Direction of Scholarly Work[1]
Filiz Garip

In an age of increasing mobility across the globe, anticipating and managing migration flows is a major concern for scholars and policy makers. Migration flows, both internal and international, are triggered by a diverse set of social and economic factors, gain a self-sustaining, cumulative momentum, and generate remittance flows that shape economic development and inequality in the most deprived regions of the world. My research crafts theory and methods to study these different facets of migration, and contributes to three core areas of sociology: migration, economic sociology and inequality. In my work I use both advanced quantitative techniques like Bayesian statistical models, computer simulations, formal modeling, and cluster analysis as well as fieldwork and qualitative interviewing.

Broadly, my research addresses three questions:

- How does social capital, defined as resources available through social ties, lead to divergent migration patterns?

- How do remittances, funds or goods sent back by migrants, influence the economic landscape in origin communities?

- How can we characterize the diverse mechanisms underlying migration across different periods or contexts?

I have produced a series of articles and a book manuscript that grapple with these questions in two settings: internal migration in Thailand and international migration between Mexico and the United States. Below, I describe the main contributions of my work, and situate it within the wider domain of relevant sociological research.

A. Past and Current Research

1. Social Capital and Cumulative Migration

Sociologists have long studied processes that lead to cumulative advantage, where an initial favorable position provides perpetual gains and leads to persistent, and often increasing, inequalities over time. My first strand of research focuses on such a process in the case of migration, and identifies the individual-level mechanisms that generate stark variations in macro-level migration patterns over time.

The first article from my dissertation, "Social Capital and Migration: How Do Similar Resources Lead to Divergent Outcomes?" published in *Demography*, studied the at-first puzzling internal migration patterns in Thailand – some rural villages had reached very

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[1] This document is web-enabled and gives you access to all my published and on-going work.

high levels of migration while economically similar other villages lingered at lower levels (Garip 2008). Previous work showed that social capital resources (information or help given by prior migrants) facilitate future movement by reducing the costs and increasing the benefits of migrating. Accumulation of these resources within a community, researchers had found, lead to a process of 'cumulative causation' through which migration flows become self-sustaining. My work demonstrated that this process can vary substantially across groups of individuals depending on the accessibility and diversity of social capital resources (information or help) as well as the strength of ties between providers (prior migrants) and recipients (potential migrants). Because social capital resources accumulate as more people migrate, initial differences in resources are likely to grow over time, leading to divergent migration outcomes. Through statistical analysis and simulations, I found that such differences in access or returns to social capital explain the puzzling migration patterns in rural to urban flows in Thailand. Social capital differentials, I demonstrated, can be a powerful mechanism generating and amplifying inequalities.

The idea that social capital can lead to inequality is generalized in a collaborative article with Paul DiMaggio, "How Network Externalities Can Exacerbate Intergroup Inequality", published in the *American Journal of Sociology* (DiMaggio and Garip 2011). This article received the Robert K. Merton Best Paper Award from the International Network of Analytical Sociology and was re-printed in *Social Stratification* (edited by David Grusky), a volume combining classic and contemporary works foundational to the field of inequality. Prior research on inequality emphasized how individual characteristics (for example, education, income or network location) translate into aggregate inequality outcomes. Our research instead considered how resources available through social ties can also generate and exacerbate inequalities when ties are differentiated with respect to individual characteristics. Our logic was as follows: Take a practice, such as Internet use or rural-urban migration, the likelihood of which increases with social ties to prior adopters. Next, consider that individuals typically have social ties to those with similar characteristics, like education, that are also related to adoption. It follows that benefits from social ties will accrue disproportionately to individuals in groups that possess an initial advantage (for example, higher education), leading to dramatic inequalities in adoption over time.

Using two very different cases and approaches, we demonstrated how inequality emerges from individual interactions in homophilous social structures. For our first case, Internet use in the United States, I developed an agent-based model to simulate adoption paths for different income, education and racial groups under varying degrees of homophily. For our second case, rural-urban migration in Thailand, I relied on a statistical analysis of longitudinal data to relate the variation in migration rates to differences in homophily among otherwise similar villages. In both cases, we found that homophily amplified network effects and exacerbated inter-group inequalities. In a review article for the *Annual Review of Sociology*, "Network Effects and Social Inequality", we situated this novel finding on the wider canvas of research on social networks and inequality (DiMaggio and Garip 2012).

Both of these articles focused on identifying the cumulative mechanisms that explain puzzling outcomes in inter-group inequality. In a chapter for the *Handbook of Markov Chain Monte Carlo* with Bruce Western, "Model Comparison and Simulation for Hierarchical Models: Analyzing Rural-Urban Migration in Thailand", we studied how initial conditions shape future inequality in migration rates across Thai villages (Garip and Western 2011). In a Bayesian framework, which allows us to consider model uncertainty, we fit hierarchical models to identify the cumulative mechanism of migration, and simulated hypothetical village migration trajectories from different initial states. We found that, when the initial distribution of migration experience was highly unequal, the inequality in migration rates nearly doubled in a period of 16 years. Had the initial distribution been perfectly equal across villages, the inequality would have remained largely unchanged. This result confirmed and qualified some of my prior findings: the cumulative mechanism of migration generally increases existing inequalities in migration rates across villages, but the slope of the increase depends on the initial state of inequality.

The theoretical arguments I presented in these three papers were in part motivated by empirical observations from an earlier project with Sara Curran. In an article, "Gendered Migrant Social Capital: Evidence from Thailand", published in *Social Forces*, we studied how information or help from social ties shapes men's and women's migration from rural to urban areas in Thailand (Curran, Garip, Chung and Tangchonlatip 2005). Because women face higher risks and constraints to migrating, we found, they benefit more from trustworthy resources provided by family ties. Men, by contrast, benefit more from diverse resources provided by village ties. This result underlined gender as an important category shaping migration experiences. In later work, however, we identified a lack of attention to gender in quantitative migration scholarship. In a review article, "Mapping Gender and Migration in Sociological Scholarship: Is It Segregation or Integration?", that appeared in the *International Migration Review*, we showed that only a fifth of the studies published in the leading sociology journals treated gender as a constitutive element in their analyses (Curran, Shafer, Donato and Garip 2006).

In a follow-up article, I studied how social capital influences who migrates in rural Thailand. Previous work argued that migrant streams become increasingly less selective, because new migrants can draw on the accumulated social capital resources, and hence face lower barriers to migrating. In a paper, "Increasing Migration, Diverging Communities: Changing Character of Migrant Streams in Rural Thailand", with Sara Curran, published in *Population Research and Policy Review (PRPR)*, we found otherwise (Garip and Curran 2010). Migrant streams remained selective in Thai villages unless social capital resources were uniformly distributed among, and hence equally accessible to, all villagers. We thus established that migrant selectivity responds not only to the level, but also to the distribution of social capital resources, a finding that accounted for the heterogeneity in selectivity patterns across the Thai villages.

In sum, these articles demonstrated how resources available through social ties can have differential effects across groups and settings, and generate striking variations in aggregate

migration patterns over time. Taken together, this work identified a cumulative mechanism that can explain why migration becomes a mass phenomenon in some regions of the world, while it remains minimally diffused in otherwise similar places, an empirical fact that cannot be accounted for with prior economic and sociological theories of migration.

2. Remittances and Economic Inequality

My second strand of research studies remittances – funds and goods sent by migrants to origin families and communities – which amount to nearly a half billion US dollars annually and comprise an increasingly vital component of economic outcomes in the developing world. Relying on theoretical models from both economics and sociology, and data from both internal and international migration flows, my work investigates the motivations for, and consequences of, remittance behavior.

In an article, "Network Effects in Migrant Remittances: Evidence from Household, Sibling and Village Ties in Nang Rong, Thailand", published in the *American Behavioral Scientist,* co-authored with two graduate students, we investigated the social interdependencies in remittance behavior (Garip, Eskici and Snyder 2015). Prior work studied remittance behavior among individuals or households, treating these units as isolated entities. Our study, instead, considered how remittance behavior of a migrant depends on the prevalence of that behavior among her social ties. Using data from Thailand, we found that, all else equal, internal migrants are more likely to remit if others in their household and village are also remitting. We connected this pattern to competition for inheritance in households and shared norms in villages. Remittance behavior, we concluded, is subject to social interactions.

In "An Integrated Analysis of Migration and Remittances: Modeling Migration as a Mechanism for Selection" published in the *Population Research and Policy Review,* I also focused on the determinants of remittance behavior, but made more of a methodological contribution (Garip 2012a). To evaluate these determinants, I argued, we first need to understand who the migrants are. Prior research largely neglected this point, and studied remittance behavior separately from migration. To fill this gap, I proposed an integrated model of migration and remittances, which treats migration as a mechanism for selection, and leads to different conclusions about who remits in the internal migration setting of Thailand. In a conventional, isolated analysis of remittances, for example, migrants from wealthier households appear equally likely to remit as those from poor households. In the unified model I developed, by contrast, individuals from wealthier households are not only more likely to migrate, but also more likely to remit, compared to those from poor households. This result suggests that migration and remittance behavior are connected, and it is crucial for an analysis of remittance behavior to control for the selectivity of migration.

In a follow-up article, "Repeat Migration and Remittances as Mechanisms of Wealth Inequality in 119 Communities from the Mexican Migration Project Data" in *Demography*, I applied a similar analysis to the Mexico-U.S. migration setting and discovered a

previously overlooked pattern in migrant selectivity (Garip 2012b). This pattern had important implications for how remittances influence economic inequality. Prior work, including my *PRPR* article (Garip and Curran 2010), showed how migrant characteristics vary with migration prevalence in a community. This study demonstrated that migrant characteristics become endogenous to migration over time and thus vary substantially over multiple migration trips for an individual. In Mexico, specifically, first-time migrants to the United States typically originate from poor households. Through repeated migration trips and cumulative remittance flows, however, migrant-sending households accumulate disproportionate amounts of wealth and surpass those without migrants. This dynamic mechanism, not appreciated in prior work, increases the wealth inequality between households with and without migrants in Mexican communities.

The impact of remittances on inequality also depends on how these funds are invested by migrant households. In "The Impact of Migration and Remittances on Wealth Accumulation and Distribution in Rural Thailand" published also in *Demography*, I used the Thai data to study whether migrant households acquire productive or consumer assets, which constitute two broad categories of investments with different implications for long-term economic development (Garip 2014). I found that investment patterns vary by households' wealth status. While rich households lose productive investments due to the migration of their members, poor households with migrants gain productive assets and improve their relative status in their communities. Surprisingly, regardless of wealth status, households with migrants do not acquire more consumer assets compared to those without migrants. These findings counter the popular belief that remittances are spent on consumer goods rather than productive ends. The findings also suggest an equalizing effect of migration and remittance flows on the distribution of productive assets in rural Thailand, which is quite different than the patterns I found in the Mexican setting.

To summarize, these articles established that the determinants and consequences of remittance behavior depend on migrants' characteristics and prior migration experiences, as well as the remittance behavior of other migrants among social ties, and ignoring this dependence, as in most prior work, might lead to faulty conclusions on the long-term implications of remittance flows on poverty, inequality and development.

3. Diverse Mechanisms of Migration

My research over the past three years, including months of fieldwork in Mexico, has culminated in a book manuscript, *On the Move: Changing Mechanisms of Mexico-U.S. Migration*, forthcoming from Princeton University Press. I completed the first draft of the manuscript last winter, and solicited feedback from six field experts with a book conference held at Harvard. The revised manuscript (included in my file) has recently been accepted for publication at the press.

Ever since *Return to Aztlan,* the 1987 book by Douglas Massey and colleagues, there has been no comprehensive book on the topic of Mexico-U.S. migration. The scope and

ambition of my manuscript expands to explain historical variation in migration flows through changes in the economic, social and political climate in Mexico and the United States over 45 years, from 1965 to 2010. The manuscript combines quantitative analysis of survey data from over 145,000 Mexicans with insights from nearly 150 in-depth interviews and fieldwork I conducted in Mexico. The manuscript makes methodological and theoretical contributions by applying a novel combination of statistical methods and qualitative data to characterize the diverse mechanisms underlying migration behavior.

There are various theories to explain why individuals migrate, but in most empirical applications, researchers present a single narrative that best fits the data at hand. This dilemma is encountered in many empirical applications in sociology: while multiple mechanisms may lead to the same outcome, conventional methods often force us to select one mechanism based on the average empirical pattern.

In the manuscript, I devised an analytic strategy to address this issue and to study the heterogeneity in the reasons that compel individuals to migrate. This strategy is applicable to many domains in sociology, where researchers seek to sort out the theoretical mechanisms at work in a heterogeneous population. I first used cluster analysis – a classification method widely popular in computer science and biology among other fields – and identified different groups among migrants in the Mexico-U.S. stream from 1965 to 2010. I then employed statistical models to relate the emergence of each group to changes in the economic, social and political context in Mexico and the United States. Finally I relied on qualitative interviews to understand the particular logics mobilizing each group. I developed the quantitative approach and presented some preliminary findings in a paper, "Discovering Diverse Mechanisms of Migration: The Mexico-U.S. Stream from 1970 to 2000", that appeared as lead article in the *Population and Development Review (PDR)* (Garip 2012c).

The manuscript characterizes the diversity in the Mexico-U.S. stream, and challenges existing work that focuses on describing an average migrant and providing an all-encompassing explanation for migration behavior. I show that Mexican migrants to the United States are a heterogeneous population, and indeed, can be categorized into four distinct groups: *circular migrants* (mainly men from poor households who circulated back-and-forth), *crisis migrants* (typically young sons from well-off households who moved at times of an economic crisis), *family migrants* (mostly women with family ties to U.S. migrants), and *urban migrants* (a recent stream populated by relatively educated men from urban communities).

Each group is a product of particular constraints and opportunities in the two countries. *Circular migrants* react primarily to wage differentials between Mexico and the United States, *crisis migrants* to economic fluctuations in Mexico that put domestic earnings at risk. *Family migrants* respond to family-reunification incentives of the 1986 Immigration Reform and Control Act (IRCA), and *urban migrants* to dislocations in a globalizing Mexican economy after the 1994 North American Free Trade Agreement (NAFTA).

Accordingly, each group displays a particular temporal signature. *Circular migrants* dominate the flows in the 1970s (when real U.S. wages are relatively high); *crisis migrants* are most numerous in the mid-1980s (when peso crises devastate the Mexican economy). *Family migrants* rise in the late 1980s (with the passage of IRCA in 1986) and *urban migrants* spike subsequently (especially after NAFTA).

Each group, I argue, follows a distinct line of reasoning in migrating. *Circular migrants* move deliberately to save money for a particular investment in Mexico. *Crisis migrants* are mobilized urgently in search of relief from an imminent economic catastrophe at home. Both groups remain in the United States only temporarily. *Family migrants*, by contrast, move to join family members and often settle in the United States. *Urban migrants* display both patterns: those with documents circulate to achieve a particular target, and those without documents settle to avoid another treacherous border crossing.

The logic of each group is captured in different theoretical models of migration, but under set scope conditions. *Circular migrants*, for example, closely follow with their numbers the oscillations in U.S. wages, as expected by the neoclassical economics model; *crisis migrants* track the volatility in Mexican inflation or interest rates, as predicted by the new economics of labor migration model. But both groups respond to these indicators so long as undocumented border crossing is relatively easy and so long as help from fellow migrants is readily available. Similarly, *family migrants* join spouses, parents, or siblings already in the United States, as suggested by the cumulative causation model, but chiefly after IRCA, when over 2 million undocumented Mexicans obtained legal status in the United States. Each theoretical model works, in other words, but under particular economic, social and political conditions, and for particular groups of migrants. I show that the theoretical models that are thought to be universal models of how migration works, are actually very historically specific and work well only in the time period and for the particular circumstances in effect when the models are developed.

These findings provide important insights for immigration policy. The most widely used policies, such as border enforcement, reflect a particular perspective on the root causes of migration. This perspective comes from neoclassical economics, and asserts that individuals will respond to the costs and benefits of migrating. Individuals will not migrate if the costs are too high, such as when it is more difficult to cross the border. The United States has subscribed to this logic over the past decades, increasing its budget for border control by more than ten-fold between 1986 and 2010. Yet, the number of undocumented migrants from Mexico has continued to rise in the same period, by over two-fold. My results suggest that immigration policies will continue to fail so long as they rely on a singular theoretical perspective, and so long as they treat migrants as a homogenous group.

In brief, my research shows that different political, economic and social circumstances can cause very different types of people to migrate. In the Mexico-U.S. case, each of the four migrant groups proliferates under specific conditions, and each reveals a distinct logic in migrating that coheres with a particular theoretical perspective. This plurality cautions us

against seeking generalized models, conclusions or predictions on migration. It calls us to recognize that different theoretical models might work in different settings and for different groups of people. Our efforts, as scholars, need to focus less on setting different theoretical models against one another to determine the 'best' one, and more on carefully identifying the scope conditions for each model and seeing when, where and for whom those conditions are likely to hold. My work also suggests that our policies similarly need to be diverse, with no presumption of a universal effect, but with concrete goals targeted at specific migrant populations.

B. Future Work

My research to date has investigated migration mostly from the point of origin. I have advanced theory and applied novel methods to show how inequality is created through the migration process in sending societies. I have particularly focused on social networks as the underlying mechanisms contributing to social and economic inequalities over time. With my book manuscript, I have moved toward studying how the interaction between sending and receiving societies generate different kinds of migration. In the near future, I plan to turn my gaze to receiving societies and study how migrants integrate and how communities change as a result of migration.

My expertise in social networks, and focus on social mechanisms underlying aggregate outcomes, provides a novel perspective to study immigrant integration. Although social networks connecting origin and destination have been critical to explaining why individuals migrate, similar mechanisms remain underexplored in understanding integration outcomes in destination.

There is a lively controversy, for example, around whether ethnic diversity brought on by migration undermines mutual regard, trust and cooperation in a receiving society. Scholarly arguments on both sides rely on formal reasoning and mathematical models or analysis of survey data. Both approaches take for granted social networks, the very structures defining and sustaining social cohesion.

This gap will form my initial entry point into the field of integration. In a working paper with a graduate student at Harvard (Linda Zhao), we are using an agent-based modeling framework to create artificial (simulated) worlds, where migrants and natives establish ties that then inform or influence each other's behavior. We define social cohesion as the diffusion of a common norm. By varying population parameters and social network structures, we attempt to identify the demographic, behavioral and interactional features critical to social cohesion. We then plan to evaluate if those features account for social cohesion outcomes in real-world data. I hope this study will provide a new perspective to an old debate. I also expect that this will be the first in many other projects to come on this topic.

My future work will not just focus on a new aspect of migration (integration) but also in a new area of the world. Immigrant integration is a major issue in many countries, but especially in Europe, where migrant streams have been quite diverse, and integration outcomes rather poor. The differences in education levels between Turkish migrants and native Germans, for example, remain high even for the third generation, that is, the grandchildren of migrants. I plan to first establish such patterns with secondary survey data (for example, the German Socio-Economic Panel). I will then collect my own data which will allow me to measure social networks and mechanisms central to my theoretical agenda. I have already identified potential funding sources (for example, the German Marshall Fund of the United States, as well as the European Research Council Grants, for which I am eligible as a citizen of Turkey). I will start the grant applications this fall.

I will also continue to extend my existing research. In the first strand of my research, on social capital and cumulative migration, I plan to exploit a unique component of the Thai data: complete social network information on sibling ties and rice-harvesting collaborations. These data will allow me to refine my previous analyses, which relied on household and village memberships to crudely define the social context within which migration decisions are made. I am particularly interested in characterizing the variation in the social network structures across the 22 villages in the data and relating this variation to migration patterns. I am currently working with a graduate student (Stefan Dimitriadis) on the first paper from this line of research.

This empirical effort will be supported with two additional projects, one methodological and one theoretical. The first, methodological, project is in collaboration with Alan Qi (Professor of Computer Science and Statistics, Purdue University). Prior work, including mine, has defined social groups in an ad hoc manner based on shared individual attributes such as gender, contexts such as community, or social networks such as kinship ties. Our goal is to develop novel pattern recognition methods – based on recent advances in computer science in 'hybrid' infinite stochastic blockmodeling – to discover social groups from multiple dimensions (individual attributes, contexts, and social networks), and to evaluate how these groups shape migration behavior. We have submitted an R21 grant proposal to the NIH, "Discovering Peer Groups to Understand Migration Behavior" (a copy of which is available in this packet). The reviews are encouraging, and we are working on incorporating them into our proposal.

The second, theoretical, project will clarify the mechanisms underlying network effects (which occur if an individual's likelihood of adopting a practice varies with the prevalence of that practice in her social group). Prior work has suggested various mechanisms, such as, social learning or normative influence, but a generally accepted vocabulary for such mechanisms has been lacking. In an on-going set of papers, I am working on defining a comprehensive set of mechanisms for network effects, expressing each mechanism formally for precision, and then using an agent-based model to examine the implications of different mechanisms for the diffusion of beneficial practices. In follow-up projects, I plan to test these implications with real-world data.

In the third strand of my research, on the diverse mechanisms underlying migration, I am working to generalize the methods I have applied, and to introduce them to a wider audience in sociology. I am currently writing an invited review article for the *Annual Review of Sociology*, tentatively titled "Data-Driven Methods in Sociology", which focuses on pattern recognition tools, like cluster analysis that I have used in my book manuscript and *PDR* paper. These methods, developed mostly in the machine learning community of computer science, are becoming increasingly indispensable to social scientists, especially given the proliferation of data in recent years. But these tools present unique opportunities and challenges to sociologists. On the one hand, the tools produce powerful descriptions of complex data that can aid conceptualization and theory. But, on the other hand, the tools require a different statistical paradigm, one that is often difficult to align with familiar concerns like bias, robustness, selectivity, and so on. In the article, I will provide a framework for thinking about these tools and discuss their emerging applications in social science fields including economics, political science and sociology.

C. Summary

My research lies at the intersection of migration, economic sociology and inequality. Within this general area, I study the mechanisms that enable or constrain mobility and lead to greater or lesser degrees of social and economic inequality.

My past work has made methodological contributions by introducing the use of Bayesian statistical models, agent-based simulations, formal modeling, and cluster analysis to the study of migration. My analyses demonstrated how social capital can generate stark variations in migration behavior, how remittances can influence the economic landscape in origin communities, and how we can study the heterogeneity in the mechanisms underlying migration.

In the near future, I will continue to work on developing theory and methods to understand how social groups shape individual behaviors, including migration and remittance decisions. I will work to popularize new tools developed in computer science and statistics in sociology, with the goal of promoting a new approach to research that focuses on causal heterogeneity. I will also apply my expertise into a new field of study that is concerned with how migrants are integrated into host societies, incorporating the central role of social networks into the study of integration.