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How do Origin and Destination Social Capital influence migration between Senegal and Europe?

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Abstract

Research on international migration research suffers a few weaknesses. It usually adopts a destination bias when examining the influence of social capital on migration. Also, despite critiques (e.g. Boyd 1989), the idea of the household as a unitary decision-making body continues to persist in quantitative migration literature, long after other fields of research have shifted to collective decision-making, conflict or other more complex theoretical models. Furthermore, gendered household norms and structures have been found to influence a variety of life course outcomes, but migration is still largely missing from the analysis. For all these reasons, the study of origin-linked social ties and international migration is important, particularly when linked to the migrant networks scholarship. I use data from the MAFE (Migration between Africa and Europe) – Senegal data (2008) to explore how origin and destination social capital influence migration. Given the dearth of relevant quantitative research, I harness the findings of in-depth qualitative scholarship to develop hypotheses. I show that origin social capital and destination social capital appear to be complementary influences on individuals' chances of migrating between Senegal and Europe. Results support the idea that the influence of social capital at origin is related to household pooling of resources and gendered household norms. Women's migration choices are strongly restricted and closely linked to social capital at origin, while male independent and collective migrations appear to be subject to a wider set of constraints.

Introduction

The association between migrant networks and international migration is well-documented (e.g. Curran and Rivero-Fuentes 2003, Fussell and Massey 2004, Liu 2013, Massey and Espinosa 1997, Parrado and Cerrutti 2001, Palloni et al 2001, Stecklov et al 2010). Migrant networks are gendered, and their influence varies with contextual factors and the sources and resources migrant networks provide. Despite the extensive literature on destination social capital and international migration, few studies have considered social capital at origin – beyond that

offered by return migrants – and its relationship with international migration behavior. This article investigates whether origin social capital influences the individual likelihood of migration, and how this is related to collective pooling of resources and gendered household norms.

This inquiry also addresses abiding concerns about the unitary model of household decision-making, still largely prominent in international migration research (e.g. Stark and Bloom 1985), which suggests that households have one set of preferences. I provide evidence here that this is not necessarily the case. The influence of origin social capital – like that at destination – is gendered and varies with tie strength. Women´s migration choices appear to be much more constricted and socially limited, while male migrations reflect both independent and collective decision-making. This article contributes to our understanding of the complex and dynamic social webs in which migration decisions are developed and made.

Background

Social Capital Theory & Origin Ties

Scholars of social capital propose that social relationships can provide access to resources (Bourdieu 1986, Loury 1977), and that the level of social capital depends on both the relationship itself and the amount and quality of the resources themselves. Social capital is thought to be multidimensional and largely fungible (Bourdieu 1986), but can also be specific to certain activities (Coleman 1988). Scholars of migration and social capital have primarily focused on the migrant network hypothesis: the idea that "the migration of a person directly affects the migration likelihood of those in his or her social network" (Liu 2013: 1245); and on cumulative causation theory: the idea that migrant networks are key for understanding the "dynamic, self-feeding character of migration" as they change social and economic structures and become catalysts for further migration (Massey 1990: 17). This destination-looking

approach also anticipates that migrant network influences depend on tie strength (Burt 1995, Granovetter 1973, Liu 2013).

Despite a broad body of scholarship explores how destination-based migrant networks influence international migration, few studies have directly considered origin-based or border-based social capital and their relationship to international migration.[1] Studies of border-based social capital find that the large majority of unauthorized Mexican migrants to the U.S. employ *coyotes* – paid guides – to cross the border (Donato et al 2008, Singer and Massey 1998). Destination and 'border' social capital are linked: men with migrant siblings were less likely to cross with either a coyote or unpaid guide (Singer and Massey 1998). Gender and policy context also are important: after the 1986 U.S. IRCA (Immigration Reform and Control Act), Mexican female migrants were more likely to cross with a *coyote*, while men less so (Donato et al 2008).

Less attention has been paid to origin social capital: Palloni et al (2001) and Liu (2013) use origin social capital to strengthen destination-based migrant network indicators, and so only explore origin social capital indirectly. Both studies intend to distinguish the migrant network hypothesis from the household migration strategies that are predicted by the new economics of labor migration theory. Palloni and colleagues (2001) use brother pairs and their respective locations (origin, destination) to explore this for male Mexico-U.S. migration, while Liu (2013) employs origin household and migrant networks information to examine this for male and female Senegalese migration to Europe. However, neither study actually explores origin social capital directly.

[1] Studies of internal migration, however, have paid more attention to origin social capital (Mberu 2005) and its consequences (Mberu and White 2011). Much of the literature relies heavily on cross-sectional household data, however, and it is not possible to distinguish between ties which existed before migration and those which developed upon migration. Nor do data usually include adequate information on other social ties, both at origin and destination, which makes analyzing origin social capital in the context of a full range of personal ties difficult.

The current conception of migrant networks limits our understanding of migration, individuals and families. First, the migration literature largely ignores the influence of social connections to origin, including ties that can discourage migration. Labor market scholars, for example, investigate job searches *and* job tenure, as well as social ties to new and current jobs in order to understand the social dynamics of the labor force (e.g. Loury 2006, Moynihan and Pandey 2008). Migration scholars, on the other hand, devote nearly all scholarly attention to migration (the equivalent of a job search). Admittedly, it is difficult to study "staying" directly due to the heterogeneity of non-migrant experiences. An alternative strategy is to explore how different social ties may dissuade migration: despite calls to explore negative network effects (González-Ferrer and Liu 2011, Portes 1998), few scholars have yet pursued this. I intend to build on this here.

Second, the study of migration – particularly international migration - requires particular attention to the household or family at origin. Household is a very important concept in migration research, and the idea of migration as a household strategy to diversify risk *and* to maximize expected income (e.g. Stark and Bloom 1985) now dominates scholarship. Most migrants do appear to remain connected to their origin households and families through remittances (for review, see Taylor 1999) and family care arrangements (e.g. Antman 2011, 2012). However, the idea that households are unitary decision-making bodies has been strongly and successfully challenged in other fields of research (e.g. Agarwal 1997, Alderman et al 1995, Bittman et al 2003). Migration studies, however, largely persist in treating the household as having only one set of preferences (see Garip 2014, Liu 2014 for exceptions).

To understand origin-based social capital influences on migration behavior, it is necessary to distinguish these from household or family migration strategies. No study (to our knowledge) has done so yet. I intend to do so in this paper. Qualitative scholars demonstrate that origin-based networks influence key areas of the lives of potential migrants: the pooling of resources,

household norms and obligations, work and study opportunities, and chances of establishing one's own household.

Gendered household obligations & Pooling of financial resources

I use two strategies to examine mechanisms through which origin social capital influence migration likelihood. First, I analyze how studying origin social capital can provide insight into how gendered household roles and obligations are related to migration. Second, I investigate how origin social capital relates to different modes of migration financing. Senegal provides a particularly good context for studying both strategies.

Ties to origin can represent how household obligations and norms are enforced. Although diverse in terms of castes, ethnicities and geography, Senegal tends to have family structures which are strongly hierarchical in terms of gender and generation (Barou 2001, Bass and Sow 2006, Gabrielli 2010). Gender hierarchies are represented in household norms and social in Senegal: women are expected to deal with the household economy and tasks (including care of livestock and agriculture in rural areas) and key life course celebrations, while men are expected to provide financially for the family in the market economy (Buggenhagen 2001, Kane 2011). These traditional roles largely endure despite major changes in contexts due to agricultural reforms (Carney and Watts 1991), and even international migration (Sinatti 2014). For example, when a woman´s husband moves to work, she is often left behind under the charge of her in-laws, particularly the mother-in-law (Barou 2001, Buggenhagen 2001). These norms influence an individual´s chances to migrate. There are few paths to independent female migration. In fact, Senegalese migration to Europe is heavily male, and female migration can be characterized by a tied-mover pattern: having a husband in Europe drastically increases the likelihood of their wives to migrate (Liu 2013, Toma and Vause 2014). In this paper, I exploit the heterogeneity by gender in order to explore whether the migration chances of men and women reflect their varied experiences of household and other social

norms. Specifically, I expect that *origin social capital will have a greater influence on Senegalese female migration than male migration*. Indeed, given the strong gendered norms around migration, I expect that, *for those women who lack links to destination, origin social capital alone damper a woman´s chances of migrating.* Men, in contrast, in socially-promoted breadwinner roles, are more likely to benefit from both origin and destination social ties.

Second, since Senegalese migration to Europe is very costly and usually requires the pooling of resources (Poeze 2010), I expect the influence of origin social capital (and destination social capital) to vary by tie strength. I build these expectations substantially on the findings of qualitative ethnographic research, given the dearth of relevant quantitative literature. On one hand, strong ties (parents and siblings) at origin are more likely to fund migration projects (Liu 2013) and benefit from them. Recent qualitative research shows that would-be unauthorized migrants to Europe rely heavily on close family contributions and sometimes employ false pretenses in doing so (Poeze 2010). Remittance flows from Senegalese migrants in Galicia (Spain) primarily benefit their parents and siblings in Senegal, and male migrants' strong support for their mothers does not appear to weaken upon marriage (Vázquez Silva 2014). As a result, close family of Senegalese migrants have strong incentives to support migration projects. On the other hand, elders at origin may fear that migration will disrupt vertical extended family hierarchies (Barou 2001), decreasing individuals' contributions to the social and economic structures at origin. Extended families' support likely depends on whether migration projects are individual or family-driven. These expectations for social ties at origin contrast with previous findings for destination social capital: namely, that having weak ties to destination strongly raises one´s migration likelihood, while strong ties have a null influence (Liu 2013). As a result, I expect to find a curious contrast between tie strength and origin or destination social capital: *I expect that strong origin ties and weak destination ties will boost the likelihood of migration, while weak origin ties and strong destination ties will have no influence.*

Data & Methods

Data

This paper utilizes recent longitudinal survey data from MAFE (Migration between Africa and Europe) - Senegal (2008) project, collected in Senegal and three countries in Europe (France, Italy, Spain).[2] It is part of a large-scale data collection effort that involves teams in three countries in sub-Saharan Africa (Senegal, Ghana and the Democractic Republic of Congo) and seven countries in Europe (Beauchemin 2012). Based on retrospective individual questionnaires, the data contains full housing, partnership, children, work, and migration histories. Additional information about migrant networks, legal status, remittances and property ownership is also included. In terms of origin and destination social capital, there is time-varying information about household composition and year-by-year migration history for each migrant network member. Approximately 600 current Senegalese migrants in France, Italy, and Spain[3] and nearly 1,100 residents of the Dakar region[4] were interviewed in 2008.

Methods

This paper uses discrete-time event history analysis to predict the likelihood of first migration to Europe (simple logit) and how they migrated (multinomial logit). As detailed below, the predictors in the logistic regression models capture variation by origin social capital, destination social capital, household migration strategies, spouse at origin, migrant spouse,

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[3] These countries were selected primarily because of data limitations, but they appear to be an appropriate focus of study. The three hosted a remarkable 62% of Senegalese international migrants in 2008, according to the MAFE household survey (Flahaux et al. 2010).

[4] The urban sampling strategy of urban Dakar might actually downwardly bias results, if at all. Fussell and Massey (2004) found that community social capital in Mexico was less influential in urban than rural areas.

economic context and a wealth of mostly individual-level indicators. Focusing on adult migration, I restrict the sample to adults aged 17 and older, with the first possible migration to Europe at age 18. All individuals in the sample were born in Senegal with Senegalese nationality at birth. I will also explore heterogeneity by running certain sex-specific models.

Operational Measures

Dependent variable

The dependent variable *First–time migration to Europe* is a dichotomous indicator coded 1 the year the respondent first moves from Senegal to Europe. Moves from Senegal to other destinations are censored at year of migration. For all previous years, the dependent variable is coded 0.

In order to connect more closely with migration strategies, I also analyze different modes of 1st migration: *migration decision-making, migration funding*, and *migration travel*. Defined for the year of first migration to Europe, these variables represent, respectively: how the migration decision was made, how it was funded and who actually traveled. For each, the categories are identical: alone, and with others.

Primary Independent variables: Social Capital at Origin and Destination

The origin and destination social capital measures account for information included in the individual's complete and retrospective housing history and the rich, time-varying information about the migration trajectories of their migrant networks. Figure 1 displays how the origin and destination social capital measures were constructed.

Social capital measures were constructed by using and matching time-varying information about household composition and the respondent's migrant network. Specifically, I identify household networks to proxy for *origin social capital*; non-household migrant networks to proxy for *destination social capital* and household migrant networks to proxy for *household migration strategies*.[5] For each respondent, the MAFE data includes a complete retrospective housing history, organized into housing spells. For each housing spell, the survey includes information about the respondent's links to other household members (*e.g.,* father, mother, partner, brother/s, sister/s, other relative, friend/s, other), but not their exact identities (e.g. which sister, which friend). In order to build the analysis against our case, I define household migrant networks very generously: for example, if any brother is listed as a household member; *all* brothers in the migrant networks are considered household members for the entire housing spell.

Origin Social Capital

For the Origin Social Capital measures, I primarily use the migrant network migration trajectories and the household histories to identify the respondent's networks in Senegal. There are three categories of information. First, since the data includes complete migration histories of parents and siblings, migrant parents and siblings only contribute to the origin social capital measures in years when they are living in Senegal (according to the migrant network information) as *members* of the respondent's household (according to the housing history). The decision was made to restrict the origin social capital measures to household members for robustness' sake. Alternative strategies to include all siblings and parents living in Senegal were ruled out since the survey did not collect year of death information for all siblings. Second, for the 'other relative' and friends category, other relatives and friends

[5] This differs significantly from the approach of a key prior study (Liu 2013). Liu (2013) identified and used exclusively migrant (destination) networks to proxy for household migration strategies (household migrant networks) and the migrant network hypothesis (non-household migrant networks). In this current paper, we strive to identify and test destination-based social capital (as in Liu 2013) *and* origin-based social capital.

contribute to origin social capital measures only in years when they reside in the respondent's household in Senegal.

Destination Social Capital

The destination social capital (migrant network) indicators are based on two survey questions:

1. Has/had your father ever lived at least one year outside Senegal?

This question was then repeated for the respondent's mother and all brothers or sisters. Next, the respondent was asked:

2. Do/did you have any extended family members or friends who helped you (or could have helped you) *and* who had lived at least one year outside Senegal? What are your ties to these people?

Complete year-by-year migration histories (countries, years) which included returns to Senegal; sex; relationship to respondent; year of death where appropriate; and year met (in the case of friends and spouses) information were then collected for each person identified above.

For precision's sake, I piggyback on Liu (2013) and make three restrictions to the network indicators: restricting all network indicators to years lived in Europe; excluding children and separately accounting for spouses from network measures in order to distinguish general network effects from those involved in legal family reunification; and drastically restricting friendship networks in order to avoid problems of endogeneity.

Tie Strength of Origin and Destination Social Capital

For both origin and destination forms of social capital, household network composition indicators (tie strength) are then constructed. Following convention found in migration literature, parents and siblings are defined as strong ties, while extended family and friends are defined as weak ties. Spouses and children are excluded from all origin and destination social capital measures.

Household migration strategies

The new economics of labor migration predict that migration is primarily a household-level decision to send some household members abroad at destination, while keeping others at origin. As previous study (Liu 2013), I use time-varying household migrant networks to proxy for household migration strategies.

Spouse at Origin and Migrant Spouse

While spousal migrant networks have been used as a proxy for legal family reunification (Liu 2013), only one previous study (Toma and Vause 2014) has explored how having a spouse located at origin or at destination influences migration outcomes. In their study of Senegalese migration to Europe, Toma and Vause found that having a spouse in Senegal decreases women's migration likelihood, while raising that of men. Having a spouse in Europe raised the migration likelihood of both men and women. Here, I distinguish among having a spouse at origin (in Senegal) and having a spouse at destination (in Europe).

Covariates and Macro Indicators

The origin covariates are urban origin[6], religious affiliation (Muslim brotherhoods of Khadre, Layène, Mouride, Tidiane and a category for "other Muslim", Catholic and other Christian); father's education (no school, primary, secondary and above); if father was deceased or

[6] The urban origin indicator is based on the most recent comprehensive data available, the 2002 Senegal census, and specifically the 2002 ANSD urban/rural classification.

unknown; if Ego was the firstborn; number of siblings; and Ego's highest level of education (pre-school or lower, primary, lower secondary, and higher secondary or higher). The time-varying covariates are polygamous union[7], number of children; occupational status (working, unemployed, studying, working at home, inactive); and property ownership (whether Ego owned land, housing or a business) in the given year.

I acknowledge the potential important of macro-level influences (Liu and Toma 2015, Mezger Kveder and González-Ferrer 2013) and include time period indicators[8] and the two time-varying macro-economic indicators available throughout the period of study (1961-2008) in Senegal: GDP % growth per capita and urban population growth (% of total). The World Bank's World Development Indicators provide these latter indicators. Other potentially important macro-indicators, such as inflation rates in Senegal, or Senegalese foreign stock, or unemployment rates in Europe, were only available for certain years in the wide range of data sources investigated (European Migration Network, Eurostat, IMF International Financial Statistics, OECD, UNPD, WDI and individual country sources).

Results

Table 1 displays descriptive statistics of non-migrants at the time of interview (2008) and migrants at the time of migration. Migrants are more likely than non-migrants to have destination social capital, but there are no differences in terms of origin social capital. Once tie strength is considered, I see that migrants are less likely to have weak-tied origin social capital

[7] Marital status is excluded, since it is already largely introduced through the migrant spouse and origin spouse measures.

[8] The periods are before 1985, 1985-1993, 1994-1998, 1999-2003, after 2004. In 1985, France introduced a compulsory visa policy for Senegalese. In 1994, Senegal experienced a grave economic crisis when its currency, the CFA franc, was unlinked from the French franc and devalued by half. The rest of the periods were made to be of approximately equal length.

and more likely to have both origin-based strong ties and destination-based weak ties ($p < 0.01$). Overall, as described in previous study (Liu 2013, Toma and Vause 2014), migrants and non-migrants differ in other ways. Senegalese migrants to Europe are younger, more likely to be male, belong to the Mouride brotherhood than non-migrants ($p< 0.01$). At the time of migration, migrants are more likely to be single and have fewer children, more highly educated, more active in the labor market, and more likely to own land and housing.

Origin and destination social capital

Origin and destination social capital do appear to be complementary. Possessing either origin or destination social capital raises migration likelihood (Table 2; Model 1, $p<0.05$), while having both origin and destination social capital appears to increase an individual's likelihood to migrate even more so ($p<0.001$).

Results also appear to confirm the hypothesis that, overall, international migration is most strongly influenced by weak ties to destination and strong ties to origin (Table 3, Model 2, $p<0.001$). This supports prior quantitative findings about the role of weak destination ties (Liu 2014) and previous qualitative findings about strong origin ties (Poeze 2010). Overall, there is no significant interaction effect between origin strong ties and destination weak ties. However, for women, there is: weak ties at destination are more important for women with strong ties to origin (Table 3a, Model 3, $p<0.10$). The opposite (weak destination ties being more important for men without strong origin ties) may be true for men, but the interaction effect lacks statistical significance.

Gendered norms

Results support the hypothesis that origin social capital influences are stratified by gender. Female migration is strongly constricted by gendered social norms. Females who *only* possess origin social capital, are even *less* likely to migrate to Europe than those with neither origin nor

destination social capital (Table 2; Model 3, $p<0.10$). In support of prior findings of tied mover migration, having a spouse in Europe drastically raises women's likelihood to migrate there ($p<0.001$), but having a spouse at origin does too ($p<0.05$). For men, social capital from origin, destination or both places all consistently raise migration chances. When origin and destination social capital are analyzed together, origin social capital raises the chances of female migration (Table 3a, Model 1, $p<0.05$), but does not significantly influence male migration (Table 3b, Model 1).

I expect that migration decision-making is particularly sensitive to gendered roles, and there is support for this (Table 4 pooled results; Table 4a women-only; and 4b men-only). Men´s independent and collective migration decisions are both strongly influenced by destination social capital (Table 4b; Model 1, $p<0.01$), but not origin social capital. For women, independently-decided migrations are not very socially embedded and appear to be independent of nearly all social capital influences. However, women´s collective decisions are influenced by both origin (Table 4a; Model 1, $p<0.001$) or destination social capital ($p<0.10$). The influences, furthermore, are specific to the source (tie strength) of the origin or destination social capital. For women´s collective migration decisions, strongly-tied origin social capital dominates ($p<0.05$). Men´s collective migration decisions are only influenced by weakly-tied destination social capital, while men´s independent decisions are heightened by strongly-tied social capital at origin and destination, and diminished by weakly-tied social capital at origin. In the case of men, weakly-tie (extended family and friends) social capital at origin likely situates men at the bottom of a strict vertical family hierarchy, hampering their autonomy (Ahmad 2008, Poeze 2010).

Pooling of Resources

Results demonstrate that origin social capital appears to influence Senegalese migration to Europe through the financing of migration. Competing risks models for independent financing

and collective financing clearly show this difference. Unlike independently-financed migration, migration involving pooled resources are supported by origin social capital (Table 5; Model 1, $p<0.001$) and household migration strategies ($p<0.001$). Destination social capital influences both kinds of migration financing (Table 5; Model 1, $p<0.01$), but origin social capital appears to only influence collective financing of migration ($p<0.001$). However, once tie strength is factored in, I see that the likelihood of collective financing is increased by strong ties at origin (Table 6; Model 2, $p<0.001$), and strong ($p<0.05$) and weak ties at destination ($p<0.01$). Independent financing of migration also benefits from strong ties at origin ($p<0.05$) and particularly weak ties at destination ($p<0.001$). Weak ties at origin actually diminish the chances of independently-financed migration ($p<0.10$).

Discussion

This paper identifies a source of social capital, previously underexplored, through which differences in migration behavior come about: origin social capital. To do so, I draw on international migration research about how migrant networks influence migration chances; gender and development studies research about gendered household and societal norms that affect men and women´s life chances; family and workplace research about shifting from ideas of unitary household decision-making towards models of collective decision-making or conflict. It does appear that prior accountings of household migration strategies and the migrant network hypothesis (Palloni et al 2001, Liu 2013) have neglected a key and significant source of social capital. Our research suggests that, in Senegal, origin social capital influences migration through gendered norms and ideas about household and social roles and the financing of migration itself. Women´s migrations appear to largely constricted by gendered norms: having a migrant spouse is particularly important, and migration is usually and especially linked to social capital at origin. In fact, origin social capital discourages female migration when the woman does not also possess social capital at destination. Independent female migration is rare, and is relatively un-embedded in social structures, as analyzed here.

Supporting recent scholarship (Garip 2014, Liu 2014), our research also problematizes the idea of international migration as a household-driven strategy. Households and families are contexts of multiple perspectives. I find that, for independent male Senegalese migration to Europe, strong origin ties encourage migration, while weak origin ties discourage it. This supports the idea that extended family hierarchies may be threatened by the prospect of migration of one of its members (Barou 2001). Given studies linking the extended nature of families with greater wealth (Mberu 2007), these findings may also be related to the idea that whether families gain or lose with migration depends on family wealth: wealthier families are more likely to lose productive assets, while poor families are more likely to gain them, as found for the context of Thai internal migration (Garip 2014).

This paper is susceptible to possible critiques. First, the origin social capital results may suffer from spuriousness or the idea that certain omitted variables may influence both origin social capital and migration behavior. For example, I was unable to account for more complex indicators of household wealth. However, the analysis includes a great wealth of time-varying and time invariant covariates, including several household or family-level measures. Second, the study only partially identifies the mechanisms by which origin social capital influences migration. More in-depth data collection and ethnographic study of the Global South would help. For example, the gendered household role hypotheses is best explored with time-diary data for sub-Saharan Africa (e.g. Blackden and Wodon 2006, Kes and Sawaninathan 2006) and other developing countries, with prospective follow-up panels that include migrants at destination. This would be the ideal method to link the multi-perspective view of the household with migration behavior. Third, given power restrictions of the sample, this study is not able to account for destination contexts, including – importantly – shifts or changes in migration policy. Future study should do so.

Nevertheless, this study´s finding that households at origin are closely linked to the migration chances of their members can help support and clarify other lines of research, including: migrant networks, transnational families and families living apart together across borders (Beauchemin et al 2014, González-Ferrer et al 2012), child fostering (Grysole 2014), and investments in Senegal (Mezger Kveder and Beauchemin 2014).

This simple - but apparently new - perspective on the social structures influencing migration can also inform migration policy. Many public policy efforts intend to influence migration in the countries of origin. Targeting and transforming gendered norms and resources at origin can be one outlet for shifting the social and economic landscape of individuals and families pondering international migration.

TABLES AND FIGURES

Table 1: Descriptive Information of non-migrants and Migrants in the MAFE-Senegal data

	Nonmigrants (at time of interview)		Migrants to Europe (at time of migration)		
Controls	Mean	SE	Mean	SE	
Origin and Destination Social Capital					
Origin Social Capital	0.72	(0.01)	0.84	(0.02)	*
Strong Tie	0.44	(0.02)	0.66	(0.02)	*
Weak Tie	0.45	(0.02)	0.38	(0.02)	*
Destination Social Capital	0.26	(0.01)	0.34	(0.02)	*
Strong Tie	0.12	(0.01)	0.14	(0.01)	
Weak Tie	0.16	(0.01)	0.22	(0.02)	*
Having household migrant network	0.14	(0.01)	0.28	(0.02)	*
Having a spouse at origin	0.54	(0.02)	0.31	(0.02)	*
Having a migrant spouse	0.08	(0.01)	0.16	(0.02)	*
Age	38.94	(0.66)	26.99	(0.31)	*
Gender (male = 1)	0.46	(0.02)	0.70	(0.03)	*
Family of origin					
Urban origin	0.71	(0.02)	0.77	(0.03)	
Firstborn	0.24	(0.02)	0.27	(0.02)	
Number of siblings	8.33	(0.27)	7.47	(0.31)	
Father unknown or deceased at respondent's age 15	0.09	(0.01)	0.07	(0.01)	
Father's education					
No formal schooling	0.45	(0.02)	0.44	(0.03)	
Primary school	0.15	(0.02)	0.20	(0.02)	
Secondary and above	0.20	(0.02)	0.29	(0.03)	
Religious affiliation					
Muslim					
Layene	0.03	(0.01)	0.03	(0.02)	

Khadre	0.03	(0.01)	0.03	(0.01)	
Mouride	0.28	(0.02)	0.37	(0.03)	*
Tidiane	0.41	(0.02)	0.29	(0.02)	*
Other Muslim	0.06	(0.01)	0.14	(0.02)	*
Christian					
Catholic	0.06	(0.01)	0.06	(0.01)	
Other Christian	0.00	(0.00)	0.00	(0.00)	
Individual Status					
Current household structure					
Married	0.72	(0.02)	0.77	(0.02)	
Has children	0.74	(0.02)	0.38	(0.03)	*
Number of children	2.97	(0.16)	0.79	(0.07)	*
Education					
No formal schooling	0.27	(0.02)	0.17	(0.02)	*
Primary school	0.32	(0.02)	0.20	(0.02)	*
Lower secondary	0.14	(0.01)	0.25	(0.03)	*
Baccalaureate and above	0.15	(0.02)	0.38	(0.03)	*
Property					
Land	0.088	(0.013)	0.287	(0.027)	*
House	0.104	(0.014)	0.381	(0.029)	*
Business	0.082	(0.012)	0.0959	(0.024)	
Current occupational status					
Working	0.54	(0.02)	0.64	(0.03)	*
Studying	0.03	(0.01)	0.18	(0.02)	*
Unemployed	0.04	(0.01)	0.07	(0.01)	
At home	0.21	(0.02)	0.10	(0.01)	*
Retired or Inactive	0.05	(0.01)	0.02	(0.01)	*
Individuals	1,083		585		

Note: Data are weighted.

Source: MAFE-Senegal 2008.

*Differences are significant at $p < .01$.

Table 2 Logistic estimation of the odds of being a first-time migrant in a year: origin and destination social capital

	(1) All		(2) Male		(3) Female	
	B	SE	B	SE	B	SE
Origin and Destination social capital						
No social capital (ref)						
Origin social capital only	1.594*	0.371	4.968***	2.163	0.557†	0.187
Destination social capital only	1.939***	0.352	1.761†	0.572	1.224	0.310
Both origin and destination social capital	3.371***	0.655	2.892**	1.081	3.212**	1.398
Control Household Mig. Network	1.680***	0.186	2.918***	0.540	2.096**	0.530
Control for Origin Spouse	1.121	0.147	1.137	0.262	2.531*	0.983
Control for Migrant Spouse	2.389***	0.389	0.188*	0.149	13.91***	5.140
N (person-years)	28,379		13,336		15,507	

Notes: Results are presented in odds ratios. Controls include age, ln(age), *urban origin*, *religious affiliation*, *father's education*, *father unknown/deceased at respondent's age 15*, *firstborn*, *siblings*, *own highest level of education*, polygynous, number of children, occupational status, landownership, homeownership, business ownership, period effects, % urban population growth, and % GDP per capita growth. All indicators other than those listed in italics are time-varying, year by year.

Source: MAFE-Senegal 2008.

$^{\dagger}p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$

Table 3 Logistic estimation of the relative risk of being a first-time migrant in a year: Origin and Destination social capital, by different tie strengths

	Model 1		Model 2		Model 3	
	B	SE	B	SE	B	SE
Origin Social Capital	2.018***	0.283				
Strong Tie			2.104***	0.244	2.073***	0.259
Weak Tie			0.972	0.099	0.972	0.099
Destination Social Capital	1.712***	0.176				
Strong Tie			1.240	0.185	1.245	0.186
Weak Tie			1.789***	0.208	1.697**	0.338
Origin Strong*Dest. Weak					1.081	0.256
Control household mig network	1.683***	0.186	1.672***	0.188	1.668***	0.188
Control for Spouse at Origin	1.121	0.146	1.204	0.158	1.206	0.159
Control for Migrant Spouse	2.383***	0.388	2.604***	0.427	2.608***	0.428
N (person-years)	28,379		28,379		28,379	

Notes: Results are presented in relative risk. Controls include age, ln(age), *urban origin*, *religious affiliation*, *father's education*, *father unknown/deceased at respondent's age 15*, *firstborn*, *number of siblings*, *own highest level of education*, polygynous, number of children, occupational status, landownership, homeownership, business ownership, period effects, % urban population growth, and % GDP per capita growth. All indicators other than those listed in italics are time-varying, year by year.
Source: MAFE-Senegal 2008.
$^{\dagger}p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$

Table 3a Logistic estimation of the relative risk of being a first-time migrant in a year: Origin and Destination social capital, by different tie strengths FEMALES only

	Model 1		Model 2		Model 3	
	B	SE	B	SE	B	SE
Origin Social Capital	2.289*	0.743				
Strong Tie			1.357	0.293	1.148	0.297
Weak Tie			1.244	0.287	1.295	0.288
Destination Social Capital	1.932†	0.696				
Strong Tie			1.592	0.745	1.733	0.829
Weak Tie			1.542*	0.333	0.855	0.341
Origin Strong*Dest. Weak					3.104†	1.965
Control household mig network	2.114 **	0.540	2.222*	0.691	2.291**	0.692
Control for Spouse at Origin	2.445*	0.910	2.316*	0.828	2.427*	0.910
Control for Migrant Spouse	13.36***	4.906	11.85***	3.160	12.31***	3.448
N (person-years)	28,379		28,379		28,379	

Notes: Results are presented in relative risk. Controls include age, ln(age), *urban origin*, *religious affiliation*, *father's education*, *father unknown/deceased at respondent's age 15*, *firstborn*, *number of siblings*, *own highest level of education*, polygynous, number of children, occupational status, landownership, homeownership, business ownership, period effects, % urban population growth, and % GDP per capita growth. All indicators other than those listed in italics are time-varying, year by year.
Source: MAFE-Senegal 2008.
$^{\dagger}p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$

Table 3b Logistic estimation of the relative risk of being a first-time migrant in a year: Origin and Destination social capital, by different tie strengths MALES only

	Model 1		Model 2		Model 3	
	B	SE	B	SE	B	SE
Origin Social Capital	1.037	0.212				
Strong Tie			1.663*	0.347	1.905**	0.424
Weak Tie			0.837	0.185	0.832	0.182
Destination Social Capital	1.978**	0.390				
Strong Tie			1.746**	0.356	1.692*	0.355
Weak Tie			1.823**	0.416	2.916**	1.032
Origin Strong*Dest. Weak					0.525	0.242
Control household mig network	2.821***	0.538	2.909***	0.567	2.983***	0.569
Control for Spouse at Origin	1.146	0.260	1.245	0.315	1.235	0.315
Control for Migrant Spouse	0.228†	0.177	0.277†	0.213	0.247†	0.196
N (person-years)	28,379		28,379		28,379	

Notes: Results are presented in relative risk. Controls include age, ln(age), *urban origin*, *religious affiliation*, *father's education*, *father unknown/deceased at respondent's age 15*, *firstborn*, *number of siblings*, *own highest level of education*, polygynous, number of children, occupational status, landownership, homeownership, business ownership, period effects, % urban population growth, and % GDP per capita growth. All indicators other than those listed in italics are time-varying, year by year.
Source: MAFE-Senegal 2008.
†$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$

Table 4 Logistic estimation of the relative risk of being a first-time migrant in a year, by who decided to migrate: Origin and Destination social capital

	Model 1				Model 2				Model 3			
	Decided alone		Decided with others		Decided alone		Decided with others		Decided alone		Decided with others	
	B	SE	B	SE	B	SE	B	SE	B	SE	B	SE
Origin Social Capital	2.252***	0.493	1.853**	0.338								
Strong Tie					2.543***	0.437	1.898***	0.297	2.447***	0.462	1.927***	0.320
Weak Tie					0.919	0.136	1.014	0.140	0.916	0.135	1.014	0.140
Destination Social Capital	1.860***	0.273	1.628***	0.228								
Strong Tie					1.290	0.301	1.278	0.241	1.299	0.303	1.273	0.241
Weak Tie					2.033***	0.322	1.536**	0.258	1.795†	0.553	1.624†	0.423
Orig Strong*Dest Weak									1.180	0.410	0.913	0.300
Control- HH mig network	1.553**	0.241	1.871***	0.285	1.553**	0.243	1.846***	0.287	1.544**	0.243	1.849***	0.287
Control- Origin Spouse	0.849	0.154	1.576*	0.293	0.943	0.173	1.651**	0.308	0.945	0.173	1.648**	0.307
Control- Migrant Spouse	0.402*	0.157	5.392***	1.094	0.447*	0.175	5.753***	1.177	0.448*	0.175	5.738***	1.175
N (person-years)	28,379		28,379		28,379		28,379		28,379		28,379	

Notes: Results are presented in relative risk. Controls include age, ln(age), *urban origin*, *religious affiliation*, *father's education*, *father unknown/deceased at respondent's age 15*, *firstborn*, *number of siblings*, *own highest level of education*, polygynous, number of children, occupational status, landownership, homeownership, business ownership, period effects, % urban population growth, and % GDP per capita growth. All indicators other than those listed in italics are time-varying, year by year.

Source: MAFE-Senegal 2008.

†$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$

Table 4a Logistic estimation of the relative risk of being a first-time migrant in a year, by who decided to migrate: Origin and Destination social capital WOMEN

	Model 1				Model 2				Model 3			
	Decided alone		Decided with others		Decided alone		Decided with others		Decided alone		Decided with others	
	B	SE	B	SE	B	SE	B	SE	B	SE	B	SE
Origin Social Capital	1.384	1.041	2.704***	0.659								
Strong Tie					1.087	0.500	1.640*	0.332	0.858	0.466	1.415†	0.298
Weak Tie					1.128	0.326	1.302	0.401	1.152	0.334	1.352	0.407
Destination Social Capital	1.302	0.712	2.008†	0.755								
Strong Tie					1.046	0.372	1.857	1.086	1.172	0.394	1.981	1.152
Weak Tie					2.008	1.058	1.229	0.478	1.112	0.434	0.702	0.400
Orig Strong*Dest Weak									2.593	1.670	3.179†	2.000
Control- HH mig network	2.932***	0.551	1.961†	0.664	2.979***	0.771	1.972†	0.786	2.946***	0.732	2.072†	0.797
Control- Origin Spouse	0.620	0.236	4.879**	2.310	0.619	0.214	4.623**	2.150	0.622	0.208	4.814**	2.287
Control- Migrant Spouse	0.344	0.322	41.59***	16.76	0.352	0.288	38.70***	13.10	0.342	0.264	39.96***	13.89
N (person-years)	15,103				15,103				15,103			

Notes: Results are presented in relative risk. Controls include age, ln(age), *urban origin*, *religious affiliation*, *father's education*, *father unknown/deceased at respondent's age 15*, *firstborn*, *number of siblings*, *own highest level of education*, polygynous, number of children, occupational status, landownership, homeownership, business ownership, period effects, % urban population growth, and % GDP per capita growth. All indicators other than those listed in italics are time-varying, year by year.

Source: MAFE-Senegal 2008.

†$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$

Table 4b Logistic estimation of the relative risk of being a first-time migrant in a year, by who decided to migrate: Origin and Destination social capital MEN

	Model 1				Model 2				Model 3			
	Decided alone		Decided with others		Decided alone		Decided with others		Decided alone		Decided with others	
	B	SE	B	SE	B	SE	B	SE	B	SE	B	SE
Origin Social Capital	1.315	0.372	0.856	0.313								
Strong Tie					1.915**	0.415	1.646	0.618	1.907*	0.468	2.440**	0.748
Weak Tie					0.669†	0.158	0.995	0.311	0.669†	0.158	0.968	0.297
Destination Social Capital	2.120**	0.511	2.058**	0.447								
Strong Tie					2.362**	0.686	1.535	0.452	2.365**	0.689	1.429	0.440
Weak Tie					1.608	0.532	2.068**	0.579	1.578	0.615	6.284**	3.600
Orig Strong*Dest Weak									1.022	0.421	0.208*	0.139
Control- HH mig network	2.395**	0.597	3.774***	0.858	2.652***	0.596	3.620***	0.952	2.649***	0.595	3.850***	0.995
Control- Origin Spouse	1.125	0.248	1.339	0.561	1.183	0.264	1.522	0.686	1.183	0.263	1.481	0.674
Control- Migrant Spouse	7.5e-6***	5.2e-6	0.534	0.615	2.5e-6***	1.7e-6	0.803	0.917	7.4e-6***	5.0e-6	0.575	0.679
N (person-years)	13,366				13,366				13,366			

Notes: Results are presented in relative risk. Controls include age, ln(age), *urban origin*, *religious affiliation*, *father's education*, *father unknown/deceased at respondent's age 15*, *firstborn*, *number of siblings*, *own highest level of education*, polygynous, number of children, occupational status, landownership, homeownership, business ownership, period effects, % urban population growth, and % GDP per capita growth. All indicators other than those listed in italics are time-varying, year by year.

Source: MAFE-Senegal 2008.

†$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$

Table 5 Logistic estimation of the relative risk of being a first-time migrant in a year, by who financed trip and trip travel companions: Origin and Destination social capital

	Model 1		Model 2					
	Paid oneself		Family and friends helped finance trip		Traveled alone		Traveled with others	
	B	SE	B	SE	B	SE	B	SE
Origin Social Capital	1.459	0.353	2.240***	0.380	2.415***	0.445	1.614*	0.348
Destination Social Capital	1.851**	0.336	1.699**	0.209	1.771***	0.220	1.604**	0.278
Control Household mig network	1.373	0.278	1.854***	0.242	1.715***	0.225	1.578*	0.308
Control for Origin Spouse	0.703	0.154	1.412*	0.227	1.017	0.162	1.407	0.313
Control for Migrant Spouse	0.162**	0.099	4.267***	0.783	1.651*	0.360	3.937***	0.995
N (person-years)	28,379		28,379		28,379		28,379	

Notes: Results are presented in relative risk. Controls include age, ln(age), *urban origin*, *religious affiliation*, *father's education*, *father unknown/deceased at respondent's age 15*, *firstborn*, *number of siblings*, *own highest level of education*, polygynous, number of children, occupational status, landownership, homeownership, business ownership, period effects, % urban population growth, and % GDP per capita growth. All indicators other than those listed in italics are time-varying, year by year.
Source: MAFE-Senegal 2008.
$^{\dagger}p < .10$; $*p < .05$; $**p < .01$; $***p < .001$

Table 6 Logistic estimation of the relative risk of being a first-time migrant in a year, by who financed migration: Origin and Destination social capital

	Model 1				Model 2			
	Financed alone		Financed with others		Financed alone		Financed with others	
	B	SE	B	SE	B	SE	B	SE
Origin Social Capital	1.459	0.352	2.240***	0.380				
Strong Tie					1.658*	0.338	2.356***	0.330
Weak Tie					0.724†	0.138	1.056	0.127
Destination Social Capital	1.851**	0.336	1.699***	0.209				
Strong Tie					1.008	0.296	1.431*	0.244
Weak Tie					2.117***	0.412	1.628**	0.237
Control- HH mig network	1.373	0.278	1.854***	0.242	1.409†	0.288	1.801***	0.239
Control- Origin Spouse	0.703	0.154	1.412*	0.227	0.762	0.169	1.500*	0.242
Control- Migrant Spouse	0.162**	0.099	4.267***	0.783	0.182**	0.111	4.604***	0.852
N (person-years)	28,379		28,379		28,379		28,379	

Notes: Results are presented in relative risk. Controls include age, ln(age), *urban origin*, *religious affiliation*, *father's education*, *father unknown/deceased at respondent's age 15*, *firstborn*, *number of siblings*, *own highest level of education*, polygynous, number of children, occupational status, landownership, homeownership, business ownership, period effects, % urban population growth, and % GDP per capita growth. All indicators other than those listed in italics are time-varying, year by year.
Source: MAFE-Senegal 2008.
$^{\dagger}p < .10$; $*p < .05$; $**p < .01$; $***p < .001$

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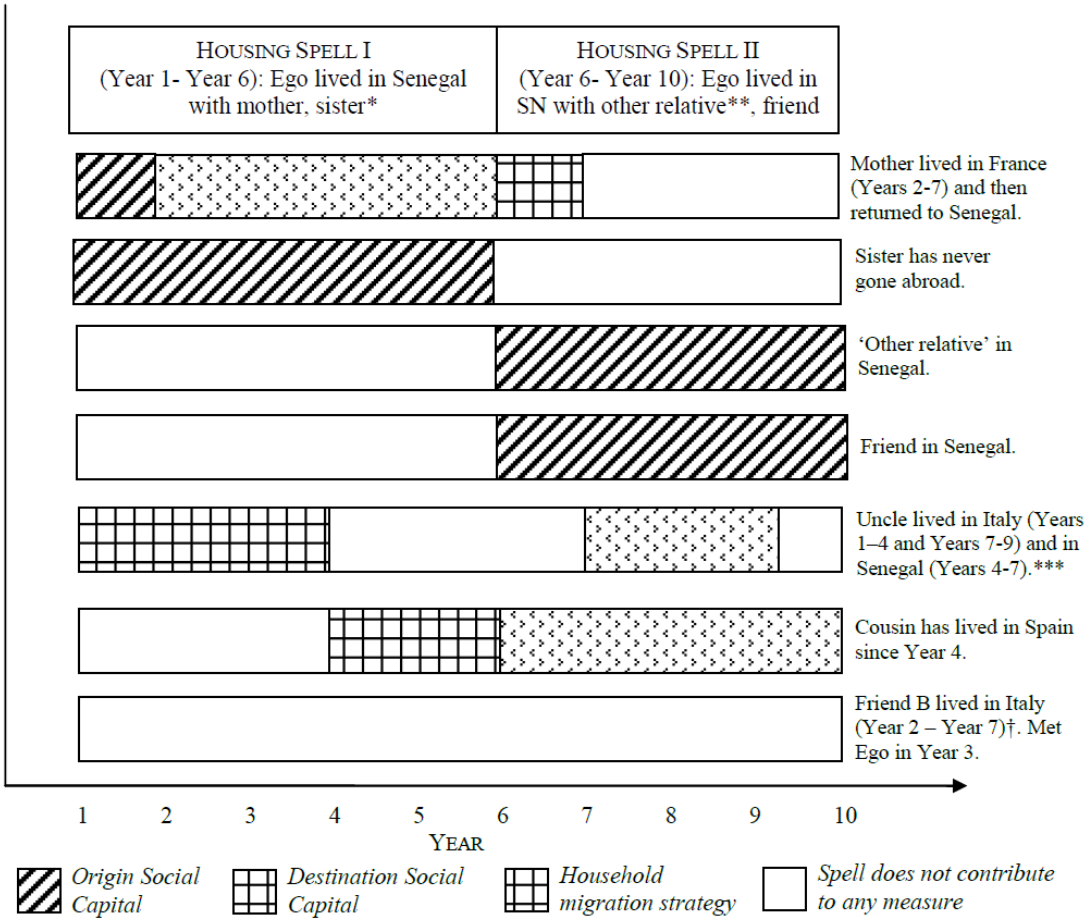
Figures

Figure 1: Construction of origin and destination social capital measures ††



* Housing composition is only available for first year of housing spell (Year 1 for Spell I, Year 6 for Spell II)
** Cousins, uncles/aunts, nieces/nephews, grandparents are all recorded as "other relative" in housing module.
*** Only years lived in France, Italy and Spain qualify for destination social capital (migrant network) measures.
† Friend B is excluded from migrant network measures because friendship with Ego started *after* Friend moved to Italy.
†† Not shown: network indicators are lagged by one year (to avoid capturing simultaneous migration with Ego)

Figure 2 Social capital operational measures[a]

	Measure	Definition	Details[b]
Migrant Network Sources	Strong Tie	Parents and siblings	Spouses and children excluded.
	Weak Tie	Extended family members and friends	Extended family restricted to individuals identified as uncles, aunts, cousins, nieces and nephews
Migrant Spouse		Spouse in Europe (Spain, Italy or France)	
Origin Spouse		Spouse in Senegal	

a – All measures vary year by year.
b – Destination social capital measures include friendships only when (1) they were formed before either individual left Senegal, and when (2) the friendships are at least three years old.