Modeling Mobility Dispositions
from a Multilevel Perspective

By Christoph Kern*

Abstract

The present study models mobility dispositions as a function of individual-level as well as regional covariates and includes interactions between these two levels. With this approach, some light can be shed on the underlying mechanisms concerning regional structures in the decision-making process of regional mobility. The empirical findings exhibit considerable main and interaction effects regarding static as well as dynamic regional indicators. However, the contextual features only account for a modest amount of total variation between mobility dispositions. Formally, the empirical models are carried out using a multilevel proportional odds approach, whereas the incorporation of small scale structural features is enabled by the usage of SOEP-Geodata.

JEL Classification: R23

1. Introduction

Given the persistent regional disparities in Germany (e.g. Neu, 2012), spatial mobility of labor market agents is often viewed as an adjustment mechanism to local labor market imbalances. At first sight, support for this presumption can be found especially when focusing on migration flows on a regional level, e.g. concerning emigration from East Germany (Niebuhr et al., 2011). Similar findings are reported by Buch (2007a), where an increase in spatial mobility is linked with a (modest) reduction of local unemployment for some occupational groups.[1] In contrast, positive selected out-migration can deteriorate the economic prospects of deprived regions, so that regional disparities are intensified (Busch / Weigert, 2010; Busch, 2007). Micro-level evidence reinforces this concern by indicating that mostly the young and qualified leave declining regions (e.g. Mai, 2007; Hunt, 2006). Thus, spatial labor market mobility can have quite diverse regional-level effects which can work in opposite directions.

---

* University of Duisburg-Essen, Institute of Sociology (IfS).

[1] However, it should be noted that only a small proportion of regional unemployment can be characterized as spatial mismatch-unemployment and thus can be reduced via regional mobility (Buch, 2007a; Buch, 2007b).

Against this background, a wide range of studies discuss the role of regional characteristics in explaining the mobility behavior of individuals. However, when considering regional mobility as a result of a decision-making process with multiple decision stages, it can be argued that regional opportunity structures play an important role especially within the first decision stage, i.e. regarding mobility intentions or dispositions. Furthermore, when analyzing the effects of regional features, the characteristics of the "evaluators" have to be taken into account. Following this perspective, the present study focuses (1) on the role of regional characteristics regarding mobility dispositions and (2) on the potentially group-specific effects of the included regional predictors. Thus, in this paper special attention is paid to the subjective evaluation of local opportunity structures in order to shed some light on the underlying mechanisms concerning regional structures in the decision-making process of regional mobility. The empirical models are carried out using a multilevel proportional odds framework, whereby data is provided by the German Socio-Economic Panel (wave 2009). Regional predictors are incorporated via the linkage of SOEP-Geocodes with INKAR (BBSR, 2011) data.

The paper is organized as follows: The next section (2) provides a short overview of previous findings concerning the effects of regional characteristics in mobility research and thereby discusses some theoretical considerations. In the following section (3), the data basis and variables are presented. The empirical findings are outlined in section 4, which are summarized and discussed in the last section (5) of this paper.

2. Background

While a variety of studies focus on the effects of regional features concerning the mobility behavior of individuals (e.g. Windzio, 2004a; Windzio, 2004b; Mertens / Haas, 2006; Melzer, 2010; Swain / Garasky, 2007), multi-stage mobility theories emphasize the role of regional characteristics particularly within the first stages of the decision-making process, i.e. concerning mobility intentions or dispositions (e.g. Kalter, 1997). From this perspective, regional opportunities determine the overall utility which actors assign to their current location, whereas the actual mobility decision is further dependent on intervening factors and economic restrictions (e.g. Lu, 1999; Kan, 1999). In addition, Cadwallader (1989) explicitly emphasizes the *subjective* evaluation of regional opportunity structures in the decision-making process as a key link between objective measures and the overall attractiveness which individuals assign to certain regions. Thus, in this framework objective macro-level variables are transformed into their subjective counterparts on the micro-level, where individual utility perceptions are formed. Following this perspective, the effect of regional opportunity structures should be modeled conditional on the attributes of the evaluator, e.g. through the inclusion of cross-level interaction terms.

However, only a moderate amount of studies consider (group-specific) effects at the contextual level while modeling mobility intentions. Drinkwater and Ingram (2009) report a higher willingness to move for individuals living in regions with poor job prospects (unemployment / vacancies ratio) and – in contrast – a positive effect of local average wages. When combining both aspects by the usage of a neighborhood status score, Feijten and van Ham (2009) inspect that higher scores are associated with lower moving intentions. In addition, an increasing percentage of ethnic minorities enhances moving wishes (Feijten / van Ham, 2009; Permentier et al., 2009). When focusing on the willingness to move of unemployed individuals, Ahn et al. (1999) observe negative effects concerning the local vacancy rate as well as with respect to regional house prices. Considering these noticeable effects on the regional level, surprisingly few studies investigate interactions between regional- and individual-level predictors when analyzing mobility intentions. When comparing the effects of regional features between two age groups (< 50, ≥ 50), the findings by Carlsen (2005; based on Norwegian data) reveal a stronger positive effect of the regional unemployment rate for respondents below 50, indicating that local job prospects play a more important role in the migration considerations of younger labor market agents. Focusing explicitly on group-specific regional effects, van Ham and Feijten (2008; using survey data from the Netherlands) show that the positive effect of a high percentage of ethnic minorities with respect to moving desires is lessened for respondents who are members of ethnic minorities themselves. Furthermore, similar patterns can be observed concerning the regional income structure and the percentage of rented dwellings (van Ham / Feijten, 2008).

In order to expand these previous findings, the present study explicitly models mobility intentions from a multilevel perspective. Concerning the assortment of regional features in the following investigations, it can be argued that the evaluation of local opportunity structures is based on current regional characteristics and furthermore on the economic progress of the respective region (Feijten / van Ham, 2009; Kearns / Parkes, 2003). Consequently, static as well as dynamic indicators concerning the local economic situation are introduced into the empirical models. In this context, poor economic conditions and labor market decline are expected to encourage mobility intentions (e.g. Herzog et al., 1993). Furthermore, it is assumed that the local labor demand is particularly important concerning the mobility considerations of trainees, who are at the beginning of their working career. More generally, for young career entrants overall economic conditions – as a decisive factor for quality and quantity of local job offers – are assumed to be of specific relevance, thus interactions between training status, age and regional economic features are included. Finally, it can be hypothesized that the synchronization of multiple working careers demands a well-performing local labor market, thus the partnership status is included in the interaction specifications.

3. Data & Variables

The following findings are based on data from the Socio-Economic Panel Study (SOEP), which is a longitudinal survey of the German population containing a wide spectrum of topics measured at both household and individual-level (Wagner et al., 2007). In order to incorporate regional characteristics in the empirical investigations, the dataset has been enriched with regional features from the Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR, 2011) through the usage of SOEP-Geocodes (e.g. Spieß, 2005). With this setup, detailed information on the regional opportunity structure can be incorporated as level-2 predictors, whereas the individuals are nested in 96 "spatial planning regions" (Böltken, 1996).

Within this study, the empirical investigations are based on SOEP-Samples A-I, using data from wave z (2009). Since the main research interest is aimed at labor market related mobility, the sample was restricted to individuals aged 18 to 65 and semi-retirees with zero working hours were excluded from the analysis. Furthermore, only private households are considered.

The *dependent variable* – denoted as mobility-disposition in the following chapters – is based on the question "Could you imagine moving away from here because of family or career reasons?", which consists of three response categories. Considering the hierarchical structure of the response scale, the dependent variable is treated as ordinal in the subsequent investigations.

According to the preceding considerations, the mobility disposition is assumed to be influenced on two levels, i.e. is dependent on individual as well as regional characteristics and their interactions. The incorporated variables of both levels are summarized in Table A.1. At *level-1*, various covariates are specified, which are derived from standard mobility theory and are based on previous findings. These variables mainly contain information with respect to employment, housing, regional embeddedness, economic resources and socio-demographic circumstances.

At *level-2*, static as well as dynamic indicators concerning the local labor market structure are included. To measure local labor market tightness, the regional unemployment rate is considered, whereas the regional Gross Domestic Product serves as a proxy concerning the overall economic performance of a certain region. While the inclusion of these indicators provides a snapshot of local labor market conditions at a fixed point in time (2009), the development of the regional economic climate is additionally taken into account. Therefore, 96 region-specific linear regressions were carried out, where the outlined regional indicators over the course of the last decade represented the dependent and the respective years (1999–2009) the independent variables.[2] Representing the

---

[2] Concerning the local unemployment rate, $\hat{UR}_{ij} = \beta_{0i} + \beta_{1i}YEAR_{ij}$ has been estimated for $i = 1, \ldots, 96$ regions and $j = 1, \ldots, 10$ years.

best linear approximation of the economic development over time, the region-specific regression slopes serve as additional predictors in the following investigations.[3]

4. Results

The results of the multilevel proportional odds models (e.g. Raudenbush / Bryk, 2002) are presented in Table 1. Model 1 only contains predictor variables at the individual-level, whereas in model 2 level-1 interactions have been added. Furthermore, static and dynamic indicators concerning the regional unemployment rate and the local GDP are considered separately in model 2 and model 3. Finally, in model 4 the outlined regional features are considered jointly and cross-level interactions between both levels of explanation are specified. In all models, the intercept is allowed to vary between the context-units.[4] The model estimation is based on $n_i = 13,644$ cases which are clustered in $n_j = 96$ regions.

The level-1 variables logit-coefficients ($\hat{\beta}$) of *model 1* mainly confirm findings of previous studies on regional mobility. On the one hand, increasing age, duration of residence and number of preschool-age children, home ownership, high levels of life satisfaction, close neighborhood contacts and a recent residential relocation are related to lower mobility dispositions. On the other hand, a higher willingness to move is more likely to occur in conjunction with higher education and higher levels of risk-acceptance. Two non-linear effects are manifested with respect to household size (U-shaped curve) and household income (inverted U-shaped curve). Controlling for the aforementioned factors it can be shown that marginally employed as well as non-working agents – in contrast to the full- and part-time employed – exhibit higher mobility dispositions. This aligns with the substantial mobility incentives for these employment groups. In line with previous research, individuals in partnerships exhibit a lower willingness to move. Regarding the variance components, the present random intercept model shows a significantly better model fit than a comparable single-level model (χ^2 : 207.55, p : 0.0000). The overall explanatory power of model 1 is 0.142 ($r^2_{McKelvey \& Zavoina}$).

Concerning the first interaction of *model 2*, it becomes clear that the negative effect of home ownership is intensified considerably when a partnership exists. Therefore, the occurrence of both (location-related) ties has an additional nega-

---

[3] To provide an intuitive interpretation of the specified interactions, all continuous predictors – excluding the variables concerning the number of (pre)school-age children and the dynamic level-2 indicators – were transformed using grand-mean centering.

[4] The inclusion of varying slopes for the level-1 variables which are involved in the cross-level interactions is not explanatory in all models. For a discussion of cross-level interactions in models without random slopes see LaHuis and Ferguson (2009).

tive effect on top of the respective main effect, whereas the conditional effect of being in a partnership for tenants turns insignificant. In addition, the second interaction exemplifies that the positive effect of "Non-Working" on mobility intentions decreases with increasing age. Concerning the first pair of regional features, a negative effect of the regional unemployment rate can be observed, indicating that individuals living in regions with higher unemployment are more likely to display lower mobility dispositions. Thus the direction of this effect is contrary to the assumptions of classical economic perspectives. On the other hand, the effect of the average development of the local unemployment rate exhibits a positive sign, thus an unfavorable development of regional unemployment (a one unit increase of "Δ Unemp. rate") is accompanied by an (0.511 unit) increase of the log-odds of attaining a higher disposition category.

Turning to *model 3*, similar patterns can be observed concerning the regional Gross Domestic Product. Here, the positive effect of the local GDP indicates higher mobility intentions in economically prosperous regions, which – as with the regional unemployment rate – contradicts previous assumptions. By contrast, a negative effect concerning the average change of the Gross Domestic Product (Δ GDP) can be observed, indicating lower mobility intentions in regions with a positive economic development. Thus, the expected negative effect of an improvement of the regional economic situation can be detected in this specification.

In *model 4*, the previously outlined regional indicators are considered jointly. In this case, only the regional GDP exhibits the previously observed positive effect, whereas the other contextual (main) effects are no longer significant.[5] Thus, differences between average mobility dispositions between regions can be explained mostly by different GDP's in this specification. However, several contextual variables play a substantial role in moderating effect structures at the individual-level. As illustrated in Figure A.2, the positive effect of "In Training" increases with increasing unemployment rates, indicating higher mobility intentions of trainees especially in regions with disadvantageous labor markets. Against the background of the expected entry into employment, the local labor market situation seems to be of particular importance for the mobility considerations of this group. Furthermore, the second interaction shows that the effect-sequence of the factor age varies conditional on the regional GDP. Figure A.1 exemplifies this by illustrating the effect of age on the predicted probability of $y = 3$ for two values of "GDP" (right graphic). On the other hand, the variation of the effect-sequence can be illustrated by the change of the ages average marginal effect considering all GDP-values (left graphic). It can be shown that the ages negative effect is weakened in economically strong regions, represented by a flatter effect-curve. Considering the positive main effect of "GDP", the outlined findings thus contradict the expected higher willingness to move of young

---

[5] The same applies to a similar specification without cross-level interactions.

individuals in economically weak regions. Finally, the third cross-level interaction indicates that the negative effect of an existing partnership[6] is weakened in regions with relatively unfavorable labor market trends. While a negative partnership effect can be observed in regions that had average changes in unemployment rates from $-0.75\,\%$ to $-0.15\,\%$ within the last 10 years, this effect no longer exists in the case of higher values of "Δ Unemp. rate" (Figure A.2). This indicates that in the latter regions, partnerships may constitute minor obstacles to mobility. In summary, model 4 exhibits a further improvement in model-fit, whereas $r^2_{McKelvey\,\&\,Zavoina}$ increases to 0.163.[7]

In order to evaluate the robustness of the outlined findings, the presented models were additionally specified within a multilevel partial-proportional odds framework (Hedeker/Mermelstein, 1998). In this context, the coefficients concerning the regional GDP, "Δ GDP" and "Δ Unemp. rate" obtain the previously observed effect-structures. Furthermore, the cross-level interactions "Age*GDP" and "Partner*"Δ Unemp. rate are robust to the implemented respecifications with heterogeneous threshold effects (cf. Kern, 2014).

5. Conclusion

In the present study, mobility dispositions have been investigated, whereby individual-level and regional features as well as interactions between both levels have been incorporated as predictors. In the empirical analysis, the examination of mobility dispositions within a multilevel framework revealed substantial mechanisms concerning the effects of regional characteristics at the first stage of the decision-making process of regional mobility. First of all, it has been shown that the variation of mobility dispositions between regions can be explained to a sizable degree by different economic conditions, especially in terms of different Gross Domestic Products. However, the latter effect exhibits an unexpected (positive) sign which contradicts classic economic assumptions. Secondly, the development of the regional economic climate serves – to a somewhat lesser extent – as an important predictor when considering mobility intentions. Here, the expected negative effect of an improvement of the regional economic situation can be detected when the regional features are included separately. Thirdly, significant interactions between the individual and the contextual level can be identified. These indicate that some contextual variables (especially the GDP and the development of the unemployment rate) moderate effect structures at the individual-level, i.e. the effect of age and partnership in

---

[6] Cf. model 1. Because of the specified level-1 interactions, model 2 – 4 contain the conditional partnership-effect for tenants.

[7] Nonetheless, the explanatory power of the contextual features is relatively limited when comparing model 4 to model 2 without regional characteristics ($r^2_{McKelvey\,\&\,Zavoina}$ = 0.147, model not shown here).

Table 1

Multilevel Proportional-Odds Models

	Modell 1		Modell 2		Modell 3		Modell 4	
	$\hat{\beta}$	se	$\hat{\beta}$	se	$\hat{\beta}$	se	$\hat{\beta}$	se
Level-1								
Age	−.028***	(.002)	−.020***	(.002)	−.020***	(.002)	−.021***	(.002)
Education (years)	.119***	(.007)	.121***	(.007)	.120***	(.007)	.123***	(.007)
HH-Size	−.107***	(.023)	−.137***	(.024)	−.135***	(.024)	−.136***	(.024)
HH-Size^2	.038***	(.008)	.042***	(.008)	.042***	(.008)	.044***	(.008)
D_Owner†	−.449***	(.040)	−.146*	(.071)	−.139$^+$	(.071)	−.153*	(.071)
HH-Income ($^*10^{-3}$)	.126***	(.014)	.116***	(.014)	.115***	(.014)	.109***	(.014)
HH-Income2 ($^*10^{-6}$)	−.005***	(.001)	−.004***	(.001)	−.004***	(.001)	−.004***	(.001)
D_marginal Emp.††	.245***	(.071)	.267***	(.071)	.268***	(.071)	.265***	(.071)
D_In Training††	.134	(.112)	.286*	(.116)	.284*	(.116)	.273*	(.116)
D_Non-Working††	.174***	(.041)	.207***	(.042)	.204***	(.042)	.195***	(.042)
Tenure (years)	−.010***	(.002)	−.011***	(.002)	−.011***	(.002)	−.011***	(.002)
Life Satisfaction	−.091***	(.010)	−.092***	(.010)	−.092***	(.010)	−.093***	(.010)
Risk Tolerance	.098***	(.008)	.098***	(.008)	.098***	(.008)	.098***	(.008)
Local ties	−.178***	(.020)	−.173***	(.020)	−.172***	(.020)	−.174***	(.020)
Children < 6 y.	−.080$^+$	(.045)	−.075$^+$	(.045)	−.075$^+$	(.045)	−.086$^+$	(.045)
Children 6 –16 y.	−.002	(.031)	.022	(.032)	.021	(.032)	.014	(.032)
D_Mover 2008†††	−.128*	(.064)	−.115$^+$	(.064)	−.113$^+$	(.064)	−.112$^+$	(.064)
D_Partner††††	−.152**	(.048)	.059	(.059)	.057	(.059)	.185**	(.067)
Owner*Partner			−.409***	(.078)	−.408***	(.078)	−.398***	(.078)
Non-Working*Age			−.018***	(.003)	−.018***	(.003)	−.018***	(.003)
Level-2								
Unemployment rate			−.025*	(.013)			−.019	(.013)
Δ Unemp. rate			.511*	(.218)			−.432	(.309)
GDP					.025***	(.005)	.019**	(.007)
Δ GDP					−.242*	(.114)	−.175	(.138)
*Level-1*Level-2*								
Inn Training*Unemp. rate							.071*	(.034)
Age*GDP							.001***	(.000)
Partner*Δ Unemp. rate							.696***	(.191)
τ_1	−1.153	(.063)	−1.071	(.078)	−1.246	(.129)	−1.100	(.140)
τ_2	.824	(.063)	.913	(.077)	.738	(.128)	.889	(.139)
σ^2_{u0}	.090***	(.017)	.068***	(.014)	.063***	(.014)	.062***	(.013)
LL	−13729		−13687		−13685		−13660	
AIC	27500		27425		27420		27380	
BIC	27658		27613		27608		27605	
$r^2_{K.\&Z.}$	.142		.153		.161		.163	
$\chi 2$	1722.7		1794.7		1794.4		1838.4	
p	.000		.000		.000		.000	
n	13644		13644		13644		13644	

y = mobility-disposition ("Could you imagine moving away from here?" 1=No/2=Maybe/3=Yes)
†Ref.: Renter, ††Ref.: Full-/Part-time Employed, †††Ref.: Stayer 2008, ††††Ref.: Single
$^+$: $p \leq 0.1$; *: $p \leq 0.05$; **: $p \leq 0.01$; ***: $p \leq 0.001$.

the present case. However, in comparison with the individual-level effects, contextual features and their interactions only account for a modest amount of total variation in the present findings, indicating that an explanatory approach based solely on regional circumstances is not sufficient.

References

Ahn, N. / *De La Rica*, S. / *Udigos*, A. (1999): Willingness to move for Work and unemployment duration in Spain, Economica 66, 335–357.

Böltken, F. (1996): Neuabgrenzung von Raumordnungsregionen nach den Gebietsreformen in den neuen Bundesländern. Arbeitspapiere der Bundesforschungsanstalt für Landeskunde und Raumordnung 5.

Buch, T. (2007a): Krankt der deutsche Arbeitsmarkt an zu geringer Mobilität? Eine Quantifizierung des Mobilitätsdefizits und des Phänomens regionaler Mismatcharbeitslosigkeit, Sozialer Fortschritt 56, 7/8, 216–224.

Buch, T. (2007b): Regionale Inflexibilitäten als Ursache des Beschäftigungsproblems – Faktum oder Schimäre?, Hamburg review of social sciences 2 (1), 21–40.

Bundesinstitut für Bau-, Stadt- und Raumforschung (BBSR) im Bundesamt für Bauwesen und Raumordnung (BBR), (2011): Indikatoren und Karten zur Raum- und Stadtentwicklung (INKAR) – Ausgabe 2011. Bonn.

Busch, O. (2007): Wie groß ist der Brain Drain innerhalb von Deutschland? Ifo Dresden berichtet 4.

Busch, O. / *Weigert*, B. (2010): Where have all the graduates gone? Internal Cross-State Migration of Graduates in Germany 1984–2004, The annals of regional science 44 (3), 559–572.

Cadwallader, M. (1989): A Conceptual Framework for Analysing Migration Behaviour in the Developed World, Progress in Human Geography 13 (4), 495–511.

Carlsen, F. (2005): Migration plans, local fiscal variables, and local economic conditions, Finanzarchiv 61 (2), 154–177.

Drinkwater, S. / *Ingram*, P. (2009): How Different are the British in their Willingness to Move? Evidence from International Social Survey Data, Regional Studies 43 (2), 287–303.

Feijten, P. / *Ham*, M. (2009): Neighbourhood change … reason to leave?, Urban Studies 46 (10), 2103–2122.

Hedeker, D. / *Mermelstein*, R. J. (1998): A multilevel thresholds of change model for analysis of stages of change data, Multivariate Behavioral Research 33 (4), 427–455.

Herzog, H. W. / *Schlottmann*, A. M. / *Boehm*, T. P. (1993): Migration as spatial job-search: A survey of empirical findings, Regional Studies 27 (4), 327–340.

Hunt, J. (2006): Staunching emigration from East Germany: Age and the determinants of migration, Journal of the European Economic Association 4 (5), 1014–1037.

Kalter, F. (1997): Wohnortwechsel in Deutschland. Ein Beitrag zur Migrationssoziologie und zur empirischen Anwendung von Rational-Choice-Modellen. Opladen.

Kan, K. (1999): Expected and Unexpected Residential Mobility, Journal of Urban Economics 45 (1), 72–96.

Kearns, A./*Parkes*, A. (2003): Living in and leaving poor neighbourhood conditions in England, Housing Studies 18 (6), 827–851.

Kern, C. (2014): Regional structures and mobility dispositions: A multilevel proportional- & partial-proportional odds approach. SOEPpapers 681.

LaHuis, D. M./*Ferguson*, M. W. (2009): The Accuracy of Significance Tests for Slope Variance Components in Multilevel Random Coefficient Models, Organizational Research Methods 12 (3), 418–435.

Lu, M. (1999): Do people move when they say they will? Inconsistencies in individual migration behavior, Population and Environment 20 (5), 467–487.

Mai, R. (2007): Trends der Binnenwanderung in Deutschland. In: Mai, R./Roloff, J./ Micheel, F. (eds.): Regionale Alterung in Deutschland unter besonderer Berücksichtigung der Binnenwanderungen. Wiesbaden: Bundesinstituts für Bevölkerungsforschung.

Melzer, S. M. (2010): 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. Wiesbaden.

Mertens, A./*Haas*, A. (2006): Regionale Arbeitslosigkeit und Arbeitsplatzwechsel in Deutschland – eine Analyse auf Kreisebene, Jahrbuch für Regionalwissenschaft 26 (2), 147–169.

Neu, M. (2012): Regionale Disparitäten. In: Forschungsverbund Sozioökonomische Berichterstattung, (eds.): Berichterstattung zur sozioökonomischen Entwicklung in Deutschland. Wiesbaden.

Niebuhr, A./*Granato*, N./*Haas*, A./*Hamann*, S. (2011): Does labour mobility reduce disparities between regional labour markets in Germany?, Regional Studies Online First, 1–19.

Permentier, M./*Ham*, M./*Bolt*, G. (2009): Neighbourhood reputation and the intention to leave the neighbourhood, Environment and Planning A 41 (9), 2162–2180.

Raudenbush, S. W./*Bryk*, A. S. (2002): Hierarchical linear models: Applications and data analysis methods. Newbury Park, CA.

Spieß, K. C. (2005): Das Sozio-oekonomische Panel (SOEP) und die Möglichkeiten regionalbezogener Analysen. In: Grözinger, G./Matiaske, W. (eds.): Deutschland regional. Sozialwissenschaftliche Daten im Forschungsverbund. München.

Swain, L. L./*Garasky*, S. (2007): Migration decisions of dual-earner families: an application of multilevel modeling, Journal of Family and Economic Issues 28 (1), 151–170.

van Ham, M./*Feijten*, P. (2008): Who wants to leave the neighbourhood? The effect of being different from the neighbourhood population on wishes to move, Environment and Planning A 40 (5), 1151–1170.

Wagner, G. G. / *Frick*, J. R. / *Schupp*, J. (2007): The German Socio-Economic Panel Study (SOEP) – Scope, Evolution and Enhancements, Schmollers Jahrbuch 127 (1), 139 – 169.

Windzio, M. (2004a): Zwischen Nord- und Süddeutschland: Die Überwindung räumlicher Distanzen bei der Arbeitsmarktmobilität, Zeitschrift für Arbeitsmarktforschung 37 (1), 29 – 44.

Windzio, M. (2004b): Kann der regionale Kontext zur ‚Arbeitslosenfalle' werden? Der Einfluss der Arbeitslosigkeit auf die Mobilität zwischen regionalen Arbeitsmärkten in Westdeutschland, Kölner Zeitschrift für Soziologie und Sozialpsychologie 56 (2), 257 – 278.

Appendix

Table A.1

Description of exogenous variables

| Variables	Description
Level-1	
Age	Age in years
Education	Education in years
HH-Size	Household size, Household size²
Owner	1 = Home owner, 0 = Renter
HH-Income	Household Income, Household Income²
Employment status	Employed, marginal Emp., in Training, Non-Working
Tenure	Housing tenure in years
Life Satisfaction	Overall life satisfaction
Risk Tolerance	Degree of willingness to take risks
Local ties	Degree of contact with neighbors
Children < 6 y.	Number of children < 6 years old
Children 6 – 16 y.	Number of children 6 – 16 years old
Mover 2008	1 = Moved last year, 0 = Lived at current address
Partner	1 = In Partnership, 0 = Single
Level-2	
Unemployment rate	% unemployed among the labor force
GDP	Gross domestic product per employee
Δ Unemp. rate	Δ Unemployment rate 1999 – 2009
Δ GDP	Δ Gross domestic product 1999 – 2009
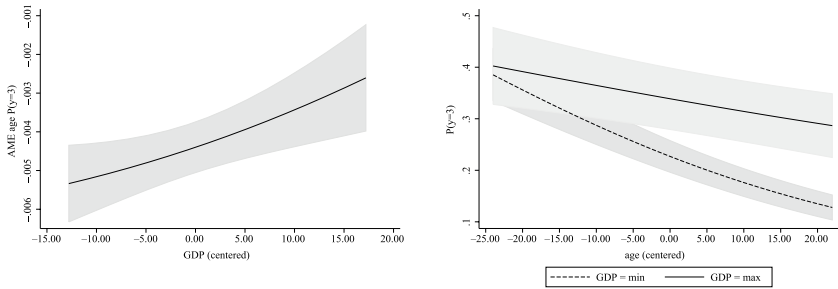
Figure A.1: Age*GDP Interaction
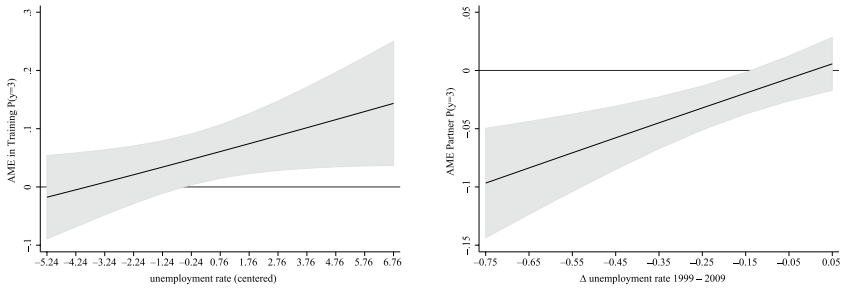
Figure A.2. In Training*Unemp. rate & Partner*Δ Unemp. rate