MEXICAN MIGRANTS IN THE UNITED STATES: FACTORS INFLUENCING EARNINGS, REMITTANCES, AND RETURNING TO THE MOTHERLAND

By

JOSE LUIS COLLAZO, JR.

A dissertation submitted in partial fulfillment of
the requirements for the degree of

DOCTOR OF PHILOSOPHY

WASHINGTON STATE UNIVERSITY
Department of Sociology

DECEMBER 2017

To the Faculty of Washington State University:

The members of the Committee appointed to examine the dissertation of JOSE LUIS COLLAZO, JR. find it satisfactory and recommend that it be accepted.

_____

Julie A. Kmec, Ph.D., Chair

_____

Elizabeth Fussell, Ph.D.

_____

Amy S. Wharton, Ph.D.

_____

Lisa J. McIntyre, Ph.D.

ACKNOWLEDGMENT

Before the music starts playing, from the bottom of my heart, I thank all who supported and encouraged me on my path to Mount Doom in Mordor to destroy the ring (a.k.a. completing the dissertation). I am tremendously grateful to my dissertation committee, Dr. Julie A. Kmec, Dr. Elizabeth Fussell, Dr. Amy S. Wharton, and Dr. Lisa J. McIntyre, who supported me throughout my dissertation and academic years in Washington State University. My utmost gratitude to Dr. Elizabeth Fussell and Dr. Julie A. Kmec for their unlimited encouragement, guidance, and always expecting the very best from me academically and professionally.

I am very grateful to my Washington State University (WSU) family, the Department of Sociology, colleagues, staff, and faculty, for supporting me both emotionally and academically. Thank you, Dr. Lisa J. McIntyre, for always improving my pedagogy as an instructor and always providing me with your full support. Thank you, Laurie and Donna, for all the unconditional support, the candy (which got me through many days), the help with the "evil printer," and the awesome happy Mondays. Thank you graduate coordinators for being our super awesome graduate student advocates! Thank you to all my magical WSU friends who traveled with me in this perilous journey to Mount Doom. Special thanks to Ashley C., Patrick F., Sarah A., Matt A., Anthony V., Jonathan S., Amanda M., Joseph K., Kristen C., Mandy C., Andy A., Lauren S., Ryan L., Sarah B., Michael L., Hong Z., Alana I., Rayna S., and Michelle E. Thank you all for your unconditional friendship, the exceptional hospitality, the never-ending conversations, and most importantly for all the food comas. TACO TIME!

In a land, very far away where the angels get lost, I am enormously thankful to all my family and friends who always sent me good vibes, love, support, encouragement, reprimands, and *chismes*. Sadly, to achieve a goal, many sacrifices are made but many of you still reach out

to me when I hardly would. Thank you! Special thanks to my siblings for all their support and always calling to make sure I was okay. *Con todo mi corazón muchas gracias a mis padres por todo su amor, trabajo, y sacrificio. Ellos siempre lucharon para que yo y mis hermanos tengamos un futuro mejor.*

The completion of this journey to destroying the ring (a.k.a. completing the dissertation) would not be possible without the excellent training I received at my alma mater, California State University, Dominguez Hills. I remain indebted to Dr. Kara A. Dellacioppa, Dr. Matt G. Mutchler, and Dr. Ricky N. Bluthenthal who inspired me, supported me, and mentored me throughout my academic career. Also, I remain indebted to the McNair Scholars Program and its Director, Dr. Michelle Waiters Martinez, for the guidance and opening many opportunities for me to be successful in graduate school. Thank you to all my fellow McNerds for everything you have done for me! Much love to Erica G., Brenda E.H., Dr. Brandilynn V., Dr. Helen K., and Dr. Lyzette B., for your enduring unconditional support in all aspects of my life. Yes, I included Dr. to your names and I know you do not like it. Oh no! The music is playing, hurry, hurry! I missed a lot of people, but overall thank you all for your love, patience, and unwavering belief in me. This is not the end of the adventure but the start of a new one, so let us continue this journey together.

MEXICAN MIGRANTS IN THE UNITED STATES: FACTORS INFLUENCING EARNINGS, REMITTANCES, AND RETURNING TO THE MOTHERLAND

Abstract

by Jose Luis Collazo, Jr., Ph.D.
Washington State University
December 2017

Chair: Julie A. Kmec

This dissertation includes three journal-length articles with introductory and conclusory chapters. These articles examine the effect U.S. immigration policy periods, particularly the Immigration Reform and Control Act (IRCA) period (1987–1996) and the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) period (1997–2015), have had on Mexican migrants.

The first study examines the effect the Mexican migrants' unauthorized status, U.S. destination, and the immigration policy periods (pre-IRCA [1965–1986], IRCA [1987–1996], and IIRIRA [1997–2015]) have had on their likelihood of returning to Mexico during their first and last U.S. trips. Compared to authorized migrants, the unauthorized migrants' probability in returning was higher throughout the immigration policy periods. There was no evidence that the migrants' US. destination increased their probability in returning to Mexico.

The second study examines the IIRIRA period's effect on male Mexican migrants' hourly earnings and on the gains brought by human capital and social capital during their last U.S. trip. When the immigration policy periods (pre-IRCA [1965–1986], IRCA [1987–1996] and IIRIRA [1997–2015]) were compared, the unauthorized migrants earned less during the IRCA period

compared to the prior and posterior immigration policy periods. However, the predicted values reveal that stricter immigration enforcement practices have penalized more authorized migrants' earnings than unauthorized migrants. After the passage of IIRIRA, the gains brought by human capital and social capital disappeared.

The third study examines whether Mexican migrants' remitting behavior (likelihood of remitting and the amount remitted) during their last U.S. trip changed as policies restricting unauthorized immigration in the U.S. tightened, and whether the migrants' social capital mitigates this effect. Findings show that migrants with social capital increased their likelihood in sending remittances but not the quantity sent. The amount of remittances sent was substantially influenced by the stricter immigration policies.

Overall, the immigration policies have the strongest effect on unauthorized migrants by decreasing their likelihood of returning, increasing the amount remitted, and decreasing their earnings gains.

TABLE OF CONTENTS

Page

LIST OF TABLES

Page

LIST OF FIGURES

Page

Dedication

Para la familia, las amistades, la comunidad y

toda la gente que lucha para un futuro mejor.

(For the family, the friends, the community, and

all the people who fight for a better future.)

CHAPTER ONE

INTRODUCTION

The United States has the largest international migrant population in the world (Migration Policy Institute 2015). Between 1970 and 2015, the number of immigrants residing in the United States quadrupled from an approximately 12 million to 47 million (Migration Policy Institute 2015). Mexicans are the largest immigrant group with 12.9 million people (Pew Research Center 2013). With the increasing immigrant population in the U.S. the negative immigrant sentiment has increased. The negative immigrant sentiment emerges from constituents associating economic downturns, changes in cultural identity, and depletion of resources to immigrants. Politicians (e.g., the 2012 presidential candidate Mitt Romney) have made immigration their main political platform and have called for the self-deportation of unauthorized immigrants (Madison 2012). The anti-immigrant sentiment may not be due to racism but caused by individuals wanting to protect their status quo and self-interests (Fussell 2014). Politicians and policy makers appease their constituents by implementing national level and state level immigration policies that aim to prevent unauthorized immigrants from obtaining employment and public resources, such as public assistance, access to schools and healthcare, and other federal and state welfare programs (Massey, Durand, and Malone 2002). One effect of anti-immigrant sentiment and restrictive immigration policies is an increase in return migration, and changes in earnings and remittance behavior, especially by unauthorized migrants.

In the last two decades, the net migration between Mexico and the U.S. has been closer to zero with as many migrants returning to Mexico as there are entering the U.S. (Passel, D'Vera, and Gonzalez-Barrera 2012). Between 2009 and 2010, an estimated 1.5 million Mexican immigrants residing in the U.S. returned to Mexico (Gonzalez-Barrera 2015). Once abroad, some

migrants send their earnings—remittances—to their families in Mexico. Remittances are essential for the well-being of immigrant families because they represent a substantial portion of income for the migrants' households and their previous country's economy (Itzigsohn 1995; Amuedo-Dorantes and Pozo 2006). Mexicans in the U.S. remit about $23 billion, which is the largest amount of any country receiving remittances (Cohn, Gonzalez-Barrera, and Cuddington 2013). However, immigration policies that hamper migrants' earning potential also limit the amount of remittances sent to Mexico (Amuedo-Dorantes and Puttinanun 2014; Massey and Gentsch 2014).

The dissertation explores three unique studies using data from the Mexican Migration Project (MMP 150). The studies' concurrent theme is the immigration policy periods' effect on Mexican migrants, specifically on the migrants' return migration, remittance behavior, and earnings, respectively. The U.S. immigration policies the dissertation focuses on are the 1986 Immigration Reform and Control Act (IRCA) and 1996 the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA). IRCA was a historic law that allowed current unauthorized immigrants to legalize under certain condition while also curtailing the number of unauthorized immigrants by increasing border enforcement and sanctions against employers hiring unauthorized workers (Donato, Durand, and Massey 1992). IIRIRA aimed to remediate the shortcomings of IRCA by restricting government assistance (i.e., welfare) for unauthorized immigrants and increasing enforcement and sanctions against smugglers, volunteer unauthorized migrations, and employers hiring unauthorized workers (Facchini and Steinhardt 2011). To prevent unauthorized immigrants from acquiring public services and employment IIRIRA established an identification program to check for people's immigration status (Aranda, Menjívar, and Donato 2014). The dissertation outline is as follows:

Chapter 2 examines the likelihood that migrants, specifically unauthorized migrants, will return to Mexico during their first and last U.S. trips in distinct immigration policy periods. Three immigration policy periods are considered: the pre-IRCA period (1965–1986), the IRCA period (1987–1996), and the IIRIRA period (1997–2015). In addition, this chapter examines whether migrants are more likely to return to Mexico if their U.S. destination was a new immigrant destination (Singer 2004). This chapter addresses the following three research questions: 1) How have immigration policies, specifically IIRIRA, affected Mexican migrants' likelihood of returning to Mexico, especially those who are unauthorized in the United States?; 2) Has the probability of returning in the IIRIRA period returned to the pre-IRCA's levels?; and 3) Are Mexican migrants who migrated to a new destination in the U.S. more likely to return to Mexico than those who migrated to a traditional destination? Using a discrete time event history analysis, I estimate the migrants' likelihood of returning to Mexico in each person-year, while controlling for individual characteristics and contextual variables. Overall, unauthorized migrants are more likely to return to Mexico compared to authorized migrants. The predicted probabilities reveal that migrants on unauthorized U.S. trips had a higher probability of returning during the pre-IRCA period, but their probability of returning diminished after the IRCA period and further decreased during the IIRIRA period. However, there was no support for migrants' new destination increasing their probability of returning during their first or last U.S. trips compared to returning from a traditional destination.

Chapter 3 presents the effect of IIRIRA on male Mexican migrants' natural log of hourly earnings (2010 USD) during their last U.S. trip. This chapter addresses the following two research questions: 1) Do male Mexican migrants earnings differ according to the U.S. immigration policy period? and 2) Did the effect of human capital and social capital on earnings

declined as U.S. immigration policies became more restrictive? I use an ordinary least squares regression to estimate the effect of U.S. immigration policy periods, human capital, social capital, and selected variables on the natural log of hourly wages earned by Mexican migrant heads of household during their last U.S. trip, while controlling for individual and contextual variables. Overall, migrants earned less during the IRCA period (1987–1996) and the IIRIRA period (1997–2015) compared to the pre-IRCA period (1965–1986). A comparison between the immigration policy period models reveals that the importance of human capital and social capital for migrants' earnings increased during the IRCA period (1987–1996) but almost disappeared during the IIRIRA period (1997–2015). In addition, the predicted values reveal that U.S. immigration policies more severely penalize authorized migrants' earnings compared to unauthorized migrants.

Chapter 4 examines whether Mexican migrants' remitting behavior (likelihood and amounts) during their last U.S. trip have changed as policies restricting unauthorized immigration in the U.S. have tightened and whether migrants' social capital mitigates this effect. This study observes migrants' social capital through their connection to people from their community of origin, specifically living with a *paisano* (compatriot), having a family member who has been in the U.S., and being a member of an organization, during their last U.S. trip. This chapter addresses the following two research questions: 1) Does Mexican migrants' social capital influence their remittance behavior? and 2) Does social capital counteract immigration restriction effects on Mexican migrants' remittance sending behavior? I use logistic regression model to estimate the likelihood that migrants sent remittances during their last U.S. trip. An ordinary least squares regression also estimates the effect of social capital and immigration enforcement periods on the logged amount of remittances sent monthly (2010 USD) by Mexican migrants

during their last U.S. trip. This chapter reveals that social capital increases the likelihood for migrants to remit, but not the quantity sent. Also, it shows that the more restrictive immigration policies are, particularly IIRIRA, the more likely the migrants sent remittances and the higher the amount is.

Overall, I examine three different outcomes to show how immigration policies affect Mexican migrants. Each outcome is modeled with an appropriate method (i.e., event history analysis, logistic regression, and ordinary least square regression) to analyze the Mexican Migration Project data. One important contribution of this dissertation is updating the literature on return migration, remittances behavior, and earnings by emphasizing the effect of immigration policies, particularly IIRIRA. Unlike previous studies, migrants who were in the United States during the IIRIRA period (1997–2015) are examined more closely in this dissertation, because other studies' periodization does not coincide with the IIRIRA period (Gentsch and Massey 2011). Also, this study used the Mexican Migration Project's most recent sample encompassing years 1965–2015.

Another important contribution of this dissertation, particularly to the return migration literature, is exploring the role migrants' destination, particularly the new destination, plays in the migrants' likelihood in returning. Research has mostly focused on the drivers for out-migration from traditional destinations to new destinations, such as inadequate schools, crime ridden neighborhoods, unemployment, low wages, and expensive housing (Zúñiga and Hernández-León 2005; Kandel and Parrado 2005; Marrow 2005). Research needs to consider the migrants' U.S. destination, because the enforcement of immigration policies varies by U.S. region.

Lastly, the dissertation contributes to the human capital and social capital literature. Chapter 4 shows observed migrants' social capital through their connections to people from their community of origin (i.e., family and *paisanos*) during their last U.S. trip. Social capital is a form of capital that exists in the relationships between people who exchange information and resources. To my knowledge, this is the first study to encapsulate living with a *paisano* as a measure of social capital. Interacting this indicator with immigration policy periods with the expectation that social capital may mitigate the effects of the immigration policies is also a new research approach. Also, by adding more recent years, Chapter 3 re-examines the importance of human capital and social capital on migrants' earnings, specifically after the passage of IIRIRA.

REFERENCES

Amuedo-Dorantes, Catalina and Susan Pozo. 2006. “Remittances as Insurance: Evidence from Mexican Immigrants.” *Journal of Population Economics* 19(2):227–254.

Amuedo-Dorantes, Catalina and Thitima Puttitanun. 2014. “Remittances and Immigration Enforcement.” *IZA Journal of Migration* 3(6):1–26. Retrieved February 17, 2016 (http://link.springer.com/article/10.1186/2193–9039–3–6).

Aranda, Elizabeth, Cecilia Menjívar, and Katharine M. Donato. 2014. “The Spillover Consequences of an Enforcement-First U.S. Immigration Regime.” *American Behavioral Scientist* 58(13):1687–1695.

Cohn, D’Vera, Ana Gonzalez-Barrera, and Danielle Cuddington. 2013. “Remittances to Latin America Recover-but Not to Mexico.” Washington, D.C.: Pew Research Center.

Donato, Katharine M., Durand, Jorge, and Douglas Massey. 1992. “Changing Conditions in the U.S. Labor Market: Effects of the Immigrant Reform and Control Act of 1986.” *Population Research and Policy Review* 11(2):93–115.

Facchini, Giovanni and Max F. Steinhardt. 2011. “What drives U.S. Immigration Policy? Evidence from Congressional Roll Call Votes.” *Journal of Public Economics* 95(7–8):734–743.

Fussell, Elizabeth. 2014. “Warmth of the Welcome: Attitudes Toward Immigrants and Immigration Policy in the United States.” *Annual Review of Sociology* 40(1):479–498.

Gentsch, Kerstin and Douglas S. Massey. 2011. “Labor Market Outcomes for Legal Mexican Immigrants Under the New Regime of Immigration Enforcement.” *Social Science Quarterly* 92(3):875–893.

Gonzalez-Barrera, Ana. 2015. “More Mexicans Leaving than Coming to the U.S.” Washington, D.C.: Pew Research Center.

Itzigsohn, Jose. 1995. “Migrant Remittances, Labor Markets, and Household Strategies: A Comparative Analysis of Low-Income Household Strategies in the Caribbean Basin.” *Social Forces* 74(2):633–655.

Kandel, William and Emilio A. Parrado. 2005. “Restructuring of the US Meat Processing Industry and New Hispanic Migrant Destinations.” *Population and Development Review* 31(3):447–471.

Madison, Lucy. 2012. “Romney on Immigration: I’m for ‘self-deportation’.” *CBS NEWS*, January 24. Retrieved May 22, 2013 (http://www.cbsnews.com).

Marrow, Helen B. 2005. “New Destinations and Immigrant Incorporation.” *Perspectives on Politics* 3(4):781–799.

Massey, Douglas S., Jorge Durand, and Nolan J. Malone. 2002. *Beyond Smoke and Mirrors: Mexican Immigration in an Era of Economic Integration*. New York: Russell Sage Foundation.

Massey, Douglas S. and Kerstin Gentsch. 2014. “Undocumented Migration to the United States and the Wages of Mexican Immigrants.” *International Migration Review* 48(2):482–499.

Migration Policy Institute. 2015. “Trends in International Migrant Stock: Migrants by Destination and Origin.” *Tabulation of data from the United Nations, Department of Economic and Social Affairs*. Retrieved from http://www.migrationpolicy.org/programs/data-hub/charts/immigrant-and-emigrant-populations-country-origin-and-destination.

Passel, Jeffrey, Cohn, D’Vera, and Ana Gonzalez-Barrera. 2012. “Net Migration from Mexico Falls to Zero-and Perhaps Less.” Washington, D.C.: Pew Research Center.

Pew Research Center. 2013. “A Nation of Immigrants: A Portrait of the 40 Million, Including 11 Million Unauthorized.” Washington, D.C.: Pew Research Center.

Singer, Audrey. 2004. "Rise of the New Immigrant Gateways." *The Living Cities Census Series*. Washington, DC: The Brookings Institution.

Zúñiga, Víctor and Rubén Hernández-León (eds). 2005. *New Destinations: Mexican Immigration in the United States*. New York: Russell Sage Foundation.

CHAPTER TWO

RETURNING TO "MÉXICO LINDO Y QUERIDO?": THE ROLE OF U.S. DESTINATION AND IMMIGRATION ENFORCEMENT

In the post-World War II period, Mexican immigrants provided seasonal agricultural labor in the Western U.S., crossing the border at the beginning of the harvest season and returning to Mexico with their earnings (Massey, Durand, and Malone 2002). This pattern was formalized with the Bracero Program, a U.S. agriculture guest worker program (1942–1965), but the migration pattern continued ever after it was terminated in 1965. Prior to the implementation of the 1986 Immigration Reform and Control Act (IRCA), return migration from the United States was greater due to this circular migration pattern. After the passage of IRCA, the federal government increased U.S. border enforcement, making it more difficult for unauthorized migrants to cross the border into the U.S. In reaction, Mexican migrants began to settle in the U.S. instead of engaging in seasonal migration. This has further intensified with the passage of the 1996 Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) (Cornelius 2005).

The purpose of this study is to investigate whether there are differences in the likelihood of return migration during the immigration policy periods (pre-IRCA [1965–1986], IRCA [1987–1996], and IIRIRA [1997–2015]) for unauthorized Mexican migrants. Also, to examine whether migrants are more likely to return to Mexico if their U.S. destination was a new destination. The regional variation in immigration enforcement, economic opportunity, and anti-immigrant sentiment has also redistributed Mexican migrants to new destinations (Taylor, Martin, and Fix 1997; Zúñiga and Hernández-León 2005; McConnell 2008). In these locations, they may have less support than in a traditional destination which might increase their likelihood

of returning to Mexico. The following research questions are examined: 1) How have immigration policies, specifically IIRIRA, affected Mexican migrants' likelihood of returning to Mexico, especially those who are unauthorized in the United States?; 2) Has the probability of returning in the IIRIRA period returned to the pre-IRCA's levels?; and 3) Are Mexican migrants who migrated to a new destination in the U.S. more likely to return to Mexico than those who migrated to a traditional destination?

The following section reviews the theories of return migration that provide the basis for the study's hypotheses and inclusion of measures. Next, the study's data, measures, and methods are described; then, the results are presented. Then, a discussion of the results and suggestions for future research are presented.

BACKGROUND AND SIGNIFICANCE

Return migration is when a person migrates back to their homeland to resettle. Migrants that return to home country for vacation or an extended visit without the intention of remaining at home are generally not defined as a return migrant (Durand 2004). There are three main theories of return migration: the disappointment theory; target income theory; and social network theory. Circular migration theory will not be explained because of the difficulty of scholars identifying circular migrants as return migrants. Circular migration is the repeated movements, usually short term, by the migrant (Reyes 1997). These theories inform the study's measures used and hypotheses tested.

The Disappointment Theory

Neoclassical economic theories posit that migrants are rational thinkers who weigh the advantages and disadvantages of migrating (DaVanzo and Morrison 1981; Todaro and Maruszko 1987). Thus, migrants make rational calculations concerning the benefits (i.e., earnings), the

risks (i.e., crossing the border), and the costs (i.e., travel) of migrating. When immigrants' expectations are not met, they may be disappointed and return home (DaVanzo 1976:13). For economic migrants', disappointment is due to unemployment and low wages. Migrants, especially younger migrants, who perceive that the cost of staying in a host country outweigh financial gains are more likely to return to their country of origin (Dustmann 1997, 2003; Kirdar 2009). In a focus group study in Canada, middle-class entrepreneurial migrants from Hong Kong commented that poor economic opportunities in comparison to home were one of the reasons for their return to Hong Kong (Ley and Kobayashi 2005).

Noneconomic factors, such as discrimination, family, or missing home, also increase migrants' likelihood of returning (Constant and Massey 2002). For instance, Irish returnees explained that family, tradition, and missing the countryside were the primary reasons for returning to Ireland from Britain and the United States (Laoire 2007). Similarly, both elite and less-skilled migrants from Cote d'Ivoire and Ghana returned to their respected countries due to family reasons (Tiemoko 2004). Family is one of the principle motivations for migrants returning to home country. Some research shows that those who have family in their countries of origin or are single are more likely to return to home country (Massey and Espinosa 1997), but females are less likely to return due to the higher risks in crossing the border (Ortiz 1996; Reyes 2001). The probability of returning decreases as the stay is prolonged due family reunification or the establishment of a family in the destination country.

The Target Income Theory

Target income theorists posit that migrants prefer to live in their home country, but they migrate for upward mobility. Once in the host country, the migrants work and stay for as long as it takes to accumulate enough earnings for their specific objectives and then they return (Berg

1961). The higher the migrants' earnings enable their targeted income to be met faster, but economic downturns and cost of living can slow their accumulation of earnings, which prolongs their stay. For instance, using data from the German Socio-Economic Panel (GSOEP), Dustmann (2003) demonstrated that migrants' intended length of stay increases when wages in the host country decrease, but the intended length of stay decreases when wages increase, *ceteris paribus*.

Furthermore, unlike disappointment theory, target income theory considers the economic opportunities offered in the community of origin, which can hinder or maximize investment opportunities (Lindstrom 1996). Communities must have the infrastructure and economic opportunities for migrants to be able to save and invest. It has been shown that the presence of infrastructure in the community increases the migrants' likelihood in returning (Massey and Espinosa 1997). For migrants, investment occurs via remittances, which have been linked to return migration (Constant and Massey 2002). For instance, Jamaican migrants remitted to their home country to purchase land and to start a business when they return because returnees prefer to be self-employed (Thomas-Hope 1999). For Mexicans, the ownership of land, property, or a business is strongly associated with returning to Mexico and having repeated trips (Garip 2012). The ownership of land and property might perpetuate repeated trips, because the more household resources the migrant has the more likely they are to migrate. Conversely, migrants from communities with low-economic opportunities have less incentive to stay extended periods in the United States, because they just want to meet their current income needs (Lindstrom 1996).

Social Networks

After people migrate, they usually depend on the assistance of family and friends who already migrated and/or others from a similar cultural background to provide them with resources (Kao 2004). An individual's connections to other people allow him or her to gain

access to a broad range of resources, such as information on migrating successfully and the availability of jobs in the destination. A migrants' social network limits the risks and increases the benefits of migrating. In addition, the family and friends back at home country are a key source of information regarding jobs and safety, so based on the prospective information, the migrants can opt to return to home country (Tiemoko 2004). Migrants having a social network in their destination and home country can influence their decision to return.

The strengthening of social networks in communities increases the out-migration flows, because it facilitates the migration for its members. This process is known as cumulative causation. However, the mechanisms of cumulative causation do not operate similarly in urban areas compared to rural areas (Fussell and Massey 2004). This is attributable to the lack of linkages between individuals and the more diverse labor opportunities provided in urban areas. The community characteristics influences the strength of connections which influences the probability of return migration.

Immigration Policy

Although return migration has been investigated, a neglected factor is the effect of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) period (1997–2015) on return migration. The immigration enforcement periods have affected migration trends in two ways: 1) increased migrant retention; and 2) migrants have moved away from traditional destinations. Prior to the passage of the 1986 Immigration Reform and Control Act (IRCA), migration trends were highly circular because for unauthorized migrants crossing the border was easy and permanent settlement in the U.S. was not their plan. After the passage of IRCA, unauthorized migrants opted to stay longer or permanently stay in the United States as immigration enforcement increased (Reyes 2004). Prolonging the stay was less evident for

unauthorized males than females, because the risks for reentering the United States are higher for women because they are more susceptible to robbery, injury, and sexual assault (Massey, Durand, and Malone 2002).

After 1996, unauthorized migrants were less likely to return (Cornelius 2005). However, research has rarely identified the years after 1996 as the IIRIRA period because emphasis has been placed on the IRCA period and the level of militarization of the border in order to assess the border's enforcement deterrent effectiveness. The passage of the 1996 Illegal Immigration Reform and Immigrant Responsibility Act aimed to remediate the shortcoming of IRCA by restricting government assistance for unauthorized people and increasing enforcement and sanctions against smugglers, volunteer unauthorized migrations, and employers hiring unauthorized workers (Fragomen 1997; Facchini and Steinhardt 2011). With IIRIRA, the Antiterrorism and Effective Death Penalty Act of 1996 (AEDPA) was also passed, which individuals' legal status was checked with the mandated completion of the I–9 form, which verifies the identity and employment authorization of individuals. Also, the AEDPA eliminated the judicial reviews of deportations, which facilitated the process of unauthorized migrants being easily deported (Aranda, Menjívar, and Donato 2014). Coinciding with most literature that immigration enforcement increases unauthorized migrants' length of stay the following is hypothesized:

Hypothesis 1. *During their first and last U.S. trip, unauthorized migrants are more likely to return to Mexico than authorized migrants.*

Hypothesis 2a. *During their first and last U.S. trip, all migrants who made their trip during the IRCA period (1987–1996) or the IIRIRA period (1997–2015) are less likely to return to Mexico than those who made their trip during the pre-IRCA period (1965–1986).*

Hypothesis 2b. *During their first and last U.S. trip, unauthorized migrants who made their trip during the IRCA period (1987–1996) or the IIRIRA period (1997–2015) are less likely to return to Mexico than those who made their trip during the pre-IRCA period (1965–1986).*

New Destination

A new destination is a destination in the United States not known for having a large immigrant population and migration history (Singer 2004). In the last two decades, the increasing presence of jobs, the perceived tranquility, and the traditional locations' increasing migration surveillance and restrictions has enticed immigrants to migrate to new destinations (McConnell 2008; Shultz 2008; Schmalzbauer 2009). In addition, Mexican immigrants are more likely to earn more in the new destinations than the traditional destinations, but no explanation was provided as to why this is the case (Massey and Gelatt 2010). The new destination was not a critical variable. Regardless of the appeal of new destinations to migrants, there are factors that may affect migrants' return migration, such as the lack of social support and stricter immigration enforcement practices.

Immigration enforcement in new destinations has increased, which makes unauthorized migrants more vulnerable because of the lack of social support compared to traditional destinations. There are towns in new destinations that have passed laws to restrict migrants' cultural representation, enforce restrictions of hiring unauthorized workers, and empower local police to check for legal status. With enforcement, discrimination against immigrants has substantially increased in new destination states such as Ohio, Virginia, Georgia, Arkansas, Nebraska, and North Carolina (Marrow 2009). All these factors increase the migrants' psychological costs, which increases the migrants' likelihood in returning to the home country. The following is hypothesized:

Hypothesis 3. *During their first and last U.S. trip, all migrants who migrated to a new destination are more likely to return to Mexico than migrants who migrated to a traditional destination.*

DATA

This study uses ethnosurvey data from 150 communities located in 24 Mexican states surveyed by the Mexican Migration Project (MMP) between 1982 and 2015 (Massey 1987). For each community, about 200 households were randomly sampled from a complete roster of households, unless the community's population was under 500 residents in which case all households were surveyed. Businesses and vacant houses were excluded from the sampling frame. The MMP 150 includes 24,800 Mexican households and 957 U.S. households selected from the Mexican communities surveyed. Within each Mexican community surveyed, 10 to 20 migrant households in the United States were selected via snowball sampling. For this study, any Mexican household heads with U.S. migration experience were used in the analysis which includes those who are in the U.S.

Although the MMP is often used to analyze Mexican migration to the United States, the sampling design is not representative of Mexican immigrants in the United States or the Mexican population (Reyes 1997). Communities were not randomly selected and were selected on population size, geographic location, and history of migration to the United States. However, analyses of the MMP show comparable results to those found in representative samples of the Mexican population such as the Mexico's National Survey of Demographic Dynamics (see Massey and Zenteno 2000; Rendall, Brownell, and Kups 2011).

This study's unit of analysis is all person-years that a household head was in the United States. Hereafter, these household heads are referred to as migrants. In the analysis of return migration from a first U.S. trip, this includes all person-years from the start of a first trip through its end by return migration or until the time of the interview if the migrant is still on their first trip. For migrants who made more than one U.S. trip, the analysis includes all years between the start of their last U.S. trip and its end by return migration or until the time of the interview if the

migrant is still on their last trip. For the analysis of the last U.S. trip, migrants who only had one U.S. trip were excluded in order to focus on higher order trips. For the current analysis, any person-years before age 15 were excluded from the study, because it is unlikely that trips made before this age were made independent of the family members. Also, person-years before 1965 were excluded, because the MMP has no national data (i.e., probability of apprehension rates) available prior to 1965, and 1965 is the year the Bracero-Program (U.S. agriculture guest worker program) ended. Lastly, records of migrants who had incomplete information on their migration experience, demographic, and household characteristics were excluded from the study. The final sample size of person-years for the analysis of return migration from first U.S. trips was 13,763 person-years and from last U.S. trips was 10,757.

MEASURES

Table 1. Description and Coding for Variables Used to Predict the Odds of Mexicans Returning to Home Country During Their First and Last U.S. Trip

Variables	Description	Coding
Dependent variable		
Returned to home country	Respondent returned to home country in a given year	1=yes; 0=no
Independent variables		
Unauthorized	Respondent entered the U.S. without or false documents	1=yes; 0=no
New destination	Respondent's destination was a new migration destination	1=yes; 0=no
Policy Period		
Pre-IRCA (1965–1987) [r]	Pre-IRCA period	1=yes; 0=no
IRCA (1987–1996)	IRCA period	1=yes; 0=no
IIRIRA (1997–2015)	IIRIRA period	1=yes; 0=no
Demographic characteristics		
Age	Respondent's age	Continuous
Age2	Respondent's age squared	Continuous
Female	Respondent is a female	1=yes; 0=no
Single	Respondent is not in a consensual union or married	1=yes; 0=no
Minor children	Respondent has children who are under 18	1=yes; 0=no
Human Capital		
Educational attainment (years)	Respondent's educational attainment in years	Continuous
Social Capital		
Family with U.S. migration experience	At least one sibling or parent has been to the United States	1=yes; 0=no
Socioeconomic Context		
Manufacturing	Works in manufacturing	1=yes; 0=no
Ownership in Mexico	Respondents owns either land, property, or business in Mexico	1=yes; 0=no
Community Context	Respondent's community characteristics	
Rural	Community is rural	1=yes; 0=no
Ejido	Ever an *ejido* in *municipio*	1=yes; 0=no
Community development index	Community development index	0 (low) to 1(high)

Macro Context		
Probability of apprehension	Probability of being arrested while attempting to cross the border	Continuous
Accessibility of visas	Accessibility of green cards	Continuous
Lagged exchanged rate	Lagged exchange rate between Mexico and the United States	Continuous
Mexican real interest rates	Average costs of funds in Mexico minus inflation	Continuous
U.S. unemployment rate	U.S. unemployment rate	Continuous
Interactions	Interactions between unauthorized and policy period	
Unauthorized x Pre-IRCA [r]	Unauthorized during the pre-IRCA period	1=yes; 0=no
Unauthorized x IRCA	Unauthorized during the IRCA period	1=yes; 0=no
Unauthorized x IIRIRA	Unauthorized during the IIRIRA period	1=yes; 0=no

Note: r=references

Dependent Variable

For each person-year, the dependent variable, returned to home country, is coded as "1" if the migrant returned to Mexico in a given year and "0" if they did not return or the survey was completed. See table 1 for variable descriptions and coding.

Critical Variables

To test the hypotheses, several critical variables encompassing Mexican migrants' unauthorized status, their new destination, the immigration policy periods, and the interactions between the migrants' unauthorized status and the immigration policy periods were used. The first hypothesis that *unauthorized migrants are more likely to return to Mexico than authorized migrants,* is tested with the migrants' unauthorized status, coded "1" if the migrants' current U.S. trip was made without or false documents and "0" if their current U.S. was made with legal documents. Three immigration policy periods are the key independent variables: 1) the pre-IRCA period (1965–1986); 2) the IRCA period (1987–1996); and 3) the IIRIRA period (1997–2015). These indicators were used to test hypothesis (2a) that *during their first and last U.S. trip, all migrants who made their trip during the IRCA period (1987–1996) or the IIRIRA period (1997–*2015*) are less likely to return to Mexico than those who made their trip during the pre-IRCA period (1965–1986).* These variables are based on the years the immigration policies were in effect during the migrants' first and last U.S. trips and were assigned a value of "1" if the year matches the immigration policy period and "0" if otherwise. The migrants' unauthorized status

and the immigration policy periods were interacted to test hypothesis (2b) that *during their first and last U.S. trip, unauthorized migrants who made their trip during the IRCA period (1987–1996) or the IIRIRA period (1997–*2015*) are less likely to return to Mexico than those who made their trip during the pre-IRCA period (1965–1986).*

Immigration enforcement practices varies by location, with some locations being stricter enforcers. To test hypothesis 3 that *during their first and last U.S. trip, all migrants who migrated to a new destination are more likely to return to Mexico than migrants who migrated to a traditional destination,* the critical variable new destination was coded "1" if migrant migrated to a new destination and "0" if the migrant migrated to a traditional destination. The destinations were classified based on McConnell's (2008) and Singer's (2004) identification of immigrant destinations and gateways. McConnell (2008) categorized the Mexican Migration Project migrants' destination as "traditional" if the proportion of the Metropolitan Statistical Areas' population was more than 6.5 percent Latino in 1980 and new if it was less than 6.5 percent in 1980. A percentage above 6.5 percent indicates the destination has a long history of migrant settlement. The remaining destinations, based on migrants' city of residence, were classified based on Singer's (see 2004) six immigrant gateway types.

Control Variables

In addition, the migrants' demographic characteristics, education, occupation, family with U.S. migrant experience, community characteristics, and macro-contexts were added as controls. The demographic variables included are the migrants' age, sex, relationship status, and having minor children (younger than 18-years-old).

The migrants' human capital (i.e., years of education), social capital (i.e., family with U.S. migration experience) and socioeconomic status (i.e., works in manufacturing and

ownership in Mexico) are crucial factors in determining the length of stay in the United States. Generally, migrants with higher human capital, family with U.S. migration experience, and higher job skills tend to stay longer in the United States. Migrant with "family with U.S. migration experience" was coded "1" if they had one parent or sibling who has been to the United States and "0" if not. The variable ownership in Mexico was created to encompass the land, property, and business the migrant owns in Mexico. The Mexican migrants who owned either land, property, or business were assigned a value "1" and "0" if the migrant did not own anything.

As previously mentioned, an important determinant in influencing migrants' return migration is the migrants' community characteristics and level of economic development. The following community characteristics variables were included: 1) rural; and 2) *ejido* (communal land) in community. A series of dichotomous variables were used to create a community development index (Cronbach's $\alpha = 0.80$): 1) preparatory school in *municipio* (municipality); 2) bank in *municipio*; 3) post office in community; 4) paved road between community and highway; 5) electric service in community; 6) water service in community; 7) public lighting service in community; and 8) telephone service in community (Sana and Massey 2005). The community development index is from "0," representing less developed, to "1," representing most developed.

Macro-contexts such as limited economic opportunities in home country increases migrants' probability of returning to their home countries. Related to policy period, the probability of apprehension increases the difficulty of returning to the United States, so migrants are less likely to return to home country. This study includes the following macro-contexts as controls: 1) probability of apprehension; 2) accessibility of visas; 3) lagged exchange rate; 5)

Mexican real interest rates; and 5) U.S. unemployment rates. The probability of apprehension is the migrants' likelihood of being arrested while attempting an unauthorized entry to the U.S. The accessibility of visas is the probability of a migrant acquiring a visa (i.e., green card) in a year.

METHODOLOGY

Event history analysis was used, specifically a discrete-time model, to estimate the likelihood of migrants returning to Mexico during their first and last U.S. trip (Allison 1984; Blossfeld, Hamerle, and Mayer 1989). A discrete-time model was used due to the non-continuous nature of the MMP data. An event history analysis estimates the likelihood of returning home in a given person-year while controlling for individual and contextual variables. The discrete-time model function to be implemented is a logistic regression model. The logistic regression model specifies the probability an event will occur. Those who do not experience return migration during a given person-year or by the survey date, whichever came first, are censored (Box-Steffensmeier and Jones 2004). For the interpretation of the results, the factor change (odds ratio) were converted to percentages ($100*\{\exp(\beta\kappa*\delta)-1\}$) in the text with the "*listcoef, percent*" STATA command (Long and Freese 2006). In addition, to facilitate the interpretation of the interactions, the predicted probability of return migration was calculated for the migrants' legal status (authorized versus unauthorized) using STATA's *margins* command.

When merging the community data with person-year data, the logistic regression was adjusted for clustering of migrants in the community of origin. The robust standard errors satisfy the assumption of independence between the communities and help minimize the effect of outliers on the regression estimates (Acock 2014).

DESCRIPTIVES AND RESULTS

Means and standard deviations were computed across person-years spent in the United States during their first and last U.S. trips.

First U.S. Trip: Descriptive Statistics

The models (see Table 3) includes person-years of all Mexican household heads with U.S. migration experience in the study while they are on their first U.S. trip. The descriptive statistics are available in table 2. Of all the person-years, about 34% involved a return trip. Eighty-one percent of all person-years involved unauthorized U.S. trips. Only 12% of person-years were spent in new destinations. Also, in the pre-IRCA period (1965–1986) the majority of all the person-years (50%) on U.S. trips. During the pre-IRCA period (1965–1986), most unauthorized U.S. trips occurred (40%). During the IRCA period (1987–1996), only 32% of the person-years were on U.S. trips. In this period, the percentage of unauthorized U.S. was 26%. During the IIRIRA period (1997–2015), 18% person-years were on U.S. trips. Fifteen percent of the person-years were unauthorized during the IIRIRA period (1997–2015).

Most person-years were contributed by men (93%). The average age of the person-years was about 26 years, 43% of the person-years were single, and 53% had minor children. Regarding educational attainment, on average, the person-years had 6 years of education (primary school), which has been the case for most migrants. Forty-five percent of the person-years had at least one family member with U.S. migration experience, and 47% of the person-years worked in manufacturing. Also, 38% of all person-years owned land, property, or a business in Mexico during their first U.S. trips.

Migration from Mexico to the United States has predominantly been from rural areas. This was the case in this sample, with most person-years coming from rural communities (59%). Eighty-six percent of the person-years lived in a community with an *ejido* (communal land).

Most of the migrants' communities are moderately developed with the average score of the community development index of 0.73. The closer to one the community development index is the more develop the community. While in the United States, the probability of being apprehended, likelihood of being arrested while attempting an unauthorized entry to the U.S., was 31%. The accessibility of visas, the probability of acquiring a visa (i.e., green card), in the U.S. was 6%. The average lagged exchange rate between Mexico and United States was 2.76, and the Mexican real interest rate average was 4.29. The average unemployment rate in the United States was 6%.

Table 2. Descriptive Statistics for Variables Used to Predict the Likelihood of Mexican Migrants Returning During Their First U.S. Trip

Variables	Mean	S.D.
Dependent Variable		
Returned to home country	0.345	0.476
Independent Variables		
Unauthorized	0.811	0.392
New destination	0.125	0.331
Policy Period		
Pre-IRCA (<1987) [r]	0.499	0.500
IRCA (1987–1996)	0.324	0.468
IIRIRA (>1996)	0.176	0.381
Demographic characteristics		
Age	25.635	9.472
Age2	746.870	636.630
Female	0.075	0.263
Single	0.433	0.496
Minor children	0.531	0.499
Human Capital		
Educational attainment (years)	6.378	3.905
Social Capital		
Family with U.S. migration experience	0.452	0.498
Socioeconomic Context		
Manufacturing	0.471	0.499
Ownership in Mexico	0.379	0.485
Community Context		
Rural	0.593	0.491
Ejido	0.866	0.341
Community development index	0.728	0.290
Macro Context		
Probability of apprehension	0.310	0.058
Accessibility of visas	0.062	0.051
Lagged exchanged rate	2.763	3.622
Mexican real interest rates	4.292	14.160
U.S. unemployment rate	0.063	0.014

Interactions		
Unauthorized x Pre-IRCA[r]	0.403	0.491
Unauthorized x IRCA	0.260	0.439
Unauthorized x IIRIRA	0.147	0.354
No. of person-years	13,763	

Note: r=references; S.D.=standard deviation

First U.S. Trip: Logistic Regression

Table 3 displays the results of the variables affecting the migrants' likelihood in returning to Mexico during their first U.S. trip. The first model shows the effect of the critical and control variables without the interaction terms. In logistic regression, interpreting the pseudo-R^2 as the variance explained by the predictors is not recommended because the pseudo-R^2 values tend to be small and the R-squared and pseudo-R^2 do not mean the same thing (Acock 2014). The Wald chi^2 test was used to test the significance of the model. Model 1 explains about 3% (Pseudo R^2 = 0.035, Wald Chi^2 = 0.000) of the variation in the dependent variable. The addition of the interaction term in Model 2 does not greatly improve the model fit (Pseudo R^2 = 0.040, Wald Chi^2 = 0.000), but the interaction term was statistically significant. In both model 1 and model 2, the new destination variable was statistically insignificant so hypothesis 3, that *during their first and last U.S. trip, all migrants who migrated to a new destination are more likely to return to Mexico than migrants who migrated to a traditional destination*, was not supported. Only hypothesis 1 and 2 (a and b) are discussed for the models.

Table 3. The Odds of Mexican Migrants Returning to Mexico During Their First U.S. Trip

	Model 1		Model 2	
Variables	Odds Ratio	R.S.E.	Odds Ratio	R.S.E.
Unauthorized	1.816***	0.269	2.845***	0.445
New destination	1.093	0.120	1.120	0.123
Policy Period				
Pre-IRCA (<1987) [r]	–	–	–	–
IRCA (1987–1996)	0.585***	0.079	1.027	0.192
IIRIRA (>1996)	0.661	0.142	1.875*	0.572
Demographic characteristics				
Age	1.089***	0.021	1.089***	0.021
Age2	0.999**	0.000	0.999**	0.000
Female	0.614***	0.076	0.602***	0.073

Single	0.937	0.088	0.947	0.090
Minor children	0.788**	0.068	0.809*	0.070
Human Capital				
Educational attainment (years)	1.007	0.013	1.009	0.013
Social Capital				
Family with U.S. migration experience	1.027	0.087	1.030	0.087
Socioeconomic Context				
Manufacturing	0.758***	0.055	0.768***	0.056
Ownership in Mexico	1.176*	0.080	1.176*	0.082
Community Context				
Rural	1.113	0.152	1.100	0.150
Ejido	1.456*	0.256	1.479*	0.256
Community development index	0.954	0.211	0.920	0.204
Macro Context				
Probability of apprehension	1.071	0.726	1.119	0.755
Accessibility of visas	4.749**	2.363	5.333***	2.653
Lagged exchanged rate	1.011	0.019	1.011	0.019
Mexican real interest rates	1.005*	0.002	1.005**	0.002
U.S. unemployment rate	0.024	0.047	0.012*	0.023
Interactions				
Unauthorized x Pre-IRCA^{r}	–	–	–	–
Unauthorized x IRCA	–	–	0.501***	0.081
Unauthorized x IIRIRA	–	–	0.283***	0.076
Wald Chi2	189.06***		250.42***	
Pseudo R2	0.035		0.040	
Observations	13,763		13,763	

Note: r=references; R.S.E. =robust standard errors
* p<0.05, ** p<0.01, *** p<0.001

Model 1

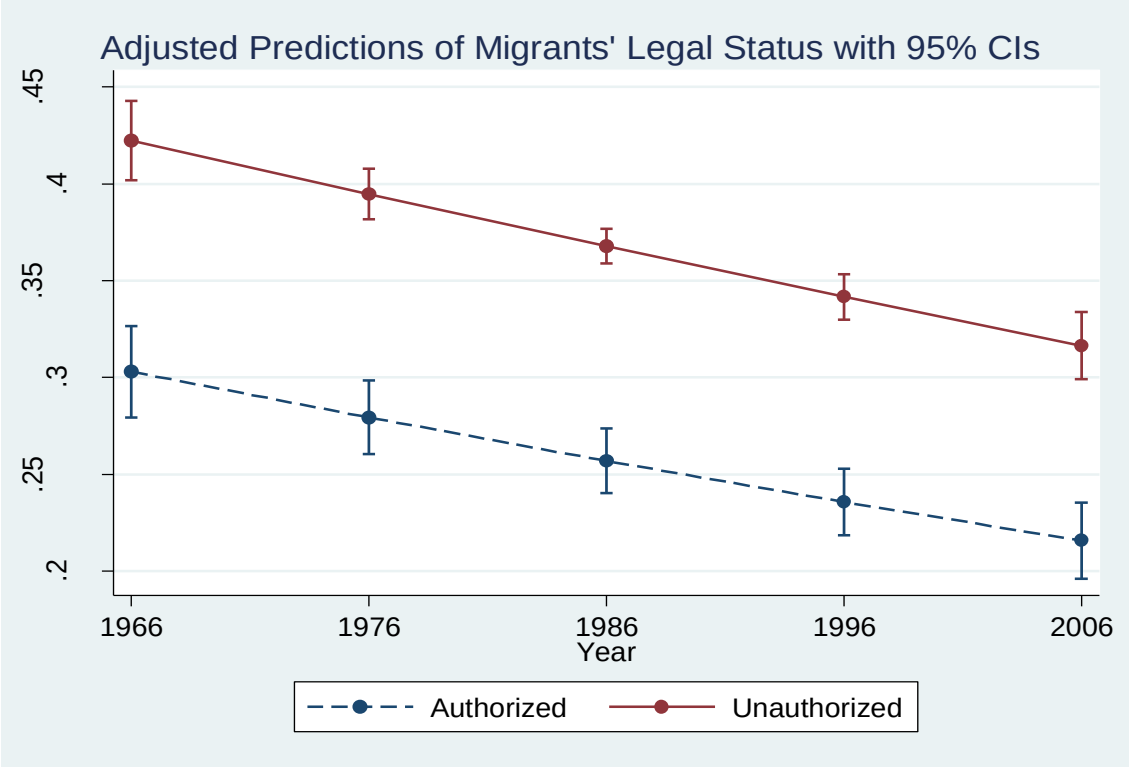
Model 1 includes the critical variables, migrants' unauthorized status, new destination, the immigration policy periods, and control variables to test the hypothesis (1) that *during their first U.S. trip, unauthorized migrants are more likely to return to Mexico than authorized migrants*. Results from this model support the hypothesis. The odds of returning were about 82% greater for unauthorized migrants than for authorized migrants during their first U.S. trip, holding all other variables constant (p = 0.000). Therefore, the migrants without legal documents during their first U.S. trip were more likely to return compared to those who have legal documents. This pattern held regardless of the immigration policy period.

When individuals migrate to the United States, the stricter immigration enforcement practices encourage them to return. Model 1 also test the hypothesis (2a) that *during the first*

*U.S. trip, all migrants who made their trip during the IRCA period (1987–1996) or the IIRIRA period (1997–*2015*) are less likely to return to Mexico than those who made their trip during the pre-IRCA period (1965–1986).* Results from this model partially supported this hypothesis because the IIRIRA period (1997–2015) indicator was statistically insignificant (p = 0.054). Still, the odds of returning were 42% lower for migrants who were in the United States during the IRCA period (1987–1996) than for migrants who were in the United States during the pre-IRCA period (1965–1986), holding all other variables constant (p = 0.000). This result coincides with the return migration pattern that migrants were less likely to return after the passage of IRCA. The effect of the controls variables was consistent with previous findings (Reyes 2001, 2004). For instance, women, migrants who have minor children, and migrants who work in manufacturing are less likely to return, respectively.

Model 2

Figure 1.1. Predicted Probability of Return Migration for Migrants' Legal Status During Their 1st U.S. Trip



In model 2, the migrants' legal status was interacted with the immigration policy periods. The predicted probabilities are provided to facilitate the interpretation of interaction terms (see figure 1.1). Model 2 tests hypothesis 2(b) that *during the first U.S. trip, unauthorized migrants who made their trip during the IRCA period (1987–1996) or the IIRIRA period (1997–*2015*) are less likely to return to Mexico than those who made their trip during the pre-IRCA period (1965–1986).* During the 1st U.S. trip, the figure reveals that migrants on unauthorized or authorized U.S. trips had lower probability of returning in the years after the passage of IRCA (after 1987). However, compared to authorized migrants, the unauthorized migrants' probability in returning was higher throughout the immigration policy periods. By the end of the IRCA period (1987–1996), the predicted probability that unauthorized migrants would return from their first trip was 34% compared to authorized migrants whose predicted probability was about 24%. In the year 2012 (the IIRARA period), compared to authorized migrants (21%), the predicted probability that unauthorized migrants would return from the first trip was 31%. Overall, this return migration patterns coincides with the trend that migrants were more likely to return in the pre-IRCA period (1965–1986), than during the IRCA period and the IIRIRA period (1997–2015) (Massey et al. 2002). In addition, the return migration pattern that unauthorized migrants are more likely to return compared to authorized migrants was consistent.

Last U.S. Trip: Descriptive Statistics

Table 4. Descriptive Statistics for Variables Used to Predict the Likelihood of Mexican Migrants Returning During Their Last U.S. Trip

Variables	Mean	S.D.
Dependent variable		
Returned to home country	0.517	0.500
Independent variables		
Unauthorized	0.454	0.498
New destination	0.151	0.358
Policy Period		
Pre-IRCA (<1987) [r]	0.425	0.494
IRCA (1987–1996)	0.418	0.493

IIRIRA (>1996)	0.158	0.364
Demographic characteristics		
Age	37.067	12.057
Age2	1,519.346	1,003.103
Female	0.037	0.189
Single	0.168	0.373
Minor children	0.771	0.420
Human Capital		
Educational attainment (years)	5.236	3.766
Social Capital		
Family with U.S. migration experience	0.672	0.469
Socioeconomic Context		
Manufacturing	0.411	0.492
Ownership in Mexico	0.672	0.469
Community Context		
Rural	0.599	0.490
Ejido	0.899	0.301
Community development index	0.806	0.263
Macro Context		
Probability of apprehension	0.299	0.058
Accessibility of visas	0.065	0.057
Lagged exchanged rate	2.821	3.419
Mexican real interest rates	6.034	15.007
U.S. unemployment rate	0.063	0.014
Interactions		
Unauthorized x Pre-IRCA[r]	0.201	0.401
Unauthorized x IRCA	0.159	0.366
Unauthorized x IIRIRA	0.094	0.292
No. of person-years	10,757	

Note: r=references; S.D. = standard deviation

The models (see Table 5) includes person-years of all eligible Mexican household heads with U.S. migration experience in the study while they are on their last U.S. trip. The descriptive statistics are available in table 4. Of all the person-years, about 51% involved a return trip. Forty-five percent of all person-years involved an unauthorized U.S. trip. Only 15% of person-years were spent in new destinations. Most person-years during the last U.S. trip were during the pre-IRCA period (42%) followed by the IRCA period (41%) and the IIRIRA period (16%).

During their last U.S. trip, all person-years included were vastly male with only 3.7% being female. The migrants' average age was 37 years, 17% were single, and 77% had minor children. Similarly, most person-years had 5 years of education. Sixty-seven percent also had a family member who has been in the United States. Almost half of all person-years, 41%, worked

in an occupation in manufacturing. Sixty-seven percent of the person-years owned land, property, or a business in Mexico.

Most of person-years came from a rural community in Mexico (60%). An overwhelming 90% of all person-years lived in a community with an *ejido*. The migrants' community on average scored 0.81 in the community development index, with higher scores indicating the community being more developed. While in the United States, the probability of being apprehended was on average 30% and the probability in obtaining a visa was on average 7%. The average lagged exchange rate between Mexico and United States was 2.82, and the average Mexican real interest rate was 6.03. The average unemployment rate in the U.S. was 6%.

Last U.S. Trip: Logistic Regression

Table 5 displays the results of the variables affecting the migrants' likelihood in returning to Mexico during their last U.S. trip. The first model shows the effect of the critical and control variables without the interaction terms. Model 1 explains about 16% (Pseudo $R^2 = 0.158$, Wald $Chi^2 = 0.000$) of the variation in the dependent variable. The addition of the interaction term in Model 2 does not greatly improve the model fit (Pseudo $R^2 = 0.160$, Wald $Chi^2 = 0.000$), but the interaction term was statistically significant. Like the first U.S. trip models (see table 3) hypothesis 3 was not supported. Only hypothesis 1 and 2 (a and b) are discussed in the models (see table 5).

Table 5. The Odds of Mexican Migrants Returning to Mexico During Their Last U.S. Trip

	Model 1		Model 2	
Variables	Odds Ratio	R.S.E.	Odds Ratio	R.S.E.
Unauthorized	1.061	0.188	1.329	0.301
New destination	1.293	0.358	1.286	0.358
Policy Period				
Pre-IRCA (<1987) [r]	–	–	–	–
IRCA (1987–1996)	0.891	0.159	0.984	0.217
IIRIRA (>1996)	1.209	0.283	1.805*	0.535
Demographic characteristics				
Age	1.197***	0.037	1.194***	0.037
Age2	0.999***	0.000	0.999***	0.000

Female	0.303***	0.096	0.303***	0.095
Single	1.565*	0.299	1.576*	0.304
Minor children	1.279	0.190	1.288	0.192
Human Capital				
Educational attainment (years)	1.038	0.022	1.040	0.022
Social Capital				
Family with U.S. migration experience	1.250	0.174	1.258	0.173
Socioeconomic Context				
Manufacturing	0.426***	0.066	0.427***	0.067
Ownership in Mexico	1.144	0.168	1.151	0.170
Community Context				
Rural	1.678*	0.395	1.708*	0.406
Ejido	0.894	0.515	0.905	0.516
Community development index	1.621	0.662	1.611	0.652
Macro Context				
Probability of apprehension	2.108	2.303	2.070	2.208
Accessibility of visas	5.093**	3.049	5.190**	3.080
Lagged exchanged rate	0.948	0.029	0.951	0.030
Mexican real interest rates	1.001	0.003	1.002	0.003
U.S. unemployment rate	0.013	0.044	0.016	0.049
Interactions				
Unauthorized x Pre-IRCA[r]	–	–	–	–
Unauthorized x IRCA	–	–	0.789	0.178
Unauthorized x IIRIRA	–	–	0.458*	0.160
Wald Chi2	377.90***		400.42***	
Pseudo R2	0.158		0.161	
Observations	10,757		10,757	

Note: r=references; R.S.E. =robust standard errors
* p<0.05, ** p<0.01, *** p<0.001

Model 1

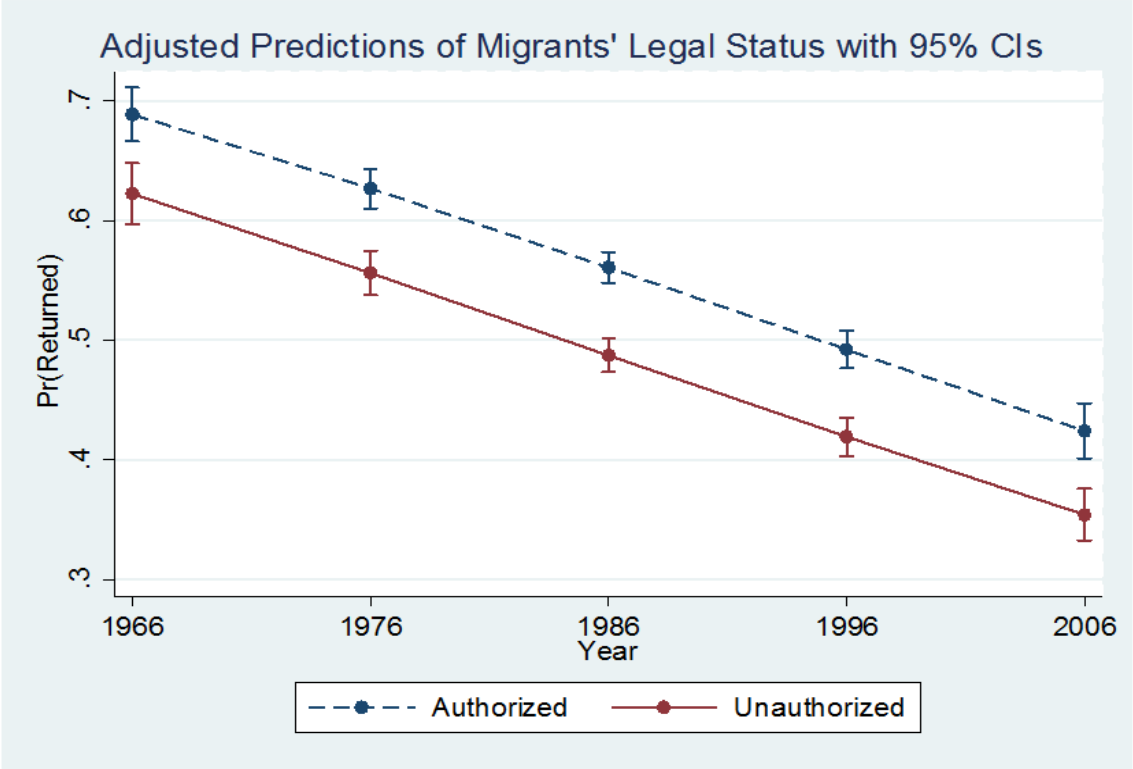
The migrants' unauthorized status and the immigration policy periods indicators testing hypotheses 1 and 2a were statistically insignificant, so these hypotheses were not supported. Like the logistic regression analysis of the migrants' first U.S. trip (Table 3), the control variables behaved as expected.

Model 2

The figure (1.2) reveals that migrants', regardless of legal status, predicted probability of return migration was higher during their last U.S. trip compared to the first U.S. trip (see figure 1.1). In 1966 (the pre-IRCA period), the predicted probability that unauthorized migrants would return from their last trip was about 70% and the predicted probability for authorized migrants was about 62%. The migrants' predicted probability for returning further decreased throughout

the immigration policy periods during their last U.S. trip. In the year 1996 (the IRCA period), the predicted probability for unauthorized migrants was about 41%. This is a 20% decrease in the predicted probability in returning from the year 1966 (the pre-IRCA period). In 2006 (the IIRIRA period), the predicted probability for authorized migrants was about 35%. The results supported the hypothesis (2b) that *during their last U.S. trip, unauthorized migrants who made their trip during the IRCA period (1987–1996) or the IIRIRA period (*1997–2015*) are less likely to return to Mexico than those who made their trip during the pre-IRCA period (1965–1986).* In model 2 the IIRIRA period indicator was statistically significant and it increased all the migrants' odds in returning. This may be the result of unauthorized migrants' circumstance in the U.S. becoming more volatile and opting to return to Mexico.

Figure 1.2. Predicted Probability of Return Migration for Migrants' Legal Status During Their Last U.S. Trip



CONCLUSION

This study examined the Mexican migrants' likelihood in returning. Specifically, the study investigated the impact of their unauthorized status, destination, and immigration policy on their probability of returning during their first and last U.S. trips. Overall, as expected, unauthorized first-time migrants were more likely to return to Mexico than authorized migrants, supporting hypothesis 1. However, there was no significant difference between authorized and unauthorized migrants in returning during their last U.S. trip. Thus, hypotheses 1 was not supported for the last U.S. trip. This was a very unexpected finding with several explanations. Unlike migrants in their last U.S. trip, first-time unauthorized migrants may be more vulnerable to rising unemployment and heightened border enforcement due to the lack of social support. In contrast, migrants who are in their last U.S. trip may be established in the United States. The principle reason for not returning may be family reunification or having U.S. born children, specifically having minor children. Those who have family in the home country or are not married are more likely to return home (Ortiz 1996). Another explanation is that during their first U.S. trip, most migrants crossed the U.S. without documents or false documents, which is unlike during their last U.S. trip. Specifically, this study's means reveal that about 81% of the migrants were unauthorized during the first trip, while only 45% were unauthorized during their last trip. During their last U.S. trip, many migrants became legal which further enticed migrants to stay longer in the United States.

Coinciding with other studies (Durand et al. 2001; Massey et al. 2002; Reyes 2004), Mexican migrants were less likely to return to Mexico in the IRCA period (1987–1996) compared to the migrants whose trip was in the pre-IRCA period (1965–1986). Thus, hypothesis 2a was supported. However, it was surprising to find that there was no significant difference between immigration policy periods in the migrants' probability in returning during their last

U.S. trip. However, the predicted probabilities reveal that the probability of return has decreased after the pre-IRCA period in both the first and last U.S. trips. This finding coincides with previous studies (Reyes 2004; Cornelius 2005). After the IRCA period, Mexican migrants' circular migration decreased because stricter immigration enforcement practices increased the risks in crossing the U.S. border. Thus, Mexican migrants, specifically those who are unauthorized, are less likely to return home and are more likely to settle permanently in the United States.

To capture the effect of immigration policies, specifically the IIRIRA period (1997–2015), on unauthorized migrants' likelihood of returning in the United States, the migrants' unauthorized status and the immigration policy periods were interacted. During their first and last U.S. trips, unauthorized migrants who made their trip during IRCA period (1987–1996) or the IIRIRA period (1997–2015) were less likely to return to Mexico from the U.S. than those who made their trip during the pre-IRCA period (1965–1986). Thus, the probability of returning during the IRCA period and the IIRIRA period did not returned to the pre-IRCA levels. After IRCA was passed the federal government continued to pass immigration laws (i.e., Immigration Law of 1990) that further increased border enforcement and sanctioning of employers. For instance, to prevent unauthorized migrants from acquiring public services and employment, IIRIRA established a pilot program to check for immigration status (Amuedo-Dorantes Puttitanun, and Martinez-Donate 2013). In addition, the concentrated border enforcement increased in major entry points, increasing entry difficulty (Cornelius 2005). This resulted in deterring the return migration of vulnerable unauthorized migrants from the United States to Mexico, because the risks of not reentering the United States and not getting a job have increased.

There was no support for the new destination hypothesis (3). The expectation was that migrants in new destinations lack support, and immigration enforcement may be more strictly enforced. Though it was not significant there is still a need for a closer examination on the migrants' destination, but there is a lack of data. The next step is taking a closer look at the likelihood of return migration between unauthorized and authorized migrants in new immigrant destinations.

Overall, the U.S. immigration policies IRCA and IIRIRA deterred unauthorized migrants' return migration. The severity of these immigration policies to the migrants' likelihood in returning can be attributed to other laws that were passed in the same time. For instance, IIRIRA might have deterred return migration at a higher rate than IRCA because with IIRIRA, the Antiterrorism and Effective Death Penalty Act of 1996 (AEDPA) was also passed. The AEDPA made it impossible for immigrants to have the right to due process, because it eliminated the judicial reviews of deportations, which facilitated the process of migrants being easily deported. (Aranda et al. 2014). These two federal laws were further enhanced and enforced with the aftermath of 9/11. The enforcement of immigration policies varies by the climate of anti-immigration sentiment, which increased after 9/11. Recently, the presidential election of Donald Trump has further increased anti-immigration sentiment. Now, immigration scholars must pay closer attention on how the increasing anti-immigrant sentiment can further increase the return migration of immigrants.

REFERENCES

Acock, Alan C. 2014. *A Gentle Introduction to Stata*. 4th ed. College Station, TX: STATA Press.

Allison, Paul. 1984. *Event History Analysis: Regression for Longitudinal Event Data*. Beverly Hills, CA: Sage Publications.

Amuedo-Dorantes, Catalina, Thitima Puttitanun, and Ana P. Martinez-Donate. 2013. "How do Tougher Immigration Measures Affect Unauthorized Immigrants? *Demography* 50(3):1067–1091.

Aranda, Elizabeth, Cecilia Menjívar, and Katharine M. Donato. 2014. "The Spillover Consequences of an Enforcement-First U.S. Immigration Regime." *American Behavioral Scientist* 58(13):1687–1695.

Berg, Elliot J. 1961. "Backward-Sloping Labor Supply Functions in Dual Economies: The Africa Case." *Quarterly Journal of Economics* 75(3):468–492.

Blossfeld, Hans-Peter, Alfred Hamerle, and Karl Ulrich Mayer. 1989. *Event History Analysis: Statistic Theory and Application in the Social Sciences.* Hillsdale, New Jersey: Lawrence Erlbaum Associates, Inc., Publishers.

Box-Steffensmeier, Janet M. and Bradford S. Jones. 2004. *Event History Analysis: Statistical Theory and Application in the Social Sciences*. New York, NY: Cambridge University Press.

Constant, Amelie and Douglas S. Massey. 2002. "Return Migration by German Guest Workers: Neoclassical Versus New Economic Theories." *International Migration* 40(4):5–38.

Cornelius, Wayne A. 2005. "Controlling 'Unwanted' Immigration: Lessons from the United States, 1993–2004." *Journal of Ethnic and Migration Studies* 31(4):775–794.

DaVanzo, Julie. 1976. "Differences between Return and Nonreturn Migration: An Econometric Analysis." *International Migration Review* 10(1):13–28.

DaVanzo, Julie and Peter A. Morrison. 1981. "Return and Other Sequences of Migration in the United States." *Demography* 18(1):85–101.

Durand, Jorge. 2004. "Ensayo Teórico sobre la Migracíon de Retorno: El Principio del Rendimiento Decreciente (A Theoretical Essay on Return Migration: The Principle of Diminishing Returns)." *Cuadernos Geográficos* 35(2):103–116.

Dustmann, Christian. 1997. "Return Migration, Uncertainty and Precautionary Savings." *Journal of Development Economics* 52(2):295–316.

Dustmann, Christian. 2003. “Return Migration, Wage Differentials, and the Optimal Migration Duration.” *European Economic Review* 47(2):353–369.

Facchini, Giovanni and Max F. Steinhardt. 2011. “What drives U.S. Immigration Policy? Evidence from Congressional Roll Call Votes.” *Journal of Public Economics* 95(7–8):734–743.

Fragomen, Austin T. 1997. “The Illegal Immigration Reform and Immigrant Responsibility Act of 1996.” *International Migration Review* 31(2):438–460.

Fussell, Elizabeth and Douglas S. Massey. 2004. “The Limits to Cumulative Causation: International Migration from Mexican Urban Areas.” *Demography* 41(1):151–171.

Garip, Filiz. 2012. “Repeat Migration and Remittances as Mechanism for Wealth Inequality in 119 Communities from the Mexican Migration Project Data.” *Demography* 49(4):1335–1360.

Kao, Grace. 2004. “Social Capital and Its Relevance to Minority and Immigrant Population.” *Sociology of Education* 77(2):172–175.

Kirdar, Murat G. 2009. “Labor Market Outcomes, Savings Accumulation, and Return Migration.” *Labour Economics* 16(4):418–428.

Laoire, Caitriona Ni. 2007. “The ‘Green Grass of Home’? Return Migration to Rural Ireland.” *Journal of Rural Studies* 23(3):332–344.

Ley, David and Audrey Kobayashi. 2005. “Back to Hong Kong: Return Migration or Transnational Sojourn?” *Global Networks* 5(2):111–127.

Long, J. Scott and Jeremy Freese. 2006. *Regression Models for Categorical Dependent Variables using Stata*. 2nd ed. College Station, TX: Stata Press.

Lindstrom, David P. 1996. “Economic Opportunity in Mexico and Return Migration from the United States.” *Demography* 33(3):357–374.

Marrow, Helen B. 2009. “New Immigrant Destinations and the American Colour Line.” *Ethnic and Racial Studies* 32(6):1037–1057.

Massey, Douglas S. 1987. “The Ethnosurvey in Theory and Practice.” *International Migration Review* 21(4):1498–1522.

Massey, Douglas S. and Kristin E. Espinosa. 1997. “What’s Driving Mexico-U.S. Migration? A Theoretical, Empirical, and Policy Analysis.” *American Journal of Sociology* 102(4):939–999.

Massey, Douglas S. and Julia Gelatt. 2010. “What Happened to the Wages of Mexican Immigrants? Trends and Interpretations.” *Latino Studies* 8(3):328–354.

Massey, Douglas S. and Rene Zenteno. 2000. “A Validation of the Ethnosurvey: The Case of Mexico-U.S. Migration.” *International Migration Review* 34(3):766–793.

Massey, Douglas S., Jorge Durand, and Nolan J. Malone. 2002. *Beyond Smoke and Mirrors: Mexican Immigration in an Era of Economic Integration*. New York: Russell Sage Foundation.

McConnell, Eileen Diaz. 2008. “The U.S. Destinations of Contemporary Mexican Immigrants.” *International Migration Review* 42(4):767–802.

Ortiz, Vilma. 1996. “Migration and Marriage Among Puerto Rican Women.” *International Migration Review* 30(2):460–484.

Rendall, Michael S., Peter Brownell, and Sarah Kups. 2011. “Declining Return Migration from the United States to Mexico in the Late–2000s Recession: A Research Note.” *Demography* 48(3):1049–1058.

Reyes, Belinda I. 1997. *Dynamics of Immigration: Return Migration to Western Mexico*. San Francisco, CA: Public Policy Institute of California.

Reyes, Belinda I. 2001. “Immigrant Trip Duration: The Case of Immigrants from Western Mexico.” *International Migration Review* 35(4):1185–1204.

Reyes, Belinda I. 2004. “Changes in Trip Duration for Mexican Immigrants to the United States.” *Population Research and Policy Review* 23(3):235–257.

Schmalzbauer, Leah. 2009. “Gender on a New Frontier: Mexican Migration in the Rural Mountain West.” *Gender & Society* 23(6):747–767.

Shultz, Benjamin J. 2008. “Inside the Gilded Cage: The Lives of Latino Immigrants Males in Rural Central Kentucky.” *Southeastern Geographer* 48(2):201–218.

Singer, Audrey. 2004. "Rise of the New Immigrant Gateways." *The Living Cities Census Series*. Washington, DC: The Brookings Institution.

Taylor, J. Edward., Philip L. Martin, and Michael Fix. 1997. *Poverty amid Prosperity: Immigration and the Changing Face of Rural California*. Washington, D.C.: Urban Institute Press.

Thomas-Hope, Elizabeth. 1999. “Return Migration to Jamaica and Its Development.” *International Migration* 37(1):183–207.

Tiemoko, Richmond. 2004. “Migration, Return and Socio-economic Change in West Africa: The Role of Family.” *Population, Space and Place* 10(2):155–174.

Todaro, M.P., and L. Maruszko. 1987. “Illegal Migration and U.S. Immigration Reform: A Conceptual Framework.” *Population and Development Review* 13(1):101–114.

Zúñiga, Víctor and Rubén Hernández-León (eds). 2005. *New Destinations: Mexican Immigration in the United States*. New York: Russell Sage Foundation.

CHAPTER THREE

THE IMMIGRATION POLICY PERIODS' EFFECT ON MALE MEXICAN MIGRANTS' EARNINGS

In 1986 the United States Congress passed the Immigration Reform and Control Act (IRCA) which took a three-pronged approach to managing unauthorized immigrants. It granted amnesty to unauthorized migrants already in the U.S., but also sought to discourage additional unauthorized immigration by increasing border enforcement and imposing sanctions on employers who employed unauthorized workers (Donato, Durand, and Massey 1992; Facchini and Steinhardt 2011). However, IRCA did not halt unauthorized immigration, as it was intended to, and it also had several unintended consequences, one of which was to widen the earnings gap between authorized and unauthorized migrants, lowering those of unauthorized migrants (Borjas and Tienda 1993; Kossoudji and Cobb-Clark 2000; Hall, Greenman, and Farkas 2010).

In 1996, Congress sought to reinforce laws against unauthorized immigration by passing the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA). IIRIRA aimed to remediate IRCA's flaws by increasing border enforcement once again and amplifying programs meant to prevent employment of unauthorized immigrants, such as the E-verify program that requires employers to check job applicants' eligibility for employment using an electronic database of Social Security numbers (Amuedo-Dorantes, Puttitanun, and Martinez-Donate 2013; Aranda, Menjívar, and Donato 2014). This study evaluates the effect of IIRIRA on male Mexican migrants' hourly earnings during their last U.S. trip and compares earnings to the pre-IRCA (1965–1986) and the IRCA (1987–1996) periods. Also, the study determines whether the effect of migrants' human capital and social capital, which should augment earnings, has declined in periods of stricter immigration enforcement. Specifically, the following questions are

addressed: 1) Do male Mexican migrants earnings differ according to the policy period, whether it is before IRCA, during IRCA, or the post-IRCA period when IIRIRA policies prevailed? and 2) Did the effect of human capital and social capital on earnings declined as immigration policies became more restrictive?

The following sections provide a summary of research on IRCA's and IIRIRA's effects on migrants' earnings, concluding with this study's contribution to the literature and the study's hypotheses. The next section describes the data, measures, research methods, and modeling. Afterwards, the descriptive statistics and results are presented. In the conclusion, the results are discussed, and future research questions are identified.

THE IMMIGRATION REFORM AND CONTROL ACT OF 1986

Studies investigating the effect of IRCA on migrants' earnings find that it effectively widened the earnings gap between authorized and unauthorized migrants, with authorized migrants earning more (Phillips and Massey 1999; Donato and Sisk 2012). Authorized migrants' legal status grants them access to all the employment opportunities for which they are qualified and to legal recourse if their employer violates labor laws. When IRCA was passed it also provided a pathway to legalization and citizenship, and therefore to better employment and working conditions, for migrants who had lived in the U.S. continuously between 1982 and 1986. Kossoudji and Cobb-Clark (2000) found that 70% of the newly legalized men reported moving into a higher status occupation. While this may have widened the earnings gap between authorized and unauthorized migrants, however, the passage of IRCA decreased the average earnings of all Latin American migrants (Donato, Aguilera, and Wakabayashi 2005).

Explaining the Earning Gap: Beyond Legal Status

Migrants' earnings depend on more than just their legal status. A migrant's human capital and social capital also affects their earning potential. Human capital theorists posit that migrants who invest more in human capital, which includes cognitive skills, educational attainment, migration experience, and labor experience, receive greater returns in the form of earnings (Becker 1964; Borjas 1990). For instance, migrants proficient in English have a higher probability of experiencing upward occupational mobility and higher earnings than those who are not (Kossoudji and Cobb-Clark 2000; Kossoudji and Cobb-Clark 2002). However, unauthorized migrants cannot reap the benefits of accumulating human capital, such as labor skills, English fluency, and education, at the same level as authorized migrants, since they are not able to negotiate the terms of their employment (Rivera-Batiz 1999).

Prior to the passage of IRCA, human capital was the most salient factor influencing migrants' earnings, but since then the effect of human capital has weakened and social capital has become a more important predictor of migrants' earnings (Donato, Durand, and Massey 1992; Phillips and Massey 1999). Social capital is based in interpersonal relationships that allow individuals to reap economic gains through the exchange of information and resources, such as information about jobs or entre with an employer (Granovetter 1973; Coleman 1988; Amuedo-Dorantes and Mundra 2007). However, authorized migrants stand to gain more from their social ties than unauthorized migrants. For example, Aguilera and Massey (2003) find that unauthorized migrants receive only a 1.4% return on their earnings when they obtained a job through family ties compared to authorized migrants who receive a 4% return (Aguilera and Massey 2003). This research suggests that the marginalized status of unauthorized migrants in the U.S. labor market reduces the effect of human and social capital on their earnings.

THE ILLEGAL IMMIGRATION REFORM AND IMMIGRANT RESPONSIBILITY ACT OF 1996

In 1996, the United States Congress passed the Illegal Immigration Reform and Immigrant Responsibility Act which further enhanced the enforcement capacity of the Immigration and Naturalization Service and increased the penalties on the unauthorized workers and their employers. The IIRIRA required employers to verify individuals' identity and eligibility for employment by completing I–9 form and checking the information against a national database, thereby screened out unauthorized workers who were not able to obtain fake identity documents and raising the cost to employers of hiring immigrants. At the same time, Congress also passed the Antiterrorism and Effective Death Penalty Act of 1996 (AEDPA), with the purpose of fighting the war on terrorism. The AEDPA eliminated the judicial reviews of deportations, and facilitated the deportation process of unauthorized migrants (Aranda et al. 2014). After September 11, 2001, these two federal laws were further strengthened, employers became more fearful of immigration enforcement and therefore less likely to hire unauthorized workers (Orrenious and Zavodny 2009). These federal laws resulted in an even stricter immigration enforcement period but with somewhat different consequences than IRCA.

Similarly, the migrants' earnings during the IRCA period (1987–1996) and the IIRIRA period (1997–2002) were still lower relative to the migrants' earnings during the pre-IRCA period (1976–1986). However, the difference in earnings between migrants, regardless of legal status, did not differ after 2002 (Donato and Sisk 2012). This means that there was not an earning premium for migrants who are authorized. After the passage of IIRIRA, the consequences were different than IRCA because IIRIRA empowered the state and local actors to check for legal status and employers were scrutinized more and punished more severely for hiring unauthorized workers, such as seizing the company's assets and filing criminal charges, compared to IRCA, which was mainly federally enforced, the employers were mostly punished

with fines (Donato and Sisk 2012). As a result, the earning returns for being an authorized worker decreased because employers blurred the distinction between authorized and unauthorized migrants to avoid sanctions.

Furthermore, the stricter immigration enforcement practices diminished returns to human capital and social capital (Gentsch and Massey 2011). For instance, before 1997, migrants with higher English proficiency experienced higher earnings, but in the post-1996 the English proficiency reward disappeared completely (Gentsch and Massey 2011). Even authorized migrants experienced a sizable percentage decrease in their human capital earnings premium, which almost disappeared after 2007 (Massey and Gellat 2010). Still, unauthorized migrants are the most negatively affected by immigration policies, specifically recent immigrants. After 9/11/2001, recent Latino immigrants with less education experienced greater lower earnings than more seasoned Latino immigrants (Orrenious and Zavodny 2009).

Although scholars have examined the effects on U.S. immigration enforcement periods on migrants' earnings and human and social capital premiums (Donato, Wakabayashi, Hakimzadeh, and Armenta 2008; Massey and Gentsch 2014; Donato and Sisk 2012), the effect of the IIRIRA period warrants more attention. The current study expands Gentsch and Massey (2011), by increasing the number of communities studied from 104 to 150 and the period covered now extends to 2015 instead of 2008. The current study compares three immigration policy periods: the pre-IRCA (1965–1986), IRCA (1987–1996), and IIRIRA (1997–2015).

While the research reviewed here found that IRCA diminished the effect of human capital on migrants' earnings and increased the effect of social capital (Gentsch and Massey 2011), I expect that during the IIRIRA period (1997–2015) the migrants', specifically unauthorized migrants, returns of human capital and human capital will be lower compared to

the pre-IRCA period (1965–1986). This may be the case because employers are not differentiating between authorized and unauthorized migrants during the IIRIRA period (1997–2015). In addition, the stricter enforcement and harsher punishment for employers (i.e., being criminally charged) may have pressured employers to channeled migrants, regardless of status, to low-income jobs (Phillips and Massey 1999; Rivera-Batiz 1999). In these low-income jobs, employers prevent migrants from obtaining higher earnings, prevent upward occupational mobility, and limit returns to migrants' human capital because for employers it is deemed too expensive to do so. Thus, the following are hypothesized:

Hypothesis 1. *Migrants' earnings will be lower in the IRCA period (1987–1996) and the IIRIRA period (1997–2015) than the pre-IRCA period (1965–1986).*

Hypothesis 2. *Migrants' earnings penalty for being unauthorized will be greater during the IRCA period (1987–1996) and the IIRIRA period (1997–2015) than in the IRCA period (1987–1996).*

Hypothesis 3. *Migrants' earnings premiums for human capital and social capital will be lower in the IRCA period (1987–1996) and the IIRIRA period (1997–2015) than in the IRCA period (1987–1996).*

Other Factors Affecting Earnings

Other factors affecting migrants' earnings are the migrants' demographic characteristics, labor experience, and community characteristics. Demographic characteristics, such as the migrants' age, being single, and having minor children affects the earnings. In general, workers' earnings are associated with their marital status and parental status, especially having minor children. For instance, a study of U.S. workers found fathers receive higher earnings than non-fathers, after controlling for other variables in the model, and among Latino men, this difference is greater if the spouse does not work (Hodges and Budig 2010). When legal status is taken into consideration, both authorized and unauthorized immigrants earn higher earnings when married

compared to being single (Rivera-Batiz 1999). However, the family size of the migrant does not exponentially increase the earnings of the migrants.

The migrants' occupation influences their earnings. Migrants tend to have higher earnings in high-skilled occupations compared to low-skilled occupations (Kossoudji and Cobb-Clark 2000). Regardless of occupation, the migrants' earnings increase as their labor experience increases. Where the migrants come from matters too, such as coming from an urban community which tends to be more economically developed. Migrants coming from a more economically developed country (or area) are more likely to be economically successful in the U.S. because their labor skills match with their host country (Borjas 1993).

DATA

This study used ethnosurvey data from 150 communities located in 24 Mexican states surveyed by the Mexican Migration Project (MMP 150) between 1982 and 2015 (Massey 1987). For each community, about 200 households were randomly sampled from a complete roster of households unless the community's population was under 500. In this case, the complete community was surveyed. Businesses and vacant houses were excluded from the sampling frame. The bi-national nature of survey (MMP 150) includes 24,800 Mexican households and 957 U.S. households whose heads originated in the surveyed Mexican communities. Within each Mexican community surveyed, 10 to 20 of United States established migrant households were selected via snowball sampling. Of the 8,052 Mexican head of households with U.S. migrant experience in the sample, 7,667 (95.22%) are males and 385 (4.78%) were females.

Although the MMP is often used to analyze Mexican migration to the United States, the sampling design is not representative of Mexican households. The nonrandom selection process of communities makes the MMP not a representative sample of U.S. Mexican migrants or

representative of the Mexican population. Nonetheless, analyses of the MMP show comparable results to those found in representative samples of the Mexican population such as Mexico's National Survey of Demographic Dynamics (Massey and Zenteno 2000).

The MMP multiple datasets were merged for the analysis. Only the matched cases were preserved for the study. Migrants whose last U.S. trip was prior 1965 were excluded from the study, because this study did not include the Bracero-Program period (1942–1964). In addition, those who were unemployed (307, 3.89%) or did not earn earnings (1,883, 23.85%) during their last U.S. trip were excluded from the study, because the dependent variable is migrants' earnings. Only migrants after age 15 were analyzed, because this is the age most migrants conventionally started working and made the autonomous decision to migrate to the United States (Passel et al. 2012).

Mexican migration tends to be a severely gendered process (Boehm 2008). Mexican women migrate and enter the labor force in a much later time than men do, so their migration and labor experience are substantially different from men. Women migrants tend to migrate to the United States with no to minimal labor experience compared to men, so recent immigrant women tend to earn less than men (Allensworth 1997), but they earn more when legalized (Rivera-Batiz 1999; Hall et al. 2010). Research needs to further explore the impact of immigration policies on gender, which some scholars have started to explore (see Donato et al. 2008). Unfortunately, women were omitted in the immigration period analyses because the sample was small and they were omitted when the regression analysis was ran. After the omission, the sample totaled 4,704.

MEASURES

Overall, this study examines the effect of immigration policies on male Mexican migrants' hourly earnings during their last U.S. trip controlling for a range of indicators that affect earnings (see table 1 for variable descriptions and coding).

Table 1. Description and Coding of Variables Used in Analysis

Variables	Description	Coding
Dependent		
Hourly earnings (constant 2010 USD)	Natural log of the hourly earnings (constant 2010 USD)	Continuous
Independent variables		
Age	Age in years	Continuous
Age2	Age in years (squared)	Continuous
Single	Not currently married or in a consensual union	1=yes; 0=no
Minor children	Migrant has minor children	1=yes; 0=no
Urban	Migrants community of origin at Mexico is urban	1=yes; 0=no
Occupation	Occupation during their last U.S. trip	
Agriculture[r]	Migrant worked in agriculture	1=yes; 0=no
Professional	Migrant worked in professional work	1=yes; 0=no
Manufacturing skilled	Migrant worked in skilled manufacturing	1=yes; 0=no
Manufacturing unskilled	Migrant worked in unskilled manufacturing	1=yes; 0=no
Service/Retail	Migrant worked in service or retail work	1=yes; 0=no
Legal Status	Documentation used during their last U.S. trip	
Unauthorized	Entered U.S. without documents (includes false documents)	1=yes; 0=no
Human capital		
Education (in years)	Years of education completed	Continuous
English ability	English ability	
No English[r]	Neither speak or understand English	1=yes; 0=no
Limited	Do not speak but understands English	1=yes; 0=no
Strong	Speaks and understands English	1=yes; 0=no
Migration-specific human capital		
Duration of trip (in years)	Length of last U.S. trip in years	Continuous
Number of U.S. Trips	Number of U.S. trips respondent has taken	Continuous
Social Capital		
Member of an organization	R was in a sports or social organization	1=yes; 0=no
A family member has been to the United States	A parent or sibling has been to the United States	1=yes; 0=no
Spouse has been to the United States	Spouse has been to the United States	1=yes; 0=no
How job was obtained	How job was obtained during their last U.S. trip	
Self (reference)	Search by oneself	1=yes; 0=no
Relative	Recommended by a relative	1=yes; 0=no
Friend/fellow home community member	Recommended by a friend or a fellow home-community member	1=yes; 0=no
Contracted/agency	Contracted or through an employer agency	1=yes; 0=no
Labor Market context		
Number of jobs (>mean)	Migrants number of jobs exceeds the average number	1=yes; 0=no
Immigration Policy	Timing of last U.S. trip	
Pre-IRCA (1965–1986)[r]	Last U.S. trip taken between 1965 and 1986	1=yes; 0=no
IRCA (1987–1996)	Last U.S. trip taken between 1987 and 1996	1=yes; 0=no
IIRIRA (1997–2015)	Last U.S. trip taken between 1997 and 2015	1=yes; 0=no
Interactions		
Unauthorized*pre-IRCA	Unauthorized trip taken between 1965 and 1986	
Unauthorized*IRCA	Unauthorized trip taken between 1987 and 1996	
Unauthorized*IIRIRA	Unauthorized trip taken between 1997 and 2015	

Note: r=references

Dependent Variable

The dependent variable is the natural logarithm of migrants' hourly earnings. To conform to the regression assumption that the error terms in an OLS regression are normally distributed, the dependent variable, hourly wages, was transformed with a natural logarithm to minimize the influence of large observations (Allison 1999; Acock 2014). The hourly earnings were adjusted for inflation with the 2010 year as the based U.S. constant dollar. The STATA command *cpigen* was used to convert U.S. nominal dollars to real dollars (income/consumer price index).

Independent Variables

Critical variables

In Model 1 (Full Sample) the critical variables are the pre-IRCA period (1965–1986), the IRCA period (1987–1996) and the IIRIRA period (1997–2015). Also, in this model the critical variables are the interaction between migrants' unauthorized status and the immigration policy periods. Lastly, in all the study's models the migrants' legal status, human capital, and social capital are important predictors determining migrants' earnings. Migrants who traveled with a legal document allowing them to enter and work in the U.S. were coded as "0" and those without legal permission to enter and work in the U.S. were coded as "1". This study measures migrants' human capital, specifically cognitive ability, with years of education and English language ability.

To measure migrants' social capital, it involves capturing their social networks. The migrants' social network involves family and community members who have been to the United States. These networks are a strong source of information and assistance for migrants. An indicator of family-based social capital is coded "1" if at least one parent or one sibling was previously in the United States and "0" if not. A separate indicator of migration experience by the migrants' spouse is also included although this may not be as important since spouses,

especially wives, may accompany the migrant. Migrants' participation in a formal organization is another form of social capital. An indicator of participation in a social club or sport organization is also included in the analysis. Lastly, how migrants obtained their jobs, either with help by a relative (yes=1; 0=no), friend/fellow home community member (yes=1; 0=no), or contracted/agency (yes=1; 0=no) is a very important social capital that may mitigate the effect of the immigration policy periods.

Controls

The study controlled for the migrants' age (in years), marital status, specifically being single, having minor children, and migration-specific human capital. The migration-specific human capital indicators are not critical variables because the number of trips can disrupt the job tenure and length of stay. In addition, migration-specific human capital does not necessary mean an increase in education and English ability. In periods of immigration enforcement, the employers pay more attention to education and English fluency. Due to differences in wages between occupations, five indicators of broad occupational groups are included in the model. These include: 1) agriculture (reference); 2) professional; 3) manufacturing skilled; 4) manufacturing unskilled; and 5) service/retail. Although the MMP does not have information on labor experience, it does on the number of jobs since in the labor market. The number of jobs can be equated to having more labor experience or more job disruptions due to the migration process, especially for repeated migrants.

MODELING

Three models are estimated in Table 3 using the same independent and dependent variables for different sets of years. Model 1 is estimated with all years (full sample) 1965–2015. Models 2 through 4 are estimated with years corresponding to the three immigration policy

periods: Model 2: pre-IRCA (1965–1986); Model 3: IRCA (1987–1996); and Model 4: IIRIRA (1997–2015). Consequently, each of the models has a different sample size.

METHODOLOGY

I use an ordinary least squares (OLS) regression to estimate the effect of U.S. immigration policies on the natural log of hourly wages earned by Mexican migrant heads of households during their last U.S. trip, while controlling for individual and contextual variables. The unstandardized and standardized coefficients were obtained for all analysis. Standardized coefficients are presented to facilitate interpretation of results and comparison of coefficients in models. Since the dependent variable is logged, the standardized coefficients were converted into percentages using the formula, $100(e^b - 1)$, to facilitate interpretation. The percentages are associated with a one-unit change in the dependent variable. Like other studies (Phillip and Massey 1999; Gentsch and Massey 2011) I compared the immigration policy period's models to assess the effect each period has had on migrants' earnings, specifically the gains brought by human capital and social capital. The regression is adjusted for clustering of migrants from their community of origin. Migrants from the same communities may share unobserved characteristics and the robust standard errors consider the possibility of non-independent observations. In addition, the robust standard errors help minimize the effect of outliners on the regression estimates (Acock 2014).

DESCRIPTIVE STATISTICS

The means and standard deviations were computed across individual migrants for the "Full Sample" model and three immigration policy periods, the pre-IRCA period (1965–1986), the IRCA period (1987–1996) and the IIRIRA period (1997–2015), during their last U.S. trip (see table 2).

Table 2. Descriptive Statistics for Variables Used in Analysis of Wages Earned by Male Mexican Migrants During Their Last U.S. Trip

	Full Sample (1965–2015)		Pre-IRCA (1965–1986)		IRCA (1987–1996)		IIRIRA (1997–2015)	
Variables	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Dependent variable								
Hourly earnings (constant 2010 USD)	2.310	0.584	2.454	0.715	2.203	0.478	2.238	0.238
Independent variables								
Age	41.94	12.67	47.26	13.32	38.51	11.10	38.22	10.39
Age2	1,920	1,188	2,411	1,341	1,606	976.2	1,569	872.1
Single	0.102	0.303	0.0810	0.273	0.0982	0.298	0.151	0.358
Minor children	0.697	0.459	0.604	0.489	0.739	0.439	0.798	0.402
Urban	0.399	0.490	0.416	0.493	0.400	0.490	0.364	0.482
Occupation								
Agriculture[r]	0.290	0.454	0.345	0.476	0.280	0.449	0.203	0.403
Professional	0.0111	0.105	0.0107	0.103	0.0117	0.108	0.0105	0.102
Manufacturing skilled	0.223	0.417	0.172	0.378	0.194	0.395	0.382	0.486
Manufacturing unskilled	0.238	0.426	0.263	0.441	0.257	0.437	0.152	0.359
Service/Retail	0.237	0.425	0.208	0.406	0.258	0.438	0.252	0.435
Legal status								
Unauthorized	0.676	0.468	0.772	0.419	0.569	0.495	0.695	0.461
Human capital								
Education (in years)	5.925	3.914	4.981	3.921	6.371	3.949	6.907	3.405
English ability								
No English[r]	0.343	0.475	0.461	0.499	0.289	0.454	0.219	0.414
Limited	0.355	0.478	0.273	0.446	0.375	0.484	0.473	0.500
Strong	0.294	0.455	0.255	0.436	0.329	0.470	0.299	0.458
Migration-specific human capital								
Duration of trip (in years)	3.265	5.309	4.792	7.335	2.381	3.245	2.001	2.199
Number of U.S. trips	3.919	5.143	3.210	4.373	4.940	6.107	3.308	4.030
Social capital								
Member of an organization	0.164	0.371	0.154	0.361	0.141	0.348	0.231	0.422
A family member has been to the United States	0.646	0.478	0.639	0.481	0.718	0.450	0.518	0.500
Spouse has been to the United States	0.259	0.438	0.241	0.428	0.325	0.468	0.164	0.371
Labor Market Context								
How job was obtained								
Self (reference)	0.257	0.437	0.243	0.429	0.262	0.440	0.279	0.449
Relative	0.314	0.464	0.280	0.449	0.339	0.474	0.334	0.472
Friend/fellow community member	0.315	0.464	0.328	0.470	0.318	0.466	0.281	0.450
Contracted/Agency	0.0504	0.219	0.0357	0.186	0.0448	0.207	0.0901	0.286
Number of Jobs (>mean)	0.412	0.492	0.351	0.477	0.472	0.499	0.417	0.493
Immigration policy (timing of trip)								
Pre-IRCA (1965–1987)[r]	0.399	0.490						
IRCA (1987–96)	0.398	0.490	–	–	–	–	–	–
IIRIRA (1997–2015)	0.203	0.402	–	–	–	–	–	–
Interactions								
Unauthorized*pre-IRCA	0.310	0.308						
Unauthorized*IRCA	0.226	0.226	–	–	–	–	–	–
Unauthorized*IIRIRA	0.141	0.141	–	–	–	–	–	–
Observations	4,704		1,876		1,873		955	

Note: r=reference; S.D.= Standard Deviation

The full sample includes all male Mexican migrants on their last U.S. trip. Migrants' hourly earnings on average was $12.27 (constant 2010 USD). Forty percent of all the migrants took their last U.S. trip during the pre-IRCA period (1965–1986), another 40% took their last U.S. trip during the IRCA period (1987–1996), and 20% took their last U.S. trip during the IIRIRA period (1996–2015). Nearly all migrants entered the United States during their last U.S. trip without documents or with false documents (68%). Compared to the pre-IRCA period when 77% of migrants entered without authorized, this proportion decreased to 57% and 69% in the IRCA and IIRIRA periods, respectively.

The demographic profile of male migrants has not changed much between the periods. Overall, the average age of migrants was 42 years and they were less likely to be single (10%) than in a relationship during their last U.S. trip. Most migrants, 70%, had minor children. Migrants who came from an urban community represented 40% of sample.

Migrants' human capital is typically low, but has been increasing over time as the education system in Mexico expands. Overall, the migrants' average education is about 6 years, no more than primary school. Most of the migrants do not speak or understand English (34%) or their English is limited (35%). Only 29% of migrants have a strong English ability. During their last U.S. trip, migrants' average duration of trip was 3.3 years, and the number of trips the migrant has already taken was about 4 trips. On their last U.S. trip, most migrants worked in an agriculture occupation (29%) followed by working in a service or retail occupation (24%), unskilled manufacturing (24%), and professional occupation (23%), respectively. The average number of jobs a migrant has is about 6 jobs, and 41% worked above the average number of jobs.

The measures of social capital include membership in an organization, having family members who have migrated previously, and having a spouse who has migrated previously. Migrants with family members and spouses who have been to the United States accounted for 65% and 26%, respectively. About 16% of the migrants in this sample were a member of an organization. Migrants who obtained a job by themselves accounted for 26% than obtaining by other means. Thirty-one percent obtained their job via relatives and friends or fellow community members. The least likely way the migrants obtained a job during their last U.S. trip was being contracted or hired through an agency (5%).

In all these periods, most migrants entered the United States without documents or false documents during their last U.S. trip. The pre-IRCA period had the highest amount, 77%, of migrants entering the U.S. without legal documents. The quantity of migrants entering the U.S. illegally decreased in the IRCA period (56%) and increased again in the IIRIRA period (69%). Before the passage of IRCA, the average education of a migrant was about 5 years. In both the IRCA period and the IIRIRA period, the migrants' average education increased to 6 to 7 years. Likewise, after the passage of IRCA, migrants during their last U.S. trip at least spoke and understood English.

MULTIVARIATE RESULTS

Table 3. The Effect of Immigration Policies on Male Mexican Migrants' Earnings During Their Last U.S. Trip

	Model 1		Model 2		Model 3		Model 4	
	Full Sample (1965–2015)		Pre-IRCA (1965–1986)		IRCA (1987–1996)		IIRIRA (1997–2015)	
Variables	b	B	b	B	b	B	b	B
Age	0.014***	0.303	0.030***	0.566	0.016*	0.368	0.013	0.332
	(0.004)		(0.007)		(0.006)		(0.010)	
Age2	-0.000***	-0.307	-0.000***	-0.515	-0.000**	-0.434	-0.000	-0.392
	(0.000)		(0.000)		(0.000)		(0.000)	
Single	-0.042	-0.021	-0.032	-0.012	-0.041	-0.025	-0.035	-0.031
	(0.026)		(0.052)		(0.038)		(0.039)	
Minor children	-0.031	-0.024	-0.062*	-0.042	-0.045	-0.041	-0.009	0.008
	(0.017)		(0.033)		(0.023)		(0.040)	
Urban	-0.010	-0.010	-0.036	-0.024	0.007	0.007	-0.005	-0.005

	(0.028)		(0.037)		(0.037)		(0.038)	
Occupation								
Agriculture[r]								
Professional	0.299***	0.053	0.153	0.022	0.364***	0.082	0.411***	0.105
	(0.072)		(0.129)		(0.099)		(0.108)	
Manufacturing Skilled	0.151***	0.111	0.180***	0.094	0.102*	0.084	0.200***	0.245
	(0.031)		(0.045)		(0.047)		(0.048)	
Manufacturing Unskilled	0.146***	0.111	0.138***	0.084	0.127**	0.115	0.226***	0.203
	(0.026)		(0.037)		(0.039)		(0.054)	
Service/Retail	0.029	0.021	0.052	0.029	-0.026	-0.024	0.118*	0.129
	(0.027)		(0.039)		(0.038)		(0.048)	
Legal status								
Unauthorized	-0.151***	-0.122	-0.155***	-0.091	-0.121***	-0.125	-0.065*	-0.075
	(0.039)		(0.044)		(0.038)		(0.029)	
Human capital								
Education (in years)	0.010***	0.070	0.009*	0.051	0.010**	0.082	0.010**	0.088
	(0.003)		(0.004)		(0.003)		(0.005)	
English Ability								
No English[r]								
Limited	0.076***	0.062	0.082*	0.050	0.079**	0.084	0.045	0.056
	(0.019)		(0.035)		(0.024)		(0.034)	
Strong	0.132***	0.102	0.164***	0.100	0.133***	0.131	0.071	0.082
	(0.023)		(0.037)		(0.031)		(0.045)	
Migration-specific human capital								
Duration of trip (in years)	0.047***	0.423	0.046***	0.473	0.047***	0.321	0.029***	0.162
	(0.003)		(0.003)		(0.005)		(0.008)	
Number of U.S. trips	0.002	0.022	-0.004	-0.025	0.005**	0.066	0.008	0.084
	(0.002)		(0.006)		(0.002)		(0.005)	
Social capital								
Member of an organization	0.090***	0.056	0.101*	0.051	0.108**	0.078	0.050	0.053
	(0.023)		(0.042)		(0.034)		(0.026)	
A family member has been to the United States	0.030	0.240	0.023	0.015	0.014	0.013	0.041	0.051
	(0.017)		(0.031)		(0.025)		(0.026)	
Spouse has been to the United States	0.053**	0.040	0.018	0.010	0.080**	0.078	0.075*	0.070
	(0.018)		(0.035)		(0.026)		(0.034)	
How job was obtained								
Self[r]								
Relative	-0.024	-0.019	-0.043	-0.026	-0.009	-0.008	-0.045	-0.054
	(0.019)		(0.034)		(0.028)		(0.036)	
Friend/community member	-0.026	-0.021	-0.048	-0.031	0.003	0.003	-0.072*	-0.081
	(0.018)		(0.031)		(0.027)		(0.036)	
Contracted/Agency	-0.007	-0.003	0.006	0.001	0.026	0.011	-0.067	-0.048
	(0.032)		(0.080)		(0.043)		(0.048)	
Labor market context								
Number of jobs (>mean)	0.017	0.014	0.003	0.002	0.011	0.012	0.051	0.063
	(0.018)		(0.035)		(0.025)		(0.033)	
Immigration policy period								
Pre-IRCA (1965–1986)[r]								
IRCA (1987–1996)	-0.221***	-0.185	–	–	–	–	–	–

	(0.042)							
IIRIRA (1997–2015)	-0.192***	-0.132	–	–	–	–	–	–
	(0.046)							
Interactions								
Unauthorized*pre-IRCA[r]								
Unauthorized* IRCA	0.017	0.012	–	–	–	–	–	–
	(0.045)							
Unauthorized* IIRIRA	0.062	0.037	–	–	–	–	–	–
	(0.047)							
Constant	1.856***	1.855***	1.446***	1.446***	1.657***	1.656***	1.721***	1.721***
	(0.097)	(0.081)	(0.152)	(0.156)	(0.145)	(0.114)	(0.179)	(0.164)
F-Test	75.16***	112.13***	49.37***	65.85***	19.18***	34.87***	10.15***	7.79***
Observations	4,704	4,704	1,876	1,876	1,873	1,873	955	955
R-squared	0.384	0.384	0.439	0.439	0.293	0.293	0.155	0.155

Note: r=reference variable; b=unstandardized regression coefficient with robust standard errors in parentheses; B=standardized regression coefficient
* p<0.05, ** p<0.01, *** p<0.001

Model 1

Model 1 in Table 3 displays coefficients and model fit statistics for the OLS regression of the natural log of migrants' hourly earnings (adjusted for inflation, 2010 USD) during their last U.S. trip on the full set of variables described above. This model fits the data well and explains about 38% ($R^2 = 0.384$) of the variation in the dependent variable. The model's results are statistically significant because the F-test rejected the null hypothesis at the p-level <0.000. The F-test tests the null hypothesis that all the model coefficients are 0. Model 1 provides a test of the hypothesis that *migrants' hourly earnings were lower if their timing of trip was during the IRCA period (1987-1996) or the IIRIRA period (1997-2015) than those whose timing of trip was during the pre-IRCA period (1965–1986)*. Results from this model support the hypothesis. Migrants whose last U.S. trip occurred in the IRCA period (1987–1996) reported hourly earnings that were 20.3% lower compared to migrants whose last U.S. trip occurred in the pre-IRCA period (1965–1986), net of all controls (p = 0.000). In addition, migrants whose last U.S. trip

occurred in the IIRIRA period (1997–2015) reported hourly earnings that were 14% lower than migrants whose last U.S. trip occurred in the pre-IRCA period (1965–1986), net of all controls (p = 0.000). As expected, when the standardized coefficients of the immigration policy periods were compared the migrants earned less during the IRCA period (1987–1996) and the IIRIRA period (1997–2015) than during the pre-IRCA period (1965–1986).

Also, model 1 provides a test of the hypothesis that *migrants' earnings penalty for being unauthorized will increase during the IRCA period (1987–1996) and decrease during the IIRIRA period (1997–2015), but the penalty will be larger in the IRCA period (1987–1996*). This hypothesis is tested with interactions between migrants' legal status and the immigration policy periods (unauthorized*immigration policy period). This hypothesis was not supported because the interaction variables were statistically insignificant. For instance, migrants whose last U.S. occurred in the IRCA period their earnings did not significantly differ from migrants who trip was in the pre-IRCA period. However, a comparison of the predicted values, $\hat{Y}= \alpha+\beta 1x1$, of the migrants' real value (2010 USD) hourly earnings throughout the immigration policy period models reveals that unauthorized migrants experienced lower predicted earnings in the IRCA period (1987–1996) and remained about the same in the IIRIRA period (1997–2015) compared to authorized migrants (see figure 1.1). However, the predicted values reveal that unauthorized migrants may have lower earnings compared to authorized migrants, but the authorized migrants suffered a greater earnings' penalty after the passage of IRCA. This means that employers possibly decreased the authorized migrants' earnings to reduce the cost of being sanctioned by the U.S. government.

Figure 1.1. Predicted Values for Hourly Earnings (real value, 2010 dollars) During Immigration Policy Periods

Legal Status	Pre-IRCA (1997–2015)	IRCA (1987–1996)	IIRIRA (1997–2015)
Unauthorized	$11.92	$10.34	$10.41
Authorized	$23.84	$12.28	$11.33

Immigration Policy Periods Models

Of interest in this study is the change in effect of human and social capital across the three immigration enforcement periods. A comparison of the immigration period policy models tests the hypothesis that *the importance of human capital and social capital for migrants' earnings has declined through the immigration policy periods*. Model 2 and Model 3 fits the data well and explains about 44% ($R^2 = 0.439$) and 29% ($R^2 = 0.293$) of the variation in the dependent variable, respectively. These models' results are statistically significant because in both models the F-test rejected the null hypothesis at the p-level <0.000.

A comparison between the pre-IRCA period (Model 2) and IRCA period (Model 3) reveals that the importance of the earning gains brought by the migrants' human capital and social capital slightly increased after the passage of IRCA. During the pre-IRCA period (1965–1986), migrants who have strong English language ability reported hourly earnings that were 10% higher than migrants who know no English, net of all controls (p = 0.011). During the IRCA period (1987–1996), migrants who have strong English ability reported hourly earnings that were 14% higher than migrants who know no English, net of all controls (p = 0.000). In the case of social capital, during the pre-IRCA period (1965–1986), migrants who are member of an organization reported hourly earnings that were 5% higher than migrants who are not members of an organization, net of all controls (p = 0.018). During the IRCA period (1987–1996), migrants who are member of an organization reported hourly earnings that were 8% higher than migrants who are not members of an organization, net of all controls (p = 0.002). Like the pre-IRCA period (1965–1986), none of the ways the migrant obtained their job during the last U.S. trip was significantly linked with higher earnings during the IRCA period (1987–1996).

The IIRIRA period (Model 4) fits the data well and explains about 15% ($R^2 = 0.155$) of the variation in the dependent variable, respectively. These models' results are statistically significant because in both models the F-test rejected the null hypothesis at the p-level <0.000. After the passage of IIRIRA (Model 4), the gains brought by human capital and social capital disappeared except for the migrants' years of education and having spouse with U.S. migration experience. In this period the advantage of knowing English in earning returns disappeared because employers possibly did not differ between migrants' legal status. However, the migrants' years of education effect on their hourly earnings remains consistent throughout the immigration policy periods including in the IIRIRA period. The only social capital indicator that was positively linked with migrants' earnings was having a spouse who has been to the U.S. It is interesting that how the migrant obtained a job, specifically obtaining a job via a friend or fellow community member, was previously insignificant in the other periods but now it is significant. Migrants obtaining the job through this method not quite significantly lowered their hourly earnings compared to those who obtain their job by themselves. This may indicate that during the IIRIRA period getting job from friends and fellow community jobs does not translate to higher earnings like the other periods.

Overall, a comparison between of all the immigration policy period models reveals that the importance of human capital and social capital for migrants' earnings increased during the IRCA period but almost disappeared during the IIRIRA period. However, the increase in benefits brought by human capital and social capital was not major. Hypothesis 3 was supported.

CONCLUSION

This study's results show that the earning gains brought by migrants' human capital and social capital has deteriorated as the U.S. immigration policies became stricter in immigration

enforcement. The declining importance of human capital and social capital may possibly be due to the structural barriers (e.g., channeling employees to low-income jobs) employers place that limits the returns brought by human capital and social capital (Phillips and Massey 1999). After the passage of IRCA, the internal immigration enforcement increased the employers' fear of government sanctions (Gentsch and Massey 2011). As a result, some employers lowered their pay as a strategy to reduce the costs and risks of hiring unauthorized workers (Massey 2007). The employers most likely reduced the earnings of authorized workers. This study's results reveal that although authorized migrants earn more than unauthorized migrants they experienced a larger earnings penalty compared to unauthorized migrants. In addition, the authorized migrants' earnings are becoming not so different from unauthorized migrants.

Another possible explanation is that after the passage of IIRIRA, employers further decrease migrants' earnings by channeling migrants into low hours and low earnings jobs with limited power and chance in mobility which can reduce the employer's risks of being sanctioned by the government. Thus, spatial segregation, regardless of human and social capital, limits access to important production skills and job information (Catanzarite 2003; Vallas 2003). Nevertheless, regardless of legal status, the extent that minorities (e.g., immigrants) have authority in the top of the organizational hierarchies is not likely.

Although this study did not test the effect of discrimination on migrants' earnings, it is a possible explanation for the decrease in the gains brought by human capital and social capital. Employers may reduce the costs and risks of hiring unauthorized workers by not differentiating between authorized and unauthorized migrants in their hiring and earnings (Donato and Sisk 2012). Prior to the passage of IRCA, the employers prefer to hire and pay more authorized migrants. Specifically, they prefer to hire someone with strong English ability (Oreopoulus

2001). In the U.S., migrants who speak English less fluently are more likely to earn less (Zhen 2013). After the passage of IIRIRA, the gains brought by speaking English strongly disappeared completely. Regardless of the migrants' English language ability, migrants did not differ.

The migrants' social capital are the networks that facilitate the migrants' incorporation and success in the U.S. because migrant networks provide information migrating successfully and acquiring jobs. Coinciding with other studies, this study shows that social capital helps migrants acquire higher earnings than those without a social capital (Amuedo-Dorantes and Mundra 2007; Donato, Durand, and Massey 1992; Aguilera and Massey 2003), specifically being a member of an organization. Being a member of an organization can expand the migrants' ties beyond friends. This means an organization may increase the odds of a migrants to acquire a higher paying job than a friend might help one get. However, the gains brought by the organization also disappeared after the passage of IIRIRA which may indicate employers being more concern of being sanctioned and avoiding migrant workers. There is a need to further explore how a migrant acquire the job and the effect it has on earnings. Though this study tested how the migrants obtained the job none of the indicators were significant.

Overall, when considering the full sample, after the passage of IRCA migrants earned less. However, a comparison of the immigration policy period models reveals that unauthorized workers experience a higher earnings' penalty during the IRCA period and this penalty decrease after the IIRIRA period. After the passage of IIRIRA, the wage penalty for undocumented migrants decreased from the IRCA period's levels, but the change was minor. The earnings between undocumented and documented during the IRCA period and IIRIRA period is consistent with previous findings (Gentsch and Massey 2011; Donato and Sisk 2012).

FUTURE RESEARCH

The increasing internal immigration enforcement in the U.S. increased the employers' fear of government sanctions for employing unauthorized migrants (Gentsch and Massey 2011). This can have unintended consequences on both native-born minorities' and authorize immigrants' labor outcomes. As mentioned, after 9/11, employers were less likely to hire native-born minorities because of racial profiling. They did not differentiate between authorized and unauthorized people. Future studies should examine the effect stricter immigration enforcement practices (e.g., Patriot Act) have on the employed native-born minorities' and immigrants. The purpose will be to understand how immigration policies affected unauthorized migrants and non-immigrants because people believe policy not aim at them do not affect them.

Furthermore, research needs to take into consideration the migrants' U.S. destination. Although the federal government passes immigration laws, the enforcement varies by U.S. region. There are states that passed their own anti-immigrant measures which can be stricter or more lenient than the federal government (Hotchkiss and Quispe-Agnoli 2013). One might argue that immigration laws may not influenced migrants' wages, but it is the generous minimum wages some states provide above the federal level. However, there is still evidence that immigration laws, such as IRCA, still account for differences in immigrant groups' wages regardless of the generous minimum wages (Kossoudji and Cobb-Clark 2002). Apart from Massey and Gelatt (2010), no other study has control for type of destination (e.g., new destination). They found that after the 1990s migrants whose place of residency was a new destination were more likely to earn more than those who resided in a traditional destination.

REFERENCES

Acock, Alan C. 2014. *A Gentle Introduction to Stata*. 4th ed. College Station, TX: STATA Press.

Aguilera, Michael B. and Douglas S. Massey. 2003. "Social Capital and the Wages of Mexican Migrants: New Hypotheses and Tests." *Social Forces* 82(2):671–701.

Allensworth, Elaine M. 1997. "Earnings Mobility of First and "1.5" Generation Mexican-Origin Women and Men: A Comparison with U.S.-Born Mexican Americans and Non Hispanic Whites." *The International Migration Review* 31(2):386–410.

Amuedo-Dorantes, Catalina and Kusum Mundra. 2007. "Social Networks and their Impact on the Earnings of Mexican Migrants." *Demography* 44(4):849–863.

Amuedo-Dorantes, Catalina, Thitima Puttitanun, and Ana P. Martinez-Donate. 2013. "How do Tougher Immigration Measures Affect Unauthorized Immigrants?" *Demography* 50(3):1067–1091.

Allison, Paul. 1999. *Multiple Regression: A Primer*. Thousand Oaks, CA: Fine Forge Press.

Aranda, Elizabeth, Cecilia Menjívar, and Katharine M. Donato. 2014. "The Spillover Consequences of an Enforcement-First U.S. Immigration Regime." *American Behavioral Scientist* 58(13):1687–1695.

Becker, G.S. 1964. *Human Capital: A Theoretical and Empirical Analysis, with special References to Education*. New York: Columbia University Press.

Boehm, Deborah A. 2008. "'Now I Am a Man and a Woman!': Gendered Moves and Migrations in a Transnational Mexican Community." *Latin American Perspectives* 35(1):16–30.

Borjas, George J. 1990. *Friends and Strangers: The Impact of Immigrants on the U.S. Economy*. New York: Basic Books.

Borjas, George J. 1993. "Immigration Policy, National Origin, and Immigrant Skills: A Comparison of Canada and United States." Pp. 21-44 in Small Differences that Matter: Labor Markets and Income Maintenance in Canada and the United States, edited by D. Card and R.B. Freeman. Chicago, IL: University of Chicago Press.

Borjas, George J. and M. Tienda. 1993. "The Employment and Wages of Legalized Immigrants." *International Migration Review* 24(4):712–747.

Catanzarite, Lisa. 2003. "Race-Gender Composition and Occupational Pay Degradation." *Social Problems* 50(1):14–37.

Coleman, James S. 1988. "Social Capital in the Creation of Human Capital." *American Journal of Sociology* 94(1):95–120.

Donato, Katharine M., Durand, Jorge, and Douglas Massey. 1992. “Changing Conditions in the U.S. Labor Market: Effects of the Immigrant Reform and Control Act of 1986.” *Population Research and Policy Review* 11(2):93–115.

Donato, Katharine M., Michael Aguilera, and Chizuko Wakabayashi. 2005. “Immigration Policy and Employment Conditions of US Immigrants from Mexico, Nicaragua, and the Dominican Republic.” *International Migration* 43(5):5–29.

Donato, Katharine M., Chizuko Wakabayashi, Shirin Hakimzadeh, and Amanda Armenta. 2008. “Shifts in the Employment Conditions of Mexican Migrant Men and Women: The Effect of U.S. Immigration Policy.” *Work and Occupations* 35(4):462–495.

Donato, Katharine M. and Blake Sisk. 2012. “Shifts in the employment outcomes among Mexican migrants to the United States, 1976–2009.” *Research in Social Stratification and Mobility* 30(1):63–77.

Facchini, Giovanni and Max F. Steinhardt. 2011. “What drives U.S. Immigration Policy? Evidence from Congressional Roll Call Votes.” *Journal of Public Economics* 95(7–8):734–743.

Gentsch, Kerstin and Douglas S. Massey. 2011. “Labor Market Outcomes for Legal Mexican Immigrants under the New Regime of Immigration Enforcement.” *Social Science Quarterly* 92(3):875–893.

Granovetter, Mark S. 1973. "The Strength of Weak Ties." *American Journal of Sociology* 78(6):1360-1380.

Hall, Matthew, Emily Greenman, and George Farkas. 2010. “Legal Status and Wage Disparities for Mexican Immigrants.” *Social Forces* 89(2):491–514.

Hodges, Melissa J. and Michelle J. Budig. 2010. “Who gets the Daddy Bonus?: Organizational Hegemonic Masculinity and the Impact of Fatherhood on Earnings.” *Gender and Society* 24(6):717–745.

Hotchkiss, Julie L. and Myriam Quispe-Agnoli. 2013. “The Expected Impact of State Immigration Legislation on Labor Market Outcomes.” *Journal of Policy Analysis for Public Policy Analysis and Management* 32(1):34–59.

Kossoudji, Sherrie A. and Deborah A. Cobb-Clark. 2000. “IRCA’s Impact on the Occupational Concentration and Mobility of Newly-Legalized Mexican Men.” *Journal of Population Economics* 13(1):81–98.

Kossoudji, Sherrie A. and Deborah A. Cobb-Clark. 2002. “Coming out of the Shadows: Learning about Legal Status and Wages from the Legalized Population.” *Journal of Labor Economics* 20(3):598–628.

Massey, Douglas. 1987. “The Ethnosurvey in Theory and Practice.” *International Migration Review* 21(4):1498–1522.

Massey, Douglas S. and Rene Zenteno. 2000. “A Validation of the Ethnosurvey: The Case of Mexico-U.S. Migration.” *International Migration Review* 34(3):766–793.

Massey, Douglas. 2007. *Categorically Unequal: The American Stratification System*. New York: Russell Sage Foundation.

Massey, Douglas S. and Julia Gelatt. 2010. “What Happened to the Wages of Mexican Immigrants? Trends and Interpretations.” *Latino Studies* 8(3):328–354.

Oreopoulos, Philip. 2011. “Why do Skilled Immigrants Struggle in the Labor Market? A Field Experiment with Thirteen Thousand Resumes.” *American Economic Journal: Economic Policy* 3(4):148–171.

Orrenious, Pia M. and Madeline Zavodny. 2009. “The Effects of Tougher Enforcement on the Job Enforcement on the Job Prospects of Recent Latin American Immigrants.” *Journal of Policy Analysis and Management* 28(2):239–257.

Passel, Jeffrey, Cohn, D’Vera, and Ana Gonzalez-Barrera. 2012. “Net Migration from Mexico Falls to Zero-and perhaps Less.” Washington, D.C.: Pew Research Center.

Phillips, Julie A. and Douglas S. Massey. 1999. “The New Labor Market: Immigrants and Wages after IRCA.” *Demography* 36(2):233–246.

Rivera-Batiz, Francisco L. 1999. “Undocumented Workers in the Labor Market: An Analysis of the Earnings of Legal and Illegal Mexican Immigrants in the United States.” *Journal of Population Economics* 12(1):91–116.

Vallas, Steven P. 2003. “Rediscovering the Color Line within Work Organizations: The ‘Knitting of Racial Groups’ Revisited.” *Work and Occupations* 30(4):379–400.

Zhen, Ying. 2013. “The Effects of English Proficiency on Earnings of U.S. Foreign-Born Immigrants: Does Gender Matter?” *Journal of Finance and Economics* 1(1):27-41.

CHAPTER FOUR

SOCIAL CAPITAL AND STRICTER IMMIGRATION ENFORCEMENT INFLUENCING MEXICAN MIGRANTS' REMITTING BEHAVIOR

Mexicans migrate to the U.S. as part of an economic strategy to obtain higher wages than it is possible to obtain domestically (Massey and Parrado 1994; Durand, Parrado, and Massey 1996). Once in the U.S., labor migrants send sums of money—remittances—to their family members or community members in Mexico. Migrants' remittance behavior is motivated by their responsibility to provide for the family members that remain in their community of origin; to invest in property, land, or a business; to demonstrate membership in their origin community; and as insurance against the risk of being deported or otherwise failing to achieve their goal in the U.S. (Amuedo-Dorantes and Pozo 2006; Carling 2008). Remittance behavior is also affected by immigration policies that make it more difficult for migrants to be employed in the U.S., particularly, the 1986 Immigration Reform and Control Act (IRCA) and the 1996 Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA). Deportations of unauthorized Mexican migrants have increased under these new policies and their earnings and chances of employment have decreased (Donato and Sisk 2012). Consequently, the flow of remittances from the United States to Mexico has diminished (Amuedo-Dorantes and Pozo 2006; Vaira-Lucero, Nahm, and Tani 2012). This study investigates whether the likelihood of remitting and the amount remitted by Mexican immigrants has diminished as policies restricting unauthorized immigration in the United States have tightened.

The study also investigates whether immigrants' social capital affects migrants' remittance patterns. Social capital is a form of capital that exists in relationships between people who exchange information and resources (Coleman 1988). In this study, migrants' social capital

is measured by having a strong tie to a person from their community of origin, such as living with a *paisano* (compatriot), having a family member who has been in the U.S., and being a member of an organization. Remitting behavior is influenced by social capital in several ways. Mexican migrants' connections to members of their origin community may serve as a form of social control over their actions, encouraging remittance behavior, because community members may grant or restrict access to a broad range of resources, including material and social support (Portes 1998:9; Portes and Landolt 2002). Also, social capital may be useful to counter the effects of more restrictive immigration enforcement policies for unauthorized immigrants through the sharing of information about enforcement activities or jobs and communities that may be relatively less affected by these policies. Overall, this study addresses the following questions: 1) Does Mexican migrants' social capital influence their remittance behavior? and 2) Does social capital counteract immigration restriction effects on Mexican migrants' remittance sending behavior?

The following sections review the literature on remittance sending behavior and specify the study's hypotheses. The next section describes the research methods, data, and measures. The results section presents the statistical tests of the hypotheses, followed by a discussion of the results and suggestions for future research.

MOTIVATIONS FOR REMITTING

The new economics of labor migration (NELM) theory posits that households decide for one or more members of the household to migrate in order to diversify income portfolio and protect against income losses in the local economy and, if possible, to increase household income (Stark 1991; Taylor 1999). Migrants remit their earnings to increase or smooth consumption in contexts when earnings and investment opportunities are limited (Haas 2010). Migrants'

remittances allow households to purchase basic goods and services, such as housing, food, and clothing. Such consumption multiplies the effects of remittances by increasing the local production of goods and services, thereby creating jobs in the origin community economy (Itzigsohn 1995; Portes 2009). In addition, migrants may also remit to invest in profitable activities, such as buying land, starting or expanding a business, and investing in more productive technology (Cohen 2001). Migrants may also remit to community organizations, thereby contributing to the wellbeing of their home community (Sana 2005; Conway and Cohen 2008). Even if all household members have migrated, permanent migrants may continue to remit to their sending communities out of altruism, obligation, or to maintain relationships within the community, all of which preserve migrants' social capital.

Social Capital

Social capital is a form of capital that exists in the relationship between people who exchange information and resources (Coleman 1988). Social capital serves three basic functions such as a source of 1) social control, 2) family support, and 3) benefits through extra-familial networks (Portes 1998:9). Migrants' social networks in home and host country allow them to gain access to a broad range of resources, such as information on migrating successfully and available jobs in the area (Donato, Durand, and Massey 1992; Amuedo-Dorantes and Mundra 2007). If migrants expect to benefit from these relationships and avoid being sanctioned, they must fulfill their obligations to network members and their community (Portes 1998; Muñoz and Collazo 2014). Migrants who participate more in their social networks by having *fiestas*, fundraisers, or creating and participating in migrant organizations are more likely to send remittances (Portes and Landolt 2000; Cohen 2001; Marcelli and Lowell 2005; Sana 2005; VanWey, Tucker, and McConnell 2005; Conway and Cohen 2008).

Studies have shown that migrants who do not meet the families' and communities' expectations by providing communal services, paying dues, or remitting to community projects are sanctioned (Kandel and Massey 2002; VanWey et al. 2005; Beard and Sarmiento 2010). The migrants' *paisanos* (compatriots), family members, and organizations may influence them to remit or to remit higher amounts, by restricting access to social capital for those who do not remit to community organizations. *Paisanos*, family members, and organizations may also positively reinforce immigrants' remittance behavior by requesting or reminding the migrant to remit. Based on this literature, the study tests the following hypotheses:

Hypothesis 1a. *Migrants with social capital during their last U.S. trip are more likely to send remittances than those without social capital.*

Hypothesis 1b. *Migrants with social capital during their last U.S. trip will send more remittance than those without social capital.*

Immigration Policy Period

Return migration may be voluntary, when a migrant has achieved a target earning goal, or less voluntary, if more restrictive immigration policies lead to lower earnings and greater risk of deportation. While a stream of remittances to the home community may fortify bonds with family and friends, more restrictive immigration periods, in which enforcement activities limit access to employment and diminish earnings, may make it more difficult to remit.

The empirical evidence of the effect of immigration policies on earnings and remittances is mixed. More restrictive immigration policies since IRCA have decreased the earnings of unauthorized Mexican migrants relative to authorized migrants (Donato and Sisk 2012). The Immigration Reform and Control Act, which gave a pathway to citizenship for many previously unauthorized Mexican migrants, decreased Mexican migrants' likelihood of remitting and the quantity of remittances sent overall (Amuedo-Dorantes and Mazzolari 2010). This decline in

remitting may be the result of a shift in the proportions of legal and unauthorized migrants and their remitting patterns. The substantial number of newly authorized migrants may have felt more secure in the U.S. and less obliged to remit, while the small proportion that remained unauthorized migrants felt less secure and more obliged to remit.

Empirically, however, it seems the main effect of economic and legal insecurity has been to diminish the flow of remittances. Both IRCA (1986) and IIRIRA (1996) included employment-based policies limiting unauthorized migrants access to employment. While these were weakly enforced in the IRCA period, IIRIRA improved enforcement capacity and threatened more migrants with the possibility of arrest and deportation (Massey, Durand, and Malone 2002). After IIRIRA, unauthorized migrants sent more remittances than authorized migrants (Vairia-Lucero et al. 2012). However, this was the net result of different effects of specific policies. The mandate that employers electronically verify job applicants' employment eligibility decreased Mexican migrants' likelihood of remitting because it decreased their chances of getting a job. However, greater policing measures were associated with an increased likelihood of remitting, perhaps because migrants felt the need to insure they would have resources in case they were deported (Amuedo-Dorantes and Puttitanun 2014). More recently, the housing crisis between 2007 and 2009 decreased employment in the construction sector where many Mexican migrants, authorized and unauthorized, were employed (Wilson 2009). This economic recession diminished the flow of remittances of Latin American migrants, particularly unauthorized Mexicans, from the top sending U.S. states, such as California (Orozco 2009; Ruiz and Vargas-Silva 2010). Overall, more restrictive immigration policies have heightened migrants' insecurity, which has resulted in migrants remitting to prepare for their return, but simultaneously diminished their earnings and, thus, their potential to remit.

To more clearly understand the effect of immigration policy periods on remittance behavior, the following hypotheses are tested:

Hypothesis 2a. *Migrants are more likely to send remittances during periods of greater immigration enforcement (IRCA: 1987–1996 and IIRIRA: 1997–2015) than during the pre-IRCA period (1965–1986).*

Hypothesis 2b. *Migrants send more remittances during periods of greater immigration enforcement (IRCA: 1987–1996 and IIRIRA: 1997–2015) than during the pre-IRCA period (1965–1986).*

Interactions

Social capital and more restrictive immigration enforcement are expected to increase and decrease, respectively, Mexican migrants' likelihood of sending remittances and the amount remitted. To date, there is no research that demonstrates how these two factors interact. This study posits that migrants' social capital, specifically living with a *paisano*, aids them in obtaining jobs with higher earnings and may protect them from deportation, allowing them to remit more. It also posits that more restrictive immigration policies diminish earnings and, therefore, the likelihood of remitting. The following hypotheses are tested:

Hypothesis 3a. *Migrants living with a paisano during the IRCA period (1987–1996) or IIRIRA period (1997–2015) on their last U.S. trip are more likely to remit than those living with a paisano during the pre-IRCA period (1965–1986).*

Hypothesis 3b. *Migrants living with a paisano during the IRCA period (1987–1996) or IIRIRA period (1997–2015) on their last U.S. trip sent more remittances than those living with a paisano during the pre-IRCA period (1965–1986).*

Other Motivations for Remitting

There are other motivations for remitting than those discussed above. These are controlled in the regression model. Having a spouse or child in Mexico creates an important responsibility to provide financially by remitting earnings. Previous research shows that migrants are more likely to remit if they have children or a spouse in their home country (Menjivar et al.

1998; Dustmann and Mestres 2010). Migrants who own a home, farm, or business may also intend to return and therefore be more likely to remit (Constant and Massey 2002; Sana and Massey 2005). However, the longer migrant stays in the U.S., especially if they are joined by family or have children who were born in the U.S., the less likely they are to return and therefore the less likely they are to remit. Likewise, highly-educated migrants may be more settled in the U.S. and therefore less likely remit (Marcelli and Lowell 2005; Niimi, Ozden, and Schiff 2010). Basically, as the migrant becomes more established in the host country, the likelihood of remitting and the amount of remittances declines.

METHODOLOGY

To examine the hypotheses about two different outcomes, the likelihood of remitting and the amount remitted, two separate analyses were conducted using the same data and measures. Due to differences in responses for the dependent variables the sample sizes differ. In this section I describe the data, measures, and the statistical approach.

Data

This study uses ethnosurvey data from 150 communities located in 24 Mexican states surveyed by the Mexican Migration Project (MMP) between 1982 and 2015 (Massey 1987). For each community, about 200 households were randomly sampled from a complete roster of households unless the community's population was under 500. In this case, the complete community was surveyed. Businesses and vacant houses were excluded from the sampling frame. The MMP 150 includes 24,800 Mexican households and 957 U.S. households whose heads originated in the surveyed Mexican communities. Within each Mexican community surveyed, 10 to 20 U.S. established migrant households were selected via snowball sampling.

Communities were selected based on population size, geographic location, and a history of migration to the United States. Consequently, the MMP is not designed to be a representative sample of Mexican immigrants in the United States, or of the Mexican population more broadly. That being said, analyses of the MMP show similar results to those found in representative samples of the Mexican population such as Mexico's National Survey of Demographic Dynamics (see Massey and Zenteno 2000; Rendall, Brownell and Kups 2011).

The unit of analysis for the study of remitting behavior during the last U.S. trip is household heads with migration experience (hereafter referred to as migrants). The last U.S. trip is the most recent trip, which may be the first trip for new migrants or a higher order trip for more experienced migrants. Questions about remittances were only asked with reference to the last (most recent) U.S. trip. Migrants who were less than 15 years old were excluded from the analysis (N=88) because it is unlikely that they made migration decisions independently of others. In addition, migrants whose last U.S. trip was before 1965 were excluded from the analysis, because this was the beginning of the period of widespread unauthorized immigration and the MMP had no national data available prior to 1965 (N=699). Lastly, migrants who had incomplete information on their migration experience or their demographic, household, and community characteristics were excluded from the analysis (N=2,422). The final sample included 5,756 migrants ages 15 and older with migration experience dating between 1965 and 2015. All observations are used to estimate the effects of social capital and immigration policy period on migrant remitting behavior, however, due to missing values of the amount of remittances sent a reduced number of observations (N=3,778) are used in that analysis.

Measures

Table 1 provides the description of the variables used to estimated regression equations for migrants' likelihood in remitting and the amount of sent during their last U.S. trip.

Table 1. Description of Variables Used to Estimate Regression Equations for Migrant Remitting Behavior and the Amount of Remittances Sent During Their Last U.S. Trip

Variables	Description	Coding
Dependent Variables		
Sent remittances	Remitted or returned with savings during their last U.S. trip	1=yes; 0=no
Amount of remittances sent (monthly, 2010 USD)	Total amount of remittances sent monthly in last U.S. trip	Continuous
Independent Variables		
Demographic Characteristics		
Age	Respondent's age	Continuous
Age2	Age squared	Continuous
Female	Respondent is female	1=yes; 0=no
Ever married	Was married during their last U.S. trip	1=yes; 0=no
Have minor children	Had children under 18 during their last U.S. trip	1=yes; 0=no
Legal Status		
Unauthorized	Used no documents or false documents during their last U.S. trip	
Human Capital		
Years of education	Respondents' years of school attendance	Continuous
Socioeconomic Characteristics		
Hourly earnings (ln)	Hourly earnings during their last U.S. trip (adjusted for inflation)	Continuous
Household's Ownership		
Owns land	Respondent owns land in Mexico	1=yes; 0=no
Owns property	Respondent owns property in Mexico	1=yes; 0=no
Owns business	Respondent owns business in Mexico	1=yes; 0=no
Migration Experience		
Duration of trip (years)	Length of stay in the United States in years during their last trip	Continuous
Community Characteristics		
Rural	Community of origin is rural	1=yes; 0=no
Community development index	Community development index	0 (less) to 1 (more)
Macro-Contexts		
U.S. unemployment rate	U.S. unemployment rate	Continuous
Social Capital		
Lived with a *paisano*	Migrant lived with a community member (*paisano*)	1=yes; 0=no
Family member has been in the United States	A parent or sibling has been to the United States.	1=yes; 0=no
Member of an organization	Migrant was in a sport or social organization	1=yes; 0=no
Immigration Policies		
Pre-IRCA (1965–1986)[r]	The pre-IRCA period's years	1=yes; 0=no
IRCA (1987–1996)	The IRCA period's years	1=yes; 0=no
IIRIRA (1997–2015)	The IIRIRA period's years	1=yes; 0=no
Interactions		
Lived with *paisano* x pre-IRCA[r]	Lived with *paisano* during pre-IRCA period	
Lived with *paisano* X IRCA	Lived with *paisano* during IRCA period	1=yes; 0=no
Lived with *paisano* X IIIRA	Lived with *paisano* during IIRIRA period	1=yes; 0=no
N=6,034		

Note: r=references

Dependent variables

For this study, there are two dependent variables: 1) sent remittance and 2) amount of remittances sent. The dependent variable, sent remittances, was coded "1" whether a Mexican migrant sent remittances to a Mexican household during their last U.S. trip and/or if they brought savings to Mexico and "0" if they did not. This measure has been used by other scholars estimating the migrant's likelihood in sending remittances (Durand et al. 1996; Garip 2012; Vaira et al. 2012).

The amount of remittances sent by Mexican migrants is measure in three ways: 1) total amount of remittances; 2) total amount of saving brought to Mexico; and 3) total average monthly remittances sent (Amuedo-Dorantes, Bansak, and Pozo 2005; Garip 2012). For this study, the dependent variable is measure by the total amount of remittances sent during the last U.S. trip. The total amount of remittances was calculated by multiplying the average monthly remittances sent and the duration in months of last U.S. trip. Then this total was added with the savings brought to Mexico by migrants (Garip 2012). The total amount of remittances was divided by the duration of the last trip to acquire the monthly amount of remittances sent. The amount of remittance sent (monthly) was adjusted for inflation (2010 USD) using STATA command *cpigen* and were transformed to a natural logarithm to meet regression assumptions.

Critical variables

The study's critical variables are the migrants' social capital and the immigration policy periods. The social capital indicators are the migrant lived with a *paisano*, the migrant has a family member that has been in the U.S. and the migrant is a member of an organization. Migrants were assigned a "1" if they lived with a home-community member (*paisano*) during their last U.S. trip and "0" if they did not. Migrants who have a family member that has been in the United States prior to the migrant's trip were assigned a "1" if either a parent or sibling has

been in the U.S. and "0" if not. Migrants who were members of an organization, either a sport's organization or social club, during their U.S. trip were assigned a "1" if yes and "0" if not.

Another critical variable is the interaction term between the migrants' social capital, specifically if migrant lived with a *paisano* during last U.S. trip, and the immigration policy period. The immigration policy periods were not interacted with the other social capital indicators because most studies have focused on how organizations and family influences migrants' remittances behavior (Cohen 2001; Mooney 2013; Sheehan and Riosmena 2013). However, there is no research examining how living with a home-community member can mediate the impact of stricter immigration policy periods.

Immigration policy periods are indicated by the years they were in effect in the United States before being remediated. The pre-IRCA period spans from when the Bracero-Program ended and IRCA was signed into law. The pre-IRCA period was assigned a value of "1" if the years were 1965–1986 and a value of "0" if otherwise. On November 6th, 1986, President Ronald Reagan signed IRCA into law (Massey et al. 2002), so to capture its effect the IRCA period was assigned a value of "1" if the years were 1987–1996 and a value of "0" if otherwise. In 1996, IIRIRA was passed to remediate IRCA's flaws but it did not go into effect until April 1st, 1997 (Vaira et al. 2012). The IIRIRA period was assigned a value of "1" if the years were 1997–2015 and a value of "0" if otherwise.

Control variables

Other indicators related to migrants' decision to send remittances and the amount sent were included as control variables, such as demographic characteristics, human capital, socioeconomic characteristics, migration experience, community characteristics, and macroeconomic-contexts. The demographic variables included were age, age squared, female,

ever married, have minor children (younger than 18-years-old), and legal status. Migrants' legal status was measured using a dichotomous variable unauthorized, which was coded "1" if the migrant used no or false documents and "0" if otherwise to cross the U.S. border during their last U.S. trip.

Migrants' human capital, such as migrants' years of education, is expected to increase the likelihood of employment and the amount of earnings, both of which increase the likelihood and amount of remittances. As controls, the migrants' years of education and hourly earnings were included in the model. Hourly earnings were adjusted for inflation (2010 USD) using STATA command *cpigen* and were transformed to a natural logarithm to meet regression assumptions. The variables encompassing ownership, such as land, property, and business, respectively, were assigned a value of "1" if yes and "0" if not. Aspects of the migrant's U.S. migration experience, such as the duration of the trip (in years), shape remittance sending behavior was included as a control.

The community's infrastructure plays a prominent role in migrants remitting behavior. Following Sana's and Massey's (2005) community development variable "mean development age," which measures the time the development process began, a community development index was created. This study's community development index was not measured based on when the development process began, but if the community had specific infrastructures. A series of dichotomous variables were used to create a community development index (Cronbach's alpha of 0.81) to include in the logistic regression model: 1) preparatory school in *municipio* (municipality); 2) bank in *municipio*; 3) post office in community; 4) paved road between community and highway; 5) electric service in community; 6) water service in community; 7)

public lighting service in community; and 8) telephone service in community. The closer to one the community development index is the more developed the community.

Besides immigration policies, other aspects of the national-context were included in the current study, but excluded because they were statistically insignificant: 1) probability of apprehension; 2) visa accessibility; 3) lagged exchange rate; and 4) Mexican real interest rates. The probability of apprehension is measured by the migrants' likelihood of being arrested while attempting an unauthorized entry to the U.S. The accessibility of visas is measured by the total immigrants admitted divided by the total immigrants admitted plus the gross illegal entries. Thus, only the U.S. unemployment rate was included as a control variable.

EVER SENT REMITTANCES

A logistic regression is the most appropriate regression model for estimating the effects of independent variables on a binary dependent variable. Only the last U.S. trip is analyzed, which may be a first or higher order U.S. trip. The results are reported as odds ratios, calculated using the "*listcoef"* STATA command which were converted to percentages (100*{exp(βκ*δ)–1}) to facilitate interpretation of the results (Long and Freese 2006). All estimated models include individual, household, community, and national-context variables that influence migrants' decision to send remittances. Because individuals are observed within communities, the logistic regression model is adjusted for clustering using robust standard errors.

RESULTS

Descriptive Statistics

Means and standard deviations were computed across individual migrants during their last U.S. trip. Table 2 provides the descriptive statistics of Mexican migrants sending remittances to Mexico during their last U.S. trip.

Table 2. Descriptive Statistics of Mexican Migrants Sending Remittances to Mexico During Their Last U.S. trip

Variables	Mean	S.D.
Dependent variable		
Sent remittances	0.749	0.434
Demographic Characteristics		
Age	33.077	11.921
Age2	1,236.142	933.895
Female	0.054	0.226
Ever married	0.681	0.466
Have minor children	0.683	0.465
Legal Status		
Unauthorized	0.688	0.463
Human Capital		
Years of education	5.805	3.923
Socioeconomic Characteristics		
Hourly earnings (ln, 2010 USD)	1.423	0.886
Ownership in Mexico		
Own land	0.139	0.346
Own property	0.501	0.500
Own business	0.117	0.321
Migration Experience		
Duration of trip (years)	3.325	5.504
Community Characteristics		
Rural	0.604	0.489
Community development index	0.769	0.275
Macroeconomic Context		
U.S. unemployment rate	0.061	0.013
Social Capital		
Lived with a *paisano*	0.608	0.488
Family member has been in the United States	0.528	0.499
Member of an organization	0.156	0.363
Immigration Policy (period)		
Pre-IRCA (1965–1986)[r]	0.424	0.494
IRCA (1987–1996)	0.408	0.491
IIRIRA (1997–2015)	0.168	0.374
Interactions		
Lived with a paisano x pre-IRCA[r]	0.264	0.441
Lived with a paisano x IRCA	0.243	0.429
Lived with a paisano x IIRIRA	0.101	0.301
Observations	5,756	

Note: r=reference; S.D.=Standard Deviation

Seventy-five percent of migrants sent remittances during their last U.S. trip (see Table 2). During their last U.S. trip, 61% of the migrants lived with a *paisano*. Fifty-three percent of migrants have at least a parent or sibling who had been in the United States previously. Sixteen percent of the migrants were a member of an organization during their last U.S. trip. Forty-two

percent, 41%, and 17% of the migrants were in the pre-IRCA period (1965–1986), the IRCA period (1987–1996) and the IIRIRA period (1997–2015) during their last U.S. trip, respectively. Interactions between migrants' social capital, specifically lived with a *paisano,* and immigration policy period variables were entered last in the logistic regression model. During the pre-IRCA period (1965–1986), 10% of the migrants lived with a paisano during their last U.S. trip. Twenty-four percent of the migrants lived with a *paisano* during the IRCA period (1987–1996). In contrast, only 10% of migrants lived with a *paisano* during the IIRIRA period (1997–2015).

Control Variables

The migrants' average age was 33 years and most (68%) were married during their last U.S. trip. In addition, 68% of migrants had minor children. Most migrants (95%) were male and the remaining 5% were female. During their last U.S. trip, 69% of the migrant entered the United States with no or false documents. Most migrants completed, on average, 6 years of education. The adjusted for inflation hourly earnings average was $0.70. In addition, 14% of migrants owned land, 50% owned property, and 12% owned businesses in Mexico migrants. The migrants' average duration during their last U.S. trip was 5.80 years. In this study, most migrants came from rural communities (60%). On average, most migrants' community of origin was fully developed with scoring 0.76 in the community development index (closer to 1 the more develop).

Logistic Regression Analysis of Remittances Sent

The first model (see Table 3) shows the effect of the control variables without the social capital or immigration policy period measures. These results are consistent with other studies (Sana 2005; Amuedo-Dorantes and Pozo 2006; Dustmann and Mestres 2010; Garip 2012), showing unauthorized migrants are more likely to send remittances than authorized migrants,

women are less likely to send remittances than men, and those who stay longer in the United States are less likely to send remittances. In logistic regression, R-squared does not exist and interpreting the pseudo-R^2 as the variance explained by the predictors is not recommended because the pseudo-R^2 values tend to be small (Acock 2014). The Wald chi^2 test was used to test the significance of the model. Model 1 fits the data well and explains about 10.7% (Pseudo R^2 = 0.107, Wald Chi^2 = 0.000) of the variation in the dependent variable. The addition of the critical variables, social capital and immigration policy period (Model 2) improves the model significantly and increased the explained variance to (Pseudo R^2 = 0.131, Wald Chi2 = 0.000). In model 3, the hypothesis that the effect of social capital on migrants' remitting behavior depends on the immigration policy period is not supported. Therefore, only Model 2 is discussed.

Model 2 adds migrants' social capital variables to the model to test the hypothesis (1a) that *migrants with social capital during their last U.S. trip were more likely to send remittances than those who did not*. Results from this model support the social capital hypothesis. Specifically, the odds of remitting were roughly 112% greater for migrants who lived with a *paisano* than for migrants who did not, holding all other variables constant (p = 0.000). Also, the odds of remitting were about 30% greater for migrants who have at least one family member who has been in the U.S. than those who did not, holding all other variables constant (p = 0.001). However, the migrants' odds of remitting were 29% lower for migrants who were a member of an organization compared to those who were not members of an organization, holding all other variables constant (p = 0.005). Therefore, migrants with strong social capital, either in the form of living with a *paisano* on their last U.S. trip or having a family member with previous migration experience, were more likely to remit than those lacking these types of social capital. This pattern held regardless of the immigration policy period.

Model 2 also tests the hypothesis (2a) that *more restrictive immigration policies increase the likelihood that migrants send remittances.* Results from this model partially supported the immigration policies hypothesis because only the IIRIRA period was statistically significant. The migrants' odds of remitting during the IIRIRA period (1997–2015) were about 48% greater than for migrants during the pre-IRCA period (1965–1986), holding all other variables constant (p = 0.007). The odds of remitting were 5% greater for migrants during the IRCA period (1987–1996) than the pre-IRCA period (1965–1986), but this was not statistically significant. This is not consistent with previous research because Mexican migrants were more likely to remit prior to IRCA's amnesty program (Amuedo-Dorantes and Mazzolari 2010). Therefore, it is found that the odds of remitting only increased in the IIRIRA period relative to the pre-IRCA period, suggesting that the very restrictive immigration policies were more effective in influencing migrants to remit.

Table 3. The Odds of Mexican Migrants Sending Remittances to Mexico During Their Last U.S. Trip

	Model 1		Model 2		Model 3	
Variables	Odds Ratio	R.S.E.	Odds Ratio	R.S.E.	Odds Ratio	R.S.E.
Demographic Characteristics						
Age	1.039*	0.017	1.038*	0.017	1.038*	0.017
Age2	0.999**	0.000	0.999**	0.000	0.999**	0.000
Female	0.399***	0.059	0.438***	0.066	0.439***	0.066
Ever married	1.105	0.119	1.132	0.119	1.135	0.125
Have minor children	1.440***	0.150	1.356**	0.144	1.356**	0.147
Legal Status						
Unauthorized	1.655***	0.172	1.539***	0.145	1.548***	0.143
Human Capital						
Years of education	0.977*	0.010	0.975*	0.010	0.976*	0.010
Socioeconomic Characteristics						
Hourly earnings (ln, 2010 USD)	1.731***	0.107	1.684***	0.099	1.681***	0.103
Ownership in Mexico						
Own land	1.305	0.219	1.219	0.196	1.219	0.205
Own property	1.513***	0.134	1.435***	0.129	1.436***	0.135
Own business	0.835	0.090	0.846	0.092	0.842	0.093
Migration Experience						
Duration of trip (years)	0.941***	0.008	0.953***	0.008	0.952***	0.008
Community Characteristics						
Rural	1.258*	0.142	1.250*	0.134	1.250	0.137
Community development index	0.767	0.149	0.742	0.150	0.748	0.168
Macroeconomic Context						

U.S. unemployment rate	0.094	0.236	2.359	5.897	2.617	4.747
Social Capital						
Lived with a *paisano*			2.123***	0.184	1.881***	0.218
Family member has been in United States			1.300**	0.105	1.302**	0.105
Member of an organization			0.706**	0.087	0.704**	0.086
Immigration Policy (period)						
Pre-IRCA (1965–1986)[r]			-	-	-	-
IRCA (1987–1996)			1.050	0.100	0.957	0.114
IIRIRA (1997–2015)			1.475**	0.212	1.231	0.217
Interactions						
Lived with paisano x pre-IRCA[r]						
Lived with paisano x IRCA					1.193	0.196
Lived with paisano x IIRIRA					1.457	0.340
Log pseudolikelihood	–2895.1246		–2817.2223		–2815.3349	
Wald Chi2	484.04***		603.37***		619.39***	
Observations	5,756		5,756		5,756	
Pseudo R2	0.107		0.131		0.132	

Note: r=reference; R.S.E. =robust standard errors
* p<0.05, ** p<0.01, *** p<0.001

AMOUNT OF REMITTANCES SENT

The model assesses the effect of social capital and immigration enforcement factors on the logged remittances sent monthly (2010 USD) by Mexican migrants during their last U.S. trip, while controlling for individual and contextual variables. The Ordinary least squares (OLS) regression analysis is the most appropriate regression model for this outcome (Allison 1999). The amount of remittances sent (monthly) on the last U.S. trip is logged to minimize the effect of extremely high values. It logged indicator ranges from -1.450 to 9.446. Due to missing values for the amount of remittances, the total sample size is only 3,778. The unstandardized coefficients were standardized to compare coefficients. Also, for interpretation of results, the standardized coefficients were converted to percentages: $100(e^b - 1)$.

Table 4. Descriptive Statistics of Variables Used to Predict Amount of Remittances Sent (monthly) to Mexico During Their Last U.S. Trip

Variables	Mean	S.D.
Dependent Variable		
Amount of remittances sent (ln, 2010 USD)	5.635	1.079
Demographic Characteristics		

Age	33.202	11.275
Age2	1,229.482	860.510
Female	0.035	0.184
Ever married	0.720	0.449
Have minor children	0.726	0.446
Legal Status		
Unauthorized	0.709	0.454
Human Capital		
Years of education	5.696	3.848
Socioeconomic Characteristics		
Hourly earnings (ln, 2010 USD)	1.552	0.806
Ownership in Mexico		
Own land	0.155	0.362
Own property	0.540	0.498
Own business	0.119	0.324
Migration Experience		
Duration of trip (years)	2.732	4.709
Community Characteristics		
Rural	0.610	0.488
Community development index	0.776	0.270
Macroeconomic Context		
U.S. unemployment rate	0.061	0.013
Social Capital		
Lived with a *paisano*	0.665	0.472
Family member has been in United States	0.580	0.494
Member of an organization	0.140	0.345
Immigration Policy (period)		
Pre-IRCA (<1987)[r]	0.394	0.489
IRCA (1987–1996)	0.433	0.496
IIRIRA (>1996)	0.173	0.379
Interactions		
Lived with paisano x Pre-IRCA[r]	0.267	0.442
Lived with paisano x IRCA	0.283	0.450
Lived with paisano x IIRIRA	0.115	0.319
Observations	3,778	

Note: r=reference; S.D.=standard deviation

Descriptive Statistics

Means and standard deviations were computed across individual migrants during their last U.S. trip (see Table 4). Seventy-five percent of migrants sent remittances during their last U.S. trip. However, due to missing information, the total percentage of migrants who sent remittances during their last U.S. trip decreased to 65%. The average amount of remittances sent monthly by the 65% of migrants was $435.41.

Critical variables

Sixty-six percent of the migrants who sent remittances lived with a *paisano* during their last U.S. trip. Fifty-eight percent of migrants had a family member who has been in the United States, and 14% were a member of an organization during their last U.S. trip. During their last U.S. trip, 39% of the migrants were in the United States during the pre-IRCA period (1965–1986) followed by 43% during the IRCA period (1987–1996), and 17% during the IIRIRA period (1997–2015). Twenty-seven percent of migrants who lived with a *paisano* during the pre-IRCA period (1965–1996) sent remittances. Twenty-eight percent of migrants who lived with a *paisano* in the IRCA period (1987–1996) during their last U.S. trip sent remittances, while only 11% sent remittances during the IIRIRA period (1997–2015).

Control variables

Of those who sent remittances, the average age was 33 years old, and only 3% were female. Seventy-two percent of the migrants were married and 73% had minor children during their last U.S. trip. Most migrants (71%) had unauthorized entry to the United States in their last trip. The average duration of the migrants was 2.7 years during their last U.S. trip. The migrants' average education was 6 years and their hourly earnings was about $6.27. There were a few migrants who sent remittances that own land (15%) and own a business (12%). However, over half of the household head owned property (54%) in Mexico. Most migrants who sent remittances during their last U.S. trip came from a rural community (61%). The average of the migrants' community development index was 0.78 (being closer to one represents being more developed). In the macroeconomic context, the average U.S. unemployment rate was 6%.

OLS Regression Analysis of Amount of Remittances Sent

The first model in Table 5 shows the effect of the control variables with the social capital or immigration policy period measures. Model 1 fits the data well and explains about 15% (R^2 =

0.152) of the variation in the dependent variable. The variation of the outcome remains the same with the addition of the interaction term in Model 2 ($R^2 = 0.152$). In addition, the hypothesis that the effect of social capital on migrants' remitting behavior depends on the immigration policy period is rejected. The results for both models are statistically significant since the F-test rejected the null hypothesis at the p-level <0.000.

The first model in Table 5 shows the effect of the control variables with the social capital and immigration policy period measures. Model one tested hypothesis 1b that *migrants with social capital during their last U.S. trip send more remittances than those without social capital*. Findings support the social capital hypothesis. The amount of remittances sent is 6% greater for migrants who lived with a *paisano* than for migrants who did not lived with a *paisano*, holding all other variables constant (p = 0.002). Likewise, migrants who have a family member that has been in the U.S. sent 8% more remittances than migrants who do not have a family member who has been in the U.S, holding all other variables constant (p = 0.020). However, migrants' who are members of an organization do not significantly differ in the amount of remittances sent compared to migrants who are members of an organization. Therefore, migrants with strong social capital, either in the form of living with a *paisano* on their last U.S. trip or having a family member with previous migration experience, send a higher amount of remittances than those lacking these types of social capital.

Furthermore, model 1 test the hypothesis (2b) that *periods of immigration enforcement increase the amount of remittances migrants sent compared to the pre-immigration enforcement period (pre-IRCA)*, is supported. During the IIRIRA period (1997–2015), migrants sent 23% more remittances than migrants during the pre-IRCA period (1965–1986), holding all other variables constant (p = 0.000). During the IRCA period (1987–1996), migrants sent 16% more

remittances than migrants during the pre-IRCA period (1965–1986), holding all other variables constant (p = 0.000). Thus, in periods of stricter immigration enforcement the migrants tend to a higher amount of remittances than in the pre-IRCA levels.

The second model included the interaction term. This model tests hypothesis (3b) that *migrants living with a paisano during the IRCA period (1987–1996) or IIRIRA period (1997–2015) on their last U.S. trip sent more remittances than those living with a paisano during the pre-IRCA period (1965–1986).* This hypothesis was not supported because the interaction term was statistically insignificant. In addition, the migrants' social capital, lived with a *paisano*, became statistically insignificant with the inclusion of the interaction term. However, the immigration policy period indicators remain consistent. Migrants' after the passage of IRCA increased the monthly amount of remittances sent.

It is important to note that the immigration policy periods were the salient predictors in the amount of remittances sent monthly by migrants (see standardized coefficients). When comparing the standardized coefficients in both model 1 and model 2, the amount of remittances sent during the IRCA period (1987–1996) and the IIRIRA period (1997–2015) was larger than the pre-IRCA period (1965–1986).

Table 5. The Monthly Amount of Remittances Sent to Mexico During Their Last U.S. trip by Migrants

	Model 1			Model 2		
Variables	b	R.S.E.	B	b	R.S.E.	B
Demographic Characteristics						
Age	0.021	0.011	0.219	0.021	0.011	0.215
Age2	-0.000*	0.000	-0.222	-0.000*	0.000	-0.218
Female	-0.386***	0.102	-0.066	-0.384***	0.102	-0.065
Ever married	0.028	0.050	0.012	0.024	0.050	0.010
Have minor children	0.055	0.049	0.023	0.056	0.049	0.023
Legal Status						
Unauthorized	-0.116*	0.048	-0.048	-0.116*	0.048	-0.050
Human Capital						
Years of education	0.014*	0.006	0.048	0.013*	0.006	0.048
Socioeconomic Characteristics						
Hourly earnings (ln, 2010 USD)	0.170***	0.024	0.127	0.170***	0.024	0.127

Ownership in Mexico						
Own land	0.122	0.071	0.041	0.122	0.070	0.041
Own property	0.197***	0.042	0.091	0.199***	0.042	0.092
Own business	0.051	0.052	0.015	0.049	0.052	0.015
Migration Experience						
Duration of trip (years)	-0.030***	0.006	-0.132	-0.030***	0.006	-0.133
Community Characteristics						
Rural	0.084	0.051	0.038	0.082	0.051	0.037
Community development	-0.059	0.092	-0.015	-0.057	0.092	-0.014
Macroeconomic Context						
U.S. unemployment rate	5.696**	1.850	0.069	5.686**	1.855	0.069
Social Capital						
Lived with a *paisano*	0.133**	0.043	0.058	0.088	0.061	0.039
Family member has been in the United States	0.089*	0.038	0.040	0.087*	0.038	0.040
Member of an organization	0.036	0.046	0.011	0.037	0.046	0.012
Immigration Policy (period)						
Pre-IRCA (<1987)[r]	-	-	-	-	-	-
IRCA (1987–1996)	0.323***	0.050	0.148	0.254***	0.074	0.116
IIRIRA (>1996)	0.603***	0.071	0.211	0.609***	0.085	0.213
Interactions						
Lived with paisano x Pre-IRCA[r]						
Lived with paisano x IRCA				0.105	0.085	0.044
Lived with paisano x IIRIRA				-0.009	0.083	-0.003
Constant	4.180***	0.255	4.180***	4.221***	0.257	4.221***
F-Test	20.74***		33.64***	19.62***		30.70***
Observations	3,778		3,778	3,778		3,778
R-squared	0.152		0.152	0.152		0.152

Note: r=references; b=unstandardized coefficient; R.S.E.=robust standard errors; B=standardized coefficient
* p<0.05, ** p<0.01, *** p<0.001

CONCLUSION

The motivations influencing migrants' remitting behavior, namely, migrants' social capital and periods of immigration enforcement, are presented. Migrants' social capital increases the migrants' likelihood of sending remittances except for being a member of an organization. After people migrate, they usually depend on the assistance of family and friends who already migrated as well as others who share their cultural background to provide them with resources. Family members and fellow *paisanos* (compatriots) serve a key role for migrants, because they decrease the risks and increase migrants' benefits (Flores-Yeffal and Aysa-Lastra 2011). This study shows that Mexican migrants probably remit to reciprocate the *paisano*'s and family member's good-will and to maintain access to a broad range of resources, such as information on migrating successfully and employment opportunities in the area. In addition, *paisanos* and

family members may closely monitor and control the migrant's behavior, such as sending remittances. It has been shown that the weakening of connections with *paisanos*, including family members, and the norm of reciprocity decreases migrants' remittance sending behavior (Gouldner 1960; Duany 2010). Although social capital may influence migrants' decision to remit, they do not influence the amount of remittances sent, specifically for migrants who lived with a *paisano*. This is not an indication that *paisanos* do not influence the amount of remittances sent, but that there may be other factors that influence the amount of remittances sent, such as the migrants' earnings. Due to the earnings, migrants' family and *paisanos* may be more considerate considering the amount sent of remittances sent, because they simply want the migrant to send remittances.

The immigration policy periods affected the migrants' likelihood of remitting and the amount of remittances sent. During the IRCA period and the IIRIRA period, without the inclusion of the interactions, migrants were more likely to send remittances, and their quantity of remittances sent increased. This finding may indicate that immigration enforcement creates a volatile and insecure situation for migrants, encouraging them to send remittances in preparation for a forced or volunteer return to their home country. When comparing the standardize coefficients, the severity was more evident during the IIRIRA period, because migrants were more likely to send a higher amount of remittances. During the IRCA period, migrants may have remitted less to save for the legalization process. Also, after legalization, migrants may not send remittances to begin the family reunification process. Unfortunately, increasing anti-immigrant sentiment has led to national and state policies further restricting immigration.

I propose that living with a *paisano* increases the likelihood of sending remittances as well as the amount during the IRCA period (1987–1996) and the IIRIRA period (1997–2015)

compared to the pre-IRCA period (1965–1986). However, this was not the case for either outcome of odds of remitting and quantity of remittances sent monthly (hypothesis 3a and 3b). There was no significant difference between migrants who lived with a *paisano* during the IRCA period (1987–1996) or IIRIRA period (1997–2015) in their last U.S. trip in the likelihood of sending remittances than those during the pre-IRCA period (1965–1986) or the quantity. Although not significant, according to Amuedo-Dorantes and Puttitanun (2014), the fear of deportation, specifically for the undocumented migrants, has decreased the amount of remittances sent more than the threat of employment insecurity. The remittances are dependent on the migrants' earnings. The migrant may opt to sending more remittances because of fear of deportation, but the *paisano* may mitigate the loss of job by helping migrants obtain another job quickly. There is a need to investigate the ways in which a *paisano* helps a migrant, such as providing financial help and helping obtain a job. In addition, Mexican migrants need to be compared in future studies with other Latin American migrants, such as migrants from Colombia and El Salvador.

REFERENCES

Acock, Alan C. 2014. *A Gentle Introduction to Stata*. 4th ed. College Station, TX: STATA Press.

Allison, Paul. 1999. *Multiple Regression: A Primer*. Thousand Oaks, CA: Fine Forge Press.

Amuedo-Dorantes, Catalina, Cynthia Bansak, and Susan Pozo. 2004. "On the Remitting Patterns of Immigrants: Evidence from Mexican Survey Data." *Economic Review* 90(1):37–58.

Amuedo-Dorantes, Catalina and Susan Pozo. 2006. "Remittances as Insurance: Evidence from Mexican Immigrants." *Journal of Population Economics* 19(2):227–254.

Amuedo-Dorantes, Catalina and Kusum Mundra. 2007. "Social Networks and their Impact on the Earnings of Mexican Migrants." *Demography* 44(4): 849-863.

Amuedo-Dorantes, Catalina and Francesca Mazzolari. 2010. "Remittances to Latin America from Migrants in the United States: Assessing the Impact of Amnesty Programs." *Journal of Development Economics* 91(2):323–335.

Amuedo-Dorantes, Catalina and Thitima Puttitanun. 2014. "Remittances and Immigration Enforcement." *IZA Journal of Migration* 3(6):1–26. Retrieved February 17, 2016 (http://link.springer.com/article/10.1186/2193–9039–3–6).

Beard, Victoria A. and Carolina S. Sarmiento. 2010. "Ties that Bind: Transnational Community Based Planning in Southern California." *International Development Planning Review* 32(3/4):207–224.

Carling, Jørgen. 2008. "The Determinants of Migrant Remittances." *Oxford Review of Economic Policy* 24(3):581–598.

Cohen, Jeffrey H. 2001. "Transnational Migration in Rural Oaxaca, Mexico: Dependency, Development, and the Household." 103(4):954–167.

Coleman, James S. 1988. "Social Capital in the Creation of Human Capital." *American Journal of Sociology* 94(1):95-120.

Constant, Amelie and Douglas S. Massey. 2002. "Return Migration by German Guest Workers: Neoclassical Versus New Economic Theories." *International Migration* 40(4):5–38.

Conway, Dennis and Jeffrey H. Cohen. 1998. "Consequences of Migration and Remittances for Mexican Transnational Communities." *Economic Geography* 74(1):26–44.

Donato, Katharine M., Jorge Durand, and Douglas S. Massey. 1992. "Changing Conditions in the U.S. Labor Market: Effects of the Immigration Reform and Control Act of 1986." *Population Research and Policy Review* 11(2):93–115.

Donato, Katharine M. and Blake Sisk. 2012. “Shifts in the Employment Outcomes Among Mexican Migrants to the United States, 1976–2009.” *Research in Social Stratification and Mobility* 30(1):63–77.

Duany, Jorge. 2010. “To Send or Not to Send: Migrant Remittances in Puerto Rico, The Dominican Republic, and Mexico.” *The Annals of the American Academy of Political and Social Science* 630(1):205–223.

Durand, Jorge, Emilio A. Parrado, and Douglas S. Massey. 1996. “Migradollars and Development: A Reconsideration of the Mexican Case.” *International Migration Review* 30(2):423–444.

Dustmann, Christina and Josep Mestres. 2010. “Remittances and Temporary Migration.” *Journal of Development Economics* 92(1):62–70.

Flores-Yeffal, Nadia Y. and Maria Aysa-Lastra. 2011. “Place of Origin, Types of Ties, and Support Networks in Mexico-U.S. Migration.” *Rural Sociology* 76(4):481–510.

Garip, Filiz. 2012. “Repeat Migration and Remittances as Mechanism for Wealth Inequality in 119 Communities from the Mexican Migration Project Data.” *Demography* 49(4):1335–1360.

Gouldner, Alvin W. 1960. “The Norm of Reciprocity: A Preliminary Statement.” *American Sociological Review* 25(2):161–178.

Haas, Hein De. 2010. “Migration and Development: A Theoretical Perspective.” *International Migration Review* 44(1):227–264.

Itzigsohn, Jose. 1995. “Migrant Remittances, Labor Markets, and Household Strategies: A Comparative Analysis of Low-Income Household Strategies in the Caribbean Basin.” *Social Forces* 74(2):633–655.

Kandel, William, and Douglas Massey. 2002. “The Culture of Mexican Migration: A theoretical and Empirical Analysis.” *Social Forces* 80(3):981–1004.

Long, J. Scott and Jeremy Freese. 2006. *Regression Models for Categorical Dependent Variables using Stata*. 2nd ed. College Station, TX: Stata Press.

Marcelli, Enrico A. and B. Lindsay Lowell. 2005. “Transnational Twist: Pecuniary Remittances and the Socioeconomic Integration of Authorized and Unauthorized Mexican Immigrants in Los Angeles County.” *The International Migration Review* 39(1):69–102.

Massey, Douglas S. 1987. “The Ethnosurvey in Theory and Practice.” *International Migration Review* 21(4):1498–1522.

Massey, Douglas S. and Emilio Parrado. 1994. “Migradollars: The Remittances and Savings of Mexican Migrants to the USA.” *Population Research and Policy Review* 13(1):3–30.

Massey, Douglas S. and Rene Zenteno. 2000. “A Validation of the Ethnosurvey: The Case of Mexico-U.S. Migration.” *International Migration Review* 34(3):766–793.

Massey, Douglas S., Jorge Durand, and Nolan J. Malone. 2002. *Beyond Smoke and Mirrors: Mexican Immigration in an Era of Economic Integration*. New York: Russell Sage Foundation.

Menjiva, Celilia, Julie DaVanzo, Lisa Greenwell, and R. Burciaga Valdez. 1998. “Remittances Behavior among Salvadoran and Filipino Immigrants in Los Angeles.” *International Migration Review* 32(1):97–126.

Mooney, Margarita. 2003. “Migrants’ Social Ties in the U.S. and Investment in Mexico.” *Social Forces* 81(4):1147–1170.

Muñoz José A. and José L. Collazo. 2014. “Looking out for *Paisanos*: Latino Hometown Associations as Transnational Advocacy Networks.” *Migration and Development* 3(1):130–141.

Niimi, Yoko, Caglar Ozden, and Maurine Schiff. 2010. “Remittances and the Brain Drain: Skilled Migrants Do Remit Less.” *Annals of Economics and Statistics* 97/98:123–141.

Orozco, Manuel. 2009. “Migration and Remittances in times of Recession: Effects on Latin American Economies.” Washington, D.C.: Inter-American Dialogue. Retrieved February 26, 2011 (http://www.oecd.org/dev/americas/42753222.pdf).

Portes, Alejandro. 1998. “Social Capital: Its Origins and Applications in Modern Sociology.” *Annual Review of Sociology* 24(1):1–24.

Portes, Alejandro and Patricia Landolt. 2000. “Social Capital: Promise and Pitfalls of its Role in Development.” *Journal of Latin American Studies* 32(2):529–547.

Portes, Alejandro. 2009. “Migration and Development: Reconciling Opposite Views.” *Ethnic and Racial Studies* 32(1):5–22.

Rendall, Michael S., Peter Brownell, and Sarah Kups. 2011. “Declining Return Migration from the United States to Mexico in the Late–2000s Recession: A Research Note.” *Demography* 48(3):1049–1058.

Ruiz, Isabel and Carlos Vargas-Silva. 2010. “Another Consequence of the Economic Crisis: A Decrease in Migrants’ Remittances.” *Applied Financial Economics* 20(1/2):171–182.

Sana, Mariano. 2005. “Buying Membership in the Transnational Community: Migrant Remittances, Social Status, and Assimilation.” *Population Research and Policy Review* 24(3):231–261.

Sana, Mariano and Douglas S. Massey. 2005. “Household Composition, Family Migration, and Community Context: Migrant Remittances in Four Countries.” *Social Science Quarterly* 86(2):509–528.

Sheehan, Connor M. and Fernando Riosmena. 2013. “Migration, Business Formation, and the Informal Economy in Urban Mexico.” *Social Science Research* 42(4):1092-1108.

Stark, O. 1991. “Migration Incentives, Migration Types: The Role of Relative Deprivation.” *Economic Journal* 101(408):1163–1178.

Taylor, J. Edward. 1999. “The New Economics of Labour Migration and the Role of Remittances in the Migration Process.” *International Migration* 37(1):63–88.

VanWey, Leah K. Catherine M. Tucker, and Eileen Diaz McConnell. 2005. “Community Organization, Migration, and Remittances in Oaxaca.” *Latin American Research Review* 40(1):83–107.

Vaira-Lucero, Matias, Daehoon Nahm, and Massimiliano Tani. 2012. “The Impact of the 1996 Immigration Policy Reform (IIRIRA) on Mexican Migrants’ Remittances.” Working Paper No. 6546, The Institute for the Study of Labor, Bonn, Germany.

Wilson, Tamar Diana. 2009. “Economic Crisis and the Decline of Remittances to Mexico.” *Anthropological Quarterly* 82(2):587–597.

CHAPTER FIVE

CONCLUSION

Since 1965 the U.S. has sought to passively and then more and more actively limit the migration of Mexicans to the U.S. In 1964, the U.S. ended the Bracero Program that brought guest workers from Mexico to the U.S. to work in the agricultural sector. However, the demand for agricultural labor did not end and Mexican migrants continued to engage in seasonal migration to work in that sector (Massey, Durand, and Malone 2002). The Immigration Reform and Control Act of 1986 implemented policies that more actively sought to diminish Mexican migration. It gave unauthorized immigrants (of any nationality) who were present in the U.S. without authorization a pathway to citizenship if they could prove they had been residing in the U.S. since 1982, resulting in the legalization of millions of unauthorized immigrants. It also increased enforcement at the U.S. Mexico border and penalized employers of unauthorized migrants. However, IRCA was largely seen to be a failure since the unauthorized population continued to grow and increasingly more restrictive policies were put into place, particularly policies that affected the workplace. These immigration policies have significant implications for migrants, affecting their likelihood in returning to their home country, their remittance behavior, and their earnings. The dissertation closely examines the impact of three immigration policy periods on these outcomes: Pre-IRCA (1965–1987), IRCA (1987–1996), and IIRIRA (1997–2015).

Chapter 2 studied whether there are differences in the likelihood of return migration (United States to Mexico) during immigration policy periods for unauthorized migrants. The purposes of the study were presented with three research questions. Two research questions were: 1) How have immigration policies, specifically IIRIRA, affected Mexican migrants'

likelihood of returning to Mexico, especially those who are unauthorized in the United States? and 2) Has the probability of returning in the IIRIRA period returned to the pre-IRCA's levels? In both their first and last U.S. trips, migrants on unauthorized U.S. trips were more likely to return during the pre-IRCA period (1965–1986), but their odds diminished after the passage of IRCA period (1987–1996). Basically, after the passage of IRCA, the only achievement was diminishing circular migration by increasing the risks of returning to the United States (Massey et al. 2002). Thus, Mexican migrants are less likely to return to their home country and are more likely to settle permanently in the United States when the U.S. implements stricter immigration enforcement practices.

Chapter 2 also examined whether migrants were more likely to return to Mexico if their destination was a new destination. The last research question answered was the following: Are Mexican migrants who migrated to a new destination in the U.S. more likely to return to Mexico than those who migrated to a traditional destination? When the federal government passes immigration policies, the enforcement varies by city and state (García 2013; Hotchkiss and Quispe-Agnoli 2013). Some states have enforced more strictly the employment verification system (e.g., E-Verify), established by IIRIRA, to determine employment eligibility for new hires (Amuedo-Dorantes et al. 2013). This is more evident with the passage of IIRIRA because it authorized some local and state officials to perform the functions of federal immigration agents. However, in this study, there was no significant difference in return migration between migrants who migrated to a new destination or to a traditional destination.

Chapter 3 examines the effect of IIRIRA on male Mexican migrants logged hourly earnings (2010 USD) during their last U.S. trip. Specifically, the following questions were answered: 1) Do male Mexican migrants earnings differ according to the policy period, whether

it is before IRCA, during IRCA, or the post-IRCA period when IIRIRA policies prevailed? and 2) Did the effect of human capital and social capital on earnings declined as immigration policies became more restrictive? This study analyzes four models: 1) Full Sample (1965–2015), 2) Pre-IRCA (1965–1986), 3) IRCA (1987–1996), and 4) IIRIRA (1997–2015). A comparison between the immigration policy period models revealed that after the passage of IRCA the unauthorized migrants' earnings decreased and they slightly increased in the IIRIRA period (see table 3). In addition, the earnings penalty was higher in the IRCA period compared to the other periods. The importance of human capital and social capital for migrants' earnings declined throughout the immigration policy periods. After the passage of IIRIRA, the gain of social capital and human capital almost disappears completely. This may result from the authorized and unauthorized migrants not being differentiated by the employers, so legalization and the capitals do not provide the premiums that were evident before the passage of IIRIRA. In addition, the employers in order to reduce the costs of being sanction for employing unauthorized workers they have reduced the authorized workers' earnings. The predicted values (figure 1.1.) shows that authorized migrants have been punished the most in their earnings the stricter the immigration policy.

Chapter 4 examined whether Mexican migrants' remitting patterns (likelihood and amounts) have changed as policies restricting unauthorized immigration in the United States have tightened and whether migrants' social capital affects these patterns. The following research questions were addressed: 1) Does Mexican migrants' social capital influence their remittance behavior? and 2) Does social capital counteract immigration restrictions effects on Mexican migrants' remittance sending behavior? Particularly, the migrants' social capital through their connection to people from their community of origin (i.e., family members and

paisanos) during their last U.S. trip are examined. The study shows that migrants with social capital (i.e., lived with a *paisano*) are more likely to remit than migrants without social capital. A plausible reason for this result is that migrants' social capital serves as a social control. Migrants' connections to the community and other people can serve as a social control of their actions, such as remitting, because it can grant or restrict access to a broad range of resources, such as loans and status attainment for donors (Portes and Landolt 2002). However, sending remittances does not mean the quantity sent by migrants will be high, and the study shows that migrants with social capital during their last U.S. trip did not largely increase the quantity of remittances sent. However, the immigration policy periods did increase both the likelihood of sending remittances and the amount sent possibly for insurance in order to prepare for possible deportation or returning to home country. Overall, social capital does not counteract immigration restrictions effects on Mexican migrants' remitting behavior.

REFERENCES

Amuedo-Dorantes, Catalina, Thitima Puttitanun, and Ana P. Martinez-Donate. 2013. "How do Tougher Immigration Measures Affect Unauthorized Immigrants?" *Demography* 50(3):1067–1091.

García, Angela S. 2013. "Return to Sender? A Comparative Analysis of Immigrant Communities in 'Attrition Through Enforcement' Destinations." *Ethnic and Racial Studies* 6(11):1849–1870.

Hotchkiss, Julie L. and Myriam Quispe-Agnoli. 2013. "The Expected Impact of State Immigration Legislation on Labor Market Outcomes." *Journal of Policy Analysis for Public Policy Analysis and Management* 32(1):34–59.

Massey, Douglas S., Jorge Durand, and Nolan J. Malone. 2002. *Beyond Smoke and Mirrors: Mexican Immigration in an Era of Economic Integration*. New York: Russell Sage Foundation.

Portes, Alejandro and Patricia Landolt. 2000. "Social Capital: Promise and Pitfalls of its Role in Development." *Journal of Latin American Studies* 32(2):529–547.