (OLS) regression models or tobit models would be misspecified (Noltze et al. 2012; Wodajo 2007; Wooldridge 2003). As an alternative, Cragg's (1971) double hurdle model uses two different latent variables that enable the formulation of two separate processes in determining the outcome of a limited dependent variable, such as our 11-point response scale. The first stage (Tier 1) assumes the form of a probit model that estimates whether an individual is potentially being willing to accept a job offer (i.e., whether the dependent variable exceeds zero). If the first hurdle is passed, a truncated linear model is estimated for the second stage (Tier 2). Therefore, two hurdles must be overcome before job offer acceptance can be observed. First, a (new) job and the related mobility must be desired. Second, the job characteristics in combination with the personal mobility cost structure must be sufficiently favourable.¹⁴ The double hurdle specification allows for the possibility of different factors affecting the two decisions as well as the same explanatory variables having different impacts on each of the two hurdles. This class of models has been applied extensively to analysis of the consumption of goods (for an overview, see Wodajo 2007: 16) and is well accepted in labour supply estimation (Carlin and Flood 1997; Blundell and Meghir 1987; Blundell et al. 1987).

Second, because each respondent evaluated five vignettes this implies a hierarchical data structure in which the answers are nested by respondent. To address this violation of the classical regression assumption of uncorrelated error terms, the double hurdle model provides the option of estimating cluster-robust standard errors (clustered sandwich

¹⁴Observations with the value zero can result from either of the two processes (Smith 2002), i.e., at the first hurdle, as a reflection of immobility or unwillingness to accept (new) jobs in principle, or at the second hurdle, as a deliberate decision in response to the details of the job offered. Because hurdling both processes depends on latent variables, it is impossible to allocate observed zeros precisely to one process.

estimator; Burke 2009: 587). This allows us to correctly estimate models on the vignette level that include covariates on the level of the respondent.

An important decision must be made concerning the use of explanatory variables for each hurdle. The aforementioned arguments lead us to assume that the decision to be willing to participate in (interregional) labour markets (Tier 1) is more dependent on personal traits, such as age, family circumstances, and property ownership, which help to control some of the costs of mobility, than on the specific characteristics of the job offer. Despite this rationale, the vignette dimension *commuting distance* could function as a signal that the relocation of the household is necessary and therefore has a principal effect on the decision to evaluate the offers in more detail. Additionally, the vignette dimension *fixed-term contracts* could act as a fundamental deterrent for employed individuals already in tenured contracts because such a limitation increases the level of job insecurity. Therefore, a contract limitation should be perceived as a stronger career setback than other dimensions within the vignettes and should provoke respondents to rule out certain offers. The model of the second hurdle (Tier 2) includes all of the vignette dimensions to capture the varying opportunity structure that is created by the job characteristics. Both models include the same list of additional control variables (cf. Sect. 4.2 and the bottom of Table 2).

5 Results

Table 2 shows a series of models that test our hypotheses in a stepwise fashion. In this section, we briefly discuss the results for the vignette dimensions, address our proposed hypotheses and examine important control variables. For a meaningful interpretation of double hurdle regression coefficients, it is important to understand the tier separation. In the column labelled *Tier 1* in Table 2, the probit part of the model is specified. Here, the general willingness to accept the job offer is analysed with only the level of significance and signs of the coefficients being used for interpretation. Once the first hurdle is overcome and individuals are found to be potentially willing to accept job offers, the second hurdle determines whether the individuals accept the jobs offered. The results from the second estimation are displayed in the column labelled *Tier 2*. Because this model is truncated and linear, the coefficients reflect partial effects and can be interpreted by their significance, sign, and size. However, they are conditional on overcoming the first hurdle and must be interpreted in this way (Burke 2009: 588).

5.1 Results for vignette dimensions

Overall, all of the coefficients of the vignette dimensions exhibit the theoretically expected signs (cf. Sect. 4.2) and

are statistically significant. Model 1 displays the coefficients of the vignette dimensions and the unemployment indicator. The *monetary gains* from accepting the job exert a highly significant and positive influence on the job acceptance of those individuals who are generally willing to accept job offers. The effect of *weekly working hours* on job offer acceptance is negative. This result is intuitive if we bear in mind that this coefficient is controlled by the other job characteristics, including the income gain. When presented with job offers that promise comparable income gains, respondents prefer those offers in which they can minimise their working hours. The signs for *level of over-qualification* and *prospects of internal promotion* are as expected. Although respondents seem to tolerate modest levels of over-qualification, over-qualification becomes a significant deterrent at higher levels, where the depreciation of human capital becomes an issue. Similarly, career prospects only become important for jobs that provide many opportunities for advancement. The *duration of the employment contract* is an important indicator of job security and was therefore included in both tiers. This dimension exerts a negative influence on the principal participation decision and the extent of job offer acceptance. As one would expect, contracts limited to one year are more likely to be rejected than contracts limited to three years. Central to our scenario of interregional mobility is the (*one-way*) *distance* between the place of residence and the new job. In particular, long distances that involve commuting times of four or six hours in one direction, which necessitate relocating the household, strongly reduce the likelihood of the acceptance of the offer, both in terms of the principal decision and the indication of the extent of acceptance. That there are only marginal differences between the four- and six-hour conditions supports the argument that it is the need to relocate rather than the actual distances that influences the willingness to accept job offers. Finally, the two dimensions that describe the labour and housing markets at the new place of residence are also important to the acceptance decision in intuitively expected ways. Better *local employment opportunities*, which act as a proxy for the risk in case of failure in the new job, foster acceptance, whereas harsher conditions in the *local housing market*, which represent a part of the relocation cost, deter acceptance.

5.2 Results for hypotheses

Model 1 in Table 2 reports the results from the first regression model to test our hypotheses. The model consists of a specification including the vignette dimensions, an indicator for the employment status, and control variables for relevant socio-demographic factors and for conditions at the current place of residence of the respondents. This model is sufficient for testing H1, according to which we expected

Table 2 Double hurdle models of willingness to accept job offers

		Model 1		Model 2		Model 3	
		Tier 1	Tier 2	Tier 1	Tier 2	Tier 1	Tier 2
		b/se	b/se	b/se	b/se	b/se	b/se
<i>Increase in net household income [percent]</i>			0.033*** (0.002)		0.033*** (0.002)		0.033*** (0.002)
<i>Weekly working hours</i>							
Ref.: 20 hours							
	30 hours		−0.349** (0.116)		−0.496** (0.154)		−0.346** (0.116)
	40 hours		−0.727*** (0.112)		−0.850*** (0.141)		−0.725*** (0.112)
<i>Over-qualification for offered job</i>							
Ref.: None							
	Slight		−0.137 (0.090)		−0.203 (0.122)		−0.138 (0.090)
	Considerable		−0.284** (0.093)		−0.265* (0.128)		−0.286** (0.093)
<i>Prospects of internal promotion</i>							
Ref.: None							
	Few		−0.022 (0.095)		−0.013 (0.132)		−0.022 (0.095)
	Many		0.459*** (0.093)		0.544*** (0.128)		0.456*** (0.093)
<i>Contract duration</i>							
Ref.: Permanent							
	Limited to 1 year	−0.264*** (0.024)	−1.226*** (0.099)	−0.327*** (0.032)	−1.526*** (0.138)	−0.264*** (0.024)	−1.227*** (0.099)
	Limited to 3 years	−0.138*** (0.023)	−0.796*** (0.091)	−0.163*** (0.031)	−0.926*** (0.123)	−0.138*** (0.023)	−0.796*** (0.091)
<i>Distance from home (one-way commuting time)</i>							
Ref.: 1 hour							
	4 hours	−0.591*** (0.025)	−2.573*** (0.105)	−0.591*** (0.025)	−2.574*** (0.105)	−0.592*** (0.032)	−2.515*** (0.141)
	6 hours	−0.801*** (0.026)	−2.583*** (0.109)	−0.801*** (0.026)	−2.587*** (0.109)	−0.798*** (0.034)	−2.549*** (0.149)
<i>Local employment opportunities</i>							
Ref.: Worse compared with place of residence							
	Similar		0.636*** (0.095)		0.635*** (0.095)		0.742*** (0.129)
	Better		0.467*** (0.096)		0.466*** (0.096)		0.542*** (0.132)
<i>Difficulty of finding adequate housing</i>							
Ref.: Very easy							
	Some effort		−0.299*** (0.090)		−0.297*** (0.090)		−0.209 (0.122)
	Considerable effort		−0.638*** (0.094)		−0.636*** (0.094)		−0.658*** (0.127)

Table 2 (Continued)

	Model 1		Model 2		Model 3	
	Tier 1	Tier 2	Tier 1	Tier 2	Tier 1	Tier 2
	b/se	b/se	b/se	b/se	b/se	b/se
<i>Currently unemployed</i>	0.080*	0.381*	0.009	−0.091	0.083	0.629**
	(0.040)	(0.150)	(0.048)	(0.272)	(0.050)	(0.220)
<i>Interactions with unemployment status</i>						
Weekly working hours—30 hours				0.328		
				(0.224)		
Weekly working hours—40 hours				0.283		
				(0.195)		
Level of over-qualification—Slight				0.145		
				(0.180)		
Level of over-qualification—Considerable				−0.043		
				(0.186)		
Prospects of internal promotion—Few				−0.030		
				(0.188)		
Prospects of internal promotion—Many				−0.190		
				(0.186)		
Contract duration—1-year contract			0.152**	0.654***		
			(0.047)	(0.196)		
Contract duration—3-year contract			0.060	0.307		
			(0.046)	(0.183)		
Commuting distance (one-way)—4 hours					0.002	−0.131
					(0.051)	(0.212)
Commuting distance (one-way)—6 hours					−0.009	−0.079
					(0.052)	(0.221)
Local employment opportunities—Similar						−0.238
						(0.192)
Local employment opportunities—Better						−0.170
						(0.193)
Adequate housing—Some effort						−0.200
						(0.180)
Adequate housing—Considerable effort						0.049
						(0.189)
<i>Intercept</i>	1.326***	6.731***	1.353***	6.938***	1.324***	6.637***
	(0.164)	(0.653)	(0.164)	(0.661)	(0.164)	(0.656)
<i>Observations</i>	20,858		20,858		20,858	
<i>Persons</i>	4,199		4,199		4,199	
<i>Log-Likelihood</i>	−42,677		−42,663		−42,675	
<i>AIC</i>	85,523		85,515		85,535	
<i>BIC</i>	86,191		86,262		86,266	

Cluster-robust standard errors in parentheses, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Control variables not shown here: age, gender, partner, marital status, number of children, household size, education, net household income, attachment to place of residence, property ownership, community size, and regional state dummies

to observe greater willingness to accept job offers for unemployed than for employed individuals. In fact, the *unemployment indicator* displays a positive sign, which indicate a greater willingness of unemployed persons to accept employment. This outcome holds true for the principal acceptance decision (Tier 1) and for the extent of the willingness

to accept a job offer (Tier 2). This result is consistent with our theoretical argumentation and highly similar to the results reported by Windzio (2004: 268).

We further derived arguments from the theory of compensating wage differentials that led us to expect, according to H2, interactions between the unemployment status

and the influences of non-monetary job characteristics. As we have expected, longer working hours, temporary contracts, and high levels of over-qualification are deterrents to job offer acceptance. As a result of the limited number of alternative offers, we assumed that unemployed individuals would be more willing to compromise with respect to these dimensions. Model 2 displays the coefficients of a modified form of Model 1 that includes the vignette dimensions, socio-demographic and place-of-residence controls, the unemployment indicator, and the interaction effects between the proposed vignette dimensions and the unemployment indicator.¹⁵ The only dimension for which significant differences are found is the *limited contract duration* dimension. One-year contracts seem to deter the unemployed less than the employed at both levels of the decision process. This effect is intuitive because for unemployed persons even a short-term contract is an opportunity to advance toward (re-)employment, whereas for most employed persons, a short-term contract increases employment uncertainty. In terms of competing wage differential argumentation, the effect also reflects the differences in available alternatives between the two status groups. However, for *working hours*, *over-qualification* and *career prospects*, no significant interactions are found, providing us with only partial support for H2.¹⁶

In H3a, we assumed unemployed persons to be less interested in job offers that require relocation. Again, we define *necessity to relocate households* as corresponding to job offers with one-way distances of more than one hour commuting time. A specification with interaction effects of the unemployment status with the *commuting distance* and the *housing* and *labour market conditions* at the location of the prospective job offer is displayed in Model 3. As we can observe, unemployed persons do not react significantly differently from employed persons with regard to distance. Both subgroups are similarly discouraged by the requirement to relocate. However, the signs of the interaction effects are negative and hint at least in the direction of a stronger deterrent effect for unemployed individuals. H3b suggested that the costs of mobility are weighted differently by unemployed and employed persons. Again, there is no empirical support for the assumption of a stronger sensitivity of unemployed persons with regard to mobility costs and risks (general employment options at new location; difficulty of finding adequate housing).¹⁷

¹⁵Due to space limitations, only the results for variables relevant to the testing of the hypotheses presented in this paper are displayed. Extensive tables of additional results are available from the authors on request.

¹⁶Likelihood Ratio Test of Model 1 vs. Model 2: LR $\chi^2(10) = 29.06$, $p = 0.001$.

¹⁷Likelihood Ratio Test of Model 1 vs. Model 3: LR $\chi^2(8) = 4.58$, $p = 0.8011$.

Finally, we expected the assumed effects to be moderated by unemployment duration. In H4a, we stated that with increasing duration of unemployment, individuals should become more willing to accept unfavourable job characteristics. Table 3 shows a replication of the series of models from Table 1 with a focus on the unemployment sample and on interactions between unemployment duration and the vignette dimensions. Model 4 is a specification without interaction effects that is used as a reference model in likelihood ratio tests of the joint significance of the interaction terms. However, there is no direct effect of *unemployment duration* on job offer acceptance. Rather, longer phases of unemployment seem to alter the weighting of other factors relevant to the acceptance decision. If the estimation of Model 2 is repeated while limiting the sample to unemployed respondents and including interaction effects between duration of unemployment and the vignette dimensions (*working hours*, *over-qualification*, *contract duration*, and *career prospects*) in Model 5, only three of eight interaction terms are found to be statistically significant (*prospects of internal promotion—many*: $\beta = -0.005$; $p = 0.028$; *contract duration of one year*: $\beta = -0.007$; $p = 0.009$; and *contract duration of three years* for the principal decision: $\beta = -0.001$; $p = 0.034$).¹⁸ These results do not indicate a higher willingness among the unemployed to make concessions concerning job characteristics. On the contrary, longer unemployment induces individuals to be more reluctant to accept temporary jobs. Moreover, jobs with good career prospects, which can be perceived as more demanding, tend to particularly discourage individuals with long unemployment durations. H4b emphasises the reinforcing effects of prolonged unemployment on the negative perception of costs and risks associated with interregional migration. As mentioned above, regional mobility that requires household relocation is reflected by *distances* that involve more than one hour of commuting in each direction. As Model 6 indicates, we find the expected negative relationship, which, however, fails to be statistically significant and is only of marginal size. Contrary to our expectations, with increasing unemployment duration, favourable *local employment opportunities* tend to have a discouraging effect, although not a significant one. The only significant interaction is between the duration of unemployment and the *difficulty of finding adequate accommodation* ($\beta = -0.005$; $p = 0.033$), which provides support for the expectation of the increasing negative evaluation of risk factors associated with mobility by long-term unemployed persons.¹⁹

In sum, the results of testing hypotheses (4a) and (4b) indicate no higher willingness to accept unfavourable job

¹⁸Likelihood Ratio Test of Model 4 vs. Model 5: LR $\chi^2(10) = 22.24$, $p = 0.014$.

¹⁹Likelihood Ratio Test of Model 4 vs. Model 6: LR $\chi^2(8) = 5.67$, $p = 0.684$.

Table 3 Double hurdle models of willingness to accept job offers

	Model 4		Model 5		Model 6	
	Tier 1	Tier 2	Tier 1	Tier 2	Tier 1	Tier 2
	b/se	b/se	b/se	b/se	b/se	b/se
<i>Increase in net household income (percent)</i>		0.027*** (0.003)		0.027*** (0.003)		0.027*** (0.003)
<i>Weekly working hours</i> Ref.: 20 hours						
30 hours		−0.066 (0.167)		−0.097 (0.231)		−0.060 (0.167)
40 hours		−0.409* (0.163)		−0.492* (0.218)		−0.411* (0.163)
<i>Over-qualification for offered job</i> Ref.: None						
Slight		−0.077 (0.130)		−0.274 (0.188)		−0.082 (0.129)
Considerable		−0.296* (0.133)		−0.361 (0.191)		−0.290* (0.133)
<i>Prospects of internal promotion</i> Ref.: None						
Few		−0.028 (0.130)		0.147 (0.189)		−0.029 (0.130)
Many		0.313* (0.133)		0.587** (0.186)		0.318* (0.133)
<i>Contract duration</i> Ref.: Permanent						
Limited to 1 year	−0.166*** (0.036)	−0.841*** (0.136)	−0.134** (0.050)	−0.488* (0.190)	−0.166*** (0.036)	−0.838*** (0.136)
Limited to 3 years	−0.100** (0.035)	−0.581*** (0.133)	−0.024 (0.049)	−0.638*** (0.184)	−0.101** (0.035)	−0.581*** (0.133)
<i>Distance from home (one-way commuting time)</i> Ref.: 1 hour						
4 hours	−0.596*** (0.041)	−2.538*** (0.153)	−0.595*** (0.041)	−2.529*** (0.152)	−0.616*** (0.057)	−2.514*** (0.226)
6 hours	−0.820*** (0.041)	−2.555*** (0.158)	−0.820*** (0.041)	−2.561*** (0.158)	−0.841*** (0.057)	−2.526*** (0.233)
<i>Local employment opportunities</i> Ref.: Worse compared with place of residence						
Similar		0.503*** (0.138)		0.515*** (0.138)		0.530** (0.194)
Better		0.380** (0.136)		0.392** (0.136)		0.506** (0.192)
<i>Difficulty of finding adequate housing</i> Ref.: Very easy						
Some effort		−0.388** (0.130)		−0.379** (0.130)		−0.129 (0.181)
Considerable effort		−0.590*** (0.136)		−0.576*** (0.136)		−0.430* (0.191)

Table 3 (Continued)

	Model 4		Model 5		Model 6	
	Tier 1	Tier 2	Tier 1	Tier 2	Tier 1	Tier 2
	b/se	b/se	b/se	b/se	b/se	b/se
<i>Duration of unemployment in months</i>	0.0001 (0.0004)	0.0001 (0.002)	0.001 (0.001)	0.002 (0.003)	−0.0001 (0.001)	0.004 (0.003)
<i>Interactions with duration of unemployment</i>						
Weekly working hours—30 hours				0.0004 (0.003)		
Weekly working hours—40 hours				0.002 (0.003)		
Level of over-qualification—Slight				0.004 (0.002)		
Level of over-qualification—Considerable				0.001 (0.003)		
Prospects of internal promotion—Few				−0.003 (0.002)		
Prospects of internal promotion—Many				−0.005* (0.002)		
Contract duration—1-year contract			−0.001 (0.001)	−0.007** (0.003)		
Contract duration—3-year contract			−0.001* (0.001)	0.001 (0.002)		
Commuting distance (one-way)—4 hours					0.0004 (0.001)	−0.001 (0.003)
Commuting distance (one-way)—6 hours					0.0004 (0.001)	−0.001 (0.003)
Local employment opportunities—Similar						−0.001 (0.003)
Local employment opportunities—Better						−0.002 (0.002)
Adequate housing—Some effort						−0.005* (0.002)
Adequate housing—Considerable effort						−0.003 (0.003)
<i>Intercept</i>	0.818*** (0.226)	6.105*** (0.845)	0.779*** (0.226)	5.971*** (0.862)	0.832*** (0.228)	5.880*** (0.858)
<i>Observations</i>	8,570		8,570		8,570	
<i>Persons</i>	1,725		1,725		1,725	
<i>Log-Likelihood</i>	−17,841		−17,830		−17,838	
<i>AIC</i>	35,851		35,848		35,861	
<i>BIC</i>	36,443		36,512		36,510	

Cluster-robust standard errors in parentheses, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.01$.

Control variables not shown here: age, gender, partner, marital status, number of children, household size, education, net household income, attachment to place of residence, property ownership, community size, and regional state dummies.

characteristics with increasing unemployment duration. On the contrary, there is evidence for discouragement effects of long-term unemployment in the context of interregional mobility and for a more negative evaluation of relocation costs.

5.3 Results for control variables

Because of space limitations, we refrain from displaying the results concerning the effects of our controls in Tables 2

and 3 and provide instead a verbal description. The control variables overwhelmingly display the signs we would expect based on the literature. We find a lowering of job acceptance with *age*, for *women*, and for the *presence of a partner* or *children* living in the same household.

With respect to *level of education*, we expected a negative relationship because of fewer alternative job offers to lower-qualified persons. Better-educated persons may estimate their chances in local labour markets as higher and therefore are less willing to relocate (Bailey 1991).²⁰ For both tiers, we find significant effects for all levels of education. For the principal decision (Tier 1), the more educated respondents are more likely to exhibit higher job offer acceptance, whereas for the decision on the specific extent of acceptance (Tier 2), we find the expected negative relationship with the highest-educated persons displaying the lowest acceptance. This outcome seems to indicate a deliberate evaluation of the specific job offers by better-educated individuals, who are more open to acceptance and mobility in principle but more reluctant with regard to actually considering (interregional) offers. Job offer acceptance increases with the *log of household income*. This outcome is intuitive because the same percentage increase presented within the vignettes means higher absolute gains for those with higher actual incomes. The place of residence controls indicate that the known effects of *property ownership* and greater *attachment to the place of residence* result in lower willingness to accept interregional job offers. The coefficients of the *community size* variables seem to indicate a higher tendency for job-related mobility in more urban environments (Tier 1). However, for those generally willing to relocate, a lower willingness to leave larger (urban) communities is found (Tier 2).

6 Discussion and outlook

In this paper, we examined whether unemployed persons differ from employed ones with respect to their willingness to accept job offers. The answer to this question is important to our understanding of interregional disparities in unemployment. Theoretically, an unemployed individual might simply relocate if there were a suitable job in another region. As differences in regional unemployment rates and available jobs indicate, this mechanism for labour market

equilibrium does not function well. There are two possible reasons for this dysfunction. On the one hand, unemployed persons may refuse to accept job offers that require regional relocation. This argument is consistent with findings that individuals generally do not like to relocate because of the associated monetary and non-monetary costs (Lee 1966; Sjaastad 1962). These costs may be distributed unequally between unemployed and employed individuals. On the other hand, unemployed persons may not differ in their acceptance of interregional job offers but simply obtain fewer such offers from employers or may not search actively in other regions.

To disentangle these effects, we employed an experimental design that provided unemployed and employed labour market participants with the same set of hypothetical job offers. Our approach is based on a factorial survey design that was incorporated into the Panel Study *Labour Market and Social Security* (PASS), conducted annually by the German Institute for Employment Research (IAB). In that survey, the respondents reacted to hypothetical job offers (*vignettes*) that differed in experimentally varied characteristics, such as the expected income, job quality, and the distance from the respondents' current place of residence. For each offer, respondents were asked to evaluate their willingness to accept the job. Through the random allocation of vignettes to respondents, the comparability of jobs offered to employed and unemployed persons is ensured, which enables us to focus only on the observation of labour supply-side effects.

Our results indicate that unemployed persons are more willing to accept such hypothetical job offers than employed persons. Moreover, we did not find substantial differences in the way unemployed individuals evaluate the characteristics of interregional job offers compared with their employed counterparts. The only difference found was that unemployed persons were more likely to accept short-term contracts than employed persons. Otherwise, neither job characteristics, such as length of employment, nor moving conditions, such as the distance from the current residence, were evaluated differently by the two groups. With respect to the effect of increasing unemployment duration on job offer acceptance, we found no evidence for increasing willingness to accept jobs with unfavourable characteristics over time. On the contrary, long-term unemployed individuals seemed discouraged by demanding jobs and more reluctant to relocate to take non-permanent jobs than individuals who had been unemployed for shorter periods of time. In addition, the factors that indicated the costs and risks related to household relocation seemed to pose greater impediments for the long-term unemployed. However, evidence for this observation is weak and may suffer from the explicit oversampling of unemployment benefit II recipients in the PASS survey, which have predominantly long unemployment durations of one year or more.

²⁰It is important to remember that by the nature of our experimental design, the characteristics of the job offer were randomly allocated to insure independence from the personal characteristics of the respondents. Therefore, in contrast to other studies, we do not measure differences in mobility that are caused by selective access to attractive offers (with better-educated individuals generally having more access to those offers) but only those differences that remain when all individuals have access to the same job offers.

Unemployment benefit II recipients are legally obliged to accept any “reasonable” job regardless of whether job acceptance implies regional relocation. In fact, this higher demand for concessions is at the essence of the administrative *Hartz* reforms and has shaped the process of referral by German job centres in recent years. Therefore, higher job offer acceptance by unemployment benefit II recipients may be driven at least in part by the perceived pressure to be open to interregional relocation.²¹

The results of this study lead us to the conclusion that supply-side effects are not the most important factor in the explanation of interregional unemployment disparities except for certain individuals with exceptionally long unemployment durations. Of course, one could object that our hypothetical approach overestimates the willingness of unemployed individuals to relocate. Within our experimental framework, the respondents did not have to bear the relocation costs. Moreover, there may be a social desirability bias because unemployed respondents who receive welfare benefits may feel pressured to accept even hypothetical jobs. However, even if we overestimate the willingness of unemployed individuals to relocate, there is evidence of a significant correlation between hypothetical behaviour exhibited in factorial surveys and observed behaviour, at least with respect to the factors that influence decisions in both cases (Eifler 2007; Groß and Börsen 2009). Similar results have been reported for closely related methods of choice experiments (Blamey and Bennett 2001; Carlsson and Martinsson 2001; Louviere et al. 2000; Louviere and Timmermans 1992; Telser and Zweifel 2007). Moreover, there is evidence in the literature on regional mobility that the willingness to relocate is a predictor of actual relocation behaviour (Brett and Reilly 1988; Kalter 1998; Kley 2013). In addition, the factorial survey results for job-related migration behaviour have indicated similar influences of variables such as real estate property and occupational characteristics on the real migration propensity revealed in German panel data (Nisic and Auspurg 2009).²²

For future research, we believe it is fruitful to consider demand-side effects in the explanation of interregional disparities in unemployment rates. Unemployed individuals might not relocate because of a lack of interregional job offers. Taking into consideration that unemployed individuals are, on average, lower-skilled and thus less productive,

employers may have less incentive to bear higher recruiting costs (e.g., advertising the position in a national newspaper). If this conclusion is true, labour market policy should focus on measures to decrease costs and uncertainty on the employer's side.

However, this finding should be interpreted with caution because we arrived at it indirectly. Future research should focus on the question of how to characterise demand-side effects more directly. Moreover, there may be special subgroups among unemployed individuals who exhibit a lower tendency to accept interregional job offers because of special restrictions. We found evidence that long-term-unemployed persons are more hindered by difficulties in finding accommodation, less willing to accept short-term employment and less responsive to good career prospects. Future research should try to explain whether these effects are caused by the discouragement effects of long-term unemployment. Similarly, members of other sub-groups, such as single mothers and certain ethnic groups, might be less willing to accept interregional jobs because of their particularly high embeddedness in local support networks. Examining these groups more closely will be a subject of future research.

Executive summary

The aim of this study is to evaluate if unemployed and employed individuals differ in their willingness to accept job offers. Standard economic theory in general and search and matching theories in particular expect that unemployed individuals can increase their chances of finding employment quicker by a higher willingness to relocate for a new job. However, strong regional differences in both unemployment rates and vacancies at the same time point to a fundamental problem in the labour market, namely matching individuals to jobs. This motivates our research, because up to now it is still not clear, whether this matching problem is the result of a lack of access to vacancies or of lacking willingness to accept (interregional) job offers on the side of unemployed individuals. On the one hand, job offers might be declined because of high mobility costs or a low willingness to work on the part of the unemployed (supply-side factors). On the other hand, unemployed individuals might be denied attractive job offers (the demand-side explanation) and therefore display comparatively low levels of mobility despite their general willingness to accept interregional job offers.

To disentangle both effects we applied an experimental design to analyse the effects of job characteristics, like the increase in income or the distance from the current place of residence, on the willingness to accept the job offer. Using a factorial survey module implemented in the fifth wave of the Panel Study *Labour Market and Social Security* (PASS)

²¹To test this assumption, a model specification that included an indicator of whether an unemployment benefit II recipient was obliged to search for a job by his or her case worker was incorporated. The variable was found to be insignificant.

²²One drawback of existing evaluations is their reliance on different populations for observations of hypothetical and actual behaviour. The PASS survey will provide the opportunity to directly assess the external validity of hypothetical job acceptance and the willingness to relocate by comparing hypothetical behaviour with the actual behaviour of the same respondents in future panel waves.

the willingness of employed and unemployed labour market participants to accept new job offers was compared while considering important job characteristics. Respondents were presented with five hypothetical mainly interregional job offers (*vignettes*) and were asked to evaluate their willingness to accept the job offer. The vignettes differed in eight experimentally varied characteristics (*dimensions*), such as the expected income, the career prospects, and the difficulties of finding adequate housing at the new place of work.

To analyse the issue of matching and the resulting labour market inequalities we employ theoretical arguments from labour market specific search theory and additional arguments from the theory of compensating wages differentials. According to search theory job offer acceptance is the result of a rational decision taking expectations about the future into consideration and a promising strategy to exit unemployment. Because of lower reservation wages, fewer alternative job offers, and comparatively low income from social benefits unemployed individuals should display higher job offer acceptance compared with employed individuals. In contrast to general search theory, the theory of compensating wage differentials distinguishes between monetary and non-monetary incentives for taking up a new job. Assessment of these incentives can lead to acceptance of offers with unfavourable characteristics, like fixed terms contracts or few career prospects, if these are compensated by higher wages. By the same token individuals may be willing to accept lower income from a secure job that is suitable to their academic knowledge and skills. However, for this trade-off to work, job seekers need to have alternative offers to choose from. Thus, job seekers with fewer alternatives, particularly unemployed individuals, should accept job offers with unfavourable non-monetary characteristics, even without monetary compensation. Besides higher job offer acceptance of unemployed individuals there are also arguments for a lower propensity to accept particularly interregional offers. Relocation costs are a higher burden for unemployed individuals in general and, because of their lower job stability, they also have a high risk of becoming unemployed again in the future and thus of losing their investment. Previous unemployment experience can also discourage unemployed individuals from taking up a new job.

Following out theoretical expectations unemployed respondents in general display a higher job offer acceptance compared with employed individuals. Interestingly, we find only limited evidence for different evaluation processes or consideration of relocation costs between the two groups. Regarding their willingness to make concessions both groups behave similarly, with the exception of jobs with contract durations limited to one year. These job offers reduce the acceptance of unemployed individuals much less than that of employed individuals. Increasing duration of unemployment does also not increase acceptance of jobs with

unfavourable characteristics. On the contrast, long term unemployed individuals seem to suffer from discouragement effects, which lead them to reject interregional offers that imply higher relocation costs.

The results of this study lead us to the conclusion that supply-side effects are not the most important factor in the explanation of interregional unemployment disparities except for certain individuals with exceptionally long unemployment durations. Demand-side effects, e.g. lacking access to suitable job offers may be more central in explaining the matching problem of labour markets.

Kurzfassung

Gegenstand der Untersuchungen des vorliegenden Artikels ist die Frage, ob sich arbeitslose und erwerbstätige Personen in ihrer Bereitschaft, Stellenangebote anzunehmen, unterscheiden. Ökonomische Theorien gehen in Kombination mit Such- und Matchingtheorien davon aus, dass arbeitslose Personen durch eine erhöhte Umzugsbereitschaft schneller wieder in Arbeit finden sollten. Doch unterschiedliche regionale Arbeitslosenraten und entsprechende Verteilungen verfügbarer Stellenangebote weisen darauf hin, dass es ein grundsätzliches Problem auf dem Arbeitsmarkt ist, den passenden Job für jede Person zu finden. Dieses Problem stellt den Ausgangspunkt der Untersuchungen dar. Denn bislang ist noch immer unklar, inwieweit dieses Matchingproblem auf einen Mangel an Stellenangeboten oder auf eine geringere Mobilitätsbereitschaft zurückzuführen ist. Zum einen wiegen Umzugskosten gerade für Personen in prekären Einkommens- und Beschäftigungsverhältnissen besonders schwer, weshalb sie oft unterdurchschnittlich mobil sind. Zum anderen ist allerdings auch denkbar, dass sich arbeitslose Personen in ihrer Stellenannahmefähigkeit gar nicht von erwerbstätigen Personen unterscheiden, sondern schlicht weniger Angebote erhalten.

Um diese beiden Effekte der Angebots- und Nachfrageseite voneinander zu trennen, wurden die Einflüsse von Stellenmerkmalen, wie beispielsweise dem Einkommen oder der Entfernung vom derzeitigen Wohnort, auf die Bereitschaft einen neuen Job anzunehmen mithilfe eines experimentellen Designs untersucht. Das Faktorielle Survey Modul wurde in der fünften Welle des *Panel Arbeitsmarkt und soziale Sicherung* (PASS) implementiert und erlaubt es erstmals, die Stellenannahmefähigkeit erwerbstätiger und arbeitsloser Personen durch Standardisierung der Nachfrageseite zu vergleichen.

Den Befragten wurden jeweils fünf fiktive, meist überregionale Stellenangebote präsentiert, die sie im Hinblick auf die Wahrscheinlichkeit der Stellenannahme beurteilen sollten. In den Stellenangeboten wurden acht Stelleneigenschaften experimentell variiert, wie beispielsweise die mit dem

Angebot verbundenen Einkommens- und Aufstiegschancen, die Befristung einer Stelle oder auch die Schwierigkeit der Wohnungssuche am neuen Arbeitsort.

Theoretische Grundlage des genannten Matchingproblems und der damit verbundenen Ungleichheiten auf dem Arbeitsmarkt bilden sowohl spezifisch arbeitsmarktbezogene Ansätze, wie die Suchtheorie, als auch weitere ökonomische Überlegungen, wie die Theorie der kompensierenden Lohndifferentiale. Nach der Suchtheorie werden Stellenannahmen als rationale Entscheidungen unter Berücksichtigung zukünftiger Erwartungen gesehen, um der Arbeitslosigkeit zu entgehen. Aufgrund geringerer Reservationslöhne in Folge von seltener erwarteten alternativen Stellenangeboten und einem relativ geringeren Einkommen durch staatliche Unterstützungsleistungen sollten arbeitslose Personen eine höhere Bereitschaft aufweisen, Stellen anzunehmen. Die Theorie der kompensierenden Lohndifferentiale unterscheidet im Gegensatz zur eher allgemeinen Suchtheorie zwischen monetären und nicht-monetären Anreizen. Die Abwägung dieser Anreize kann dazu führen, dass beispielsweise ungünstige Stelleneigenschaften, wie befristete Verträge oder geringere Karriereaussichten, akzeptiert werden, wenn sie durch ein höheres Einkommen ausgeglichen werden. Gleichwohl kann aber auch zugunsten einer sicheren und ausbildungsadäquaten Arbeitsstelle auf ein gewisses Einkommen verzichtet werden. Grundlage dieses Ansatzes ist jedoch, dass Arbeitnehmer Alternativen haben, sich also zwischen unterschiedlichen Angeboten und Arbeitgebern entscheiden können. Wenn sie sich aber in ihren Möglichkeiten auf andere Arbeitsstellen auszuweichen unterscheiden, sehen sich die weniger gut ausgestatteten Arbeitnehmer und vor allem die Arbeitslosen gezwungen, die ungünstigeren Stellen auch ohne eine monetäre Entschädigung anzunehmen. Neben der für arbeitslose Personen vorhergesagten höheren Stellenannahmefähigkeit gibt es auch Gründe, warum diese weniger wahrscheinlich Stellenangebote annehmen sollten. Diese beziehen sich vor allem auf überregionale Angebote. Dies resultiert vor allem aus den besonders für arbeitslose Personen schwerwiegenden Umzugskosten, und durch die grundsätzlich geringere Jobstabilität steigt das Risiko, erneut arbeitslos zu werden, und damit das Risiko, die Kosten umsonst aufgebracht zu haben. Vergangene Arbeitslosigkeitserfahrungen können zu Entmutigungseffekten führen, die eine bremsende Wirkung auf die Bereitschaft haben, eine neue Stelle anzutreten.

Der theoretischen Argumentation entsprechend zeigt sich für arbeitslose Befragte generell eine höhere Stellenannahmewahrscheinlichkeit als für erwerbstätige Personen. Erstaunlicherweise lassen sich nur wenige Befunde für ein unterschiedliches Verhalten im Entscheidungsprozess oder in der Abwägung von Umzugskosten finden. Bezüglich der Konzessionsbereitschaft zeigen sich kaum Unterschiede für beide Gruppen. Einzig die Befristung der Stelle auf ein Jahr

führt bei arbeitslosen Personen zu einer geringeren Wahrscheinlichkeit, das Stellenangebot abzulehnen, als bei erwerbstätigen Personen. Auch die Dauer der Arbeitslosigkeit führt nicht zu einer höheren Annahmefähigkeit von Jobs mit ungünstigen Stelleneigenschaften. Im Gegenteil scheint es Entmutigungseffekte bei Langzeitarbeitslosen zu geben, die sich in einer erhöhten Zurückweisung überregionaler Angebote mit höheren Umzugskosten äußert.

Die Ergebnisse der Untersuchungen erlauben uns den Rückschluss, dass es wahrscheinlich nicht die Effekte der Angebotsseite sind, die entscheidend zur Erklärung überregionaler Unterschiede in Arbeitslosigkeitsraten beitragen. Lediglich Personen mit einer außergewöhnlich langen Dauer der Arbeitslosigkeit weisen eine gewisse Umzugsträgheit auf. Vielmehr scheint es so, dass die Nachfrageseite, sprich mangelnde Stellenangebote, als wahrscheinlicherer Grund für das Matchingproblem auf dem Arbeitsmarkt gesehen werden können.

Acknowledgements The research reported in this paper was supported by a grant from the German Research Foundation (DFG) and the Erika Giehl Foundation. We wish to thank Mark Trappmann and his PASS team at IAB for supporting our study. The authors would also like to thank the two anonymous reviewers of this paper for their constructive comments and suggestions.

References

- Abraham, M., Auspurg, K., Hinz, T.: Migration decisions within dual-earner partnerships: a test of bargaining theory. *J. Marriage Fam.* **72**(4), 876–892 (2010)
- Abraham, M., Nisic, N.: Don't tell him too much: a simple mobility game for migration decisions of couples and some quasi-experimental evidence. *LASER-discussion paper No. 28*, 34. Friedrich Alexander Universität Erlangen-Nürnberg (FAU), Nürnberg (2009)
- Abraham, M., Schönholzer, T.: Pendeln oder Umziehen? Entscheidungen über unterschiedliche Mobilitätsformen in Paarhaushalten. In: Kriwy, P., Gross, C. (eds.) *Klein aber fein! Quantitative empirische Sozialforschung mit kleinen Fallzahlen*, pp. 247–268 (2009)
- Addison, J.T., Centeno, M., Portugal, P.: Unemployment benefits and reservation wages: key elasticities from a stripped-down job search approach. *Economica* **77**(305), 46–59 (2010)
- Antel, J.J.: Returns to Migration: Literature Review and Critique. Rand Corporation, Santa Monica (1980)
- Antolin, P., Bover, O.: Regional migration in Spain: the effect of personal characteristics and of unemployment, wage and house price differentials using pooled cross-sections. *Oxf. C. Econ. Stat.* **59**(2), 215–235 (1997)
- Arntz, M.: The geographical mobility of unemployed workers: Evidence from West Germany. ZEW discussion paper, 05-34. Zentrum für europäische Wirtschaftsforschung (ZEW), Mannheim (2005)
- Arulampalam, W., Gregg, P., Gregory, M.: Introduction: unemployment scarring. *Econ. J. (Lond.)* **111**(475), 577–584 (2001)
- Auspurg, K., Abraham, M.: Die Umzugsentscheidung von Paaren als Verhandlungsproblem: Eine quasiexperimentelle Überprüfung des Bargaining-Modells. *Köln. Z. Soziol. Soz.psychol.* **59**(2), 271–293 (2007)

- Auspurg, K., Hinz, T., Abraham, M.: Prekäre Beschäftigung und regionale Mobilität: Eine experimentelle Studie mit dem Faktoriellen Survey-Design. Antrag an die Deutsche Forschungsgemeinschaft (DFG) auf Gewährung einer Sachbeihilfe zum Forschungsvorhaben, Konstanz (2011)
- Bailey, A.J.: Unemployment duration, unemployment insurance, and migration: A preliminary assessment. Department of Geography working paper, Hanover (1991)
- Becker, G.S.: Investment in human capital: a theoretical analysis. *J. Polit. Econ.* **70**(5), 9–49 (1962)
- Bender, S., Koch, S., Meßmann, S., Walwei, U.: Was muten sich Arbeitslose zu? Lohnkonzessionen von ALG II-Empfängern. *Soz. Fortschr.* **57**(3), 75–84 (2008)
- Birg, H., Flöthmann, E.-J.: Biographische Determinanten der räumlichen Mobilität. In: Birg, H. (ed.) Regionale und biographische Mobilität im Lebensverlauf, pp. 27–52. Verlag der ARL, Hannover (1992)
- Blackaby, D.H., Latreille, P.L., Murphy, P.D., O’Leary, N.C., Sloane, P.J.: An analysis of reservation wages for the economically inactive. *Econ. Lett.* **97**(1), 1–5 (2007)
- Blamey, R.K., Bennett, J.W.: Yea-saying and validation of a choice model of green product choice. In: Bennett, J.W., Blamey, R.K. (eds.) *The Choice Modelling Approach to Environmental Valuation*. New Horizons in Environmental Economics, pp. 179–201. E. Elgar, Cheltenham (2001)
- Blien, U.: Arbeitslosigkeit und Entlohnung auf regionalen Arbeitsmärkten. Physica Verlag, Heidelberg (2001)
- Bloemen, H.G., Stancanelli, E.G.: Individual wealth, reservation wages, and transitions into employment. *J. Labor Econ.* **19**(2), 400–439 (2001)
- Blundell, R., Ham, J., Meghir, C.: Unemployment and female labour supply. *Econ. J. (Lond.)* **97**, 44–64 (1987) (Supplement: conference papers)
- Blundell, R., Meghir, C.: Bivariate alternatives to the Tobit model. *J. Econom.* **34**(1–2), 179–200 (1987)
- Boenisch, P., Schneider, L.: Informal social networks and spatial mobility: the enduring impact of communist history in Eastern Germany. *Post-Communist Econ.* **22**(4), 483–497 (2010)
- Booth, A.L., Francesconi, M., Frank, J.: Temporary jobs: stepping stones or dead ends. *Econ. J. (Lond.)* **112**(480), 189–213 (2002)
- Borjas, G.J.: *Labor Economics*. McGraw-Hill/Irwin, Boston (2010)
- Brett, J.M., Reilly, A.H.: On the road again: predicting the job transfer decision. *J. Appl. Psychol.* **73**(4), 614–620 (1988)
- Brown, C.: Equalizing differences in the labor market. *Q. J. Econ.* **94**(1), 113–134 (1980)
- Burke, W.J.: Fitting and interpreting Cragg’s tobit alternative using stata. *Stata J.* **9**(4), 584–592 (2009)
- Carlin, P.S., Flood, L.: Do children affect the labor supply of Swedish men? Time diary vs. survey data. *Labour Econ.* **4**(2), 167–183 (1997)
- Carlsson, F., Martinsson, P.: Do hypothetical and actual marginal willingness to pay differ in choice experiments? Application to the valuation of the environment. *J. Environ. Econ. Manag.* **41**(2), 179–192 (2001)
- Clark, W.A.V.: *Human Migration*. Sage, Beverly Hills (1986)
- Cragg, J.G.: Some statistical models for limited dependent variables with application to the demand for durable goods. *Econometrica* **39**(5), 829–844 (1971)
- DaVanzo, J.: Does unemployment affect migration? Evidence from micro data. *Rev. Econ. Stat.* **60**(4), 504–514 (1978)
- DaVanzo, J.: Microeconomic approaches to studying migration decisions. In: de Jong, G.F. (ed.) *Migration Decision Making: Multidisciplinary Approaches to Microlevel Studies in Developed and Developing Countries*, pp. 90–130. Pergamon Press, New York (1981)
- DaVanzo, J., Hosek, J.R.S.: Does Migration Increase Wage Rates? An Analysis of Alternative Techniques for Measuring Wage Gains to Migration. Rand Corporation, Santa Monica (1981)
- Devine, T.J., Kiefer, N.M.: *Empirical Labor Economics: the Search Approach*. Oxford University Press, New York (1991)
- Diewald, M.: Arbeitsmarktungleichheiten und die Verfügbarkeit von Sozialkapital: Die Rolle von Gratifikationen und Belastungen. In: Franzen, A., Freitag, M. (eds.) *Sozialkapital: Grundlagen und Anwendungen*. KZfSS Sonderheft, vol. 47, pp. 183–210. VS Verlag für Sozialwissenschaften, Wiesbaden (2007)
- Drinkwater, S., Ingram, P.: How different are the British in their willingness to move? Evidence from international social survey data. *Reg. Stud.* **43**(2), 287–303 (2009)
- Eifler, S.: Evaluating the validity of self-reported deviant behavior using vignette analyses. *Qual. Quant.* **41**(2), 303–318 (2007)
- Franz, W.: *Arbeitsmarktökonomik*. Springer, Berlin (2009)
- Friedrichs, J.: Wanderungsbereitschaft von Arbeitslosen in West- und Ostdeutschland. In: Reuband, K.-H., Pappi, F.U., Best, H. (eds.) *Die deutsche Gesellschaft in vergleichender Perspektive*, pp. 243–260. Westdeutscher Verlag, Opladen (1995)
- Frodermann, C., Auspurg, K., Hinz, T., Bähr, S., Abraham, M., Gundert, S., Bethmann, A.: Das faktorielle Survey-Modul zur Stellenannahmefähigkeit im PASS, 5. Erhebungswelle (2011). FDZ-Methodenbericht 05/2013. Institut für Arbeitsmarkt und Berufsforschung (IAB), Nürnberg (2013)
- Gangl, M.: Welfare states and the scar effects of unemployment: a comparative analysis of the United States and West Germany. *Am. J. Sociol.* **109**(6), 1319–1364 (2004)
- German Federal Employment Agency: Unemployment Benefit II (Arbeitslosengeld II)/Social Benefit (Sozialgeld). http://www.arbeitsagentur.de/nn_426242/EN/Navigation/zentral/Leistungen/Arbeitslosengeld-II/Arbeitslosengeld-II-Nav.html (2013). Accessed 9 January 2013
- Goss, E.P., Schoening, N.C.: Search time, unemployment, and the migration decision. *J. Hum. Resour.* **19**(4), 570–579 (1984)
- Grassinger, R.: Verfestigte Arbeitslosigkeit: Das Hysteresis-Phänomen unter besonderer Berücksichtigung des Humankapitalansatzes. Beiträge zur Arbeitsmarkt- und Berufsforschung, vol. 174. Institut für Arbeitsmarkt und Berufsforschung (IAB), Nürnberg (1993)
- Greenwood, M.J.: Research on internal migration in the United States: a survey. *J. Econ. Lit.* **13**(2), 397–433 (1975)
- Greenwood, M.J.: Internal migration in developed countries. In: Rosenzweig, M.R., Stark, O. (eds.) *Handbook of Population and Family Economics*, pp. 647–720. Elsevier, Amsterdam (1997)
- Groß, J., Börens, C.: Wie valide sind Verhaltensmessungen mittels Vignetten? Ein methodischer Vergleich von Faktoriellen Survey und Verhaltensbeobachtung. In: Kriwy, P., Gross, C. (eds.) *Klein aber fein! Quantitative empirische Sozialforschung mit kleinen Fallzahlen*, pp. 149–178 (2009)
- Harkman, A.: Migration behaviour among the unemployed and the role of unemployment benefits. *Pap. Reg. Sci.* **66**(1), 143–150 (1989)
- Herzog, H.W., Schlottmann, A.M., Boehm, T.P.: Migration as spatial job-search: a survey of empirical findings. *Reg. Stud.* **27**(4), 327–340 (1993)
- Hughes, G., McCormick, B.: Does migration reduce differentials in regional unemployment rates? In: Van Dijk, J., Folmer, H., Herzog, H.W., Schlottmann, A.M. (eds.) *Migration and Labor Market Efficiency*, pp. 85–108. Kluwer, Dordrecht (1989)
- Jackman, R., Savouri, S.: Regional migration in Britain: an analysis of gross flows using NHS central register data. *Econ. J. (Lond.)* **102**(415), 1433–1450 (1992)
- Jürges, H.: The geographic mobility of dual-earner couples: do gender roles matter? DIW discussion paper, 474. Deutsches Institut für Wirtschaftsforschung (DIW), Berlin (2005)

- Kalter, F.: Wohnortwechsel in Deutschland: Ein Beitrag zur Migrationstheorie und zur empirischen Anwendung von Rational-Choice-Modellen. Westdeutscher Verlag, Opladen (1997)
- Kalter, F.: Partnerschaft und Migration: Zur theoretischen Erklärung eines empirischen Effekts. Köln. Z. Soziol. Soz.psychol. **50**, 283–309 (1998)
- Kley, S.: Explaining the stages of migration within a life-course framework. Eur. Sociol. Rev. **27**(4), 469–486 (2011)
- Kley, S.: Migration in the face of unemployment and unemployment risk: a case study of temporal and regional effects. Comp. Pop. Stud. **38**(1), 109–136 (2013)
- Kuhfeld, W.F., Tobias, R.D., Garratt, M.: Efficient experimental design with marketing research applications. J. Mark. Res. **31**(4), 545–557 (1994)
- Lee, E.S.: A theory of migration. Demography **3**(1), 47–57 (1966)
- Logan, J.A.: Opportunity and choice in socially structured labor markets. Am. J. Sociol. **102**(1), 114–160 (1996)
- Louviere, J.J., Hensher, D.A., Swait, J.D.: Stated Choice Methods: Analysis and Application. Cambridge University Press, Cambridge (2000)
- Louviere, J.J., Timmermans, H.J.: Testing the external validity of hierarchical conjoint analysis models of recreational destination choice. Leisure Sci. **14**(3), 179–194 (1992)
- Ludwig-Mayerhofer, W.: Arbeitslosigkeit. In: Abraham, M., Hinz, T. (eds.) Arbeitsmarktsoziologie: Probleme, Theorien, empirische Befunde, pp. 199–240. VS Verlag für Sozialwissenschaften, Wiesbaden (2008a)
- Ludwig-Mayerhofer, W.: Arbeitslosigkeit und sozialer Ausschluss. In: Anhorn, R., Bettinger, F., Stehr, J. (eds.) Sozialer Ausschluss und Soziale Arbeit, pp. 219–235. VS Verlag für Sozialwissenschaften, Wiesbaden (2008b)
- Melzer, S.M.: The influence of regional factors on individual mobility patterns considering East–West migration in Germany. In: Salzmann, T., Edmonston, B., Raymer, J. (eds.) Demographic Aspects of Migration, pp. 303–326. VS Verlag für Sozialwissenschaften, Wiesbaden (2010)
- Mincer, J.: Family migration decisions. J. Polit. Econ. **86**(5), 749–773 (1978)
- Mortensen, D.T.: Job matching under imperfect information. In: Ashenfelter, O., Blum, J. (eds.) Evaluating the Labor-Market Effects of Social Programs, of Industrial Relations, Section: Research Report Series, Vol. 120, pp. 194–232. Princeton University Press, Princeton (1976)
- Mortensen, D.T.: Job search and labor market analysis. In: Ashenfelter, O.C., Layard, R. (eds.) Handbook of Labor Economics, pp. 849–919. Elsevier, Amsterdam (1986)
- Nisic, N.: Mitgegangen–mitgefangen? Die Folgen von Haushaltsumzügen für die Einkommenssituation von Frauen in Partnerschaften. Köln. Z. Soziol. Soz.psychol. **62**(3), 515–549 (2010)
- Nisic, N., Auspurg, K.: Faktorieller Survey und klassische Bevölkerungsumfragen im Vergleich–Validität, Grenzen und Möglichkeiten beider Ansätze. In: Kriwy, P., Gross, C. (eds.) Klein aber fein! Quantitative empirische Sozialforschung mit kleinen Fallzahlen, pp. 211–235 (2009)
- Noltze, M., Schwarze, S., Qaim, M.: Understanding the adoption of system technologies in smallholder agriculture: the system of rice intensification (SRI) in timor leste. Agric. Syst. **108**, 64–73 (2012)
- Oswald, A.: A Conjecture on the Explanation for High Unemployment in the Industrialised Nations: Part I. Warwick Economic Research Papers vol. 475. Department of Economics, University of Warwick, Coventry (1996)
- Oswald, A.J.: The Housing Market and Europe's Unemployment: A Non-Technical Paper. University of Warwick, Warwick (1999)
- Paugam, S., Russell, H.: The effects of employment precarity and unemployment on social isolation. In: Gallie, D. (ed.) Welfare Regimes and the Experience of Unemployment in Europe, pp. 243–264. Oxford University Press, Oxford (2004)
- Pissarides, C.A., Wadsworth, J.: Unemployment and the inter-regional mobility of labour. Econ. J. (Lond.) **99**(397), 739–755 (1989)
- Ritchey, P.N.: Explanations of migration. Annu. Rev. Soc. **2**, 363–404 (1976)
- Rosen, S.: The theory of equalizing differences. In: Ashenfelter, O.C., Layard, R. (eds.) Handbook of Labor Economics, pp. 641–692. Elsevier, Amsterdam (1986)
- Rossi, P.H.: Vignette analysis: uncovering the normative structure of complex judgments. In: Merton, R.K., Coleman, J.S., Rossi, P.H. (eds.) Qualitative and Quantitative Social Research: Papers in Honor of Paul F. Lazarsfeld, pp. 176–186. Free Press, New York (1979)
- Rossi, P.H.: Why Families Move. Sage, Beverly Hills (1980)
- Rossi, P.H., Anderson, A.B.: The factorial survey approach: an introduction. In: Rossi, P.H., Nock, S.L. (eds.) Measuring Social Judgements: The Factorial Survey Approach, pp. 15–68. Sage, Beverly Hills (1982)
- Sandefur, G.D., Tuma, N.B.: How data type affects conclusions about individual mobility. Soc. Sci. Res. **16**(4), 301–328 (1987)
- Schaeffer, P.V.: A family model of migration. Socio-Econ. Plan. Sci. **21**(4), 263–269 (1987)
- Shields, G.M., Shields, M.P.: The emergence of migration theory and a suggested new direction. J. Econ. Surv. **3**(4), 277–304 (1989)
- Sjaastad, L.A.: The costs and returns of human migration. J. Polit. Econ. **70**(5), 80–93 (1962)
- Smith, M.D.: On specifying double-hurdle models. In: Ullah, A., Wan, A.T.K., Chaturvedi, A. (eds.) Handbook of Applied Econometrics and Statistical Inference, pp. 535–552. Marcel Dekker, New York (2002)
- Speare, A., Goldstein, S., Frey, W.H.: Residential Mobility, Migration and Metropolitan Change. Ballinger, Cambridge (1975)
- Stolle, M.C.: Anwendungsprobleme der Wert-Erwartungs-Theorie am Beispiel der Migrationsbereitschaft von Arbeitslosen. Dissertation, University of Leipzig (2000)
- Stolle, M.C.: Rational Choice und Migration: Die Operationalisierung der Wert-Erwartungs-Theorie für die Migrationsbereitschaft von Arbeitslosen. Deutscher Universitätsverlag, Wiesbaden (2005)
- Telser, H., Zweifel, P.: Validity of discrete-choice experiments evidence for health risk reduction. Appl. Econ. **39**(1), 69–78 (2007)
- Tervo, H.: Migration and labour market adjustment: empirical evidence from Finland 1985–90. Int. Rev. Appl. Econ. **14**(3), 343–360 (2000)
- Trappmann, M., Gundert, S., Wenzig, C., Gebhardt, D.: PASS—a household panel survey for research on unemployment and poverty. Schmollers Jahrb. Wirtsch.- Soz.wiss. **130**(4), 609–622 (2010)
- Van Dijk, J., Folmer, H., Herzog, H.W., Schlottmann, A.M.: Labor market institutions and the efficiency of interregional migration: a cross-nation comparison. In: Van Dijk, J., Folmer, H., Herzog, H.W., Schlottmann, A.M. (eds.) Migration and Labor Market Efficiency, pp. 61–83. Kluwer Academic, Dordrecht (1989)
- Vishwanath, T.: Job search, stigma effect, and escape rate from unemployment. J. Labor Econ. **7**(4), 487–502 (1989)
- Westerlund, O.: Internal migration in Sweden: the effects of mobility grants and regional labour market conditions. Labour **12**, 363–388 (1998)
- Windzio, M.: Kann der regionale Kontext zur “Arbeitslosenfalle” werden? Der Einfluss der Arbeitslosigkeit auf die Mobilität zwischen regionalen Arbeitsmärkten in Westdeutschland. Köln. Z. Soziol. Soz.psychol. **56**, 257–278 (2004)
- Wodajo, T.B.: A double-hurdle model of computer and internet use in American households. American Time Use Research Center (2007)
- Wooldridge, J.M.: Introductory Econometrics. South-Western College Pub, Mason (2003)

Martin Abraham is Professor for Sociology and empirical research at the Friedrich-Alexander University Erlangen-Nürnberg. He obtained his PhD degree at the FAU in 1996 and completed his habilitation at the University of Leipzig in 2002. His research interests comprise sociology of economics and organizations with a special focus on labour markets, sociological theory, family research, social inequality and empirical methods.

Katrin Auspurg currently is an assistant professor at the Department of Sociology and History at the University of Konstanz, Germany. Her main research interests are in survey research methods, social inequality, sociology of the family and labour market research. She obtained her PhD from University of Konstanz in 2010.

Sebastian Bähr is a PhD student at the University of Erlangen-Nuremberg and is currently a college member in IAB's Graduate Programme (GradAB). His research interest lies on labour market and mobility research.

Corinna Frodermann is a PhD student at the University of Konstanz. Her research interests include sociology of the labour market and family research.

Stefanie Gundert is a Senior Researcher at the Institute for Employment Research (IAB), Nuremberg, Germany. Her research interests include labour market flexibilization, job quality and life course sociology. She obtained her PhD from Free University Berlin in 2007.

Thomas Hinz holds a professorship of sociology at the University of Konstanz where he currently serves as dean of the humanities. He received his PhD from the Ludwig Maximilian University Munich. His research interests cover labour market sociology, economic sociology, and survey methodology.