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The economic returns of bonding and bridging social capital for immigrant men in Germany

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Abstract

Using longitudinal data, this paper analyses the effect of different forms of social capital on the likelihood of employment and the occupational status of first generation immigrant men in Germany. This allows me to examine to what extent social capital of the bonding and the bridging types yield different returns. The study considers how contacts with natives, co-ethnic ties and family-based social capital are beneficial to the economic position of immigrant men. Random effects and fixed effects models show that strong inter-ethnic ties are beneficial both for employment and occupational status. There is no effect of co-ethnic ties and family-based social capital. It is concluded that, when using panel data, bridging social capital contributes to a better economic position and bonding social capital does not.

Keywords: Social capital; labour market; immigrants; longitudinal analysis; Germany.

Introduction

One of the main challenges facing Western countries is how to deal with the increasing share of immigrants and their descendants. The incorporation of immigrants into the labour market of the host society is of utmost importance to social cohesion. One approach to explaining labour market outcomes of immigrants is to use social capital theory. Research that examines the relation between immigrants' social capital and its economic returns is scarce but growing steadily, for example with respect to employment (Aguilera 2002; Kalter 2006; Lancee 2010), income (Mouw 2002; Aguilera and Massey

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2003; Aguilera 2005; Amuedo-Dorantes and Mundra 2008), self-employment (Kanas, Van der Turbergen and Van der Lippe 2009), and occupational status (Sanders and Nee 1996; Kanas et al. 2009a). The general conclusion is that social capital helps immigrants to make headway in the labour market.

Recent discussions on social capital distinguish between 'bonding' and 'bridging' (Putnam 2000; Burt 2001). Loosely defined, bonding refers to within-group connections, while bridging social capital refers to between-group connections. Distinguishing between different forms of social capital seems particularly important with regard to immigrants. For immigrants, especially social capital of the bridging type is expected to yield positive returns since it implies building much needed host-country specific capital (Kalter 2006; Haug 2007; Lancee and Hartung forthcoming). However, returns with respect to bonding social capital may not be that straightforward. Networks of immigrants are often characterized as isolated and therefore hindering economic integration (Portes 1998b). On the other hand, immigrants are repeatedly characterized as having a social network that is based on ethnic solidarity (see for example Sanders and Nee 1996; Sanders, Nee and Sernau 2002; Waldinger 2005).

It is often suggested that whereas bonding social capital is 'to get by', bridging social capital is 'to get ahead' (Putnam 2000, p. 23). This seems to hold for immigrants' social capital too (see for example Kanas, Van der Turbergen and Van der Lippe 2009; Lancee 2010). However, previous studies predominantly rely on cross-sectional data. The major problem with cross-sectional data is that it cannot solve the problems of unobserved heterogeneity and reversed causality. One of the main challenges in estimating the effect of social capital is that of homophily: people connect with those who are similar to them (see for a review McPherson, Smith-Lovin and Cook 2001; Mouw 2006). In the words of Mouw (2003, p. 869): 'if successful people prefer to socialize with other successful people, this would result in a correlation between friends' income and occupational status, even in the absence of a causal effect of social capital on labour market outcomes'. Many studies analysing the effect of social capital rely on cross-sectional data, or use longitudinal models that do not solve the problem of unobserved heterogeneity. Hence, estimates of social capital may be biased. There are only a few studies on the economic incorporation of immigrants that analyse the impact of both bonding and bridging social capital simultaneously and none uses longitudinal data.

The contribution of this paper is twofold. First, I contribute to the field by analysing the economic returns of two main forms of social capital simultaneously for immigrants in Germany. Second, the paper better estimates the effect of social capital by making use of

longitudinal data and estimation methods that account for potential unobserved heterogeneity and reversed causality.

Theory and hypotheses

Social capital refers to the resources that are potentially available in one's network. A social network can be considered a capital, which can produce returns in order to improve (economic) well-being. There is no commonly accepted definition of social capital. In this paper, I follow Lin (1999, p. 30) and see social capital as 'investment and use of embedded resources in social relations for expected returns'.

Bridging social capital

Bridging social capital is referred to as the building of connections between heterogeneous groups (Schuller, Baron and Fields 2000) or, in the words of Putnam (2007, p. 143) as 'ties to people "unlike" you in some important way'. In the migration literature, bridging social capital usually refers to contacts with natives (see for example Putnam 2007; Nannestad, G. L. H. Svendsen and G. T. Svendsen 2008; Kanas, Van Tubergen and Van der Lippe 2009; Lancee 2010). The advantage of bridging ties is that unique information and opportunities come into reach (Putnam 2000, p. 22). It is well established in the literature that for immigrants, contacts with natives are important cross-cutting ties (Portes 1998a; Heath and Yu 2005; Haug 2008).

Bridging social capital seen as bridging the ethnic divide is beneficial to immigrants because it provides access to host-country specific resources. Moreover, it provides unique information about labour market opportunities. The idea of social capital being a *capital* – in the sense that investments yield positive returns – is based on the assumption that social relations connect people to valuable resources (see for example Flap and Völker 2004). According to Nederveen Pieterse (2003), inter-ethnic relations help immigrants to get access to helpful resources beyond their homogenous ethnic networks. In other words, migrants with ties to the native population gain access to host-country specific resources.

There is ample evidence that for successful integration in the labour market of the host society, migrants need host-country specific skills (Borjas 1994; Duleep and Regets 1999; Friedberg 2000; Zeng and Xie 2004; Kanas and Van Tubergen 2009). The argument for the need for host-country specific capital is predominantly made with respect to human capital, such as educational attainment and language proficiency (Chiswick and Miller 2002). However, this argument is also central to bridging social capital: by building inter-ethnic ties, migrants realize access to resources that they have typically little of

themselves. Contacts with natives hence help to make headway in the labour market because it implies getting access to much needed host-country specific resources, for example by getting help with applications, translating adverts, finding vacancies, or assistance with how to present oneself to employers (Aguilera and Massey 2003).

Furthermore, as Haug (2003: 719) points out, 'since . . . in Germany most employers are Germans, it is useful for immigrants to have contacts to Germans'. Because most employers are native residents it is helpful to have ties with natives. Moreover, since natives are on average higher educated and have better jobs themselves, they are more likely to be well informed and able to point to better jobs. Indeed, earlier studies find that contacts with natives help immigrants to make headway in the labour market, both with respect to employment as well as occupational status (see for example Aguilera and Massey 2003; Kalter 2006; Kanas, Van Tubergen and Van der Lippe 2009; Lancee 2010).

Hence, the first hypothesis reads: *Bridging social capital positively affects both the likelihood to be employed and occupational status.*

Bonding social capital

Bonding social capital is usually referred to as within-group connections. The underlying principle is that of network closure (Coleman 1990; Burt 2005). In the case of total closure in a network, all people are connected with one another. The clearest case of a network with a high degree of closure is probably the family (Coleman 1988). In their 'forms of capital' model for immigrant incorporation into the labour market, Nee and Sanders (2001) emphasize the pivotal role of the family (see also Sanders and Nee 1996). Their general argument is that '[t]he mode of incorporation is largely a function of the social, human-cultural capital of immigrant families and how these resources are used by individuals within and apart from the existing structure of ethnic networks and institutions' (Nee and Sanders 2001, p. 388).

Not only family ties contribute to a network with a high degree of closure. One could classify all ties with co-ethnics as contributing to a dense network with closure (see Sanders 2002 for a review of studies on social relations and closure in ethnic communities). Portes and Sensenbrenner (1993) identify two sources of social capital. 'Bounded solidarity' involves a sense of group solidarity that manifests as a reaction to real or perceived threats of a group, and 'enforceable trust', the monitoring and sanctioning capacity of a group. Sanders (2002), p. 348) concludes: '[r]esearch leaves little doubt as to the importance of social capital derived through ethnic networks in promoting economic action'. Bonding social capital is hence measured as ties with co-ethnics and as the strength of ties with the extended family.

With respect to its returns, there are two competing arguments. On the one hand, bonding social capital may result in better labour market outcomes. The key advantage of closure in a network is superior information and a high degree of solidarity. As opposed to inter-ethnic ties, co-ethnic ties may profit from ethnic solidarity (Sanders 2002). Hence, the more closure in a network, the more likely the sharing and exchange of resources (Lin 2001, p. 66). There is evidence that for immigrants, the main source of information on jobs is through relatives and friends, particularly those of the same ethnic origin (Zhou 1992; Waldinger 1994; Pichler 1997; Menjivar 2000). Ethnic networks can function as a means to make headway in the labour market, since these networks rely on ethnic solidarity and enforceable trust (Portes and Sensenbrenner 1993; Waldinger 1995; Portes 1998a). Nee and Sanders (2001, pp. 389–90) conclude: 'especially for immigrants who do not possess substantial financial capital, the family (nuclear and extended) constitutes the most important capital asset. … The social capital embodied in family relationships promotes cooperation needed in realizing both economic and non-economic values'. Elliott (2001), but see also Stainback 2008) finds that Latinos are more likely than natives to enter jobs by matching people and jobs through ethnic social networks. Patacchini and Zenou (2008) find that ethnic networks in Britain increase the probability of finding employment.

On the other hand, immigrants' bonding social capital is characterized as isolated. Consequently, if jobs are found through ethnic and family networks, they are likely to be inferior (Nee and Sanders 2001). The argument is that resources accessed through a network of co-ethnics and family members do not provide unique information; hence they do not result in opportunities for upward mobility within the labour market. When being embedded into ethnic networks only, successful upward mobility may be impeded due to social obligations, pressure to conform, or 'downward levelling norms' (Portes 1998b). Such mobility traps can consequently lead to ethnic segmentation or 'downward assimilation' (Portes 1998a). Embedding into ethnic networks may prevent contacts with the host society and thus hamper integration (Haug 2007, p. 100). Lancee (2010) does not find an effect of family-based social capital for immigrants in the Netherlands with respect to employment and income. Elliott (2001) concludes that job referrals based on co-ethnic ties result in jobs that are paid worse for immigrants in the US.

It seems that bonding social capital may help to find a job; however, it does not help to find a *better* job. Therefore, the second hypothesis is twofold: *Bonding social capital positively affects the likelihood to be employed* and secondly, *for employed men, bonding social capital does not affect occupational status.*

Data and measurement

Sample

For the measurement, I make use of the German Socio-Economic Panel Survey (GSOEP), a panel study with a yearly questionnaire since 1984 (Wagner, Burkhauser and Behringer 1993). In 1996, 2001, and 2006 the survey included a module on social networks. Because of this, the panel used in this analysis is restricted to the years 1996–2007. The GSOEP oversamples immigrants and contains four immigrant sub-samples[1] with extensive information on migration history and specific questionnaire items. The initial response rate for the immigrant sample varied from 64.7 per cent for Italians, to 70 per cent for Turks. Response rates for subsequent waves were considerably higher.

As with all panels, the GSOEP is subject to attrition, which could bias the results (Riphahn 2004). The main sources of attrition were refusal and unsuccessful follow-up; special measures were taken to reduce attrition, such as contacting respondents again each year until all members of the household refused for two consecutive years (Kroh and Spies 2008). The average attrition rate of the immigrant samples is 22 per cent (Haisken-DeNew and Frick 2005, p. 160). In the research sample, the attrition rate is 14.3 per cent; attrition was not related to a specific ethnic group.[2] However, attrition could be related to return-migration and consequently bias the sample towards long-term migrants. The fact that the average stay in Germany is just over twenty three years indicates that the sample is indeed most representative for long-term migrants. In addition, the GSOEP 'foreigner' sample is in fact a guest worker sample of which the vast part is to stay for good. When one compares the research sample to the ethnic minority population in Germany, the classic guest worker groups are indeed over-represented (Turks, former-Yugoslavians, Greeks, Italians, Spanish, and Portuguese); the other groups are under-represented (Eastern Europe, EU Western, and non-EU).

People are classified as an immigrant if they are born outside Germany and do not have German nationality.[3] The sample is restricted to men because employment careers as well as social networks differ substantially among (immigrant) men and women (Hagan 1998; Livingston 2006). The sample for the analysis of the likelihood of employment consists of all men aged between eighteen and sixty five. Those who are in school, performing military or civil service, or those retired earlier than age sixty five are excluded from the sample. For the analysis of occupational status, the sample is further restricted to people who work either full-time or regular part-time. Missing values are replaced with information available from earlier waves. In the years between the measurements of social capital

items, respondents were given the last known value of this item (following Kalter 2006).

Method of estimation

One of the problems in empirical research on the effects of social capital is that of reversed causality. It may well be that more social capital results in better labour market outcomes, but it is also likely that a better position in the labour market results in more social capital (see Mouw 2006, for a recent review on the measurement of causality in social capital). That is, one could meet people just after finding a job, and this could result in a correlation between social capital and employment that is caused by employment, rather than by social contacts. For that reason, indicators of social capital are lagged by one year. By doing so, social capital is measured at an earlier point in time than employment and occupational status.

Another problem in cross-sectional research is the problem of unobserved heterogeneity: an effect can be due to enduring differences between people, rather than because of having acquired social capital. Mouw (2006), but see also Halaby 1994) reviews the studies on social capital that aim to estimate a causal relationship, and is most favourable towards studies that apply fixed effects models.

The fixed effects (FE) model estimates an intercept for each individual in the model. The FE model uses each variable's difference from its within-individual mean and hence can estimate only coefficients that have within-individual variation (Mouw 2006; Rabe-Hesketh and Skrondal 2008). The big advantage of the FE model is that it controls for all differences between individuals, thereby eliminating unobserved heterogeneity (Halaby 2004). The disadvantage of FE models is that it is not possible to estimate time-constant covariates, such as ethnic origin. Another disadvantage is that because FE models only use within-individual variation, they are by definition more sensitive to attrition. Last, in its logistic variant, individuals without variation on the dependent variable are excluded from the analysis since they don't provide information for the likelihood function.

The random effects (RE) model assumes a randomly varying intercept, and the intercept is a draw from some distribution for each unit, and it is independent of the error for a particular observation (Rabe-Hesketh and Skrondal 2008). The advantage of the RE model is that it uses within- and between-individual information; hence also time-constant covariates can be estimated. Moreover, the RE estimator is more efficient. Last, the logistic variant of the RE model does not require within-individual variation on the dependent variable and therefore makes use of the complete sample. The major

drawback is that the random intercept is assumed to be uncorrelated with the covariates; it therefore cannot control for unobserved individual characteristics. Therefore, although RE models use the panel structure of the data, they do not solve the problem of unobserved heterogeneity (Halaby 2004).

Since FE and RE models have advantages as well as disadvantages, I estimate both. A Hausman test is performed to see which model is to be preferred from a statistical point of view.

Measures

The likelihood of employment is measured as being full-time or regular part-time employed, as opposed to being unemployed, looking for a job, or not working. The occupational status is measured by the International Socio-Economic Index of Occupational Status (ISEI) (Ganzeboom, de Graaf and Treiman 1992), which summarizes the power, income, and required educational achievement associated with the various positions in the occupational structure.

Three variables are constructed to measure bonding social capital. In 1996, 2001 and 2006 the GSOEP contains a module named 'social networks and persons to confide in'. In this module, people are asked to mention up to three people outside their household that are important to them. The introduction phrase reads: 'Now some questions about your friends and acquaintances: Please think of three friends or relatives or other people whom you go out with or meet often. Please do not include relatives or other people who live in the same household as you'. Ties are subsequently classified as 'Is from another country or is foreigner' or as 'Is from one of the old/new Federal states'. For ties classified as 'from another country or foreigner', it is asked whether the respondent comes from the same country as the person mentioned. If this is the case, the ties are included as bonding social capital.

In 1996 and 2001, a module is available containing questions about people's relatives outside the household. Respondents are asked to indicate which family members they have and how strong their relationship is. The introduction phrase reads: 'Now a question concerning family members who don't live at home: Which ones and how many of the following relatives do you have?'. Subsequently, respondents are asked 'For those relatives that you do have how close is your relationship?' (no relationship, fleeting, average, close, very close). From these items, a construct called 'Strength of family ties' is built. Reliability analysis (Cronbach's alpha 1996: .82; 2001: .81) clearly shows that these items can be seen as underlying measures of a single construct. As a proxy for family network size, I also include the number of family members.

The following variables are included to measure bridging social capital. First, a variable containing the ties mentioned above which are classified as coming 'from the old/new Federal states.[4] The second measure for bridging social capital is a construct labelled 'Visiting native Germans at home'. Every second year, respondents were asked whether they visited Germans at their home previous year (yes/no) and whether they received visits at home by Germans in the previous year (yes/no, Cronbach's alpha ranging from .80 to .87 across waves).

The measures of social capital have to be seen in light of some limitations. First, since social capital is not measured every survey year, but every five years (apart from 'visiting native Germans', which is measured every second year), there is little within-individual variation. This complicates the estimation of a causal effect. This is partly solved by estimating RE models, which use between-individual information to obtain the estimates. Nonetheless, when FE models *do* indicate a significant impact of social capital, this is strong support for the existence of a causal relationship. A second limitation concerns the diversity of social capital measures available in the GSOEP: the measures for bonding and bridging are not symmetrical. Unfortunately, there is no indicator available for network size of one's bridging social capital. Furthermore, bridging social capital is most likely underestimated when it concerns weak ties. There is consensus that the ties mentioned in name generator items (like the German friend item) are biased towards strong ties (see for example Van der Gaag and Snijders 2004). In that respect, weak ties in Granovetter's (1973) sense are not included fully, insofar as they are not captured by the visiting Germans at home construct. Lastly, none of the items used can identify the tie's occupational position, or whether the person mentioned is ego's employer. It is therefore not possible to test whether socio-economic characteristics are bridged in addition to ethnicity.

Notwithstanding these limitations, I argue that the measures are a good proxy of bonding and bridging social capital. Although the indicators do not cover all family and co-ethnic ties, somebody scoring high on the measured bonding indicators is likely to do so on the ties that are not measured. Likewise, when a respondent mentions inter-ethnic ties among the three people whom he goes out with and meets often, and/or if he visits native Germans at their home, this is likely to be a good proxy for contacts with natives in his network.

Control variables

The following control variables are included: firstly, the educational attainment of the respondent, as measured using the CASMIN scheme.[5] Furthermore, a dummy variable is included indicating

whether or not the respondent attended school in Germany. I also control for German language proficiency, consisting of a scale of three items, measured every second year.[6] The items included are: 'Language usually spoken' (German, mostly that of country of origin, equally); 'Own opinion of spoken German'; and 'Own opinion of written German'. Furthermore, I control for the number of years of full-time working experience (also squared), the number of years since migration, marital status, and the ethnic origin of the respondent. For the analysis of occupational status, a dummy for working part-time is included, as well as the number of hours worked per week. To control for differences across regions, dummies for the German federal states are included.[7] These dummies intend to capture any regional factors affecting labour market outcomes, such as regional unemployment levels or job opportunities (Constant and Massey 2005). Lastly, to control for a time trend, dummies for each survey year are included. In Table 1, the descriptive statistics are presented. It was checked for multi-collinearity, but this was not a problem.

Results

In Table 2, Model 1, a RE model is presented that predicts the likelihood of being employed. Inter-ethnic ties increase the likelihood of being employed. The number of family members has a negative impact on employment, but the odds ratio is very close to one, indicating the effect size is almost zero. The other measures of social capital do not significantly affect the likelihood to be employed. Coefficients estimated with an RE model are based on within- and between-individual variation. This implies that the coefficient for inter-ethnic ties expresses the difference of having more versus less social capital (the between-individual variation) *and* acquiring more (or less) social capital over time (the within-individual variation). Although theoretically this is the best estimate because all information is used, it can be the case that the between-individual variation is biased by unmeasured personal characteristics (unobserved heterogeneity).

In Model 2, a FE model is presented. The FE estimator is based only on within-individual variation. Hence, only over-time changes in social capital are captured. This implies that respondents who do not report changes in their social capital do not influence the estimation of the coefficient. However, since these respondents do influence the standard error, they are included in the sample. The time-constant covariates are dropped, as they do not provide any within-individual information. Logistic FE models require within-individual variation on the dependent variable. As a result, the number of observations is much lower. Therefore, the FE sample is different from the RE sample. However, as Halaby (2004) notes, estimating FE models is

Table 1 *Descriptive statistics sample*

	Sample employment		Sample occupational status	
	Mean	SD	Mean	SD
Inter-ethnic contacts	0.31	0.38	0.33	0.38
Visiting native Germans at home	0.82	0.35	0.84	0.34
Intra-ethnic contacts	0.62	0.39	0.61	0.39
Strength of family ties	0.72	0.18	0.73	0.18
Number of family members	0.12	0.11	0.12	0.11
Control variables				
German language proficiency	0.54	0.23	0.56	0.23
Years since migration	23.59	9.58	23.31	9.25
Working experience full-time in years	20.21	11.68	19.8	10.82
Weekly working hours	–	–	42.05	8.24
	Percentage		Percentage	
Ethnic group				
Turkish	36		36	
(Former) Yugoslavian	19		18	
Greek	9		9	
Italian	18		18	
Spanish/Portuguese	6		7	
Eastern Eur. (EU10)	2		2	
Other EU/Western	6		7	
Non EU	4		3	
Attended school in Germany	33		36	
Educational attainment				
Inadequately/General elementary	39		36	
Basic vocational	37		39	
Intermediate vocational, Interm. General	11		11	
General/Vocational maturity	4		5	
Tertiary education	9		9	
Marital status				
Single	10		9	
Divorced/Separated/widowed	7		7	
Married	83		84	
Part-time	–		2	
Self-employed	–		7	
Number of observations	5,493		4,017	
Number of individuals	954		788	

Source: GSOEP 1996–2007.

not throwing away information, but making use of the panel structure of the data. Moreover, to make sure that outliers do not drive the findings in the FE model, its standard errors are obtained by bootstrapping.

Table 2 *Random and fixed effects logistic regression predicting the likelihood of employment among immigrant men in Germany, 1996–2007, odds ratios*

	Model 1 Random effects		Model 2 Fixed effects	
	B	se	b	se
Inter-ethnic contacts	1.485**	(.219)	1.507*	(.304)
Receives visits/visits Germans	1.034	(.103)	.989	(.125)
Intra-ethnic contacts	1.129	(.159)	1.098	(.229)
Strength of family ties	1.176	(.140)	.827	(.168)
Number of family members	.984*	(.007)	.975	(.015)
Ethnic group				
Turkish	ref.			
(Former) Yugoslavian	1.806	(.699)		
Greek	3.084*	(1.633)		
Italian	5.736***	(2.459)		
Spanish/Portuguese	5.184*	(3.398)		
Eastern Eur. (EU10)	.195**	(.116)		
Other EU/Western	1.128	(1.089)		
Non EU	4.311*	(3.029)		
German language proficiency	1.278***	(.058)	1.140	(.099)
Years since migration	.900***	(.019)	.881	(.172)
Marital status				
Married	ref.		ref.	
Single	.274**	(.115)	.208	(1.034)
Divorced/Separated/widowed	.785	(.254)	.959	(.527)
Attended school in Germany	7.451***	(2.969)		
Educational attainment				
Inadequately/General elementary	.805	(.178)		
Basic vocational	ref.			
Intermediate vocational, Interm. General	.852	(.262)		
General/Vocational maturity	.279*	(.155)		
Tertiary education	4.983**	(2.522)		
Working experience full-time in years	1.478***	(.062)	1.613***	(.204)
Working experience full-time squared	.992***	(.001)	.986***	(.003)
Constant	10.039***	(1.236)		
Log-likelihood	−1844.5		−682.2	
N observations	5,493		2,084	
N subjects	954		277	

Note: the models include dummies for each survey year; the RE model also includes dummies for the Federal states.

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$ (two-tailed tests). Standard errors FE model obtained by bootstrapping (100 replications).

(Hausman test between RE and FE models significant at $p < 0.01$)

Source: GSOEP 1996–2007

As can be seen in Model 2, the coefficient of inter-ethnic ties remains significant and changes very little in size. Since this is a FE model, this effect is not due to unobserved differences between individuals that are time-constant. Furthermore, with respect to possible time-variant characteristics, the model controls for changes in marital status and working experience. Since the model includes dummies for each survey year, the effect is not spurious with a time trend. In other words, it is not the case that the effect of inter-ethnic ties is due to, for example, changes in economic circumstances that occurred in the observation period.

To summarize, people that reported an increase in their inter-ethnic friends are more likely to be employed at a later point in time (FE and RE model); furthermore, people that have more inter-ethnic friends than others are more likely to be employed the year after (RE model). The coefficient of inter-ethnic ties is slightly larger in the FE than in the RE model. There may be three reasons for this. First, because the FE model only includes people for whom a change in the dependent variable is observed, the sample is different from the RE sample. If inter-ethnic ties indeed help with finding a job, it seems likely that the effect is larger when a model is estimated including only those people that change their employment status. Second, the coefficient of inter-ethnic ties might be larger because the FE sample is selective,[8] for example due to attrition (Riphahn 2004). When attrition is not random it can bias the estimates. This would be the case when people that leave the panel are, for example, predominantly those that report a decrease in inter-ethnic ties and find employment afterwards. Third, the coefficient could be larger because there are unobserved characteristics such as ability that are not controlled for in the RE model. As discussed, both RE and FE models have their (dis)advantages. The similar results with regard to significance and effect size are, however, a good indicator for the reliability of the results.

In Table 3, the effect of indicators of social capital on occupational status is predicted. To make them comparable within the models, all covariates are standardized between zero and one. In addition to the variables that are included in the analysis of employment, I include three extra ones: working part-time, being self-employed, and the number of hours worked in a week. In the RE model (Model 4), it appears that only inter-ethnic ties affect occupational status. There is no effect of visiting native Germans. Hence, only the 'strongest' inter-ethnic ties affect occupational status. Just as in the analysis of employment, diversifying one's network with inter-ethnic ties positively impacts on occupational status. As hypothesized, high closure in one's family network and intra-ethnic ties are not associated with immigrants' occupational status. When estimating a FE model (Model 5), the results are similar. Based on these models, we can conclude that having more inter-ethnic ties than

Table 3 *Random and fixed effects regression predicting ISEI-score among immigrant men in Germany, 1996–2007, standardized coefficients*

	Model 3 Random effects		Model 4 Fixed effects	
	B	se	b	se
Inter-ethnic contacts	3.233**	(1.039)	3.077*	(1.326)
Receives visits/visits Germans	.649	(.431)	.760	(.474)
Intra-ethnic contacts	1.750	(1.046)	1.311	(1.311)
Strength of family ties	.399	(1.504)	.441	(1.842)
Number of family members	1.508	(3.198)	4.045	(4.123)
Ethnic group				
Turkish	ref.			
(Former) Yugoslavian	.368	(.923)		
Greek	3.652**	(1.126)		
Italian	1.202	(.999)		
Spanish/Portuguese	−.424	(1.053)		
Eastern Eur. (EU10)	1.838	(1.791)		
Other EU/Western	1.564	(1.726)		
Non EU	11.614***	(2.103)		
German language proficiency	3.784**	(1.283)	−.758	(1.437)
Years since migration	20.410**	(6.428)	19.047	(64.448)
Marital status				
Single	.427	(.773)	1.061	(.991)
Divorced/Separated/widowed	−.753	(.749)	−.095	(.966)
Attended school in Germany	.613	(.949)		
Educational attainment				
Inadequately/General elementary	.774	(.486)		
Intermediate vocational, Interm. General	.196	(.773)		
General/Vocational maturity	8.291**	(2.770)		
Tertiary education	10.674***	(2.423)		
Working experience full-time in years	.093	(.118)	.377	(.574)
Working experience full-time squared	−.005*	(.002)	−.008**	(.003)
Actual work time per week	5.376**	(1.814)	4.725*	(1.979)
Working part-time	1.576	(1.217)	1.541	(1.281)
Self-employed	5.287***	(1.153)	4.497**	(1.363)
Constant	19.309***	(2.393)	22.644	(20.326)
Within R-Square	.03		.04	
Between R-Square	.41		–	
N observations	4,017		4,017	
N subjects	788		788	

Note: the models include dummies for each survey year and for the federal states.
*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$ (two-tailed tests, robust standard errors corrected for clustering on the individual).
(Hausman test between RE-and FE models significant at $p < 0.001$).
Source: GSOEP 1996–2007.

other people results in a higher occupational status. Furthermore, acquiring more inter-ethnic ties over time results in a higher occupational status. The coefficient of inter-ethnic ties is slightly lower in the FE model. This is most likely because in the FE model all between-individual differences are controlled for; its coefficients are therefore not biased by unobserved heterogeneity.

It could be that the returns to social capital are different for the ethnic groups included. Therefore, by including interactions with ethnic group and each of the indicators of social capital it was tested whether this was the case. None of the interactions appeared significant. Furthermore, one could argue that the effect of social capital is different for people who attended school in Germany (Kanas and Van Tubergen 2009). However, none of the interactions between attending school in Germany and indicators of social capital appeared significant.

Conclusion

In this paper, I have analysed the effect of bonding and bridging social capital on the likelihood of employment and occupational status for first-generation male immigrants in Germany. Based on the argument of access to host-country specific resources, I hypothesized that bridging social capital positively affects both outcomes. Furthermore, based on the argument of network closure I hypothesized that bonding social capital positively affects employment. Using the isolation argument, I argued that bonding social capital is not associated with occupational status.

These hypotheses were tested with longitudinal data and by estimating both random and fixed effects models. Previous studies dominantly relied on cross-sectional data, which suffer from the problems of reversed causality and unobserved heterogeneity. By making use of longitudinal data, it was possible to estimate the effect of acquiring more social capital over-time, as well as the effect of having more social capital than others. Moreover, estimating fixed effects models ensures that the effects are not due to differences between people that are not controlled for (unobserved heterogeneity). Furthermore, indicators of social capital were measured one year before the labour market outcomes.

The findings partly confirmed the expectations. Having contacts with natives positively impacts both employment and occupational status. That is, immigrants who have more close friends that are native German (both over time as well as in comparison with others) are more likely to be employed and have a higher occupational status the year after. However, there is no effect of visiting Germans at home. Based on these

findings, can we conclude that there is a causal effect of bridging social capital on labour market outcomes? One has to keep in mind that only ethnic bridges are measured. Therefore, it might be the case that ties are bridging on the ethnic dimension, but bonding with regard to socio-economic characteristics. McPherson, Smith-Lovin and Cook (2001, p. 415) suggest that bridging the ethnic divide is more important than bridging across occupations: 'Homophily in race and ethnicity creates the strongest divides in our personal environments, with age, religion, education, occupation, and gender following in roughly that order'. However, data on the socio-economic status of the ties would be desirable in order to describe the social composition of the networks. This way, one could examine if socio-economic variables are bridged in addition to ethnicity, and refine the results related to the resource argument. A second limitation that has to be mentioned is that only strong(er) inter-ethnic ties are measured. One therefore does not know whether the results are the same for people's entire networks. Further research is needed that can also include people's weak ties.

As hypothesized, bonding social capital is not associated with occupational status. Contrary to the expectations however, and also with regard to employment, immigrants in Germany do not profit from co-ethnic and family-based social capital. This supports the 'isolation' rather than the 'closure' argument: closure may indicate a high level of solidarity and enforceable trust, but it does not result in valuable information or support that is useful in finding a job. Since people in the sample are predominantly long-term immigrants, an alternative explanation might be the ongoing incorporation of immigrants in German society. Sanders (2002, p. 348) concludes: 'When social boundaries take on less of a gate-keeper function protecting ethnically generated resources and more of a bridging function encouraging greater intergroup association, the identity-preserving influence of ethnic boundaries is likely to decline'. Also Hagan (1998) concludes that, especially shortly after arrival, family-based and co-ethnic networks offer the resources needed to find jobs. Since the sample consists mostly of long term-migrants, it could be that bonding social capital did have its value in the past, but is no longer relevant after a substantial number of years in the host society.

Keeping in mind the conceptualization of bonding and bridging social capital, as well as the limitations of the data, it seems that in the case of male immigrants in Germany, whereas bridging is to get ahead, bonding is indeed to get by.

Notes

1. Immigrants are either included in the 'foreigner' sample, (started in 1984, consisting of Turks, Yugoslavians, Greeks, Italians, and Spanish), in the 'immigrant sample' (started in

1994–1995, consisting of households in which at least one member moved from abroad to Germany), or in the 'refreshment' sample (1998 and 2000).

2. The attrition rate is most likely lower because only the working age population is included.

3. Persons with German nationality were not included because the construct 'visiting Germans at home' was not asked in all waves to people with German nationality. Furthermore, they were not included to make sure that the ties mentioned are measured as bridging and bonding in the same way for the whole sample.

4. This classification effectively separates native Germans and ethnic minorities. In one case it is less clear. Ties that belong to the second generation *and* have German citizenship could be classified as either 'from another country' or as 'from the old/new Federal states'. In the follow-up question ('Do you come from the same country [as the person mentioned]'), it appeared that in 98 per cent of cases, people indicate them to be from the same country as themselves (for people born in Germany but no German citizenship, this percentage is 93). That is, the country referred to is the country of origin. This is most likely the same when immigrants classify ties that belong to the second generation and with German nationality.

5. The categories are slightly collapsed: included are inadequately/general elementary (originally separate categories), basic vocational, intermediate vocational/general (originally separate categories), general or vocational maturity certificate and tertiary education. Models were also estimated including parental education. This did not yield different results.

6. Cronbach's alpha ranging from .83 to .86 across waves.

7. Due to the low N in some of the states several categories are collapsed: Mecklenburg-Western Pomerania, Brandenburg, Saxony, Saxony-Anhalt and Thuringia are collapsed into one category.

8. However, the Hausman test favours the FE model. Furthermore, the standard errors of the FE model are robust.

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