Social Capital and Migration:

How Do Similar Resources Lead to Divergent Outcomes?

Filiz Garip

Department of Sociology

Harvard University

Abstract

This paper investigates how migrant social capital differentially influences individuals' migration and cumulatively generates divergent outcomes for communities. To combine the fragmented findings in the literature, the paper proposes a framework that decomposes migrant social capital into resources (information about or assistance with migration), sources (prior migrants), and recipients (potential migrants). Analysis of multi-level and longitudinal data from 22 rural villages in Thailand shows that the probability of internal migration increases with the available resources, yet the magnitude of increase depends on recipients' characteristics and the strength of their ties to sources. Specifically, individuals become more likely to migrate if migrant social capital resources are greater and more accessible. The diversity of resources by occupation increases the likelihood of migration, while diversity by destination inhibits it. Resources from weakly-tied sources, such as village members, have a higher effect on migration than resources from strongly-tied sources in the household. Finally, the importance of resources for migration declines with recipients' own migration experience. These findings challenge the mainstream account of migrant social capital as a uniform resource that generates similar migration outcomes for different groups of individuals or in different settings. In Nang Rong villages, depending on the configuration of resources, sources and recipients, migrant social capital leads to differential migration outcomes for individuals and divergent cumulative migration patterns in communities.

Social Capital and Migration:

How Do Similar Resources Lead to Divergent Outcomes?

Migrant social capital is commonly conceptualized as resources of information or assistance individuals obtain through their social ties to prior migrants, which reduce the costs and risks of migrating. Numerous studies, primarily on the Mexican-U.S. migration flows, demonstrate how access to migrant social capital through household or community ties increases individuals' likelihood of migrating (Curran et al. 2005; De Jong, Richter, and Isarabhakdi 1983; Davis, Stecklov, and Winters 2002; Massey and García-España 1987; Winters, de Janvry, and Sadoulet 2001).

Studies also suggest that accumulation of migrant social capital initiates a process of 'cumulative causation' through which migration flows become self-sustaining (Massey 1990). Namely, with each new migrant, network ties that connect potential migrants to prior migrants expand, and migrant social capital accumulates. More individuals can draw upon these resources, which increases their likelihood of migrating. As more individuals migrate, network ties expand more, and more migrant social capital is accumulated. This feedback mechanism implies that migrant social capital can eventually dampen the effect of other social and economic factors on migration, a prediction that is confirmed by empirical evidence (Dunlevy 1991; Massey and Espinosa 1996; Massey, Goldring and Durand 1994).

Recent research finds that the effect of migrant social capital on migration is not necessarily uniform across settings, and may be shaped by gender relations and sending or receiving community contexts (Curran et al. 2005; Curran and Rivero-Fuentes 2003; Fussell and Massey 2004; Kanaiapuni 2000). These findings imply that migrant social capital resources can work in different ways for different groups of individuals or in different settings. Because

migrant social capital initiates a cumulative migration mechanism, these differences in its effects on individuals' migration are likely to grow and create persistent differences in community migration patterns over time. Despite their critical theoretical and practical implications, these ideas have not been incorporated into the mainstream understandings of migrant social capital.

This paper seeks to fill this gap in the literature, and identify the mechanisms through which migrant social capital can generate differential migration outcomes for individuals and communities. The paper proposes a theoretical framework to systematize and combine the various findings in the literature on how migrant social capital affects migration. The framework builds on Portes (1998) and decomposes migrant social capital into three distinct dimensions: resources (information about or assistance with migration), sources (prior migrants) and recipients (potential migrants). Distinguishing among these dimensions is important because each dimension can affect migration propensities in different ways. For example, the value of the resources can depend on the kinds of opportunities they present to the recipients. The nature of ties to migrant sources may either limit or enhance the benefits derived. Potential migrants may differ in their access to these resources, or in the benefits they extract from them. Given that migrant social capital can have a cumulative effect on migration, differential access or returns to resources may lead to divergent migration patterns in communities over time. These ideas suggest various mechanisms through which migrant social capital can influence migration outcomes, which have not been tested systematically to date.

This paper provides a novel test of these mechanisms on a multi-level, longitudinal data set from Thailand, where migration is internal, mostly rural to urban. Given that most empirical work is on international migration flows, mostly from Mexico to the United States, Thailand provides a unique setting to evaluate the effect of migrant social capital on migration. The data

set comes from 22 rural villages, and follows migrants in their new destinations from 1984 to 1994. This period covers a time of economic transition in Thai history, and captures the initiation and maturation of migration flows from rural to urban areas. Different than other data on migration available to researchers, these data contain information on all individuals in the villages, and allow us to observe migration prospectively. Moreover, the data set includes information on household and village characteristics, and, because it is longitudinal, allows us to capture how the accumulation of migrant social capital affects migration outcomes over time.

SOCIAL CAPITAL THEORY

Bourdieu (1986:249), who first analyzed social capital systematically, defines it as "the aggregate of the actual or potential resources which are linked to the possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition." Coleman (1988:S118-19) later describes social capital as a resource for action "embodied in relations among persons," which emerges from closure in the social structure, and is convertible to other forms of capital. Burt (1992:12) also emphasizes the contingency of social capital on the social structure, defining it as "at once the resources contacts hold and the structure of contacts in a network." However, contrary to Coleman's idea of structural closure as a necessary condition for its emergence, Burt (1992) argues that social capital results from the relative absence of ties in the structure, or the existence of what he labels 'structural holes.' Burt's elaboration in fact builds on Granovetter (1973), who analyzes social capital in the form of information channels and argues that weak ties – those that extend beyond an actor's immediate social circle –give an actor important advantages in the pursuit of resources. Building on Granovetter and Burt, Lin (2000:786) conceptualizes social capital as "(1) quantity and/or quality of resources an actor can

access or use through; (2) its location in a social network." Hence, Lin also describes social

capital as resources embedded in social relations as well as the characteristics of these relations.[1]

In recent work, Portes (1998:6) attempts to combine these seemingly conflicting ideas,

and proposes an encompassing, but precise, definition of social capital as "the ability of actors to

secure benefits by virtue of membership in social networks and other social structures." In his

definition, Portes makes clear that social capital is decomposable into three distinct dimensions:

(1) the recipients (those making claims), (2) the sources (those agreeing to those demands), and

(3) the resources themselves.[2] These three, possibly interrelated, elements provide a heuristic

framework to characterize extant conceptualizations of social capital. For instance, to use Portes'

terminology, Coleman defines social capital as resources embodied in relationships between

sources and recipients. Similarly, Coleman (1988), Granovetter (1973), and Burt (1992) all agree

that the value of these resources is contingent on the strength of the relationship between sources

and recipients. However, Coleman suggests that recipients obtain greater (in amount or quality)

resources from their strongly-tied sources, while Granovetter argues the opposite. In sum, Portes'

---

[1] These authors unanimously define social capital as an individual asset. An alternative

conceptualization is provided by Putnam (2000:19) who views social capital as a collective asset

embedded in "social networks and the norms of reciprocity and trustworthiness that arise from

them." My position is similar to Lin (2001:26) who argues that "…social capital, as a relational

asset, must be distinguished from collective assets and goods such as culture, norms, trust, and so

on." Hence, social capital as conceptualized in this paper is not compatible with Putnam's

definition.

[2] In the original paper, those making claims on social capital are called "possessors." In this

paper, I anticipate that the term "possessors" may create confusion and use the term "recipients."

distinction among the three dimensions of social capital provides a flexible conceptual environment to compare different ideas and their underlying assumptions.[3] The next section reviews how social capital is conceptualized in the migration literature and argues that Portes' tripartite distinction provides a useful framework to combine several fragmented findings.

SOCIAL CAPITAL AND MIGRATION

In the migration literature, migrant social capital is commonly understood as information about or direct assistance with migrating provided by prior migrants that decreases the costs of moving for potential migrants (Massey and Espinosa 1997; Massey and García-España 1987; Massey and Zenteno 1999). Potential migrants access these resources through migrant networks, which are a set of interpersonal ties based on kinship, friendship or shared origin community that connect migrants and nonmigrants (Massey et al. 1993). Using Portes' terminology, it is possible to redefine migrant social capital as a resource (information about or assistance with migrating) that recipients (potential migrants) access through their social ties to sources (prior migrants). This definition emphasizes the distinctions among the three dimensions of migrant social capital, which are important because each dimension can affect migration propensities in different ways. For example, benefits potential migrants reap may be proportional to the amount and diversity of resources provided. The nature of ties to migrant sources may either limit or enhance the benefits derived. Benefits from specific resources may also depend on the attributes of recipients. These

---

[3] Portes' distinction among resources, sources, and recipients does not imply that each of these dimensions is a constitutive element of social capital. He defines social capital primarily as a resource, yet suggests that characteristics of recipients or sources may be important in shaping how resources affect the outcomes of interest. I thank the anonymous reviewer for drawing attention to this important point.

ideas suggest various mechanisms through which migrant social capital operates. Below, I review several studies of migrant social capital and migration in order to formalize these ideas. I attempt to combine the fragmented set of findings in the literature in a common analytic framework, and therefore organize my hypotheses around the three dimensions of migrant social capital, namely resources, sources and recipients.

Resources of Migrant Social Capital

Migrant social capital resources are defined as information or direct assistance provided by prior migrants to potential migrants. This information may be, for example, about job opportunities at destination that can increase expected earnings of potential migrants. Similarly, prior migrants may provide help with transportation to or living arrangements at the intended destination, which thereby reduce expected costs of migration. (This restricted definition of migrant social capital resources as information or direct assistance disregards norms or expectations embedded in social relations that can act as resources of social capital (Coleman 1988).) Consistent with prior studies in the literature, I assume that the resources prior migrants possess can be proxied by the amount of experience they have in destinations, hence use experience and resources interchangeably.

Many empirical studies find that migration propensities increase for potential migrants with the experience of prior migrants in their households or communities (Curran and Rivero-Fuentes 2003; Deléchat 2001; Massey and Zenteno 1991). Fewer studies consider how the diversity of social capital resources affects migration propensities (Curran et al. 2005a; Massey and Espinosa 1997). I argue that diverse resources (e.g. information about a range of destinations, or help with finding a variety of jobs) may imply a larger choice set for the potential migrants, and hence increase their propensities of migrating. Finally, no study to date considers

how the accessibility of resources affects migration outcomes. Logically, we can expect higher migration out of communities where migrant social capital resources are accessible to a wider proportion of the population. To summarize, I expect: *The greater the amount, diversity and accessibility of resources available to recipients, the greater their propensity to migrate, ceteris paribus.*

Diversity and accessibility of resources may also influence migration behavior indirectly by moderating the effect of the amount of resources. We can expect: *The greater the diversity and accessibility of resources available to recipients, the greater the effect of their amount, and hence the greater the recipients' propensity to migrate, ceteris paribus.*

Sources of Migrant Social Capital

Besides the amount, diversity and accessibility of resources, its source can further influence migration decisions. Using examples from studies of labor market networks, researchers argue that the stronger the tie to the source, the more reliable and useful the information about jobs (Lin, Vaughn, and Ensel 1981). Or conversely, the weaker is the tie to the source, the broader is the scope and usefulness of information provided (Granovetter 1973). These insights are rarely used in the context of migration (e.g. Curran et al. 2005). In order to test these expectations, it is necessary to differentiate resources of migrant social capital by the strength of a recipient's tie to the source. Taking information or assistance as the resource of migrant social capital, two competing hypotheses suggest themselves, which require an empirical resolution. *The stronger the tie to the source, the more reliable the resources for recipients, hence the greater their propensity to migrate. The weaker the tie to the source, the broader the scope of the resources for recipients, hence the greater their propensity to migrate, ceteris paribus.*

Recipients of Migrant Social Capital

I consider the attributes of potential migrants as predictors of their migratory behavior. Following the numerous studies that document how past migration experience influences future migration, I expect that prior migrants are likely to re-migrate (Deléchat 2001; Massey and Espinosa 1996; Massey and Zenteno 1991). More importantly for understanding social capital mechanisms, I expect that prior migrants will be less likely to need or use resources from other sources. More formally: *The more migrant experience the recipients have relative to other sources, the greater their propensity to migrate. The more migrant experience the recipients have relative to other sources, the less important the resources from those sources, and hence the lower their influence on the recipients' propensity to migrate, ceteris paribus.*

THE THAI SETTING

Most empirical studies of migrant social capital analyze international migration flows, mostly migration from Mexico to the United States. Alternatively, I study internal migration in Thailand to assess how migrant social capital affects migration propensities. Some researchers suggested that migrant social capital influences international migration more than internal migration (Taylor 1986). The argument went as follows: While information on international moves is scarce, sending communities are well-connected to domestic labor markets, and saturated with information about internal migration. Then, individuals in sending communities are more likely to rely on migrant social capital for international moves than for internal moves. This argument was supported by empirical evidence from Mexico, where network ties strongly affected individuals' migration to the U.S., but only had a weak association with their internal moves (Taylor 1986).

A number of studies have challenged this argument and showed migrant social capital to be a strong factor influencing the magnitude and direction of internal migration flows in Mexico (Arizpe 1975; Curran and Rivero-Fuentes 2003; Lomnitz 1977) as well as in Thailand (Curran et al. 2005). This paper adds to this growing line of research, and asks how migrant social capital differentially shapes individuals' internal moves and generates migration patterns in sending communities.

The Thai setting presents unique opportunities to answer these questions and disentangle the relationship between social capital and internal migration. Thailand experienced dramatic economic change and growth from the mid-1980s to the mid-1990s. During this period, the economy grew on average by nine percent each year (Jansen 1997), and the economic base shifted from agriculture to exports (Bello, Cunningham, and Poh 1998; Suksiriserekul 2000; Warr and Nidhiprabha 1996). The growth in manufacturing exports fueled an increase in demand for labor in Bangkok and its provinces, where the majority of industrial activities were concentrated (Tambunlertchai 1990). Much of this labor was provided by rural migrants from the Northeastern part of the country, where 40% of the population lived in poverty (Hafner 2000). Most of these migrants were in their teens or early twenties, and half of them were women (Chamratrithirong et al. 1995; Mills 1997).

Because migration has only recently started, and because migrants are mostly young adults and women who would presumably benefit from the information or assistance provided by prior migrants, I expect to observe a considerable impact of migrant social capital on individuals' migration decisions. Moreover, given the economic context and demographic characteristics of migrants, the challenges faced by internal migrants in Thailand may be fairly comparable to those faced by international migrants in other contexts. There is some qualitative evidence in the

literature making this case. Curran et al. (2005) mention unsafe work environments, poor living conditions, not getting paid and even physical mistreatment as challenges faced by Thai migrants in urban destinations. Hence, I expect the empirical results from the analysis of the Thai case to be consistent with those obtained by researchers analyzing the Mexico-U.S. migrant flows.

METHODOLOGY

Data

The data for this study comes from the Nang Rong survey of twenty-two Thai villages, conducted as part of a longitudinal data collection effort by University of North Carolina and Mahidol University in Thailand. Nang Rong is a relatively poor district in Northeastern Thailand, a poor region characterized by high fertility and limited land availability for future development. The survey captures the period from 1984 to 1994, when Thailand's economy shifted from agriculture to manufacturing, propelling the migration from rural areas to Bangkok and other urban destinations.

The Nang Rong survey data allow a strong test of the effects of migrant social capital on migration. While most surveys collect data from randomized samples of individuals or households, the Nang Rong survey contains information about all individuals and household members in the study villages. The survey provides detailed information on migration, education and work histories of individuals, as well as on socio-economic characteristics of households and villages. The data used in the analyses is based on the life history survey, which begins with 13-35 year olds in 1994 (i.e., the age group at risk of migrating) and follows them retrospectively in the 10-year period from 1984 to 1994. (Individuals are asked about their experiences starting at the age of 13. Hence, for the 35 year olds in 1994, we have 10-year life history information that starts at the age of 25 in 1984. For the 18 year olds in 1994, by contrast, we have 5-year life

history information starting at the age of 13 in 1989.) Because the analyses, explained in the subsequent sections, involve independent variables that are lagged by a year, the 1984 observations are excluded from the sample. To obtain household and village level indicators, life history data are merged with three cross-sections of household censuses (1984, 1988, 1994) and two cross-sections of village-level surveys (1984, 1994).

These multi-level data allow me to measure the distribution of migration experiences in households and villages over time, which are central to my account of the effects of migrant social capital. The research design of the Nang Rong survey also minimizes sample selection bias that plagues most retrospective data collection efforts. When data are collected retrospectively, individuals absent at the time of the survey are excluded from the sample. Missing data can bias results if the excluded individuals are a non-random sample of the population. (For example, in our case, the excluded individuals may be migrants who are at their new destinations.) The Nang Rong survey minimizes this problem by collecting a retrospective life history survey in year 1994 (covering the period from 1984 to 1994), in addition to a census of villages conducted in 1984. Using these two surveys, it is possible to match the village population in 1984 with the population in 1994, and observe migration prospectively. Moreover, the Nang Rong project contains a migrant follow-up component, which identifies the migrants who were absent during the time of the survey and finds them in their new destinations. (The migrant follow-up component was conducted in 22 study villages, and counted a migrant as someone who was a member of a 1984 household and had since left a village for more than two months to a migration destination. Related project manuscripts report that the success at finding migrants was relatively high given the difficulty of locating migrants in urban destinations (Rindfuss et al. 2007). On average about 44% of the migrants were successfully interviewed at

some point in the six months following the 1994 village surveys.)[4] Hence, the life history survey in conjunction with the baseline census in 1984 and the migrant follow-up component in 1994 permit taking into account some of the sample bias as a result of attrition, a factor that cannot be adjusted for in other retrospective data sets.

To complement the quantitative analyses and inform their interpretation, I also conducted focus group interviews in selected villages of Nang Rong.[5] I developed a set of typologies differentiating the original 22 survey villages by migration levels, and chose 8 study villages for fieldwork to maximize differences. In each village, potential participants were identified by the village headman for three separate focus groups: (1) village leaders (village headman, village committee members, and "mothers' group" members), (2) migrant sending household members, and (3) return migrants. Focus groups consisted of six to eight participants, typically equal number of men and women. During the two weeks spent in Nang Rong, a total of 24 focus group

---

[4] Nang Rong surveys were actually conducted in 51 Nang Rong villages. Yet, the migrant follow-up survey was completed for only 22 of the original 51 villages. Initial analyses using data from 51 villages (not shown in the paper) revealed that the missing information from migrants creates a significant bias in results. Therefore, here, I use data from 22 villages only, where migrants in destination, as well as the residents in villages, were interviewed.

[5] The fieldwork was conducted in November 2005, but questions were asked about the migration patterns in the past 20 years. Focus group interviews were the preferred methodology as they capitalize on a process of group interaction and hence provide (a) the possibility of exposure to a range of different ideas (including ones that researchers cannot anticipate and therefore cannot build into an interview protocol), and (b) the opportunity to get an understanding of group-level constructions of normative understandings, rather than only individual attributions (Short 2005).

interviews were conducted in 8 study villages, with the participation of 158 individuals. These interviews explored the motivations for and consequences of individuals' migration behavior. The questions specifically inquired about how migration decisions are made, and whether current migrants help potential migrants in the process of moving to a destination. The data generated in these discussions, although not representative in a statistical sense, provided me with better interpretations about the migration patterns I observe in the survey data, and also helped me in identifying the mechanisms at work and refining my theoretical elaborations. I share some examples of these insights in the subsequent section, and later in the conclusions.

Operational Measures

Migrant status is defined as a binary indicator that is 1 if the index person has been out of the home district (Nang Rong) for more than two months in a year.[6] A household is defined as a group of individuals who reside in the same house in 1984, and a village is defined by official boundaries in 1984.

Migrant Social Capital Resources   To operationalize migrant social capital resources, I argue that information or assistance prior migrants offer can be measured by their accumulated migration experience. Migration experiences rather than actual flows of resources are measured because survey data do not record whether potential migrants actually receive information or help from others who have migrated (or whether that information or help was at all influential on their decision to migrate).

---

[6]A person who has been away for less than two months in a given year is not considered a migrant. This definition is from the Nang Rong life history survey, and reasonable in the Thai setting, since the majority of migrants make one trip of long duration to their destinations.

The lack of direct measures creates an identification problem, which is a limitation endemic to most empirical work in the migration literature. The accumulated migration experience could represent not only information or help available to migrants, but also imitation or contagion effects that cause past migration behavior to be correlated with current individual migration decisions. The available survey data do not allow us to disentangle these two competing hypotheses. Hence, I resort to an indirect method for identifying the mechanism at work, and use the qualitative observations from my fieldwork.

Focus group interviews suggest that prior migrants influence potential migrants' decisions to move primarily through the information or help they provide. A male return migrant exemplifies many similar remarks made by the migrants in the sample (n=52): "We asked those who migrated before us. We followed them to apply for work…We couldn't earn any income in the village, so we had to go." Similarly, a female migrant notes: "I have a friend who lives in the city. I asked her to help me find a job." Another migrant points to the costs involved in migrating alone: "…it is risky to go without help because we might end up not finding work at all."

On a number of occassions, imitative behavior is also suggested as a mechanism connecting prior migration to current moves, albeit far less frequently than the exchange of information or help. A male migrant's statement exemplifies this connection: "Others migrated and bought cars and good clothes to wear, so I also wanted to go." However, even in such cases of imitation, migrants need information about or help with identifying and securing jobs. For instance, a male migrant explains a typical hurdle to obtaining jobs that requires help from prior migrants: "...the employers in the factory required a guarantor. The person who took me to apply for the job was my guarantor."

These observations suggest that the flow of information or help is the major mechanism that connects past migration to future migration flows in Nang Rong. Therefore, the measure of accumulated migration experience is more likely to capture the flow of information of help, rather than purely imitative behavior.[7]

Specifically, I assume that experience in a place of destination serves to broaden the information migrants have about the availability of jobs and improves their ability to help potential migrants. Yet this experience is useful to potential migrants only if current migrants maintain contact with their places of origin, either through letters, phone calls, or return visits. To capture the experience migrants accumulate as well as their frequency of contact with origin households or villages, I use a count of prior migrant trips by household or village members *up through the previous year*[8] as a measure of the resources available to potential migrants. This measure is also justified by evidence from fieldwork. In several focus group interviews, migrant household members told us that during the study period, only few households had telephones in Nang Rong villages, and migrants typically contacted their households through return visits, and rarely via letters. Participants repeatedly noted that it was during the return visits that migrants helped potential migrants by giving them information, or taking them along to their places of destination.

---

[7] Note while qualitative data corroborate this argument, they do not allow us to refute the alternative explanation of imitation. The only way to completely avoid this identification problem is to collect data that include direct measures for the alternative theories of information/help exchange on the one hand, and imitative behavior on the other.

[8] To ensure resources provided by prior migrants are causally prior to migration, migrant trips measure is lagged one year.

The characteristics of labor markets and jobs available to migrants differ by destination in Thailand. While the Northeastern provinces offer a market for agricultural wage laborers, Bangkok and a newly industrialized export-processing zone in the Eastern Seaboard provinces provide opportunities for factory and construction workers. I argue that if the information and assistance resources available from prior migrants are diverse in terms of destinations or occupations, then potential migrants can choose from a larger set of options and be more likely to migrate. We can capture the diversity of resources available to potential migrants by measuring the dispersion of prior migrant experience across different destinations and occupations. Using Shannon's entropy index, diversity is quantified as follows:

$$Diversity = \frac{-\sum_{i=1}^{n} p_i \times \log(p_i)}{\log(n)} \times 10 \tag{1}$$

where n is the number of possible destinations (or occupations) and p is the proportion of trips to destination (or occupation) i. The index varies between 0 and 10. Minimum diversity occurs when all trips are concentrated in one destination (or occupation) and the index equals zero. Maximum diversity occurs when each destination (or occupation) category contains the same proportion of trips, yielding an index of 10. In the Thai context, I identify four major categories that exhaust all possible destinations for Nang Rong residents: North Eastern Region, Eastern Seaboard, Bangkok Metropolitan Area and other (including international). Similarly, to measure diversity by occupation, five major categories are identified: farm work, factory, construction, service and other.[9]

_____

[9] The distribution of trips accumulated in the period 1985-1994 by destination and occupation are as follows, respectively: North Eastern Region (20%), Eastern Seaboard (9%), Bangkok Metropolitan Area (63%) and other (8%); farm work (12%) , factory (30%), construction (18%),

To operationalize accessibility of resources, I first assume that every household member has full access to prior experience in the household. (This assumption is false if household members hoard resources but the data provide no support for this idea; women and youth, for example, are as likely to migrate as men and adults.) At the village level, I argue that accessibility depends on the distribution of resources, namely how many people actually contribute to accumulated village migrant trips.[10] To formalize this intuition, I define the accessibility of resources within a village as the equality in the distribution of migrant trips among village members. To measure equality, I take the complement of a commonly used inequality measure, coefficient of variation, which is simply defined as standard deviation divided by mean. The equality index is computed as follows:

$$CV_{v,t-1} = \frac{\sigma_{v,t-1}}{\mu_{v,t-1}} \tag{2}$$

$$Equality = 10 - CV^{r}_{v,t-1} \tag{3}$$

where $CV_{v,t-1}$ is the coefficient of variation of accumulated individual trips in village v up through time t-1. $CV_{v,t-1}$ is computed by dividing the standard deviation of accumulated individual trips in village v up through t-1, ($\sigma_{v,t-1}$), by its mean ($\mu_{v,t-1}$). The coefficient of variation is rescaled to vary between 0-10 to ensure comparability with the diversity index.

service (12%) and other (28%). For concerns of collinearity between occupation and destination diversity, see footnote 18.

[10] To clarify with an example, consider two villages of equal size with equal number of total migrant trips. In village A, there is only one migrant making trips, while in village B there are ten migrants. Although the total amount of resources is the same in both villages, it is clearly more widespread and accessible in village B since more people contribute to its accumulation.

Equality index is then obtained by subtracting the rescaled coefficient of variation, $CV_{v,t-1}^{r}$, from its maximum value of 10. In a village where all the individuals have the same number of prior trips, the standard deviation of trips equals zero, and the equality index reaches its maximum value of 10.[11]

Migrant Social Capital Sources   In order to test whether the strength of tie to prior migrants differentiates the effect of the resources on migration propensities, I assume that respondents have stronger ties to their household members than other village members.[12] Accordingly, I distinguish between migrant trips by household members and those by other village members and define two different resource measures for each respondent: a count of prior migrant trips by household members up through the previous year (excluding trips by the index respondent) and a count of prior migrant trips by other village members up through the previous year (excluding trips by the index respondent's household members). For the sake of

---

[11] This measure would be at its maximum value even if no one in a village took any migration trips. Yet, in the data, this is never the case. The sample begins in 1985, when the accumulated village migrant trips range from 0.04 to 0.37 per person. By the end of the sample, 1994, the range is 0.43-1.71 trips per person.

[12] Granovetter (1973) defines strength of a tie to be "[a] combination of the amount of time, the emotional intensity, the intimacy,… and the reciprocal services which characterize the tie" (p. 1361). Based on this definition, I characterize ties to household members as strong. The available data do not allow me to make refined distinctions among village members, all of whom are treated as weak ties. It is entirely possible that village members, presumed to be weak ties, include close friends or family members.

standardization, I divide migrant trips at the household level by household size, and similarly at the village level by village size. To capture the resources disseminated within households, the accumulated trips by a respondent's household counts trips by all those except *the respondent*. Similarly, the accumulated trips by a respondent's village members exclude trips by the respondent's household members. This strategy ensures the independence among the individual, household and village level measures. Similarly, I separately compute diversity of trips (by destination and occupation) at the household and village level.

  Migrant Social Capital Recipients Moving to the recipients of migrant social capital resources, potential migrants, hypotheses suggest that recipients' prior migrant experiences influence their propensity to migrate. I also hypothesize that the effect of resources from other sources on propensity to migrate may depend on potential migrants' experience *relative to* those other sources. Put differently, the value of resources from other sources depends not on how much experience those sources have, but on how much *more* experience they have compared with the potential migrant. In order to test this hypothesis, I measure respondents' relative position in terms of relative migrant trips within the village. For that purpose, I use a modification of Stark and Taylor's (1989) 'relative deprivation index' and develop a 'relative migrant experience index (RME).' For each person, RME is equivalent to the product of two terms: the share of individuals with fewer migrant trips, and the average difference between his or her migrant trips and the lower level of individual trips. As a person's trips increase compared with others in the village, both terms increase, so that the person with the highest number of trips in the village is also highest in this index. Thus, the RME index ranks everyone in village by their migrant trips and assigns a weight to each person depending on how much higher he or she is compared with those lower than him or her. (Details and formal proof are given in the

Appendix A.) For sake of comparability with the diversity and equality indices, I rescale the RME index to range between 0-10. (Appendix B, Figure B1 provides a summary of the proposed migrant social capital indicators along the conceptual dimensions of resources, sources, and recipients.)

Alternative Explanations   Finally, to rule out alternative explanations, I assume that people who are socially related are subject to common influences, such as economic incentives, and hence their migration propensities may be correlated even in the absence of the hypothesized resource flows. Therefore, I include measures of some shared conditions in household or village. At the household level, I measure total land owned by household members as a proxy for household's wealth[13] and hence to represent a condition that influences the migration propensity of each member. Also included as a household demographic indicator is the number of dependents (older than 64 or younger than 15). Similarly at the village level, I include indicators of remoteness to urban centers[14] and available electricity to represent levels of development that can cause migration propensities of village members to be correlated. (Land owned by the household, number of dependents in the household and village remoteness are variables obtained from the cross-sectional household and village surveys. These variables are measured in 1984

---

[13] This is measured with three categories of land ownership: landless, near landless (1-10 rai), somewhat landed (11-25 rai), and landed (more than 25 rai). A rai is 0.46 acres.

[14] A village is considered remotely located if there are three or more obstacles to traveling to the district town. The obstacles are the presence of a portion of the route to the district town that is a cart path (unpaved, rutted, and narrow), the lack of public transportation to the district town, travel to the district town takes an hour or more, that during the year there are four or months of difficult travel to leave the village, and it is 20 or more kilometers to the district town.

and constant over time.) A variable for months of water shortage in the village captures the strain

on farming introduced by weather conditions.[15] Finally, an index of unemployment rate in the

country (average of all occupations excluding farm work) is included to represent the labor

market conditions.[16]

Analytic Approach

Modeling Individual Migration Outcomes Combining individual, household and

village level survey components creates a complex, clustered data structure, which involves

23,791 person-year observations over a 10-year time period, nested within 2,612 individuals,

nested within 1,415 households and within 22 villages. As the migration outcome is binary, a

multilevel logistic model, shown below, is estimated.

$$Y_{ijkl} \sim B(1, \pi_{ijkl}) \tag{4}$$

$$\log it(\pi_{ijkl}) = \beta_0 + \beta_1 x_{ijkl} + \beta_2 x_{jkl} + \beta_3 x_{kl} + \beta_4 x_l + U_{jkl} + U_{kl} + U_l \tag{5}$$

---

[15] This variable is available for two cross-sections only (1984 and 1988), hence it is assumed to

be constant for a village in the periods 1984-1988 and 1988-1994.

[16] Despite these controls, the resource measure of accumulated trips may still reflect unmeasured

or confounding economic conditions that cause past migration to be linked to current flows.

Since the data do not provide any direct measures of resource flows, we cannot discard this

alternative hypothesis completely. However, in the data, the trips measure is only weakly

correlated with the controls, which increases our confidence that it may indeed be an

uncontaminated measure of social capital resources. (See footnote 18 for a discussion of

multicollinearity.)

$$U_{jkl} \sim N\left(0, \sigma_2^2\right)$$
$$U_{kl} \sim N\left(0, \sigma_3^2\right) \tag{6}$$
$$U_l \sim N\left(0, \sigma_4^2\right)$$

Y_{ijkl} represents the binary migration outcome for observation i that belongs to individual j who lives in household k and village l. Y_{ijkl} are assumed to be independent Bernouilli random variables with (conditional) expectation π_{ijkl}, which denotes the migration probability. The logit of the probability satisfies equation (5), where x's represent vectors of observed time-varying, individual, household and village-level characteristics. To take into account the clustered structure of the data, three random effects, denoted as U, which represent the unobserved individual, household and village characteristics respectively, are introduced.[17] These random effects are assumed to be independent and normally distributed. To estimate this model, penalized quasi likelihood approximation implemented in MLwiN program (version 2.02) is used (Rashbash et al. 2000). (MLwiN is preferred due to its faster convergence rates. Results generated using other available software, such as Stata's Gllamm procedure, generate similar results, which are available from the author upon request.) As robustness checks, tests of multicollinearity are employed, which yield no evidence for a correlation among the independent

---

[17] Ignoring the clustered structure in data creates technical problems. First, it causes the variance of the estimated coefficients to be underestimated, and may lead to mistakenly identifying 'statistically significant effects' when in reality there are none. Second, in our case, because the outcome is binary, the relationship between the outcome and predictors is not linear and ignoring clustering can also result in large biases in the parameter estimates themselves.

variables.[18] To reduce the multicollinearity that results from including interaction terms in the models, the corresponding variables are centered around their mean.

All estimated models include socio-demographic characteristics (age, sex, education, marital status) as individual-level predictors of migration not related to migrant social capital. Household and village characteristics (land owned, number of current migrants and dependents in the household, remoteness of village, whether village has electricity, months of water shortage in village) are included to control for shared household and village characteristics that influence individuals' migration propensities. The strategy to test the several hypotheses posited in this paper is as follows: I create hierarchically nested models, and add the variables related to each group of hypotheses in a stepwise fashion. By doing so, I intend to observe whether evidence for or against each hypothesis is sustained in the presence of other hypotheses. The nested structure also allows me to evaluate whether the added variables in each model are statistically justified. (The likelihood ratio tests show that for each model the added variables significantly improve the fit (p=0.000). Alternative measures for model selection, such as AIC and BIC, also give consistent results. These results available from the author upon request.)

Simulating Community Migration Patterns   To identify the cumulative effects of individuals' migration decisions, I employ a simple simulation analysis of community migration

[18] Variance Inflation Factors (VIFs), which are a scaled version of the multiple correlation coefficient between a given variable and the remaining independent variables, are used as a collinearity diagnostic. Common practice is to look at the largest VIF value, and as a rule of thumb a value greater than 10 is an indication of potential multicollinearity problems (Neter, Wasserman, and Kunter 1990). In our case, the largest VIF value is 3.78, while the mean VIF is 1.66.

patterns over time. I selectively focus on social capital resources, due to the relative ease of modeling the resource accumulation process. (Specifically, identifying the cumulative effect of sources on migration would require modeling the distribution of network ties between sources and recipients, and the changes in that distribution as a result of migration over time. Similarly, focusing on recipients would require a model of how recipient attributes are distributed in communities, and how migration alters this distribution. Simulating how resources change over time is a more straightforward task, as it involves modeling individuals' migration behavior and accumulating their experiences at the community-level as they become migrants.)

I consider the amount, diversity, and accessibility as characteristics of resources that may distinctly shape cumulative migration patterns. Hence, I begin the simulation exercise by categorizing villages according to their amount, diversity and accessibility of resources. Then, I separately simulate the changes in migration propensities within each group over time. (In each case, I generate three equal frequency groups: 'high', 'medium', and 'low'.) By doing so, I aim to demonstrate how discrepancies between villages in social capital resources can create and sustain differential migration patterns over time.

Specifically, I use the fitted model (Model 4) to compute the expected probabilities of migrating for each individual from 1985 to 1994. These probabilities are then averaged over the whole sample and over each group separately, to obtain the mean expected probability paths from 1985 to 1994 for the fitted model. Next, a 10-year period from 1995 to 2004 is simulated by the following procedure: Each year an individual's expected migration probability (from the fitted model) is compared with a uniform random number, and person is considered to migrate if the random number is smaller than the fitted probability. Using this information, the cumulative migration experience of each individual, household and village is updated; the social capital

resource indicators are recomputed, and new individual migration probabilities are calculated. This procedure is repeated many times (N=1000); the individual probabilities are averaged over these repetitions for the high and low experience villages, as well as for the whole sample. (Details of the simulation algorithm are given in the Appendix D.)

RESULTS

Table 1 provides a summary of the individual, household, and village level variables for migrants and nonmigrants separately. Nonmigrants are defined as individuals who have not moved during any year in the 1984-1994 period, not necessarily individuals who have never migrated. (Hence, the differences observed between migrants and nonmigrants defined as such are conservative compared to differences between those who have ever migrated and those who have never migrated.) The descriptive table shows that migrants are significantly higher in all indicators of migrant social capital compared with nonmigrants (p=0.001). More social capital resources are available to migrants at the household level (0.75 trips compared with 0.40 trips for nonmigrants) and at the village level (0.79 trips compared with 0.60 trips). Furthermore, the occupational diversity of these trips is higher for migrants than nonmigrants both at the household and village level, while the destination diversity is only higher at the household level. Migrants are also more likely to have access to prior experience of others compared with nonmigrants, since the distribution of trips is more equal in their villages (equality indices for migrants and nonmigrants, 8.24 and 7.44 respectively). Finally, as expected, migrants have greater prior experience (relative migration experience index is 1.03 compared with 0.23 for nonmigrants). These results invite application of more rigorous techniques to determine whether these differences between individuals in migrant social capital indicators explain the differences in their migration propensities.

The Impact of Migrant Social Capital Indicators on Individual Migration Propensities

   To summarize the results, the empirical estimations strongly support the hypothesis that migration increases with the amount and accessibility of migrant social capital resources. Namely, individuals from households and villages where accumulated migration experience is high, and evenly distributed among members, are more likely to migrate. The hypothesis that increased diversity of resources increases migration receives partial support, as individuals become more likely to migrate if migration experience is dispersed among several occupations, yet less likely to migrate if experience is diverse across destinations. The relationship of individuals to migrant social capital sources also influences migration outcomes, and in Nang Rong, resources from weak ties have a higher effect on migration than resources from strong ties. Potential migrants' own attributes also strongly affect their likelihood of migration, as well as their returns to migrant social capital resources from other sources. Confirming my hypotheses, past migration experience makes individuals more likely to migrate, and less likely to benefit from the experience of household or village members. Finally, the hypothesis that individuals' returns to available resources will increase with the resources' diversity and accessibility is also confirmed. Below these results are explained in detail. (Table C1 in Appendix C lists the statistical models along with the hypotheses they are designed to test.)

   Migrant Social Capital Resources The first model in Table 2 includes socio-demographic, household and village characteristics that may influence individuals' migration propensities independently from migrant social capital. The empirical estimates indicate that individuals' migration propensity increases with their age and education. It is also higher for men

than women, and for singles than for married individuals. Individuals' likelihood of migrating also increase with the number of dependents in their households. Persons from less wealthy households are more likely to migrate compared with those from the wealthiest households. At the village level, individuals are more likely to migrate if they live in a remote village or a village with electricity. Months of water shortage, which proxies the risks to farm income, and unemployment rate, which captures labor market conditions for migrants do not seem to affect migration behavior.

The model also includes several indicators of migrant social capital resources in order to test two hypotheses: first, whether individuals' migration propensities increase with the amount, diversity and accessibility of resources available, and second, whether resources from weakly-tied sources are more important than resources from strongly-tied sources in their impact on migration. Similar to numerous studies in this and other locales, and confirming my expectations, the results show that the amount of migrant social capital resources significantly increases individuals' migration propensities. A person's probability of migrating rises by 18% with each migrant trip in the household and by more than two-fold with each trip in the village.

Moving to the diversity of destinations in migrant trips, unexpectedly, it decreases individuals' likelihood of migration at both the household and village level. This result may be interpreted as potential migrants preferring in-depth information about one destination, rather than some information about many destinations.[19] The diversity of occupations in migrant trips,

---

[19] Alternatively, this result may be explained by the lack of variation in the destination diversity variable. Namely, more than 60% of migrant trips are to one destination (Bangkok Metropolitan Area) in the sample (see footnote 9). This lack of variation in the variable may make it

on the other hand, confirms the expectations and increases the migration propensities, although only at the household level. This finding suggests that only when information is from reliable sources, such as household members, the diversity of its content by occupation becomes significantly important in influencing migration decisions. These results provide ambiguous support for the hypothesis that migration propensities increase with the diversity of resources.

The model also includes an indicator of the equality of the distribution of migrant trips in order to test whether higher access to resources increases the probability of migration. The estimates indicate that a point increase in the equality of migrant trips above its mean increases the odds of migrating by 39%, and hence provides support for the hypothesis. (Recall that diversity, equality, and RME variables are in deviation score form, that is, they are scaled to have a mean of zero.)

Migrant Social Capital Sources   To test whether resources from weakly- or strongly-tied sources have a higher impact on individuals' migration, I compare the coefficients for village trips and household trips. Each village trip increases an individual's odds of migrating by 123% while each household trip increases it by only 18%. Hence, the potential breadth of information from weakly-tied village members seems to be relatively more important than the trustworthiness and reliability of information from household members. This finding may be due to the demographics of migrants and the structure of households in these Thai villages. Namely, most migrants are in their teens, and about a half of them are women. In Thai households, which typically include parents and children only, it is not likely that parents possess information that is relevant for the migrant children. Namely, parents' information on migrating is likely to be about

statistically difficult to identify its effect on migration propensities, and account for its unexpected negative coefficient.

farm or construction jobs (popular migrant jobs when they were young), which may be redundant for younger migrants who opt to work mostly in newly established factories. Moreover, fathers, rather than mothers, in the household are likely to have prior experience, which may not be useful for the daughters in a sex-segregated labor market. Hence, it is plausible that potential migrants resort to their young friends in the village, rather than household members, to find out about migration opportunities.

Migrant Social Capital Recipients   By including an indicator of individuals' relative migrant experience (RME index), Model 2 in Table 2 tests whether prior migrants are more likely to re-migrate than their counterparts who did not move between 1984-1994. The results support this hypothesis, suggesting that the odds of migrating increase by 85% with each point increase above the average value of the RME indicator. This result suggests that, by reducing the costs and risks of migrating, past migration experience makes individuals more likely to re-migrate. This finding is consistent with repeat migration patterns observed by researchers in the Mexico-U.S. migration streams (Massey and Zenteno 1999).

-- Table 3 about here --

Interactions among Amount, Diversity, and Accessibility of Resources   To test the hypothesis that the effect of resources on migration increases with their diversity, Model 3 (in Table 3) includes interactions between migrant trips and their diversity. The interaction terms are statistically significant at the village level for destination diversity, and at the household level for occupation diversity. The estimates show that an increase in the destination diversity increases the effect of village trips on migration. More explicitly, when destination diversity is at its mean value, each village trip increases an individual's likelihood of migrating by 25%. When destination diversity is a unit above its mean, due to the positive interaction between destination

30

diversity and village trips, each trip now increases the odds of migrating by 39%

(1.25*1.11=1.39). Conversely, occupation diversity decreases the positive effect that household

trips have on migration. Namely, with occupational diversity at its mean, each household trip

increases the odds of migrating by 20%. A unit increase in the occupational diversity above its

mean causes the effect of household trips to drop to 16% (1.20*0.97=1.16). Hence, while

destination diversity amplifies the effect of resources on migration, occupation diversity seems to

dampen it. These findings provide ambiguous support for the hypothesis.

In order to test whether higher accessibility increases the effect of resources on migration,

this model also includes an interaction term between village trips and the indicator of the

equality in their distribution, which is anticipated to have a positive coefficient. The result

confirms this expectation, as the influence of trips in village increases considerably (by 28%) for

each point increase above the average level of equality. (Note that when this interaction term is

added, the main effect of village trips on the odds of migrating becomes negative and

insignificant. Precisely because of the presence of the interaction, this coefficient now needs to

be interpreted as the effect of village trips when the equality indicator is at its mean value of

zero.)

Interactions between Resources and Recipients   The final model 4 in Table 3 tests

whether the effect of resources from household or village members is contingent on prospective

migrants' own experience by including interaction terms between trips and relative migrant

experience. The hypothesis that the effect of resources on migration decreases with individual's

relative experience implies negative signs for these interaction terms. The results strongly

support this hypothesis at the village level. Trips in the village have a smaller effect on migration

as an individual's relative experience increases. Namely, a unit increase in the relative

experience of an individual causes the effect of village trips to drop by 72%. The effect of household trips on migration, on the other hand, remains unaltered. Hence, these results demonstrate that resources from village sources become less important once a certain level of own-experience is achieved, while the effect of household resources does not change, and partially confirm the hypothesized relationship between resources and its potential recipients.

Simulations of Cumulative Migration Patterns in Communities

The empirical findings show that social capital can generate differential migration outcomes for individuals as a result of differences in the available resources, the nature of individuals' ties to sources, or individuals' own attributes. These differences at the individual-level can lead to distinct migration patterns in communities over time. Simulations of community migration patterns demonstrate these cumulative dynamics.

-- Figure 1 about here --

The first simulation example considers the amount of resources, measured by the level of migration experience in communities. The results displayed in Figure 1 show that individuals living in high or low experience villages have significantly different migration propensities at each time period. For instance, in 1994, an average person living in a high experience village has a predicted migration probability of 0.45. The same probability for a person from a low experience village is approximately 0.30. The pooled path, which is an average over the whole sample, predicts an equal probability of migrating for both persons (approximately 0.40) and hence conceals the differences in migration patterns over time. Simulated results show that small initial differences in the level of social capital accumulate to produce large inequalities in migration patterns across villages.

-- Figure 2 about here --

The second simulation example considers the diversity of experience by destination. (The alternative indicator of diversity by occupation is not used since it only operates at the household level.) Categorizing villages as high and low diversity and simulating their migration probability paths, as displayed in Figure 2, I find no difference in migration outcomes by diversity in the period from 1985 to 1994. This result is due to the opposing direct and indirect effects of the diversity indicator on migration behavior. Namely, destination diversity at the village level, as estimated in Model 6, has a negative direct effect on the odds of migrating. Yet, it also has a positive indirect effect, which works through an interaction with the amount of experience. After year 1994, the simulations suggest that the positive indirect effect dominates, and we see an increasing difference in migration probabilities out of low and high diversity villages, which reaches 0.20 by 2004.

-- Figure 3 about here --

As a third example, I focus on accessibility of resources, which is operationalized by the distribution of experience in a village. Simulating the paths of two groups of villages distinguished by the equality of experience distribution, Figure 3 reveals that individuals living in high equality villages have higher probabilities of migrating than those living in low equality villages. For example, in 1994, an average person from a high equality village has a predicted migration probability of approximately 0.50, while a person from a low equality village has a migration probability of 0.30. Furthermore, by 2004, the simulated migration probability of individuals from a high equality village approaches 0.70, while the migration probability of individuals from a low equality village is around 0.40. Hence, the high and low equality villages display different trajectories over time; although the migration probability increases over time for both, the rate of this increase is substantially different. The pooled path, which does not

distinguish between villages by their equality of experience distribution, smoothes out these differences, and possibly leads to biased predictions for both types of villages.

These simulations show that even small discrepancies in different dimensions (level, diversity and accessibility) of social capital resources at the village level can lead to striking differences in migration patterns over time. Ignoring these discrepancies can result in biased predictions about future migration patterns.

DISCUSSION AND CONCLUSION

In the villages of Nang Rong, young men and women travel to Bangkok and other urban centers in search of jobs and other opportunities. Some villages and households are closely tied to urban life by past migration. It is these settings that foster greater movement out of rural areas. Because individuals are more likely to have access to migrant social capital (information or direct assistance from prior migrants), higher rates of out migration are observed in villages where migration is already prevalent. Consequently, these cumulative effects cause some villages in Nang Rong to reach very high levels of migration and become integrated into the urban economy, while others linger at low levels of migration and remain isolated.

This paper investigated the migration flows in Nang Rong, and suggested migrant social capital as a mechanism that differentially influences migration outcomes of individuals and cumulatively generates divergent migration patterns in villages. To combine the fragmented findings in the literature, the paper first proposed a framework that decomposes migrant social capital into resources (information about or assistance with migration), sources (prior migrants), and recipients (potential migrants). This framework allowed to combine hypotheses about resources, sources and recipients of migrant social capital that are typically tested in isolation, and to generate novel hypotheses about their *interactions* in producing migration outcomes.

This study is different from prior work evaluating the effect of migrant social capital on migration, not only because of this theoretical elaboration, but also because of the empirical setting. While most empirical studies investigate international migration flows, especially the Mexican-U.S. case, the analysis in this paper concerned Thai internal (mostly rural to urban) migration. Adding to the empirical literature, the results affirmed that migrant social capital is important in the Thai setting, even when considering rural to urban migration. These results supported the claim that the importance of migrant social capital may resonate not only for international migration flows, but also for internal migration patterns in many developing countries.

The influence of migrant social capital resources in Nang Rong villages on shaping migration flows is first manifested by evidence from my fieldwork. In focus group discussions, villagers consistently stated help from other prior migrants to be a crucial factor in their migration decisions. This help is in the form of finding a job or a place to stay at destination. Most migrants in the sample (n=52) specifically stated that they would not have migrated unless they knew other migrants in destination. "If we did not know anyone [in destination], we would be afraid to go," a female return migrant told us. "Unless someone recommends a workplace, we are afraid that we will not get paid." Surprisingly, a village committee member even argued that individuals prefer to migrate to Bangkok rather than try to work in a nearby factory, because they have less (and less reliable) information on the latter. "Nobody from this village has worked in that factory yet," he said, "and they [new workers] are afraid to start because they do not know anything about it." These, and other similar, remarks suggest information or help from family or village members to be a major mechanism that influences individuals' migration in Nang Rong.

While qualitative data help us in identifying the mechanisms and interpreting the some of the empirical findings, they do not necessarily corroborate all the patterns observed in the survey data. This discrepancy, which is expected as survey data can detect village-level patterns typically unidentifiable to individuals, points to the importance of combining qualitative and quantitative data in migration research.

Using a mixed-methods approach and combining analyses of focus group and survey data, this paper extended prior research in three important ways. First, the paper introduced a nuanced definition of migrant social capital resources, and identified the amount, diversity and accessibility as the relevant characteristics. Prior work exclusively focused on the amount of resources, and found that migration is more likely in households or communities with higher levels of resources, such as information or help, from prior migrants. This paper argued that the likelihood of migration should also be higher if these resources are evenly distributed in communities, and hence more accessible to individuals. Another novel hypothesis suggested that migration should be higher if the information resources from household or community members span a wide range of destinations or occupations, as increased diversity would imply more opportunities for individuals. These claims were partially supported by data.

Similar to prior work, I found that in Nang Rong villages, migration increases with the level of resources, measured by the accumulated migrant trips in households and communities. Different than prior work, the accessibility of resources also increases individuals' likelihood of migrating, independently from the level of resources. The results did not support my expectation that the diversity of resources across destinations increases migration. Conversely, migration in Nang Rong becomes less likely if past migration experience is dispersed across several destinations, such as Chon Buri, Korat and Bangkok, than if village members have a single, well-

tied path to Bangkok. This finding suggests that migrants may prefer the consistency of information generated by a well-established migratory path to the diversity of opportunities provided by several paths.

In contrast with the village context, family migration context in Nang Rong becomes fertile if past migration in the family has been widely dispersed across occupations. In other words, if family has prior experience only in an agricultural job, migration is less likely than if family members have previously worked in factory and service jobs as well. Hence, my expectation of higher migration as a result of higher occupational diversity was supported for household-level resources, but not for village-level resources.

These novel findings suggest that a narrow focus on the amount of resources, as in prior work, could cause us to overlook the distinct effects that resource accessibility and diversity have on migration. Future work should consider how different characteristics of migrant social capital resources (not to be limited to accessibility or diversity) can differentially influence migration patterns. A possible path is to consider the gender content of these resources (that is, to what extent men and women contribute to the accumulated resources) and extend prior research by Kanaiaupuni (2000) and Curran et al. (2005).

The second innovation of this paper is to suggest that the effect of migrant social capital resources on migration may depend on the attributes of recipients (potential migrants) and the nature of their ties to sources (prior migrants). Similar to prior studies, I argued that individuals with prior migration experience should be more likely to migrate, as their past experiences lower the costs and risks of future moves. This expectation was confirmed in Nang Rong villages. Building on networks studies of labor markets, I also suggested that the effect of resources on migration depends on the strength of ties between sources and recipients. Resources from strong

ties are more likely to be reliable, while resources from weak ties tend to be broader in scope. The results in the Thai case showed that internal migrants rely more on resources from village members (weak ties), than those from household members (strong ties) in their decision to migrate. This pattern provides a contrast to international migrants observed in the Mexican-U.S. case, who are aided primarily by their family members in migrating (Davis et al. 2002; Palloni et al. 2001). While family members may be a trustworthy source of information for the highly risky international moves, for Nang Rong migrants, family represents an out-of-date source, likely to possess information on only construction or farm jobs. Instead, migrants, who are mostly young adults, rely on their friends in the village to find higher-paying factory and service jobs in urban destinations.

A third innovation of the paper is to consider the possible interactions among the amount, diversity and accessibility of resources as well as between the amount of resources and characteristics of recipients. I suggested that the level of resources should be more important for shaping migration if resources are more diverse and/or more accessible. This expectation was confirmed in Nang Rong villages, where the effect of the resource amount is amplified by resource diversity and accessibility. Another novel interaction hypothesis suggested that the resources available in the household or village should be less important for individuals who have prior migration experience themselves, which was also supported by data.

These interactions suggest that different characteristics of resources (such as diversity and accessibility) and recipients may influence migration patterns not only directly, but also indirectly through their influence on the effect of the resource amount. More generally, these results show that similar resources (in amount) may work differently depending on their accessibility or diversity. Also, similar resources may work differently for different individuals,

in our case, depending on their past migration experience. Moreover, because migrant social capital resources accumulate and generate a cumulative migration mechanism, the differences in their effect on individual-level migration outcomes can create and sustain stark inequalities in village migration patterns over time. As the simulation analysis demonstrated, in Nang Rong villages, even small discrepancies in the diversity or accessibility of social capital resources lead to striking differences in village migration outcomes. Ignoring these discrepancies result in biased predictions of future migration patterns.

These findings challenge the mainstream account of migrant social capital as a resource that affects all individuals in a similar, linear fashion, increasing their propensities to migrate. In Nang Rong villages, migrant social capital produces highly non-linear patterns of migration for individuals and communities, and generates divergent outcomes for different configurations of resources, sources and recipients. The proposed theoretical framework proves instrumental for identifying these distinct migration patterns. Future work could use this framework, and consider how resources, sources and recipients, independently and in interaction, generate differential outcomes, especially if longitudinal, multi-level data from migrants and nonmigrants are available to researchers.

APPENDIX A

Relative Migrant Experience

To measure a person's relative migrant experience, I need to formally represent his/her position with respect to others in the village. For this purpose, I use Stark and Taylor's (1989) 'relative deprivation' idea. Stark and Taylor (1986) argue that households send workers abroad not only to improve income in absolute terms, but also to increase income relative to other households, and, hence, to reduce their relative deprivation compared with some reference group. What is relevant for this study is how they define and measure the relative deprivation of a household. Using their reasoning and modifying their formulations to some extent, below I propose a relative migrant experience index.

Let $F(y)$ be the cumulative migrant trips distribution of a community and $h[F(y)]$ be the benefits to a person of having y trips. A person with y trips is better off than people with fewer trips, hence define that person's relative migrant experience as:

$$RME(y) = \int_0^y F(z)dz \qquad (1)$$

In the simple case where $h[F(y)] = F(y)$, this expression is equivalent to the product of two terms: the share of individuals with migrant trips smaller than y, and the average difference between y and these lower individual trips. That is,

$$RME(y) = F(y)E[y - z | z < y] \qquad (2)$$

where z is the trips of individuals with fewer trips than y.

Proof of Equation (2):

Using integration by parts, write equation (1) as:

$$RME(y) = yF(y) - \int_0^y zf(z)dz$$

Then using the conditional density function $f(z|z < y) = f(z)/F(z)$, obtain

$$RME(y) = yF(y) - \int_0^y F(y)zf(z|z < y)dz$$

which equals equation (2).

APPENDIX B

Summary of the Migrant Social Capital Indicators

-- Figure B1 about here --

APPENDIX C

Summary of the Models and Hypotheses

-- Figure C1 about here --

APPENDIX D

Simulation Algorithm of Migration Probability for Different Experience Diversity and Distribution Scenarios

Pseudo-algorithm is as given below.

1. From the fitted model $\text{logit}(\hat{\mathbf{p}}) = \mathbf{X}\hat{\boldsymbol{\beta}}$ obtain predicted probabilities $\hat{p}_{it}$, $i = 1,\ldots, N$ for time period t.

2. Simulate data $\mathbf{y}^*$ from the fitted model, i.e., $y^*_{i,t+1} \sim \text{binomial}(1, \hat{p}_{it})$, $i = 1,\ldots, N$.

3. Update cumulative independent variables, i.e. $x_{i,t+1} = x_{it} + f(y^*_{i,t+1})$ where $f(.)$ is some function relating the dependent variable to the independent variables of the next time period, $i = 1,\ldots, N$ for all x.

4. Compute predicted probabilities from the fitted model $\mathrm{logit}(\mathbf{p}^*) = \mathbf{X}\boldsymbol{\beta}^*$ using the updated independent variables.

5. Increment time period, i.e., $t = t + 1$.

6. Repeat 1-5 *T* times independently. (i.e. Generate a path of fitted values for *T* time periods in the future.)

7. Repeat steps 1-6 *M* times independently.

8. Compute typical values (e.g. means) of the predicted probabilities over the *M* replications, i.e., $Z_{(it)} = \mathrm{mean}\{p_{it}^*\}$ $i = 1,\ldots, N$, $t=t+1,\ldots,t+T$

This algorithm is repeated for each scenario, for example, to simulate the future migration probability paths of individuals living in villages with high equality of migration experience distribution. (Stata program code is available from the author upon request.)

REFERENCES

Allison, P. 1978. "Measures of Inequality." *American Sociological Review* 43(6): 865-880.

Arizpe, L. 1975. *Indigenas en la Ciudad de Mexico: El Caso de Las Marias [Indigenous in Mexico City: The case of "Las Marias"]*. Mexico City: Secretaria de Educacion Publica.

Bello, W., S. Cunningham, and L. K. Poh. 1998. *A Siamese Tragedy: Development and Disintegration in Modern Thailand*. London: Zed Books, Ltd.

Bourdieu, P. 1986. "The Forms of Capital." in J.G. Richardson (ed.) *Handbook of Theory and Research for the Sociology of Education*. New York: Greenwood Press, pp. 241-58.

Burt R. 1992. *Structural Holes: The Social Structure of Competition.* Cambridge, MA: Harvard University Press.

Cerrutti, M. and D. Massey. 2001. "On the Auspices of Female Migration From Mexico to the United States." *Demography* 38(2):187-200.

Chamratrithirong, A., K. Archavanitkul, K. Richter, P. Guest, T. Varachai, W. Boonchalaksi, N. Piriyathamwong, and P. Vong-ek. 1995. *National Migration Survey of Thailand*. Bangkok, Thailand: Institute for Population and Social Research, Mahidol University.

Coleman, J. 1988. "Social Capital in the Creation of Human Capital." *American Journal of Sociology* 94 (suppl.): S95-S120.

Curran, S., F. Garip, C. Chung, and K. Tangchonlatip. 2005. "Gendered Migrant Social Capital: Evidence from Thailand," *Social Forces* 84(1): 225-255.

Curran, S., F. Garip, and C. Chung. 2005a. "Advancing Theory and Evidence about Migration

    and Cumulative Causation: Destination and Gender in Thailand." *CMD Working Paper,*

    Princeton University.

Curran, S. and E. Rivero-Fuentes. 2003. "Engendering Migrant Networks: The Case of Mexican

    Migration," *Demography* 40(2): 289-307.

Davis, B., G. Stecklov, and P. Winters. 2002. "Domestic and International Migration from Rural

    Mexico: Disaggregating the Effects of Network Structure and Composition," *Population*

    Studies 56:291-309.

Deaton, A. 1997. *The Analysis of Household Surveys: A Microeconometric Approach to*

    Development Policy. Published for the World Bank, The Johns Hopkins University Press,

    Baltimore.

Deléchat, C., 2001. "International Migration Dynamics: The Role of Experience and Social

    Networks," *Labour* 15: 457-486.

De Jong, G. 2000. "Expectations, gender, and norms in migration decision-making." *Population*

    Studies 54: 307-319.

De Jong, G., K. Richter, and P. Isarabhakdi. 1996. "Gender, Values, and Intentions to Move in

    Rural Thailand." *International Migration Review* 30(3): 748-770.

Dunlevy, J. A. 1991. "On the settlement patterns of recent Caribbean and Latin immigrants to the

    United States." *Growth Change* 22(1): 54-67.

Fussell, E. and D. Massey. 2004. "The Limits to Cumulative Causation: International Migration

    from Mexican Urban Areas." *Demography* 41(1):151-171.

Granovetter, M. 1973. "The Strength of Weak Ties." *American Journal of Sociology* 78: 1360-
80.

Granovetter, M. 1974. *Getting a Job. A Study of Contacts and Careers.* Cambridge, MI. Harvard
University Press.

Gurak, D. and M. Kritz. 2000. "The Interstate Migration of Us Immigrants: Individual and
Contextual Determinants." *Social Forces* 78(3): 1017-1039.

Hafner, J. 2000. "Thailand" In T. Leinbach and R.Ulack (Eds.), *Southeast Asia Diversity and
Development* (pp. 434-468). Upper Saddle River, NJ: Prentice-Hall, Inc.

Hsiao, C. 1995. *Analysis of Panel Data*. Cambridge, MA: Cambridge University Press.

Jansen, K. 1997. *External Finance in Thailand's Development: An Interpretation of Thailand's
Growth Boom*. New York: St. Martin's Press.

Kanaiaupuni, S. 2000. "Reframing the Migration Question: an Analysis of Men, Women, and
Gender in Mexico." *Social Forces* 78(4): 1311-1347.

Landwehr, J. M., D. Pregibon and A. Shoemaker. 1984. "Graphical Methods for Assessing
Logistic Regression Models." *Journal of American Statistical Association* 79: 61-71.

Lin, N. 2001. *Social Capital: A Theory of Social Structure and Action.* Cambridge: Cambridge
University Press.

Lin, N. 2000. "Inequality in Social Capital." *Contemporary Sociology* 29(6): 785-795.

Lin, N, W.N. Vaughn and J.C. Ensel.1981. "Social Resources and Strength of Ties." *American
Sociological Review* 46: 393-405.

Litchfield, J. 1999. "Inequality: Methods and Tools." Text for World Bank's Web Site on

Inequality, Poverty, and Socio-economic Performance:

http://www.worldbank.org/poverty/inequal/index.htm

Lomnitz, L.A. 1977. *Networks and Marginality: Life in a Mexican Shantytown*. New York:

Academic Press.

Massey, D., J. Ariango, G. Hugo, A. Kouaouci, A. Pellegrino, J. Taylor. 1994. "An Evaluation of

International Migration Theory: The North American Case." *Population and*

Development Review 20: 699-751.

Massey, D., J. Ariango, G. Hugo, A. Kouaouci, A. Pellegrino, J. Taylor. 1993. "Theories of

International Migration: A Review and Appraisal." *Population and Development*

*Review*19: 431-466.

Massey, D. and F. García-Espańa. 1987. 'The Social Process of International Migration,"

Science 237:733-38.

Massey, D., L. Goldring and J. Durand. 1994. "Continuities in Transnational Migration: An

Analysis of Nineteen Mexican Communities," *American Journal of Sociology* 99:1492-

533.

Massey, D. and R. Zenteno. 1999. "The Dynamics of Mass Migration," *Proceedings of the*

National Academy of Sciences: 5328-35.

Massey, D. and K. E. Espinosa. 1997. "What's Driving Mexico-U.S. Migration? A Theoretical,

Empirical, and Policy Analysis," *American Journal of Sociology* 102(4):939-99.

Mills, M. B. 1997. *Thai Women in the Global Labor Force: Consuming Desires, Contested*

Selves. New Brunswick, NJ: Rutgers University.

Neter, J., W. Wasserman, and M. Kunter. 1990. *Applied Linear Statistical Models, 3rd ed.* Irwin, Homewood.

Palloni, A., D. Massey, M. Ceballos, K. Espinosa and M. Spittel. 2001. "Social Capital and International Migration: A Test Using Information on Family Networks," *American Journal of Sociology* 106: 1262-1298.

Phongpaichit, P., and C. Baker. 1996. *Thailand's Boom!* New South Wales, Australia: Allen and Unwin.

Piore, M. 1979. *Birds of Passage: Migrant Labor in Industrial Societies*. New York: Cambridge University Press.

Portes, A. 1998. "Social Capital: Its Origins and Applications in Modern Sociology," *Annual Review of Sociology* 24: 1-24.

Portes A. and P. Landolt. 2000. "Social Capital: Promise and Pitfalls of its Role in Development," *Journal of Latin American Studies* 32: 529-547.

Portes A. and J. Sensenbrenner. 1998. "Embeddedness and Immigration: Notes on the Social Determinants of Economic Action," *American Journal of Sociology* 98: 1320-1350.

Putnam, R. 2000. *Bowling Alone: The Collapse and Revival of American Community.* New York: Simon&Schuster.

Rashbash, J., W. Browne, H. Goldstein et al. 2000. *A User's Guide to MlwiN, version 2.02.* London: Multilevel Models Project, Institute of Education, University of London.

Reichert, P.1982. "Social stratification in a Mexican sending community: The effect of migration to the United States." *Social Problems* 29: 422-433.

Rindfuss, R., T. Kaneda, A. Chattopadhyay, and C. Sethaput. 2007. "Panel Studies and
    Migration." *Social Science Research* 36(1): 374-403.

Short, S. 2005. "Focus Group Interviews." Forthcoming in E. Perecman and S. Curran (Eds.) *A
    Handbook for Social Science Field Research: Essays and Bibliographic Sources on
    Research Design, Methodology, and Fieldwork*. Sage Publications, Canada.

Stark, O. and E. Taylor. 1989. "Relative Deprivation and International Migration," *Demography*
    26: 1-14.

Suksiriserekul, S. 2000. "Responses of Thai Households and the Thai Government in Coping
    with the Social Impacts of the Economic Crisis." In G. Hainsworth (Ed.), *Globalization
    and the Asian Economic Crisis: Indigenous Responses, Coping Strategies, and
    Governance Reform in Southeast Asia* (pp. 221-228). Vancouver, Canada: Centre for
    Southeast Asia Research, Institute for Asian Research.

Tambunlertchai, S. 1990. *A Profile of Provincial Industries*. Bangkok, Thailand: Thailand
    Development Research Institute.

Taylor, J.E. 1986. "Differential Migration, Networks, Information and Risk." Pp. 147–71 in
    Research in Human Capital and Development, Vol. 4, edited by O. Stark. Greenwich,
    CT: JAI Press.

Warr, P. and B. Nidhiprabha. 1996. *Thailand's Macroeconomic Miracle: Stable Adjustment and
    Sustained Growth*. Washington, D.C.: The World Bank.

Winters, P., A. de Janvry and E. Sadoulet. 2001. "Family and Community Networks in Mexico-
    U.S. Migration." *Journal of Human Resources* 36:159-85.

TABLES AND FIGURES

Table 1 – Descriptive Information on Individual, Household and Village Characteristics of Migrants and Nonmigrants in the Nang Rong Survey Data

	Migrants		Nonmigrants[‡]	
Controls	mean	(sd)	mean	(sd)
Age	21.60	(4.37)	20.72	(5.39)
Sex (Male=1)	0.51	(0.50)	0.43	(0.50)
Some 2ndary school	0.24	(0.42)	0.21	(0.40)
Completed 2ndary school	0.37	(0.48)	0.31	(0.46)
Married	0.27	(0.44)	0.31	(0.46)
Number of dependents in hh	2.89	(1.58)	2.58	(1.53)
Own no land	0.37	(0.48)	0.35	(0.48)
Own 0-10 rai of land	0.15	(0.35)	0.14	(0.35)
Own 10-25 rai of land	0.22	(0.42)	0.22	(0.42)
Remote village?	0.86	(0.34)	0.80	(0.40)
Village has electricity?	0.89	(0.31)	0.83	(0.38)
Months of water shortage in village	1.87	(1.49)	1.73	(1.55)
Unemployment rate (non-farm work) in year	1.76	(1.08)	2.05	(1.23)
Amount of Migrant Trips				
Prior trips by household members (strong ties)	0.75	(0.99)	0.40	(0.76)
Prior trips by village members (weak ties)	0.79	(0.40)	0.60	(0.39)
Diversity of Migrant Destinations				
Diversity of trips by household members (0-10)	0.99	(2.06)	0.52	(1.60)
Diversity of trips by village members (0-10)	6.53	(1.18)	6.59	(1.24)
Diversity of Migrant Occupations				
Diversity of occupations by hh members (0-10)	1.93	(2.20)	0.71	(1.61)
Diversity of occupations by village members (0-10)	8.36	(1.38)	8.28	(1.63)
Accessibility of Migrant Trips				
Equality in distribution of village trips (0-10)	8.24	(1.28)	7.44	(1.75)
Attributes of Recipients				
Relative migrant experience (RME) of individuals (0-10)	1.03	(1.06)	0.23	(0.72)
N (person-years)	7,616		16,175	
Persons	1,655		2,420	
Households	1,012		1,371	
Villages	22		22	

[‡] Nonmigrants are individuals who have not migrated in a given year in the 1984-94 period. Nonmigrant households contain no migrant individuals in a given year. Migrant status of an individual or household changes from year to year.

Note: Difference of means between migrants and nonmigrants is significant for all migrant social capital indicators at the 0.001 level. ($p < 0.001$)

Table 2 - Multi-level Logistic Estimation of Odds of Being a Migrant in a Year

Main Effects Models[‡]

Tested Hypothesis Related To	Model 1 Characteristics of Resources & Sources		Model 2 Characteristics of Recipients	
Controls	OR		OR	
Age	1.11	***	1.08	***
Sex (Male=1)	1.53	***	1.38	***
Some 2ndary school	1.12		1.17	
Completed 2ndary school	1.75	***	1.80	***
Married	0.44	***	0.45	***
Number of dependents in hh	1.25	***	1.23	***
Own no land	1.55	**	1.44	**
Own 0-10 rai of land	1.31	*	1.22	
Own 10-25 rai of land	1.12		1.07	
Remote village?	1.30		1.32	
Village has electricity?	1.07		1.03	
Months of water shortage in village	0.95	*	0.93	**
Unemployment rate (non-farm work) in year	0.98		0.98	
Amount of Migrant Trips				
Prior trips by household members (strong ties)	1.17	***	1.14	**
Prior trips by village members (weak ties)	1.29	*	1.24	*
Diversity of Migrant Destinations				
Diversity of trips by household members	0.97	*	0.99	
Diversity of trips by village members	0.90	**	0.89	**
Diversity of Migrant Occupations				
Diversity of occupations by household members	1.17	***	1.10	***
Diversity of occupations by village members	0.99		0.98	
Accessibility of Migrant Trips				
Equality in distribution of village trips	1.39	***	1.33	***
Attributes of Recipients				
Relative migrant experience (RME) of individual			1.85	***
Intercept	0.01	***	0.02	***
Random Effects - Standard deviations				
Village-level	0.06		0.06	
Household-level	0.44		0.44	
Individual-level	3.51		2.60	
N (person-years)	23,791		23,791	

*p<.1,**p<.01, ***p<.001 (two-tailed tests). ‡ Results presented in odds ratios.
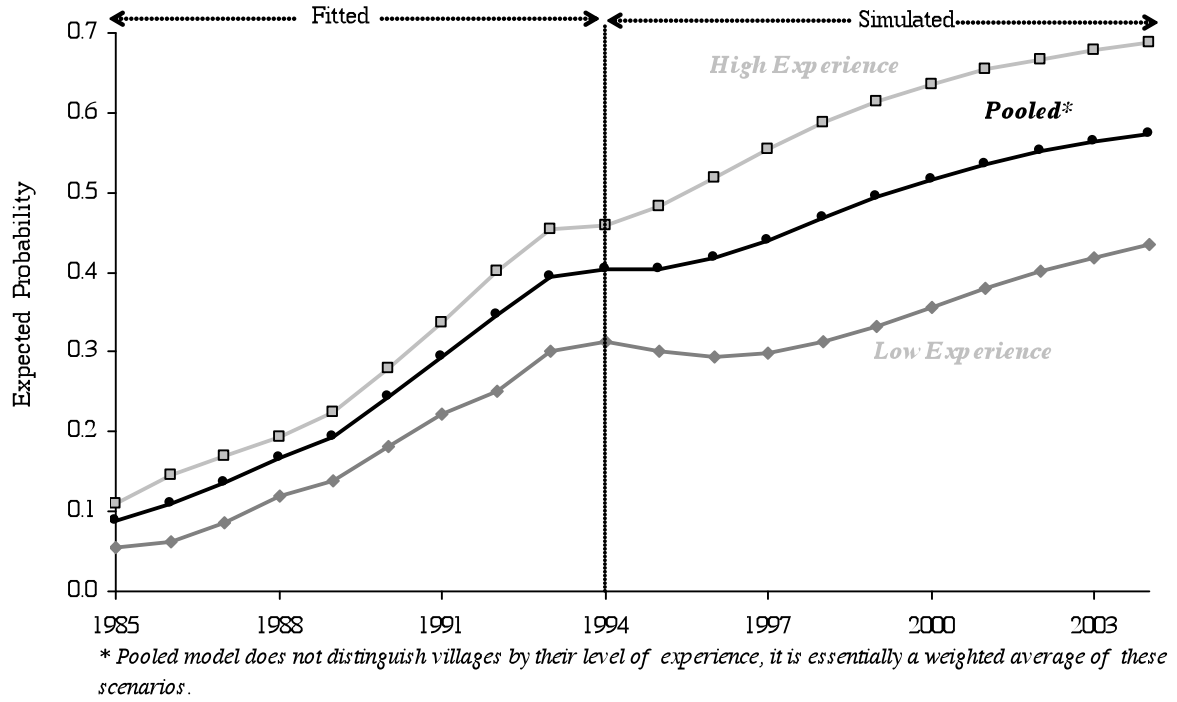Diversity, Equality, and RME indices are centered around their mean.

Table 3 - Multi-level Logistic Estimation of Odds of Being a Migrant in a Year
**Interaction Models[‡]**

Tested Hypothesis Related To	Model 3 — Interactions among Resource Characteristics	Model 4 — Interactions b/w Resources & Recipients
	OR	OR
(Controls Included)		
Amount of Migrant Trips		
Prior trips by household members (strong ties)	1.20 ***	1.20 ***
Prior trips by village members (weak ties)	0.65	0.90
Diversity of Migrant Destinations		
Diversity of trips by household members	0.99	0.99
Diversity of trips by village members	0.86 ***	0.84 ***
Diversity of Migrant Occupations		
Diversity of occupations by household members	1.13 ***	1.09 ***
Diversity of occupations by village members	0.99	0.97
Accessibility of Migrant Trips		
Equality in distribution of village trips	1.35 ***	1.21 ***
Attributes of Recipients		
Relative migrant experience (RME) of individual	1.85 ***	6.24 ***
Interactions b/w Amount and Diversity of Resources		
Household trips * Destination diversity of hh trips	1.00	1.00
Village trips * Destination diversity of village trips	1.12 *	1.16 **
Household trips * Occupation diversity of hh trips	0.97 *	0.99
Village trips * Occupation diversity of village trips	1.01	1.03
Interactions b/w Amount and Accessibility of Resources		
Village trips * Equality of village trips	1.28 *	1.37 **
Interactions b/w Resources and Recipients		
Household trips * RME		1.02
Village trips * RME		0.28 ***
Intercept	0.02 ***	0.03 ***
Random Effects - Standard deviations		
Village-level	0.05	0.05
Household-level	0.41	0.41
Individual-level	2.61	2.53
N (person-years)	23,791	23,791

*p<.1,**p<.01, ***p<.001 (two-tailed tests). ‡ Results presented in odds ratios. Diversity, Equality, and RME indices are centered around their mean.

**Figure 1: Estimated Migration Probabilities
for Two Different Experience Level Scenarios**

* Pooled model does not distinguish villages by their level of experience, it is essentially a weighted average of these scenarios.
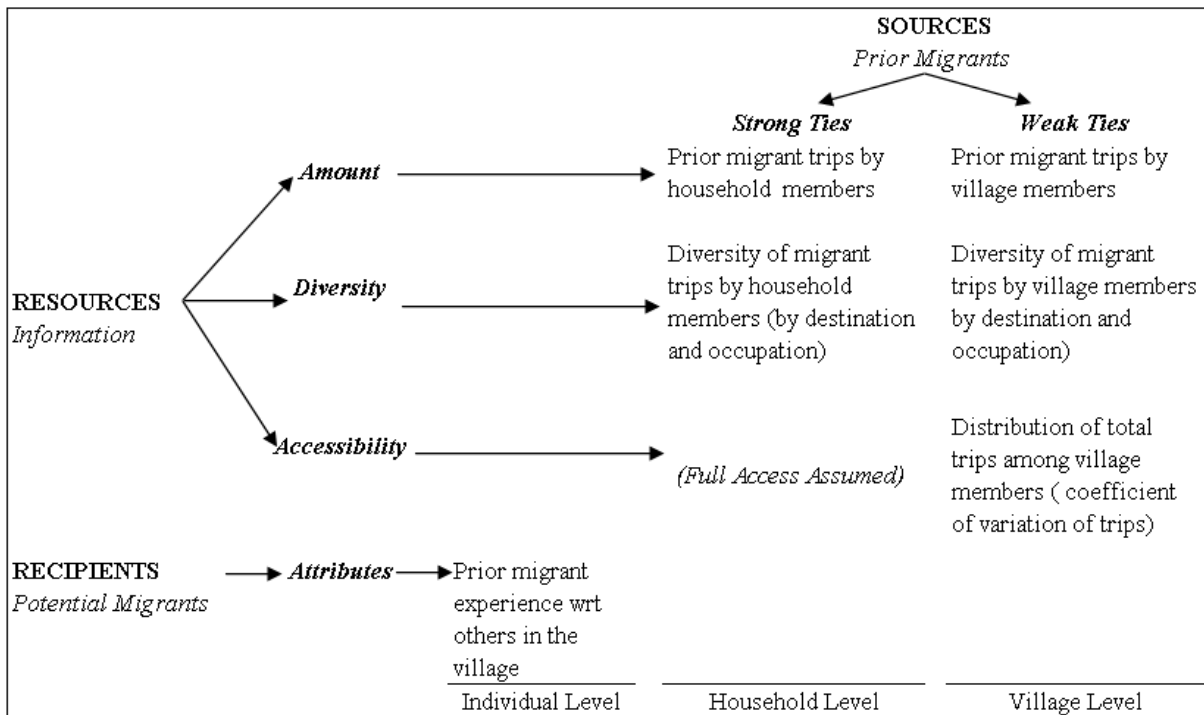
Figure 2: Estimated Migration Probabilities
for Two Different Experience Diversity by Destination Scenarios
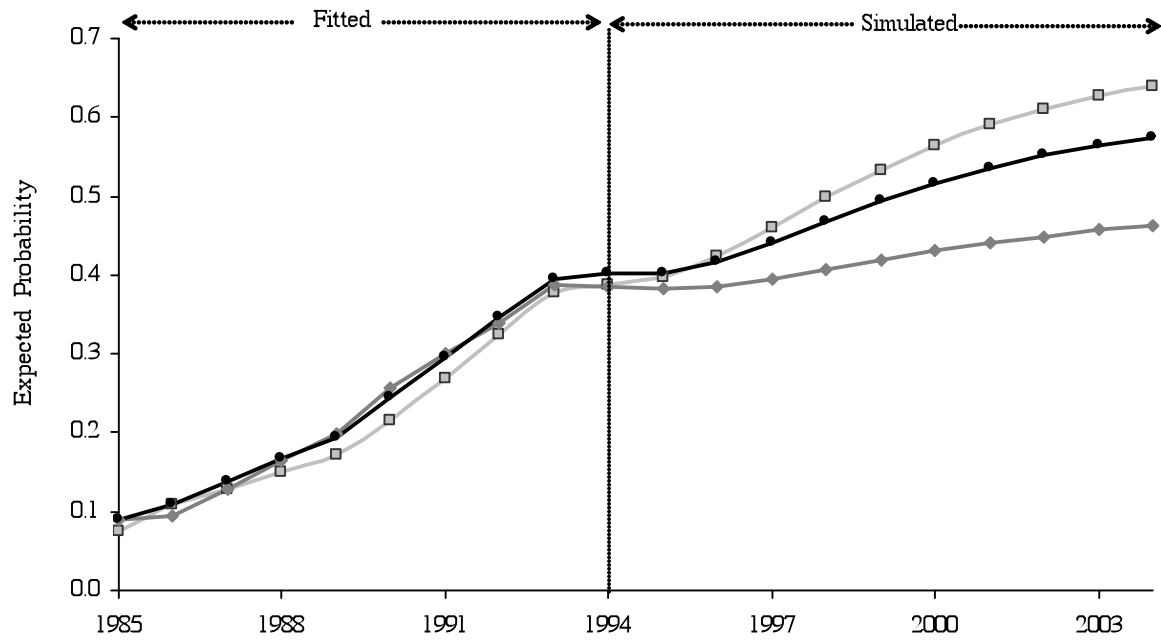
Figure 3: Estimated Migration Probabilities for Two Different Experience Distribution Scenarios
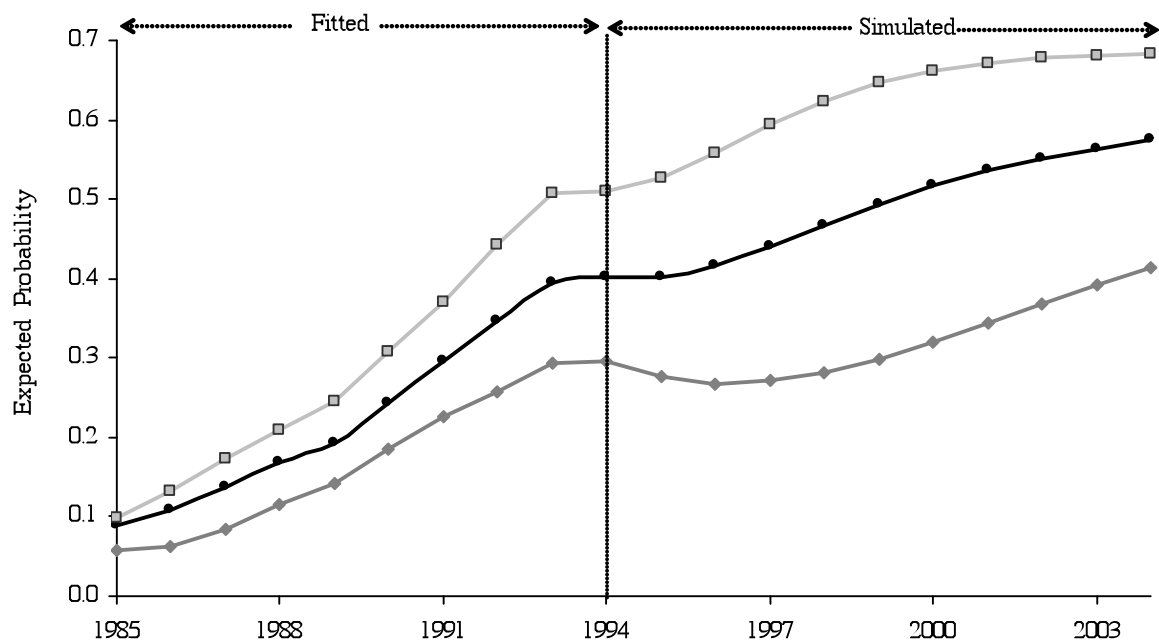
Figure B1: Dimensions of Migrant Social Capital and Proposed Operational Measures

			Individual Level	Household Level	Village Level

SOURCES
Prior Migrants

Strong Ties | *Weak Ties*

RESOURCES
Information

Amount → Prior migrant trips by household members | Prior migrant trips by village members

Diversity → Diversity of migrant trips by household members (by destination and occupation) | Diversity of migrant trips by village members by destination and occupation)

Accessibility → *(Full Access Assumed)* | Distribution of total trips among village members (coefficient of variation of trips)

RECIPIENTS
Potential Migrants → *Attributes* → Prior migrant experience wrt others in the village

Individual Level | Household Level | Village Level

Table C1. Summary of Expected Direction and/or Magnitude of Regression Coefficients by Hypotheses

Migrant Social Capital Resources	Expected Coeff.[a]	By Hypothesis	Tested In
Amount of Migrant Trips			
Prior trips by household members (strong ties)	+	The greater the amount, diversity, and accessibility of resources, the greater the propensity to migrate.	Model 1
Prior trips by village members (weak ties)	+		
Diversity of Migrant Destinations			
Diversity of trips by household members	+		
Diversity of trips by village members	+		
Diversity of Migrant Occupations			
Diversity of occupations by household members	+		
Diversity of occupations by village members	+		
Accessibility of Migrant Trips			
Equality in distribution of village trips	+		
Migrant Social Capital Sources			
	hh trips > vill trips	The stronger the tie to the source, the greater the propensity to migrate.	Model 1
	hh trips < vill trips	The weaker the tie to the source, the greater the propensity to migrate.	Model 1
Migrant Social Capital Recipients			
Attributes of Recipients		The greater the recipient's relative experience, the greater the propensity to migrate.	Model 2
Relative migrant experience (RME) of individual	+		
Interactions among Amount, Diversity, and Accessibility of Resources			
Household trips * Destination diversity of hh trips	+	The greater the diversity and accessibility of resources, the greater the effect of their amount, and the greater the propensity to migrate.	Model 3
Village trips * Destination diversity of village trips	+		
Household trips * Occupation diversity of hh trips	+		
Village trips * Occupation diversity of village trips	+		
Village trips * Equality of village trips	+		
Interactions b/w Resources and Recipients			
Household trips * RME	-	The greater the recipient's relative experience, the less the effect of resources from other sources on the propensity to migrate.	Model 4
Village trips * RME	-		

[a] For odds ratios, + means greater than 1, - means smaller than 1.