



University of Pennsylvania  
ScholarlyCommons

---

Publicly Accessible Penn Dissertations


---

1-1-2016

# Three Essays on Mexico-U.S. Migration

Edith Gutierrez Vazquez Gutierrez Vazquez  
University of Pennsylvania, [gedith@sas.upenn.edu](mailto:gedith@sas.upenn.edu)

Follow this and additional works at: <http://repository.upenn.edu/edissertations>

 Part of the [Demography, Population, and Ecology Commons](#), [Latin American Languages and Societies Commons](#), and the [Latin American Studies Commons](#)

---

## Recommended Citation

Gutierrez Vazquez, Edith Gutierrez Vazquez, "Three Essays on Mexico-U.S. Migration" (2016). *Publicly Accessible Penn Dissertations*. 1750.  
<http://repository.upenn.edu/edissertations/1750>

This paper is posted at ScholarlyCommons. <http://repository.upenn.edu/edissertations/1750>  
For more information, please contact [libraryrepository@pobox.upenn.edu](mailto:libraryrepository@pobox.upenn.edu).

---

# Three Essays on Mexico-U.S. Migration

## **Abstract**

Migration flow between Mexico and the United States is historically the largest South-North international population movement in the world. Nowadays, Mexicans in the United States are more than 12 million people and represent about a third of all Hispanics living in this country. Not only Mexicans are a voluminous group, but also a large minority with strong ties with their communities of origin, important amounts of remittances, and more recently, high rates of return migration. Their transnational behaviors and the changes in their situation in the United States posit several research questions in the area of migrant incorporation. In this dissertation, I explore three salient topics in the new agenda of the migrant incorporation research. I use diverse data sources from Mexico and the United States, and a comprehensive set of analytic strategies that include qualitative and quantitative methods. First, I pay attention to the consequences of migration enforcement laws and economic crisis on the labor market incorporation of Mexican return migrants in the decade of the 2000s. Specially, I focus on the extent to which these migrants have been absorbed into the precarious areas of the informal economy. Second, I analyze the mental health of Mexican immigrants in Durham, NC, in comparison to their Mexican counterparts in their places of origin. I look at the changes in the associations of depression feelings with protective and risk factors upon migration. Then, I analyze the role of migration-related characteristics, such as legal status, family separation and English proficiency, among others. With this analysis, I seek to understand how different theories explain the mental health disadvantage of immigrants. Finally, I describe the gendered links between transnational family dynamics and support modes to the elderly. Overall, from these three chapters I conclude that migrants in both, sending and receiving societies, are currently facing strong challenges to incorporate upon their movement. Financial constraints, precarious labor conditions, family separation, and depression feelings are some of the many situations impeding migrants to experience smooth migration transitions and difficult their subsequent social incorporation.

## **Degree Type**

Dissertation

## **Degree Name**

Doctor of Philosophy (PhD)

## **Graduate Group**

Demography

## **First Advisor**

Emilio A. Parrado

## **Keywords**

Depressed feelings, Elder's support, International migration, Mexico, Migrant incorporation, Return migration

---

**Subject Categories**

Demography, Population, and Ecology | Latin American Languages and Societies | Latin American Studies |  
Sociology

THREE ESSAYS ON MEXICO-U.S. MIGRATION

Edith Yolanda Gutierrez Vazquez

A DISSERTATION

in

Demography and Sociology

Presented to the Faculties of the University of Pennsylvania

in

Partial Fulfillment of the Requirements for the

Degree of Doctor of Philosophy

2016

Supervisor of Dissertation

---

Emilio A. Parrado

Professor and Chair of the Department of Sociology

Graduate Group Chairperson, Demography

Graduate Group Chairperson, Sociology

---

Michel Guillot, Associate Prof. of Sociology

---

David Grazian, Associate Prof. of Sociology

Dissertation Committee

Emilio A. Parrado, Professor and Chair of the Department of Sociology

Chenoa Flippen, Associate Professor of Sociology

Kristen Harknett, Associate Professor of Sociology

THREE ESSAYS ON MEXICO-U.S. MIGRATION

COPYRIGHT

2016

Edith Yolanda Gutierrez Vazquez

This work is licensed under the  
Creative Commons Attribution-  
NonCommercial-ShareAlike 3.0  
License

To view a copy of this license, visit

<https://creativecommons.org/licenses/by-nc-sa/3.0/us/>

To my family, friends, and past and current mentors  
who have always supported me  
y que han sido incondicionales,  
y a todos los migrantes que me enseñaron  
la importancia del derecho de libre movimiento

## ABSTRACT

### THREE ESSAYS ON MEXICO-U.S. MIGRATION

Edith Yolanda Gutierrez Vazquez

Emilio A. Parrado

Migration flow between Mexico and the United States is historically the largest South-North international population movement in the world. Nowadays, Mexicans in the United States are more than 12 million people and represent about a third of all Hispanics living in this country. Not only Mexicans are a voluminous group, but also a large minority with strong ties with their communities of origin, important amounts of remittances, and more recently, high rates of return migration. Their transnational behaviors and the changes in their situation in the United States posit several research questions in the area of migrant incorporation. In this dissertation, I explore three salient topics in the new agenda of the migrant incorporation research. I use diverse data sources from Mexico and the United States, and a comprehensive set of analytic strategies that include qualitative and quantitative methods. First, I pay attention to the consequences of migration enforcement laws and economic crisis on the labor market incorporation of Mexican return migrants in the decade of the 2000s. Specially, I focus on the extent to which these migrants have been absorbed into the precarious areas of the informal economy. Second, I analyze the mental health of Mexican immigrants in Durham, NC, in comparison to their Mexican counterparts in their places of origin. I look at the changes in the associations of depression feelings with protective and risk factors upon migration. Then, I analyze the role of migration-related characteristics, such as legal status, family separation and English proficiency, among others. With this analysis,

I seek to understand how different theories explain the mental health disadvantage of immigrants. Finally, I describe the gendered links between transnational family dynamics and support modes to the elderly. Overall, from these three chapters I conclude that migrants in both, sending and receiving societies, are currently facing strong challenges to incorporate upon their movement. Financial constraints, precarious labor conditions, family separation, and depression feelings are some of the many situations impeding migrants to experience smooth migration transitions and difficult their subsequent social incorporation.



## TABLE OF CONTENTS

<b>ABSTRACT.....</b>	<b>IV</b>
<b>LIST OF TABLES .....</b>	<b>VIII</b>
<b>LIST OF ILLUSTRATIONS .....</b>	<b>IX</b>
<b>INTRODUCTION.....</b>	<b>1</b>
<b>CHAPTER 1 CHANGES IN THE COMPOSITION AND LABOR MARKET INCORPORATION OF RETURN MEXICAN MIGRANTS BETWEEN 2000 AND 2010..</b>	<b>4</b>
Introduction .....	5
Background: Return migration and labor market outcomes .....	6
Analytical Strategy.....	8
Data .....	9
Methods .....	11
Descriptive Results.....	13
Multivariate Results .....	15
Conclusion .....	19
<b>CHAPTER 2 FEELING DEPRESSED IN A FOREIGN COUNTRY: MENTAL HEALTH STATUS OF MEXICAN MIGRANTS IN DURHAM, NC.....</b>	<b>26</b>
Introduction .....	27
Background and theoretical framework.....	28
Data .....	30
Methods and analytic strategy .....	32
Results .....	33
Conclusions.....	37
<b>CHAPTER 3 GENDERED MODES OF ELDERLY SUPPORT: STRATEGIES AMONG LATINO IMMIGRANTS IN SOUTH PHILADELPHIA, PA .....</b>	<b>44</b>

Introduction .....	45
Theoretical Background.....	46
Latino immigrants in South Philadelphia .....	47
Data and Methods .....	48
Results .....	51
Conclusions.....	65
<b>CONCLUSIONS.....</b>	<b>72</b>
<b>APPENDIX.....</b>	<b>74</b>
<b>BIBLIOGRAPHY.....</b>	<b>75</b>
REFERENCES CHAPTER I.....	75
REFERENCES CHAPTER II.....	79
REFERENCES CHAPTER III.....	82

## LIST OF TABLES

Table 1. Means and distributions of earnings and sociodemographic, employment, migration, and local characteristics of Mexicans 25 to 49 years by migration status and sex. Mexico, 2000 and 2010.....	21
Table 2. Multinomial-logistic regression models of class of worker of Mexicans aged 25 to 49 years by migration status and sex. Mexico, 2000 and 2010.....	23
Table 3. OLS regression models of logarithm of monthly earnings of Mexicans aged 25 to 49 years by migration status. Mexico, 2000 and 2010 .....	24
Table 4. Blinder-Oaxaca decomposition over time of the logarithm of earnings for Mexicans aged 25 to 49 years by migration status and sex. Mexico, 2000 and 2010 ....	25
Table 5. Descriptive statistics by migration status and sex .....	40
Table 6. Differences in sociodemographic and background characteristics between people in Durham (treated) and Mexico (control) after propensity score matching procedure .....	41
Table 7. Odds-ratios from logistic regression models of depressed feelings by migration status .....	41
Table 8. Odds-ratios from logistic regression models of depressed feelings for Mexican immigrants in Durham, NC: Men.....	42
Table 9. Odds-ratios from logistic regression models of depressed feelings for Mexican immigrants in Durham, NC: Women .....	43
Table 10. Descriptive statistics of Latino immigrants' elder relatives by sex.....	66
Table 11. Descriptive statistics of remittance behaviors of Latino immigrants by sex.....	67
Table 12. Descriptive statistics Latino immigrants by sex .....	68
Table 13. Bivariate associations of remitting regularly and Latino immigrants' characteristics by sex .....	69
Source: The wellbeing of Latino immigrants in South Philadelphia study 2015	
Table 14. Bivariate associations of remitting to the elderly and Latino immigrants' characteristics by sex .....	69
Table 15. Bivariate associations of remitting in emergencies to the elderly and Latino immigrants' characteristics by sex .....	71
Table 16. Depression screening questions from the Hispanics in Durham Study, percentage of Mexican participants answering Yes by migration status and sex. ....	74

## LIST OF ILLUSTRATIONS

Figure 1. Distribution of symptoms in CESD screening for depression by migration status and sex.....	39
--	----

## INTRODUCTION

The migration flow between Mexico and the United States is historically the largest South-North international population movement in the world. In 2015, Mexicans in the United States numbered over 12 million people and represented about a third of all Latinos living in the country (American Community Survey, 2010). Not only are Mexicans a voluminous group, they are also a large minority with strong ties to their communities of origin, as evidenced by their high level of remittances, and more recently, rates of return migration. Their transnational behaviors and the changes in their situation in the United States continue to pose several research questions in the area of migrant incorporation.

Classic frameworks of immigrant incorporation in the United States were derived from the study of European immigration in the early twentieth century. The unidirectional melting pot perspective of assimilation was later attenuated by the realities that the new immigrants, coming mostly from the Americas, were experiencing in the United States. Other social stratifiers, such as ethnicity, social class, legality, and the context of origin and reception of migration, were considered in the theory of segmented assimilation, and even the classical assimilation view was adapted into a new theory that considered some of these elements. These theories pushed researchers to create new frameworks; we have started moving away from assimilation towards models of incorporation/integration, and from unidirectional (either sending or receiving context) to multidirectional views, in which transnational dynamics and practices are the main focus.

Recent social changes, analyzed from a transnational perspective of migrant incorporation, present new questions and require new indicators to better understand migrants' outcomes. For example, the literature on immigrant wellbeing has started studying non-traditional indicators and a body of research on physical and mental health among immigrants, mostly among Latinos, is flourishing. A different example is the study of classical topics in non-traditional settings, such as the impact of remittances on the senders, not receivers, or migrants' economic incorporation upon return to their home countries, rather than upon arrival to receiving societies. In this dissertation, I contribute to this new agenda of the migrant incorporation research.

Using diverse data sources from Mexico and the United States, and a comprehensive set of analytic strategies that include qualitative and quantitative methods, I contribute to the shift in migrant incorporation perspectives by analyzing non-traditional indicators and settings in the context of recent social transformations. The recent phenomenon of zero net migration from Mexico to the United States, in part driven by rapid growth of return migration, creates opportunities to examine how returnees incorporate into the Mexican labor market. The physical health advantage of Mexican immigrants, in contrast with their poor mental health, motivate a deeper understanding of how migrants compare to their counterparts in Mexico in terms of mental health, and how aspects of the migration process influence the observed outcomes. The transnational family ties and the rapid aging processes in Mexico, together with recent changes in migrants' situation in the United States (associated with the most recent economic crisis and the enforcement of immigrant laws), open the room for a deeper understanding of transnational family dynamics and remittances to the elderly from the senders' perspective.

In the first chapter, I examine the labor market incorporation of return migrants to Mexico in the decade of the 2000s. Mexico-US migration has dramatically changed in the past three decades: the pronounced increase of immigrants of the 1990s stalled in

the 2000s and a zero net migration rate was officially reported in 2010. Deportations and economic crisis in the United States have been discussed as the underlying reasons for this change. In the context of growing involuntary movements, it is particularly important to evaluate the labor market incorporation of male returnees. Using the Mexican Census samples from 2000 and 2010, I compared outcomes among returnees with those among non-migrants and internal migrants. I found that return migrants' earnings had reduced significantly between 2000 and 2010. These changes are associated to differences in the characteristics of returnees as well as differences in the pay rates. Changes in occupational attainment and participation in the informal economy are the most important differences associated with the increasing earnings gaps of return migrants relative to other groups. Our findings suggest that return migration in involuntary contexts restricts resources that individuals can use to incorporate into the job market upon their return. This situation represents a huge challenge for migration and employment policies in Mexico.

The second chapter presents an analysis of the mental health of Mexican immigrants in Durham, NC, in comparison to their Mexican counterparts in their places of origin. Of all Hispanic immigrants in the United States, Mexicans have accounted for almost all the advantages of the epidemiological paradox. However, their mental health outcomes have shown to be less advantageous. I explore the link between migration and depressive feelings using a bi-national random survey of Mexicans in Durham, NC and sending communities in Mexico. Explanations for the link between migration and depression, such as acculturative stress, social distance, and loss of cultural context, are analyzed by comparing results for protective vs. risk factors between residents of Mexico and Durham, and among immigrants themselves. Results show little support for selection as an important source of the higher depression registered among migrants, and instead provide strong evidence that migration itself, and the disruption of social networks that it entails, heightens depression among migrants in Durham. Family separation, in particular, is the strongest predictor of depressive feelings and accounts for a sizeable portion of the heightened depression among migrants. Understanding subjective experiences of migration is necessary to better integrate newcomers into host societies.

Finally, in the third chapter, I delve into the links between transnational family dynamics and support modes for the elderly from a gendered perspective. Latin America's sharp fertility decline, accompanied by increasing life expectancy, is leading the region to a rapid aging process in a context of a weak social security system. In this context, families have become a key provider of support to elders, yet the complexity that international migration adds to the intergenerational reallocation of resources remains understudied. I use quantitative and qualitative methods to describe the gendered processes of providing support to the elders from the perspective of immigrants in the United States and explain how the interactions between gender, migration and other life course transitions determine elders' support. Using original quantitative and qualitative data collected as part of the 2015 Wellbeing of Latino Immigrants in South Philadelphia Study, I analyze how including questions of distinct modes of support provide a better measure of intergenerational transfers, mostly to capture gender differences in support. Unlike classical questions on remittances, questions on specific support to elders are a better measure of support coming from immigrants with less stable financial situations and of sporadic support. I also found that emergencies often times are under reported in the classic measures. In terms of the determinants and the processes behind the different modes of support, I conclude that

transnational family arrangements are key in shaping elder support, specifically, gender differences are a consequence of the gendered interactions between migration, family formation (specially marital status), and work.

Overall, from these three chapters I conclude that migrants in both sending and receiving societies face strong challenges to incorporation. Financial constraints, precarious labor conditions, family separation, and depression are some of the many factors impeding smoother migration transitions and social incorporation.

## CHAPTER 1 CHANGES IN THE COMPOSITION AND LABOR MARKET INCORPORATION OF RETURN MEXICAN MIGRANTS BETWEEN 2000 AND 2010

**Abstract:** Mexico-US migration has dramatically changed in the past three decades: the pronounced increase of immigrants of the 1990s stalled in the 2000s and a zero net migration rate was officially reported in 2010. Deportations and economic crisis have been discussed as the underlying reasons of this change. In the context of involuntary movements, we evaluate the labor market incorporation of male return migrants with respect to non-movers and internal migrants in Mexico between 2000 and 2010. Using the Mexican Census samples, we found that return migrants' earnings had reduced significantly between 2000 and 2010. These changes are associated to differences in the characteristics of returnees as well as differences in the pay rates. Changes in their occupations and participation in informal economy are the most important differences associated to the increasing earnings gaps of return migrants. Our findings suggest that return migration in involuntary contexts restrict resources that individuals can use to incorporate in the job market upon their return. This situation represents a huge challenge for migration and employment policies in Mexico.



## Introduction

Starting around the mid-1980s, Mexican migration to the United States grew very rapidly. The increase was particularly pronounced during the 1990s: the Mexican population in the U.S. doubled in size, from 4.3 to over 9 million<sup>1</sup> people. However, after 2000, the dynamic changed dramatically. By 2010, instead of doubling again, fewer than 12 million Mexicans were registered in the American Community Survey, implying a significant deceleration of the immigrant flow and a reversing trend in the net migration rate. This pattern coincides with a remarkable increase in return migration to Mexico. The Mexican Census estimates that the number of returnees between 1995-2000 and 2005-2010 doubled from 670,000 to nearly 1.4 million people.

The change in the direction of the flow is primarily a product of involuntary returns. First, the December 2007 U.S. economic crisis had a particularly detrimental effect on precisely those occupations where immigrants tended to concentrate (Parrado, 2012; Passel, Cohn, & Gonzalez-Barrera, 2012; Rendall, Brownell, & Kups, 2011). Second, deportations grew greatly after 9/11, as immigration policies continued to increasingly emphasize removals. According to the reports from the Department of Homeland Security, cumulative five-year removals of Mexican citizens at the beginning of 2000 increased from 461,000 to more than one million people in 2010.

The reversal of the trends poses important research and policy questions for Mexico, especially in the domains of the labor market. Since the 1990's, the Mexican labor market has deteriorated significantly. In this time, informal and poor-quality jobs have grown substantially (Ariza & Oliveira, 2001, 2013; Brígida Garcia, 2010) and, since the 2008 economic crisis, unemployment rates have been steady at historically high levels (Brigida Garcia & Sanchez, 2012). In addition, labor earnings, which were severely affected by the recurrent economic crises of the 1980s and 1990s, have recovered quite slowly and barely reached the levels of the early 1990's (Salas, 2007). Within this context, migration was said to be a "safety valve" for the Mexican economy, but the new and voluminous waves of returnees –which are mainly composed of working age population (92%) –represent a challenge for the already constrained labor market.

Previous studies on the labor market incorporation of return migrants in Mexico have relied on frameworks that conceptualize movements as voluntary, mostly due to the positive or advantageous outcomes that migrants have shown upon return (Massey & Parrado, 1998) or when compared to non-movers (Ambrosini & Peri, 2012; Gitter, Gitter, & Southgate, 2008). However, the increasing possibility of involuntariness among returnees requires changing the scope; we know little about the determinants of labor outcomes when migrants come back unexpectedly and with potentially fewer resources, and how these determinants have changed over time along with the transformations of the labor market and the migration flow. Recent studies have already shown that the advantageous position of return migrants in the labor market has disappeared in 2010 and their earnings have been severely affected (Campos-Vazquez & Lara, 2012; Parrado & Gutierrez, 2016).

The aim of this paper is to assess the labor market incorporation of migrants aged 25 to 50 returning to Mexico from the U.S. in two periods: 1995-2000 and 2005-2010. Specifically, this paper analyzes what factors and changes were behind the fall in return migrants' earnings between 2000 and 2010, and what their situation is relative to non-movers and internal migrants. I look to disentangle how much of this fall is possibly due to either changes in their human capital or employment conditions, or to differences

---

<sup>1</sup> <http://www.census.gov/population/www/documentation/twps0081/twps0081.html>

in the characteristics of places they are returning to reside. Alike, I test what contributes more: the changes in return migrants' composition or the changes in the payoffs of their characteristics in the labor market.

Results of Blinder-Oaxaca decompositions show that between 2000 and 2010 greater participation in the informal economy significantly contributed more to wider the earnings gap than the difference in return migrant's educational attainment. In fact, this change in informal economy participation, less rewarded occupations and the lower payoffs of traditional destinations to return migration shifted the advantageous earnings of returnees and placed them at the bottom. Our findings suggest that returnees' situation in the labor market is more vulnerable nowadays, which requires improvements to existing policies and creation of new ones that guarantee their successful integration into Mexican society.

### **Background: Return migration and labor market outcomes**

The understanding of return migration is still in its early stages. In general, studies draw on the classical frameworks of migration, in which returnees' labor market outcomes are the ultimate expression of the returns to migration and serve to profile them. For example, for neoclassical economics' a return migrant is a *disappointed* migrant; one that fails to succeed in the hosts' labor markets due to miscalculations (Borjas & Bratsberg, 1996) or lack of information when choosing the destination place (Sjaastad, 1962). Returning is an anomaly of the migration process that does not provide any capital gains for the migrant. If skills were acquired, they are assumed to be not transferrable, and the financial accumulation, if present, will be used to cover the cost of migration. Therefore, the disappointed returnees are not expected to have any advantages in the labor market compared to those remaining in origin countries.

The two additional perspectives predict more positive outcomes. According to new household economics theory, returnees are *successful* migrants that achieved the goals of capital accumulation that motivated their migration (Stark & Taylor, 1989). Beyond financial gains, migrants benefit from their experience abroad by acquiring training and skills that are rewarded in labor markets of places of origin. Therefore, their outcomes will exceed those of non-movers. A similar result is hypothesized by Piore (1979), who predicted that once the migrants have reached a specific target –either through savings or remittances –they return to their places of origin. Migrants are "birds of passage," *target earners* whose low skilled jobs and low wages will translate into small, but still significant advantages in the economic markets with respect to those who did not migrate.

Just as theories predict different outcomes for return migrants compared to non-movers, empirical research shows mixed findings for several job indicators and poses different explanations. One body of research argues that differences in observable and unobservable characteristics between return migrants and non-movers could account for the differential job outcomes. Ambrosini and Peri (2012), using the 2002 and 2005 waves of the Mexican Family Life Survey, find a wage premium compared to non-movers that is associated with positive selection on socio-demographic characteristics. Using the same data, Gitter and colleagues (2008) found that chances of employment for returnees did not significantly differ from non-movers' when selection is controlled using instrumental variables. Using census data, Campos-Vazquez and Lara (2012) argues that, when comparing different points in time, negative selection in demographic and socioeconomic characteristics had reduced migrants' premium on wages. The degree of negative selection varied according to the urbanization level of the municipality

and state of return. However, there is still a wage premium associated with migration: if migrants had not migrated, according to their characteristics, they would have earned less.

Conversely, there is a different literature that explains the advantageous economic position of return migrants relative to non-movers by analyzing their class of worker. Entrepreneurship among migrants is more prevalent after migration. Supporting the target earner theory, a retrospective analysis of men and women returnees in western Mexico in 2000 found that, even when almost 75% of migrants were incorporated in the same sectors of the economy in which they worked before their trip, the proportion of business owners and self-employed individuals more than doubled when compared to that prior migration. Migrants were more likely to become entrepreneurs if starting a venture was a goal of the migratory process (Jean Papail & Arroyo, 2004), and the higher wages earned in the U.S. as well as the remittances sent back home allowed them to do so (J. Papail, 2002). Alike, compared to non-movers, migrants have showed to be more prone to start a microenterprise (Massey & Parrado, 1998), and the ventures related to migration resources were more profitable over time than microenterprises unrelated to migration resources (Woodruff & Zenteno, 2007). As owners/employers, migrants hold an advantage in the labor market compared to non-movers, but the recent changes in sociodemographic profiles of return migrants (Campos-Vazquez & Lara, 2012; Masferrer & Roberts, 2012; Reyes, 1997) and the destabilizing effect of the 2008 economic crisis on the job-to-job transitions between the U.S. and the Mexican labor markets (Cuecuecha & Rendon, 2012) could have altered their labor market incorporation; especially, entrepreneurship might have been reduced in recent times.

In addition, entrepreneurship and ventures' profitability do not rely exclusively on individual and household factors, or on the migration-specific context, but also on the economic climate of reception areas. Local opportunities, such as economic dynamism and industrial development of reception societies (Lindstrom & Lauster, 2001; Massey & Parrado, 1998), shape and promote entrepreneurial investments, and during migration affect remittances and savings behaviors among migrants (Lindstrom, 1996). For example, Sheehan and Riosmena (2013), in their analysis of business formation among migrants, showed that migrants are more likely to start ventures in the informal sector, though migration is not negatively associated with formal business formation. In general, informal businesses were more responsive to contextual factors, while new formal businesses were strongly related to socioeconomic status and financial capital of individuals and, in the case of migrants, were more probable within places where opportunities in the formal economy were greater. Overall, the relation between economic outcomes and migration is mediated by the local opportunities after return.

In this sense, it is important to consider the situation and recent changes of the Mexican labor market for the study of return migrants' outcomes. There has been a transformation of the Mexican labor market's industrial composition; the share of manufacturing jobs decreased while opportunities on the service sectors peaked and primary production diminished substantially (Ariza & Oliveira, 2001). The spatial distribution of jobs in specific work niches became more heterogeneous and, together with a differential urbanization process across the country, increased inequality in the capacity of absorption of labor force. Also, in terms of the jobs characteristics, participation in the informal economy, precariousness and nonstandard work arrangements have increased during the past three decades (Ariza & Oliveira, 2001, 2013; Brígida Garcia, 2010). Unemployment rates have not decreased since the 2008

economic crisis (Brigida Garcia & Sanchez, 2012), which shows the inability of the Mexican labor market for absorbing the labor force. Wages have stalled substantially since the 1990s, after being severely affected by the recurrent economic crises of the 1980s and 1990s (Salas, 2007). How this situation affects classic outcomes of economic incorporation of Mexicans returning from the U.S. has not been explored yet.

Another important change in local context is that related to its exposure to migration. The literature on return migration suggests the emergence of new destination places in Mexico in recent times (Riosmena & Massey, 2012), which are characterized as being more heterogeneous in terms of development, urbanization and historical migration reception (Masferrer & Roberts, 2012). If migrants bring resources back (skills or even financial capital) into these new contexts which are less familiar with the phenomenon, resource capitalization may be lower. But traditional places of return migration could have a saturation point and then, the returns to migration could be smaller than those in new destinations.

In summary, four different explanations could be given to the fall in return migrants' earnings between 2000 and 2010. First, the change could be due to selection, that is to say variation and changes in sociodemographic characteristics, especially in human capital, particular to the return migrant group. Second, changes on the incorporation in the labor market; return migrants could possibly being now taking "bad jobs"(Kalleberg, 2011) associated to both, the deterioration of the labor market or the change in their composition in sociodemographic characteristics. Third, the changes in the geography of return migration, which imply differences in local contexts that could affect the ways in which migrants capitalize their resources and activate networks. And finally, the differences across space and time of the local labor markets that return migrants incorporate into; more dynamic and diverse economies could better incorporate an influx of labor force than slow economies.

### **Analytical Strategy**

In our analytical strategy I operationalize the four potential explanations of return migrants' labor market outcomes. To consider the issues of selection, I compare return migrants to non-movers; this comparison gives us both, returns to migration and a sense of how different in terms of composition return migrants are from those not migrating (selection on observables). In addition to the classical contrast between returnees and non-movers, I use the comparison of international versus internal migrants to distinguish between movements motivated by push factors (i.e. deportations and economic crisis) and pull factors (i.e. better job opportunities). While recent return migration was mostly involuntary (Parrado, 2012; Passel et al., 2012), internal migrants have been characterized to be mostly driven by economic motives (Rivero-Fuentes, 2012; Sobrino, 2010). This comparison also serves to control for the willingness and propensity to migrate and the resources associated with migration (such as social capital, networks and human capital) that distinguish migrants from those not moving.

To evaluate the quality of jobs that return migrants are taking, I analyze their class of worker. Furthermore, different from previous studies (i.e. Parrado & Gutierrez, 2016), I separate workers between those receiving mandatory benefits or not. Lack of mandatory benefits and self-employment are among the main indicators to characterize the labor force working in the informal economy, an increasing form of employment incorporation in the Mexican labor market (Brigida Garcia, 2010). This definition of informal economy is based on conceptions of deregularization of the labor market (A. Portes & Haller, 2005; A. Portes & Sassen-Koob, 1987) and increasing heterogeneity of

production systems out of standard work arrangements (Tokman, 2007). Class of worker together with earnings will describe if return migrants are taking “bad jobs” (García, 2011).

To address differences in resources related to migration, like networks, I include an indicator whether the person resides in their state of birth. Also, I add a variable that measures return migration experience of the local context of the individuals’ residence. As mentioned before, the literature on return migration shows changes in the distribution of the migrants across Mexico between 2000 and 2010; new destinations emerging and traditional ones getting lower influxes. It also shows that diverse experiences of migration at local level turn into different resources used in the labor market (i.e. Woodruff & Zenteno, 2007).

I include variables on urbanization and economic dynamism to account for the context of the local labor markets. Heterogeneity and changes in both, the Mexican labor market and the distribution of return migrants across Mexico, become an important source of variation that could potentially affect their outcomes. As shown by other studies (Giorguli & Gutierrez, 2012; Masferrer & Roberts, 2012), return migrants by 2010 increased their presence in more rural-less developed economies, which can be an explanation for the fall observed in their earnings.

Finally, I analyze two time periods that correspond to different stages of enforcement and migratory flows: 1995-2000, which includes the beginning of strong enforcement but positive net migration to the US; and 2005-2010, which includes strict post-9/11 enforcement, the economic crisis, and a period of zero net migration. The purpose of the analysis of several groups and periods is twofold. On one hand, it considers both changes in the labor market and in migration flows that have resulted in different labor outcomes. On the other, it provides an insight into the processes behind these changes. Are they a product of differences in who migrates and the voluntariness of their movements? Of the changes in the geography of destinations? Or of the distinct market valuations of individual and local economic characteristics?

Finally, both migration and labor market participation are gendered phenomena. This calls for separate analyses that are infrequent in the return migration literature. Women have different motivations for migrating (i.e. family formation or reunification) (Hondagneu-Sotelo, 1994); compared to men, they use different resources when moving internally and internationally (Curran & Rivero-Fuentes, 2003), and are less likely to migrate without documents (Donato, Wakabayashi, Hakimzadeh, & Armenta, 2008). Their share among the Mexican population in the U.S. has increased substantially in the 1990's (Cerrutti & Massey, 2001) and, just after IRCA, they have experienced more wage deterioration and a stronger push to informal jobs than men (Donato et al., 2008). Similarly, in Mexico, female labor force participation is less prevalent and more precarious than male participation (García & Oliveira, 2004). Therefore, different pathways of incorporation are expected. As the female history of migration is more recent and their economic opportunities more precarious than men's, their returns to migration should be lower and, in general, their outcomes will look less advantageous, as women valuation in the Mexican labor market is lower too. However, the deterioration of their comparative advantage with respect to other Mexican women is expected to be slower than the men's process, as the majority of deportations are comprised by men (approximately 90%).

#### **Data**

The analysis is conducted using the ten percent samples of the Mexican Censuses of 2000 and 2010. Each sample collects data for all non-institutionalized individuals living in

Mexico (INEGI 2011; IPUMS 2011). The questionnaire provides information on the individuals' current place of residence, place of residence five years prior to the census date, and birthplace. It also contains questions on employment status, occupation, earnings, class of worker, and benefits provided by employers, and other sociodemographic characteristics. Total sample sizes of these data sources, including all ages, range from 10 to 12 million people surveyed per year. The Mexican Census samples are considered the best source of information to estimate both internal and return migration in Mexico, as they are designed to provide representative estimations of small count events (as return migration or teenage fertility). These samples have a wide coverage and are representative of the lowest administrative unit in Mexico; the municipalities.

Our analytical sample is composed of Mexican-born men and women aged 25 to 49 years at the census time. The age interval was chosen to exclusively analyze the working age population that is not close to retirement or could still be attending school. Individuals whose disability prevents them from working were also excluded. I also excluded individuals with missing information on employment status, migration experience, earnings, and other covariates included in the models, which represented 5.0 and 2.5% of the initial analytical samples of 2000 and 2010, correspondingly. As our main goal is to analyze earnings differentials, I further restricted our sample to employed<sup>2</sup> individuals working for a pay; this means that unpaid people or those who reported no-earnings were excluded from the analysis (for a detailed description of return migration and labor force status see Parrado and Gutierrez (2016)).

*Dependent variable: Earnings*

In the Mexican Census harmonized samples (IPUMS 2011), earnings are reported on Mexican pesos on monthly basis. Monthly earnings were converted to real earnings of the 2000 using the Mexican consumer price index (INEGI 2015), so earnings of 2010 were deflated using the index. Finally, I model the natural logarithm of earnings due to lower bound and skewed distribution of the variable.

*Explanatory variables: Migration status sociodemographic characteristics, employment mediators, migration characteristics, and local context characteristics*

The main explanatory variable of the models is migration status, which is divided in three categories according to the combinations of individuals' place of residence five years prior to and at the survey time. Return migrants are individuals who were living in the U.S. either in 1995 or 2005, and in Mexico in 2000 or 2010, respectively. Internal migrants are individuals that changed their state of residence in the periods of 1995-2000 and 2005-2010. Non-movers are people that reported living in the same state in the previous five years – although some of them may have migrated within the state.

Three additional sets of variables are included to account for individuals' sociodemographic characteristics, employment mediators, and local contexts characteristics influencing earnings gaps. Sociodemographic characteristics are age, education, marital status, relationship with the household head, and number of household members under 15 years old to measure young economic dependents. With exception of the latter, all these variables are categorical.<sup>3</sup>

---

<sup>2</sup> Individuals who during the last week worked or did not worked but had a job.

<sup>3</sup> Both, categorical and continuous specifications of age and education were tested, categorical specifications were preferred due to their significant associations.

Employment mediators are occupation and class of worker. Occupation is classified into five categories<sup>4</sup> – skilled manufacturing workers, professionals, clerks and service workers, skilled agricultural workers, crafts, and unskilled manufacturing. Class of worker is divided in four categories: owner/employer, self-employed, wage-worker with benefits, and wage-worker with no-benefits.<sup>5</sup> Self-employed and wage-workers with no-benefits represent workers in the informal economy, while owners and wage-workers with benefits identify those employed in the formal sector.

Migration characteristics are measured with two variables. First, I incorporate an indicator of whether the individual resides in their state of birth, which was the lowest level of analysis for this variable that was available in the dataset. Second, I include an indicator of the municipalities' experience of return migration. The indicator combines the tertiles of the distributions of the proportion of return migrants in the municipality in two time points: the current year and a decade ago. Tertiles of both proportions were combined in three categories: low, medium, and high.<sup>6</sup>

Local contexts are described with two variables measured at the municipal level: urbanization and economic dynamism. Economic dynamism is measured combining tertiles of the distribution of the female labor participation rate (Lindstrom & Lauster, 2001; Tienda, 1975) with the tertiles of the distribution of the proportion of population working in the manufacturing sector, which represents the industrial composition of the market at the local level. Combinations were also classified in three groups: low, medium and high.<sup>7</sup> The urbanization level of the municipality is classified in rural, rural-urban, urban and metropolitan. Categories are defined on the basis of population sizes and metropolitan area delimitations for each year: 1) rural includes municipalities where 100% of the population live in rural localities (fewer than 2,500 inhabitants); 2) rural-urban describes municipalities where 99 to 33% of the population live in rural localities; 3) urban includes municipalities where fewer than 33% of the population live in rural localities; 4) metropolitan includes municipalities that are part of metropolitan areas defined for each period of time (for 1990 see Sobrino (1993); for 2000, Mexican Population Council (2004); and for 2010, Mexican Population Council (2012)).

## **Methods**

To answer whether now migrants are taking more bad jobs than in the past, I use multinomial logistic regression models to predict the class of worker of individuals. I include our main explanatory variable, migration status, and interactions of this variable with year to measure significant changes over time in the probabilities of being in certain classes of worker. These models are run by sex and account for sociodemographic, migration experience and local context characteristics.

---

<sup>4</sup> The 2000 and 2010 censuses reported a different classification. I harmonized this year with the rest using the four-digit codes for each occupation to create the same five categories.

<sup>5</sup> By law, all wage-workers are subject to receive work benefits. The mandatory benefits are health insurance, pension or retirement, paid vacations, Christmas bonus, and profit sharing.

<sup>6</sup> Low level includes combinations of first-first, first-second, and second-first tertiles of the prior decade and current distributions of the proportion of return migrants in the municipality; medium level includes first-third, third-first, and second-second; and high level includes second-third, third-second, and third-third tertiles.

<sup>7</sup> Low level includes combinations of first-first, first-second, and second-first tertiles of the distributions of the female labor participation rate and the proportion of workers in the manufacturing sector; medium level includes first-third, third-first, and second-second; and high level includes second-third, third-second, and third-third tertiles.

I analyze changes of earnings between 2000 and 2010 among three groups (g): return migrants (R), non-movers (N) and internal migrants (I). For each migration status and sex, I decompose the changes in earnings between 2000 and 2010 to estimate the contributions of our explanatory variables to these gaps in terms of differences in groups' characteristics (endowments), and different payoffs of these characteristics in the labor market (coefficients). To decompose earnings changes, I estimate a model for the dependent variable for each group in each time to obtain specific coefficients. These coefficients constitute an earnings structure that follows this equation

$$Y_t^g = \beta_t^g X_t^g + \varepsilon_t^g$$

where  $Y$  is a vector of earnings for individuals in each migration status  $g$  at year  $t$ ,  $\beta$  is a vector of parameters for each covariate of the matrix  $X$ ; and  $\varepsilon$  the error terms. I estimate this equation with OLS techniques and robust standard errors clustered within municipalities.

To calculate how much each dimension and each variable accounts for the earnings' changes, I use Blinder-Oaxaca technique. This consist in reorganizing the earnings difference of two groups in three components: 1) differences in characteristics (endowments); 2) differences in coefficients (payoffs); and interactions between the former two. Then, the case of return migrants,

$$y_{2000}^R - y_{2010}^R = (x_{i,2000}^R - x_{i,2010}^R)b_{2010}^R + (b_{2000}^R - b_{2010}^R)x_{i,2010}^R + (x_{i,2000}^R - x_{i,2010}^R)(b_{2000}^R - b_{2010}^R)$$

The first component of the equation, differences in characteristics or compositional change, represent the changes in earnings of return migrants if their covariates did not change, that is to say, if they had in 2010 the same distributions of their characteristics than in 2000. In the equation, these changes are valued at the payoffs of 2010 for return migrants. The second component measures the differences in the coefficients which represent the additional increase in return migrants' earnings if they were paid in 2010 with the earnings structure (coefficients) of 2000. Specifically, differences the returns to migration are measured by the differences in constant term (model's intercept). Finally, the third term, called interaction term, represents the additional earnings that returnees would obtain if their differences in endowments were paid at the differential rates that were exclusive to return migrants in 2010.

This technique has two important advantages compared to conventional decompositions (Jann 2008). First, it allows to estimate standard errors of the variables' contributions and, therefore, tests of statistical differences can be performed. Second, in the conventional decomposition the contributions of categorical variables depend on the base categories because their coefficients remain as part of the constant term. Blinder-Oaxaca techniques propose normalizations to purge the effects of base categories from this term (i.e. Oaxaca and Ransom (1999) or Yun (2005)).

I estimate Blinder-Oaxaca decomposition based in separate OLS regression models of the logarithm of earnings for non-movers, return migrants, and internal



migrants, by sex and year, with robust standard errors clustered by municipalities.<sup>8</sup> Deviation contrast is used to obtain coefficients of base categories purged from the intercepts of each regression. For each group, I obtained a decomposition between years. The contributions of covariates were grouped in components (i.e. individual's age is represented in categories that are reported as age) to report the total contributions of each dimension.

### **Descriptive Results**

Table 1 shows descriptive results for all the variables included in this analysis by migration status, sex, and year. First, I describe the men's situation, comparing results for return migrants in 2000 and 2010; then, return migrants are compared to non-movers and internal migrants. I follow the same order for women.

Labor earnings of men return migrants fell significantly between 2000 and 2010: by 2010, they were earning \$1,261 pesos less than a decade ago (\$4504.7 vs \$3,242.8), which implies a discount rate of 32 percent on the 2000's earnings. This dramatic drop contrasts with the increases in earnings for internal migrants and non-movers: between 2000 and 2010, earnings for these groups grew by nine and three percent, respectively. This picture for women is very similar; return migrants lost 33 percent of their 2000's earnings by 2010, non-movers gained nine percent more and internal migrants obtained a substantial 20 percent of increase.

The deterioration of return migrants' earnings came along with important changes in employment and local characteristics, but not on their sociodemographics. For example, the age distribution of men return migrants grew slightly older; those under 30 years represented less than 55 percent by 2010, when in 2000 they made up more than 60 percent (Table 1). However, both non-movers and internal migrants experienced a similar change, not significantly different from return migrants' change. A similar process took place in the case of women, as the age distribution of the three groups also grew older.

In terms of education, in 2010 men return migrants were more schooled than a decade ago; the share of individuals with less than nine years of schooling was reduced by more than seven points. Yet, returnees were still less schooled than non-movers and internal migrants: while both groups had more than 25 percent with high school or more in both years, returnees had nearly 19 percent by 2010. Women return migrants became a little more schooled by 2010, their share with people with less than five years of schooling decreased by five points, which were gained in the group of 9-11 years. However, compared to non-movers or internal migrants, return women are impressively less educated: those with more than high school represent less than 19 percent in 2010, while for the other groups these figures reach 30 and almost 50 percent, respectively. The composition in terms of educational attainment could account for a sizeable portion of earnings gap between all groups, but it could not necessarily be a great piece of the story behind the earnings fall over time for return migrants, as their educational distribution shift to higher educational levels. Distributions of other sociodemographics, such as marital status or being household head, did not changed for both men and women return migrants, and the number of children under 15 years changed as much as it did for the two comparison groups.

---

<sup>8</sup> A pooled model was also estimated and results did not changed meaningfully. Separated models were preferred for easy interpretation.

Changes in employment characteristics for men show worsening conditions among return migrants between 2000 and 2010 (Table 1). On one hand, while the proportions of owners, self-employed, and wage workers with benefits decreased between 2000 and 2010 (1.7, 4.4, and 5.5 points, respectively), the proportion of wage workers with no benefits increased nearly by 12 points. This last indicator for non-movers and internal migrants went up only by four points. This change means that the share of people employed in the informal economy for return migrants doubled the growth of the other comparison groups (7.9 versus 1.9 and 3.9 points). On the other hand, professional occupations decreased by half, while unskilled manufacturing jobs almost doubled for returnees; the former occupations went up for non-movers and internal migrants, and the latter increased little (no more than three points). The situation for women deteriorated less than for men. Although their share of people in informal economy increased by 9.4 points, due to increases in self-employed and wage workers with no benefits (2.7 and 6.8 points), their participation in professional occupations fell less than one point and increased by 5.4 points in unskilled manufacturing jobs.

The geographical distribution of return migrants' changed slightly towards places with low experience levels of return migration (new destinations), more rural, and with high economic dynamism (Table 1). In 2010, four out of five men return migrants came back to their state of birth, a little increase when compared to the figure of 2000 (77.1). Similar changes occurred for non-movers and internal migrants, though at different start levels for the latter (24.7 in 2000). For women, in 2010 three out of four return migrants were residing in the state they were born –an increase of 4.5 points with respect to 2000 –while non-movers had a 78 percentage in this category and internal migrants only 28 percent. These distributions show a differential in social capital between internal and return migrants, as well as different factors determining the election of destination places.

The share of men return migrants in municipalities with high experience of return migration fell by nine points in 2010, from which the majority were reallocated in places with low experience. Yet, two out of three men return migrants were residing in traditional destinations (high experience levels) by 2010, which significantly differs from the 35 and 32 percent registered for non-movers and internal migrants, respectively. For these two groups, the proportion of population in new destinations of return migration also increased, and more than it did for return migrants. An increase in the proportions of internal migrants and non-movers in new destinations was also observed among women; both groups surpassed the 40 percent in 2010. An increase was also observed for women return migrants, the proportion in new destinations went up by 7 points. However, as in case of men, the majority of women return migrant were located in places with high return migration experience in both 2000 and 2010.

Between 2000 and 2010, the proportion of men return migrants in rural and rural-urban places increased by four points, increases for non-movers occurred only in metropolitan areas (three points), and the distribution for internal migrants barely changed. In the women's case, changes among the three groups were similar to those for men but even smaller, for example, the proportion of women return migrants in rural and rural-urban places only went up by 2.5 points. All groups for men and women, by 2010, had higher presence in municipalities with high economic dynamism, which suggests both improvements in economy at the local level and redistribution of the population towards places more economically dynamic.

Two interesting points for our research questions emerge from the descriptive results. First, return migrants, mostly men, have a disproportionate representation in jobs

with no-benefits, and their share increase greatly by 2010. This has implications for their potential earnings: since 2000, wage-workers with no-benefits have been at the bottom of the earnings distribution by class of worker (i.e. in 2010 men earned on average \$3642, women \$3079, those without benefits made 31 and 37 percent less, respectively). Specifically, in 2010, men return migrants in these type of jobs lost 11 percent of their 2000 earnings, while the other groups gained more than 20 percent. Earnings for all women increased between 2000 and 2010, but the lowest rate of increase was observed for return migrants (15 percent compared to 19 and 25 percent for non-mover and internal migrants). Second, descriptive results for characteristics at the local level suggest that the geography of destinations for return migrants differs from the spatial dynamic of internal migrants and non-movers, and has diversified between 2000 and 2010. This result is consistent with other studies findings and reinstates the emergence of a "new geography of return migration" (Masferrer & Roberts, 2012; Riosmena & Massey, 2012).

### **Multivariate Results**

The descriptive results provided evidence of an association between different migration status and employment conditions. However, the strength of their contributions and the extent to which they held after considering differences in human capital and sociodemographic characteristics among groups, remains pending. Therefore, Tables 2, 3 and 4 present multivariate models and a decomposition that address these questions. For the sake of simplicity, in tables 2 and 3 I only report the coefficients for migration and local characteristics, and employment conditions, as our main contribution is to analyze the association of these dimensions, migration status and earnings<sup>9</sup>. But, as a reminder, all models also include age, educational attainment, marital status, household head status, and number of children under 15 years.

Table 2 shows results of multinomial logistic regression models of class of worker for men and women accounting for the dimensions mentioned above. The models include interaction terms of migration status and year to test changes overtime, and robust standard errors clustered within municipalities. Men, regardless of their migration status, were more likely to be wage-workers with no-benefits (1.18) or self-employed (.53) than to be wage-workers with benefits (*ref.*), and their odds increase even more by 2010 (.54 and .34, respectively). Compared to non-movers, the odds of being a wage-worker without benefits versus with benefits for return migrants were 90 percent higher ( $\exp[.65]-1$ ) in 2000 and, by 2010, an additional 20 percent ( $\exp[.14]-1$ ) of increase was observed. Return migrants were also more likely to be self-employed in 2000 (.85), and even when in 2010 the likelihood was significantly reduced (-.14), their higher chances did not disappear. A similar trend is observed for employers/owners, return migrants were more likely to be in this position in 2000 (.99), but this advantage went down in 2010 (-.23). Different from return migrants, internal migrants in 2000 were as likely as non-movers to be in jobs without benefits, and less likely to be self-employed or employers/owners. The chances for these two classes of work did not change by 2010, but their likelihood of being employed in jobs without benefits significantly increased (.12).

Different from men, women's participation in self-employment was not more likely than participating in jobs with benefits (-.15), but participation in jobs with no-benefits did have higher chances (.53). By 2010, women were no longer less likely to be self-

---

<sup>9</sup> Full models are available upon request.

employed, and their chances of being wage-workers with no-benefits increased substantially. Alike men, women return migrants in 2000 were more likely to be employers, self-employed or workers without benefits than non-movers, and conditions remain the same by 2010 (none of the interaction terms are significant). Women internal migrants in 2000, unlike return migrants, were as likely as non-movers to be employers or self-employed, and more likely to be in jobs with no-benefits. By 2010, likelihoods for these three classes of work increased, but did not reach the levels of return migrants.

Regarding migration and local characteristics, it is worth to point out that places with high levels of migration experience, compared to places with low levels, promote entrepreneurship: the odds for being an employer versus a wage-worker with benefits for men and women increase by 50 ( $\exp[.38]-1$ ) and 30 ( $\exp[.24]-1$ ) percent, respectively. This type of places and those with medium levels discourage self-employment and working for a pay with non-benefits, suggesting that the higher exposure to return migration, the lower the chances of working in the informal economy. Finally, the more urbanized and dynamic the local context, the higher the chances of being a wage-worker with benefits.

The results suggest that, net of education, migration sorts individuals in the labor market, and mostly into the formal and informal economy. Logistic models predicting the probability of working in the informal economy (being self-employed or wage-worker with no-benefits, tables not included) showed that, by 2010, men return migrants had 13 and 46 percent higher odds of working in informal jobs than non-movers and internal migrants. For women there were no differences against non-movers, but they had odds 38 percent higher than internal migrants. However, it is important to highlight that education is the strongest predictor of being self-employed or wage-worker with no-benefits for both men and women.

Given the strong association between return migration and class of worker, and the link between the latter and earnings (shown in the descriptive results), is important to answer: how much of the fall in return migrants' earnings is possibly due to their changes in human capital? How much to those in their employment conditions and local characteristics of their place of residence? And, what is contributing more: the changes in their composition or the changes in the payoffs of their characteristics in the labor market? Tables 3 and 4 address these questions using OLS regression models and Blinder-Oaxaca decomposition over time of the logarithm of earnings for men and women by migration status. Models in table 3 feed the analysis of table 4, the coefficients (the earnings structure), together with the distributions and means of variables, are combined and rearrange to produce an estimation of the contribution in changes in characteristics and coefficients to the changes in earnings.

Models in Table 3 show the earnings structure for each migrant status in 2000 and 2010. Overall, structures look very similar, with small differences between them on the variables for employment, migration and local economic characteristics. Among the groups, men return migrants get the lowest payoffs for being owners/employers or self-employed. However, all groups received more for being a wage-worker with benefits as, between 2000 and 2010, almost all coefficients for other classes of worker decreased among all groups in about the same amounts. Return migrants also got the lowest payoffs for professional occupations among the groups, but over time, they increased little. The payoffs for crafts, the occupation with the highest proportion of return migrants, went also up compared to skilled manufacturing workers. I also observe that residing in the state of birth or in places with high levels of return migration experience increased earnings for all. However, between 2000 and 2010, the positive association of high

levels of migration experience was significantly reduced, mostly for return and internal migrants. More urbanized context have higher returns for all groups, and high levels of economic dynamism have positive advantages in earnings for return migrants in both years.

For women, the largest negative change in the association between class of worker and earnings is observed among self-employed return migrants: between 2000 and 2010, their coefficient went down by .22 points. The payoffs for clerks and service workers, the occupation with the largest share of women return migrants, significantly increased by 2010. Residing in the state of birth or migration experience at the local level did not have a significant association with earnings, neither did the local economic characteristics.

The falls and increases of the earnings structure coefficients result in different contributions to the net changes in earnings, depending on how much the composition of the groups changed. Table 4 shows Blinder-Oaxaca decomposition contributions for changes in characteristics. The decomposition is formulated from the point of view of the year 2010, so contributions of components are read as, for example, what return migrants would have earned in 2010 if they had their 2000's characteristics (for a mathematical expression see Methods). Bolded components show significant differences with respect to non-movers.

Earnings for both men and women return migrants drop mainly due to changes in their characteristics. Earnings for men return migrants went down by 17 percent, from which 65 percent was associated to compositional change (0.107) and 20 percent to changes in the payoffs to their characteristics in the labor market. Though internal migrants and non-movers also lost earnings due to their changes in composition (7.8 and 5.2 percent of their 2000's earnings, respectively), the gains in their wage structure compensated this lost, and even surpassed it in the case of non-movers. Women return migrants lost 18 percent of their 2000's earnings, 55 percent associated to their compositional change and 45 percent to their coefficients' change. This situation is very different from that of internal migrants, who overall earned 5.5 percent more in 2010 than in 2000. This advantage was only associated to significant gains in their earnings structure. Earnings did not change for non-movers, their lost due to changes in characteristics was compensated by gains in their coefficients and the interaction term.

What are the factors that contributed more to the lost in earnings due to compositional change for men and women? The detailed decomposition shows that men lost more for changes in their class of worker or occupation, than for their changes in education. If return migrants had the educational composition of the 2000, their earnings in 2010 would have been two percent higher. Yet, they would have earned over three percent more if their class of worker distributions was that of the 2000. Components estimated for single categories of this variable show that changes in the proportion of wage-workers with no-benefits account for 80 percent of the class of worker contribution (0.026/0.032). In terms of occupation, the 2010 earnings would have been of 2.8 percent higher if return migrants had the occupation distribution of the 2000; 89 percent of this increase would have come from greater participation in professional occupations and lower participation in unskilled manufacturing jobs. Another significant change came from their spatial distribution: if return migrants were distributed in places with the urban distribution of 2000, their earnings would have been two percent higher (.021). The components of the rural and rural-urban categories accounted for all this change (.021). In summary, class of worker, occupation and urbanization compositional changes accounted for 76 percent of the overall compositional change. The situation was similar

for non-movers and internal migrants to whom these dimensions made up to 100 and 82 percent of the compositional change. However, unlike return migrants, non-movers and internal migrants would have had lower earnings if their education had not changed.

For women return migrants, I do not observe significant changes in their educational attainment that account for their lost in earnings between 2000 and 2010. Yet, a significant six percent of the fall in earnings was associated to shift in their class of worker distribution (0.061). Components of the single categories for this variable show that self-employed and both types of wage-workers contribute in similar amounts, while owners did not change. Changes in occupational distribution contributed less than they did among men; only a 1.3 percent of increase would have taken place if this variable's distribution had not changed. Alike the men's situation, changes in the urbanization level of their spatial distribution accounted for a substantial drop in their earnings: the 3.8 percent decrease is mostly explained by shifts towards more rural and rural-urban places. Non-movers and internal migrants had very similar losses associated to changes in the distributions of class of worker and urbanization, but their gains due to educational attainments neutralized the discount these factors.

As mentioned previously, changes in coefficients reduced men and women return migrants earnings, but not those of other migration status. I discuss now the factors that contributed to this fall. Among men, differences in education payoffs increased earnings by 6.9 percent. Earnings also increased by three percent due to changes in class of worker: while owners and self-employed lost, both types of wage workers gained more in 2010, mostly those with no benefits whose contribution was of 3.1 percent. Interestingly, there was a decrease in payoffs of migration experience of municipalities. Single components of this factor show that the 2.7 percent reduction in earnings came only from the losses in payoffs of residing in places with high levels of migration experience. Finally, returns to return migration fell significantly and accounted for nine percent of the drop in earnings between 2000 and 2010. Compared to non-movers and internal migrants, return migrants got better returns to education (-.069 versus -.022 and 0.012), but lower payoffs for class of worker (-.030 versus -.040 and -.037) and migration experience (0.027 versus no significant change), and were the only group with losses in their payoffs to group membership (.093 versus -.028 and -.072).

For women return migrants significant losses were associated only to migration experience (0.064) and economic characteristics (0.034). Decreases of payoffs in places with high migration experience brought earnings down by 7.5 percent, which was not neutralized by the small gains of low and medium levels of experience (less than one percent). Similarly, payoffs in places with high levels of economic dynamism decreased earnings by 7.2 percent, but the increases in payoffs in places with medium levels (.038) halved this negative effect. Conversely, non-movers and internal migrants increased their earnings associated to better payoffs in class of worker and urbanization level, and migration experience at the local level did not significantly changed their earnings. However, these groups also lost earnings due to reductions of payoffs in local economic characteristics, but their losses were smaller than those of return migrants (.027, .024 versus .034).

Overall, compositional changes in class of worker, occupation and urbanization contributed the most to the fall in earnings for men and women return migrants. The same factors also reduced non-movers' and internal migrants' earnings, but their contributions were smaller. Why return migrants lost more? The changes in educational attainment and occupation distributions distinguished return migrants from the other groups. This can be interpreted as a status loss of return migrants possibly associated to

human capital losses. In terms of the change in earnings structures, the biggest fall that made men return migrants depart from other groups was in their group membership. Compared to the previous decade and net of individuals' human capital, the returns to return migration were impressively reduced. I suggest this change is associated to the constraints imposed by involuntary returns made more difficult to capitalize their migration capital in the labor market. For women, the changes in coefficients of the migration experience factor distanced return migrants from internal migrants and non-movers. I suggest two potential explanations: either traditional destinations seem to be reaching a saturation point that values less being a return migrant –and mostly among women –or these places were the most affected by the consequences of growing deportations and the economic crisis –i.e. studies have documented a significant fall in remittances since 2007 (Cohn, Gonzalez-Barrera, & Cuddington, 2013).

## **Conclusion**

Our analysis reveals that incorporation of return migrants in the Mexican labor market is more difficult and less advantageous. In the past decades, return migrants provided themselves with job opportunities by establishing microenterprises (Lindstrom, 1996; Massey & Parrado, 1998; Sheehan & Riosmena, 2013), but recently, the involuntariness of the movement and lower financial resources due to the economic crisis may have been pushing them stronger to the informal economy. Our results showed that both, return migrants' proportions and the probabilities (net of their sociodemographics) of being in jobs with no-benefits and self-employed increased substantially between 2000 and 2010.

The documented earnings decline is mainly associated with the compositional change of the flow. As said above, educational levels of returnees in 2010 were significantly lower than the levels of internal and non-movers. Over time, they also held less professional positions in the labor market, and did it even more by 2010. Finally, their distribution within the country does not follow the patterns that the literature has documented as related to economic reasons (Rivero-Fuentes, 2012; Sobrino, 2010). Return migrants recently settle within Mexico more in rural-urban and less economically developed places than did it before (Giorguli & Gutierrez, 2012; Masferrer & Roberts, 2012).

By changing the classical approach of return migration to broader perspective that incorporates involuntary and non-economic movements (Cassarino, 2004; Alejandro Portes & Rumbaut, 1996), our analysis portrays diverse scenarios of return migration to Mexico. Nowadays, return migrants seem to be less driven by economic motives when coming back to Mexico. Though still under debate<sup>10</sup>, the "Obama administration deporting illegal immigrants at a record pace"<sup>11</sup> is a popular slogan. And yet, according to the Department of Homeland Security statistics, Mexican deportations started rising since 2005, which aligns with the flow surveyed in the 2010 Mexican Census. At the same time, job opportunities in the US declined significantly (Parrado, 2012). More than 2.3 million jobs were lost in the services and construction sectors, which have been

---

<sup>10</sup> <http://www.washingtonpost.com/blogs/wonkblog/wp/2012/08/27/obama-is-deporting-more-immigrants-than-bush-republicans-dont-think-thats-enough/>, <http://fusion.net/justice/story/obama-deporter-chief-charts-explain-635075>

<sup>11</sup> [http://www.nytimes.com/2014/04/07/us/more-deportations-follow-minor-crimes-data-shows.html?hp&\\_r=1](http://www.nytimes.com/2014/04/07/us/more-deportations-follow-minor-crimes-data-shows.html?hp&_r=1), <http://www.thenation.com/article/179099/why-has-president-obama-deported-more-immigrants-any-president-us-history#>

traditional niches of Mexican migrants' jobs (Donato & Sisk, 2012; Parrado, 2012). Lack of job opportunities in the U.S. has proved to be reason for returning to the Mexican market in other studies (Cuecuecha & Rendon, 2012; J. Papail, 2002). The lower preparedness and readiness of involuntary movements might explain the deterioration of return migrants' position in the Mexican labor market, which is supported by the divergent results of internal and international migrants.

The lack of widely representative information on reasons for returning to Mexico, limits our conclusions. Excluding Mexican born who stayed in the US from the analysis does it as well. The latter group might have better educational attainment, more successful incorporation experiences, and longer stays in the U.S., and fewer economic reasons to come back to Mexico. But, they might also have more chances of residing legally in the U.S. and therefore they would be less likely to come back involuntarily, which supports our argument.

The new situation of return migration posits enormous challenges for migration and job creation policies in Mexico. Our findings showed that returnees are more likely now to have bad jobs –no-benefits and lower wages –than an average Mexican. These results are relevant when thinking about health insurance and retirement access for those who worked abroad during a period of their lives. In Mexico, formal jobs have been the pathway for warranting social security to the population (Garcia 2011). The new conditions for return migrants in Mexico potentially deprive them from social security stability and quality of life at elder stages. Migration to the United States seems to be no longer a "safety valve" for the Mexican labor market. Sadly, Mexican return migrants are joining the lines of the already large population that struggle for better life conditions in Mexico.



## TABLES

**Table 1. Means and distributions of earnings and sociodemographic, employment, migration, and local characteristics of Mexicans 25 to 49 years by migration status and sex. Mexico, 2000 and 2010**

Variables	MEN					
	Non-mover		Return migrant		Internal migrant	
	2000	2010	2000	2010	2000	2010
Monthly earnings ( <i>in 2000's Mx Pesos</i> )	3,867.0 (12,253.5)	3,979.7 ** (7,729.5)	4,504.7 (10,192.7)	3,242.8 ** (11,595.1)	5,330.0 (12,344.7)	5,812.5 ** (11,456.1)
<i>Sociodemographic characteristics</i>						
Age %						
25-29	25.7	22.3 **	33.1	27.3 **	32.3	27.7 **
30-34	22.9	21.4	28.8	27.2	26.3	25.9
35-39	20.6	21.5	19.7	22.0	19.7	20.6
40-44	17.2	18.7	11.6	14.3	13.2	15.0
45-49	13.5	16.1	6.8	9.3	8.5	10.8
Educational attainment %						
Less than 5	21.4	13.7 **	19.9	14.6 **	13.3	8.3 **
6-8	25.0	20.3	30.7	30.2	20.4	14.1
9-11	27.0	31.8	30.0	36.7	27.8	28.5
12-15	13.4	18.3	13.5	14.7	17.7	21.9
More than 15	13.2	15.9	5.9	3.7	20.8	27.1
Household head %	75.0	68.8 **	67.9	67.7	77.6	72.7 **
Married %	80.4	76.3 **	74.4	74.2	81.6	76.4 **
Children under 15	1.9 (1.5)	1.6 ** (1.4)	1.7 (1.5)	1.5 ** (1.4)	1.6 (1.4)	1.3 ** (1.3)
<i>Employment characteristics</i>						
Informal economy participation	47.2	49.1 **	62.7	69.9 **	35.1	38.9 **
Class of worker %						
Owner	3.5	3.5 **	5.6	3.9 **	3.5	3.4 **
Self-employed	25.7	23.8	33.7	29.3	17.3	17.2
Wage worker w/benefits	49.3	47.4	31.7	26.2	61.4	57.6
Wage worker w/no benefits	21.5	25.4	29.0	40.6	17.7	21.7
Occupation %						
Skilled manufacturing workers	13.5	14.6 **	12.1	12.0 **	13.4	12.1 **
Professionals	14.6	15.8	8.1	4.9	20.5	25.0
Clerks and service workers	21.4	21.2	19.6	18.8	26.9	25.7
Skilled agricultural workers	17.2	12.0	24.1	21.4	6.7	4.7
Cratfs	24.0	24.0	27.2	25.6	22.4	21.3
Unskilled manufacturing workers	9.3	12.4	8.9	17.3	10.1	11.2
<i>Migration characteristics</i>						
Residing in state of birth %	77.4	78.2 **	77.1	80.1 **	24.7	29.5 **
Migration experience level %						
Low	30.9	41.3 **	6.0	14.5 **	24.3	42.4 **
Medium	30.6	23.5	18.2	18.7	33.1	25.5
High	38.6	35.2	75.8	66.8	42.6	32.2
<i>Local economic context characteristics</i>						
Urbanization level %						
Rural	3.7	2.9 **	5.6	6.1 **	1.6	1.7 **
Rural-urban	20.3	19.1	32.1	35.7	11.5	11.9
Urban	18.4	17.4	24.4	21.6	17.2	17.8
Metropolitan area	57.6	60.6	38.0	36.5	69.7	68.6
Economic characteristics level %						
Low	24.2	15.0 **	35.0	25.3 **	14.5	10.1 **
Medium	23.8	17.5	20.7	21.6	24.9	19.7
High	52.0	67.5	44.2	53.1	60.7	70.2
<i>Total population</i>	12,034,383	14,577,016	83,446	355,541	692,510	691,737
<i>Sample size</i>	972,610	1,057,271	6,777	33,183	55,347	41,879

**Table 1 (cont.)**

Variables	WOMEN					
	Non-mover		Return migrant		Internal migrant	
	2000	2010	2000	2010	2000	2010
Monthly earnings ( <i>in 2000's Mx Pesos</i> )	3,043.8 (10,115.1)	3,347.8 (6,655.)	4,970.6 (36,429.6)	3,328.0 (5,825.)	3,454.2 (10,756.5)	4,174.6 (7,006.2)
<i>Sociodemographic characteristics</i>						
Age %						
25-29	25.9	22.2 **	37.8	27.2 **	36.0	31.4 **
30-34	23.1	21.7	29.0	28.4	26.7	25.3
35-39	20.8	21.5	17.3	22.0	18.4	21.0
40-44	16.9	18.6	9.8	14.3	11.6	13.6
45-49	13.3	16.1	6.2	8.1	7.4	8.7
Educational attainment %						
Less than 5	25.8	15.3 **	15.9	9.3 **	17.0	8.9 **
6-8	27.0	21.8	30.1	26.2	23.6	16.0
9-11	27.7	32.1	32.1	35.7	31.6	30.6
12-15	9.6	16.1	14.0	19.9	13.5	21.4
More than 15	9.9	14.6	7.9	9.0	14.4	23.1
Household head %	12.9	14.9 **	21.7	22.5	14.8	18.3 **
Married %	76.1	72.6 **	78.8	77.2	78.1	73.8 **
Children under 15	2.0 (1.6)	1.7 ** (1.4)	2.1 (1.4)	1.8 ** (1.3)	1.8 (1.4)	1.5 ** (1.3)
<i>Employment characteristics</i>						
Informal economy participation	38.3	43.4 **	53.0	62.4 **	36.1	42.4 **
Class of worker %						
Owner	2.1	2.1 **	5.3	4.1 **	2.3	2.4 **
Self-employed	23.5	24.1	32.2	34.9	20.2	22.7
Wage worker w/benefits	59.6	54.5	41.7	33.4	61.6	55.2
Wage worker w/no benefits	14.8	19.3	20.8	27.6	15.8	19.7
Occupation %						
Skilled manufacturing workers	5.2	5.9 **	7.7	4.7 **	8.2	4.9 **
Professionals	23.8	25.0	16.2	15.4	22.8	28.5
Clerks and service workers	39.6	40.5	48.6	51.5	37.4	40.5
Skilled agricultural workers	3.4	1.7	1.8	2.8	2.7	0.9
Cratfs	9.6	8.1	12.2	6.7	9.4	7.0
Unskilled manufacturing workers	18.4	18.8	13.5	18.9	19.5	18.2
<i>Migration characteristics</i>						
Residing in state of birth	76.9	78.1 **	69.8	74.3 **	24.7	28.5 **
Migration experience						
Low	32.0	41.2 **	5.5	12.6 **	25.9	43.2 **
Medium	29.2	23.2	18.7	19.2	32.9	25.0
High	38.8	35.6	75.8	68.2	41.3	31.8
<i>Local economic context characteristics</i>						
Urbanization level %						
Rural	3.6	3.0 **	4.1	4.8 **	1.6	1.7 **
Rural-urban	20.4	19.8	26.8	28.6	11.3	11.7
Urban	18.5	17.5	24.3	24.5	15.8	16.5
Metropolitan area	57.5	59.8	44.8	42.0	71.2	70.2
Economic characteristics						
Low	24.4	15.7 **	30.7	21.8 **	14.1	9.7 **
Medium	23.8	17.5	21.7	20.9	23.8	18.5
High	51.9	66.9	47.7	57.4	62.1	71.8
Total population	5,395,416	7,819,424	12,821	44,187	287,256	333,196
Sample size	441,048	560,428	1,097	3,975	23,425	20,168

\*\* p<0.001 according to T and Chi-square tests for means and distributions, respectively.

Notes: Statistics obtained using individual weights. Standard deviations in parenthesis.

Source: 2000 and 2010 ten percent Mexican Census Samples, INEGI (2011) and IPUMS (2011).

**Table 2. Multinomial-logistic regression models of class of worker of Mexicans aged 25 to 49 years by migration status and sex. Mexico, 2000 and 2010**

Variables	MEN						WOMEN							
	Ref: Wage workers with benefits		Owner		Self-Employed		Wage-worker w/no benefits		Owner		Self-Employed		Wage-worker w/no benefits	
	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.
Year 2010			0.04		0.34 **		0.54 **		0.14 **		0.56 **		0.82 **	
<i>Migration status (Ref: non-mover)</i>														
Return migrant			0.99 **		0.85 **		0.65 **		1.18 **		0.94 **		0.75 **	
Internal migrant			-0.08 *		-0.20 **		-0.01		0.07		0.02		0.13 *	
<i>Interaction</i>														
Return migrant*Year 2010			-0.23 *		-0.14 *		0.14 **		-0.08		-0.08		0.00	
Internal migrant*Year 2010			-0.01		0.00		0.12 *		0.16 *		0.19 *		0.16 *	
<i>Migration characteristics</i>														
Residing in state of birth (Ref: Other state)			-0.13 **		-0.33 **		-0.31 **		0.11 **		-0.13 **		-0.08 *	
Migration experience level (Ref: low)														
Medium			0.06		-0.27 **		-0.14 *		-0.01		-0.19 **		-0.09 *	
High			0.38 **		-0.46 **		-0.20 **		0.24 **		-0.40 **		-0.20 **	
<i>Local economic context characteristics</i>														
Urbanization level (Ref: Metro area)														
Rural			0.48 **		1.26 **		0.81 **		0.03		0.92 **		0.42 **	
Rural-urban			0.32 **		0.74 **		0.61 **		0.17 *		0.59 **		0.36 **	
Urban			0.11 *		0.10 *		0.14 *		0.10 *		0.14 *		0.02	
Economic characteristics level (Ref: Low)														
Medium			-0.21 **		-0.27 **		-0.24 **		-0.09 *		0.01		-0.12 *	
High			-0.27 **		-0.43 **		-0.54 **		-0.26 **		-0.14 *		-0.42 **	
Constant			-3.51 **		0.53 **		1.18 **		-4.07 **		-0.15 *		0.53 **	

\*p<0.05, \*\*p<0.001.

Notes: Models include controls for age, educational level, household head, marital status, and number of children under 15 years old.

Source: 2000 and 2010 ten percent Mexican Census Samples, INEGI (2011) and IPUMS (2011).

**Table 3. OLS regression models of logarithm of monthly earnings of Mexicans aged 25 to 49 years by migration status. Mexico, 2000 and 2010**

Variables	MEN										
	Non-mover		Return migrant		Internal migrant						
	2000	2010	2000	2010	2000	2010	2000	2010			
	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.	
<i>Employment mediators</i>											
<i>Class of worker (Ref: Wage worker w/benefits)</i>											
Owner	0.54 **		0.36 **		0.42 **		0.29 **		0.49 **		0.33 **
Self-employed	-0.09 **		-0.20 **		-0.12 **		-0.21 **		-0.09 **		-0.19 **
Wage worker w/no benefits	-0.17 **		-0.18 **		-0.24 **		-0.23 **		-0.22 **		-0.25 **
<i>Occupation (Ref: Skilled manufacturing workers)</i>											
Professionals	0.21 **		0.21 **		0.17 *		0.19 **		0.30 **		0.24 **
Clerks and service workers	-0.04 **		-0.04 **		-0.14 **		-0.08 **		0.01		-0.10 **
Skilled agricultural workers	-0.47 **		-0.53 **		-0.37 **		-0.40 **		-0.30 **		-0.46 **
Cratfs	-0.01		0.06 **		-0.05		0.03 *		0.07 *		0.02
Unskilled manufacturing workers	-0.21 **		-0.22 **		-0.27 **		-0.22 **		-0.18 **		-0.24 **
<i>Migration characteristics</i>											
Residing in state of birth (Ref: Other state)	0.09 **		0.09 **		0.09 *		0.09 **		0.08 **		0.10 **
<i>Migration experience level (Ref: low)</i>											
Medium	0.16 **		0.10 **		0.05		0.02		0.11 **		0.02
High	0.30 **		0.20 **		0.18 **		0.09 **		0.22 **		0.06 *
<i>Local economic context characteristics</i>											
<i>Urbanization level (Ref: Metro area)</i>											
Rural	-0.21 **		-0.25 **		-0.21 *		-0.17 **		-0.28 **		-0.22 **
Rural-urban	-0.15 **		-0.22 **		-0.18 *		-0.14 **		-0.19 **		-0.18 **
Urban	-0.05 *		-0.12 **		-0.07		-0.07 *		-0.01		-0.06 *
<i>Economic characteristics level (Ref: Low)</i>											
Medium	-0.03		0.03		0.01		0.04 *		0.00		0.07 *
High	0.05 *		0.03		0.15 *		0.06 *		0.03		0.04
Constant	7.34 **		7.63 **		7.62 **		7.83 **		7.41 **		7.80 **
Sample size	972,610		1,057,271		6,777		33,183		55,347		41,879
<b>WOMEN</b>											
Variables	Non-mover		Return migrant		Internal migrant						
	2000	2010	2000	2010	2000	2010	2000	2010	2000	2010	
	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.	
<i>Employment mediators</i>											
<i>Class of worker (Ref: Wage worker w/benefits)</i>											
Owner	0.38 **		0.17 **		0.45 **		0.15		0.44 **		0.17 **
Self-employed	-0.45 **		-0.55 **		-0.26 **		-0.48 **		-0.44 **		-0.51 **
Wage worker w/no benefits	-0.44 **		-0.39 **		-0.43 **		-0.35 **		-0.38 **		-0.37 **
<i>Occupation (Ref: Skilled manufacturing workers)</i>											
Professionals	0.29 **		0.24 **		0.28 *		0.32 **		0.34 **		0.37 **
Clerks and service workers	0.11 **		0.07 **		0.09		0.10 *		0.18 **		0.11 **
Skilled agricultural workers	-0.09 **		-0.21 **		0.12		-0.05		0.07		-0.02
Cratfs	-0.16 **		-0.26 **		0.08		-0.12		0.01		-0.11 *
Unskilled manufacturing workers	-0.18 **		-0.06 **		0.05		-0.06		-0.11 **		0.03
<i>Migration characteristics</i>											
Residing in state of birth (Ref: Other state)	0.08 **		0.09 **		-0.01		0.05		0.06 *		0.09 **
<i>Migration experience level (Ref: low)</i>											
Medium	0.11 **		0.04 *		0.01		-0.13 *		0.10 **		-0.02
High	0.20 **		0.10 **		0.14		-0.09		0.21 **		0.00
<i>Local economic context characteristics</i>											
<i>Urbanization level (Ref: Metro area)</i>											
Rural	-0.31 **		-0.38 **		-0.17		-0.24 **		-0.29 **		-0.41 **
Rural-urban	-0.20 **		-0.28 **		-0.35 **		-0.22 **		-0.23 **		-0.27 **
Urban	-0.09 **		-0.16 **		-0.19 *		-0.10 *		-0.04		-0.11 **
<i>Economic characteristics level (Ref: Low)</i>											
Medium	-0.01		-0.03		-0.12		0.03		0.06		0.05
High	0.06 *		-0.05 *		0.16		0.00		0.08 *		0.00
Constant	7.06 **		7.37 **		7.23 **		7.69 **		7.20 **		7.57 **
Sample size	441,048		560,428		1,097		3,975		23,425		20,168

\*p<0.05, \*\*p<0.001

Notes: Models include controls for age, educational level, household head, marital status, and number of children under 15 years old.

Source: 2000 and 2010 ten percent Mexican Census Samples, INEGI (2011) and IPUMS (2011).

**Table 4. Blinder-Oaxaca decomposition over time of the logarithm of earnings for Mexicans aged 25 to 49 years by migration status and sex. Mexico, 2000 and 2010**

	MEN			WOMEN		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	<i>Non-mover</i>	<i>Return migrant</i>	<i>Internal migrant</i>	<i>Non-mover</i>	<i>Return migrant</i>	<i>Internal migrant</i>
<b>Total decomposition</b>						
Log earnings 2000	7.800 **	7.947 **	8.119 **	7.580 **	7.721 **	7.746 **
Log earnings 2010	7.840 **	7.777 **	8.129 **	7.578 **	7.541 **	7.801 **
Difference	-0.041 *	<b>0.170 **</b>	<b>-0.011</b>	0.002	<b>0.180 **</b>	<b>-0.055 *</b>
Characteristics $\Delta$	0.052 **	<b>0.107 **</b>	<b>0.078 **</b>	0.071 **	<b>0.104 **</b>	<b>0.029</b>
Coefficients $\Delta$	-0.079 **	<b>0.035 +</b>	<b>-0.090 **</b>	-0.049 **	<b>0.077 +</b>	<b>-0.086 **</b>
Interaction $\Delta$	-0.014 *	<b>0.029 *</b>	<b>0.001</b>	-0.020 *	<b>-0.001</b>	<b>0.002</b>
<b><math>\Delta</math> in characteristics</b>						
Age	-0.003 **	<b>-0.003 **</b>	<b>-0.004 **</b>	-0.007 **	<b>-0.011 *</b>	<b>-0.003 *</b>
Educational level	-0.009 *	<b>0.018 **</b>	<b>-0.012 *</b>	-0.031 **	<b>0.009</b>	<b>-0.060 **</b>
Family charac.	0.003 **	<b>0.003 **</b>	<b>0.009 **</b>	-0.004 **	<b>-0.002</b>	<b>-0.009 **</b>
Class of worker	0.016 **	<b>0.032 **</b>	<b>0.030 **</b>	0.055 **	<b>0.061 **</b>	<b>0.059 **</b>
Occupation	0.010 *	<b>0.028 **</b>	<b>0.007 *</b>	0.011 **	<b>0.013 +</b>	<b>-0.009 *</b>
Residing in state of birth	0.005 **	<b>0.007 **</b>	<b>0.013 **</b>	0.005 **	<b>0.004</b>	<b>0.010 **</b>
Migration experience	0.003	<b>0.001</b>	<b>0.005</b>	0.001	<b>-0.006 +</b>	<b>-0.002</b>
Urbanization level	0.028 **	<b>0.021 **</b>	<b>0.027 **</b>	0.041 **	<b>0.038 **</b>	<b>0.040 **</b>
Economic characteristics	0.000	0.000	<b>0.003 *</b>	0.001	<b>-0.001</b>	<b>0.002</b>
<b><math>\Delta</math> in coefficients</b>						
Age	-0.001 *	<b>-0.006</b>	<b>-0.002</b>	0.000	<b>-0.052 *</b>	<b>0.003</b>
Educational level	-0.022 **	<b>-0.069 **</b>	<b>0.012 **</b>	0.005 **	<b>0.013</b>	<b>0.011 *</b>
Family charac.	0.009 *	<b>0.022 +</b>	<b>0.007</b>	-0.004	<b>0.032</b>	<b>0.002</b>
Class of worker	-0.040 **	<b>-0.030 *</b>	<b>-0.037 **</b>	-0.044 **	<b>-0.041</b>	<b>-0.061 **</b>
Occupation	-0.006 **	<b>-0.006</b>	<b>-0.003</b>	-0.016 *	<b>-0.034</b>	-0.015
Residing in state of birth	0.002	0.000	<b>-0.002</b>	0.004	<b>0.017</b>	-0.003
Migration experience	-0.001	<b>0.027 +</b>	<b>-0.007</b>	-0.001	<b>0.064 *</b>	<b>-0.008</b>
Urbanization level	-0.005	<b>-0.003</b>	<b>0.007</b>	-0.014 *	<b>-0.016</b>	<b>-0.028 *</b>
Economic characteristics	0.012 *	<b>0.007 +</b>	<b>0.007</b>	0.027 **	<b>0.034 *</b>	<b>0.024 *</b>
Constant	-0.028 *	<b>0.093 *</b>	<b>-0.072 **</b>	-0.005	<b>0.060</b>	<b>-0.010</b>

+ p<0.10, \* p<0.05, \*\* p<0.001

Notes: Bolded coefficients indicate significant differences at p<0.05 with respect to non-movers decomposition (models 1 and 4) according to Z-tests of differences in means.

Source: 2000 and 2010 ten percent Mexican Census Samples, INEGI (2011) and IPUMS (2011).

## CHAPTER 2 FEELING DEPRESSED IN A FOREIGN COUNTRY: MENTAL HEALTH STATUS OF MEXICAN MIGRANTS IN DURHAM, NC

**Abstract:** Of all Hispanic immigrants in the US, Mexicans have accounted for almost all the advantages of the epidemiological paradox. However, their mental health outcomes have shown to be less advantageous. I explore the link between migration and depressive feelings using a binational random survey of Mexicans in Durham, NC and sending communities in Mexico. Explanations for the link between migration and depression, such as acculturative stress, social distance, and loss of cultural context, are analyzed by comparing results for protective vs. risk factors between residents of Mexico and Durham, and among immigrants themselves. Results show little support for selection as an important source of the higher depression registered among migrants, and instead provide strong evidence that migration itself, and the disruption of social networks that it entails, heightens depression among migrants in Durham. Family separation, in particular, is the strongest predictor of depressive feelings and accounts for a sizeable portion of the heightened depression among migrants. Understanding subjective experiences of migration is necessary to better integrate newcomers into host societies.

## Introduction

Latino, especially Mexican, immigrants in the United States present a paradox with respect to health. Based on their lower average incomes, disproportionate concentration in low-skill and physically demanding occupations, and restricted access to healthcare, one would expect their average health outcomes to be significantly worse than those of natives. And yet they average better global and physical health status than the populations of both sending and receiving areas (Akresh & Frank, 2008; Jasso, Massey, Rosenzweig, & Smith, 2001). Much of the research on this topic has centered on the degree to which positive selection into migration, or even negative selection into return migration, could explain this paradox. An additional puzzle, however, is that mental health outcomes tend to show the opposite pattern, with migrants faring less well than those in sending and receiving contexts (Deisenhammer et al., 2012). While the competing influences of selection and social context have been thoroughly examined for the physical health of immigrants, the same cannot be said of mental health, where the two have scarcely been tested together.

Mexicans are an interesting case to study. Within the health literature, they have accounted for almost all the positive health advantages of the Hispanic immigrant epidemiological paradox. Nevertheless, the picture with respect to mental health is less auspicious, with several studies suggesting negative effects of migration experience. Migration from Mexico to the United States has been found to increase the probability of subsequent onset of anxiety and mood disorders (Breslau et al., 2007), drug use and related disorders (Borges et al., 2011), and depressive disorders, including major depression and social phobia (Breslau et al., 2011). All these studies attempt to address migrant selectivity, specifically the higher propensity of migration among healthy individuals and those with better socioeconomic backgrounds, by comparing Mexicans on both sides of the border. However, the reference group chosen –non-migrant family members of households with at least one migrant –introduces potential biases as well, as non-migrant family members may opt out of migration for health reasons. In addition, a detailed analysis of the forces undermining immigrant health, such as acculturative stress, lack of social support, and powerlessness and isolation, are often missing in these studies.

Accordingly, the aim of this paper is to address the gaps in the literature by exploring the link between Mexican migration experiences, the stress of changing social and cultural environments, and mental disorders. I draw on a unique dataset –a binational random survey administered to Mexicans in Durham, NC *and* migrant-sending communities in Mexico – to address these issues. By asking the same questions on both sides of the border I increase comparability of indicators with respect to other sources. This data also contains information on characteristics of migration that have rarely been explored together, such as legal status, English proficiency, time spent in the United States, and social support. I have four main objectives are pursued. First, I seek to disentangle the association between migration and other correlates of depression such as socioeconomic status, cultural perceptions, and pre-migration conditions (which include psychopathological and social contexts, and family background). A matched samples approach is used to measure differences in the probability of feeling depressed between people in Mexico and Durham. By comparing Mexican migrants to Mexicans residing in Mexico, I better address the impact of selection into migration on mental health outcomes. Second, I explore how changes in social environments transform the association between socio-demographic and economic factors and depressive feelings. Models predicting the likelihood of feeling

depressed are compared in terms of significance, magnitude and sign between Mexicans in Mexico and Durham. Third, I test hypotheses of acculturative stress, integration, and protective environments (such as co-ethnic communities) among those living in Durham. And finally, both migration and its impact on social context are highly gendered. I therefore pay particular attention to the ways in which the link between migration and mental health may differ between men and women.

### **Background and theoretical framework**

Immigrant incorporation literature is expanding its frontiers, moving from studying economic and social integration to subjective aspects of migration experience, such as mental health. Migration is conceptualized as a test of the emotional resilience of individuals. To a certain degree, all migrants experience psychological distress associated with changes in social conditions that could precipitate personal crisis after migration (Portes & Rumbaut, 1996). Therefore, self-reported mental health outcomes offer a unique opportunity to advance our understanding of health responses to shocks, as well as the role of protective and risk factors when changing contexts.

Most of the frameworks of mental health outcomes follow pathogenic perspectives (focus on risk factors) developed in the physical health literature (Bécares, Nazroo, Jackson, & Heuvelman, 2012; Deisenhammer et al., 2012; Lindert, von Ehrenstein, Priebe, Mielck, & Braehler, 2009). However, sociological explanations have emphasized the importance of immigrant incorporation, sources of social support, experiences with discrimination, and alienation. Borrowed from the physical health literature, the healthy migrant hypothesis posits that more prepared and healthier individuals are more likely to migrate than those in worse conditions (Akresh & Frank, 2008; Jasso et al., 2001). Preparedness and hardiness are shown in migrant selectivity in both observable and unobservable characteristics with respect to their origin societies, meaning that migrants average better mental health status than those who remain at origin because, for example, their socioeconomic background does not resemble that of the population at origin. However, very few studies are actually able to test the selection hypothesis directly, mostly due to the lack of comparative data in contexts of origin and reception. In the case of Mexicans living in the U.S., however, mental health researchers have found more support for the acculturative stress hypothesis than for the importance of selection (Breslau et al., 2007; Breslau et al., 2011).

The acculturative stress hypothesis is a social-environmental explanation that links the tensions arising from living in a foreign culture to mental disorders. Migration is “liberating but contradictory social location” where individuals go “from amusement to despair, from stimulation to depression” (Portes & Rumbaut, 1996, p. 147). Upon arrival immigrants could experience inner turmoil, instability and restlessness due to the change in their social environment. The conflict of cultures and the distance between the social context of origin and reception marginalize immigrants' previous experiences and causes status loss, which in turn undermines mental health.

Mental health research highlights four socio-demographic risk factors for depression: 1) low socioeconomic status (Portes & Rumbaut, 1996); 2) female gender 3) being unmarried (Rafful, Medina-Mora, Borges, Benjet, & Orozco, 2012); and 4) undesired life events (Ai, Pappas, & Simonsen, 2015; Alegria et al., 2007). These findings are rooted in the sociological concepts of powerlessness and alienation: the inability to reach personal goals and the lack of agency contribute to worse outcomes. Therefore, being married, male, and relatively high income are protective factors against depressive disorders. However, migration could exacerbate the effects of powerlessness and alienation, and alter the mechanisms by which protective factors influence health.



When applied to the realm of mental health, reversals could be even more common among those in better social positions before migrating –i.e. compared to migrants with no education, better educated migrants may have higher levels of demoralization.

An additional group of factors associated with depression among migrants emerge from the social integration processes in receiving societies. In the United States higher stress has been found among those unable to speak English (Ding & Hargraves, 2009; Schachter, Kimbro, & Gorman, 2012), women, the young, and the unemployed (Ornelas & Perreira, 2011; Portes & Rumbaut, 1996; Walker, Ruiz, Chinn, Marti, & Ricks, 2012). The impact of social support is less clear. On the one hand, co-ethnic communities could be positively associated with depressed feelings, as ethnic concentration might indicate segregated, deprived neighborhoods and greater discrimination (M.-A. Lee, 2009). On the other hand, concentration can also be a source of enhanced social cohesion, mutual support, and a stronger sense of community and belongingness, which are factors that protect and buffer individuals from the direct or indirect consequences of discrimination and racial harassment in the wider social environment (Bécares et al., 2012; M. J. Lee & Liechty, 2015; Portes & Rumbaut, 1996). Finally, migrants' legal status is central to the acculturation process as well as a reflection of social background (Letiecq, Grzywacz, Gray, & Eudave, 2014; Portes & Rumbaut, 1996). Being undocumented is associated with higher distress, as illegality intersects every aspect of immigrants' lives. It forces them to live in the shadows and engenders feelings of fear and uncertainty (Menjivar, 2006). It also directly hinders migrants' opportunities of social mobility (Gonzales, 2011) and heightens their exposure to unprotected, low-wage jobs and non-standard work arrangements (Donato, Wakabayashi, Hakimzadeh, & Armenta, 2008; Flippen, 2012).

Both migration and incorporation into receiving societies are also highly gendered processes. Men and women face different opportunities and motivations for migrating (Hondagneu-Sotelo, 1994). Compared to men, women are less likely to migrate without documents (Donato et al., 2008). In addition, migration could enhance gender equality as women's greater labor force participation in the United States could confer them greater leverage in household decision making (Parrado & Flippen, 2005). Thus, while Mexican women are, in general, more likely to be depressed than men, particularly during childrearing ages (Rafful et al., 2012), how migration may potentially shape the gendered pattern of depression is unclear.

Reverse associations could also be expected based on the extensive evidence on women's migration experiences. For example, in terms of earnings and employment, upon migration women encounter stronger push to informal jobs and earn lower wages than men (Donato et al., 2008) and dependence on their partners increases if they do not participate in the labor market (Hondagneu-Sotelo, 1994). Studies have also found that the rise in labor force participation of Mexican migrant women did not translate into a more egalitarian household division of labor or more liberal gender attitudes (Parrado & Flippen, 2005). Job opportunities for immigrant women show other forms of perpetuation of traditional gender roles outside of the domestic sphere (Parreñas, 2005); for example, in Durham, NC, 38.8% of women were employed in cleaning and childcare activities compared to less than 1% of men (Flippen 2015). Intersections of immigrant women's precarious jobs and traditional gender roles change the ways in which protective and risk factors are associated to depression in comparison to men.

As mentioned above, I explore the hypotheses of selectivity, contributions and changes in associations of socio-demographic factors due to socially distanced contexts, and social integration stress on Mexicans living in the U.S. Besides using a unique

sample –Hispanics in Durham, NC –I apply a three-step methodological approach that combines different statistical techniques to test all hypothesis in the same population.

## **Data**

Data for the analysis are drawn from a mixed-methods study among Hispanics in Durham, NC. The study is a three-pronged approach including community collaboration and targeted random parallel sampling in sending and receiving areas. It includes detailed information on demographic characteristics, migration and employment histories, social support, family structure, and health-related attitudes and behaviors. Data collection occurred in two phases, from April 2002 to July 2003 and then from May 2006 to December 2007 among Latin American immigrant men and women aged 18 to 50 years of age in Durham, NC.<sup>12</sup> The same questions were also asked in eight sending communities in the Mexican states of Veracruz, Puebla, Michoacan, Hidalgo, Guerrero and Guanajuato during the same time periods (100 men and 100 women in each community). To maintain comparability, I restricted our Durham sample to people born in Mexico (for a total of 1,793 men and 1,217 women).

Durham, NC, is an interesting setting to examine immigrants' adaptation and health outcomes. Latino migration to Durham is part of the new and larger trend of increasing diversity in migrant destinations in recent decades throughout the U.S. Southeast. The early stage formation of Latino communities in this area offers the opportunity to better understand the effects of social context, particularly the relatively nascent co-ethnic community that is far less consolidated than in more "traditional" receiving areas.

While not nationally representative, these data offer other unique advantages for studying the link between Mexican migration and depression. Very few data sources are specifically designed to study immigrants, including both legal and undocumented populations and recently arrived newcomers (Flippen & Parrado, 2012). Also, the project drew on extensive qualitative research and used a questionnaire that was specifically tailored to the immigrant experience; it collected several characteristics of context of origin and reception (Flippen, 2012), including legal status, English proficiency, and a major depression scale, which allow testing some of the hypotheses of the mental health literature.

## **Model specification**

The dependent variable in the analysis is derived from the ten-item scale version of the screening for depression proposed by the Center for Epidemiologic Studies Depression. This scale has been validated in numerous populations, including Latinos (Grzywacz et al., 2010), and has proven to be especially useful among populations with low levels of education (Irwin, Artin, & Oxman, 1999), as is the case for our sample. For each individual, the answers to questions about feeling depressed are coded as dummy indicators (1 if the answer indicates a depressed feeling, 0 otherwise) and then summed to form an index that ranges from 0 (not depressed at all) to 10 (extremely depressed). The question wording and proportions of positive answers by sex and country of residence are reported in Appendix 1. Finally, a dummy indicator of feeling depressed is established according to the optimal cutoff proposed by Irwin et al.

---

<sup>12</sup> A detail description of the sample design can be found in Parrado, McQuiston, and Flippen (2005)

(1999). For the purpose of this paper, individuals whose summary index adds up to 4 or above are considered as feeling depressed.<sup>13</sup>

Independent variables in the analysis include socio-demographic, economic, and migration-specific characteristics theorized to shape depression. First, sampled subjects were classified into two groups according their place of residence, and a dichotomous variable indicated whether the individual was living in Mexico or Durham. In addition, I control for sociodemographic characteristics, including age (discrete variable), education (dichotomous variable indicating if respondents completed primary education) and marital status (divided into two categories: unmarried and married or in consensual union). I also control for earnings. The large wage gap between Mexico and the United States complicates a comparison of the impact of earnings on depression across contexts. As such, I devise a relative measure of earnings that also takes into account employment status. Specifically, using year and place official minimum wage levels (2003 and 2007 mandatory wages in North Carolina<sup>14</sup> and in Region C in Mexico<sup>15</sup>), I standardize labor income reported by individuals and categorized them in three levels: zero or those unemployed, those who earn up to twice the minimum wage, and those who earn more than twice the minimum wage. For people living in Mexico, labor income was converted to the U.S. dollar equivalent using the Purchasing Power Parity over GDP (PPP) from the Penn World Table v.7.1 for 2003 and 2007.<sup>16</sup> Finally, family background is measured with respondents' reports of each of their parent's educational attainment.

The model restricted to the Durham sample also controls for several additional factors central to the immigrant experience. The most important of which is a set of mutually exclusive dummy variables to capture family structure *and* living arrangements. Because family migration patterns are highly gendered, these variables are defined differently for men and women. For men I distinguish between “traditional” family arrangements, which includes married men who are residing with their wife and children in Durham (i.e., no nuclear family members remain in Mexico); unmarried men (regardless of whether or not they have children); unaccompanied married men (whose wives continue to reside in Mexico); and split families, which consist of married men with some nuclear family members on both sides of the border (overwhelmingly married men living with their wives in Durham who nevertheless have at least one minor child in Mexico). Because only a small handful of married women in Durham migrated without their spouses (2.2%), the main distinction is the presence and location of children. I thus distinguish between married women living with all of their minor children in Durham; unmarried women with no children; married women with no children; unmarried mothers co-residing with their children; unmarried mothers whose children reside in Mexico; and married women who live with their husbands though their children remain in Mexico.

I also consider other migration-related characteristics, including social support, which is measured by an index that ranging from 0 to 5 and indicates whether the individual has at least one person for following situations: 1) to talk and be listened to, 2) to trust, 3) to help them to understand and solve problems in the U.S., 4) to help with procedures and paperwork, and 5) to drive them when needed. The remittance indicator measures whether the individual reports sending money to Mexico. I use two indicators to measure the time spent in the United States: a dichotomous variable that shows if the

---

<sup>13</sup> Other specifications of this variable were also considered and yielded to substantively the same results.

<sup>14</sup> <http://www.dol.gov/whd/state/stateminwagehis.htm>

<sup>15</sup> [http://www.conasami.gob.mx/pdf/salario\\_minimo/sal\\_min\\_gral\\_area\\_geo.pdf](http://www.conasami.gob.mx/pdf/salario_minimo/sal_min_gral_area_geo.pdf)

<sup>16</sup> Data is publicly available online at [https://pwt.sas.upenn.edu/php\\_site/pwt71/pwt71\\_form.php](https://pwt.sas.upenn.edu/php_site/pwt71/pwt71_form.php)

individual has traveled at least once to Mexico since they came to the United States, and the cumulative number of years lived in the United States net of the time spent abroad. Legal status is dichotomous variable indicating whether or not the individual is authorized to reside in the United States. Finally, English proficiency indicates that migrants report speaking English well or very well.

### **Methods and analytic strategy**

Our analytic strategy follows our specific objectives. First, to assess the link between depressed feelings and migration net of the confounding influence of selection into migration, I use propensity score matching techniques to simulate a natural experimental design based on a treatment group (migrants living in Durham) and a control group (individuals living in Mexico). Three matching schemes were tested (N nearest neighbors, one -to-one, and kernel) to obtain a balanced sample on covariates for both groups. Our results correspond to a 5-nearest neighbors scheme with replacement, which means that more than one individual can be used to construct the counterfactual group (Caliendo & Kopeinig, 2008). The selection of our final match strategy was based on obtaining the best balance for each covariate and a mean bias lower than 5% (Rosenbaum, 2002). On the matched sample, a logistic regression was estimated to obtain the mean effect of migration on the odds of feeling depressed, net of socio-demographic controls.

Second, to further examine how change in social environment is associated with depressed feelings, I estimate logistic regression models separately by place of residence (Durham and Mexico).<sup>17</sup> The models include age, education, marital status and father's years of schooling. The remaining covariates (English speaking proficiency, living arrangements, time spent in the United States, remittance behavior, social support, and legal status) were excluded from this analysis because their values could have changed as consequence of migration. By comparing coefficients from models on the Durham and Mexican sample, I gain important insight into how context shapes depressive symptoms. The comparison helps to understand whether a higher educational level or being married, for example, have the same protective associations against feeling depressed in different social environments.

Finally, restrict the analysis to the Durham sample in order to explore how migration-specific characteristics shape depressive feelings. In addition to socio-demographic covariates, these models include a set of variables, sex specific defined, related to characteristics of the migration experience like English speaking proficiency, living arrangements, time spent in the United States, remittance behavior, social support, and legal status. These models test hypotheses of social incorporation stress (first five indicators), isolation (social support) and marginality (legal status).

All models are sex-specific, and include a fixed effect for survey wave and robust corrections to the standard errors. In addition to logistic models, ordinal logistic and OLS regression specifications for ordinal and discrete definitions of the depression scale were tested. Results were not sensitive to changes in the dependent variable definition, which suggests that the cutoff of the depression scale works for our sample.

---

<sup>17</sup> I also estimated pooled models (Mexican and Durham samples) with interactions between migration and all covariates. Substantive results were similar across specifications.

## Results

Figure 1 shows the distribution of the depressive feelings scale by sex for Mexicans living in Durham and Mexico. Broadly speaking, respondents express more depressive feelings in Durham than in Mexico, and among women than among men. However, there are important interactions between migration, gender, and depression, with the link more keenly felt among men than among women. For instance, among men 27.8% of those living in Mexico report no depressed feelings, compared to 10.5% of those living in Durham (2.7 times higher). Likewise, the decline in the number of positive answers for depressed feelings is not as steep for men in Durham as it is for men in Mexico. Slightly more than one in four men in Mexico feel depressed using our dichotomous cut-off for depression, compared to one in two migrants in Durham. Women, however, exhibit a different pattern. While they average higher depressive feelings than men in both contexts, the dramatically higher depressive feelings among migrants so clearly evident among men is more muted among women. Thus, while only 15.3% of women in Mexico report no depressed feelings (compared to 27.8% for men), the corresponding figure for women in Durham is 9.8% (compared to 10.5% for men in Durham). While Mexican women in Durham feel significantly more depressed than their counterparts in Mexico, with 20 percentage points more respondents falling above our dichotomous cut-off for depression, the disadvantage women face vis a vis their male peers all but disappears in the Durham context.

Differences in depressed feelings between those in the U.S. and in Mexico could be partially explained by migrants' selectivity in sociodemographic and background characteristics. Table 5 presents descriptive statistics for the Durham and Mexican sample and indeed shows important differences in socio-demographic characteristics across contexts. Men in Durham average significantly lower educational levels and lower status family backgrounds than their counterparts residing in Mexico; 60.9% have completed primary education compared to 76.3% of those in Mexican communities, and their parents' average schooling is roughly one year lower. In terms of age and marital status no significant differences are observed. Among women educational attainment is also lower in the Durham than Mexican sample, though differences in family background are more modest. Unlike men, the distribution of marital status among women also varies sharply across contexts: 81.6% of women in Durham are married compared to 64.3% of those in Mexico. Women in Durham are also slightly younger than those in our Mexican sample. Overall, these figures suggest that compositional differences could contribute to the higher proportions of migrants with depressed feelings in Durham.

To assess whether migrant selectivity in fact contributes to higher depressive feelings in Durham, propensity score matching (*psm*) procedures were applied to generate balanced samples by place of residence in terms of age, education, marital status, and parents' years of schooling. With this procedure, variation in variables associated with depressed feelings between people in Mexico (control) and Durham (treated) are reduced to non-significant levels. In the matched samples, differences in depressed feelings are exclusively attributable to three terms: the place of residence, error, and unobservable pre-migration characteristics linked to the outcome that vary between those in Durham and Mexico.

The propensity score matching was based on a logistic model that controls for the variables mentioned above, which are either associated with migration or depressed feelings. After obtaining the propensity scores, several matching options were tested to obtain a balanced and unbiased sample for both dichotomous and discrete specifications of the depression scale. Results of the matching procedure for the

dichotomous indicator are shown in Table 6 and are based on five neighbors with replacement and no common support matching.<sup>18</sup> Balance was reached for all characteristics included ( $p > 0.05$ , Table 6) with the exception of mothers' education for the male sample, which still presents a significant difference of 0.40 years of schooling. The variable was kept in the analysis because its inclusion shifted the distribution bias of covariates to lower levels. Table 6 shows that mean and median bias for both men and women were not higher than 5% and distribution maximums did not exceed 8%, which ensures that the matching largely removed the differences in the explanatory variable distributions. Finally, using the balanced samples, the association between place of residence and depressed feelings was estimated with a logistic regression weighted with the factors provided by the *psm* procedure. On average, the odds of feeling depressed for men in Durham are 2.2 times higher than those for men in Mexico, and women in Durham had 2.3 higher odds than their counterparts in Mexico. These figures before balancing the samples were 2.7 and 2.3, respectively (results not shown). Thus accounting for selection into migration has a sizeable impact on the migration-depression link for men (0.5 points) but not for women (-0.06), essentially eliminating the interaction between gender, migration, and depression evident in Figure 1. However, it is still important to emphasize that even after accounting for selective migration, depression is markedly higher among migrants in Durham than their statistically equivalent peers in Mexico.

Given the continued salience of migration for depression even after controlling for pre-migration characteristics, I next turn to theoretical explanations that focus on the migration experience itself. The change in social environments could alter the associations between depressed feelings and socio-demographic and socioeconomic characteristics. For this hypothesis, separate logistic regression models by place of residence, for women and men, are presented in Table 7. Among men, significant differences across contexts in associations with feeling depressed are observed for earnings, age, and marital status. With respect to earnings, those who earn more than twice the minimum wage are significantly less likely than lower earning men to be depressed in both Mexico and Durham (.441 and .526, respectively), but the protective effect is significantly weaker for those residing in Durham; the odds for people in Mexico are reduced 8.5% more than those of people in Durham. Somewhat paradoxically, men who were not working at interview also exhibited significantly lower depression than those who earned low wages, though the effect was only significant in Mexico. A detailed analysis of the unemployed revealed that in Mexico, the vast majority (70%) was under 22 years of age. In Durham, in contrast, only 20% were as young. Separate logistic models that subdivide the unemployed between young (<22 years) and older adults show that the protective association of unemployment for depression among those in Mexico is exclusive to the young (results not shown). In the Mexican context, where state-provided unemployment protection is slight, only those with relatively advantaged social support (i.e., the ability to live in the parental home, supportive family ties, etc.) can afford to be without work in their youth. Thus this variable is likely

---

<sup>18</sup> Hereafter, I will only refer to the dichotomous indicator of feeling depressed, but all estimations were also obtained for the summary index of the depressive scale to test for sensitivity to the cutoff point. These estimations were obtained using both linear and ordinal regression and are available upon request. Substantive results were similar across specifications. I preferred logistic models over other specifications for simplicity in interpretation.

capturing unmeasured aspects of family background that are protective for depression among young men in Mexico.

The effects of age and marital status also exhibit differential associations with depression across contexts among men. Specifically, each additional year of age is associated with a 4.6% increase in the odds of depression for men in Mexico, but does not significantly change the odds for those living in Durham. The most interesting result is for marital status. In the wider literature on depression, married people have consistently been found to average lower depression than the unmarried. However, Table 7 shows that while marriage is also associated with lower likelihood of feeling depressed in Mexico (0.375) and Durham (0.733), this protective association is 57.2%  $(1-(1-.37)/(1-.73))$  lower for men in Durham. Finally, neither education nor family social background protect men from feeling depressed; although the latter is marginally protective for men in Mexico, the effect does not significantly differ across contexts.

Among women, too, there are important differences across contexts in the relationship between socio-demographic characteristics and depression, although the pattern is distinct from those among men. Among women in Mexico, the effect of employment and earnings are very similar to those evinced by men; compared to those earning lower wages, both unemployment and earning twice the minimum wage decrease the odds of feeling depressed by 45 and 37%, respectively. Unlike in the case of men, the share of young unemployed women in Mexico and the U.S. is almost the same (18% and 13%), and separating this category by age does not change the association between unemployment and depressed feelings in Mexico. This relationship suggests that pre-migration resources and networks are available to women regardless of their stage in life –young adulthood or childbearing –and likely related to their traditional gender roles. Unlike men, earnings have no effect on depressive feelings among women in the Durham context.

Education is hypothesized to lessen feelings of depression. Among women in Mexico better educated women are indeed 40% less likely to be depressed than their peers who did not complete a primary education. However, in Durham the protective effect of educational attainment is absent. In contrast, marriage lowers the odds of depression by 40.2% among women in Durham, but has no significant effect on women in Mexico. One possible explanation for the suppressed association between marriage and depression among women living in Mexico is the correlation between marriage and education, and marriage and age (polychoric correlations significant at  $p < 0.05$ ). Finally, age and father's years of schooling do not predict depression in either Durham or Mexico.

In general, men and women's results show support for the hypothesis of changes in protective associations due to changes in social contexts. For men, after migration, marital status no longer ensures social stability to individuals, probably due to isolation and family separation. For women, after moving to the U.S., education acquired in Mexico and earnings lose power and, to some extent, its relationship to class status weakens. I explore in-detail these changed associations among migrants in Durham with models that include characteristics that derive from migrating.

Finally, to examine the relationship between migration-specific factors and depression Tables 8 and 9 present results from logistic regression models of feeling depressed among Durham residents. For men, age, education, remittances, legal status and good English were not significantly associated with feeling depressed (Table 8). There were also no differences between earning low and being unemployed, but those that make more than two minimum wages have significantly lower odds of feeling

depressed (OR=.70). Associations between feeling depressed and unmarried men implied a 68.9% of increase in the odds compared to married with children in the U.S. or childless. No significant differences are found among those with split arrangements – either with the wife or children are away. Yet, for unaccompanied men the odds of depressed feelings multiplied by 2.6 (Table 8), which suggest that family separation and loneliness play an important role to onset depression. Results from the social support variable strength this last argument. Having support from family members, coworkers, friends, and other sources is associated with a discount of 15.4% in the odds of depressed feelings. Previous studies on mental health among Latino immigrants have already documented that loneliness and social isolation increase chances for depression (Kiang, Grzywacz, Marin, Arcury, & Quandt, 2010; Letiecq et al., 2014). Returning back to Mexico is significantly associated with increases in chances for depressed feelings (1.520, Table 8). Yet, as previously found by other studies (Portes & Rumbaut, 1996), over time, mental health of immigrants improves. Our results suggest that the greater the amount of years spend in the US, the lower the odds for feeling depressed.

Alike men, odds of feeling depressed for women were not significantly associated with age, education and remittances (Table 9). Unemployed women were as likely as those earning low to be depressed, but those that make more than two minimum wages have significantly lower odds (OR=.26). The substantial reduction of three quarters of women's odds compared to the 30% decrease of men's might signal autonomy and independence that work brings to women's life. It is important to highlight that the relationship between earnings and depressed feelings observed among women is mediated by English proficiency, as shown in Model 2 (Table 9), odds' reductions disappeared once speaking English is considered in the model. It is likely that the "good jobs", those paying good, are only available to women fluent in English.

In terms of living arrangements, being unmarried and any family separation could increase their odds of depression feeling (coefficients greater one, model 1, Table 9). Significant associations are observed for unmarried women with coresiding children and for unmarried with all their children living in Mexico. For the former, the odds of depression more than triple, and for the latter increase by 6.7 times compared to married women with at least a child living with them. Pressures of single motherhood in terms of income, care, emotional energy, among others, are factors of distress that increase depressive feelings, which exacerbate when children are separated from their mothers. Compared to those lacking social support, women with support from their family and social networks decreases the odds of depression by 26.9%, slightly above men's odds ratio.

Unlike men, for women, returning back to Mexico was not significantly associated with increases in chances for depressed feelings (Table 9). Differences in these results might be related to engendered migration processes. Women have different motivations for migrating, family reunification reasons are more common among them (Hondagneu-Sotelo, 1994), and compared to men, women are less likely to migrate without documents (Donato et al., 2008). Thus, motivations to travel back to Mexico and the associated risks of crossing are different for men and women already residing in the U.S. As previously found by other studies (Portes & Rumbaut, 1996), over time, mental health of immigrants improves. Our results suggest that the greater the amount of years spend in the US, the lower the odds for feeling depressed. Decreases are faster for men than for women, for whom a quadratic function fitted better, and slowed the pace of the linear coefficient (Table 9).



English proficiency and legal status were significantly correlated for women (polychoric correlation of 0.578,  $p < 0.05$ ). Therefore, two model specifications are shown, each one including one of these two indicators (model 1 is used for interpretation purposes, except when stated the opposite). In contrast with men, for whom legal status and good English were not significant, both factors decreased the odds for depressed feelings for women. Holding legal status halves the odds of feeling depressed and speaking English well reduces them by close to two thirds (0.368, model 2, Table 9). Results support that documented status and English speaking are factors that ease acculturation processes (Letiecq et al., 2014; Portes & Rumbaut, 1996). On the one hand, holding legal status increases the possibilities of social mobility through better employment conditions (Donato et al., 2008; Flippen, 2012; Gonzales, 2011); it also provides more emotional stability and reduces fear and uncertainty of deportation and discriminative situations associated with undocumented status. Besides, in our sample, all women with legal status had at least a child living with them, therefore legal status might be preventing family separation. On the other hand, being able to communicate with others reduces migrants' isolation, it also increases their chances of getting better jobs and improving their living conditions. In the specific case of women, it could also be reducing their husbands' dependence through employment and their ability to function in the U.S. environment, like communicating in school with teachers.

## **Conclusions**

In this paper three different theoretical hypotheses to explain feelings of depression among Mexican immigrants to the U.S. were analyzed (migrant selectivity, the impact of context on protective/risk factors for depression, and acculturative stress). While selection bias in observed characteristics accounted for a small portion of the differences in depression among Mexicans in Mexico and in Durham, acculturative stress and context were found to be far more important in explaining the higher levels of depression among migrants, especially for women.

The importance of context to depression is clearly demonstrated in the interaction between migration and socio-demographic characteristics. The protective effects of factors such as income, educational attainment, and marriage are significantly weaker among migrants in Durham than among non-migrants in Mexico. Moreover, context-related interactions show a different pattern for men and women. For both men and women, the protected effects of earnings are diminished in Durham. However, among men the benefits of marriage are also lower in the U.S. context, while among women it is education that loses its power to enhance mental health in the United States. These findings signal that changing social environments does translate into status loss. And specifically for women, the fact that employment and earnings do not protect from feeling depressed supports previous findings suggesting that labor participation is not a panacea for low the challenges facing immigrant women (Parrado & Flippen, 2005).

Findings also demonstrate that the process of immigration itself is related to mental health. Results show that family separation accounts for a sizeable portion of the heightened depression among migrants. In general, marriage still protected immigrants from depression as hypothesized by previous studies (Portes & Rumbaut, 1996), but the different configurations in living arrangements mediate this relation. Unaccompanied men were far more likely to feel depressed than anyone else, which shows that for men having their partner with them provides stability and support. For women, the stresses associated with single motherhood boosts the odds of depressed feelings; economic hardship and the challenges of balancing motherhood and breadwinning roles likely

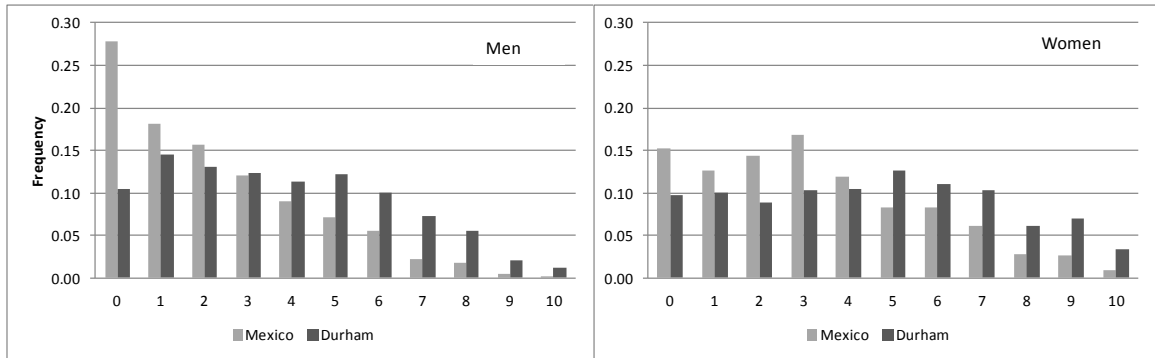
contribute to this effect. Mothers separated from their children were the most vulnerable to feeling depressed. Many mothers in this situation face the competing hopes of returning to Mexico to rejoin their children or bringing their children to the United States. Both situations entail intense pressure to earn money to achieve their objectives, and are potential sources of stress and sadness. In fact, qualitative studies among Latino immigrants have shown that migrants feel “persistent sadness because they were separated from their families back in their home countries, whom they missed badly” (Winkelman, Chaney, & Bethel, 2013, p.1821). Indeed, other studies of depression among Mexican migrants have concluded that family separation is among the most important predictors of depression (Letiecq et al., 2014). Policies that impose barriers for family reunification have direct consequences for migrant mental health and hinder their incorporation process in host societies.

While innovative, this paper has also some limitations. Physical health status has been shown to be a significant predictor of mental health. The lack of information on physical health in the sample used is a weakness of the study. Also, I do not have information on prior depression status, and it is possible that migrants were depressed before migrating. However, the groups more prone to depression, the unhealthiest and unhappiest, are the less likely to migrate as a good mental and physical health is needed to endure the difficulties of migration. Studies in the physical health literature have shown that on average migrants are healthier than populations at origin places (healthy migrant evidence (Akresh & Frank, 2008; Jasso et al., 2001)), and in-poor-health immigrants have higher probabilities of returning to Mexico (Arenas, Goldman, Pebley, & Teruel, 2015). Therefore, our migrants' sample might have overrepresentation of people with good physical and mental health status prior to migration, and continued good physical health after migration, which in turn could be decreasing changes of depressed feelings and making our estimates conservative in any case.

A broad and new research agenda in the area of mental health and migration is emerging. Several of the hypotheses and paradoxes analyzed within the physical health literature could be tested and the results could serve as feedback for both areas. Mental health studies for migration urge to understand the subjective experiences of the process as well as to ease the integration process of newcomers in receiving societies.

**TABLES AND FIGURES**

**Figure 1. Distribution of symptoms in CESD screening for depression by migration status and sex**



Source: Gender, migration and health among Hispanic study 2003, 2007

**Table 5. Descriptive statistics by migration status and sex**

<i>Variables</i>	Men		Women	
	<i>Mexico</i>	<i>Durham</i>	<i>Mexico</i>	<i>Durham</i>
Depression Scale Score	2.3 (2.2)	3.7 *** (2.6)	3.3 (2.5)	4.5 *** (2.9)
Feeling depressed (score >3) %	26.5	49.6 ***	40.9	60.9
<i>Sociodemographic characteristics</i>				
Age	30.7 (8.8)	30.5 (8.0)	31.2 (8.5)	30.5 * (7.7)
Completed primary education %	76.3	60.9 ***	68.6	58.9 ***
<i>Marital status</i>				
Unmarried	37.0	39.0	35.8	18.5 ***
Married or in consensual union	63.0	61.0	64.3	81.5 ***
<i>Socioeconomic characteristics</i>				
<i>Weekly earnings</i>				
Unemployed %	4.6	3.1 ***	34.9	46.2 ***
2 minimum wages or less %	11.0	77.2 ***	12.3	52.6 ***
More than 2 minimum wages %	84.4	19.6 ***	52.9	1.3 ***
<i>Background characteristics</i>				
Father's years of schooling	5.4 (3.8)	4.3 *** (2.9)	4.2 (3.5)	4.1 (3.2)
Mother's years of schooling	4.9 (3.8)	4.1 *** (2.9)	3.8 (3.4)	3.6 (3.3)
<i>Migrants living arrangements</i>				
<i>Men living arrangements</i>				
Married accompanied, all or no-children %		34.0		
Unmarried %		39.0		
Unaccompanied %		22.9		
Married, split (children or wife in Mx) %		4.1		
<i>Women living arrangements</i>				
Unmarried, no children %				8.9
Unmarried, children coresiding %				8.0
Unmarried, all children in Mx %				1.5
Married, no children %				13.7
Married, children coresiding %				63.1
Married, all children in Mx %				4.7
<i>Migration associated characteristics</i>				
Social support index		3.9 (1.4)		4.0 (1.3)
Sends remittances %		79.2		54.3
Ever visited Mexico %		18.3		7.9
Cumulative years spent in the US		7.3 (5.7)		7.0 (4.9)
Holds legal status %		5.1		5.7
Good English %		8.2		6.7
<i>Year</i>				
2003 %	50.0	33.5	50.0	22.0
2007 %	50.0	66.5	50.0	78.0
<i>Sample size</i>	800	993	800	717

Notes: Standard deviations in parenthesis. T and Chi-square tests for differences of discrete and categorical variables, respectively, between people in Mexico and Durham.

\* p<0.10, \*\* p<0.05, \*\*\*p<.001

Source: Gender, migration and health among Hispanic study 2003, 2007

**Table 6. Differences in sociodemographic and background characteristics between people in Durham (treated) and Mexico (control) after propensity score matching procedure**

Variables	Men				Women			
	Treated	Control	T-test	p> t	Treated	Control	T-test	p> t
<i>Sociodemographic characteristics</i>								
Age	30.45	30.09	0.94	0.348	30.47	30.34	0.32	0.752
Education (Less than primary, ref. cat.)								
Completed primary education	0.61	0.62	-0.49	0.625	0.59	0.59	-0.05	0.957
Marital status (Unmarried, ref. cat.)								
Married or consensual union	0.61	0.61	-0.14	0.890	0.81	0.81	0.27	0.787
<i>Background characteristics</i>								
Father's years of schooling	4.33	4.12	1.47	0.142	4.11	4.02	0.53	0.593
Mother's years of schooling	4.06	3.80	1.79	0.074	3.62	3.60	0.13	0.894
Year (2007, ref. cat.)								
2003	0.34	0.36	-1.3	0.194	0.22	0.22	0.09	0.929
Mean bias	4.5				1.2			
Median bias	5.0				1.0			

Source: Gender, migration and health among Hispanic study 2003, 2007

**Table 7. Odds-ratios from logistic regression models of depressed feelings by migration status**

Variables	Men		Women	
	Mexico	Durham	Mexico	Durham
	Odds ratio	Odds ratio	Odds ratio	Odds ratio
<i>Socioeconomic characteristics</i>				
Unemployed (Ref: Less than twice the weekly minimum wage)	<b>0.166 **</b>	<b>0.809</b>	<b>0.545 **</b>	<b>0.816</b>
More than twice the weekly minimum wages	<b>0.441 **</b>	<b>0.526 ***</b>	<b>0.631 *</b>	<b>1.012</b>
<i>Sociodemographic characteristics</i>				
Age	<b>1.046 ***</b>	<b>1.014</b>	1.015	1.012
Education (Ref: Less than primary education)				
Completed primary education	0.855	0.888	<b>0.596 **</b>	<b>1.006</b>
Marital status (Ref: Unmarried)				
Married or in consensual unions	<b>0.375 ***</b>	<b>0.733 **</b>	<b>0.924</b>	<b>0.598 **</b>
<i>Background characteristics</i>				
Father's years of schooling	0.955 *	0.982	0.964	0.993

Bolded coefficients indicate statistically significant differences between migration status at p<0.05. Fixed effects for survey year included.

\* p<0.10, \*\* p<0.05, \*\*\*p<.001

Source: Gender, migration and health among Hispanic study 2003, 2007

**Table 8. Odds-ratios from logistic regression models of depressed feelings for Mexican immigrants in Durham, NC: Men**

<i>Variables</i>	<i>Odds ratio</i>
<i>Socioeconomic characteristics</i>	
Weekly earnings (Less than 2 minimum wages, <i>ref. cat.</i> )	
Unemployed	1.123
More than 2 minimum wages	0.702 *
<i>Sociodemographic characteristics</i>	
Age	1.011
Education (Less than primary, <i>ref. cat.</i> )	
Completed primary education	0.901
<i>Living arrangements (Married accompanied, <i>ref. cat.</i>)</i>	
Unmarried	1.689 **
Unaccompanied	2.637 ***
Married split	1.013
<i>Migration associated characteristics</i>	
Social support index	0.846 **
Sends remittances	1.248
Ever visited Mexico	1.520 **
Cumulative years spent in the US	0.934 ***
Holds legal status	1.361
Good English	0.832

Notes: Fixed effects for survey year included

\* p<0.10, \*\* p<0.05, \*\*\*p<.001

Source: Gender, migration and health among Hispanic study 2003, 2007

**Table 9. Odds-ratios from logistic regression models of depressed feelings for Mexican immigrants in Durham, NC: Women**

<i>Variables</i>	Model 1	Model 2
	<i>Odds ratio</i>	<i>Odds ratio</i>
<i>Socioeconomic characteristics</i>		
Weekly earnings (Less than 2 minimum wages, <i>ref. cat.</i> )		
Unemployed	0.898	0.908
More than 2 minimum wages	0.256 **	0.318
<i>Sociodemographic characteristics</i>		
Age	1.014	1.007
Education (Less than primary, <i>ref. cat.</i> )		
Completed primary education	1.153	1.233
<i>Living arrangements (Married, children coresiding, ref. cat.)</i>		
Unmarried, no children	1.061	1.206
Married, no children	1.247	1.325
Unmarried, children coresiding	3.161 **	3.229 **
Unmarried, all children in Mx	6.591 *	6.838 *
Married, all children in Mx	1.259	1.326
<i>Migration associated characteristics</i>		
Social support index	0.731 ***	0.727 ***
Sends remittances	1.227	1.206
Ever visited Mexico	1.204	1.170
Cumulative years spent in the US	0.926	0.943
Cumulative years spent in the US Squared	1.004 *	1.004 *
Holds legal status	0.495 **	
Good English		0.368 **

Notes: Fixed effects for survey year included

\* p<0.10, \*\* p<0.05, \*\*\*p<.001

Source: Gender, migration and health among Hispanic study 2003, 2007

### CHAPTER 3 GENDERED MODES OF ELDERLY SUPPORT: STRATEGIES AMONG LATINO IMMIGRANTS IN SOUTH PHILADELPHIA, PA

**Abstract:** Latin America's sharp fertility decline, accompanied by increasing life expectancy, is leading the region to a fast aging process in a context of a weak social security system. In this context, families have become a key provider of support to elders, yet, the complexity that international migration adds to the intergenerational reallocation of resources is still understudied. In this paper, I use quantitative and qualitative methods to describe the gendered processes of providing support to the elders from the perspective of immigrants in the United States and explain how the interactions between gender, migration and other life course transitions determine elder's support. Using original quantitative and qualitative data collected as part of the 2015 Wellbeing of Latino Immigrants in South Philadelphia Study, I analyze how including questions of distinct modes of support provide a better measure of intergenerational transfers, mostly to capture gender differences in support. Unlike classical questions on remittances, questions on specific support to elders are a better measure of support coming from immigrants with less stable financial situations and of sporadic support. I also found that emergencies often times are under reported in the classic measures. In terms of the determinants and the processes behind the different modes of support, I conclude that transnational family arrangements are key in shaping elder support, specifically, gender differences are a consequence of the gendered interactions between migration, family formation (specially marital status), and work.



## Introduction

The demographic transition in Latin America is characterized by a speedy decline of fertility in a very short period of time; in four decades, total fertility rates were reduced by more than a half, from 5.3 children per women in 1970 to 2.2 in 2010. The sharp fertility decline, accompanied by increasing life expectancy, is leading the region to a fast aging process: by 2030 people aged 65 or more will represent 12% of the population compared to 6.8% in 2010 (United Nations 2015). Within this context, increasing attention has been paid to the needs of the elderly and the challenges they pose for families and institutions to fulfill these needs.

In contexts of a weak social security system, where pensions and retirement and health insurance are not universal among the elder population, as it is the case Latin America countries (OCDE, Bank, & BID, 2014), elders are heavily dependent on family members for financial support and caregiving (Bravo, Sim Lai, Donehower, & Mejia-Guevara, 2015; Garay Villegas & Montes de Oca Zavala, 2011). How families allocate resources between generations (i.e. formation of extended households, negotiations of caregiving, and economic support), it is by itself an important question. In contexts like Mexico and Central America, which are also marked by high rates of international migration, the relocation of families' working-age members adds an extra layer of complexity to these allocations.

Family members abroad often maintain their solidarity with their families of origin, contributing to their support based on their circumstances (Sana, 2008). For example, Amuedo and colleagues (2005) show that for 69% of Mexican immigrants in the United States, the health expenses of family members ranks among the top two reasons for remitting. The scholarly research on migration and support to the elderly has already demonstrated the relevance of these transnational economic transfers and its relationship with the expenses that come with old age: health costs, emergencies, and basic needs (De Vos, Solís, & De Oca, 2004; Flippen, 2015; Kreager, 2006; Wong & Gonzalez-Gonzalez, 2010; Wong & Higgins, 2007; Wong, Palloni, & Soldo, 2007; Yahirun, Sheehan, & Hayward, 2016). Yet, relatively little research has been done on how transnational providers cope with the expenses associated with upward transfers, and how their strategies differ according to their characteristics and contextual circumstances (Flippen, 2015).

This paper contributes to the research on transnational family support to the elderly from the perspective of immigrant communities. Using original quantitative and qualitative data collected as part of the 2015 Wellbeing of Latino Immigrants in South Philadelphia Study, we describe the gendered processes of providing for immigrants' elders. Previous studies on remittances have shown significant differences between men and women (Amuedo-Dorantes et al., 2005), including the transfers destined to elders and the determinants of sending support (Flippen, 2015). But these studies fall short on understanding the gender dynamics in remitting to the elderly (like the household negotiation processes), and explaining how the interactions between gender, migration and other life course transitions determine elder support. Our mixed methods strategy allows us to fill some of these gaps. We found that transnational family arrangements are key in shaping elder support from both men and women, and the gender differences in support are a consequence of the gendered interactions between migration, family formation (specially marital status), and work.

## **Theoretical Background**

A vast literature has examined the predictors of remittances: age, time in United States, English proficiency, marital status, family living arrangements, and income, among others. Generally speaking, those with greater resources tend to contribute more (Amuedo-Dorantes et al., 2005; Brown, 1997), though with growing attachment to the United States and higher education levels remittances tend to diminish (Adams Jr, 2009; Cohen, 2005; Funkhouser, 1995; Massey & Basem, 1992; Sana, 2008). The evidence on differences in remitting propensities between men and women is mixed. Some studies find women to be less likely remit than men due to differences in obligations in countries of origin (i.e. higher proportions of men having a children or spouse abroad) (Amuedo-Dorantes et al., 2005). Conversely, other studies find no differences (Funkhouser, 1995), while others argue that women are more likely to remit because of their higher sense of altruism towards their families in their countries of origin (de la Brière, Sadoulet, de Janvry, & Lambert, 2002). Lastly, and related to gender differences, family structure is especially relevant among micro-determinants of remittances. Single people tend to remit more (Massey & Basem, 1992; Rindfuss, Piotrowski, Entwisle, Edmeades, & Faust, 2012). Having a surviving parent, spouse or children in one's country of origin are positively related with remittances (Amuedo-Dorantes et al., 2005; Brown, 1997), as well as being a family-member of the household receiving remittances (Funkhouser, 1995; Orozco & Jewers, 2014; Sana & Massey, 2005).

Another large body of work examines gender differences in elder support. For example, in Mexico men tend to engage more often in financial care of parents, while women provide more in-kind and emotional support (Rabell & D'Aubeterre, 2009). Parents also expect and prefer different kinds of support from men and women; parents expect women to help with meal preparations and personal care, while men should provide for home maintenance (Rittirong, Prasartkul, & Rindfuss, 2014).

Previous work remains limited in terms of telling us about transnational intergenerational transfers to the elderly. We know, for example, that elder adults with children abroad are more likely to receive economic support than those with no international migrants (Wong & Higgins, 2007), and that children living abroad are more likely than their counterparts in home countries to provide financial support (Quashie, 2015). However, often times migrants' spouses and children reside in their parental home (Hondagneu-Sotelo, 1994), and studies on remittances suggest that the probabilities of receiving remittances are higher for migrants' children and/or spouses than for their parents (Rindfuss et al., 2012). Because it tends to lump together payments to different individuals and to confuse income subsidies with savings, the literature on remittances leaves our understanding of the forces shaping transnational elder care incomplete. A better understanding of support for the elderly requires questions carefully tailored towards that end.

Moreover, we know that gender roles are shaped, sometimes in unexpected ways, by migration. Women gain greater access to employment, and the greater resources that entails (Livingston, 2006; Parrado & Flippen, 2005), but also may become more dependent on spouses and partners as they adapt to a strange environment where they have relatively curtailed sources of social support (Hondagneu-Sotelo, 1994; Parrado & Flippen, 2005). Thus, how men and women negotiate the allocation of household resources towards the elderly, and how this process is transformed by migration, remains an important question.

As such, we explore gender differences in the link between migration and elder care among immigrant Latinos. We expand the traditional focus on remittances and consider different modes of support; besides classic questions on remittances behaviors, we analyze transfers that were specifically destined to the elderly, and those for the elders' emergencies. We pay special attention to how men and women use these modes of support to help their elders to broaden our understanding of gendered differences in support. No studies have done such analysis, though the importance of emergencies in elder support has already been documented (Flippen, 2015). Using different measures of support would allow us to more accurately capture support to elders in general, and in particular, to distinguish between regular and sporadic support, which can be more common in different stages of the life course –childrearing ages –and in situations when economic resources are scarce –as the case of migrant households in communities of recent migration. Our mixed methods strategy allowed us to reconstruct the gender life cycle migration and support to the adults because we delve deeper into the processes of allocation of resources in different life course stages.

### **Latino immigrants in South Philadelphia**

Philadelphia is one of the re-emerging immigrant gateways on the East coast with recent growth of Mexican and Central-American immigrants: while Philadelphia's foreign born population increased by 30% between 1990 and 2010, its Mexican and Central-American origin population almost quintupled, from 4,736 to 23,042 (Minnesota Population Center, 2011). Although these figures are small in comparison to other new destination cities, Philadelphia is distinctive because it is not completely new to immigration; Philadelphia received large numbers of Southern and Eastern Europeans at the turn of the 20<sup>th</sup> century, and also many Asian and, more recently, African immigrants post-1965. It also has a long-standing Puerto Rican community. Thus, while Mexicans and Central Americans are new to the area, Philadelphia has a rich immigrant history, and several other immigrant groups have a strong presence. Another distinctive feature relative to other new destinations relates to the labor market. While Latinos were drawn by low-skilled jobs in "traditional migrant niches," as in other places, in Philadelphia this growth has only taken place in the service sector (Takenaka & Osirim, 2010), which led to an important concentration of Latinos in restaurant services (as opposed to construction, which was more prominent in other new destinations).

Since the immigrant population boom, Mexicans and Central Americans have been concentrating primarily in the in southern eastern area of the city, where Italian and Polish immigrants arrived at the beginning of the 1900s, and Cambodians and Vietnamese settled in the 1970s and 1980s, and remain a strong presence today. The arrival of Hispanics and Asians to South Philadelphia, a declining area before the 2000s, improved the provision of general services in the area, as community and health oriented organizations expanded, including public ones (i.e. police patrolling protection<sup>19</sup>), as well as commerce: "Hispanic and Asian businesses are revitalizing the area [South Philadelphia]. You see a new mix of barber shops, tortilla shops, bakeries, restaurants that have sprung up."<sup>20</sup> Yet, like most recently established immigrant communities, Latinos in South Philadelphia are mostly a young, undocumented community with important vulnerabilities in terms of socioeconomic status: data from the

---

<sup>19</sup> Nixon, L., Sanchez, P. and Deutch, L., 2006. *El sol sale para todos*. Documentary film.

<sup>20</sup> <http://fusion.net/story/38313/3-cities-where-immigrants-helped-save-main-street/>

American Community Survey reveals that in 2014 the average Mexican immigrant was 24.5 years old and earned \$19,900 per year, while the average Philadelphian was older (36.4) and earned \$8,000 dollars more per year. Income disparities are even more striking at the bottom end: 75% of Mexicans do not make more than \$25,000 yearly, a figure that falls under Philadelphia's mean income (\$27,900) and far below its third quartile (\$38,000).

Latino immigrants in south Philadelphia are an interesting case study and offer several insights for the understanding of transnational support to the elderly. As they are a group of recent migration, their transnational ties, and remittances flows, are still very strong and encouraged by the continuous in-flow of new migrants (Durand & Massey, 1992; Massey, Alarcon, Durand, & Gonzalez, 1987). As immigrants in south Philadelphia are at their young adulthood and childrearing stage, their parents are largely comprised of those just beginning to transition into elder stages of life. However, while their parents are still relatively young-old, they hail primarily from rural areas marked by poor access to healthcare across the life-course and high rates of disability. Thus the needs of support derived from aging are already beginning to show. Therefore, we can observe how migrants manage being the *sandwich generation* through their allocation of resources across dependent generations. Finally, the restricted economic situation and the lack of sources of credit among south Philadelphia Latino immigrants allow us to understand the consequences of supporting the elderly in several domains, such as financial insecurity, household conflict, and mental health.

### **Data and Methods**

The data for this analysis is drawn from the 2015 Wellbeing of Latino Immigrants in South Philadelphia Study, a targeted random sample of the population born in Latin America. To reach the nascent immigrant community in Philadelphia, we relied heavily on Community Based Participatory Research (CBPR), a research method that incorporates members of the target community into every stage of the research process. In collaboration with a Latino non-profit organization based in South Philadelphia, we assembled a group of 13 Latin American immigrants that were recruited by our research partner from the pool of participants and organizers of their different activities. In a series of regular meetings they helped craft the survey instrument and devise data collection strategies. They were then trained in human subjects protocols and interview techniques and conducted all surveys in Philadelphia.

To draw the sample, we first identified where most Mexican and Central-American immigrants in Philadelphia live using tract-level information from the 2010 Census. Then, to delimit clearly the area of study, we used information from a series of talks with our CBPR group about the community's boundaries. Within this area, we created grid with 78 quadrants (roughly 2 square blocks) that were charted to be small enough to have a representative sample. We then assigned each interviewer a quadrant and sent them to knock door by door until they found someone eligible for the study. We allowed our team to survey no more than 5 people within each quadrant. In total, we randomly surveyed 311 adult people aged 18 to 50 years, born in Latin America that were living in the south of Philadelphia at the time of survey (156 men, 155 women).

The questionnaires covered a wide range of topics related to the wellbeing of the immigrants in the city (access to healthcare and other public services, exposure to crime, etc.), their demographics, health status, migration histories, living arrangements, and employment characteristics. We also asked a series of questions designed to

capture both the needs and resources of migrants' elders, and the larger family structure of support potentially available to them. We thus asked about migrants' parents, including their age, place of residence, living arrangements, access to healthcare and health insurance. We also asked about the number and place of residence of siblings. In addition, we collected detailed information about remittance behaviors. The latter contained four specific questions on remittances behaviors. First, we asked about overall remittance behavior: the frequency and amount of money and goods sent abroad, and who received it. Then, we included three specific items on remittances strictly directed to the elderly. First, we queried whether the person sent money to an elder adult in the past year, the yearly amount, the recipients. This probe, focusing specifically on funds to elders, is distinct from the open-ended question on remittances, where people could specify remittances to elders, in important ways. First, for multi-generational recipient households (such as migrants' parents living with grandchildren) it helps clarify how much support is intended for the elder generation per se. Also, for those who send larger amounts to non-elders, support to older generations can often be overlooked without more specific probes. Second, we also asked respondents whether they had remitted for a health emergency of old adults, the amount, recipient and year. Finally, we also queried whether the person sent money for other emergencies of elders, the amount, recipient, year, and reason for the emergency. We separated overall regular remittances from those directed to alleviate emergency expenditures for two reasons. First, previous research has shown important omission of sporadic emergency spending when asked to report regular remittances behaviors. Second, emergency spending can be large and highly disruptive (Flippen, 2015), and difficult to separate from remittances for assets acquisitions or savings, so it is important to probe deeper and collect this more specific information. Of all remittance recipients, the elderly are the most likely to be the subject of this type of remittance. All these questions allowed us deep understanding of the general patterns and determinants of economic support to the elderly in *sending areas of migration*.

To deepen our understanding of the processes of remitting to the elderly, especially in the negotiation between the sender, members of their own household, and the recipient household, the gender relations and potential conflict, and the financial coping strategies for unexpected eldercare expenses, we conducted 54 in-depth interviews (27 men and 27 women) with South Philadelphia Latino migrants. The interviews focused on Puebla-born residents who had at least one living parent in Mexico over the age of 50. We focused on *poblanos* for two reasons; first, the vast majority of the people residing in south Philadelphia came from Puebla's municipalities (85% of our sample were Mexican, from which half came from Puebla), and second, we also conducted parallel interviews with migrants' parents, thereby linking senders and receivers. We thus needed to narrow down geographically our population. The advantage of reducing our geographic focus is that we reduce sources of variation in terms of the immigrants' background characteristics (i.e. social origins, cultural customs, and context of origin). The interviews were semi-structured, gender and marital status specific, and covered topics on transitional family relations, family and economic situation in Philadelphia, needs of and remittances to the elderly, negotiation of sending remittances, emergencies and future expectations and attitudes towards support to the elderly. Our detailed interview guide was discussed in three focus groups sessions held with our CBPR group. All the interviews were personally collected in Spanish, lasted about one hour, and were tape-recorded and transcribed.

### ***Analytic Strategy and methods***

While surveys in Mexico highlight the precarious financial and physical health of elders, and surveys of migrants in the United States document high rates of working poverty and financial insecurity, data connecting the two is extremely rare. We therefore begin our analysis using the survey data to describe the elders of the immigrants. We focus on the elder living arrangements and family situation, two of the main conditions that might determine the needs of Mexican elders, and the potential for support and intergenerational transfers, both from within Mexico and abroad. This information provides a critical first look at the potential need for support that U.S. migrants might be expected to provide.

We next describe the pattern of remittances: how much is sent, to whom, and under what circumstances. Here, we distinguish between three different remitting behaviors: overall regular remittances, remittances specifically to the elderly (both regular and sporadic), and emergency remittances to the elderly. This is a first step towards understanding differences and commonalities between support destined to the elders and other people and for different reasons. We later describe the senders in terms of their demographic, family, migration and socioeconomic characteristics, and signs of financial hardship. We combine these characteristics with the remittances behavior indicators to explore the determinants of each type of behavior and if the associations vary by types of behaviors. This differentiation allows us to separate different social behaviors of support.

All of our analyses are stratified by sex, as remittances behaviors and support to the elderly are highly gendered processes. To analyze our data, we use descriptive univariate and bivariate statistics, including simple multinomial and logistic regression models, and their respective test of significance to test for the differences by sex and the type of remitting behaviors, and association of characteristics with the different remitting behaviors. Each table indicates both the tests used and the significance levels.

#### ***Variable specification***

As mentioned above, we include three types of indicators of ***remitting behaviors***. First, using the questions on sending regular remittances, we created a categorical variable that divides the sample into three mutually exclusive categories: 1) those who reported sending to parents or other elders (such as grandparents, parents in-law, uncles and aunts, among others) even when they could also be sending to other non-elderly individuals, 2) those who did not report sending to parents but send to other non-elder individuals, and 3) those who do not report any regular remittances. Second, we defined a variable that identifies whether the person responded yes or no to having sent remittances specifically directed to an elder adult during 2014. Finally, the third variable indicates if the person reported sending money for emergencies of the elderly during 2014, including both health and other types of emergencies.

The ***elder characteristics*** in the analysis include 10 categorical variables. We defined a variable on the survival status of parents and parents' in-law. For those with at least one surviving parent, we divided their living arrangements into three exclusive hierarchical categories: 1) at least one parent living with the respondent, 2) at least one parent living in the country of origin of the respondent (excluding those who mentioned one parent living with them which are classified in the first category), 3) at least one parent living in the United States (which excludes people classified in the previous two categories). The same classification was applied to parents' in-law. We also created variables on parental age and access to health insurance. We also report whether the respondent has at least a grandparent alive, siblings in their country of origin, and siblings living in the United States. For the sake of parsimony and to lessen sample size

issues, in the bivariate associations the categories of parental survival status, living arrangements and health insurance access were collapsed into two categories, respectively. Variables were defined as follows: parental survival status indicates whether the person has at least one parent alive, parental living arrangements signals whether the person has one parent residing either with them or in the United States, and parental health insurance access that shows whether at least one parent has health insurance.

***Immigrants' characteristics*** include categorical and discrete measures of respondents' age and years of educational attainment. We also measure the age they first arrived in Philadelphia and the net time spent in Philadelphia since first visit (discounting the time spent on trips abroad). Their family characteristics include marital status, place where they got married, whether they have at least one minor child residing in the United States and whether they have at least one minor residing in their country of origin. Marital status categories are defined combining partner's residence with marital status: 1) single, 2) separated, divorced or widowed, 3) married accompanied and 4) married unaccompanied. For women the category of married unaccompanied (partner living in the country of origin) was not analyzed because none of our female interviewees responded to be in this situation. This, in fact, corresponds to most findings on Mexican migrant women who married before migration; they either migrate with their husbands, reunify quickly or dissolve their unions, but do not spend large time spans away from their partners (Hondagneu-Sotelo, 1994). In their socioeconomic characteristics we included employment status, weekly individuals' earnings for those working, weekly household income and the individuals' share of the household income. Finally, among the signs of economic hardship, we considered if the person mentioned to have skipped the house rent in the last year, if at the end of a typical month they consider their income to be insufficient to meet their basic needs, and whether they were feeling depressed measured with a dichotomous and a discrete indicator of the CESD 10-items depression screening scale.

Our quantitative results are buttressed by our qualitative analysis. Quotations translated from Spanish, systematic answers among interviewees and the associations between their stories and their socio-demographic profiles contextualize the processes of sending remittances to the elderly in terms of gender, life course, household negotiation, and coping mechanisms to manage financial constraints when providing support. With these data we look to broaden the scope and understanding of social and economic transnational elder care.

## **Results**

### ***Mapping the potential for eldercare need***

While much of Latin America is currently facing the challenge of rapid population aging, it is unclear to what extent this aging weighs on migrants in the United States. Migrants, especially residents of new destinations, are relatively young and thus tend to have young-old parents. At the same time, many herald from rural areas marked by poverty and poor health. A crucial first step in examining the link between migration and eldercare is thus to outline the need among migrants' parents, and the wider social and institutional support available to elders abroad.

Table 10 shows that the vast majority of Latino migrants in South Philadelphia have at least one living parent, as only around 6% of men and 5% of women are orphans. Most people have at least one of their parents residing in their country of origin

and only one in ten (approximately) have a parent living in the United States, either with them or in other place in the country. On average, both men and women migrants' parents are over 55 years of age, though men have slightly younger parents than women (mothers' age: 55 vs 57, and fathers' age: 58 vs 61, respectively). Roughly 95 percent of married respondents also report at least one living in-law. Equally importantly, most parents lack access to health insurance (80% among men and 68% among women).

The combination of life-times of poverty and manual labor have left many parents of migrants in poor health, even at their relatively young-old ages. To illustrate, Matias, a 38 year old married respondent of our in-depth interview explained, "My parents were very poor... they did not really have a house because the house we lived in, truly, if you stood under a tree I think you were better than if you were in the house. When it was raining you did not even know where to stand [to keep yourself dry]." His father had a debilitating stroke-like event in his early 50s (while he received medical attention at the time, his primary language is Nahuatl and neither he, his wife, or his son was clear on exactly what condition he had). In a similar vein, Esther, a 29 year old woman, was helping to support her 55 year old mother in Mexico. Her mother had given birth to 14 children, all under conditions of food scarcity and poor nutrition. As a result, she now suffers from extreme osteoporosis, and is unable to walk farther than a block without assistance. During her last pregnancy she also had preeclampsia and had a stroke after giving birth. She never recovered completely, and has difficulty speaking due to her lost facial mobility.

These experiences are not isolated cases. In fact, the majority of Latino immigrants in South Philadelphia grew up in poor context, seeing their parents struggle to survive and feed their kids. Lalo, a married 28 year old, said "...our economy was very, very poor. I used to see my dad all the time killing himself working in the fields, working..." The vast majority of my interviewees said their parents were construction workers or peasants, jobs that they considered to be very physically-demanding. Yaretzi, a 38 year old married women described, "My mom [56 years] and my grandparents were peasants. When I was 8 years old I had to go to the fields to help them... The work, it was hard." Lifetime poverty and the high toll on health of manual labor increases the potential need for care among immigrants' parents. Juan, a 38 year old married man, described his 66 year old father and 55 year old mother as follows: "Maybe is because of their age, or I do not know, but they always complain about many things [referring to pain]. And I do not know, but maybe because of his age, but my dad, since I have memory, he has always suffered due to his health status... now he has prostatic cancer... and well my mom's health is not very good, she also complains about back pain, she says her lungs bother her and cause her pain, and also her eyes, and things like that."

In many cases, the toll of decades of grinding poverty and demanding labor is evident in early disability. Take the case of Juana, a 43-year-old married woman that came to Philadelphia in 2001. At that time her mother in-law was near her 50s and already very ill. Juana said: "[After we settled, my husband] he was sending money to his mom because she was very sick. He sent money very often - I didn't - but it was because she was sick... she had muscular dystrophy ..., so when I came here [to Philadelphia] I told him she needed to stop working because she was old already... and she was young before but because of the work and all that, because she always worked and worked [that is why she got sick]... So he [my husband] told her -do not work anymore. We are going to send you money. And so we did [until she died]." A different,



but related, experience was recounted by Ernesto, whose father suffered a job accident 11 years ago when he was only 47 and Ernesto was a young teenager. He said his father stopped working for pay because he could not stand long shifts due to the pain his lesions caused him. Ernesto's sister had to migrate to the United States after that, "Because he [the father] did not have the means to keep supporting us economically." Later Ernesto also made the journey north to help support his parents. With time, his father's mobility limitations only increased, further reducing the few hours he was able to work on his land after the accident.

In addition to parents who are old before their time, many respondents also have other elderly relatives that they feel at least partly responsible for. In particular, more than half of both Latino men and women in South Philadelphia have at least one living grandparent (as seen in Table 10), and many migrants feel the need to support them. As Yaretzi, the respondent quoted above, explains: "... We just started this year and I already have some expenses mostly with my grandma. We all contribute because she also gets sick and then it is like an obligation between my uncles and aunts and us [she and her siblings]. Because I grew up with my grandparents. So instead of being my grandparents they are my parents. So we feel the obligation to contribute and we are going to do it." Several of our interviewees grew up in multigenerational households because of the poor conditions and lack of opportunities in their rural towns. In many Mexican migrants' case, like Yaretzi's, the parents went back and forth between Mexico City to work during the week to "bring the bread to the table" and left their children to be raised by grandparents in their hometowns. These children feel the need and obligation to support their grandparents in addition to their parents, which increases the economic pressures to remit and the amounts sent.

Fortunately, this high degree of elder need is often shared across numerous siblings. Brothers and sisters who remain in migrants' communities of origin often provide in-kind (i.e., care) support, and migrant siblings often pool resources to provide financial support. In our sample, 86% of men and 84% of women have siblings living in their country of origin, and 63% and 58%, respectively, have siblings in the United States. Of course, not all siblings contribute equally to their parents' care, and the issue is often fraught with conflict. But the presence of multiple siblings in the United States is an important resource helping to moderate the per capita costs of transnational elder care.

Overall, these results suggest that Latino migrants could be importantly pressured to send money to support their parents and other old relatives. Most of them have at least one living parent, and grandparent, that suffers poor health and lacks health insurance and other forms of social security (i.e. pensions or retirement insurance), as is common throughout Mexico and Central America (OCDE et al., 2014). These pressures might be boosted by the poor health and economic needs of the parental generation and other elders to whom immigrants feel the need to help.

#### *Modes of support: Regular remittances, remittances directed to old adults and for emergencies*

Measuring elder support is a difficult task given its multifaceted nature. Traditionally, remittances are assessed by asking respondents how much they send, how often, to whom, and for what purpose. However, the dense web of family relations often makes disentangling support to different individuals, and even distinguishing between income transfers and savings, exceedingly difficult. Migrant contributions to elders could be confused within contributions to others due to the relatively high prevalence of extended

family households among the elderly (Bongaarts & Zimmer, 2002) and to the rearrangements of migrants' nuclear families that accompany migration (i.e. spouse and children moving to parental homes) (Hondagneu-Sotelo, 1994). To explore the extent to which support to the elderly is masked in the total support sent, we analyze three different modes of support distinguishing by recipient: regular remittances (to elders and non-elders), remittances specifically directed to elders, and emergency spending on elders.

Table 11 shows substantial variation across these different modes of support, with pronounced differences by gender. Overall, men are far more engaged in regular remittances than women, including regular remittances to elders. Only 13.5% of migrant men in Philadelphia report no regular remittances at all, 23.1% report remitting to non-elders, and a full 63.5% send regular remittances to elders and other relatives. The average remitted for all men, including those who do not remit, is \$4,861 per year. Among those sending to elders, the average amount is \$4,196. Men remit even higher figures, \$6,758, when their funds go exclusively to non-elders. These sums are substantial, representing 37 and 59%, respectively, of the mean income of the Latino immigrant men in South Philadelphia (\$11,450).

Women, in contrast, are far less likely to remit overall, remit less often specifically to elders, and average smaller contributions even when they do remit. Specifically, women's relative odds of sending money to the elderly and to non-elder people *vis-à-vis* not remitting are 69% and 67% lower than men's relative odds, respectively. Nearly three times as many women do not remit at all as was the case for men (33% relative to 13.5%). Also, regardless of the recipient, amounts sent by women are 60 and 64% smaller than those sent by men; the highest sums of remittances were directed to non-elder relatives (\$2,737) and represented a 14% of the income of an average Mexican immigrant Philadelphia. This sex differential in remittances has been reported in other studies (Sana & Massey, 2005), that generally frame the gender dynamics associated with marriage and labor force participation as a major contributor to the disparities (Flippen, 2015).

However, a different story emerges when we look at support specifically destined to elder adults. When asked to specify support specifically to elders, the second set of figures in Table 11 shows that only 51% of men reported to have sent money to their elders during 2014, which is 12 percentage points lower than the share who list elders among the recipients of regular remittances (50.6% vs. 63%). The average amount remitted specifically to elders in 2014 is also significantly lower (about a fifth) than that of regular remitting behaviors. In contrast, a higher percentage of women reported sending directly to the elderly than remitting to the elderly regularly (56.5% vs. 33.1%), though as was the case for men they tended to send lower amounts (\$697 vs. \$1,499). This figure is roughly \$195 less than the average amount sent by men, though the difference is not statistically significant.

The gender disparities in emergency remittances are also stark, and once again favor women. Table 11 shows that 17% of men and 35% of women sent emergency money to elders during 2014, and on average they sent around \$580 and \$860, respectively. Women's odds of sending money in these situations are 2.7 times significantly higher than men's odds, and on average they sent \$280 dollars more. Asking directly about health related expenses is of important interest in the study of the elder's support as these expenses tend oftentimes to be not undeclared in the regular reports of remittances.

These apparently contradictory findings demonstrate the complexity of the different modes of elder support, which could also be associated with different profiles of supporters. For example, in the regular remittance behaviors, migrants often send to parents with the expectation that they will administrate and reallocate these resources across household members and even across households, including migrants' children. Thus these types of responses tend to overestimate the frequency, and likely amounts, of support sent to elders. This situation is of special importance for migrant men, who are more likely to have obligations to different households in their country of origin. The case of Joaquin, a 27 year old single man, illustrates this pattern. Joaquin separated from his partner two years after coming to Philadelphia. He reported that he maintains a regular remittance flow to his parental home, but after an acrimonious separation from his partner the amounts to his parents increased. When he was asked to clarify the reasons for sending more money, he explained that he was remitting to his daughter through a family chain: from his mother to the ex-partner but destined to the child. "I just say to [his ex-partner's mother, because he still does not speak to his ex-partner directly], 'And your daughter? When is she going to visit you? Tell her that I will send money that day with my mom so she can go to pick it up.' And then she would go or send someone to get it."

Unlike Joaquin, Adrian, a 38-year-old man who currently maintains two partners (one in Mexico and one in Philadelphia), reported the opposite flow – from his nuclear family to his extended family. Adrian has a wife and children in Mexico that he supports economically, and he also remits regularly to his mother. When asked the first question on regular remittances, he responded that he sends his wife around \$300 biweekly. When asked if he sends to anyone else, and he responded: "Yes, to my mom. I have always helped her... I send her every 15 or 20 days or even every month... I keep supporting her with a little money, because she is, in practical terms, by herself." When asking for further details on amounts and the process of remitting to his mom, he added: "No, I do not send the money to my mom directly but to my children's mom and I say to her –this time from what I am sending, take the half and give it to my mom." The standard question of remittances might confound the support to elder adults, as the person reported as recipient is often the literal name on the money wire, but not necessarily the person for whom the money is actually intended. Some people might be omitted, others would have been considered to be receiving when they might not, or at least not as often or as much as measured. This is complicated further still by the tendency for migrants to save money in Mexico via relatives, i.e., sending money for parents to put away on their behalf.

The probing on the different modes of support in our qualitative interviews revealed that the question on sending exclusively to elders was capturing mostly sporadic or irregular support, over and above regular support. For example, Eleazar, a 39 years old male breadwinner, answered "not currently" to the question on sending regular remittances. However, he explained that he used to sustain his mother in-law until he moved his children from her care to live with him in the United States. Later, we directly asked if he was currently supporting elders for health, surviving, or any other needs, and emphasizing that the question included all support to any elder (including his mother in-law), and he mentioned, "Well, sometimes my wife asks me if we could send money to her mom... And sometimes I tell my wife to send money to her. Because she has the sugar problem [diabetes]. Sometimes we send every week, sometimes every three weeks. But most of the time when she [mother in-law] asks for money". Even though this support was substantial, he acknowledged it only when probed about

remittances directly specifically to elders. He did not consider it to be part of his regular remittances.

Probing also allowed us to identify support from individuals whose economic situation is more precarious and yet, somehow, they manage to send a few times a year or for specific needs, most often related to health. Women, especially non-working married women and single mothers, are very likely to be part of this group and their support tends to be unreported in general questions on regular remittances, exactly the opposite situation that we observed among men (like Joaquin or Adrian's case). For example, Elsa, a 37-year-old separated woman with four minor children who lives with one of her siblings, told us she does not remit and her siblings are the ones that support her mom. "They [her siblings] see my situation. They say, 'My sister is alone taking care of her children, she has 4. So if she wants and can, she contributes.' And that is what I do." She says she has sent money to her mother for special occasions (like mother's day and Christmas) and sometimes gave a few dollars to buy medicine or pay medical bills: "I give what I can, what I have at hand. I cannot steal or get in debt to give what I do not have. I have children to take care of."

Emergencies are even more important to ask about separately, as respondents are very unlikely to think of these expenditures when asked generally about remittances. Quantifying the magnitude of these exchanges is also important because they often imply a financial shock to the immigrant household economy. Yaretzi, who reports fairly frequent regular remittances to her grandparents and parents, mentioned her husband has always sent regularly about \$150 dollars per week, which was used to cover his parents' health expenses and needs: "My father in-law had diabetes and a lot of complications ... His mom has something in the lungs, like a bronchitis." Later in the conversation we talked about her father-in-law's health emergencies and she added: "That time was hard... My father in-law died when he was 75 years old. Before that, he went even sicker and every time he had a relapse (recaida) it cost like \$30,000 Mexican pesos to pay his treatment. And we needed to pay. Between my siblings-in-law and my husband, each contributed like \$1,000 dollars." The latter amount was not previously mentioned in the conversation and was left out from what Yaretzi reported as her household's regular expending on remittances. It is likely that smaller amounts directed to emergency expenditures are also not counted by immigrants as part of the support they provide to their elders.

In sum, the different modes of support to the elder revealed that people report different behaviors, according to their situation - marital and financial - and the responsibilities they hold with other non-elder individuals (i.e. children, spouse, etc.). Specially, the comparisons between modes among women suggest they might be as willing as men to support their elder adults, but their inability of doing so on a regular basis could be tied to their gendered situation (i.e. income dependency from partner, unstable labor force participation due to their housewife-childrearing role, lower wages in labor market associated to gendered occupations, among others).

#### *The gender life cycle of migration and support to the elderly*

The next step in the analysis is to better understand the socio-demographic correlates of elder care among Latino migrants. Previous studies on the determinants of general remittances, and those destined to the elderly, have repeatedly stressed the relevance of marital status, number of children and the residence of partners, educational attainment, income, employment status, and time in the United States for understanding remittance behavior (Amuedo-Dorantes et al., 2005; Durand & Massey,

1992; Flippen, 2015; Massey et al., 1987; Quashie, 2015). While South Philly Latino migrants share a number of commonalities, they nevertheless show important variation in many of these key remittance predictors. Table 12 presents socio-demographic descriptive statistics for the men and women in our sample. The Philadelphia migrant community is strongly concentrated in the main productive ages of the economic life span, which are coincidental with the family formation stages of the life course (Durand & Massey, 1992; Massey et al., 1987). Most men and women are 30 to 40 years old (43% and 49%, respectively), but 10% more men than women are over 40 years of age. Men and women have similar educational distributions and on average attained up to the first year of high school. Also, they both came to Philadelphia in their early 20's, but women came at significantly younger ages than men (two years of difference), and have been here for the same length of time (9 years on average).

Unlike their socio-demographic characteristics, women and men's family structures are starkly different. As seen in Table 12, male migrants are far more likely than their female counterparts to be living outside of a nuclear family at any point in time: 27% were single and 62% married at interview, but only 44% of men were married *and* living with their spouse. The other 18% were married but unaccompanied by their spouse, who continued to reside in their country of origin. An additional 11% had dissolved their marital unions (separated, divorced or widowed). Women have a completely different distribution. Only 10% of women were single at interview, a figure that is less than a half that for men. The vast majority, 80.5%, were married and living with their spouse (a figure that is nearly twice that of men), while 9% were separated, divorced, or widowed. Roughly half of married men in Philadelphia wed after migration, compared to two-thirds among women. This difference is also reflected in the place of residence of men and women's children: 40% of men have minors in the United States compared to 77% of women, and while 29% of men have at least one minor in Mexico, compared to only 16% of women. These results show once again the gendered relationship between migration and family structure. While men are a more diverse group, in which the family formation and migration transitions can follow very different sequences (marry-child-migrate, migrate-marry-child) with important implications for their current family arrangement, women are a more homogenous group. It is evident that Latino immigrant women in South Philadelphia follow mainly the pattern of migration-family formation. They arrived single into a community predominantly of men, and a few years upon migration they form a family (either marry and have a child or the reverse). This result contrasts with the traditional patterns of gendered migration observed in migrant populations in which the family reunification pattern predominates (Hondagneu-Sotelo, 1994).

In terms of socioeconomic status, women were far more likely than men to not be working at interview (49% vs 8%). When they do work, women earn significantly less—a difference of \$153 dollars per week. While there is little disparity between women and men in their average household income (both report mean incomes of \$500 dollars per week), women's share of that income, and thus their potential bargaining power, is far lower (30% compared to 82% for men, as seen in Table 12). These figures imply that, on average, in households where women work, men's income is lower than in households where women stay at home.

The next step in our analysis is to assess how these distinctive gendered life cycles are associated with the different modes of support to elders. Due to our small sample size, and the high degree of correlation across socio-demographic characteristics, it is difficult to estimate a multivariate model of elder remittances with all

of the covariates simultaneously. As such, Tables 13, 14, and 15 present bivariate statistics for regular remittances, remittances specifically targeted to the elderly, and emergency elder remittances, respectively. The tables present cross tabulations by row and simple multinomial and logistic regression models of the different modes of elder support according to immigrants' characteristics, by sex. The latter separation seeks to enlighten the gender dynamics of the processes of supporting elderly. The odds ratios shown in Table 13 come from running multinomial regression models of sending regular remittances, with not remitting as the reference category, on each of the immigrants' characteristics. Significance levels signaled with \* or + denote the comparisons of each sending behavior against the reference category, and bolded coefficients indicate significant differences between sending to the elderly and to other non-elder adults. To illustrate how to interpret the odds ratios take the case of age that migrants arrived to Philadelphia (bottom of the Table 13). The odds of remitting to the elderly *vis-a-vis* not remitting increase significantly by 1.14 with each additional year of age at migration to Philadelphia. Significant increments are also observed on the odds of sending to non-elders versus to not sending (1.36). Finally, the odds of remitting to elders versus to others is significantly lower when age at migration to Philadelphia is higher ( $1.14 / 1.36 < 1$ ).

Table 13, which presents the correlates of regular remittances to elders, regular remittances to others, or no regular remittances, once again shows important gendered variation in elder remittances. Behaviors among men and women are mostly dictated by their stage in the life cycle, particularly their family arrangements related to marriage and childrearing. As seen in Table 12, men and women average vastly different household structures in Philadelphia. Thus, in Table 13, we analyze marital status differently for men and women. For men, we compare remittances across marital status categories that consider partner's residence (i.e., single; separated, divorced, or widowed; accompanied married; and unaccompanied married), while for women we simply compared single, married, and separated/divorced/widowed women.

Family structure has a profound effect on men's remittances. In Table 13 we only present comparisons between those sending to elders against those sending to non-elders, as all men in dissolved unions and married-unaccompanied either remit to the elderly or to others. However, compared to single men, accompanied married men are significantly more likely to be sending remittances regardless of the recipient, relative to not remitting.<sup>21</sup> Married accompanied men are as likely to send to the elderly versus others as single men. The odds of supporting elders are reduced by 90% among separated men and 97% among unaccompanied married men. These two marital statuses imply financial obligations with other households that reduce the resources available to help care for elder family members. Having married in the country of origin increases the likelihood of sending to non-elders compared to the other groups, which is probably associated to the high proportion of unaccompanied married men in this remitting behavior. Having minors in the United States reduces the probabilities of sending to others, but it does not change the probability of sending to the elderly, and having minors in the home country significantly reduces the odds of sending to the elderly compared to sending to others by 93%. Spouse and children's residence as well as being in dissolved unions indicate the diverse obligations of men on the two sides of

---

<sup>21</sup> Compared to single men, the odds of married accompanied men of sending to elders versus not sending are  $1.18 \left( \frac{72/74}{18/21} \right)$ , and those of sending to others versus not sending are  $2.62 \left( \frac{10/5}{18/21} \right)$ .

the border. These indicators shape the regular remitting behaviors of immigrants, and provide evidence of competing resources between the nuclear members and the elderly.

In terms of parents' living arrangements, those with at least one living parent are as likely to send to elders as to not remit; the same result applies to sending to non-elders (Table 13). However, having at least one parent alive significantly increases the odds of remitting to the elderly versus remitting to others. Compared to having at least a parent in the country of origin, having at least one parent living in the United States decreases the relative odds of remitting to elders by 95% and a reduction of 90% is also registered for those sending money to non-elders. These results indicate that U.S. resident parents on average need less support from their migrant children than those who remain abroad. The relative odds of sending to elder adults are significantly reduced by almost three quarters if at least one parent has access to medical insurance, which suggests that health expenditures are a large part of the needs covered by regular remittances sent by men.

Table 13 also shows that all of the socioeconomic characteristics are associated with sending regular remittances among men. Regular remittances are reliant on stable income. Therefore, unemployment decreases the relative odds of sending to elders and non-elders alike. Household income increases the relative odds of both remitting behaviors, but the individual's income only increases the odds of sending remittances to elders. The relative odds of remitting to elder adults versus not remitting do not vary significantly with age, but the relative odds of remitting to non-elders *vis-a-vis* not sending significantly increase with age. Educational attainment has a significantly negative association with remitting regardless of the recipient (OR .83 and .82). Education is a reflection of social background; it is likely that the need for economic support among highly educated migrants' elders are fewer than their counterparts with low educational levels, a finding documented in previous studies (Amuedo-Dorantes et al., 2005). Older ages at migration increase the odds of remitting to both elderly and others and the odds of remitting do not decrease with longer durations in Philadelphia. Yet, it is important to remember that the Philadelphia Latino immigrant community is of recent origins, (mean years of stay are 9), therefore the declining effect might not be showing at the population level yet.

Unlike men, the chief life-cycle determinate of elder support for women is marital status. Compared to their unmarried peers, married women are three times more likely to send money to elders rather than not sending, and their odds still triple when compared to those sending to non-elders. There are no differences in regular remitting behaviors by place of marriage, which supports our hypothesis of the prominent trajectory of migration-family formation among Latina women in South Philadelphia. Like men, women with children in the United States are as likely to send to the elderly than not (1.14), but more likely to send to elders than to others (1.14 vs .35). Having children abroad reduces the odds of sending to elders compared to other people, but does not change the relative likelihood of sending to the elderly or not sending at all. However, women have significantly higher odds of sending to others if they have children abroad; their odds of remitting almost quintuple. While this figure is striking, it is important to put it in perspective: all men with children abroad sent regular remittances, but 21% of women in this situation do not send money regularly. Even among those with children in the United States, the proportion of women that do not send is twice that of men. This result could be explained by socioeconomic differences across men and women, particularly employment and income.

Women do not remit to elders if both of their parents are deceased and, like men, their odds of remitting to the elderly are 80% lower if at least one of their parents is living in the United States –slightly below the reduction observed among men. Parental access to health insurance does not change their odds of remitting regularly to the elderly, which contrasts with the significant reductions observed among men. This could relate to differences in the health needs of men and women’s parents, but more likely reflects gendered notions of caregiving and the sense of obligation that many women feel to provide for more than basic necessities, if they are able.

For women, like for men, having a stable source of income is highly relevant to regular remittances. Being unemployed cuts women’s odds of supporting the elderly by 56% and of sending to non-elders by 71%. While household income marginally increases women’s odds of sending money to elders versus not sending, it is highly significant in terms of raising their probabilities of sending to non-elders. This difference shows the importance of work for women with non-elder-related obligations in their countries of origin (particularly children).

Among women, age and educational attainment have the same associations with sending regular remittances than those observed among men. However, the associations with education are less significant. Unlike men, age at migration to Philadelphia for women is not a significant predictor of remitting regularly to elders, and the years since migration are positively associated with supporting the elderly regularly, though at low significance levels ( $p < 0.10$ ).

In general, from the regular remittances behaviors, we observe that for both men and women marital status, children’s residence and parental living arrangements have different associations with remitting to the elderly than with remitting to others. Yet, the question of whether these associations change when we analyze elder remittances in isolation, rather than relative to other and no remittances, remains unanswered. It is also important to assess the correlates of the elder support question that more clearly disentangles support to the elderly from other household members, and that captures more sporadic types of support. In Table 14, we present the distributions and odds estimates of logistic models of having remitted money to old adults during 2014. The basic structure of the table is similar to that of Table 13.

Results from Table 14 show important differences in the link between marriage and elder remittances for sporadic, elder-specific remittances compared to the more regular remittances reported in the previous table. Here, the only significant difference is that unaccompanied men are far less likely (roughly one-quarter) than single men to remit to elders. Place of marriage does not predict elder remittances, and having minor U.S. children only reduces the odds of supporting the elderly slightly (.53). Having minor children abroad more than doubles the odds of sending money to the elderly. Neither living arrangements nor access to health insurance or socioeconomic characteristics are associated with this remitting behavior. Education, age at migration to Philadelphia, and years spent in the United States are similarly related to sending money directly to the elderly than what we observed in regular remitting behaviors. More years of education and time spent in Philadelphia decrease the odds of supporting the elderly while the age at arrival increases the odds.

Women’s determinants of sending money to specifically to the elderly differ in important ways from men’s. Married women are more likely to send money to elders than unmarried (3.2), as well as women with minor children in the United States. They are also more likely to send money if their parents have health insurance, and if they are unemployed their odds of sending also increase. The potentially counterintuitive positive



relationship between unemployment and elder support among women and the higher support from men who are unaccompanied or have children abroad confirm that the question is better at capturing support behaviors among people with reduced resources – unemployed women –or with more obligations –unaccompanied men.

Finally, sending remittances for emergencies of the elderly are completely unpredictable, as shown in Table 15. The only stable result is the increase in the odds of sending for elders' emergencies with women's individual income, which might be explained by the direct economic effect in their economic power and by the potential gender equity in terms of expenditure decisions that working provides to women.

Overall, results suggest that remittances behaviors are closely linked to family and socioeconomic characteristics, but the ways in which they shape behaviors are highly gendered. Among men, socioeconomic status relates to decisions of sending versus not sending, but the decisions regarding supporting the elderly versus others are structured by their family obligations, which suggests a competing resources explanation. In qualitative interviews, men with wives and/or children in Mexico talked about the pressure of having to sustain their nuclear family and the reduced capacity to help support their elders. For example, Eleazar recounted that he came to Philadelphia with his wife but the children were left with his mother in-law in Mexico. He used to remit more than half of his low-wage income (\$200 from the \$390 he was making weekly for six 12-hour shifts), to cover the needs of three young children and his spouse's mother in Mexico. Though we wanted to, he said he did not support his parents regularly because of his financial constraints. "I was not sending to them [parents], because I had my own family and I had to take care of them, of the school... I always begged her [his mom]: go to live with my children, go, or take them with you." Clearly, he felt his resources were competing; if he remitted to his mom, he would have deprived his children of basic necessities. He felt stressed so his solution was to apply an economy of scale; he begged his mother to move in with the children, though she declined to do so. A similar case is Ismael, a 37 year old married man with a wife and children in Mexico, who struggled to help support his mother. "I used to send my wife everything. I only kept \$100 dollars weekly. [When asked about his mother] Well, I just to give her little. [he looked down, as feeling ashamed] Very little, like \$300 pesos biweekly [around \$20 dollars]... I used to tell my wife to give that to her every once in a while." He said he no longer remits to his mother for three reasons: his wife moved out from his mother's house, his children now demand more economic help as they all attend school and the oldest is getting closer to attending to collage, and because he feels his brother, who his mother lives with, should do more. All the other men with financial obligations to children and or partners in our interviews, like Adrian or Joaquin (previously quoted), reported sending lower and less frequent amounts to their parents than to their primary obligations, and throughout their interviews they mentioned conflict with their partners and ex-partners associated with their financial support. For example, Adrian said, "They think that because you are here [in the United States], you win like uf!! Basically like you get a tree and collect the dollars and that is grows. But it is a lie. Sometimes I had argued with her [the wife], I say, 'You do not know if I eat or sleep or whatever or how I do to make our money'", meaning that he would sometimes keep just the minimum to send as much as he could home.

Like men, women's remittances also depend on their socioeconomic status, particularly whether or not they work and whether they have dependents to support. However, the key factor in the decisions of remitting to the elderly was marital status which, besides structuring all other dimensions of women's lives, is clearly associated

with their socioeconomic status, specifically whether they work or not. In our qualitative data, we explored the combinations of current and past marital and working status to better understand the link between women's life course trajectories and remittance behaviors. Our qualitative interviews showed a neat separation in support to the elderly between unmarried and married women with an important intersection with labor force participation. Among the unmarried, the most important divisions are between single mothers and other single women, as all of them work. Gloria, a 26 year old single working woman with no kids, who lived with her single working brother 5 years her senior, described how she was grateful to be able to provide both regular and sporadic support for her mother. She explained, "Thank God, between the 5 of us [siblings] with the little that we have, we contribute for her. But of things in the house, my brother and I take care of them. I mean, for example, all the material commodities she needs, like the refrigerator, the stove, and so, he and I will get them to make her life comfortable. The food, clothes and other small expenditures are divided between all of us." Gloria remits regularly small sums for consumption goods, and sporadically, greater sums for durable goods, and she recognized that her ability to do so was because she was single and working compared to her sister who did not work nor contribute economically to support her mom due to her childrearing responsibilities. "[For] my sister the case is different [referring to the fact she barely contributes economically]. She has two kids, but she takes care of my mom... I sometimes even help her with the schooling expenses of the children." Gloria's sister help in-kind her mom, with care and goods (she would bring food or groceries to her mom), in exchange she got economic support from her sister.

Unlike Gloria, Elsa, who was quoted above, explains how being a separated mother with four minor children (her ex-partner does not provide for the kids) was difficult by itself, and more so if she had to remit to her elders. When asked if she sent money before separating, she said she did although not that often because she had to squeeze it out of the money her husband gave her for the weekly household administration. Ever since she migrated to the United States and up until her marriage dissolved, she did not work. "When I separated from him [the husband], that is when I started to work... Also, I stopped sending because I was separated now... Hmm! No, he does not help me [economically], he disappeared [and nods]." And we know the rest of the story; her siblings help with the mother's needs and she sends only when it is within her possibilities.

Among married women, labor force participation is central to remittances to the elderly. Karla, a 39-year-old married women, who did not remit regularly to her parents, decided to go back to work because of her household was going through financial difficulties. After recovering financially, she started remitting regularly, and explained her current situation: "I do send now, like once every month, let's say like around \$100 to \$150 dollars. Before I sent more, but now with the expenses of my son that we are helping him to pay for community college, well, it got harder. So sometimes I explain to them [my parents] that I could not send more [meaning sending what she used to send], and they said, 'No, do not worry please.'" Work gives women more autonomy to make decisions on their earnings and empowers them with respect their husbands to negotiate more egalitarian household relationships. Karla said she does not consult her husband on her support to her parents: "I administer my money. We save together. I pay part of the bills and the house expenses, he [husband] pays the rent and the rest of the bills [in addition to her son's educational expenditures described above]."

Women's empowerment and decision-making autonomy are also evident when talking to men about their partner's remittances. Ernesto, a recently separated 26 year

old man (quoted above), mentioned that his partner started working after their child was around one year old. She did not send remittances because she stopped working after her pregnancy, but she started sending again when she returned to work. “[The situation changed] a lot, because she helped me a lot [economically]. She helped me paying the bills, and everything. I was only paying the rent... Yes, she sent remittances to her parents... I do not how much, I never questioned her about it because as I said, it was her money, and she decided on it.”

The changes in gender power dynamics are exclusive to married working women. Among married women who do not work outside the home, support was more variable. Some negotiate with the husbands to send to their parents, either regularly or sporadically, while others surreptitiously save from the household budget to support their elders, while others are simply unable to support their parents except in the case of emergencies, when they can push their partners to collaborate. In the negotiation with the partner over elder support, conflict often arises. Elsa, who did not work at all before separating from her husband, said she did not send because her husband would not give her money unless it was an emergency. “I did not work because I had my daughter and came to a strange country. I did not speak the language, nor know anyone. And my daughter was so young, so I stayed at home... My husband was a cook. He made \$650 to \$700 a week, he was doing good. It was enough to live comfortably... No, I did not send to my parents, it was his money... Only if it was an emergency, a real one [health related], I asked.”

Ana has a more difficult situation; she is a married 26 year old women with three kids who does not work and has had severe conflict with her husband while negotiating remittances to her parents. “When my mom got sick my dad had to stop working to take her to the doctor and take care of her because she could not do anything. Practically she was in bed, then she died. After that I told him he needed to start working again because I could not support them [parent and young sibling at home] anymore because I do not work, and he was in good health. I had problems, and for that my husband hit me, because he had to support me to help my family and it was not his responsibility. So I used to tell my dad, ‘Go to work, at least enough to have something to eat. I cannot keep helping you’... And he told me he would, but it did not happen... And it has been nine years and we keep supporting them and when we have financial difficulties at home my husband would throw it in my face and blame me. And I do not answer, I just look down and I think in my mind, ‘Well, he is right.’” Non-working married women often had better luck negotiating with husbands if they were from the same town, or if he met the parents before migrating. Lalo’s wife (quoted above) would get occasional support to send to her parents because Lalo identified with her situation. “I did not know her mom, but we are from the same town. I know how is there and how hard it is. There are no rich people there. You know everybody is in need.”

Andrea, a 33 year old non-working married women of mother of three, did not negotiate with her husband her remittances. “Hmm.. when [silence], when I sent money to my parents, it is sometimes the money he [husband] gives me, for my expenses. Sometimes I say: ‘No, I do not need this,’ and then I save it. [She laughs]. From what I save [from my own stipend], sometimes from that I sent to my parents, besides of what he gives me [for the house], I send that money. And from what I save from the money for the regular household expenses that he gives me, from there I send to my parents.”

In general, from the reconstruction of the life histories on migration, work, family formation, and remittances, we identified that for most women the transitions from single and working to married and/or pregnant and not working was often accompanied by

women's loss of control over decision-making and resource allocation. Several married women commented that when they were single, shortly after migrating, they felt financial stable as soon as they were able to pay off the debts acquired crossing the border. They worked and usually had enough money to spare to help support their parents. Maria, a 22 year old recently married woman, said, "At that time I was single and working... I felt good. I felt good because it [the money] was just for me and a little for my mom. And I could even buy my own things and I could say 'no' or 'yes' and all that [meaning she could decide by herself how to spend the money]." Other women, like Karla, that re-entered the labor force after childrearing or to supplement their husband's low earnings. Karla explained, "Before I felt useless. I did not speak much to anyone or enough English. I was afraid... I was depressed. Then I worked and I feel much better. Now I do everything and understand at school when I see my children's teachers." Karla, with her 9 years of schooling, earns a relatively high income; she works four 8-hour shifts and earns \$500. And she says, "If he [husband] were to leave me... [and she smiled] I will be fine. I am not scared anymore." She added that if that happened she would continue to support her parents because she knows she can. The gendered transitions between marriage, childbearing and work upon migration shape, above all, women's remittances behaviors, and mostly those pertaining to the elderly.

Emergencies, however, are by definition in most cases unpredictable and seem to give women added leverage in negotiating support for their elders. Emergencies force people to cope with the circumstances, as Juana's case (quoted previously) shows. She said they had been expecting her mother-in-law's death, as she was very sick. They even planned that her husband would go to Mexico, and she should remain in Philadelphia and wait for him to return. However, her own mother also took ill suddenly and, "In less than a week she passed away." This changed their plans completely, and she left for Mexico: "Yes I left. I left and came back as I came the first time. I took my youngest with me [a baby]. I did not even buy a suitcase. I took everything in bags, and I did not know if they were going to let me cross with my daughter [into Mexico] because she did not have a passport." While in Mexico, her mother in-law died and her husband joined her, leaving with their relatives their oldest child. Then, after 4 months, they crossed together again. They used most of their savings to cover both parents' funeral expenses, and still were not able to cover all of the costs.

Matias (quoted previously) illustrates how people use their different networks to overcome emergencies. "Well, the emergency with my dad was he had something like a stroke. He faded and was not breathing, he could not walk, it was like if he was dead. The good side is my mom was with him, and some men too. Because it was in the land we have in the mountains. They got close to my mom, she asked for help and they took her to the town, where she contacted my siblings who have a car, and they went to Cholula to a private hospital because it was an emergency. They later called and said what was happening... and I only have that one sibling there. All my siblings are here in the United States. So asked them for help. I said we needed to organize to help, not to blame, nothing, the only thing we need to do is make decisions. 'You [the people in Mexico] know where to take him, do not worry about us, we will get the money. Just tell us where, elektra o bancomer or whatever, and to whom to send it to.' We sent like \$3,000 dollars and "in 10 minutes" [figuratively]."

Women in particular did mention having sources of income as an important factor to help parents in emergencies. Karla described her father's emergency. She said that regularly her parents go to the public health system in Mexico because they are insured. But that time it was an emergency and he had to go to the hospital. "Between my

siblings and I we contributed to pay the bills. I sent like \$300 first because the hospital bill was about \$1200. And so that in particular was an emergency because I had to send all my savings... But what can we do? I already got back my money [meaning she recovered financially]." And later her mom had a thyroid related surgery, she was starting to work but still she supported her, and when I asked how she gave me a plain answer: "I work."

## **Conclusions**

In this paper we described the gendered processes of providing for immigrants' elders. Combining quantitative and qualitative interviews of the 2015 Wellbeing of Latino Immigrants in South Philadelphia Study, we explored different modes of support to the elderly among men and women.

We contribute to the body of literature on transnational family support to the elderly in two ways. First, we added complexity to the modes of support immigrants provide to their elders; besides considering "classic" remittances behaviors, we analyzed transactions specifically directed to the elderly and for their emergencies. We learned that considering distinct modes of support provides a better measure of intergenerational transfers and the reasons behind gender differences in support. Women are as willing as men to support their elder adults, but their inability of doing so on a regular basis is tied to their gendered situation. Second, we delve deeper into the relationship between elders' modes of support and interactions between migration, gender and other life course events. Regular remittances behaviors are closely linked to family and socioeconomic characteristics, but the ways in which they shape behaviors are highly gendered. Men's regular remittances to elders are explained by competing demands between elders and dependent wives and children obligations. Women's behaviors are more strongly related to working and marital status. In fact, life course transitions into marriage, childbearing and paid employment among women heavily determine their support to the elderly as they shape their power in the decision-making process on resource allocation. Spending on emergencies, is a different matter; both men and women commonly report these types of expenditures, which are unpredictable and not related to socio-demographic characteristics.

Overall, we conclude that transnational family arrangements are key in shaping elder support from both men and women, and the gender differences in support are a consequence of the gendered interactions between migration, family formation, and work. More research needs to be done on the consequences of elder support in immigrant communities. We know little about the coping mechanisms immigrants use to help their elders, the constraints they face, and the consequences on their health, mostly in terms of mental health. Yet, these studies will need to consider how these consequences vary for different modes of support and in accordance to the interactions between work, migration and gender.

## TABLES

**Table 10. Descriptive statistics of Latino immigrants' elder relatives by sex**

	Men	Women
<b>Parents</b>		
Status		
Both deceased	5.8	4.6
One alive-One deceased	13.5	27.9
Both alive	80.8	67.5
Living arrangements among those with at least one living parent		
At least one living with them	5.6	4.1
At least one living in Origin	87.5	90.3
At least one living in USA (excluding above)	6.9	5.5
Mean Mother's age	55.3	57.3
Mean Father's age	58.4	61.4
Health insurance access		
No	79.6	68.0
Yes both	18.4	25.9
Yes, only one	2.0	6.1
<b>Other elder family members</b>		
At least one living grandparent	56.5	55.1
Parents' in -law status		
Both deceased	5.1	3.9
One alive-One deceased	9.0	16.9
Both alive	85.9	79.2
Parents' in -law living arrangements		
At least one living with them	2.4	0.0
At least one living in Origin (excluding above)	85.4	93.0
At least one living in USA (excluding above)	12.2	7.0
<b>Siblings</b>		
Has siblings in Country of origin	86.5	84.4
Has siblings in USA	63.5	57.8
<i>Sample size</i>	<i>156</i>	<i>154</i>

Source: The wellbeing of Latino immigrants in South Philadelphia study 2015

**Table 11. Descriptive statistics of remittance behaviors of Latino immigrants by sex**

<b>Remittances characteristics</b>	<b>Men</b>	<b>Women</b>	<b>OR</b>
<b>Regular remittances</b>			
Yearly amount <sup>m</sup>	\$ 4,861	\$ 1,867	
<i>Exclusive categories</i>			
Not sending at all	13.5	33.1	Ref.
Sending but not to elders	23.1	18.8	0.33 *
Yearly amount <sup>m</sup>	\$ 6,758	\$ 2,737	
Sending to elders (including other relatives)	63.5	48.1	0.31 *
Yearly amount <sup>m</sup>	\$ 4,196	\$ 1,499 *	
<i>Multiple response categories<sup>a</sup></i>			
Sending to parents	58.3	48.1	
Sending to other older adults	8.3	3.9	
Sending to children	20.5	11.7	
Sending to spouse	19.2	0.0	
Sending to others	7.7	10.4	
<b>Sent to elder adults during 2014</b>			
Yes	50.6	56.5	1.23
Yearly amount <sup>m</sup>	\$ 838	\$ 697	
<b>Sent in emergencies during 2014</b>			
Yes	16.7	35.1	2.70 *
Yearly amount <sup>m</sup>	\$ 587	\$ 867	
<b>Sample size</b>			
	156	154	

Notes: Odds ratios come from multinomial and logistic regressions on sex of three remittances indicators: 1) regular remittances (reference category: not sending), 2) remittances to the elderly in 2014, and 3) remittances for emergencies of the elderly in 2014

+ p<0.10, \* p<0.05. <sup>m</sup> Indicates a mean statistic, the rest are percentages. <sup>a</sup> Distributions do not add to 100 because respondents could mention more than one type of remittances recipients.

Source: The wellbeing of Latino immigrants in South Philadelphia study 2015

**Table 12. Descriptive statistics Latino immigrants by sex**

<b>Characteristics of Immigrants</b>	<b>Men</b>	<b>Women</b>
<b><i>Sociodemographics</i></b>		
Age		
Under 20	2.6	2.6
20-30	31.4	35.1
30-40	42.9	49.4
40+	23.1	13.0
Mean age <sup>m</sup>	33.0	31.9
Educational attainment		
6 or less	28.8	26.6
7-12	53.8	58.4
13+	17.3	14.9
Mean years <sup>m</sup>	9.1	9.2
<b><i>Migration characteristics</i></b>		
Age arrived to Philadelphia <sup>m</sup>	24.0	22.3 *
Years in Philadelphia <sup>m</sup>	9.0	9.6
<b><i>Family characteristics</i></b>		
Marital status		
Single	26.9	10.4 *
Married accompanied	43.6	80.5
Married unaccompanied	17.9	0.0
Separated/divorced/widowed	11.5	9.1
Place of marriage		
In USA	49.5	66.9
In Country of origin	50.5	33.1 *
Has children <18 in USA	40.4	77.3 *
Number of children <18 in USA <sup>m</sup>	1.9	2.0
Has children <18 in country of origin	28.8	15.6 *
Number of children <18 in country of origin <sup>m</sup>	2.0	1.8
<b><i>Socioeconomics</i></b>		
Unemployed	7.7	49.0 *
Individual's weekly income (for employed) <sup>m</sup>	\$ 458	\$ 305 *
Household weekly income <sup>m</sup>	\$ 511	\$ 497
Share of household income <sup>m</sup>	0.82	0.30 *
<b><i>Sample size</i></b>	<b>156</b>	<b>154</b>

Notes: T and Chi-square tests for sex differences of discrete and categorical variables, respectively.

+ p<0.10, \* p<0.05. <sup>m</sup> Indicates a mean, the rest are percentages.

Source: The wellbeing of Latino immigrants in South Philadelphia study 2015



**Table 13.** Bivariate associations of remitting regularly and Latino immigrants' characteristics by sex

Characteristics of Immigrants	Men					Women				
	To old adults (1)	Not to old adults (2)	Not sending (3)	OR (1) vs (3)	OR (2) vs (3)	To old adults (4)	Not to old adults (5)	Not sending (6)	OR (4) vs (6)	OR (5) vs (6)
<i>Total</i>	63.5	23.1	13.5			48.1	18.8	33.1		
<b>Family characteristics</b>										
Marital status										
Single	73.8	4.8	21.4	<i>Ref.</i>		25.0	25.0	50.0	<i>Ref.</i>	<i>Ref.</i>
Sep./div./wid.	61.1	38.9	0.0	<b>0.10</b>		28.6	28.6	42.9		
Married accompanied	72.1	10.3	17.7	0.45		53.2	16.9	29.8	<b>3.12 *</b>	0.99
Married unaccompanied	28.6	71.4	0.0	<b>0.03</b>		<i>N.A.</i>	<i>N.A.</i>	<i>N.A.</i>		
Place where got married										
In USA	70.2	10.6	19.2	<i>Ref.</i>	<i>Ref.</i>	55.4	16.9	27.7	<i>Ref.</i>	<i>Ref.</i>
In Country of origin	50.0	43.8	6.3	<b>2.18</b>	12.60 *	48.8	17.1	34.2	0.82	0.71
No children <18 in USA	58.1	31.2	10.8	<i>Ref.</i>	<i>Ref.</i>	37.1	34.3	28.6	<i>Ref.</i>	<i>Ref.</i>
Has children <18 in USA	71.4	11.1	17.5	<b>0.76</b>	0.22 *	51.3	14.3	34.5	<b>1.14</b>	0.35 *
No children <18 in c. origin	73.0	8.1	18.9	<i>Ref.</i>		50.0	14.6	35.4	<i>Ref.</i>	<i>Ref.</i>
Children <18 in c. origin	40.0	60.0	0.0	<b>0.07</b>		37.5	41.7	20.8	<b>1.27</b>	4.84 *
<b>Parents</b>										
Alive status										
Both dead	33.3	44.4	22.2	<i>Ref.</i>	<i>Ref.</i>	0.0	71.4	28.6		<i>Ref.</i>
One alive-One dead	66.7	28.6	4.8	<b>3.37</b>	0.84	41.9	27.9	30.2		0.20 +
Both alive	65.1	20.6	14.3			53.9	11.5	34.6		
Living arrangements										
At least one living in Origin	70.6	22.2	7.1	<i>Ref.</i>	<i>Ref.</i>	54.2	13.0	32.8	<i>Ref.</i>	<i>Ref.</i>
At least one living in USA	40.0	10.0	50.0	0.05 *	0.10 *	25.0	50.0	25.0	<b>0.20 *</b>	2.53
At least one living with ther	12.5	25.0	62.5			0.0	33.3	66.7		
Mother's age	51.7	60.3	54.5	<b>1.04</b>	1.12 *	58.5	58.4	54.6	1.04 +	1.04
Father's age	55.1	64.5	57.4	<b>1.03</b>	1.13 *	62.4	55.6	61.8	1.00	0.95
Health insurance access										
No	68.4	22.2	9.4	<i>Ref.</i>	<i>Ref.</i>	51.0	15.0	34.0	<i>Ref.</i>	<i>Ref.</i>
Yes both	51.9	22.2	25.9	0.28 *	0.32 +	52.6	18.4	29.0	1.02	1.36
Yes, only one	66.7	0.0	33.3			33.3	22.2	44.4		
<b>Socioeconomics</b>										
Employed	66.0	23.6	10.4	<i>Ref.</i>	<i>Ref.</i>	53.2	24.1	22.8	<i>Ref.</i>	<i>Ref.</i>
Unemployed	33.3	16.7	50.0	0.11 *	0.15 *	42.7	13.3	44.0	0.42 *	0.29 *
Individual's weekly income	\$ 397	\$ 454	\$ 469	1.004 *	1.003	\$ 255	\$ 415	\$ 307	<b>0.998</b>	1.002
Household weekly income	\$ 352	\$ 515	\$ 543	1.003 *	1.003 *	\$ 529	\$ 569	\$ 410	1.001 +	1.002 *
<b>Sociodemographics</b>										
Age										
Under 20	0.0	0.0	100.0	<i>Ref.</i>	<i>Ref.</i>	0.0	50.0	50.0	<i>Ref.</i>	<i>Ref.</i>
20-30	79.6	6.1	14.3			46.3	11.1	42.6		
30-40	67.2	22.4	10.5	<b>1.81</b>	7.86 *	55.3	14.5	30.3	1.83	1.49
40+	41.7	50.0	8.3	<b>1.41</b>	22.00 *	35.0	50.0	15.0	<b>2.33</b>	10.42 *
Mean age	29.6	38.8	31.7	<b>1.05</b>	1.19 *	31.6	35.9	30.1	<b>1.04</b>	1.14 *
Educational attainment										
6 or less	62.2	28.9	8.9	<i>Ref.</i>	<i>Ref.</i>	51.2	19.5	29.3	<i>Ref.</i>	<i>Ref.</i>
7-12	67.9	20.2	11.9	0.81	0.52	50.0	21.1	28.9	0.99	1.10
13+	51.9	22.2	25.9	0.29 +	0.26 +	34.8	8.7	56.5	0.35 +	0.23 +
Mean years	10.6	8.8	8.9	0.83 *	0.82 *	8.7	9.4	9.7	0.89 +	0.96
<b>Migration characteristics</b>										
Age arrived to Philadelphia	18.5	31.0	22.6	<b>1.14 *</b>	1.36 *	21.3	26.9	21.0	<b>1.01</b>	1.13 *
Years in Philadelphia	10.7	7.8	9.1	0.95	0.90 +	10.3	9.0	9.0	1.09 +	1.00

Notes: Odds ratios come from multinomial regressions of the three categories of remitting regularly (the reference category is not sending) on each one of the characteristics listed in the table. Models were run separately by sex. + p<0.10, \* p<0.05. Bolded coefficients indicate significant differences in the relative odds between columns (1) vs (2), and (4) vs (5).

Source: The wellbeing of Latino immigrants in South Philadelphia study 2015

Table 14. Bivariate associations of remitting to the elderly and Latino immigrants' characteristics by sex

<i>Characteristics of Immigrants</i>	<i>Men</i>			<i>Women</i>		
	Yes	No	OR	Yes	No	OR
<i>Total</i>	50.6	49.4		55.8	44.2	
<b>Family characteristics</b>						
Marital status						
Single	42.9	57.1	<i>Ref.</i>	31.3	68.8	<i>Ref.</i>
Sep./div./wid.	44.4	55.6	1.07	35.7	64.3	
Married accompanied	47.1	52.9	1.19	61.3	38.7	3.17 *
Married unaccompanied	75.0	25.0	4.00 *	N.A.	N.A.	
Place where got married						
In USA	48.9	51.1	<i>Ref.</i>	57.8	42.2	<i>Ref.</i>
In Country of origin	62.5	37.5	1.74	68.3	31.7	1.57
No children <18 in USA	57.0	43.0	<i>Ref.</i>	40.0	60.0	<i>Ref.</i>
Has children <18 in USA	41.3	58.7	0.53 +	60.5	39.5	2.30 *
No children <18 in c. origin	45.1	55.0	<i>Ref.</i>	57.7	42.3	<i>Ref.</i>
Children <18 in c. origin	64.4	35.6	2.21 *	45.8	54.2	0.62
<b>Parents</b>						
Alive status						
Both dead	55.6	44.4	<i>Ref.</i>	28.6	71.4	<i>Ref.</i>
One alive-One dead	47.6	52.4	0.81 +	55.8	44.2	3.33
Both alive	50.8	49.2		57.7	42.3	
Living arrangements						
At least one living in Origin	52.4	47.6	<i>Ref.</i>	57.3	42.8	<i>Ref.</i>
At least one living in USA	30.0	70.0		50.0	50.0	
At least one living with them	25.0	75.0	0.35	50.0	50.0	0.75
Mother's age	55.2	55.3	1.00	58.0	56.3	1.02
Father's age	58.6	58.1	1.01	61.2	61.6	1.00
Health insurance access						
No	52.1	47.9	<i>Ref.</i>	50.0	50.0	<i>Ref.</i>
Yes both	48.2	51.9		73.7	26.3	
Yes, only one	0.0	100.0	0.70	66.7	33.3	2.62 *
<b>Socioeconomics</b>						
Employed	51.4	48.6	<i>Ref.</i>	48.1	51.9	<i>Ref.</i>
Unemployed	41.7	58.3	0.68	64.0	36.0	1.92 *
Individual's weekly income	\$ 464	\$ 452	1.001	\$ 318	\$ 294	1.001
Household weekly income	\$ 496	\$ 527	1.000	\$ 532	\$ 454	1.001
<b>Sociodemographics</b>						
Age						
Under 20	0.0	100.0	<i>Ref.</i>	50.0	50.0	<i>Ref.</i>
20-30	53.1	46.9		55.6	44.4	
30-40	44.8	55.2	0.84	54.0	46.1	0.95
40+	63.9	36.1	1.84	65.0	35.0	1.51
Mean age	34.0	32.0	1.03	31.9	31.9	1.00
Educational attainment						
6 or less	64.4	35.6	<i>Ref.</i>	51.2	48.8	<i>Ref.</i>
7-12	44.1	56.0	0.43 *	61.1	38.9	1.50
13+	48.2	51.9	0.51	43.5	56.5	0.73
Mean years	8.5	9.7	0.89 *	9.1	9.2	0.99
<b>Migration characteristics</b>						
Age arrived to Philadelphia	25.8	22.2	1.07 *	22.2	22.5	0.99
Years in Philadelphia	8.2	9.8	0.95 +	9.8	9.4	1.02

Notes: Odds ratios come from logistic regressions of remittances to the elderly in on each one of the characteristics listed in the table. Models were run separately by sex. + p<0.10, \* p<0.05  
Source: The wellbeing of Latino immigrants in South Philadelphia study 2015

**Table 15. Bivariate associations of remitting in emergencies to the elderly and Latino immigrants' characteristics by sex**

<i>Characteristics of Immigrants</i>	<i>Men</i>			<i>Women</i>		
	Yes	No	OR	Yes	No	OR
<i>Total</i>	16.7	83.3		35.1	64.9	
<b>Family characteristics</b>						
Marital status						
Single	11.9	88.1	<i>Ref.</i>	25.0	75.0	<i>Ref.</i>
Sep./div./wid.	22.2	77.8	2.11	28.6	71.4	
Married accompanied	14.7	85.3	1.28	37.1	62.9	0.62
Married unaccompanied	25.0	75.0	2.47	N.A.	N.A.	
Place where got married						
In USA	12.8	87.2	<i>Ref.</i>	38.6	61.5	<i>Ref.</i>
In Country of origin	22.9	77.1	2.03	34.2	65.9	0.83
No children <18 in USA	17.2	82.8	<i>Ref.</i>	22.9	77.1	<i>Ref.</i>
Has children <18 in USA	15.9	84.1	0.91	38.7	61.3	2.13 <sup>+</sup>
No children <18 in c. origin	13.5	86.5	<i>Ref.</i>	36.2	63.9	<i>Ref.</i>
Children <18 in c. origin	24.4	75.6	2.07	29.2	70.8	0.73
<b>Parents</b>						
Alive status						
Both dead	22.2	77.8	<i>Ref.</i>	57.1	42.9	<i>Ref.</i>
One alive-One dead	0.0	100.0	0.68	30.2	69.8	0.39
Both alive	19.1	81.0		35.6	64.4	
Living arrangements						
At least one living in Origin	16.7	83.3	<i>Ref.</i>	33.6	66.4	<i>Ref.</i>
At least one living in USA	20.0	80.0	0.63	37.5	62.5	1.10
At least one living with them	0.0	100.0		33.3	66.7	
Mean Mother's age	56.0	55.1	1.01	58.9	56.4	1.02
Mean Father's age	58.7	58.3	1.00	62.0	61.1	1.01
Health insurance access						
No	17.1	82.9	<i>Ref.</i>	37.0	63.0	<i>Ref.</i>
Yes both	14.8	85.2	0.75	29.0	71.1	0.65
Yes, only one	0.0	100.0		22.2	77.8	
<b>Socioeconomics</b>						
Employed	18.1	81.9		39.2	60.8	<i>Ref.</i>
Unemployed	0.0	100.0		30.7	69.3	0.68
Individual's weekly income	\$ 478	\$ 453	1.001	\$ 376	\$ 260	1.003 <sup>*</sup>
Household weekly income	\$ 519	\$ 510	1.000	\$ 526	\$ 482	1.000
<b>Sociodemographics</b>						
Age						
Under 20	0.0	100.0	<i>Ref.</i>	50.0	50.0	<i>Ref.</i>
20-30	10.2	89.8		33.3	66.7	
30-40	19.4	80.6	2.31	31.6	68.4	0.88
40+	22.2	77.8	2.74	50.0	50.0	1.90
Mean age	35.3	32.6	1.05	32.6	31.5	1.03
Educational attainment						
6 or less	24.4	75.6	<i>Ref.</i>	31.7	68.3	<i>Ref.</i>
7-12	14.3	85.7	0.52	40.0	60.0	1.44
13+	11.1	88.9	0.39	21.7	78.3	0.60
Mean years	8.0	9.3	0.88 <sup>+</sup>	9.3	9.1	1.02
<b>Migration characteristics</b>						
Age arrived to Philadelphia	27.1	23.4	1.07 <sup>*</sup>	22.5	22.2	1.01
Years in Philadelphia	8.2	9.1	0.96	10.1	9.3	1.06

Notes: Odds ratios come from logistic regressions of remittances for emergencies of the elderly in on each one of the characteristics listed in the table. Models were run separately by sex. + p<0.10, \* p<0.05

Source: The wellbeing of Latino immigrants in South Philadelphia study 2015

## CONCLUSIONS

This dissertation sought to contribute to the new agenda of research on migrant incorporation from a transnational perspective by including innovative strategies of analysis and data sources that contributes to the areas of return migrants' incorporation, mental health among immigrants, and transnational support to elders.

In my first chapter, I contributed by analyzing return migrant to Mexico, but with the lens of migrant incorporation in sending societies. By changing the classical approach of return migration to a broader perspective that incorporates the possibility of involuntary and non-economic movements, and characteristics of both the labor market and the context of receiving societies, our analysis shows that Mexican return migrants experienced significant losses in terms of earnings and were increasingly pushed into the informal economy. Our results showed that both return migrants' proportions and the probabilities (net of their sociodemographic characteristics) of being in jobs with no benefits and self-employed increased substantially between 2000 and 2010. The precarious wages and higher participation in the informal economy of return migrants pose enormous challenges for migration and job creation policies in Mexico, as formal jobs have been the pathway to social and financial security among the Mexican population. Therefore, return migrants are currently left in vulnerable position that will have repercussions in terms of social security access and quality of life at later life stages. It seems that the era of migration to the United States as the "*safety valve*" for the Mexican labor market has ended; Mexican return migrants are now joining the lines of the already large working population that struggle for better conditions.

In the second chapter, I looked to build a holistic analysis of immigrants' feeling of depression by testing together the three main theoretical hypotheses that link mental health outcomes and migration: migrant selectivity, the impact of context on protective/risk factors for depression, and acculturative stress. I found that selection explains little of the large significant differences in depressed feelings of Mexicans in Durham, NC, and in Mexican communities. Rather, the changes associated with migration and the distances in social environments between Mexico and the United States play an important role in explaining the differences between Mexican's depressed feelings in both sides of the border. With migration, the protective effects of factors such as income, educational attainment, and marriage significantly weaken and differ by gender. For both men and women, the protected effects of earnings are diminished in Durham. However, among men the benefits of marriage are also lower in the U.S. context, while among women it is education that loses its power to enhance mental health in the United States. In addition, results show that, as a consequence of migration, family separation accounts for a sizeable portion of the heightened depression among migrants. Unaccompanied men were far more likely to feel depressed than anyone else, which shows that for men having their partner with them provides stability and support. For women, the stresses associated with single motherhood boosts the odds of depressed feelings; economic hardship and the challenges of balancing motherhood and breadwinning roles likely contribute to this effect. Mothers separated from their children were the most vulnerable to feeling depressed. This result demonstrates how policies that impose barriers for family reunification have direct consequences for migrant mental health and hinder their incorporation process in host societies.

Finally, the third chapter contributed to the emerging research on elder support from the senders' perspective. By combining quantitative and qualitative interviews of

the 2015 Wellbeing of Latino Immigrants in South Philadelphia Study, we described the gendered life-cycle of migration and different modes of support to the elderly. We went beyond the “classic” indicators of remittances and analyzed transactions specifically directed to the elderly, including for their emergencies. The latter new modes of support helped to measure more accurately intergenerational transfers and enlightened the processes behind the gender differences previously documented in the literature of remittances. I found that women are as willing as men to support their elder adults, but are often unable to do so. Men’s regular remittances to elders are explained by competing demands between elders and dependent wives and children, both in Philadelphia and abroad. Women’s behaviors are more strongly related to working and marital status. In fact, life course transitions into marriage, childbearing and paid employment among women heavily determine their support to the elderly as they shape their power in the decision-making processes related to resource allocation. Spending on emergencies is a different matter, however; both men and women commonly report these types of expenditures, which are unpredictable and not related to socio-demographic characteristics. Given these findings and the precarious economic situation of immigrants in the United States, mostly of whom who lack work permits, additional research into the consequences of sending remittances is needed. Special attention should be paid to the strategies and coping mechanisms immigrants use to help their elders, constraints they face, and the consequences for their health, particularly in terms of mental health. Yet, these studies will need to consider how these consequences vary for different modes of support and in accordance to the interactions between work, migration and gender.

The new agenda of transnational migrant incorporation offers a vast room for studies that challenge our classic ways of analyzing incorporation. Either by taking traditional topics and switching the context of analysis (from sending to receiving societies and vice versa), or by including different measures of wellbeing and incorporation that take into account the subjective experience of migrants, we are advancing our understanding of migration and our findings could certainly help facilitate integration of the hundreds of millions people living outside of their countries of origin today.

APPENDIX

**Table 16. Depression screening questions from the Hispanics in Durham Study, percentage of Mexican participants answering Yes by migration status and sex.**

In the past six months, have you:	Men		Women	
	<i>Mexico</i>	<i>Durham</i>	<i>Mexico</i>	<i>Durham</i>
felt depressed?	32.3	44.5	53.8	57.9
felt that everything you did was an effort?	27.3	53.8	37.4	51.0
felt that your sleep was restless?	34.4	38.8	41.1	52.7
been a happy person?	83.5	71.3	84.4	70.4
felt lonely?	25.9	51.6	50.1	51.2
felt that people were unfriendly?	14.3	28.7	21.0	48.0
enjoyed life?	84.6	73.8	83.0	73.5
felt sad?	41.5	61.0	65.1	64.3
felt that people disliked you?	13.0	19.1	15.0	31.4
felt that you could not get going?	7.4	17.6	12.6	35.3

Source: Gender, migration and health among Hispanic study 2003, 2007

## BIBLIOGRAPHY

### REFENCES CHAPTER I

- Ambrosini, J. W., & Peri, G. (2012). The Determinants and the Selection of Mexico-US Migrants. *World Economy*, 35(2), 111-151. doi: 10.1111/j.1467-9701.2011.01425.x
- Ariza, M., & Oliveira, O. (2001). La fuerza de trabajo en Mexico: un siglo de cambios. In J. Gomez de Leon & C. Rabell (Eds.), *La población de Mexico. Tendencias y perspectivas sociodemograficas hacia el siglo XXI* (pp. 168-206). Mexico: Consejo Nacional de Poblacion and Fondo de Cultura Economica.
- Ariza, M., & Oliveira, O. (2013). Viejos y nuevos rostros de la precariedad en el sector terciario, 1995-2010. In C. Rabell (Ed.), *Los mexicanos: un balance del cambio demográfico*. Mexico City: Fondo de Cultura Economica.
- Borjas, G. J., & Bratsberg, B. (1996). Who leaves? The outmigration of the foreign-born. *Review of Economics and Statistics*, 78(1), 165-176. doi: 10.2307/2109856
- Campos-Vazquez, R., & Lara, J. (2012). Self-selection patterns among return migrants: Mexico 1990-2010. *IZA Journal of Migration*, 1(1), 1-18. doi: 10.1186/2193-9039-1-8
- Cassarino, J. P. (2004). Theorizing Return Migration: The Conceptual Approach to Return Migrants Revisited. *International Journal on Multicultural Societies*, 6(2), 253-279.
- Cerrutti, M., & Massey, D. S. (2001). On the Auspices of Female Migration from Mexico to the United States. *Demography*, 38(2), 187-200. doi: 10.2307/3088300
- Cohn, D., Gonzalez-Barrera, A., & Cuddington, D. (2013). Remittances to Latin America Recover -but Not to Mexico. Retrieved from doi:<http://www.pewhispanic.org/2013/11/15/remittances-to-latin-america-recover-but-not-to-mexico/#>
- Cuecuecha, A., & Rendon, S. (2012). Mexicans in and out of the United States. Facts on Job Search and International Migration. In A. Cuecuecha & C. Pederzini (Eds.), *Migration and Remittances from Mexico. Trends, Impacts, and New Challenges* (pp. 119-142). Plymouth, UK: Lexington Books.
- Curran, S. R., & Rivero-Fuentes, E. (2003). Engendering Migrant Networks: The Case of Mexican Migration. *Demography*, 40(2), 289-307. doi: 10.2307/3180802
- Donato, K. M., & Sisk, B. (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. doi: 10.1016/j.rssm.2011.12.002
- Donato, K. M., Wakabayashi, C., Hakimzadeh, S., & Armenta, A. (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. doi: 10.1177/0730888408322859

- García, B. (2010). Inestabilidad laboral en México: el caso de los contratos de trabajo. *Estudios Demográficos y Urbanos*, 25(1 (73)), 73-101. doi: 10.2307/27808645
- García, B. (2011). Las carencias laborales en Mexico: conceptos e indicadores. In E. Pacheco, E. De la Garza & L. Reygadas (Eds.), *Trabajos atípicos y precarización del empleo* (pp. 81-113). Mexico, D.F.: El Colegio de Mexico.
- García, B., & Oliveira, O. d. (2004). Trabajo extradoméstico femenino y relaciones de género: una nueva mirada. *Estudios Demográficos y Urbanos*, 19(1 (55)), 145-180. doi: 10.2307/40315174
- García, B., & Sanchez, L. (2012). Trayectorias del desempleo urbano en Mexico. *Revista Latinoamericana de Poblacion*, 6(10), 5-30.
- Giorguli, S., & Gutierrez, E. (2012). Migration et développement. De l'ambivalence à la désillusion ? *Revue Hommes et migrations* 1296.
- Gitter, S. R., Gitter, R. J., & Southgate, D. (2008). The Impact of Return Migration to Mexico. *Estudios Económicos*, 23(1 (45)), 3-23. doi: 10.2307/40311536
- Hondagneu-Sotelo, P. (1994). *Gendered transitions : the Mexican experience of immigration*. Berkeley, Calif.: University of California Press.
- Instituto Nacional de Estadística y Geografía. (2011). Censos y Conteos de Población y Vivienda, from <http://www.inegi.org.mx/est/contenidos/Proyectos/ccpv/default.aspx>
- Kalleberg, A. L. (2011). *Good jobs, bad jobs : the rise of polarized and precarious employment systems in the United States, 1970s to 2000s*.
- Lindstrom, D. P. (1996). Economic opportunity in Mexico and return migration from the United States. *Demography*, 33(3), 357-374. doi: 10.2307/2061767
- Lindstrom, D. P., & Lauster, N. (2001). Local economic opportunity and the competing risks of internal and US migration in Zacatecas, Mexico. *International Migration Review*, 35(4), 1232-1256.
- Masferrer, C., & Roberts, B. R. (2012). Going Back Home? Changing Demography and Geography of Mexican Return Migration. *Population Research and Policy Review*, 31(4), 465-496. doi: 10.1007/s11113-012-9243-8
- Massey, D. S., & Parrado, E. A. (1998). International migration and business formation in Mexico. *Social Science Quarterly*, 79(1), 1-20.



- Mexican Population Council. (2004). *Delimitacion de las Zonas Metropolitanas de Mexico 2000*. Mexico, D.F.: Secretaria de Desarrollo Social, Consejo Nacional de Poblacion and Instituto Nacional de Estadistica y Geografia.
- Mexican Population Council. (2012). *Delimitacion de las Zonas Metropolitanas de Mexico 2010*. Mexico, D.F.: Secretaria de Desarrollo Social, Consejo Nacional de Poblacion and Instituto Nacional de Estadistica y Geografia.
- Minnesota Population Center. (2011). Integrated Public Use Microdata Series, International: Version 6.1 [Machine-readable database]. from University of Minnesota <https://international.ipums.org/international/>
- Papail, J. (2002). De asalariado a empresario: la reinserción laboral de los migrantes internacionales en la región centro-occidente de México. *Migraciones Internacionales*, 1(3), 79-102.
- Papail, J., & Arroyo, J. (2004). *Los dólares de la migración* (1. ed. ed.). Mexico: Universidad de Guadalajara, Institut de recherche pour le développement, Profmex, Casa Juan Pablos.
- Parrado, E. A. (2012). Immigration Enforcement Policies, the Economic Recession, and the Size of Local Mexican Immigrant Populations. *Annals of the American Academy of Political and Social Science*, 641(1), 16-37. doi: 10.1177/0002716211435353
- Parrado, E. A., & Gutierrez, E. (2016). The changing nature of return migration to Mexico, 1990-2010: Implications for labor market incorporation and development. *Sociology of Development*(Forthcoming).
- Passel, J. S., Cohn, D., & Gonzalez-Barrera, A. (2012). Net Migration from Mexico Falls to Zero -and Perhaps Less. Washington D.C.
- Piore, M. J. (1979). *Birds of passage : migrant labor industrial societies*. Cambridge, New York Cambridge University Press.
- Portes, A., & Haller, W. (2005). The Informal Economy. In N. J. Smelser & R. Swedberg (Eds.), *The handbook of economic sociology* (Second edition ed., pp. 403-428). Princeton, NJ: Princeton University Press.
- Portes, A., & Rumbaut, R. (1996). *Immigrant America : a portrait* (2nd ed. ed.). Berkeley, Calif.: University of California Press.
- Portes, A., & Sassen-Koob, S. (1987). Making It Underground. Comparative Material on the Informal Sector in Western Market Economies. *American Journal of Sociology*, 93(1), 30-61. doi: 10.1086/228705
- Rendall, M. S., Brownell, P., & Kups, S. (2011). Declining Return Migration From the United States to Mexico in the Late-2000s Recession: A Research Note.

- [Research Support, N.I.H., Extramural]. *Demography*, 48(3), 1049-1058. doi: 10.1007/s13524-011-0049-9
- Reyes, B. I. (1997). *Dynamics of immigration: Return migration to western Mexico*. San Francisco: Public Policy Institute of California.
- Riosmena, F., & Massey, D. S. (2012). Pathways to El Norte: Origins, Destinations, and Characteristics of Mexican Migrants to the United States. [Historical Article]. *International Migration Review*, 46(1), 3-36. doi: 10.1111/j.1747-7379.2012.00879.x
- Rivero-Fuentes, M. E. (2012). Beyond Income Differentials: Explaining Migrants' Destinations in Mexico. In A. Cuecuecha & C. Pederzini (Eds.), *Migration and Remittances from Mexico. Trends, Impacts, and New Challenges* (pp. 51-77). Plymouth, UK: Lexington Books.
- Salas, C. (2007). Empleo y trabajo en México, 2001-2006. Un balance inicial. *Trabajo*, 3(4), 137-160.
- Sheehan, C. M., & Riosmena, F. (2013). Migration, business formation, and the informal economy in urban Mexico. *Social Science Research*, 42(4), 1092-1108. doi: 10.1016/j.ssresearch.2013.01.006
- Sjaastad, L. A. (1962). The Costs and Returns of Human Migration. *Journal of Political Economy*, 70(5), 80-93. doi: 10.1086/258726
- Sobrinó, J. (1993). *Gobierno y administración metropolitana y regional*. Mexico, D.F.: Instituto Nacional de Administración Pública.
- Sobrinó, J. (2010). *Migración interna en México durante el siglo XX*. Mexico, D.F.: Consejo Nacional de Población.
- Stark, O., & Taylor, J. E. (1989). Relative Deprivation and International Migration. *Demography*, 26(1), 1-14. doi: 10.2307/2061490
- Tienda, M. (1975). Diferencias socioeconómicas regionales y tasas de participación de la fuerza de trabajo femenina: el caso de México. *Revista Mexicana de Sociología*, 37(4), 911-929. doi: 10.2307/3539854
- Tokman, V. E. (2007). The informal economy, insecurity and social cohesion in Latin America. *International Labour Review*, 146(1-2), 81-107. doi: 10.1111/j.1564-913X.2007.00006.x
- Woodruff, C., & Zenteno, R. (2007). Migration networks and microenterprises in Mexico. *J Dev Econ*, 82(2), 509-528. doi: <http://dx.doi.org/10.1016/j.jdeveco.2006.03.006>

## REFERENCES CHAPTER II

- Ai, A. L., Pappas, C., & Simonsen, E. (2015). Risk and Protective Factors for Three Major Mental Health Problems Among Latino American Men Nationwide. *American Journal of Mens Health*, 9(1), 64-75. doi: 10.1177/1557988314528533
- Akresh, I. R., & Frank, R. (2008). Health Selection Among New Immigrants. *American Journal of Public Health*, 98(11), 2058-2064. doi: 10.2105/ajph.2006.100974
- Alegria, M., Shrout, P. E., Woo, M., Guarnaccia, P., Sribney, W., Vila, D., . . . Canino, G. (2007). Understanding differences in past year psychiatric disorders for Latinos living in the US. *Social Science & Medicine*, 65(2), 214-230. doi: <http://dx.doi.org/10.1016/j.socscimed.2007.03.026>
- Arenas, E., Goldman, N., Pebley, A., & Teruel, G. (2015). Return Migration to Mexico: Does Health Matter? *Demography*, 52(6), 1853-1868. doi: 10.1007/s13524-015-0429-7
- Bécares, L., Nazroo, J., Jackson, J., & Heuvelman, H. (2012). Ethnic density effects on health and experienced racism among Caribbean people in the US and England: A cross-national comparison. *Social Science & Medicine*, 75(12), 2107-2115. doi: <http://dx.doi.org/10.1016/j.socscimed.2012.03.046>
- Borges, G., Breslau, J., Orozco, R., Tancredi, D. J., Anderson, H., Aguilar-Gaxiola, S., & Medina Mora, M.-E. (2011). A cross-national study on Mexico-US migration, substance use and substance use disorders. [Research Support, N.I.H., Extramural]. *Drug and Alcohol Dependence*, 117(1), 16-23. doi: 10.1016/j.drugalcdep.2010.12.022
- Breslau, J., Aguilar-Gaxiola, S., Borges, G., Castilla-Puentes, R. C., Kendler, K. S., Medina-Mora, M.-E., . . . Kessler, R. C. (2007). Mental disorders among English-speaking Mexican immigrants to the US compared to a national sample of Mexicans. *Psychiatry Research*, 151(1-2), 115-122. doi: <http://dx.doi.org/10.1016/j.psychres.2006.09.011>
- Breslau, J., Borges, G., Tancredi, D., Saito, N., Kravitz, R., Hinton, L., . . . Aguilar-Gaxiola, S. (2011). Migration from Mexico to the United States and Subsequent Risk for Depressive and Anxiety Disorders A Cross-National Study. [Research Support, N.I.H., Extramural  
Research Support, Non-U.S. Gov't]. *Archives of General Psychiatry*, 68(4), 428-433. doi: 10.1001/archgenpsychiatry.2011.21
- Caliendo, M., & Kopeinig, S. (2008). SOME PRACTICAL GUIDANCE FOR THE IMPLEMENTATION OF PROPENSITY SCORE MATCHING. *Journal of Economic Surveys*, 22(1), 31-72. doi: 10.1111/j.1467-6419.2007.00527.x
- Deisenhammer, E. A., Coban-Basaran, M., Mantar, A., Prunnelechner, R., Kemmler, G., Alkin, T., & Hinterhuber, H. (2012). Ethnic and migrational impact on the clinical

- manifestation of depression. *Social Psychiatry and Psychiatric Epidemiology*, 47(7), 1121-1129. doi: 10.1007/s00127-011-0417-1
- Ding, H. L., & Hargraves, L. (2009). Stress-Associated Poor Health Among Adult Immigrants with a Language Barrier in the United States. *Journal of Immigrant and Minority Health*, 11(6), 446-452. doi: 10.1007/s10903-008-9200-0
- Donato, K. M., Wakabayashi, C., Hakimzadeh, S., & Armenta, A. (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. doi: 10.1177/0730888408322859
- Flippen, C. A. (2012). Laboring Underground: The Employment Patterns of Hispanic Immigrant Men in Durham, NC. *Social Problems*, 59(1), 21-42. doi: 10.1525/sp.2012.59.1.21
- Flippen, C. A., & Parrado, E. A. (2012). Forging Hispanic Communities in New Destinations: A Case Study of Durham, North Carolina. *City & Community*, 11(1), 1-30. doi: 10.1111/j.1540-6040.2011.01369.x
- Gonzales, R. G. (2011). Learning to Be Illegal: Undocumented Youth and Shifting Legal Contexts in the Transition to Adulthood. *American Sociological Review*, 76(4), 602-619. doi: 10.1177/0003122411411901
- Grzywacz, J. G., Alterman, T., Muntaner, C., Shen, R., Li, J., Gabbard, S., . . . Carroll, D. J. (2010). Mental Health Research with Latino Farmworkers: A Systematic Evaluation of the Short CES-D. *Journal of Immigrant and Minority Health*, 12(5), 652-658. doi: 10.1007/s10903-009-9311-2
- Hondagneu-Sotelo, P. (1994). *Gendered transitions : the Mexican experience of immigration*. Berkeley, Calif.: University of California Press.
- Irwin, M., Artin, K., & Oxman, M. N. (1999). Screening for depression in the older adult: Criterion validity of the 10-item center for epidemiological studies depression scale (ces-d). *Archives of Internal Medicine*, 159(15), 1701-1704. doi: 10.1001/archinte.159.15.1701
- Jasso, G., Massey, D., Rosenzweig, R., & Smith, J. (2001). Immigrant health, selectivity and acculturation. In N. Anderson, R. Bulatao & B. Cohen (Eds.), *Critical Perspectives on Racial and Ethnic Differences in Health in Late Life* (pp. 227-266 ). Washington D.C.: National Academic Press.
- Kiang, L., Grzywacz, J. G., Marin, A. J., Arcury, T. A., & Quandt, S. A. (2010). Mental Health in Immigrants From Nontraditional Receiving Sites. [Article]. *Cultural Diversity & Ethnic Minority Psychology*, 16(3), 386-394. doi: 10.1037/a0019907
- Lee, M.-A. (2009). Neighborhood residential segregation and mental health: A multilevel analysis on Hispanic Americans in Chicago. *Social Science & Medicine*, 68(11), 1975-1984. doi: <http://dx.doi.org/10.1016/j.socscimed.2009.02.040>

- Lee, M. J., & Liechty, J. M. (2015). Longitudinal Associations Between Immigrant Ethnic Density, Neighborhood Processes, and Latino Immigrant Youth Depression. [Article]. *Journal of Immigrant and Minority Health*, 17(4), 983-991. doi: 10.1007/s10903-014-0029-4
- Leticq, B. L., Grzywacz, J. G., Gray, K. M., & Eudave, Y. M. (2014). Depression Among Mexican Men on the Migration Frontier: The Role of Family Separation and Other Structural and Situational Stressors. *Journal of Immigrant and Minority Health*, 16(6), 1193-1200. doi: 10.1007/s10903-013-9918-1
- Lindert, J., von Ehrenstein, O. S., Priebe, S., Mielck, A., & Brahler, E. (2009). Depression and anxiety in labor migrants and refugees - A systematic review and meta-analysis. [Meta-Analysis  
Research Support, N.I.H., Intramural  
Review]. *Social Science & Medicine*, 69(2), 246-257. doi: 10.1016/j.socscimed.2009.04.032
- Menjívar, C. (2006). Liminal legality: Salvadoran and Guatemalan immigrants' lives in the United States. *American Journal of Sociology*, 111(4), 999-1037. doi: 10.1086/499509
- Ornelas, I. J., & Perreira, K. M. (2011). The role of migration in the development of depressive symptoms among Latino immigrant parents in the USA. [Research Support, N.I.H., Extramural  
Research Support, Non-U.S. Gov't]. *Social Science & Medicine*, 73(8), 1169-1177. doi: 10.1016/j.socscimed.2011.07.002
- Parrado, E. A., & Flippen, C. A. (2005). Migration and gender among Mexican women. *American Sociological Review*, 70(4), 606-632.
- Parrado, E. A., McQuiston, C., & Flippen, C. A. (2005). Participatory survey research - Integrating community collaboration and quantitative methods for the study of gender and HIV risks among hispanic migrants. *Sociological Methods & Research*, 34(2), 204-239. doi: 10.1177/0049124105280202
- Parreñas, R. S. (2005). *Children of global migration : transnational families and gendered woes*. Stanford, Calif.: Stanford University Press.
- Portes, A., & Rumbaut, R. (1996). *Immigrant America : a portrait* (2nd ed. ed.). Berkeley, Calif.: University of California Press.
- Rafful, C., Medina-Mora, M. E., Borges, G., Benjet, C., & Orozco, R. (2012). Depression, gender, and the treatment gap in Mexico. *Journal of Affective Disorders*, 138(1-2), 165-169. doi: <http://dx.doi.org/10.1016/j.jad.2011.12.040>
- Rosenbaum, P. (2002). *Observational Studies*. New York: Springer-Verlag.

- Schachter, A., Kimbro, R. T., & Gorman, B. K. (2012). Language Proficiency and Health Status: Are Bilingual Immigrants Healthier? *Journal of Health and Social Behavior*, 53(1), 124-145. doi: 10.1177/0022146511420570
- Walker, J. L., Ruiz, R. J., Chinn, J. J., Marti, N., & Ricks, T. N. (2012). Discrimination, acculturation and other predictors of depression among pregnant Hispanic women. *Ethnicity & Disease*, 22(4), 497-503.
- Winkelman, S. B., Chaney, E. H., & Bethel, J. W. (2013). Stress, Depression and Coping among Latino Migrant and Seasonal Farmworkers. [Article]. *International Journal of Environmental Research and Public Health*, 10(5), 1815-1830. doi: 10.3390/ijerph10051815

### REFERENCES CHAPTER III

- Adams Jr, R. H. (2009). The Determinants of International Remittances in Developing Countries. *World Development*, 37(1), 93-103. doi: <http://dx.doi.org/10.1016/j.worlddev.2007.11.007>
- Amuedo-Dorantes, C., Bansak, C., & Pozo, S. (2005). On the Remitting Patterns of Immigrants: Evidence from Mexican Survey Data. *Economic Review - Federal Reserve Bank of Atlanta*, 90(1), 37-58.
- Bongaarts, J., & Zimmer, Z. (2002). Living Arrangements of Older Adults in the Developing World: An Analysis of Demographic and Health Survey Household Surveys. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 57(3), S145-S157. doi: 10.1093/geronb/57.3.S145
- Bravo, J., Sim Lai, N., Donehower, G., & Mejia-Guevara, I. (2015). Ageing and Retirement Security: United States of America and Mexico. In W. A. Vega, K. S. Markides, J. L. Angel & F. M. Torres-Gil (Eds.), *Challenges of Latino Aging in the Americas* (pp. 121-140). Switzerland: Springer International Publishing.
- Brown, R. P. C. (1997). Estimating remittance functions for Pacific Island Migrants. *World Development*, 25(4), 613-626. doi: [http://dx.doi.org/10.1016/S0305-750X\(96\)00122-2](http://dx.doi.org/10.1016/S0305-750X(96)00122-2)
- Cohen, J. H. (2005). Remittance Outcomes and Migration: Theoretical Contests, Real Opportunities. *Studies in Comparative International Development*, 40(1), 88-112. doi: <http://dx.doi.org/10.1007/BF02686290>
- de la Brière, B., Sadoulet, E., de Janvry, A., & Lambert, S. (2002). The roles of destination, gender, and household composition in explaining remittances: an analysis for the Dominican Sierra. *Journal of Development Economics*, 68(2), 309-328. doi: [http://dx.doi.org/10.1016/S0304-3878\(02\)00015-9](http://dx.doi.org/10.1016/S0304-3878(02)00015-9)
- De Vos, S., Solís, P., & De Oca, V. M. (2004). Receipt of Assistance and Extended Family Residence among Elderly Men in Mexico. *The International Journal of Aging and Human Development*, 58(1), 1-27. doi: 10.2190/dv0c-8na9-8xk1-r9qx
- Durand, J., & Massey, D. S. (1992). Mexican migration to the United States: A critical review. [Article]. *Latin American Research Review*, 27(2), 3.
- Flippen, C. (2015). Lifelines: the implications of migrant remittances and transnational elder care for the financial security of low-income hispanic immigrants in the

- United States. In W. A. Vega, K. S. Markides, J. L. Angel & F. M. Torres-Gil (Eds.), *Challenges of Latino Aging in the Americas* (pp. 121-140). Switzerland: Springer International Publishing.
- Funkhouser, E. (1995). Remittances from International Migration: A Comparison of El Salvador and Nicaragua. *The Review of Economics and Statistics*, 77(1), 137-146. doi: 10.2307/2109999
- Garay Villegas, S., & Montes de Oca Zavala, V. (2011). La vejez en México: una mirada general sobre la situación socioeconómica y familiar de los hombres y mujeres adultos mayores. *Perspectivas sociales*, 13(1), 143-165.
- Hondagneu-Sotelo, P. (1994). *Gendered transitions : the Mexican experience of immigration*. Berkeley, Calif.: University of California Press.
- Kreager, P. (2006). Migration, social structure and old-age support networks: a comparison of three Indonesian communities. *Ageing & Society*, 26(01), 37-60. doi: doi:10.1017/S0144686X05004411
- Livingston, G. (2006). Gender, Job Searching, and Employment Outcomes among Mexican Immigrants. *Population Research and Policy Review*, 25(1), 43-66. doi: <http://dx.doi.org/10.1007/s11113-006-0002-6>
- Massey, D. S., Alarcon, R., Durand, J., & Gonzalez, H. (1987). *Return to Aztlan: The Social Process of International Migration from Western Mexico*: University of California Press.
- Massey, D. S., & Basem. (1992). Determinants of Savings, Remittances, and Spending Patterns among U.S. Migrants in Four Mexican Communities. *Sociological inquiry*, 62(2), 185.
- Minnesota Population Center. (2011). National Historical Geographic Information System: Version 2.0: 1990-2010 U.S. Population time series., from University of Minnesota <https://nhgis.org>
- OCDE, Bank, W., & BID. (2014). Panorama de las Pensiones: América Latina y el Caribe: OCDE, World Bank, BID.
- Orozco, M., & Jewers, M. (2014). Economic Status and Remittance Behavior Among Latin American and Caribbean Migrants in the Post-Recession Period (pp. 44). New York: Inter-American Development Bank.
- Parrado, E. A., & Flippen, C. A. (2005). Migration and gender among Mexican women. *American Sociological Review*, 70(4), 606-632.
- Quashie, N. (2015). Intergenerational Transfers in Urban Mexico: Residential Location of Children and Their Siblings. In W. A. Vega, K. S. Markides, J. L. Angel & F. M. Torres-Gil (Eds.), *Challenges of Latino Aging in the Americas* (pp. 121-140). Switzerland: Springer International Publishing.
- Rabell, C., & D'Aubeterre, M. (2009). ¿Aislados o solidarios? Ayudas y redes familiares en el México contemporáneo. In C. Rabell (Ed.), *Tramas familiares en el México contemporáneo. Una perspectiva sociodemográfica* (pp. 33-83). Mexico D.F.: El Colegio de Mexico.
- Rindfuss, R. R., Piotrowski, M., Entwisle, B., Edmeades, J., & Faust, K. (2012). Migrant remittances and the web of family obligations: Ongoing support among spatially extended kin in North-east Thailand, 1984–94. *Population Studies*, 66(1), 87-104. doi: 10.1080/00324728.2011.644429
- Rittirong, J., Prasartkul, P., & Rindfuss, R. R. (2014). From whom do older persons prefer support? The case of rural Thailand. *Journal of Aging Studies*, 31, 171-181. doi: <http://dx.doi.org/10.1016/j.jaging.2014.10.002>

- Sana, M. (2008). Growth of Migrant Remittances from the United States to Mexico, 1990-2004. *Social Forces*, 86(3), 995-1025.
- Sana, M., & Massey, D. S. (2005). Household Composition, Family Migration, and Community Context: Migrant Remittances in Four Countries\*. *Social Science Quarterly*, 86(2), 509-528. doi: 10.1111/j.0038-4941.2005.00315.x
- Takenaka, A., & Osirim, M. J. (2010). Philadelphia's Immigrant Communities in Historical Perspective. In A. Takenaka & M. J. Osirim (Eds.), *Global Philadelphia. Immigrant Communities Old and New* (pp. 1-22). Philadelphia, PA, USA: Temple University Press.
- Wong, R., & Gonzalez-Gonzalez, C. (2010). Old-Age Disability and Wealth Among Return Mexican Migrants From the United States. *Journal of Aging and Health*, 22(7), 932-954. doi: 10.1177/0898264310380742
- Wong, R., & Higgins, M. (2007). Dynamics of Intergenerational Assistance in Middle- and Old-Age in Mexico. In J. L. Angel & K. Whitfield (Eds.), *The Health of Aging Hispanics* (pp. 99-120). New York: Springer.
- Wong, R., Palloni, A., & Soldo, B. J. (2007). Wealth in Middle and Old Age in Mexico: The Role of International Migration<sup>1</sup>. *International Migration Review*, 41(1), 127-151. doi: 10.1111/j.1747-7379.2007.00059.x
- Yahirun, J. J., Sheehan, C. M., & Hayward, M. D. (2016). Adult Children's Education and Parents' Functional Limitations in Mexico. *Research on Aging*, 38(3), 322-345. doi: 10.1177/0164027515620240