PATTERNS AND DETERMINANTS OF THE INTERSTATE MIGRATION OF FOREIGN-BORN AND NATIVE-BORN MEXICANS IN THE UNITED STATES, 2011-2015

A Dissertation

by

ANGELICA CATALINA MENCHACA

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Chair of Committee,	Dudley L. Poston, Jr.
Committee Members,	Nancy Plankey-Videla
	Maria Perez-Patron
	Art Sakamoto
Head of Department,	Denis O'Hearn

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ABSTRACT

Researchers at the Pew Research Center (PRC) have estimated that immigration will likely cause major changes in the United States distribution of the population, age and ethno/racial composition (2015). My dissertation examines the determinants of interstate U.S. migration for Mexicans who migrated between states during the years of 2011-2015. I analyzed the probability of unauthorized Mexicans to be interstate migrants during the same time period and examined whether punitive migration laws have an effect on the size of the migration streams of foreign born and native-born Mexicans in the U.S. Data from the American Community Surveys were used in both the macro and micro analyses of this dissertation. A proxy was used to estimate the unauthorized population in the micro analysis. Undocumented immigrants have a lower probability of interstate migration. Undocumented immigrants are not only socially, economically, and politically restrained but it appears that they are also physically trapped. For the macro analysis 49 contiguous states (and D.C.) were used, of the 2,352 interstate migrant streams that were identified only 1,317 were viable. The classic gravity model and human ecological model were used for the analysis of migration streams. If the destination state (j) was punitive, there was a positive association with the size of the interstate migration stream of Mexicans. There was not a relationship between punitive state at origin (i) and the size of the migration stream. The human ecological model provided a more sociologically comprehensive explanation of the volume of Mexican migration streams in comparison to the gravity model.

DEDICATION

For my grandparents, Angelica y Catalina Ybarra, Roberto y Olivia Menchaca who sacrificed everything for their family.

my parents, Oscar Menchaca y Aurora Menchaca

my brothers, Roberto E. Menchaca, Oscar T. Menchaca y Marcos Aguilar

and my partner, Tomas Navarro-Menchaca

Lastly, I dedicate this to all the immigrants who bravely migrated to unknown lands and sacrificed their lives for the future of their loved ones. No fue en vano.

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CHAPTER I

INTRODUCTION

Ninety eight percent of all individuals currently living in the United States are either themselves immigrants or descendants of immigrants. This is a direct result of their hailing from different countries of origin. The United States was founded in 1776 by a band of disillusioned Englishmen who splintered from Great Britain in order to establish a nation that honored their fundamental rights. In continuation with this practice, four major waves of immigration transpired over the next two hundred and forty-two years. While there are many, many immigrants or descendants of immigrants in the U.S., they are not a homogenous group. Also, they do not share the same history, context of reception, racialization, or assimilation process. Their experiences are diverse and complex. Also, the prosperity of the country is dependent on them (Hollifield *et al.* 2014).

Immigration laws and policies are traditionally grounded in the current economic, political and social state of the receiving country. Other critical factors include the race and socioeconomic status of the prospective migrant as well as the size of the migration flow. In addition, institutional racism has been ever present in immigration federal law enforcement (Provine, 2013). Over time various restrictions, requirements and numerical limitations have been implemented to filter out those who would enter the United States.

From 1965 onward, the United States has experienced the fourth and largest wave of immigration. This wave consists of immigrants primarily from Latin America and Asia, in contrast to the predominantly white European immigrants who entered the country during the

first three waves. The Immigration and Nationality Act of 1965, which did not go into effect until 1968, removed national origin quota restrictions, further shifting the racial composition of the country.

Researchers at the Pew Research Center (PRC) have estimated that immigration will likely cause major changes in the U.S. in the distribution of the population, in age and in ethno/racial composition (2015). As of 2015, there were around 43.2 million immigrants living in the USA (Pew Research Center, 2017). "Immigrant population is expected to rise within a range of about 9% to 16% each decade from 2015 to 2065" (PRC 2015: 26)". Of immigrants from Latin America and Asia, Mexican immigrants are the "single largest source for the nation's foreign born at 28%" (PRC 2013: 35-36, 67). "New Spain, Mexico and Mexicans have been involved in every aspect of making the United States, one could say their histories are inseparable" (Tutino 2012: 31). Because of the large composition of Mexicans immigrants in the United States, their social ties, and their economic contributions, I propose to focus on them in my dissertation.

Migration is the third basic demographic process that affects changes in the population of an area; the other two are fertility and mortality (Edmonston & Michaowski: 2004). Migration has been the catalyst of population growth in the United States and will continue to be so. (Pew Research Center, 2015) (http://www.pewhispanic.org/2015/09/28/chapter-2-immigrations-impact-on-past-and-future-u-s-population-change/). Migration may be defined as "a form of geographic or spatial mobility involving change of usual residence between clearly defined geographic units" (Edmonston & Michaowski 2004: 579). Two broad types of migration are internal and international. Internal migration refers to the migration within a country involving

the crossing of a political boundary, usually a county, while international migration refers to the movement across national boundaries (Poston: 2014). For my dissertation I will focus on internal migration.

"Five of the largest Latino states-California, Texas, New York, Illinois, and New Jersey-experienced a net loss of Latinos through internal migration between 1995 and 2000" (Ellis et al. 2016: 893). In conjunction with the recession of the 1990's, increasingly punitive immigration laws began to transpire nationally (Ellis et al. 2016). A key question of my dissertation research is whether there is a relationship between Latino internal migration, the economic condition of the country, and the enactment of punitive immigration laws. Federal, State and local immigration laws continue to be proposed at high rates. "Lawmakers in 41 States enacted 70 laws and 159 resolutions related to immigration, for a total of 229 in 2015" (NCSL 2016: 1). While not all laws were punitive in nature, I suspect that many of the enacted laws in general can or will serve as either "push" or "pull" factors for migrating.

It is important to recognize the characteristics that cause or deter individuals to move to or from an area. According to Lee, "there are many personal factors which affect individual thresholds and facilitate or retard migration. Some of these are more or less constant throughout the life of the individual, while others are associated with stages in the life cycle … Personal sensitivities, intelligence, and awareness of conditions elsewhere enter into the evaluation of the situation at origin, and knowledge of the situation at destination depends upon personal contact or upon sources of information which are not universally available" (Lee 1966: 51). It is likely that not all individuals have either access or the ability to migrate freely as individual characteristics influence the likelihood of migration.

For Mexican and other immigrants born outside the U.S., the probability of movement within the U.S. is dependent on a central component of their lives, namely, their documentation status in the United States. United States law distinguishes between several categories of immigration status, i.e., naturalized citizens, legal permanent residents (LPR), non-immigrants and unauthorized immigrants. Each type of immigration status comes with different benefits (USCIS 2017:3). As a naturalized citizen, one may vote, bring family members to the USA, obtain citizenship for children abroad, travel with a U.S. passport, become eligible for Federal jobs, and become an elected official (USCIS 2017:3). As a green card holder or LPR, one is allowed to live permanently in the U.S., work in the U.S. and is protected under U.S. law (USCIS: 2016). As a documented non- immigrant, one is entitled to temporary privileges such as working, investing, or obtaining a higher education in the United States. The benefits for temporary non-immigrants pertain to the type of documentation that is obtained (USCIS 2011-2018). Immigrants with current authorization can move freely within the United States if they carry the proper visas or passports with them at all times (USCIS: 2015). Unauthorized immigrants, however, do not have any of the privileges and benefits listed above.

To reiterate, documentation status affects the quality of life an individual can attain as an immigrant. For example, legal immigration status indirectly influences the educational level individuals are able to achieve, their occupation, level of income, healthcare access, the neighborhood they live in, and their access to resources such as governmental assistance (McCorkle & Bailey: 2016) (Donato & Armenta: 2011) (Amuedo-Dorantes et al :2013). In addition, immigration status also affects an individual's ability to move or relocate within the United States (Ellis et al: 2016).

According to demographers at the Pew Hispanic Center (2012), there were approximately 11.1 million unauthorized immigrants living in the USA in 2011. Around 60 percent of these immigrants are commonly referred to as EWI's (Entry Without Inspection), or illegal immigrants, or undocumented immigrants.

They are foreign-born persons residing in the U.S. but not as lawful immigrants. The remaining 40 percent of these 11.1 million undocumented immigrants, that is, approximately 4.5 million of them, are what are known as visa overstayers (Warren and Kerwin: 2017). These are persons who entered the U.S. legally after receiving temporary visas but either stayed past their visa expiration date or "otherwise violated the terms of their admission into the U.S." (Warren and Kerwin 2017: 125).

Unauthorized immigrant status is a social construction that "involves institutional actors and can change over time" (Donato & Armenta 2011: 535). Immigrants can be classified as naturalized citizens, legal permanent residents, non-immigrants (temporary) status, and undocumented (Lee: 2017). Among the four types of immigration status, undocumented immigrants appear to be the most marginalized group. That is, they are denied the most rights. According to the Pew Research Center, Mexicans make up 49% of the EWI population but account for only 9% of visa over stayers in 2014 (Passel & Cohn, 2016). It is imperative to make this distinction because it can lead to misinterpretation of data.

Historically, immigration policies have racialized and restricted various ethno/racial groups usually with discriminatory national origin quotas while simultaneously capitalizing on their labor. Changes in immigration policies from the 1960's through the 1980's unexpectedly redirected immigration flows from Europe to Asia and Latin American (Massey & Pren: 2012). This dramatically increased migration from these regions and ultimately fostered a xenophobic

and nationalistic environment (Massey & Pren: 2012). As Zolberg has stated "Immigration not only begets more immigration, but also nativist reactions" (2006:5340). Jurisprudence and social policy scholar, Eduardo Batista has written of a "punitive turn from an era of immigration control, what has been part of a larger process that utilizes criminalization, racialization, confinement, and barriers (border walls and prison walls) to marginalize minorities as well as a trend in monitoring people" (2014: 3). Even though former President Obama provided temporary relief to undocumented youth from deportation through the passage of the Deferred Action of Childhood Arrivals (DACA), the Obama administration "deported more immigrants than any other president" (Zug, 2015:955).

As a vulnerable population that has been debased and understudied, it is important both demographically and sociologically to understand and analyze this specific population and their experiences living in the United States. Immigration status not only dictates life choices, it also determines ones' livelihood.

All things considered, the aim of this dissertation will be to examine the determinants of interstate U.S. migration for Mexicans who migrated between states during the years of 2011-2015, to analyze the likelihood/ probability of unauthorized Mexicans to be interstate migrants during the same time period, and to ascertain whether punitive migration laws have an effect on the size of the migration streams of foreign born and native-born Mexicans in the U.S.

The focus of my dissertation will be on interstate migration. Interstate migration is the change of one's residence from one state in the U.S. to another state in the U.S. Individuals who move from one county to another, but within the same state, are not interstate migrants, and will thus not be included in my analyses. Focusing on interstate migration as opposed to county-to-county intrastate migration is imperative for several reasons, one of which is that various factors

such as checkpoints by the U.S. Border Patrol throughout the U.S.A. hinder interstate movement. According to the US Border Patrol, "checkpoints are a critical tool in a multi- faceted national border protection strategy that when combined create a strong deterrence to illegal entry" (USBP: No. 0000-0710). Checkpoints may be found dispersed throughout the USA but are primarily found in southwestern states and along the border. Another reason is that the magnitude of the interstate migration streams of Mexicans is much larger than the size of the intercountry intrastate streams.

Migration "is often a response to a regional or national problem" (Poston 2014: slide 10). It is important to look at determinants of interstate migration in the United States to better understand if certain groups of the population are impeded or are inclined to move. Demographers examine migration in two basis ways: from a macro level or a micro level. A macro level analysis of migration examines "the influences of socioeconomic and physical environment while a micro level analysis examines individual characteristics and how they are related to the likelihood of migration" (Mao: 2003:2-4).

I will examine the determinants of interstate migration of Mexicans in the United States using 2011-2015 (5%) PUMS data from the American Community Survey (ACS). Immigration status (documented or undocumented) will be inferred using a proxy variable developed by several other immigration researchers (Bean 2013; Passel 2008,2013; Passel & Cohn 2016; Hall 2009, 2010, 2013). I will focus my attention on Mexicans in the United States and will look at both the foreign born and native-born populations. Demographic and quantitative research on unauthorized immigration status has been limited due to the difficulty of measuring undocumented status, which has been traditionally left out of surveys as to not comprise anonymity. I will include variables in my analyses that have traditionally been used in the past to

measure acculturation. Collectively, my dissertation will hopefully contribute to the lack of literature dealing with the effects of punitive immigration policies on the undocumented community living in the United States. In the next chapter I will review some of the key literatures that have addressed some of the issues I will be analyzing in my dissertation.

CHAPTER II

LITERATURE REVIEW

The body of quantitative research focusing on migration often deals heavily with economic needs or trends. Limited research incorporates the effects that immigration status has on one's ability to migrate. My dissertation research is based in part on earlier work of Poston (1996), Mao (2003), and Meyer's (2010). Mao (2003) investigated individual determinants of interstate migration using data from the 1990 U.S. census while Meyer (2010) looked at changing interstate migration patterns in the southwestern states using state level Census data from 2000. Poston conducted an ecological investigation of interstate migration in the USA using data from the 1990 census. I plan to focus on the relationship between Mexican (authorized and unauthorized) internal migration and punitive immigration policy.

In this chapter I will review some of the literature discussing push and pull factors of migration, the human capital perspective and the theory of sociological human ecology. I will also cover some of the key literature, dealing with the determinants of interstate migration, measures of internal control, punitive immigration policy and measuring legal status in surveys.

Push/Pull Factors

According to the "Law of Migration" (Lee: 1966) (Ravenstein: 1885) there are exists an assortment of push and pull factors that influence migration. In total there are seven laws of migration. They are as follows 1) the great body of migrants only proceed a short distance; 2) in the process of absorption, whereby people immediately surrounding a rapidly growing town move into it and the gaps they leave are filled by migrants from ore distant areas, and so on until

the attractive force is spent; 3) there is a process of dispersion, which is the inverse of absorption; 4) each migration flow produces a compensating counter flow; 5) long distance migrants go to the great centers of commerce and industry; 6) natives of towns are less migratory than those from rural areas; and 7) females are more migratory than men (Ravenstein:1885) (Macisco and Pryor 1962: 212). Macisco and Pryor point out that Ravenstein's laws were created during the industrialization of the country and should be "seen largely in terms of rural -urban movement, and as a response to economic opportunities in large centers of commerce and industry" (1962: 213).

Push and pull factors have also been referred to as absorption and dispersion (Ravenstein: 1885). "No matter how short or how long, how easy or how difficult, every act of migration involves an origin, a destination, and an intervening set of obstacles" (Lee 1966: 49). Krishnakumar and Indumathi (2014) argue that push and pull factors can be economic, political, religious, cultural or environmentally based. That is, both destination and origin areas have a combination of push and pull factors (Lee 1966). Macisco and Pryor quote the famous demographer Donald Bogue saying " universal migration differentials do not exist and should not be expected to exist," however they believe that there are four uniformities that *do* exist, namely, 1) from rural-urban streams, females are more migratory than males; 2) women predominate in short distance moves; 3) most migrants are generally younger than non-migrants; and 4) female migrants are younger than male migrants (1962: 221). Many demographers have proceeded to expand on these.

Push factors are often considered to be adverse conditions of an area that force people out, such conditions as poverty, discrimination, and lack of employment opportunities (Krishnakumar and Indumathi- 2014). As Krishnakumar and Indumathi state, "individuals who

are pushed out of an area risk losing something if they decide to stay" (2014:9). For instance, someone in need of employment loses potential revenue if they decide to stay in an area with limited employment opportunities. While there are varying degrees of push factors, the strongest push factors have been shown to be race/ethnic discrimination, political intolerance, and persecution (Krishnakumar and Indumathi 2014: 9). All of these are factors experienced by undocumented individuals living in the United States, particularly in states with highly punitive immigration laws.

Comparatively, pull factors are often beneficial conditions that draw or absorb people to an area such as job availability, political freedom, as well as increased numbers of possible partners for those living in rural areas (Krishnakumar and Indumathi 2014). Individuals stand to gain various life enriching opportunities in the new areas of destination. Understandably, pull factors outweigh any positive aspects of staying in the area of origin as people are inclined to live in the most favorable environments (Lee: 1966, Krishnakumar and Indumathi: 2014). It is the "promise of a better life that pull people into new locations" (Krishnakumar and Indumathi 2014: 9). Individuals tend to be knowledgeable about their prospective destination however; it is not unheard of for individuals to move having limited knowledge or misperceptions about a location (Krishnakumar and Indumathi 2014).

Other factors to consider are intervening obstacles, social networks, life stage, and personal factors (Lee: 1966)(Krishnakumar and Indumathi 2014). The strength of the social ties an individual has to a prospective community increases the odds of relocation. Where a migrant is developmentally in life will also deter or encourage migration. For example, if there is an absence of responsibilities, then the migrant will have a higher chance of moving (Lee: 1966).

As Lee (1966) argues, distance, physical barriers such as walls and immigration laws may hinder movement but do not ultimately determine how individuals will respond to a set of obstacles. Lee (1966) believes it is in fact, the individual perception of such obstacles that will delay or deter migration all together. In addition, if given the option, migrants will relocate closer to their current location rather than traveling far (Krishnakumar and Indumathi 2014). "People consider and prefer opportunities closer to their location than similar opportunities farther away including better cultural, political, climatic and general terrain " (Krishnakumar and Indumathi 2014: 9).

"From a socio-political point of view, immigrants are often viewed as a group with a high welfare dependency and other forms of social assistance compared to natives" (Moral-Pajares and Jimenez-Jimenez 2013: 196). While looking at immigrant integration within the European Union, Moral-Pajares and Jimenez-Jimenez (2013) found an association between high immigrant density and a high MIPEX value. The European Union uses the Migration Integration Policy index, i.e., the MIPEX index, to measure policy and immigrant integration. Integration is measured with 167 policy indicators that relate to one of eight policy areas (MIPEX.EU). Some examples of policy indicators are access to public services, workers rights, education, and security of status. Countries with high quality immigration policies had higher immigrant flows, meaning that these policies acted as pull factors. High quality immigration policies foster social development.

Similarly, while investigating the "pull factor thesis" among asylum seekers in the UK, Mayblin (2016) found that eliminating economic rights in order to suspend economic based migration was counterproductive. Mayblin (2016: 813) found that policymakers were so fixated on the "economic pull factor" that they failed to realize that "factors such as histories of colonial

relations between countries of origin and reception are found to have the strongest influence on destination choice." Despite an accumulation of empirical evidence, politicians continued with this general narrative. "Civil servants and politicians are concerned with taking practical action to address a problem that they perceive to exist" (Mayblin 2016: 822). While this study focuses on immigration policy in the UK, much can be learned from their political tactics.

According to Frey et al (1996: 509) "the ability to distinguish an attribute's "push" from its "pull" effects on migration streams has important political policy implications." For instance, if it were found that the magnitude of State welfare benefits had more "pull" than "push" effects, then lowering those benefits would not necessarily induce an out migration of the poverty population, even though raising them would attract poor migrants from other States." This logic can be applied theoretically to the undocumented immigrants and the varying levels of punitive policies that have increasingly been implemented throughout the United States. Lee believed that "restrictive immigrant laws can present a formidable barrier to prospective migrants" (Krishnakumar and Indumathi 2014: 11). Therefore, investigating whether punitive policies act as push or pull factors would be valuable socio-politically and demographically speaking. While most scholars tend to focus on international migration when examining push and pull factors, I will be looking at internal, state to state migration within the United States.

Like Mao (2003), I am interested in both the macro and the micro determinants of migration. Therefore, I will be using both the human capital perspective and sociological human ecological theory for a comprehensive analysis. Human capital is "the stock of skills that the labor force processes. The flow of these skills is forthcoming when the return of investments exceeds the cost (both direct and indirect)" (Goldin 2014: 1). This is a term first coined by Theodore Schultz and Gary Becker, from the Chicago School of Economics (Tan: 2014). In

other words, certain investments in knowledge that individuals acquire will yield an "increased productivity" (Goldin 2014: 1). Common examples of human capital are health, education, occupational training, among other skills (Goldin: 2014). Looking at human capital under the context of immigration, the important attributes would appear to be educational attainment (formal/informal), language attainment and proficiency, literacy, and assimilation (Buber-Ennser et al. 2016) (Djajic: 2003).

The human capital theory (HCT) is "the perspective that investments in human capital for individuals are essential for generating economic growth" (Becker: 1974). Investing in ones' education should theoretically increase labor productivity, which in turn increases earnings. Despite its divisive origin, various fields have largely adopted human capital theory. As with all theories it is not without flaws. Some scholars find HCT immoral as it reduces human value to the "maximization of utility" (Tan: 2014). HCT can also be viewed as "signaling" to potential employers. In other words, employees are filtered out or screened based on educational attainment. Obtaining a higher education is no longer only for "self-investment in cognitive formation" (Marginson 2017: 4). In addition, from a sociological perspective, HCT has been shown to overlook family cultural capital and social capital networks (Marginson: 2017). More importantly, institutional inequalities and lack of individual agency are neglected, which leads scholars like Marginson (2017) to question the realism of HCT.

According to Mao (2003), migration will only occur if individuals are benefiting from the returns. The human capital perspective applied to migration states that a "prospective migrant calculates the value of the opportunity available in the market at each alternative destination relative to the value of the opportunity available in the market at the point of origin, subtracts

away the costs of moving, and chooses the destination which maximizes the present value of life time earnings" (Sjaastad:1962 and Bodvarsson et al: 2013). Hypothetically, a migrant would stay in their current location if the cost outweighs the potential economic benefits.

Human capital can be measured through common demographic variables such as education, gender, immigration status, marital status, and age. The higher the level of education, the higher the economic return. Varying levels of immigration status render higher returns as well. An individual with a work permit is expected to pull in a higher income as opposed to an undocumented immigrant who is not legally permitted to work. One can infer that being married or cohabiting would be financially beneficial. Theoretically an increase in age should yield work experience and skills obtained. Lastly, with the continuation of the wage gap in the United States, women are still at an economic disadvantage (Roche: 2017).

When investigating migration on a macro level, social scientists have typically relied on spatial interaction models such as the classic gravity model, destination choice models, and destination models, to name a few. While all these models can be used to estimate human migration, they tend to be grounded in economic theory. Destination models empirically investigate "whether people choose the migration destination that, on the basis of their individual characteristics, promises them a high income relative to that of others in that location" (Fafchamps and Shilpi 2011:9). The classic gravity model is "a reduced form equation derived from a system of demand and supply relationships" (Karemera *et al.* 2000: 1746). The basic gravity model looks at income, population size and cost of moving measured (monetary and psychical) at both the origin (i) and destination (j) country (Karemera *et al.* 2000). The competing destination model developed by Fotheringham, is a variation of the classic gravity model that "incorporates an accessibility variable" (Ishikawa 1986: 1359). While these models

are valuable they lack a sociological component, which I believe is imperative when studying migration.

For the reasons listed above I have decided to rely heavily on sociological human ecological theory in my dissertation. Population ecology as defined by Amos Hawley is "the study of the interaction of population with environment, the basic proposition is that the effect of the interaction is adaptation" (1981:9). Not to be confused with social geography, the usage of spatial relations for understanding urban systems or to "define parallels between Marxian and ecological thinking" as mistakenly done by van den Berghe, Logan and Molotch, and Castells (Poston and Frisbie 1998: 28). I attempted to align my work with that of Hawley and R.D. McKenzie's original intent.

According to Poston and Mao (1996: 305), "The ecological approach asserts that human populations redistribute themselves in order to approach an equilibrium between their overall size and the life chances available to them." There are four fundamental principles of sociological human ecology, namely, population, organization, environment and technology (Poston and Mao 1996). "Human ecology is concerned with the organizational aspects of human populations that arise from their sustenance-producing activities. These activities are necessary for the collective existence of the populations and must be adapted to the changing conditions that confront them" (Poston and Frisbie 1998: 29). Humans continuously respond to their environment, reacting, and modifying their lives in order to live an optimal existence. In my dissertation I will be analyzing how these determinants differ for immigrants with undocumented status.

The sustenance organization of the population can be measured through the unemployment rate and the level of manufacturing wages (Poston and Mao 1996). Regarding

social and physical aspects of the environment, minority concentration, the crime rate, and climate variables may be used because they are representative of influential characteristics of an area that can ultimately affect migration. Measuring technology in states has proven problematic as a societal level analysis because "it is difficult to contend that the level of technology varies in any significant way at the sub societal level" (Poston and Mao 1996: 308). Poston and Mao have used educational level as an independent variable for measuring technology due to its variability among subunits (Poston and Mao 1996). Lastly, for the population principle, Poston and Mao (1996) use population density, a key independent variable that is also used in the classic gravity model. Using both the human capital perspective and sociological human ecological theory I will be able to thoroughly examine some of the basic determinants of interstate migration on a macro and micro level.

Determinants of Interstate Migration

While internal migration for the general population has been on a steady decline since the 1980's, this has not been the case for Mexican immigrants and their families (Molloy et al. 2017). Traditional destinations for Latino migrants since the early 90's have been in the states of California, Texas, New York, Florida, Illinois, New Jersey, Arizona, New Mexico, Colorado and Massachusetts (Ellis et. al 2016: 893). During the late 90's a shift in internal migration occurred; not only were incoming migrants going to new destinations, but established immigrants begun to disperse from traditional spaces (Ellis et al.: 2016). Throughout the 2000's South Carolina, Alabama, Tennessee, Delaware, Arkansas, South Dakota, Nevada, Georgia, Kentucky, North Carolina, Wyoming, Idaho, Indiana and Mississippi's foreign-born populations all grew by nearly 50%, becoming the new destinations for many Latino immigrants (MPI:

2011). An increase in anti-immigrant laws and sentiment spread in response to the surge of foreign new comers (Ellis et al.: 2016). A recession, punitive laws, and the tightening of the borders forced many immigrants to seek better opportunities in other states, changing the ethno-racial diversity of previously non-Hispanic communities (Ellis et al.: 2016) (Ybarra et al. :2016).

Previous research has illustrated the general determinants of interstate migration. Some common determinants are age, educational attainment, number of individuals in a household, occupation and economic need. My dissertation focuses on the determinants of interstate migration of native- born Mexican (Mexican Americans), authorized Mexican immigrants, and undocumented Mexican immigrants. Regarding internal migration of immigrants in the USA, Frey (1995: 733) believed a "balkanization" would occur in which "1) most immigrants are directed to small number of destinations, 2) most recent internal migrants are directed to different destinations and 3) the appearance of "push-pull" relationship between immigrant flows are internal out-migration for states receiving the greatest number of immigrants." While his study took place in the mid 90's, his findings were not far off. Indeed, true racial/ethnic diversity did not occur across all regions (Frey 1995: 755).

Younger individuals tend to be more geographically mobile, as do higher educated individuals (Saenz: 1989). However, households with larger numbers tend to be less mobile (Saenz: 1989). In addition, individuals with occupations of higher prestige have been shown to be significantly more mobile (Saenz: 1989). Saenz analyzed Mexican American intraregional migration in the Southwest and the selectivity among individuals who migrate. In a study conducted by Greenwood and Gormely (1971) it was found that distance is a deterrent for both white and nonwhite migration, a conclusion consistent with one of Ravenstein's laws of migration that states "The great body of our migrants only proceed a short distance" (Lee 1966:

48). High-income states and a high concentration of ones' in-group were found to influence interstate migration as well (Greenwood and Gormely: 1971).

In a study conducted by De Jong et al (2005: 492) it was found that a change in welfare policy "created motivations for poor families' decisions to move to other states." This research is an example of the effects of policy on interstate migration for marginalized populations. Guis (2009) found that individuals of all races and of all age groups were more likely to move to states with "low income tax burdens." Ravenstein's seventh law of migration (Dominance of the Economic Motive) states that "bad or oppressive laws, heavy taxation, an unattractive climate, uncongenial social surrounding and even compulsion (slave trade, transportation), all have produced and are still producing currents of immigration, but none of the currents can compare in volume with that which arises from the desire inherent in most men to better themselves in material respects" (Lee: 1966: 48). As Greenwood and Gormely (1971: 154) put it "migrants themselves are not homogenous in their characteristics"; therefore, we must continue to look at what drives interstate migration from a micro level despite the ultimate motivator being one of economic need.

According to Gleeson and Gonzales (2012:4), not only are undocumented workers "one of the most vulnerable segments of the American workforce," their status also prevents them from participating in the "formal workforce." Based on this information, one can infer that the probability of an unauthorized immigrant moving to another state in search of economic opportunity or occupational change would be lower than for someone with legal status. In a comprehensive analysis of the changing patterns of unauthorized migration Donato and Armenta (2011: 530) found that unauthorized immigrants in the U.S. have changed from "single men to women, children, and families." In a study conducted by Amuedo and Dorantes which measured

the effect of stricter state level immigration policy, and captured unauthorized immigrant behavior, it was found that "punitive measures" not only increased the fear of deportation but also reduced the likelihood of interstate mobility for migrants (2013). Donato and Armenta have stated "the U.S. government began passing down responsibilities and aid to states and their localities to develop policies related to welfare reform, taxes, and more recently, immigration control" (2011: 534). Such examples of this are the implementation of "E-verify," which increased detection at places of employment, and "Operation Gatekeeper," which increased vigilance at points of entry and along the border to reduce the flow of undocumented migration.

In a study by Kritz and Nogle (1994) that analyzed the effects of nativity concentration on internal migration for foreign-born individuals, the authors found that nativity concentration significantly decreased the likelihood of internal migration, and the strongest effects were found among interstate migrants. Social dimensions such as social networks and being among one's native group acted as strong deterrents for migrating. This study found that only 10.8 % of Mexicans migrate via interstate migration. In addition, Kritz and Nogle (1994: 522) stated that "illegal status may reduce the likelihood of migration because of fear of apprehension…illegal residents may be motivated to remain in the relative safety of their current job and community rather than risk the detection and exploration that could result from a change in residence." Kritz and Nogle's finding is in contrast to Ravenstein's seventh law of migration. Similar results were found in another study (Gurak and Kritz: 2000: 1028) except that in this analysis, "economic context had a strong influence on interstate migration."

Internal Immigration Control

When one thinks of immigration control in the United States, what frequently first comes to mind is the heavily endorsed border wall. The costly and ineffective 2,000-mile border wall between Mexico and the United states may have slightly curved unauthorized migration along the border, but it has not lowered the visa over stayers who cross the border with authorization. The building of the border wall has proven counterproductive, forcing migrants who would have previously been part of circular migration to stay within the United States (Massey et al.: 2016). For these reasons I will center my analysis on measures of internal control.

Measuring internal border control beyond physical barriers such as walls and immigration checkpoints has proven difficult. However, Leerkes *et al.* (2012: 112) devised estimates, or proxy measures, of internal border control using state level measures. They refer to this as social exclusion and territorial exclusion. My search of the existing literature found very few studies measuring state level indexes of internal control. For my dissertation, I propose to use their proxy measures to estimate punitive internal immigration control. Leerkes *et al.* (2012:112) distinguished two main types of internal border control, namely, "1) local, state and federal governments efforts to exclude unauthorized migrants from labor markets and public provisions (welfare, education, public housing, health care), and 2) efforts to apprehend and deport migrants who do not, or no longer, have legal stay in the territory." Leerkes *et al.* (2012) pointed out the uniqueness of the United States; while all states must comply with federal sanctions, individual states still have a level of autonomy that allows them to endorse their own immigration laws.

Leerkes *et al.* (2012: 114), measured internal control in the following ways: 1) percentage of firms in a state using *E-verify;* and 2)) whether there were any state laws in force that intend to restrict unauthorized migrants' access to (a) drivers' licenses (b) the labor market and/ or (c) public benefits such as health care or education. While Leerkes *et al.* (2012) used data from 2005 to 2009 for their measures, I intend on extending this time period for the years 2011-2015. Leerkes *et al.* (2012) used data from the National Conference of State Legislatures. The National Conference of State Legislatures provides a database for enacted State laws and resolutions from 2008 and on "topics that include budget, education, employment, health, human trafficking, ID/ driver's licenses, law enforcement and public benefits (http://www.ncsl.org/research/immigration.aspx)." Lastly, I will use data on the percentage of counties in a state involved in the 287p *Program,* a federal regulation that allows state and local enforcement agencies to apprehend and identify unauthorized immigrants (Leerkes *et al.* (2012). Leerkes *et al.* (2012), then created a factor score and clustered states by internal control. The three categories they developed empirically are measures dealing with 1) high level control states of which Arizona was the only state to have "extreme" measures, 2) states with moderate levels of internal control, and 3) relative permissive states (115). The only state with highly restrictive measures was Arizona. States with moderate restrictions were Oregon, Nevada, Utah, Colorado, Texas, Oklahoma, Missouri, Arkansas, Mississippi, Tennessee, Georgia, Florida, North Carolina, South Carolina, Virginia, Delaware, and Maryland. States with relatively permissive internal control were Hawaii, Washington, California, Idaho, New Mexico, Nebraska, Kansas, Minnesota, Iowa, Wisconsin, Illinois, Michigan, Indiana, Kentucky, Ohio, Pennsylvania, New York, New Hampshire, New Jersey, Rhode Island, Connecticut and Alabama. States excluded from their study were Maine, Montana, North and South Dakota and Wyoming. Excluding these

states should not be problematic owing to the small numbers of Mexican in- or out-migrants for those states. Leerkes *et al.* (2012: 123), measured growth rates of the undocumented population and indeed found that "the degree to which states experienced a decline in (the growth of) the estimated local unauthorized population from 2005-2009 is associated with the degree of internal border control in these states."

Leerkes *et al.* (2012) developed five plausible interpretations for their findings. The first interpretation refers to a "displacement effect" in which unauthorized immigrants resettled in less restrictive states. The second interpretation assigns the results to an "overall deterrent effect" in which existing internal control appears to work given that there were substantially less undocumented immigrants living in the U.S. at the time, despite trends projecting higher estimates. The third interpretation is a "legalization effect." Here immigrants living in the U.S.A. sought "formal" measures for reentering the United States. This could be seen through an increase in non-immigrant admissions. The fourth interpretation of their work can be tied back to the "selectively affected validity of the population estimates" (2012: 124). This would be due to an improper estimate calculated by the Census Bureau. Leerkes *et al.* (2012) believe there is a higher non-participation of unauthorized immigrants in the Census data due to increasing internal control. The final interpretation is focuses on a "spurious correlation based on economic/and or social factors" (124). I hope to be able to address this issue and the other issues in my dissertation research.

A similar study conducted by Ellis *et al.* (2016: 891) that investigated the effects of punitive immigration laws on unauthorized and authorized migration within the United States found that both non-citizen and naturalized Latinos "were much less likely to move to states with hostile policies." Using the measures of Leerkes and colleagues, Ellis *et al.* (2016) used a

Destination choice model, a net migration model, and a zero-inflated Poisson model in their analysis. They found that there was a deterrence of migration to hostile states even for authorized and native -born Latinos. They inferred that all Latinos avoid living in hostile states for fear of discrimination as well as the possibility of "mixed status families" (905). Ellis *et al.* (2016: 905) pointed out that despite using the internal control estimates of Leerkes and colleagues, there are some factors that still need to be accounted for. These are the following: 1) an update of the punitive/ beneficial laws that occurred post 2009, and 2) a noting of any new post-recession immigration patterns that could be due to increased jobs as "post-recession job growth might have increased Latino migration to hostile destinations, overpowering preference for less restrictionist environments."

Punitive Immigration Laws

Despite being founded by immigrants, the United States has always had a tumultuous relationship with newcomers. Due to the lengthiness of the history of immigration law, in this review I will only mention the most detrimental laws from the late 20th century forward. In 1986, during the Reagan administration, the Immigration Reform and Control Act (IRCA) was passed, granting an estimated 2.7 million unauthorized immigrants a pathway to permanent residency (PRC, 2015). Furthermore, there was an increase in border enforcement and sanctions on employers who purposefully hired undocumented immigrants (PRC, 2015). In 1996 the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) signed by President Clinton increased both border and interior enforcement, built a wall along the Southwest border, made revisions to worksite enforcement, changed admission eligibility requirements and increased deportations/ deportability of immigrants (PRC, 2015). Restrictions were made on public

assistance programs as part of revisions to the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) for new legal permanent resident and undocumented immigrants (PRC, 2015). LPR's were now ineligible to apply for Supplemental Nutrition Assistance Program (SNAP), Supplementary Security Income (SSI), Temporary Assistance for the Needy Families (TANF) cash assistance and Medicaid for five years even if they otherwise had qualified for the assistance (Siskin, 2016). Unauthorized immigrants were not eligible for federal assistance regardless of the amount of their time living in the United States. This not only affected LPR's and unauthorized individuals but also affected their family members who did qualify for assistance. Many mixed status families, or families with variations of immigration statuses, opted out of assistance out of fear of detection. This tended to increase health disparities among immigrant communities and pushed unauthorized immigrants deeper into the shadows (Vargas, 2015). Lastly, IIRIRA devastated the immigrant community by increasing the deportability of migrants with minor and nonviolent crimes.

In 2002 the Department of Homeland Security (DHS) assumed all the functions of the U.S. Immigration and Naturalization Service (INS) (Cohn, 2015). This reinforced an already growing fear of immigrants, post 9/11. In 2006 the Secure Fence Act began the construction of a 700-mile long border wall along the Southwest border, much of which was never completed due to a lack of funds. In 2013 Secure Communities was implemented across the United States by the Immigration and Customs Enforcement (ICE), permitting local law enforcement to carry out "ICE's enforcement priorities for aliens detained by another law enforcement agency" (ice.gov). While it is at the discretion of local law enforcement agencies to implement or carry through with identifying potentially unauthorized immigrants, the effects that this has had on immigrants has been irrevocable. The passage of Arizona SB 1070, an extension to "Secure Communities,"

encouraged law enforcement to question the immigration status of individuals as long as there was "reasonable suspicion." While this was later found unconstitutional, due to an increase in racial profiling, other states attempted to pass "copy-cat" laws. One such "copy-cat" law was Alabama HB 56. In addition to local law enforcement acting as immigration enforcement, the law sought to bar unauthorized immigrants from receiving state and local assistance. Unauthorized immigrants would have been unable to receive a public education at the university level and tracked throughout primary and secondary schooling. Landlords would have been prevented from renting their property to unauthorized immigrants. In some cases, utilities, such as water were cut off, medical assistance was denied to immigrants, and an increased vigilantism took over the state, even though there only an estimated 2.5% of the population was comprised of undocumented immigrants (Southern Poverty Law Center, 2012). Over 5,100 reports were made to the SPLC by 2012; "HB 56 has unleashed a kind of vigilantism throughout the state, leading some Alabamians to believe they can cheat, harass and intimidate Latinos with impunity" (SPLC: 3). HB 556 was later overturned, but the consequences remain.

Between 2008 and 2017, states have passed 3,135 immigration related bills (NCSL, 2017). Armenta and Vega (2017) argue that the "crimmigration system," that is immigration law and criminal law, is "the mechanism through which race operates to structurally exclude Latinos and render them underserving membership in the United States' imagined community" (229). Immigrants, specifically Mexican immigrants are racialized and disproportionately punished (Armenta and Vega: 2017).

It can be argued that punitive immigration bills can have formal and informal purposes. A punitive law, as defined by Rivera, is a law that "reduces access to public benefits/ services, English only laws, and those promoting more stringent requirements to obtain state issued

identification such as driver's license" (2015: 6). These would be their formal functions. A non - punitive or pro-immigrant bill is said to "expand access to public benefits/ services, assist immigrants with incorporation into society, or help facilitate commerce" (Rivera, 2015: 5). Again, these would be their formal functions. Looking at informal and formal functions of immigration law in the Netherlands, Leerkes and Broeders found that detention centers served in 1) deterring illegal residence, 2) controlling pauperism, and 3) managing popular anxiety by symbolically asserting state control (2010: 844). The formal function of detention centers is to hold and expel immigrants. The formal function of criminal law is to reduce deviance, rehabilitate, incapacitate and punish to satisfy moral needs (Leerkes and Broeders, 2010: 833). "Mixed motives for administrative detention are to some extent the result of different actors-state authorities, local authorities, citizens, illegal migrants-using detention for their own purposes" (Leerkes and Broeders, 2010: 845). This too can be said for "administrative, non-punitive measures to facilitate expulsions" in the United States (Leerkes and Broeders, 2010: 830). While Leerkes and Broeders (2010) focus on the muddled functions of administrative and criminal law in the Netherlands, their analysis runs parallel to the crimmigration system in the United States.

One could argue that the informal function of pro -immigration laws in the United States would be to assist in the assimilation, incorporation and productivity of immigrants. In contrast, the informal function of punitive policies would be to restrict social participation and access to public services, silence, and exploit unauthorized immigrants in the labor force; pushing unauthorized immigrants further into the shadow while still benefiting from their existence in the country.

Measuring Immigration Status

Due to issues of confidentiality and anonymity, unauthorized immigration status is not a question asked by the U.S. Census Bureau in the decennial censuses and the American Community Surveys. Consequently; researchers studying unauthorized persons often create a proxy to measure this variable. Previous researchers who have led the field of immigration and have created proxies include Jeffrey Passel (2008, 2012) (Passel and Cohn: 2016), Frank Bean (2013) and Matthew Hall (2009,2010, 2013). Passel defines definite legal immigrants as 1) naturalized citizens, 2) who entered the USA before 1980, and 3) having a definite legal occupation; all others are considered "Potential Illegals." The total unauthorized population is calculated by subtracting the legal foreign born from the total foreign born (Passel). Frank Bean measures the legal status of immigrants via the Los Angeles Family and Neighborhood Survey (LAFANS) and the Survey of Income and Program Participation (SIPP). The LAFANS asked persons the following questions: 1) are you a citizen?; 2) if not, do you have a green card? 3) if not, do you have a visa or permit or any document that permits you to stay in the USA for a limited time? 4) if yes, is it expired? If it is expired or if there is no documentation, the person is considered to have unauthorized status. In the SIPP, unauthorized status was inferred by answers to the following questions: 1) are you a citizen? 2) when you first moved to the USA to live, what was your immigration status? and 3) Has your status been changed to a permanent resident? Foreign-born students in institutions of higher education and in specialty occupations were removed because they are not likely to be unauthorized. Matthew Hall also created a unique proxy for inferring unauthorized immigrant status in his analysis of data from the Survey of Income and Program Participation. First, "immigrants who personally receive welfare benefits

are classified as legal as unauthorized immigrant cannot receive any type of government benefits; next if immigrants have refugee/ asylum visas, student visas or are exchange visitors, have tourist or business visas, temporary worker visas, are diplomats or political representative then they too are classified as legal" (Hall, 2010: 497). Individuals who are attending or who are enrolled in school were dropped from the analysis. Those individuals who did not meet any of the said requirements were considered potential unauthorized immigrants.

An issue that must be taken into consideration when measuring legal status is that individuals with liminal legality or "temporary protective status" are usually undistinguishable from unauthorized immigrants. "Liminal legality is characterized by its ambiguity, as it is neither undocumented status nor a documented one and can have characteristics of both… Individuals can reside in the USA as visa over stayers, individuals who did not renew their permits, most individuals with liminal legality entered through temporary status" (Menjivar, 2006: 1008). For researchers attempting to create a measure for unauthorized status, distinguishing unauthorized from liminal legality has proven to be a difficult if not impossible task. Passel refers to some individuals with liminal legality as "Quasi-legal" (PRC: 2006).

Lastly, Warren and Warren (2013) emphasize the importance of taking into account the number of unauthorized individuals who leave the population each year; this is something that has been neglected when estimating the number of unauthorized individuals in the U.S.A. Warren and Warren warn of an overestimation of the numbers which lead to an inaccuracy in the estimates. Warren and Warren (2013) also use Passel's proxy for measuring unauthorized status. "Unauthorized estimates are based on a comparison of the total foreign-born population to the legally resident foreign-born population: the difference between them is taken to represent the unauthorized foreign-born population" (Warren and Warren, 2013: 6).

I have decided to handle the issue of inferring one's immigration status as undocumented or documented in the following way: Immigrants will be divided into two groups, "legal status immigrants" and "potentially undocumented immigrants." "Legal status immigrants" will consists of individuals who are naturalized citizens, were born in Mexico, migrated between 1919-1979, and have a "legal job." Immigrants who migrated between 1919-1979 are likely to have obtained amnesty/ legal status during the Immigration Reform and Control Act of 1986. Persons with legal jobs will be those individuals who work for the local, state, or federal government, are self-employed but registered as a corporation, work in the private sector of the economy, or work for a nonprofit organization. Potentially undocumented individuals will consist of immigrants who are not naturalized citizens, were born in Mexico, migrated to the U.S.A between 1980-2015, and do not have a "legal job." Immigrants who migrated between 1980-2015 faced less forgiving immigration laws. Potentially undocumented immigrants reported working for family members or are self-employed but not registered or affiliated with a corporation. Separating potentially undocumented individuals from visa overstayers will not be possible in the analyses I will undertake in my dissertation. In the next chapter, I will discuss the methodology I will use in my dissertation.

CHAPTER III

DATA AND METHODS

In this chapter I discuss the data and methods I use in undertaking my dissertation research. First, I describe the American Community Survey (ACS) which I use as my data source. I describe how data is collected, how it is selected for the survey, and the type of information gathered. In addition, I discuss data limitations and the proxy I used to infer undocumented immigration status. Lastly, I address the statistical methods used and operationalize the variables.

American Community Survey

The bulk of the data used for my dissertation were extracted from the five percent American Community Survey (ACS), Public Use Micro-data Sample (PUMS), for the years 2011-2015. The Census and ACS data are collected by the United States federal government. The ACS is much like the decennial census; however ACS data are collected yearly. The information collected in the ACS includes population, housing and workforce information (United States Census Bureau: 2017). The information for the population includes basic demographics, origin and language, education, mobility and immigration, health insurance, disability, grandparents and fertility, military, labor force, journey to work, industry and occupation and income. The housing information includes physical characteristics, utilities, special programs, mortgage items, computer and internet use, and other financial characteristics. Data are available in increments of one, three, and five years. “ACS estimates are often used to help establish priorities through a need assessment, to develop general plans, research, education, and advocacy work” (USCB 2013: 3). The ACS has had an average response rate of 89.0+%

from the years 2010-2015 in housing units and group quarters, and an average coverage rate of 98.0 + % from the years 2010-2015 in housing units and group quarters. ACS data must meet the Census's Bureau's statistical quality standards; the CB works extensively to address coverage, non-response, measurement, and processing error (USCB, 2014). The "svy" suite of commands in Stata will be used to address the complex sampling design of the ACS, thus allowing me to obtain smaller standard error estimates (Kothari 2015: 1626 digital page).

To be included in the ACS an individual must have lived in their place of residency for at least two months. "Unlike the census the ACS asks questions regarding income, education, employment status, disability status, housing value, housing costs, and number of bedrooms." (USCB 2009: 1) The ACS is especially important because the "ACS samples about 1 in every 40 addresses every year, or 250,000 addresses every month. This allows the Census Bureau to produce data every year rather than every decade" (USCB 2009: 1). The Public Use Micro-Data Samples for the ACS are a "set of untabulated records about individual people or housing units" (USCB 2009:1). Personal information that can be used to personally identify individuals is not available to the public, so that confidentiality is assured for those taking the survey. Asking about immigration status is considered problematic and risky for individuals; hence, the ACS like many other surveys does not include this question. The ACS uses a hot deck approach to address missing data/ values. Due to small sample size in comparison to the decennial census data, the ACS provides weights at both the individual and household level. In addition, "survey samples must be weighted by estimates for states, counties, or places, not census counts for states, counties, tracts, and block groups" (Esri 2016: 2). Because the ACS is reflective of a certain time periods (1 year in this research), one must be cautious about generalizing. Only

responses from the head of household will be included in the research undertaken in my dissertation.

Based on my review of the literature, I expected to see a general overall relationship between interstate migration and immigration status; this broad expectation is based in part on research using both the human capital perspective as well as sociological human ecological theory. Generally, I propose that being an unauthorized migrant will decrease the probability of migrating between states. Unauthorized immigrants tend to be younger and have lower levels of socioeconomic status. In addition, interstate migration is increasingly difficult for individuals with unauthorized status due to the border patrol checkpoints throughout the country, strategically spread throughout the southwest as well as along the border. In addition, there has been an increase in immigration enforcement via flying through TSA and Border Patrol enforcement in airports. Due to Immigration Customs Enforcement (ICE), which enacted "Secure Communities" in 2008, state and local officials (i.e. police departments) have also deterred immigrants from traveling freely throughout the USA. The presence of secure communities encourages local agencies to enforce, detect and report individuals who are unauthorized to state and federal immigration enforcement agencies. "The interior enforcement measures pursued by ICE raise the normal requirement that immigrants must be in the country legally almost to the litmus test of social control" (Hagan *et al*: 2011: 1388). I turn now to a discussion of the statistical methods I use in my dissertation.

Statistical Methods

In my dissertation, I will be using two different statistical methods. When I undertake a micro level analysis of the likelihood of being an interstate migrant, I will be using a single level

logistic regression. A spatial interaction model will be used in my macro level analysis of interstate migration streams. I now review each of them.

Logistic Regression Model

For my first hypothesis, I will examine whether unauthorized Mexican immigrants are less likely to experience interstate migration compared Mexican immigrants with legal status. I will be using a single level logistic regression to estimate the probability of being an interstate migrant, in relation to individual characteristics. I will be looking at households headed by foreign or native-born Mexicans. My dependent variable is dichotomous, that is, being an interstate migrant (1=yes, 0=no). The key independent variable that will be used in this analysis is legal status. The control variables are age, sex, educational attainment, marital status, family composition, occupation, years in the USA, language spoken, and social ties.

Logistic regression models are typically used for dependent variables with nominal and ordinal responses (SAS Institute: 2010). In this case, being an interstate migrant is dichotomous (yes or no). I am interested in the probability of being an interstate migrant which will be measured through individual characteristics, with the "probability transformed into a log of the odds in logistic regression" (Mao 2003: 33). The purpose of the parameters is to maximize the likelihood of data while the logit function is to linearize the relationship. Below is the basic formula for a logistic regression model.

$$\mathbf{Log\ [\rho_{ij}/(1-\rho_{ij})] = (\beta_{0j} + \beta_{1j} X_{1j} + ... \varepsilon_{ij}}$$

$\boldsymbol{\rho_{ij}}$= probability of being an interstate migrant for person *i* from state *j*

$\mathbf{X_{1j}}$= level one independent variable

$\boldsymbol{\beta_{1j}}$= coefficient in log odds

Spatial Interaction Model

For my final hypothesis, I expect that the size of the migration stream comprised of U.S. and foreign-born Mexicans will largely depend on such ecological characteristics of the sending and receiving states as the crime rate, the unemployment rate, mean years of education, and other key demographic and ecological characteristics of the sending and receiving states. This hypothesis will be tested with a single level aggregate Ordinary Least Squares (OLS) regression equation. This is the most appropriate method as the dependent variable is continuous, and OLS allows for minimized errors, sum of values and variance. I will operationalize these in further detail below.

The two models to be used in this analysis are a gravity model and an ecological model. The gravity model has been typically used by social scientists to study migration flows (Mao: 2003). Looking at the four pillars of sociological human ecology (population, organization, environment and technology), we are able to observe the way human groups maximize their life chances and opportunities through migration (Poston and Mao: 1996). All the variables I use in this model were transformed logarithmically, apart from the contiguity variable, in order to be calibrated into a linear function when possible (Poston et al 2017: 15). The classic gravity model with natural logarithms is:

$$\mathbf{lnM_{ij} = lnP_i + lnP_j - lnD_{ij}}$$

$\mathbf{M_{ij}}$= absolute value of migration flow of undocumented Mexicans between $State_i$ and $State_j$

$\mathbf{P_i}$ and $\mathbf{P_j}$ = are population size in $State_i$ and $State_j$

$\mathbf{D_{ij}}$ = distance in miles between $State_i$ and $State_j$.

The ecological model with natural logarithms is:

$$\mathbf{lnM_{ij} = lnUE_i + lnUE_j + lnMinW_i + lnMinW_j + lnHC_i + lnHC_j + lnCR_i + lnCR_j + CONT_{ij} + lnEd_i + lnEd_j + lnDens_i + lnDens_j}....$$

UE_i and **UE_j**= unemployment rates at $State_i$ and $State_j$
$MinW_i$ and **$MinW_j$**= **at** $State_i$ and $State_j$
HC_i and **HC_j** = proportion of Hispanics at $State_i$ and $State_j$
CR_i and **CR_j** crime rate in $State_i$ and $State_j$, respectively;
$CONT_{ij}$ = dummy variable scored 1 if $State_i$ and $State_j$ are contiguous;
Ed_i and **Ed_j** = education variable for $State_i$ and $State_j$
$Dens_i$ and **$Dens_j$ =** population density of $State_i$ and $State_j$

Hypothesis

1. Among foreign-born Mexicans in the United States, unauthorized Mexican immigrants will be less likely to experience interstate migration during the 2010-2015 period in comparison to Mexican immigrants with legal status. This hypothesis will be tested with a single-level logistic regression.

2. The size of the interstate migration streams comprised of Mexicans (U.S. & foreign born) for the 2010-2015 period will largely depend on such ecological characteristics of the sending and receiving states as the crime rate, the unemployment rate, mean years of education, and so forth. This hypothesis will be tested with an aggregate OLS regression model.

I will focus on Mexicans as they make up the largest foreign-born population in the United States. I also chose Mexicans for their unique social and economic ties with the United States as well as their racialized history in the states.

Key Independent Variables: Undocumented (Proxy)

Racial/ethnic identity in Mexico is vastly different from the conceptualization of race/ethnic identity in the United States. In Mexico, indigenous and European heritage are taken into account when discussing "racial" identity. This racial identity takes on a new meaning for immigrants living in the United States. This is salient when immigrants choose to identify as "American" rather than as "Mexican" when they become naturalized citizens.

Individuals who self -identified as "Mexican" were included in the analysis. Both foreign-born and native (US) born Mexicans were included. A Mexican can be of any race as it pertains to ethnicity, ancestry, lineage, heritage, nationality group, or country of birth. The variable "HISPAN" identifies persons of Hispanic/ Spanish/ Latino origin and classifies them according to their country of origin when possible. These individuals were categorized by type of immigration status, place of birth, and potentially undocumented status.

The variable "CITIZEN" reports the citizenship status of respondents, distinguishing between naturalized citizens and non-citizens. The survey question is, "Is this person a citizen of the US?" The options are yes, born in the USA, yes born in Puerto Rico, Guam, the U.S. Virgin Islands or Northern Marianas, Yes, born abroad of U.S. citizen parent or parents, Yes, U.S. citizen by naturalization, and No, not a citizen.

My key independent variable is "potentially unauthorized immigrant status." Following Jeffrey Passel, I have created a proxy to measure this variable. If immigrants are naturalized, entered the United States before 1980 and have a definite legal occupation, they are considered "legal." Conversely, if they lack these characteristics they are considered "potentially undocumented." This variable has been created into a dummy variable 1=legal status, 0= potentially unauthorized status.

Dependent Variables

The dependent variables, will be dummy coded as interstate migrant=1 and non-interstate migrant=0. An interstate migrant is someone who has migrated to another state in the past year. The ACS uses the variable "MIGRATE1" to report whether a person has changed residence since a reference point one year ago; this person will indicate whether the move was to a foreign country or the state, country, and place of their normal residence during the reference year (ACS: 2017). The detailed version of "MIGRATE1" indicates whether they moved between contiguous or non-contiguous states (ACS: 2018). For the third hypothesis, which will be tested via a basic gravity model and a human ecological model, the dependent variable is the total out migration from state i (origin) to state j (destination). That is, the number of foreign- born interstate migrants in each of the migration streams from 2010-2015, to and from each of the 49 contiguous states including the District of Columbia (Poston et al. 2017: 2). The possible number of streams is 2,352 (49x48). But streams with zero undocumented Mexican migrants were dropped from the analysis. Also, Alaska and Hawaii as these two states are not included in the analysis because they are not contiguous to the other states and the District.

Independent Variables

My control variables are sex, educational attainment, marital status, age, employment status, primary language spoken, and family size. The variables listed below are as described by the ACS for the years 2011-2015.

The ACS variable "SEX" reports whether the person was male or female (2017). Sex will be recoded as male=1 and female =0. The "EDUC" variable indicates respondents' educational attainment measured by the highest year of school or degree completed not to be confused with highest year completed. The survey options are no schooling completed, nursery

or preschool through grade 12, high school graduate or higher, and after bachelor's degree. Educational attainment will be created into dummy variables and coded as no school (yes =1), elementary through fourth grade (yes =1), middle school (yes=1), high school grades (9-12) (yes=1), some college (1-4 years) (yes=1), and five or more years of college (yes=1). The reference variable will be "no school".

The "MARST" variable gives each person's current marital status (ACS: 2017). The options on the survey are now married, widowed, divorced, separated and never married. Marital status will be dummy coded as married=1 and non-married =0. The "AGE" variable reports the person's age in years of the last birthday, the survey asks
"What is Person X's age and what is Person X's date of birth?" Age will be coded in single years of age. I will restrict this analysis to persons in the ages of 18 to 60.

The variable "CLASSWKR" indicates whether respondents worked for their own enterprises or for someone else as employees. The survey options are: an employee of a private for-profit company or business, or an individual, for wages, salary, or commissions, an employee of a private not for-profit, tax exempt, or charitable organization, a local government employee (city, county etc.), a state government employee, a federal government employee, self employed in own not incorporated business, professional practice, or farm, self employed in won incorporated business, professional practice or farm, and working without pay in family business or farm. This variable was used to distinguish formal and informal employment for undocumented immigrants. Formal occupations are highly regulated and bureaucratic, minimizing the chances of an undocumented individual working in these sectors.

The variable "EMPSTAT" indicates whether the respondent was a part of the labor force (working, seeking work) and whether the person was currently unemployed. The survey

question is twofold a) last week, did this person work for pay at a job (or business) and b) last week, did this person do any work for pay, even for as little as one hour? Labor not counted as work was housework or yard work at home, unpaid volunteer work, school work done as a student and work done as a resident or inmate of an institution facility. This variable was created into a dummy variable (1=yes).

The variable "LANGUAGE" reports the language that the respondent spoke at home if a language other than English was spoken. The survey questions are a) does this person speak a language other than English at home? and b) What is this language? Primary language spoken will be created into a dummy variable 1= English and 0=other languages. The variable "FAMSIZE" counts the number of own family members residing with each individual, including the person her/himself. This is a continuous variable. Family size was included in the analysis to measure family structure/familism, a deep value of family and the belief that family extends beyond the typical nuclear unit; this is significant to Latino culture (Fuller- Iglesias & Antonucci, 2016). The larger the family size, the more there is to take into consideration when moving. While previous literature shows that presence of own children in the household influences the likelihood of migrating, I predicted that the presence of other family members in the household also decreases the likelihood of interstate migration. In addition, I expected a decrease in migration for any undocumented head of household as they have a higher likelihood of belonging to a mixed status family.

My state level variables are population size, population density, distance, minority concentration, crime rate, education level, unemployment rate, wages, climate and internal control (Mao: 2003) (Poston & Mao: 1996) (Leerkes *et al.*: 2012). Population size will be measured by total number of people residing in a state in 2010. Population density will be

measured as the number of people residing in a state in 2010, per square mile of land. Distance between two states will be measured as the straight line in miles between any two centroids of the states (Mao, 2003). Minority concentration will be measured by proportion of Latinos in 2010. This will be a good measure for social networks. Crime rate will be measured as serious crimes known to police per 100,000 population in 2010. Educational level will be measured by the proportion of the population with 12 or more years of education, 25 years of age and older in 2010. Unemployment will be measured by unemployment rate of the civilian labor force in 2010. Wages will be measured by minimum wage in the state in 2010. Lastly, I will be using Leerkes *et al.'s* (2012) estimates for internal control. From 2002-2009 Leerkes et al. gathered data on "policies targeting unauthorized immigrants" (Ellis et al. 2016: 895). Indicators of internal control include employer participation, restrictive laws, and county or city involvement. Leerkes et al. created three levels of restrictive classes which were reduced to hostile and non-hostile states by Ellis et al. (2016). Arizona was combined with hostile states. Due to the small estimates of unauthorized immigrants eight states were dropped (Ellis et al: 2016) from the analysis undertaken by Leerkes et al. (Alaska, Maine, Montana, North Dakota, South Dakota, Vermont, West Virginia and Wyoming) (Ellis et al. 2016: 896). The hostile states are Arizona, Arkansas, Colorado, Connecticut, Florida, Georgia, Maryland, Mississippi, Montana, North Carolina, Nevada, Oklahoma, Oregon, South Carolina, Tennessee, Texas, Utah and Virginia (Leerkes et al. 2012). All other states are considered non-hostile. I created dummy variables as 1= hostile states and 0 = non-hostile states.

In this chapter I discussed the data and methods I use in my dissertation research. I described the American Community Survey (ACS). Then, I described how data is collected, how it is selected, and the type of information that is gathered. In addition, I discussed data limitations

and the proxy I used to infer undocumented immigration status. Lastly, I addressed the statistical methods used and operationalize the variables.

CHAPTER IV

RESULTS

In this chapter I present the main results of the two distinct analyses I conducted in this dissertation. One analysis is a micro-analysis of the likelihood of the interstate migration of Mexicans in the U.S. The second analysis is a macro-analysis of the state-to-state migration streams of Mexicans in the U.S.

With respect to the micro-analysis, I will present the results of my logistic regression equations. I hypothesized that being an unauthorized migrant would decrease the probability of migrating between states. In the presentation of my results, I first present the results of an equation predicting the likelihood of being an interstate migrant in which I only included the one independent variable of undocumented status. Then I will present the results equations in which I have gradually added variables to better grasp how each variable affects the impact of undocumented status on the likelihood of being an interstate migrant. I first added age, gender, English as a primary language, marriage status, employment status, and family size. Then finally, I estimated an equation including the above independent variables, and adding in educational attainment. I had planned to also include in my models a "years in the United States" variable, but I ended up dropping it due to its high collinearity with others of the predictors. Also, as already mentioned, I adjusted for the complex sampling design of the ACS data by using Stata's "svy" suite of commands which is "leveraged to estimate the mean value of the variable in the given population" (Kothari 2015: 1618).

With respect to the macro-analysis, I will also present the results of my spatial interaction model. I hypothesized that the size of the interstate migration streams of all Mexicans (U.S. born

and foreign-born) would largely depend on ecological characteristics of the sending and the receiving states. I estimated three separate ordinary least squares (OLS) regression equations. I began with a classic gravity model and predicted the size of the interstate migration streams with the variables of distance between the states and population size at the state of origin (i) and population size at the destination state (j). I then estimated a model predicting the size of the interstate migration streams using only t ecological variables. These variables are whether the state at origin (i) has punitive laws, whether state at destination (j) has punitive laws, whether the state at origin (i) is contiguous with the state at destination j), the Latinx concentration at state of origin (i), the Latinx concentration at state of destination (j), and wages at the state of origin (i), and wages at the state of destination (j). Finally, I combined the gravity model variables and the human ecological variables in my final model. I will now review the main results of the micro-analysis and the macro-analysis.

Micro-Analysis: Logistic Regression Model

Before presenting the results of my micro-analysis, I will first present some descriptive information about my dependent and independent variables, this information can be found in Table 5.1. I have already defined and operationalized these variables in my discussions in Chapter 3.

The total foreign-born Mexican population was 426, 420. There were approximately 72, 084 “potentially unauthorized immigrants” individuals and 354, 336 “potentially authorized immigrants”. 72% of the undocumented population was female while 28% was male. 51% of the documented population was male while 49% was female. The ages included in the study ranged from 18-60, as this is the age group that has the most potential to migrate. The average age in the population was 36. In regard to a primary language, 96% of the undocumented

population reported another language (presumably Spanish) as their dominant language. For the documented population 58% reported another language as their dominant language, while 42% reported English as their dominant language. 64% of the undocumented populating reported being married while 42% of the documented population reported being married. 79% of the undocumented population reported being unemployed while 20% of the documented population reported being unemployed. The range for family members in the household ranged from 1-20. The average family size was 3.85. Authorized immigrants reported more cases of having 20 family members. Both documented and undocumented individuals reported attained at least a high school education. Documented individuals were more likely to attend college. On average undocumented individuals reported having lower levels of educational attainment.

Descriptive information about the variables in my micro-models can be found in Table 5.1. Table 5.2 shows the results from the logistic regression equation, estimating the log odds of Mexicans engaging in interstate migration. The first equation includes only the dummy independent variable of being a "potentially undocumented" Mexican. The logit coefficient for the "potentially undocumented" variable is -.86; its odds ratio, **Ω,** is $e^{-.86.} = .42$. this means that, other things being equal, the odds of being an interstate migrant for unauthorized Mexicans is multiplied by 0.42, that is, they are 58 % less than the odds of US born and naturalized citizens. The coefficient is significant, T= -15.98, P=.000.

Then in the second equation, I introduced the independent variables for age, gender, English as a primary language, marital status (yes), employment status(yes), and family size into the model. The logit coefficient for the "potentially undocumented" Mexican variable is -.58; its odds ratio, **Ω,** is $e^{-.58} = .56$. This means that, other things being equal, the odds of being an interstate migrant for unauthorized Mexicans are 44% less than those of US born and naturalized

citizens. This coefficient is significant, T=-9.51, P=.000. The other variables in this second equation are used here as control variables. Thus I may interpret the logit coefficient for the undocumented status variable of -.58 as representing a negative effect on the likelihood of being an interstate migrant controlling for the effects on the dependent variable of age, gender, English language, being married, and being employed. Controlling for all these independent variables, I show in the second equation that being undocumented still has a negative effect on the log odds of being an interstate migrant.

In the third equation, I added to the variables in the second equation, dummy variables dealing with educational attainment. In this final equation, the logit coefficient for the "potentially undocumented" population variable drops slightly to -.53; its odds ratio, **Ω,** is $e^{-.53}$=. 59. This means that, other things being equal, the odds of being an interstate migrant for unauthorized Mexicans are 41% less than those of US born and naturalized citizens. This coefficient is significant, T=-8.10, P=.000. And most importantly, the negative effect on the probability of interstate migration of the undocumented Mexican variable is maintained in the context of all the control variables included in the second equation, plus in this third equation, several dummy variables dealing with educational attainment.

It appears that the likelihood of migration for the undocumented immigrants can be attributed to several factors. First, undocumented individuals are less likely to speak English, more likely to be unemployed, less likely to have a higher attainment of education, and more likely to be married. Having limited English ability limits occupational opportunities as well as the ability to navigate institutional barriers. Being unemployed may limit the economic resources required to move. Having lower levels of education also limits occupational opportunities and access to potential resources. Lastly, according to the life course literature being married

decreases the likelihood of migration. Undocumented immigrants are not only socially, economically, politically restrained but it appears that they are also physically trapped.

Having presented the basic findings of my microanalysis of the effect of undocumented Mexican status on the probability of being an interstate migrant, I turn now to a presentation of my macro-analysis of interstate migration.

As I am interested in predicting the size of the interstate migration stream of Mexicans I pose a couple questions. Why does Mexican migration vary from one state to anther and what kinds of characteristics of the states are important in predicting the size of these streams? Before presenting the results of the regression equations, I first present descriptive data about the migration streams.

My measure of interstate migration, $\mathbf{M_{ij}}$, is the absolute number of Mexicans in each migration stream moving between state *i* and state *j* in the previous year during the 2011-2015 period. Table 5.3 presents data for the ten largest Mexican migration streams. Most of the largest streams are considered traditional immigrant gateways. The largest stream being from California to Texas, this stream contained 15, 274 Mexican migrants. Not surprisingly, the next two largest streams come from the origin state of California. A state with deep-rooted immigrant ties. Of the ten largest interstate streams California is the origin state of three streams and destination state of four. California appears to be a central hub for Mexican immigrants. Texas is also significant among the ten largest streams. It is the destination state of two streams and the origin of two streams.

Regarding the small streams, there were 1, 035 possible streams that had zero Mexican migrants. These streams, or lack of streams were dropped from the analysis (Karp and Kelly: 1971) (Poston and Mao: 1996).

Among the zero-migrant streams that were dropped, many had small Mexican Populations and were not contiguous states. In Table 5.4 states by number of zero-Mexican migrant streams at origin and destination are depicted. Using Arizona as an example as it is known as the state with the highest punitive policies towards migrants it can be said that Arizona has 4 zero-migrant Mexican streams at origin and 5 at destination. Out of the possible 48 streams from Arizona to the 48 contiguous states 4 had no Mexican migrants; out of the possible 48 streams from the 48 contiguous states to Arizona, five had no Mexican migrants. The three states with the highest zero Mexican migrant streams at origin were New Hampshire, Vermont and Delaware. The three states with the highest zero Mexican migrant streams at destination were New Hampshire, Vermont and Rhode Island. California had no zero Mexican migrant streams at destination while Texas and California had no zero Mexican migrant streams at origin.

The descriptive statistics for my macro analysis variables can be seen in Table 5.5. These variables are expressed in their raw versions, however they will be transformed into natural logarithms to test my hypotheses. The means and standard deviations or origin and destination dependent variables are dissimilar due to the exclusion of zero Mexican streams from the analysis. The deleted states varied from destination and origin thus rendering the variation in the independent variables. This does not diminish the values of the independent variables and their meaning. Two of the independent variables that remain unchanged are distance and contiguity due to their values being based on the pairing of the states.

For the Interstate Migration stream of Mexicans there was an average of 366 persons with a standard deviation of 954. The average distance reported in miles was 1,175. The average population size in million was 8. The Latino concentration at origin state (i) reported in millions was 1.49 and the Latino concentration at destination state (j) was 1.44. The minimum wage

reported at origin state was 7.45 while the average minimum wage reported at destination state was 7.42, both slightly above the federal mandated minimum wage of 7.25. The streams with the smallest number of Mexicans were Missouri and Nebraska, Iowa and Vermont and Utah and D.C. The stream with the highest number of Mexicans was California and Texas at 15, 274. Further descriptive information can be found in Table 5.5.

I now present the results of my OLS regression equations predicting the magnitude of the Mexican migration stream (see Table 5.6). I first present the results of the gravity model, and then the results of the human ecological model.

Gravity Model

The classic gravity model worked as hypothesized. Population size at origin (i) and at destination (j) are positively associated with the volume of the interstate migration stream of Mexicans. The coefficient for population size at origin is statistically significant, T=15.68, P=.000. The coefficient for population size at destination is statistically significant, T=13.26, P=.000. The larger the size of the state at origin and the larger the size of the state at destination, the larger the size of the migration stream of Mexicans from origin and the larger the size of the stream at destination.

The independent variable that measures distance between origin and destination state is also statistically significant; its association with interstate migration is negative, T=-6.70, P=. 000. The shorter the distance between origin and destination state, the larger the Mexican migration flow. The three classic gravity variables account for 22 percent of the variation in the dependent variable of size of the migration stream of Mexicans (adj. R^2=.22).

Human Ecological Model

I consider now the human ecological model in which I introduce several ecological variables representing characteristics of the states at origin (i) and at destination (j). My principal theoretical independent variable is whether the state at origin (i) and at destination (j) has punitive laws.

Several of my ecological variables were not statistically significant. The following independent variables were shown to have statistically significant effects on the volume of the Mexican migration stream. Latino Concentration at origin and at destination are positively associated with the volume of the interstate migration stream of Mexicans. The coefficient for Latino concentration at origin is statistically significant, T=17.87, P=.000. The coefficient for Latino concentration at destination is statistically significant, T=15.09, P=.000. Contiguity of states is also positively associated with the volume of interstate migrant stream of Mexicans. The Mexican migration stream is larger if $state_i$ and $state_j$ are contiguous. This coefficient is statistically significant, T=10.52, P=.000. Also, and most important for my dissertation, if the destination $state_j$, is a punitive state there is a positive association with the volume of interstate migration stream of Mexicans. This coefficient is statistically significant, T=4.39, P=.000. I hypothesized that if a state was classified as punitive, there would be smaller, not larger, streams of Mexicans to the state.

Human ecological variables that were not statistically significant were punitive state at origin, and minimum wage at origin and at destination. The human ecological model accounts for 32 percent of the variation in the dependent variable (adj. R^2=.32). The human ecological model more accurately predicts the interstate migration of Mexicans than does the gravity model.

Combined Spatial Interaction Model

Finally, in a third model I combine the classic gravity model variables and the human ecological variables into a single OLS regression equation predicting the magnitude of the interstate migration streams of Mexicans. This combined model is shown to account for 35 percent of the variation in the dependent variable (adj. R^2=. 35).

Latino Concentration at the state of origin (i) and at destination (j) are positively associated with the volume of interstate migration stream of Mexicans. The coefficient for Latino concentration at origin is statistically significant, T=8.38, P=.000. Latino concentration at destination is statistically significant, T=7.68, P=.000. Contiguity of states is also positively associated with the volume of interstate migrant stream of Mexicans. The Mexican migration stream is larger if $state_i$ and $state_j$ are contiguous. This coefficient is statistically significant, T=5.93, P=.000. The distance between origin and destination state is statistically significant, its association with interstate migration is negative, T=-7.60, P=.000. Once again, the shorter the distance between origin and destination state, the larger the Mexican migration flow. The wage variable at destination and at origin are positively associated with interstate migrant stream of Mexicans. The coefficient for minimum wage at origin is statistically significant, T=4.13, P=.000. The coefficient for minimum wage at destination is statistically significant, T=2.83, P=.005. Lastly, both origin and destination punitive states had a positive association with interstate migrant stream of Mexicans. The coefficient for punitive state at origin (i) is statistically significant, T=2.08, P=.04 and the coefficient for punitive state at destination (j) is statistically significant, T=4.68, P=.000. Interestingly, population size at origin and destination lost statistical significance in this combined model. This is certainly due to their relationships with other independent variables in the combined model. OLS regression using robust standard errors, showed similar results to the OLS standard errors.

Having provided the descriptive statistics and the basic results of my micro and macro analysis, I turn to my fifth chapter of the dissertation where I will review and discuss the implications of my findings, some limitation and future research.

CHAPTER V

CONCLUSIONS AND FUTURE RESEARCH

The objectives of my dissertation were two-fold. First, to create a proxy variable to identify "possible unauthorized immigrants" and to then statistically predicting at the micro-level the likelihood of undocumented immigrants experiencing interstate migration during the period 2011-2015. Second, following this micro-analysis, I then conducted a macro-analysis examining the size of the Mexican interstate migration streams during the period of 2011-2015.

The first objective adds to the literature, regarding the livelihood and migration patterns for a marginalized group in our society. Undocumented Mexican migrants are often understudied and overlooked in scholarly analyses owing in part to their vulnerability and, very importantly, the difficulty in identifying their status. Nevertheless, it is important to understand the conditions and behaviors of a population living in the shadow in the United States.

The second objective of this dissertation, as noted above, was to analyze the migration pattern of all Mexicans in the United States, that is both foreign- born and U.S. born Mexicans. I accomplished this objective by analyzing the number of Mexican interstate migrants in each of the 2,352 (49x48) migration streams during the 2011-2015-time period. The size of the migration streams was analyzed with regard to characteristics of the states at origin and characteristics of the states at destination. I considered the origins and destinations of the 49 contiguous states as well as the District of Columbia, which for the purposes of this dissertation was considered a state. Alaska and Hawaii were removed from the analysis, as well as any stream that had zero Mexican migrants; 1,035 streams had no Mexican migrants. My decision to include all Mexicans in this analysis as opposed to only studying the "potentially" undocumented

Mexicans was made because there were too few interstate migration streams composed only of undocumented Mexicans. This analysis fills at least two gaps in the literature. There are no analyses of which I am aware that has analyzed the migration streams of Mexicans. Also, the main independent variable in my macro-analysis predicting the magnitude of the Mexican streams was how and whether punitive immigration and related policies among the states affect this specific population as a whole. There has been virtually no attention in the research literature on this issue.

I will now summarize my findings and then discuss the limitations of my analyses. I will conclude the chapter with a discussion of my future research plans in the general area of Mexican migration.

Micro-level analysis of Undocumented Mexicans

I have previously mentioned that, the conceptualization of race in Mexico is quite different than that of the United States. Race consequently has a different meaning for new and current immigrants from Mexico. In Mexico, ancestry from Europe or from the indigenous population is often used to define the "ethno-racial" identity of the individual; phenotype is also taken into account.

Rather than using any kind of racial identity in categorizing the Mexicans in my micro-analysis, I decided to focus on whether the Mexicans could be identified as "potentially undocumented." I created a proxy variable that identified persons who were born in Mexico as potentially undocumented. I started with all individuals in the ACS who identified as Mexican under the "Hispanic" variable. It is important to note that a "Mexican" can be of any race. Mexican in this context pertains to ethnicity, ancestry, lineage, heritage, nationality group or country of birth. If an individual identified as a "non-United States citizen" he/she was included.

Following the work of Jeffrey Passel and other demographers (Hall and Stringfield: 2014) (Massey: 2010) (Massey and Durand: 2014) (Passel, Van Hook and Bean: 2004), if an immigrant was naturalized, entered the U.S. before 1980, and had a legal occupation, he/she was categorized as "legal." If the person lacked these characteristics, he/she was categorized as "potentially" undocumented. I then created a dummy variable in which 1= potentially undocumented and 0= legal status.

There has been a lot of research endeavoring to identify the undocumented immigrant population. Of the various options available for creating a proxy for undocumented status, I decided to go with Passel's version. Unlike Hall, Passel, and Stringfield (2014), I decided to exclude educational attainment for my proxy. This was done with the consideration of the 2012 executive action of the Deferred Action for Child Arrivals (DACA) by former president Obama. DACA recipients are able to receive a renewable work permit every two years, temporarily protected from deportation, and are able to move within the United States. Furthermore, DACA increases employment opportunities and greater access to education.

After analyzing the micro-data, the total foreign-born Mexican population numbered over 426 thousand persons. According to my proxy variable, approximately 17 percent of the Mexican foreign-born population may be categorized as potentially undocumented. I restricted my population of Mexicans to persons in the large age group of 18-60 because persons in this age group have the most potential to migrate.

I estimated logistic regression equations to predict the likelihood of being an interstate migrant. I showed that the odds of an undocumented Mexican being an interstate migrant were 41% greater than the odds of Mexicans not so classified.

My major hypothesis was supported in which, among foreign-born Mexicans in the United States, unauthorized Mexican immigrants were less likely to experience interstate migration during the 2011-2015 period compared to Mexican immigrants with legal status.

Macro-level analysis of Mexican Interstate Migration Streams

In the second major part of my dissertation, I analyzed the size of the Mexican interstate migration streams for the 2011-2015 time period. I estimated two models, a gravity model and a human ecological model. Both the gravity and human ecological model worked as hypothesized.

For the gravity model, I found that the larger the population size of the state at origin and the larger the population size of the state at destination, the larger the size of the migration stream of Mexicans from origin and the larger the size of the stream at destination. In addition, the shorter the distance between the origin and destination states, the larger the Mexican migration flow. This latter finding is consistent with that of Ravenstein's first law of migration "the great body of our migrants only proceed a short distance" (1885: 198) (Lee: 1966).

I will now discuss the results of my human ecological model. Given the history of hostile reception and racialization of immigrants in the United States, specifically towards immigrants from the fourth wave of immigration (Ellis et al.: 2016) (CRS: 1991) (Leerkes et al: 2012), my principal independent variable in the human ecological analysis was whether the state at origin (i) and the destination state (j) had punitive immigration laws. I found that if the destination state (j) is a punitive state, there was a positive association with the size of the interstate migration stream of Mexicans. I did not find that punitive states would produce smaller streams of Mexicans. Among my other independent variables, Latino Concentration at origin and at destination are positively associated with the volume of the migration stream of Mexicans.

Much like ethnic enclaves, states with high concentrations of Latinos provide social networks, social support and aid in adaptation to the new environment.

Also, similar to the effect of distance on the size of the migration stream, the contiguity of the state was shown to be positively associated with the volume of the migrant stream.

For my final model, I combined the gravity and human ecological variables. Latino concentration at the state of origin (i) and (j) destination, contiguity, and distance maintained their positive associations with the size of the migrant streams. Latino concentration at origin state (i) had a stronger effect than Latino concentration at destination state (j). Lastly, origin (i) and destination (j) states that were considered "punitive states" had positive associations with the volume of interstate migrant streams for Mexicans. However, punitive destination state (j) had a stronger effect than punitive origin state (i). A possible explanation could be that the punitive states are not drawing immigrants to them rather, these states are progressively becoming punitive due to the influx of migrants.

The traditional gravity model accounted for 22 percent of the variation in the dependent model while the human ecological model accounted for 32 percent variation in the dependent model. The combined model with both gravity and human ecological variables accounted for 35 percent of the variation in the dependent model. I argued that the human ecological model provides a more sociologically comprehensive explanation of the volume of Mexican migration streams.

Limitations

There were several unavoidable limitations with regard to the data and analyses conducted in my dissertation. First, whenever using a proxy variable to measure an unmeasured characteristic of the population, there is always a chance for estimation error. Due to the

vulnerability of this population there are limited ways for studying it, especially when using secondary data. While this is indeed a shortcoming for data analysis it is a necessary step to protect the identity of these individuals. On a side note, I believe adding the citizenship variable to the upcoming decennial census will be detrimental to the response rate and validity of the data.

The second limitation that I encountered was the inability to differentiate visa overstayers who make up 40% of the unauthorized population from EWI's or entry without inspection immigrants. This inability will affect the data because visa overstayers tend to have different levels of human capital than EWI's. Visa overstayers have government issued identification, which potentially grants them access to various benefits. For example, visa overstayers can travel with greater ease throughout the country and obtain certain occupational licenses or certifications.

In addition, it is theoretically easier for a visa overstayer to adjust their status in certain circumstances within the USA, while it is virtually impossible for a EWI to adjust their status. Differentiating visa overstayers from EWI's would have meaningful implications for policy makers. Finally, as stated by Poston and Mao, "states are political, not ecological units" and therefore lack ecological integrity (1996: 310).

Future Research

There are several areas of related research that I would like to conduct in the future. First, I would like to investigate the likelihood of experiencing interstate migration looking at both macro and micro level determinants. I would do so by using a multi-level logistic regression equation model in which I would retain the level one independent variables that I used in my dissertation, and I would add such state- level variables as population size, population

density, distance, minority concentration, crime rate, education level, unemployment rate, wages, climate and internal immigration control. Adding these level-2 independent variables would allow me to look at hierarchical structural characteristics that affect the likelihood of being an interstate migrant. Second, I would like to separately look at the size of migration streams for undocumented immigrants and foreign-born immigrants, using the same gravity and human ecological independent variables used in my dissertation. This would allow me to analyze more closely how punitive policies affect the immigrant population. However, by isolating these groups I run the risk of not having enough individuals in my sample to obtain significant results. Third, I would like to explore and compare the experiences of migration for other unauthorized immigrant groups in the United States. While some scholars have done so in the past, they have tended to stick with other Latin American groups. I however would like to analyze Asian immigrants, a group often neglected in the literature. According to the Demographic Data and Policy Research on Asian Americans and Pacific Islanders (AAPI DATA: 2017), 1.7 million undocumented Asian immigrants reside in the United States. By country of origin, the largest three groups are from India, China, and the Philippines (AAPI DATA: 2017). Despite their different histories and context of reception with the United States I expect their experiences to be similar to that of undocumented Latin American immigrants.

Fourth, I would like to investigate visa overstayers and their migration patterns. Given that they had at one-point access to travel, they are likely to have different migration patterns than those of EWI's who are often constrained by ports of entry and inspection points. Lastly, I would like to incorporate a technology and favorable climate variable into future models.

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APPENDIX

TABLES

Table 5.1 Descriptive Statistics of Dependent and Independent Variables: 426, 420 Foreign-Born Mexicans, U.S. : 2011-2015				
Variable	**Mean**	**Standard Deviation**	**Minimum Value**	**Maximum Value**
Moved Status (yes)	0.016	0.12	0	1
Undocumented (potentially)	0.17	0.37	0	1
Age (18-60)	36	11.97	18	60
Gender (Male)	0.51	0.5	0	1
No School	0.03	0.18	0	1
Elementary	0.025	0.16	0	1
Middle School	0.11	0.32	0	1
High School	0.52	0.5	0	1
College	0.3	0.46	0	1
Marital Status (Yes)	0.49	0.5	0	1
Family Size	3.85	2.06	1	20
Employment Status (yes)	0.49	0.5	0	1

Table 5.2 Logistic Regression and Regression Coefficents: 426, 420 Foreign-Born Mexicans, U.S. : 2011-2015								
		Model1			**Model 2**			**Model 3**
Variables	B	P		B	P		B	P
Potentially Undocumented	-0.86	.000***		-0.58	.000***		-0.53	.000***
Age				-0.05	.000***		-0.047	.000***
Gender								
Male				0.167	.000***		0.18	.000***
Primary Language								
English				0.37	.000***		0.36	.000***
Marriage Status								
Currently married				0.45	.000***		0.44	.000***
Employment Status								
Currently Employed (yes)				-0.43	.000***		-0.45	.000***
Family Size				-0.35	.000***		-0.34	.000***
Educational Attainment								
Elementary							0.03	0.911
Middle School							-0.17	0.274
High School							-0.06	0.689
College (any level)							0.08	0.571
Cons							-1.4	.000***

Table 5.3 Ten Largest Mexican Interstate Migration Streams in the U.S., 2011-2015		
Origin State (i)	Destination State (j)	Estimated Number of Mexican Migrants
California	Texas	15,274
California	Arizona	13,703
California	Nevada	10,783
Arizona	California	8,835
Texas	California	8,244
California	Washington	7,216
New Mexico	Texas	6,663
Nevada	California	6,533
Texas	New Mexico	5,996
Washington	California	5,671

Table 5.4 States of the U.S. by Number of Zero-Migrant Mexican Streams at Origin and at Destination, 2011-2015 Part 1/2		
	Number of Zero-Migrant Mexican Streams	
State	Origin	Destination
Maine	38	37
New Hampshire	40	39
Vermont	43	40
Massachusetts	19	25
Rhode Island	34	39
Connecticut	27	30
New York	9	16
New Jersey	21	23
Pennsylvania	17	22
Ohio	17	19
Indiana	16	18
Illionois	4	9
Michigan	17	17
Wisconsin	24	25
Minnesota	23	19
Iowa	24	19
Missouri	16	19
North Dakota	34	27
South Dakota	34	32
Nebraska	22	25
Kansas	21	20
Delaware	42	35
Maryland	21	19
D.C.	27	31
Virginia	10	9

Table 5.4 States of the U.S. by Number of Zero-Migrant Mexican Streams at Origin and at Destination, 2011-2015 Part 2/2		
	Number of Zero-Migrant Mexican Streams	
State	Origin	Destination
West Virginia	34	38
North Carolina	13	7
South Carolina	21	18
Georgia	13	13
Florida	5	5
Kentucky	22	20
Tennessee	19	19
Alabama	25	23
Mississippi	28	25
Arkansas	26	22
Louisiana	25	23
Oklahoma	21	16
Texas	0	2
Montana	35	32
Idaho	25	32
Wyoming	27	28
Colorado	15	7
New Mexico	13	21
Arizona	4	5
Utah	24	20
Nevada	15	15
Washington	5	6
Oregon	20	24
California	0	0
Total	1,035	1, 035

Table 5.5 Descriptive Statistics of Dependent and Independent Variables: 1, 317 Interstate Migration Streams of Mexicans, U.S.: 2011-2015

Variable	Mean	Standard Deviation	Minimum Value	Maximum Value
Interstate Migration Stream of Mexicans	336.38	953.76	1	15274
Under Gravity Model:				
Population Size (Millions)	8	7.9	0.5	36.6
Distance (Miles)	1,175.50	729.1	37	3,241
Under Human Ecological Model:				
Punitive State (i)	0.386	0.487	0	1
Punitive State (j)	0.437	0.496	0	1
Coniguous (yes)	0.15	0.36	0	1
Latinx Concentration (I)(milliion)	1.49	2.92	9164	1.35E+07
Latinx Concentration (j) (million)	1.44	2.91	9154	1.35E+07
Minimum Wage (i)	7.45	0.44	6.15	8.55
Minimum Wage (j)	7.42	0.44	6.15	8.55

Table 5.6 OLS Metric (b) and Standardized (β) Regression Coefficients: 1,317 Interstate Mexican Migration Streams, U.S., 2011-2015

	Gravity Model			Human Ecological Model			Combined Models		
Independent Variables	β	b	Sig.	β	b	Sig.	β	b	Sig.
Gravity Variables									
Population Size									
Origin	0.39	4.72E-05	.000***				-0.06	-6.86e	0.339
Destination	0.33	4.03E-05	.000***				-0.09	-0.0000104	0.155
Distance	-0.17	-0.22	.000***				0.22	-0.2816	.000***
Ecological Variables									
Punitive State									
Origin				0.041	81.18	0.07	0.047	92.17	0.038
Destination				0.1	193.174	.000***	0.11	203.05	.000***
Minimum Wage									
Origin				0.06	125.11	0.013	0.1	209.11	.000***
Destination				0.03	66.04	0.194	0.07	144.9	.005**
Latino Concentration									
Origin				0.42	0.00013	.000***	0.51	0.0001653	.000***
Destination				0.35	0.00012	.000***	0.47	0.0001541	.000***
Contiguity				0.24	642.77	.000***	0.15	401.443	.000***
Constant		-100.32	0.05		-1668.58	3.002		-2483.87	.000***
Adj. R2 (adj)		0.22			0.32			0.35	