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# The Labor Market Outcomes of Indigenous Oaxacan Migrants to the Mexico City Metropolitan Area

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THE LABOR MARKET OUTCOMES OF INDIGENOUS OAXACAN MIGRANTS TO THE  
MEXICO CITY METROPOLITAN AREA

by

KEVIN MICHAEL MASON

B.A., University of Washington, 2014

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The Labor Market Outcomes of Indigenous Oaxacan Migrants to the Mexico City Metropolitan  
Area  
written by Kevin Michael Mason  
has been approved for the Department of Geography

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The final copy of this thesis has been examined by the signatories, and we find that both the content and the form meet acceptable presentation standards of scholarly work in the above mentioned discipline.

Mason, Kevin Michael (M.A., Geography)

The Labor Market Outcomes of Indigenous Oaxacan Migrants to the Mexico City Metropolitan Area

Thesis directed by Associate Professor Fernando Riosmena

Mexico's indigenous population faces discrimination and marginalization, despite increased efforts by the state to recognize the challenges facing these groups. Indigenous Mexicans struggle to navigate the ethnic hierarchies that place them at the bottom of Mexican society, especially when migrating internally to urban areas where they are a smaller proportion of the population. This research focuses on the labor market outcomes (i.e. expected monthly wages and likelihood of labor force participation) of indigenous migrants from Oaxaca to the Mexico City metropolitan area. Using data from the 2010 Mexican census, I use linear and logistic regression models to examine the ways in which the wages and labor force participation rates of indigenous migrants compare to those of native, non-indigenous residents in the destination and to those of indigenous and non-indigenous people in the origin when controlling for educational attainment and occupation. This study builds upon existing work on labor market outcomes of Latin American indigenous populations by placing more focus on migration and using a more nuanced understanding of indigenous identity to untangle and clarify the connection between migration status, indigeneity, and labor market outcomes. Results show the Oaxacan indigenous population in Mexico City is unique among the groups studied as the wage returns for higher educational attainment are often relatively small and insignificant, suggesting these migrants tend to find employment in the same low-wage sectors regardless of educational attainment. The results on wage returns for employment in higher-skilled or higher-status

occupations are mixed for the indigenous migrant population. Migrant men in high-skilled blue-collar sectors earn significantly more than their low-skilled counterparts, while the opposite is true for migrant women. Future research is recommended to better understand the relationship between educational attainment and low-wage, low-status occupational insertion for the indigenous migrant population.

**DEDICATION**

To Daniel, Mamie, Brian, and Kelly

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## CHAPTER I

### INTRODUCTION

Despite the Mexican government's purported support for multiculturalism, especially with regards to the country's indigenous heritage, and efforts starting in the late 20<sup>th</sup> century to improve recognition of indigenous culture in the country (Muñoz 2004), Mexico's indigenous population frequently faces discrimination and marginalization (Martínez Casas et al 2014). Indigenous Mexicans struggle to navigate the ethnic hierarchies that place them at the bottom of Mexican society, especially when migrating internally to urban areas where they are a smaller proportion of the population. This isolation and discrimination can manifest itself in negative incorporation outcomes once in the destination, including lower educational attainment and highly tenuous employment in low-wage informal sectors, which go above and beyond the challenges in these dimensions faced by working-class, non-indigenous residents (Pérez Ruiz 2007).

This research focuses on the labor market outcomes (i.e. returns to schooling and occupation, expected monthly wages, and likelihood of labor force participation) of indigenous migrants (specifically Mixtecs, Zapotecs, Mazatecs) from Oaxaca to the Mexico City metropolitan area, one of the largest and longest-lasting internal migration flows of indigenous people in Mexico (Granados Alcantar 2005). Using data from the 2010 census, I examine the ways in which returns to schooling and occupation, wages, and labor force participation rates of

indigenous migrants compare to those of native, non-indigenous residents in the destination and to those of indigenous and non-indigenous people in the origin when controlling for educational attainment and occupation.

This comparison allows for a clearer understanding of the causes of poorer labor market outcomes for indigenous migrants and yields insight into their economic adaptation into the city. By comparing indigenous and non-indigenous migrants, the different effects of migration status and indigeneity on labor market outcomes, as well as their contrasting adaptation trajectories, can more easily be distinguished. I also consider the ways these labor market outcomes are stratified by gender as men and women can be expected to insert themselves into different occupations (e.g. the service sector and domestic work for women and manual labor for men) which may lead to disparate labor market outcomes.

The goal of examining returns to schooling is to assess how well these migrant groups' expected wages match up with their educational attainment. By comparing expected wages across these different ethnic and migrant groups for a given level of educational attainment (e.g. those who have only completed primary school), it is possible to see the ways in which indigeneity and migration status impact wages. If wages are significantly lower for indigenous migrants in Mexico City, compared to non-migrants or non-indigenous migrants with the same levels of educational attainment, wage discrimination is a likely explanation. At the very least, such a result would show the levels of inequality the indigenous migrant population faces.

While there is a decent amount of research on the adaptation of indigenous Mexican migrants in the Mexico City metropolitan area (e.g. Kemper 1977, Vargas Becerra and Flores Dávila 2002, Gissi 2012), there is very little work looking specifically at the labor market outcomes of the indigenous population in this city. Much of the adaptation scholarship focuses

on the influence of social networks on successful integration (e.g. Hirabayashi 1993). While an understanding of the social aspects of adaptation are useful for understanding the context of labor market outcomes, there has been less research examining returns to schooling and occupation for this population. Chiswick et al. (2000) note the limited amount of research on the labor force participation and earnings profiles of indigenous groups, especially in Latin America. However, a number of studies (e.g. Ñopo et al. 2007, Villarreal 2010, Flores and Telles 2012) have worked to understand the relationships between ethnicity, inequality, and social stratification in Latin America. Considering a significant amount of attention has been paid to the poverty and deprivation of indigenous Mexicans in academic research (e.g. Friedlander 1975, Cohen 2004), the economic integration of this population, as they migrate in large numbers throughout time, is as important to research as their social integration.

The indigenous population of Mexico is highly diverse. Because of this heterogeneity, it may be difficult to make generalizations about the labor market outcomes of rural indigenous migrants to urban Mexico. I approach this challenge by focusing on a case study of Oaxacan migrants to Mexico City. Of the 31 Mexican states, Oaxaca has the largest indigenous language speaking population – there are about 1.1 million indigenous language speakers making up about one-third of the state’s population (INEGI 2016). Oaxaca is also one of the largest centers of rural outmigration in the country. In the period between 2005 and 2010, there was a net loss of 20,000 people -- 84,000 people migrated to Oaxaca and 103,000 emigrated from Oaxaca during that period (Sobrinho 2013). The Oaxaca – Mexico City migration flow has been continuously strong since the 1940s – today, Oaxaca is one of the four largest sending states of indigenous migrants to Mexico City, in addition to Veracruz, Puebla, and Hidalgo (Granados Alcantar 2005). There is a long history of indigenous Oaxacan migration studies, particularly relating to

the Mixtecs and Zapotecs (the two largest indigenous groups in the state), that I contribute to and build upon in this research (e.g. Orellana 1973, Hirabayashi 1993, Kearney 2000, Cohen 2004). For these reasons, this particular origin and destination pair make for a useful case study of indigenous internal migration and adaptation in Mexico.

Indigeneity is defined in this project using two measures: self-identification and indigenous language use. Both measures of indigeneity are necessary to examine in this research because both yield different insights into the topic. By looking at these measures in tandem, it is possible to see the effect of different dimensions of indigeneity on labor market outcomes. For example, somebody who identifies as indigenous and speaks an indigenous language may face different challenges in the labor market than the comparable individual who is indigenous but not a language speaker because of their language usage. Thus, I have created a simple continuum of indigeneity based upon these two measures. In dividing the Oaxacan migrant population into four mutually exclusive groups depending upon whether or not they self-identify as indigenous and speak an indigenous language, it is also possible to get a more nuanced look at the causes of significantly different labor market outcomes for the indigenous migrant population. For example, if there are significant differences in the labor market outcomes of indigenous migrants and native, non-indigenous residents of Mexico City, it could be due to their indigeneity or it could be because they are migrants. By also comparing the labor market outcomes of non-indigenous Oaxacan migrants, the causes of poorer labor market outcomes for this migrant population can more easily be disentangled.

The expectation is that the labor market outcomes of the indigenous migrant population would be worse than the non-indigenous, native population of Mexico City. Thus, the main question is how disparate the outcomes are for these two groups and whether the outcomes of the

migrant population are significantly better than for those remaining in Oaxaca. Migration to Mexico City could help or hinder the labor market outcomes of indigenous people. It may be that more opportunities for employment, education, and training in Mexico City can lead to more favorable labor market outcomes for the indigenous migrant population. On the other hand, discrimination against indigenous people or leaving behind a familiar environment may lead to worse labor market outcomes. Difficulties in adapting to an urban environment can be mediated by the existence of strong social networks and hometown associations that can help indigenous migrants better incorporate into the community.

## CHAPTER II

### LITERATURE REVIEW

#### **Racial Ideology and Indigeneity in Mexico:**

In order to understand the economic situation and the labor market outcomes of Mexico's indigenous population, it is first necessary to situate indigeneity within the racial ideologies (both past and present) of the Mexican nation. Throughout much of the 20<sup>th</sup> century, the official racial ideology was based on the concept of *mestizaje* or race mixture. The state's push for *mestizaje* was based on the belief that Mexican culture is formed through a blend of indigenous and Spanish heritage (Friedlander 1975). According to this ideology, the Mexican people are neither fully indigenous nor Spanish, but instead a unique mixture of both cultures, thus creating a distinct culture and people: in other words, "a single people with a double heritage" (Friedlander 1975: xiii). The official racial ideology in Mexico championed the idealized image of the hybrid or *mestizo* man who is influenced by this double heritage. Within this ideology, indigenous people were seen as capable of changing their ethnic identification – in other words, an indigenous person was expected to gradually identify more strongly with the national *mestizo* ideology instead of with their indigenous culture (Knight 1990). After the Mexican Revolution (1910 – 1920), while the indigenous population was officially recognized by the state, they were only viewed as a group in transition – on their way to "full nationality", which was considered to require a *mestizo* identity (de la Peña 2006). As such, the expectation was that the indigenous

population would change the ways they viewed themselves within the national framework (with the assistance of the government) in order to fit into this national narrative of *mestizaje*. There was no expectation that change would happen the other way around – that is, *mestizos* were not expected to change the ways they perceived the indigenous population. The transition from indigenous to *mestizo*, whether it be on an individual or community level, was viewed as crucial to Mexican development. Indeed, this “whitening” of indigenous people in favor of an idealized hybrid Mexican was an important aspect of Mexico’s post-revolutionary racial ideology (Knight 1990).

The state would help the indigenous population make this transition through government programs specifically designed to alleviate the poverty and marginalization experienced by indigenous groups (de la Peña 2006). A series of government agencies were tasked with “Mexicanizing” and “acculturating” the indigenous population, the longest lasting of these being the *Instituto Nacional Indigenista* or INI (English: National Indigenist Institute) (de la Peña 2006: 282). In rural, indigenous communities, the INI, which existed from 1948 to 2002, was in charge of implementing and coordinating all government projects from education to infrastructure. However, in many cases, the INI was ineffective at alleviating the poverty of the indigenous population as those communities continued to be among the poorest in the country.

Toward the end of the 20<sup>th</sup> century, the post-revolutionary racial ideology that championed *mestizaje* and nonracism began to weaken. As most Latin American countries shifted toward a stronger recognition and appreciation of multiculturalism, there was stronger awareness of the importance of recognizing racial and ethnic distinctions in addition to improved understanding of the challenges and discrimination that ethnic minorities (i.e. indigenous and Afrodescendants) continue to face (Telles 2014). Among the early critics of a Mexican nation

based on *mestizaje* were young, college-educated indigenous people who were first educated in primary and secondary schools funded and built by the INI (de la Peña 2006). They believed non-*mestizo* ethnic identities were being suppressed in this nation-building project which they argued was built on a foundation of racism, not inclusiveness (de la Peña 2006).

Over time, there were increased efforts to reform the constitution's understanding of national identity and its components. Constitutional recognition of indigeneity and multiculturalism was non-existent until recently. According to de la Peña (2006), the current constitution, written in 1917 did not mention the words "Indian" nor "indigenous". Some multicultural ideals are written into the Mexican constitution through recent revisions to key articles. For example, Article 2, which defines the characteristics of the Mexican nation, was revised in 2001 to note that Mexico was a multicultural state and further ensured the right of indigenous people to maintain their own languages, cultures, and political independence (Martínez Casas et al. 2014). Regardless of this official recognition of indigenous culture, Martínez Casas et al. (2014) argue the Mexican government has done little to respond to the demands of the indigenous population beyond cultural recognition and improved resources for education.

In 2003, soon after the changes to the Constitution, the INI was replaced by the *Comisión Nacional para el Desarrollo de los Pueblos Indígenas* or CDI (English: National Commission for the Development of Indigenous Peoples). Among the goals of the CDI is to ensure the recognition and representation of indigenous peoples and communities at all levels of government (de la Peña 2006). A critique of the federal government's approach to dealing with the indigenous population is that the higher levels of government (i.e. federal and state) are frequently disconnected from the reality on the ground in indigenous communities when making

policy decisions and local groups struggle to have their voices heard (de la Peña 2006). A critical flaw with the CDI, as de la Peña (2006) notes, is that the concerns of indigenous migrants (whether to cities, agricultural communities in the northwest, or the United States) are not a focus. The CDI generally only deals with traditional indigenous communities in predominantly rural areas and not with the indigenous population as a whole.

Knight (1990) argues that while Mexico's contemporary racial ideology is rooted in opposition to Eurocentric forms of racism, that does not mean there are no racist beliefs and practices in contemporary Mexican society. For Mexican elites after the revolution, *mestizaje* represented racial harmony and gave them a heightened sense of moral superiority over segregated societies in other countries, particularly the United States (Telles 2014). However, even though an appreciation of race mixture and nonracism are part of the national narrative, the lived experiences of indigenous people in Mexico suggests otherwise. Many perceptions of the indigenous population are shaped not by face-to-face, personal interactions, but by portrayals of indigenous people in popular media (Sue 2013). For example, Sue (2013: 59) cites the example of the popular comedic film series *La India Maria*, which portrays a young indigenous woman as being poor, inept, and backward as she tries to navigate urban Mexico – a complete contrast to what is seen as the rural “natural habitat” of Mexico's indigenous population. These popular depictions of indigenous people become a part of the national consciousness. Even if many non-indigenous Mexicans do not interact regularly with the indigenous population, they are still marked as being poor, closed-minded, and backward, with their culture seen as a reason for their poverty (Sue 2013).

These long-lasting discourses influence the ways the indigenous population view themselves and present themselves to non-indigenous people. Indigenous Mexicans are

sometimes embarrassed by their indigenous heritage because indigeneity in Mexican society has come to be defined by lack or inability – for example, indigenous Mexicans are defined by their inability to speak Spanish fluently, their lack of education, or their lack of “culture” as seen by outsiders to indigenous communities (Friedlander 1975). Since indigeneity is defined through inability, indigenous people are sometimes not proud of their heritage and traditions (e.g. cooking technology, cuisine, clothing, healing, etc.). They say instead that they only maintain their ancestral practices because they lack the money and skill to change over to a mestizo and, in their opinion, modern way of life (Friedlander 1975).

Of all the markers of indigenous culture, the use of a native language is a specific source of shame and embarrassment for some indigenous migrants. Children (i.e. the second generation) often face more intense pressure to assimilate into a non-indigenous lifestyle and may steadfastly refuse to speak their native language despite parental encouragement to maintain that link to their heritage. For example, for Oaxacan child migrants in other parts of Mexico, speaking an indigenous language marks them as *Oaxaquito*, or being from Oaxaca, an identity they may want to disassociate themselves from in an effort to assimilate (Stephen 2007). Cohen (2004) argues this prejudice is one of the many motivations for international, as opposed to internal, migration from Oaxaca. Migrants believe they can escape the prejudice they experience locally by moving to the United States and blending in with the broader Mexican migrant community (Cohen 2004). That does not necessarily happen. Given the fact that indigenous Mexicans do still settle in the same communities in the United States as non-indigenous Mexicans, this prejudice is arguably inescapable for them. The incorrect beliefs and stereotypes that non-indigenous Mexicans have of the indigenous population do not disappear upon migration to the United States. However, as will be discussed later, migration can strengthen the bonds between

indigenous people of the same origin as they build upon existing structures of social support and solidarity to help each other adapt to live in a new environment. In this way, indigenous identity could be initially strengthened in the short term.

Yoshioka's (2010) work on indigenous language usage and maintenance in Mexico and Guatemala shows that multicultural policies and perspectives may actually serve to hurt the continued maintenance of indigenous languages and indigenous culture more generally. Yoshioka (2010) explains this phenomenon using Hale's (2002) understanding of the relationship between neoliberalism and multiculturalism. The rise of multicultural ideals in Latin American societies at the end of the 20<sup>th</sup> century coincided with neoliberal reforms in these countries (Hale 2002). In the era of the neoliberal multicultural state, Yoshioka (2010) argues that while multicultural reforms supposedly provide indigenous groups with increased rights and recognition, they do little to alleviate their poor socioeconomic situation, which is exacerbated in part by neoliberal economic reforms. State-endorsed multiculturalism encourages increased interaction between indigenous and non-indigenous people, while economic reforms that perpetuate inequality may motivate indigenous people to migrate from their traditional communities in an effort to improve the economic situation for themselves and their families. Together, multicultural and neoliberal reforms may cause indigenous people to leave behind their indigenous identities and cultural practices and incorporate into a *mestizo* way of life.

Accordingly, Hernández Rosete and Maya (2016) argue that multicultural bilingual education for indigenous children is designed to lead them on a pathway toward monolingual Spanish education, ultimately allowing them to abandon their indigenous languages in favor of Spanish – what they contend to be assimilation through language. Martínez Casas (2011) calls this an example of “subtractive bilingualism” where bilingualism is only a temporary stage

between monolingualism in an indigenous language and Spanish. Although Hernández Rosete and Maya (2016) acknowledge evidence to support a relationship between linguistic discrimination and poor educational outcomes in Mexico is still limited, they show that linguistic discrimination can be a factor in early school dropout. Although it is not uncommon for Mexican, and especially indigenous, youth to leave school by the end of 9<sup>th</sup> grade (around age 15) and enter the workforce full time, the overall lack of support for indigenous youth in the schooling system is concerning. In this research, I expect educational attainment and language ability to be a key predictor of expected earnings. Dropping out of school early, whether because of discrimination or an overall lack of support at school, limits the earnings potential of indigenous people and leaves low-wage, low-skilled jobs the only options.

Vargas Becerra and Flores Dávila (2002) provide some concrete numbers on perceived discrimination in schools. Relatively few indigenous people in Mexico City surveyed said they experienced problems in school because they were indigenous – only 5.8%. However, this figure differs based on the indigenous group. For example, nearly 15% of Triquis (among the poorest indigenous groups in Mexico City) surveyed said they had problems in school because of their indigeneity, while just 0.3% of Zapotecos (among the wealthiest) said the same. These relative differences in SES may have an impact on the levels of discrimination each group faces.

Martínez Casas et al. (2014) show that the proportion of Mexicans speaking an indigenous language has generally decreased over the past century – from over 15% in the 1930 census to about 6.6% today. Maintaining indigenous language usage, however, is generally well-supported among the Mexican population. While nearly 80% of respondents in a 2010 PERLA (Project on Ethnicity in Race in Latin America) survey support the teaching of indigenous languages to all children, this is strongly stratified by ethnicity and educational attainment – less

educated and indigenous respondents were much more likely to support indigenous language instruction than those who were highly educated, *mestizo*, and white (Martínez Casas et al. 2014).

Although the challenges facing the indigenous population are numerous, ranging from the difficulty of maintaining their cultural practices to discrimination to poor economic situations, not every indigenous person faces these same problems in the same manner. Gender is an important dimension to recognize when discussing the indigenous population. Gender differences in the labor market (and society more generally) are common for indigenous and non-indigenous women alike. However, there is an intersectionality between indigeneity and gender that compounds the challenges faced either by women or indigenous people alone. Indigenous women frequently face problems that men do not, especially relating to negative discourses and stereotypes. For example, Martínez Nova's (2003) research on female indigenous street vendors in Tijuana highlights the connections between gender and indigeneity, while providing further evidence of the negative discourses surrounding Mexico's indigenous population. The women Martínez Nova describes are generally from Mixteca communities from Oaxaca and speak only some Spanish. Often called "marías", Martínez Nova argues indigenous women in Tijuana have been made anonymous by discourses that negatively stereotype them as criminals, outsiders, and beggars, despite these women's varied educational and labor market experiences. These women are also portrayed as bad mothers for allegedly exploiting their children for financial gain by using them to gain sympathy, especially from American tourists. Martínez Nova (2003: 264) argues that deviating from mestizo gender norms of what a good mother and woman should be leads to indigenous women being stereotyped as "undeserving poor".

When asked to choose responses from a series of statements that explain the poverty of the indigenous population in Mexico, Martínez Casas et al. (2014) show that 40% of those surveyed chose adherence to indigenous culture and refusal to change, while 35% chose not speaking Spanish as a reason for indigenous peoples' poverty. A smaller proportion (20% and 15%, respectively) said indigenous people don't work hard enough or are less intelligent (Martínez Casas et al. 2014). Not every explanation for indigenous poverty involves cultural or personal deficiency (over 60% identified unfair treatment and 35% identified inadequate schools), but personal and cultural explanations of poverty remain very common throughout Mexico.

Despite these discourses, support for multicultural policies is relatively high in Mexico. For example, over 90% support affirmative action policies for the indigenous population and nearly 90% are in favor of anti-discrimination laws (Martínez Casas et al. 2014).

Discrimination against indigenous Mexicans is perceived to be based more on their low economic status and less on their skin color and use of an indigenous language (Martínez Casas et al. 2014). This finding is supported by Vargas Becerra and Flores Dávila (2002) who found that members of relatively poorer indigenous groups living in Mexico City (e.g. Mazahua, Otomi, and Triqui) perceived discrimination much more strongly than somewhat wealthier indigenous groups, like the Zapotecos or Mayans. Overall, however, perceived discrimination, regardless of indigenous group, decreases in the second and third generations living in Mexico City – by the third generation “high” and “very high” perceived discrimination is virtually non-existent (Vargas Becerra and Flores Dávila 2002). This suggests that indigenous migrants do gradually incorporate into the predominant *mestizo* Mexican society, albeit through a process of what Alba (2005) calls “boundary blurring”. In other words, by the second and third generations

of indigenous people in Mexico City, the boundary between indigenous and *mestizo* becomes increasingly ambiguous and these people may be viewed by others as members of both groups, rather than as solely indigenous. Alba (2005) argues that boundary blurring may help to ease the adaptation process by allowing for simultaneous ethnic identities.

In the long term, while discrimination may lessen for Mexico City's indigenous population, it remains a serious problem for first generation indigenous migrants, but more so for women. More indigenous women (48.4%) than men (41.3%) in Mexico City perceive higher levels of discrimination (Vargas Becerra and Flores Dávila 2002). This is related to lower rates of Spanish proficiency in women, lower educational attainment, and employment in precarious and low-wage sectors, all of which are compounded by them being women (Vargas Becerra and Flores Dávila 2002).

Villarreal's (2010; 2014) research highlights the relationships between skin color, ethnicity, and inequality in contemporary Mexico. In studies of stratification between indigenous and non-indigenous Mexicans, the focus generally lies on culture and language use. Villarreal (2010) argues in favor of studying indigenous – non-indigenous disparities with a focus on skin color. Using skin color and socioeconomic data from the Mexico 2006 Panel Study, Villarreal (2010) finds evidence of significant socioeconomic disparities by skin color – those with darker skin color are much more likely to be impoverished, have low educational attainment, and low occupational status. Villarreal's discussion of the relationship between skin color and inequality is useful for this study even though the census data being used do not include information on skin color. In this study, indigenous language use may serve as a proxy for the racialized traits, like skin color, that people use to discriminate against indigenous Mexicans. Similar to those

with darker skin color, those who speak an indigenous language may also be expected to more likely be impoverished and have low educational attainment and occupational status.

While Flores and Telles (2012) appreciate the attention Villarreal (2010) gives to the relationship between skin color and socioeconomic stratification in Mexico, they aim to improve on his analysis by utilizing what they consider to be an improved measure of skin color.

Princeton's Project on Ethnicity and Race in Latin America (PERLA) created a scale of eleven skin tones, which is designed to be matched with survey respondents' skin color, while they argue the skin color measure used by Villarreal is less nuanced because it only utilized four different color options (white, light brown, dark brown, and other) (Flores and Telles 2012).

While the findings of Flores and Telles (2012) generally correspond with those of Villarreal (2010), they show the strong influence of skin color and class on educational attainment where occupational status is most strongly dictated by parental occupation status and class. Based on this finding, Flores and Telles (2012) argue socioeconomic stratification by skin color has already been determined by educational attainment and parental background before people even enter into the labor force. This finding has significant implications for the potential labor market outcomes of indigenous people. Indigenous self-identity or indigenous language use should not have a relationship with poorer labor market outcomes as those outcomes should be dictated primarily by parental background which in turn influences educational attainment and ultimately the occupations in which these people are employed.

Interestingly, Flores and Telles (2012) find no relationship between indigeneity (whether defined through self-identification or language use) and socioeconomic status after controlling for skin color, indigenous self-identity, gender, age, and educational attainment. Rather, the socioeconomic disadvantage facing the indigenous population is fully explained by three factors:

(1) living in predominantly rural communities, (2) the social class one is born into, and (3) the high levels of discrimination facing those with darker skin tones. The Census only allows for cultural and language-based definitions of indigeneity, so it is not possible to capture rural origin, parental background, and discrimination in this study as Flores and Telles (2012) have. However, their finding of no relationship between indigeneity and socioeconomic status is relevant for understanding labor market outcomes. If there is no relationship between indigeneity and socioeconomic status, it would be expected that there would also be no relationship between indigeneity and labor market outcomes, like wages.

### **The Challenges of Measuring Race and Ethnicity in Mexico:**

Measuring race and ethnicity in a census is a difficult task. Since there are many ways to measure something as multidimensional as race, the wording of questions, the racial and ethnic categories used, and the respondent themselves all serve to influence the ethnoracial data gathered through a census (Telles 2014). For example, the 2010 Mexican census asks, “according to the culture of (person), does he or she consider themselves to be indigenous?”. This phrasing differs considerably from the 2000 census which asks, “Is (person) Nahuatl, Maya, Zapoteco, Mixteco, or of another indigenous group?”. Changes in the wording appears to have led to a larger proportion of the Mexican population identifying as indigenous as the 2010 wording allows for broader interpretations of “culture” and “indigenous” while also not mentioning specific groups in the question. While 6.2% identified as indigenous in the 2000 census, 14.8% did so in 2010, even though the percentage who could speak an indigenous language actually decreased very slightly between 2000 and 2010 (from about 7% to 6.6%) 6.6% said they could speak an indigenous language (Martínez Casas et al. 2014).

Untangling the connections between indigeneity, skin color, discrimination, and socioeconomic status is challenging. Villarreal (2014) notes the challenge in comparing socioeconomic outcomes between ethnic groups owing to the fluidity of ethnic categories and self-identification. In terms of indigenous identity, Villarreal argues people with higher educational attainment are expected to be more likely to identify as indigenous as they are more aware of and responsive to the state's championing of multiculturalism – this may also lead to passing on an appreciation of indigenous identity to their children.

Martínez Casas et al. (2014) find that the likelihood of identifying as an indigenous Mexican decreases when migrants move to larger cities and urban areas. Indeed, community size is one important factor, along with having parents that speak an indigenous language, in determining the likelihood of self-identifying as indigenous. Thirty-eight percent of those surveyed whose parents speak an indigenous language and who live in a relatively smaller community (<2500 residents) identify as indigenous, compared to 22% of those who lived in a large metropolitan area and had indigenous language speaking parents (Martínez Casas et al. 2014). However, while rural to urban migration can lead to a lower likelihood of identifying as indigenous, these migration flows to urban areas can also “reenergize” some indigenous people's attachment to their ethnicity and culture, particularly for those who are pursuing higher education and may be inspired to pursue an activist role for indigenous concerns (Martínez Casas et al. 2014: 47).

Culture itself is difficult to define and everybody understands their own identity differently. This will influence the way respondents answer the question. Indeed, Knight (1990) argues that indigeneity is socially defined and highly subjective. In any case, Bonfil Batalla (1996: 20) argues that all forms of data collection on Mexico's indigenous population constitutes

a form of “statistical ethnocide” where inadequate and flawed data collection results in a significant undercount of the indigenous population. For example, because of the stigma associated with speaking an indigenous language, those people may be unwilling to acknowledge their true language use.

In addition, language use, despite being the common measure of indigeneity in Mexico, is not synonymous with the total indigenous population. Rather, Bonfil Batalla (1996) suggests that other social and cultural markers are the most appropriate measures of indigeneity. It is possible to maintain a way of life consistent with indigenous customs and heritage while having lost one’s sense of indigenous identity (Bonfil Batalla 1996). That type of person would not be captured in a census for example, but can be argued to be indigenous.

Indeed, Telles (2014) argues that an individual’s ethnic self-identification is fluid and changeable over time. For example, some indigenous people may want to free themselves from the stigma of being indigenous and instead choose not to identify as indigenous in the census. This fluidity means the true size of the indigenous population and its deprivation and disadvantage is not fully reflected in existing census data (Telles 2014). Villarreal (2014) argues that crossing between ethnic boundaries depends on the ways those boundaries are defined. While language use can be considered a possibly clearer or more tangible marker of indigeneity, compared to self-identification for example, the high likelihood that an indigenous person is bilingual in Spanish and an indigenous language means many people straddle the boundary between being indigenous and *mestizo* (Villarreal 2014). Furthermore, language use in surveys is often gathered as a binary or, at best, as a categorical variable. In reality, the ability to speak a language lies on a wide-ranging spectrum and proficiency can be defined in a variety of ways. Nonetheless, language use can be a useful indicator of indigeneity since it can reflect a

population that is least assimilated into mainstream Mexican society if an indigenous language is their first language.

However, for the purposes of this study, the ways people choose or choose not to identify as indigenous are less important in understanding labor market outcomes than how others perceive them. These sometimes incorrect perceptions are more likely to be the source of difficult labor market incorporation.

### **Sending Conditions in Oaxaca:**

To explain the challenges facing indigenous Mexicans, I will focus my discussion on the literature about the southern Mexican state of Oaxaca, where much of the indigenous population is located. Of the 31 Mexican states, Oaxaca has both the largest proportion and largest number of people who speak an indigenous language (~1.1 million speakers making up over 34% of the state's population) (INEGI 2016). With there being about 6.7 million indigenous language speakers in Mexico, more than 16% of the country's indigenous language speakers live in Oaxaca, though Oaxacans only make up about 3.3% of the total Mexican population (INEGI 2016). More specific to this research, Oaxaca is one of the four largest sending states of indigenous migrants to Mexico City, in addition to Veracruz, Puebla, and Hidalgo (Granados Alcantar 2005).

It is important to note the high levels of heterogeneity of the indigenous population within Oaxaca and all of Mexico more generally. Although Mexico's indigenous population is usually treated as a homogenous block of people, it is most accurate to describe them as a pan-ethnic group (Martínez Casas et al. 2014). Oaxaca is home to sixteen distinct, state-recognized indigenous groups with Zapotecs and Mixtecs being the largest in the state (Kearney 2000). Each

group has its own distinct language and cultural beliefs, so it is important to distinguish between different groups when possible because they do have unique experiences. While this research generalizes the experiences of the indigenous population, it is not done so out of ignorance of their diversity, but rather the inability to effectively and properly distinguish between them.

Oaxaca performs worse than the nationwide average on all indicators of poverty. For example, illiteracy (21.5% of adult Oaxacans and 9.5% of Mexicans), population without a primary education (45.5% of adult Oaxacans and 28.5% of Mexicans), and households without electricity (12.5% in Oaxaca and 4.8% in Mexico) (Alvarado Juárez 2008). The Consejo Nacional de Población (CONAPO) (English: National Population Council) has a municipal index of marginalization, which takes into account housing characteristics and income (Alvarado Juárez 2008). According to this index, 80% of Oaxaca's 570 municipalities had "high" or "very high" levels of marginalization – only 1.6% of municipalities had "very low" levels of marginalization (Alvarado Juárez 2008).

Howell's (1999) research focuses on the changing role of women in Oaxaca through higher education. Especially common in rural, as opposed to urban, Mexico, the stereotype of an ideal woman is that of a mother and wife. This view of a woman's role often prevents them pursuing higher education and a productive career outside of the home. Howell (1999) cites United Nations reports that argue formal education is the most important element in changing women's societal standing for the better. Generally, in Latin America, women complete elementary and middle school at the same or higher rates than men – after this point female educational attainment drops off as they begin to marry, have children, and dedicate themselves to domestic work (Howell 1999). One of the largest factors influencing women's educational attainment in rural Oaxaca is family support – families that actively encourage their daughters to

pursue higher education and a professional career provide the necessary support to make that happen (Howell 1999). While rural Oaxacan women continue to have lower educational attainment and levels of labor force participation than men, viewpoints are gradually changing and it is becoming more acceptable for women to go to college, have careers outside the home, and to delay marriage and parenthood.

### **Internal Migration in Mexico:**

Oaxaca is among the largest exporters of labor in Mexico. In the period between 2005 and 2010, there was a net loss of 20,000 people -- 84,000 people migrated to Oaxaca and 103,000 emigrated from Oaxaca during that period (Sobrinho 2013). Lacking much opportunity in their home communities, migration is one of the few options the indigenous population has to support themselves and their families. In these rural parts of the country, migration is seen as a way to diversify risks that are inherent to communities dependent on agriculture (Massey et al. 1993). Cohen (2004) argues Oaxacans have cultivated a “culture of migration”. For Oaxacans, migration has become so ubiquitous as to be a normal part of daily life. Migration in these communities is accepted as one of the best paths to cope with economic changes and instability. The volatile nature of the local economy leads households to use migration as an “insurance policy” against local economic downturns. For much of the 20<sup>th</sup> century and continuing through today, Oaxacans have depended on internal and international migration as a means toward financial well-being (Cohen 2004). Since at least the mid 20<sup>th</sup> century, Mexico City has been one of the primary destinations for indigenous migrants. Initially, Mexico City was generally the only destination considered by potential emigrants from indigenous communities. From 1965 to 1970, the peak period of this migration flow, 40% of all internal migration flows were toward

Mexico City (Granados Alcantar 2005). Large-scale Mixtec migration to Mexico City began in the 1940s as the government began significant investment in industry. The construction boom that accompanied these investments attracted male Mixtec migrants to the city, who most often found work in building and construction (O'Connor 2016). Starting in the 1970s, internal flows for the indigenous population diversified with there being three predominant destinations, depending on the line of work migrants were seeking out (Granados Alcantar 2005). Mixtecs, for example, began finding work in northwest Mexico in agricultural communities closer to the US border (O'Connor 2016). Mexico City remains a common destination and migrants today often find work in the informal sector, particularly in the service sector where approximately three-quarters of all internal migrants to Mexico City end up (Granados Alcantar 2005). For men, this is a shift from the mid-20<sup>th</sup> century when most male migrants to the city found work in the construction industry. Today, migrants in search of construction work move to urban areas of states in Mexico's Southeast, like Yucatán and Quintana Roo to help support the robust tourism industry in places like Cancún (Granados Alcantar 2005). The clear majority make relatively short distance migrations – most of the indigenous migrants taking part in these flows move from rural areas of Yucatán and Quintana Roo to urban areas.

The third significant internal migration flow for indigenous people involves movement to states in the Northwest, like Sinaloa, Sonora, and Baja California, where there is high demand for agricultural labor (Granados Alcantar 2005). Mixtecs first migrated to states in northwest Mexico as part of a large recruitment drive to find seasonal labor for farms in states along the US-Mexico border, including Baja California and Sonora (Martínez Nova 2003). These (generally male) laborers are hired for long-term work where they plant, tend to, and harvest the

crops, although increasingly, this is becoming less of a male-dominated migration flow, as entire families are now choosing to move to the northwest.

While indigenous men have migrated to this part of Mexico to work in the construction and agriculture industries, women and children often find themselves in the informal economy in border cities as street vendors for example (Martínez Nova 2003). Despite the instability of the informal sector, indigenous women often have no other choice as they are also expected to care for the home and family. Employment in the informal sector provides more flexibility for women to take care of these other responsibilities (Martínez Nova 2003). Along with the growth of the export-oriented agricultural industry in the region, the number of indigenous people migrating to the northwest from states like Oaxaca and Guerrero has increased considerably since the 1980s.

Although these internal migration flows continue today, starting around the 1980s, many Oaxacans began to migrate to the United States, generally to work as farm laborers along the West Coast. On average, about 40% of households in the Central Valley of Oaxaca have at least one member who has left Mexico for the United States – in some communities that figure is 60% (Cohen 2004).

### **Settlement of Indigenous People in the Mexico City Metropolitan Area:**

After setting the context of Oaxacan sending communities, the focus shifts to understanding the Mexico City metropolitan area as a destination community. A significant portion of the research on the adaptation of indigenous migrants in the Mexico City area revolves primarily around the social aspects of adaptation, specifically the role of social networks and hometown associations in helping facilitate the incorporation process for newly arrived migrants. While this study focuses on the economic aspects of adaptation (i.e. labor market outcomes), an

understanding of social processes helps to further contextualize these outcomes. For example, social networks and hometown associations help migrants find employment in the city when they first arrive. As many indigenous migrants tend to have lower levels of educational attainment, the most common job opportunities provided through their social networks are likely to be in low-skilled and blue-collar sectors. For migrants with higher levels of education (i.e. secondary or college) or with higher skill levels, these social networks may provide fewer job opportunities that match their educational or skill levels, thus making finding an appropriate job more difficult.

Upon arrival in Mexico City, indigenous migrants tend to initially settle in small ethnic enclaves, along with other migrants of a common origin, as they work to take advantage of their social networks in order to facilitate their incorporation into the urban housing and labor markets. Depending upon the socioeconomic conditions at the time of arrival, migrants may choose to settle in the core of the city or in the periphery. Ultimately, the decision to settle in the core or the periphery rests in how migrants can best take advantage of their social networks to facilitate their incorporation into the city.

Hirabayashi's (1993) research on Zapotec migrant associations in Mexico City yields some insight on one possible reason for choosing to initially settle with other migrants from the same origin. For these migrants, their hometown is an important piece of their identity. Indigenous people do not necessarily identify themselves as being part of a specific ethnic group (e.g. Zapotec or Mixtec). Rather, they tend to most closely identify with the village they come from. Even among the Zapotec people, for example, there are a set of distinct subgroups that speak mutually unintelligible forms of the Zapotec language (Hirabayashi 1993). This, in part, prevents the creation of a more unified ethnic identity. Indigenous identity is thus more closely formed around their immediate communities with which they share more commonalities.

These associations of migrants from the same sending communities build upon pre-existing social networks to help new migrants adjust to life in the city. Through providing tangible resources, like employment and housing opportunities in areas where previous migrants had successful adaptation experiences, and nontangible resources, like emotional and moral support, these associations serve as an important stepping stone on the path toward full adaptation to the city (Hirabayashi 1993). Those migrants who have the most need for these resources may choose to initially settle in close proximity to migrants from the same sending communities in order to capitalize on the support provided by these hometown associations. Hirabayashi (1993) focuses his research on indigenous migrant associations in Mexico City around the concept of *paisanaje* – the solidarity that exists between migrants from the same origin community. Indeed, among indigenous Mexicans, their primary loyalty is to their home community (Knight 1990). Hirabayashi argues these norms of social support, solidarity, and mutual aid among the indigenous community are a special form of cultural capital. Similar in concept to human capital (e.g. education, skills, training) and social capital (e.g. social networks) as they relate to social mobility, cultural capital refers to Indigenous migrants utilize those cultural beliefs and customs in order to deal with and adapt to the challenges of living in a new urban environment. In this way, their cultural capital is a more specific form of social capital as it is still reliant on possessing and maintaining strong social networks with members of their sending communities.

Migrant associations play four important roles (Hirabayashi 1993). First, these associations help migrants adjust to life in the city and “bridge the gap” between their rural origin community and urban destination. Second, migrant associations provide an enclave of comfort and safety within familiar linguistic and cultural surroundings. Third, associations allow

migrants to apply their indigenous cultural practices to an urban environment. Finally, they provide members a mechanism to regulate themselves within their community and resolve disputes according to their cultural understandings of the law.

Based on those roles of the migrant associations, we can consider two opposing perspectives. On one side, these hometown associations can help migrants adjust to life in a new environment by easing their transition. On the other side, these associations can isolate recent migrants in enclaves since new arrivals may want to live in close proximity to the association and other members in order to maximize the benefits and assistance they can receive. This isolation can prevent or slow their adaptation to their destination community. Kemper (1977) argues, however, that indigenous migrants do eventually meet other non-indigenous residents of the city and begin to grow their social networks beyond people from their sending communities. Note that in Kemper's study of Purépecha migrants from Tzintzuntzan in the state of Michoacán living in Mexico City, there was no hometown association to unite this group together. While there did exist ties of *paisanaje* in this community, they were perhaps not as strong as they would be with a formal association. Kemper argues that these relatively weak social ties within the migrant community may have contributed to the broadening of their social networks out of necessity. Kemper interviewed several Tzintzuntzan migrants that believed their social status could only be improved by engaging with people outside of their migrant group.

Why then do some indigenous communities form hometown associations and others do not? Early research on these associations suggest some possible reasons. Orellana (1973) suggests the struggle for indigenous rights and recognition in urban areas forces informal networks of solidarity and mutual aid to organize themselves into formal hometown associations. This politicization of indigenous social networks is seen as the most important cause for the

creation of these associations (Hirabayashi 1986). Beyond that, Orellana's research on a Mixtec population in Mexico City shows the sustainment of migrant associations depends primarily on the formation of strong ties to the sending community and not necessarily on clustering and isolation in the destination community.

Gissi's (2012) research on Mixtec migrants in the Mexico City metropolitan area helps to explain the social insertion of this group into an urban area while maintaining their ethnic and cultural identities. Gissi (2012) hypothesizes that Mixtec families in Mexico City do develop adaptation strategies, such as the cultivation of reciprocal social networks, and take advantage of hometown associations to facilitate their integration into urban life. However, he also argues these social ties weaken over time, particularly as later generations broaden their social networks outside of their immediate surroundings. While the second generation in Mexico City maintains some link to their ethnicities, hometown associations, and their families' villages in Oaxaca, their identities are increasingly influenced by the broader metropolitan area as they achieve higher education and find employment in different fields than their parents. Gissi (2012) questions whether the third generation of Mixtecos in Mexico City will exhibit any solidarity or connection with their ethnic heritage as they become increasingly impersonalized and integrated into the mainstream.

Not only does time weaken indigenous identification in migrants, but geography does as well. Audefroy (2005) shows indigenous groups' community identification in Mexico City may be destroyed by geographic dispersion around the metropolitan area. While many indigenous Oaxacan migrants do initially settle in tight-knit ethnic enclaves around the city, depending on the strength of their social networks, others may find themselves isolated from other migrants of the same origin or ethnic group. Coming from relatively small rural villages, migrants cite

distance as a primary reason they cannot maintain the same levels of social cohesion and interaction as they could in their home villages in Oaxaca (Audefroy 2005).

Rea Ángeles (2011) shows evidence of the role of higher education in helping Zapotec migrants to Mexico City better integrate into an urban community. For decades Zapotecs have migrated to Mexico City to pursue higher education. This has the side effect of creating Zapotec communities highly segregated and hierarchized based on educational attainment and leading to highly educated Zapotecs possibly abandoning or transforming their ethnic identification in order to better fit in to the receiving community in Mexico City (Rea Ángeles 2011). However, Rea Ángeles (2011) argues this abandonment of identity is not inevitable. Rather, many young Zapotec migrants do maintain strong connections and frequent interaction with their families and origin communities even if they are spatially distant from one another.

Rea Ángeles (2011) also discusses the role of gender identities in conjunction with ethnic identities for the Zapotec migrant population. In traditional Zapotec communities, a woman's success in life is determined by being a good mother and wife and part of a prosperous family, not by being highly educated or in a skilled, professional occupation (Rea Ángeles 2011). Young Zapotec women who are already questioning these traditional gender roles are more likely to migrate to Mexico City to pursue higher education. Once in Mexico City, they try to move away and redefine these identities to better integrate themselves into a non-indigenous community (Rea Ángeles 2011).

### **Labor Market Outcomes of Mexican Internal Migrants:**

To better situate the labor market outcomes of indigenous Mexican migrants, it is necessary to first discuss the labor market outcomes of internal Mexican migrants more

generally. Villarreal (2016: 865) describes the “education-occupation mismatch” of Mexican internal migrants. He argues that people who are overeducated than others in the same line of work are more likely to migrate elsewhere to find jobs that match their higher levels of educational attainment. Thus, internal migrants are expected to have higher levels of educational attainment. Villarreal’s (2016) findings do show that, when controlling for occupation, internal migrants have higher levels of educational attainment than non-migrants prior to migration, but similar levels post-migration. In other words, internal migrants generally have higher schooling levels than the people they left behind in the origin, but similar schooling levels to those in the destination. This suggests that internal migrants in Mexico may be expected to incorporate well into the labor market of the destination.

Prior studies similar to Villarreal’s (2016) are mixed with regard to the educational selectivity of internal migrants. Davis et al. (2002) find, for example, that internal migrants to non-agricultural destinations (e.g. urban areas) do have higher levels of education than comparable non-migrants. The opposite is true for those migration internally to agricultural destinations – they tend to have lower levels of education and are more likely to be indigenous. Stark and Taylor (1991) argue that higher educated people are more likely to migrate internally because the returns to education are higher in the most common destinations for internal migrants (i.e. urban areas). In other words, people with higher levels of educational attainment have the most to gain from migration.

In addition to the selectivity of internal migrants in Mexico, it is also important to note their economic performance once in the destination. Izazola (2004) discusses the economic performance of internal migrants in the Mexico City metropolitan area using data from the 2000 census. Overall, migrants (both men and women) participate in the labor force at higher rates

than non-migrants. This may be expected because one of the primary goals of this migration flow is to find employment. In terms of occupational insertion, migrant men most often find work in the industrial sector, followed by the service sector, where non-migrant men more often find work in the service sector. Migrant women generally work in the service sector, similar to non-migrant women. In terms of wages, migrant men in Mexico City outperformed non-migrants. On average, migrant men earned 4.05 times the minimum wage, while non-migrants earned 3.86 times the minimum wage (Izazola 2004). Women migrants, on the other hand, perform worse (earning, on average, 2.18 times the minimum wage) than non-migrant women (2.77 times the minimum wage) (Izazola 2004). However, using another measure of income – the proportion of people earning less than twice the minimum wage – both male and female migrants perform worse than non-migrants. For men, 53.8% of migrants and 47.9% of non-migrants earned less than twice the minimum wage; for women, it was 78.4% of migrants and 57.8% of non-migrants (Izazola 2004). For migrant men, there are modest wage differences with non-migrant men in Mexico City. This suggests that they are incorporating into the labor market reasonably well as their economic performance is roughly on par with that of non-migrant men. Migrant women appear to be struggling more to successfully incorporate themselves although their occupational insertion is similar to that of non-migrant women.

### **Labor Market Outcomes Among Latin America's Indigenous Populations:**

Focusing first on labor market conditions in rural indigenous communities in Mexico, the 1997 National Survey of Employment in Indigenous Areas (Spanish: Encuesta Nacional de Empleo en Zonas Indígenas (ENEZI)) provided insight into the economic situation in sending communities. The survey was carried out in ten regions with high concentrations of indigenous

language speakers, including the Mixteca region in Oaxaca (Jiménez Medina 2002). The labor force in these regions is composed of about two-thirds men and one-third women (Jiménez Medina 2002). At the time of the survey, the labor force participation rate for indigenous men (86.8%) in these regions exceeded the national rate for men (78.3%) (Pedrero Nieto 2002). Indigenous women participate in the labor force at far lower rates than men (37.7%), but this is still slightly higher than the national rate for women (37.6%) (Pedrero Nieto 2002). The vast majority of the working population in these areas is employed in the agricultural sector (67% of all workers and 75% of all male workers) (Jiménez Medina 2002). While less than half of all employed women (47%) work in the agricultural sector, the remaining 53% are spread throughout a number of other occupations, the largest being retail (11%) (Jiménez Medina 2002).

A few studies have examined the labor market outcomes of indigenous populations in urban Latin America, including in Bolivia (Chiswick, Patrinos, and Hurst 2000), Peru (Ñopo, Saavedra, and Torero 2007), and Mexico (Ramirez 2006). Chiswick et al. (2000) note, however, the limited amount of research on the labor force participation and earnings profiles of indigenous groups, especially in Latin America.

A notable early study is Kelley's (1988) analysis of the "costs of being Indian" in Bolivia. Kelley concluded that inequality between indigenous and non-indigenous Bolivians was almost entirely a result of class and not ethnicity. Upward mobility among indigenous communities was mostly non-existent. That is, indigenous people born to parents with low educational attainment and low-paying jobs tended to also have fewer years of schooling and low earnings. On the other hand, indigenous children born to parents with more schooling and higher wages tended to be better off. In Kelley's view, assuming a world where indigenous and non-indigenous people had similar levels of human capital (i.e. education and skills) and similar

family backgrounds, there would be no economic inequality between the two groups. Kelley relied on data from a 1966 survey which, at the time of publication, was considered to be the best survey of Bolivia's indigenous population.

In contrast with other studies which define indigeneity through language use or self-identification, Ñopo et al. (2007: 712) create a scoring system which "captures the intensity of an individual's observable characteristics of whiteness and indigenusness". In their study of the impact of ethnicity on labor market outcomes in urban Peru, Ñopo et al. find evidence of wage discrimination against indigenous people only among those in wage labor and not among the self-employed population. Ñopo et al. suggest two possible explanations for this finding: (1) the inclusion of a third party (the employer) makes discrimination more likely or (2) there is a process of self-selection where those who are less willing to withstand wage discrimination choose to be self-employed, while those who are more willing to deal with discrimination remain in wage labor.

Chiswick et al.'s (2000) study of the relationship between indigenous language skills and labor market outcomes (i.e. labor force participation and earnings profiles) in Bolivia corresponds closely with the goals of this research. Educational attainment, labor market experience, migration status, and language skills were all found to have a significant influence on the labor market outcomes of indigenous Bolivians.

As would be expected, Chiswick et al. concluded that higher levels of education and more labor market experience translate into higher wages for indigenous men and women. Both groups can expect their wages to increase by about 6.5% with each additional year of schooling. Non-recent indigenous migrants from rural to urban areas (those who migrated >5 years prior) had about 10% higher wages than indigenous Bolivians native to urban areas, suggesting a

positive adaptation experience among rural-urban migrants. Recent migrants do not show evidence of this wage advantage. Once rural migrants have adapted to and familiarized themselves with the urban labor market, it appears their earnings profiles become more favorable.

Language skills were also found to have a significant relationship with earnings. Monolingual Spanish-speaking men earn about 23% more than bilingual (Spanish and indigenous language) men. Because so few men are monolingual in an indigenous language, Chiswick et al. did not find a significant difference in earnings between bilingual and monolingual indigenous-language speaking men. The population of women who are monolingual in an indigenous language is larger and there is a significant earnings disadvantage for this group relative to bilingual women and monolingual Spanish speakers. Monolingual Spanish-speaking women earn 28% more than bilingual women, who in turn earn 25% more than monolingual indigenous language-speaking women. Chiswick et al. argue this disadvantage among the bilingual indigenous population is due in part to them being less proficient in Spanish in urban areas where significant value is placed on Spanish proficiency.

Ramirez (2006) provides an overview of the economic situation of Mexico's indigenous population. Most relevant to this study is his discussion of the determinants of indigenous people's earnings. Nationwide, indigenous people participate in the labor force at a similar, albeit lower, rate (68%) than non-indigenous people (74%). For analytical purposes, Ramirez considers all speakers of an indigenous language and all members of a household where the head or their spouse speaks an indigenous language to be indigenous. Furthermore, municipalities with a population less than 30% indigenous are considered "non-indigenous" and municipalities greater than 30% indigenous are "indigenous". Across all occupational categories, workers in

indigenous communities are paid less than their counterparts in non-indigenous communities. Generally, the larger the proportion of indigenous people in a municipality, the lower the average income.

Ramirez (2006: 166) uses data from the National Income and Consumption Survey and a decomposition technique to estimate the proportion of the earnings differential between indigenous and non-indigenous communities that can be attributed to “income generating personal characteristics”, like human capital (e.g. work experience and educational attainment), and how much of the differential can be attributed to other factors, like wage discrimination. Ramirez (2006) estimates that approximately 60% of the earnings differential between is caused by differences in human capital. Although there exists a significant gap in the educational attainment of indigenous and non-indigenous Mexicans, this gap has narrowed over time (Ramirez 2006). The gender gap in educational attainment has almost closed among the indigenous population and all but disappeared in the non-indigenous population (Ramirez 2006). That leaves about 40% of the differential which can be attributed to other factors – Ramirez suggests some possibilities for this remaining differential, including differences in the quality of education and job training between indigenous and non-indigenous communities, but he argues that wage discrimination is the most likely cause of much of the remaining differential. If wage discrimination is a large contributor to the earnings differential between indigenous and non-indigenous people, I would expect to find in this study that, educational attainment and occupational category being equal, indigenous people should earn less money than non-indigenous people.

Vargas Becerra and Flores Dávila (2002) provide insight into wage discrimination in the Mexico City metropolitan area. In surveying the city’s indigenous population, they find

approximately one in five surveyed believed they had been paid less than a non-indigenous person for the same work. This perceived discrimination differs widely between groups: over one in three Triqui respondents believed they had been discriminated against in this way, while less than one in ten Zapotecos said the same (Vargas Becerra and Flores Dávila 2002). In examining labor market outcomes, including the expected wages of the Oaxacan indigenous migrant population of Mexico City, this research will test whether these perceptions of wage discrimination are accurate and whether indigenous people are being paid less than non-indigenous people in similar occupational categories.

In Gissi's (2012) work with Mixtec migrants in Mexico City, he highlights a few factors that influence differential access to the labor market for this population. The first factor is educational attainment. Lower levels of schooling lead people to be employed in low-wage, low-skilled occupations. Less educated women may find employment as domestic workers, which can provide a consistent salary, but less job security. Second, length of time living in the city is a strong predictor of labor market outcomes. As mentioned previously, those who have resided in the city for a longer period of time have built stronger social networks to help with finding job opportunities. Long-time residents have also gained the skills, training, and specialization necessary to succeed in the economic sectors most common to the city. Lastly, a migrant's occupational status in their origin community pre-migration influences labor market outcomes post-migration. At first, urban migrants try to find jobs where they can apply skills and training from their previous job in the sending community. In this situation, starting conditions are important. Migrants who are completely new to the labor market may struggle to find gainful employment.

Martínez Casas (2011) argues that, despite the professionalization of a growing number of young indigenous people through higher education, indigenous people still struggle to enter into high-status occupations. Efforts to educate and train young indigenous people as cultural ambassadors stretch back to the 1950s, but have had limited success. The proportion of indigenous language speakers who have attended college is significantly smaller than the national average: just 2.3% compared to 18.9% for the national population (Martínez Casas 2011). Despite having graduated from college, indigenous people in professional occupations still say they are discriminated against in the labor market. Despite these efforts to help educate and train the young indigenous population, insertion into high skilled, white-collar occupations has proven difficult and they continue to struggle even when they find employment. According to the 2006 National Survey of Household Living Standards, indigenous professionals earn approximately one-third that of non-indigenous professionals (Martínez Casas 2011).

When discussing labor market performance for Mexicans more generally, it is also necessary to understand how returns to schooling and returns to occupation can be related to inequality. Lustig et al. (2013) note that income inequality, as measured by the Gini coefficient, has decreased in many Latin American countries since the early 2000s. In Mexico, the incomes of the bottom 10% of the population have grown about twice as fast as the top 10%, even during periods of overall low economic growth for Mexico. Part of the decrease in Mexico's inequality is related to a decrease in the "skill premium" (Lustig et al. 2013). That is, a decrease in the wage gap between workers with high educational attainment (tertiary and secondary) and workers with low educational attainment (less than primary). This change in the returns to schooling have been a contributor to decreased inequality. The decrease in the skill premium has occurred as the supply of skilled workers has increased while returns to schooling have decreased. Lustig et al.

(2013) points to the supply of skilled workers in Mexico exceeding demand, a shift toward a greater need for unskilled workers, or a combination of the two as a possible explanation for this shift in the skill premium.

Using these studies of labor market outcomes as a foundation, this study places more focus on migration as a factor for disparate labor market outcomes by drawing comparisons with other groups in both the origin and destination. This study also works with a more nuanced understanding of indigenous identity to untangle and clarify the connection between migration status, indigeneity, and labor market outcomes.

## CHAPTER III

### METHODS

#### **Data Source:**

This research utilizes census data gathered in 2010 by INEGI (English: *National Institute of Statistics and Geography*), the government institution responsible for administering the country's decennial census. The 2010 Mexican census consists of a "short form" (*cuestionario básico*) and a "long form" (*cuestionario ampliado*). This project uses microdata from the publically available *cuestionario ampliado*, which was administered to a nationally representative sample of 2.9 million households – approximately 11.9 million people – out of a total of 28.6 million (approximately 10% of households) (INEGI 2010). The sample design is a one stage stratified cluster sample by municipality – enumeration areas were selected by simple random sampling within each stratum (IPUMS 2017). Data are weighted according to the sampling weights provided by INEGI. The *cuestionario ampliado* provides significantly more information, compared to the *cuestionario básico* on the indigenous population and their socioeconomic outcomes in Mexico City, which is the primary goal of this research.

The *cuestionario ampliado* collects data on indigenous self-identification and indigenous language proficiency. With regard to self-identification, the questionnaire simply asks a main informant if each household member would consider themselves to be indigenous "according to their culture". In terms of language proficiency, the questionnaire asks the head of household (or

spouse or any habitual resident age 15 and over) if each person in the household three years and over speaks an indigenous language or dialect and, if so, which one and whether they also speak Spanish. The survey separately asks whether household members speak and understand any indigenous language. As a result, these data are reported by proxy and not necessarily self-reported.

For the purposes of this research, I label those who speak an indigenous language, whether or not they also speak Spanish, as being proficient in an indigenous language, and do not include those who only understand and do not speak an indigenous language. The ability to speak an indigenous language, and not the ability to understand an indigenous language, is the most commonly used measure for identifying indigenous people in Mexico (Villarreal 2014). Furthermore, the vast majority of Oaxacan indigenous migrants living in urban areas do speak some Spanish, so dividing the indigenous language speaker population into monolingual and bilingual may not yield results. The ability to speak an indigenous language, and not the ability to understand an indigenous language, is the most commonly used measure for identifying indigenous people in Mexico (Villarreal 2014).

For the purposes of this research, the Mexico City metropolitan area includes all sixteen municipalities of the former Distrito Federal (now known only as Ciudad de México), fifty-nine municipalities in the state of Mexico, and one municipality in Hidalgo (see Appendix A). This definition is consistent with INEGI's definition of the Zona Metropolitana del Valle de México (English: Metropolitan Area of the Valley of Mexico). Limiting this analysis to Mexico City itself would exclude a large number of indigenous people that live in the suburbs and on the periphery of the city. While migrants with a common origin do tend to live close to each other, these small ethnic enclaves end up scattered throughout the metropolitan area. For example, the

first generation of indigenous migrants (arriving in the 1940s and 1950s) initially settled in poorer areas in central Mexico City and later moved to the periphery (especially the northeast) as their social and economic status improved. The next generation of migrants (1960s and 1970s) moved directly to the periphery to live with friends and family members who had migrated earlier to the city. This later generation did not move to the city center because of high housing costs, smaller accommodations, and limited ability to access their social networks in the periphery (Kemper 1977). Depending on the economic and social contexts at the time of migration, migrants may decide to move to the core of the city or to the suburbs and periphery of the metropolitan area. For this reason, the focus of this research is on the entirety of the Mexico City metropolitan area rather than only the core part of the city.

**Analytical Approach:**

I use linear regression to model the age-earnings profiles for five subpopulations in Mexico City and four in Oaxaca, stratified by educational attainment and occupational status. (Table 1). Each subpopulation is also stratified by gender. Logistic regression is used to model the relationship between labor force participation/unemployment and educational attainment for the same subpopulations. Age-earnings profiles provide a visual comparison of wage growth and returns to schooling over the life course. With an age-earnings profile it is possible to visualize returns to schooling for each subpopulation in one figure, which allows for a clearer comparison of inequality and, indirectly, labor market discrimination against certain groups with the same levels of education.

The primary foci of this research are the four Oaxacan-born groups living in Mexico City. Their labor market outcomes and economic adaptation to the city are at the center of this

project. I have created a simple continuum of indigeneity based upon the self-identification and language use variables. Those who self-identify as indigenous and speak an indigenous language are considered have the strongest indigenous identity in terms of census measures. followed by those who speak an indigenous language, but do not self-identify as indigenous. I consider the ability to speak an indigenous language evidence of an individual's stronger attachment to their indigenous heritage. Maintenance and usage of an indigenous language are arguably more difficult than simply identifying as indigenous. Accordingly, the third category consists of those who self-identify as indigenous, but do not speak an indigenous language. The final group consists of those who do not self-identify as indigenous and do not speak an indigenous language.

The four Oaxacan-based populations are included as control groups to highlight the starting/sending conditions in Oaxaca. Had the Oaxacan-born groups in Mexico City not migrated and remained in Oaxaca, this is the best approximation of their expected wages and labor force participation levels. This helps put the process of migrant adaptation into perspective by offering a comparison by which these groups' labor market outcomes might be measured against. The expectation is that migration to Mexico City would lead to more favorable labor market outcomes for these migrant groups. The Mexico City natives group is included as a model of full assimilation. These non-indigenous, non-migrant, and monolingual Spanish speakers are assumed to be the end goal, so to speak, for the Oaxacan migrant groups, assuming full assimilation. In including all of these groups, it is possible to better disentangle the roles of indigeneity, language use, and migration in influencing labor market outcomes.

All models include age and age-squared as covariates. The age effects are allowed to vary by group in order to portray a more dynamic picture of the process. As this research focuses on

Population		n	Mean Years of Schooling	% Inactive	% Unemployed
<b>A. Mexico City Metro Area Residents</b>					
<b>Born in Oaxaca: Indigenous-identified + Indigenous Language Speakers</b>	Men	1,693	6.55	7.44	4.26
	Women	2,040	5.50	52.84	0.54
<b>Born in Oaxaca: Non-indigenous- identified, Indigenous language Speakers</b>	Men	323	7.10	7.12	2.79
	Women	331	5.53	49.84	1.81
<b>Born in Oaxaca: Indigenous-identified, Spanish-only speakers</b>	Men	652	8.13	11.04	3.99
	Women	885	7.11	52.49	0.79
<b>Born in Oaxaca: Non-Indigenous Spanish-only Speakers</b>	Men	3,995	8.78	4.21	11.51
	Women	4,877	7.52	56.08	0.78
<b>Born in Mexico City: Non-Indigenous + Spanish Speakers (Natives)</b>	Men	181,456	10.40	21.71	4.97
	Women	240,245	10.27	57.76	1.64
<b>B. State of Oaxaca Residents</b>					
<b>Indigenous-identified + Indigenous Language Speakers</b>	Men	180,727	5.72	25.43	3.70
	Women	211,980	4.78	79.59	0.30
<b>Indigenous Language Speakers Only</b>	Men	4,766	6.25	20.60	4.11
	Women	5,799	4.88	73.17	0.48
<b>Indigenous-identified Only</b>	Men	93,930	7.80	26.64	2.95
	Women	110,608	7.39	71.07	0.39
<b>Non-Indigenous Spanish-only Speakers</b>	Men	125,169	7.90	24.10	3.13
	Women	147,005	7.50	70.54	0.44

Table 1.1: Descriptive Statistics of Populations Studied

Population		n	% Low Skilled Blue Collar	% High Skilled Blue Collar	% Low Skilled White Collar	% High Skilled White Collar	Mean Monthly Wages
<b>A. Mexico City Metro Area Residents</b>							
<b>Born in Oaxaca: Indigenous-identified + Indigenous Language Speakers</b>	Men	1,693	31.48	25.87	27.19	3.25	4,099.77
	Women	2,040	29.85	2.35	12.65	1.18	1,720.35
<b>Born in Oaxaca: Non-indigenous-identified, Indigenous language Speakers</b>	Men	323	25.39	26.93	29.72	6.20	4,745.52
	Women	331	32.63	1.51	12.99	1.21	2,263.66
<b>Born in Oaxaca: Indigenous-identified, Spanish-only speakers</b>	Men	652	27.45	23.77	26.53	6.75	4,730.98
	Women	885	21.47	3.05	17.42	4.41	1,854.91
<b>Born in Oaxaca: Non-Indigenous Spanish-only Speakers</b>	Men	3,995	25.26	21.68	26.46	10.09	5,498.92
	Women	4,877	17.86	2.99	16.47	5.41	2,016.01
<b>Born in Mexico City: Non-Indigenous + Spanish Speakers (Natives)</b>	Men	181,456	20.88	19.06	19.57	12.91	5,397.67
	Women	240,245	8.87	3.41	17.31	10.36	2,376.95
<b>B. State of Oaxaca Residents</b>							
<b>Indigenous-identified + Indigenous Language Speakers</b>	Men	180,727	7.62	56.97	3.17	2.22	1,003.57
	Women	211,980	3.73	10.23	4.40	1.33	304.62
<b>Indigenous Language Speakers Only</b>	Men	4,766	11.88	51.55	5.64	5.27	2,109.15
	Women	5,799	5.10	11.28	7.40	2.12	603.85
<b>Indigenous-identified Only</b>	Men	93,930	13.59	44.59	6.84	4.67	1,957.86
	Women	110,608	5.96	7.55	10.75	3.88	761.58
<b>Non-Indigenous Spanish-only Speakers</b>	Men	125,169	14.48	42.89	8.25	6.13	2,516.12
	Women	147,005	5.71	6.31	11.66	4.88	985.50

Table 1.2: Descriptive Statistics of Populations Studied

labor market outcomes, analysis is limited to those in the working-age population, defined here as those ages 15 to 64. Many Mexican youth, especially those with lower socioeconomic status, leave school around age 15 (the 9<sup>th</sup> grade) and begin working. At the other end, while some indigenous people are employed in the informal sector and do not receive benefits that allow for retirement, such as retirement contributions or a pension for example, many others do retire in their mid-60s, which makes age 64 a reasonable cutoff point. A quadratic term is included in models because age is likely to have a non-linear relationship with wage. Instead of assuming that monthly wages will increase linearly with each additional year of life, models with a quadratic term will generally show a pattern of increasing wages until an inflection point (usually when people are in their 40s) and decreasing wages as people approach retirement age.

For models that control for educational attainment, I have grouped the data into five categories (Table 2) based on data provided by INEGI on the number of years of schooling completed. This categorization assumes that higher levels of educational attainment may afford different advantages over each other in terms of wage and labor force participation. This is instead of assuming that wage and labor force participation increase linearly with each additional year of schooling.

<b>Classification</b>	<b>Years of Schooling</b>
Less than Primary	0 - 5
Primary	6 - 8
Intermediate	9 - 11
Secondary and Some University	12 - 15
Bachelor's Degree and Higher	16 - 18

Table 2: Categorization of Educational Attainment

Some of the linear regression models for predicted wages also control for occupation, in addition to educational attainment. INEGI initially provides occupation data categorized into approximately 460 groups, but also includes data in ten groups categorized by the International

Standard Classification of Occupations (ISCO). To further simplify analysis, I have broken down those ten groups into four based upon skill level and the blue collar-white collar distinction (Table 3).

<b>International Standard Classification of Occupations (ISCO)</b>	
Legislators, senior officials and managers	White Collar (High Skilled)
Professionals	
Technicians and Associate Professionals	
Clerks	White Collar (Low Skilled)
Service Workers and Shop and Market Sales	
Skilled Agricultural and Fishery Workers	Blue Collar (High Skilled)
Crafts and Related Trades Workers	
Armed Forces	
Plant and Machine Operators and Assemblers	Blue Collar (Low Skilled)
Elementary Occupations	

Table 3: Categorization of Occupations

## CHAPTER IV

### RESULTS

#### **Labor Force Participation:**

Among the Mexico City based populations, the likelihood of being active (table 4) in the labor force is relatively consistent between Mexico City natives and Oaxacan natives both indigenous and non-indigenous. For most of the male populations being studied in Mexico City, the probability of labor force inactivity is understandably high in the early (late teens to early 20s) and late (late 50s and early 60s) stages of the working life course. Generally, the probability of being inactive in the labor force for men of these ages is in the 70% to 80% range. Between ages 30 and 50, however, the likelihood of inactivity is near zero. The exception to this pattern is for Oaxacan migrants who speak an indigenous language, but do not identify as indigenous and, to a lesser extent, those speakers who do identify as indigenous. For language speakers who are non-indigenous, the probability of being inactive in the late teens and early 20s is only 5% to 10%. For indigenous language speakers who also identify as indigenous, the probability is 20% to 40% depending on educational attainment. This pattern of high labor force activity at young ages is unique to Oaxacan indigenous language speakers living in Mexico City. The same pattern is, however, not present in the indigenous language speaking population of Oaxaca. This suggests the primary motivation for migrating from Oaxaca to Mexico City, for young people at least, is economic.

<b>Population</b>		<b>Education</b>			
<b>A. Mexico City Metro Residents</b>		Completed Primary	Completed Intermediate	Completed Secondary	College Graduate
<b>Born in Oaxaca: Indigenous-identified + Indigenous Language Speakers</b>	Men	1.03	1.19	0.35	0.53
	Women	0.92	1.34	2.08*	4.71*
<b>Born in Oaxaca: Non-indigenous-identified, Indigenous language Speakers</b>	Men	0.76	3.53	46.29***	0.51
	Women	0.60	0.81	1.03	N/A
<b>Born in Oaxaca: Indigenous-identified, Spanish-only speakers</b>	Men	1.15	1.50	0.99	0.39
	Women	1.28	1.21	0.95	3.67**
<b>Born in Oaxaca: Non-Indigenous Spanish-only Speakers</b>	Men	1.41	1.50	1.10	1.17
	Women	1.27	1.40*	2.08***	4.30***
<b>Born in Mexico City: Non-Indigenous + Spanish Speakers (Natives)</b>	Men	1.65***	1.59***	1.02	1.27***
	Women	1.21***	1.42***	2.01***	4.21***
<b>B. Oaxaca Residents</b>					
<b>Indigenous-identified + Indigenous Language Speakers</b>	Men	0.93***	0.92**	0.84***	1.11
	Women	1.17***	1.51***	3.37***	10.52***
<b>Non-indigenous-identified, Indigenous language Speakers</b>	Men	1.09	1.24	0.81	1
	Women	0.95	1.15	1.44	8.07***
<b>Indigenous-identified, Spanish-only speakers</b>	Men	1.13**	1.1	0.87*	1.09
	Women	1.22***	1.59***	3.05***	7.46**
<b>Non-Indigenous Spanish-only Speakers</b>	Men	1.26***	1.12*	0.86**	1.19**
	Women	1.33***	1.78***	3.08***	7.16***

\*\*\* p < 0.001, \*\* p < 0.01, \* p < 0.05

Note: All models also control for age and age-squared

Table 4.1: Odds ratios of labor force activity according to educational attainment, relative to individuals with less than an elementary education

Population		Education			
		Completed Primary	Completed Intermediate	Completed Secondary	College Graduate
<b>Mexico City Residents</b>					
<b>Born in Oaxaca: Indigenous-identified + Indigenous Language Speakers</b>	Men	0.72	0.66	4.40*	1.56
	Women	1.10	0.73	0.49*	0.22*
<b>Born in Oaxaca: Non-indigenous-identified, Indigenous language Speakers</b>	Men	2.24	0.55	N/A	3.32
	Women	1.64	1.21	0.89	0.59
<b>Born in Oaxaca: Indigenous-identified, Spanish-only speakers</b>	Men	0.65	0.78	1.28	3.72
	Women	0.81	0.84	1.06	0.27**
<b>Born in Oaxaca: Non-Indigenous Spanish-only Speakers</b>	Men	0.79	0.78	1.36	0.88
	Women	0.79	0.70**	0.44***	0.23***
<b>Born in Mexico City: Non-Indigenous + Spanish Speakers (Natives)</b>	Men	0.52***	0.62***	1.25***	1.02
	Women	0.84***	0.72***	0.50***	0.22***
<b>Oaxaca Residents</b>					
<b>Indigenous-identified + Indigenous Language Speakers</b>	Men	1.17***	1.22***	1.38***	1.01
	Women	0.86***	0.67***	0.30***	0.09***
<b>Non-indigenous-identified, Indigenous language Speakers</b>	Men	0.93	0.84	1.11	1.01
	Women	1.06	0.84	0.69	0.12***
<b>Indigenous-identified, Spanish-only speakers</b>	Men	0.91	0.98	1.37***	1.16
	Women	0.83***	0.65***	0.33***	0.13***
<b>Non-Indigenous Spanish-only Speakers</b>	Men	0.79***	1.00	1.45***	1.08
	Women	0.76***	0.57***	0.33***	0.14***

\*\*\* p < 0.001

\*\* p < 0.01

\* p < 0.05

Note: All models also control for age and age-squared  
 Table 4.2: Odds ratios of labor force inactivity according to educational attainment, relative to individuals with less than an elementary education

For these men living in Mexico City, educational attainment generally has little bearing on the probability of being employed. Labor force participation rates are very similar regardless of educational attainment. The primary exceptions lie with Oaxacan men who identify as indigenous. For those men that also speak an indigenous language, the odds of being inactive are greater for those with the highest levels of education (secondary and college), but especially for men with only a secondary education. For men who only identify as indigenous, the likelihood of being inactive increases with each additional level of schooling.

For women, the opposite pattern emerges. With each additional level of schooling, the probability of being inactive in the labor force decreases. Looking specifically at women in Mexico City on opposite ends of the spectrum (non-indigenous natives and Oaxacan indigenous language speakers), the likelihood of labor force inactivity is very similar. For the lowest educated women in these groups, the probability of being inactive reaches its lowest point in the late 30s and early 40s at around 55%. At the youngest working ages, similar to men, indigenous language speaking women are more likely than their non-indigenous, native counterparts to be active in the labor force. For both indigenous language groups (identifying as indigenous or non-indigenous), educational attainment has a clear influence on a woman's likelihood of being active in the labor force. On the other hand, for men, the probability of being active in the labor force converges on the same amount regardless of educational attainment. For women, stratification of labor force participation levels based on educational attainment remains similar throughout their working ages. For women who only identify as indigenous, educational attainment has less of an effect on labor force participation – all educational levels except for college have similar probabilities of being actively employed.

Of all the Oaxacan female migrant groups living in Mexico City, the labor force activity trends of non-indigenous and non-indigenous language speaking match most closely with those of non-indigenous Mexico City native women. This suggests that different trends for indigenous Oaxacan women in Mexico City are related primarily to their indigeneity, rather than their migration status.

For men living in Oaxaca, the labor force activity trends are similar to those of men living in Mexico City. While consistent across the five levels of educational attainment, those men who speak an indigenous language are slightly less likely to be active in the labor force than other men. Otherwise, the trends are remarkably consistent across all male groups, regardless of indigenous identity or language use. As expected, the likelihood of Oaxacan men participating in the labor force is very high (90%+) regardless of educational attainment. It is thus more important to examine the types of occupations these men are employed in and the wages they are earning.

Among women living in Oaxaca, the probability of labor force inactivity is higher (60% to 80%) than for Oaxacan women in Mexico City. With the exception of secondary and college graduates, educational attainment has little influence on a Oaxacan woman's likelihood of being employed. The lowest three educational levels (less than elementary, elementary, and middle) all have similar probabilities of labor force participation, regardless of indigenous self-identity or indigenous language use. High school and college, however, does lead to significantly higher odds of employment for women in Oaxaca. For women with a college degree, the likelihood of being active in the labor force is near 80%, compared to 25% to 40% for the least educated women.

For indigenous Oaxacan women who also speak an indigenous language, the likelihood of employment remains nearly flat throughout their working ages. The probability of being active in the labor force increases only slightly between the youngest ages and the peak employment ages in the early to mid-40s.

**Unemployment:**

Generally, predicting the likelihood of unemployment for these populations results in inconsistent results, possibly due to the relatively small number of unemployed people in any of these groups. For all groups, male and female, the likelihood of being unemployed is rather low (generally less than 5%). The vast majority of those who are not in the labor force are not actively searching for work, whether because they are in school, are retired, or in the case of most women, are performing domestic work. Thus, underemployment appears to be a more common response to weak labor markets in Mexico than unemployment.

**Wages – Returns to Schooling:**

Comparing wage levels across people of different migration statuses and ethnic identifications with the same educational attainment yields insight into the varying levels of inequality and, indirectly, discrimination facing certain groups. Figures 1.1 and 1.2, comparing those who have completed college or other tertiary education, and figures 2.1 and 2.2, comparing those with less than a primary school education, convey the range of differences with respect to wage levels. As seen in figures 1.1 and 1.2, wage inequality is most prevalent among the college educated population and especially for women. Oaxacan migrants in Mexico City who identify as indigenous and speak an indigenous language earn a fraction of other Oaxacan migrants who

also have a college education. The disparity is significantly larger for women whose expected wages are approximately half of the next highest group from Oaxaca (non-indigenous identifying, Spanish language speakers). However, among other levels of educational attainment, such as those with less than a primary education in figures 2.1 and 2.2, wage inequality is much less, to the point of being nearly non-existent. At this level, there is a negligible difference between the wages of Oaxacan migrants who identify as indigenous and speak an indigenous language with the wages of any other group. For women belonging to this group, their expected wages are nearly identical to those of non-indigenous identifying, Spanish language speaking women who were born in Mexico City. This suggests these women are incorporating well into the Mexico City labor market. Broadly speaking, based on these wage comparisons, indigenous Oaxacan migrants with less educational attainment are incorporating better than those with higher educational attainment. Higher educated migrants appear to be struggling to find employment in relatively higher paying sectors of the labor market. While wage inequality and discrimination against indigenous migrants was expected to be widespread regardless of educational attainment, it is more likely a problem for higher educated indigenous migrants.

When controlling only for education (in addition to age and age-squared) (tables 5.1 and 5.2), the two non-indigenous/non-indigenous language speaking groups in Mexico City (natives and Oaxacan migrants) have significantly higher wages with each additional level of educational attainment. This is true for both men and women in these populations. The results are more mixed for indigenous Oaxacan migrants as the returns for higher educational attainment are often relatively small and insignificant. For men and women who speak an indigenous language, but do not identify as indigenous, each additional level of education results in a statistically significant difference in wage. For men who speak an indigenous language and identify as

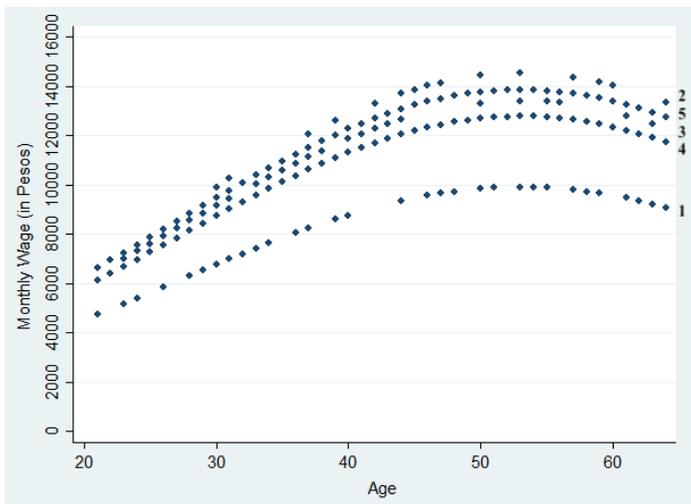


Figure 1.1: Predicted monthly wages for college-graduate men in Mexico City by ethnicity and migration status

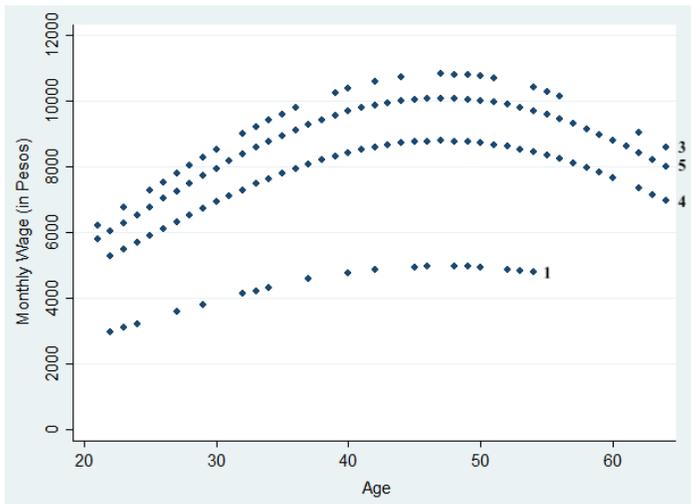


Figure 1.2: Predicted monthly wages for college-graduate women in Mexico City by ethnicity and migration status

- 1: Oaxacan indigenous-identifying, indigenous language speakers
- 2: Oaxacan non-indigenous identifying, indigenous language speakers (not present in figure 1.2 due to small sample size)
- 3: Oaxacan indigenous-identifying, Spanish language speakers
- 4: Oaxacan non-indigenous identifying, Spanish language speakers
- 5: Mexico City born, non-indigenous identifying, Spanish language speakers

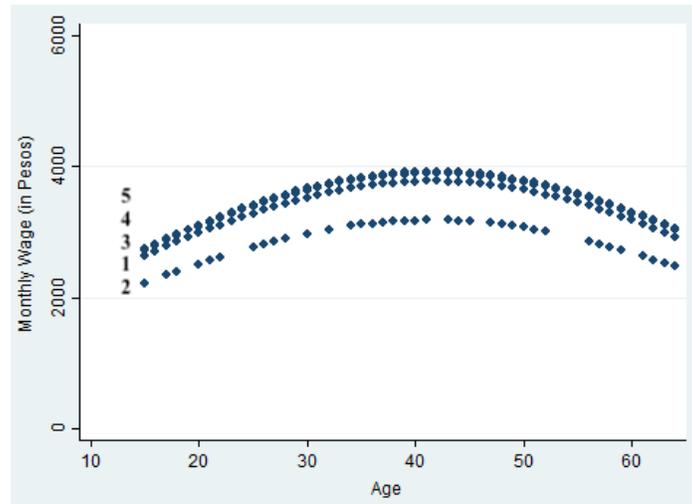


Figure 2.1: Predicted monthly wages for men with less than a primary school education in Mexico City by ethnicity and migration status

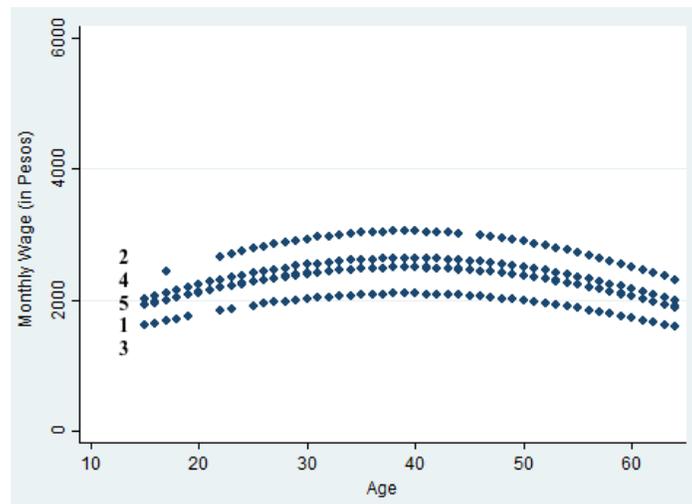


Figure 2.2: Predicted monthly wages for women with less than a primary school education in Mexico City by ethnicity and migration status

- 1: Oaxacan indigenous-identifying, indigenous language speakers
- 2: Oaxacan non-indigenous identifying, indigenous language speakers
- 3: Oaxacan indigenous-identifying, Spanish language speakers
- 4: Oaxacan non-indigenous identifying, Spanish language speakers
- 5: Mexico City born, non-indigenous identifying, Spanish language speakers

indigenous, having an elementary or secondary education does not lead to a significantly higher wage than having less than an elementary education. However, having a middle school or college education does lead to a significantly higher wage. For women, on the other hand, each educational level is significant except for college graduates. For men who identify as indigenous, but do not speak an indigenous language, college is the educational level that associated with a wage that is significantly higher than that of a person with less than an elementary education. For women, completing college, secondary, or middle school is associated with significantly higher pay, while those who finish primary school are predicted to have slightly lower wages than those that did not. Overall, for the indigenous Oaxacan migrant population in Mexico City, there is an unclear relationship between education and wages. The expectation is that each additional level of educational attainment would lead to a significant increase in expected wages as is the case for non-indigenous people in Mexico City, whether natives or Oaxacan migrants. With the exception of those who have graduated from college, having completed more schooling generally does not have a significant wage benefit for these populations.

Focusing on the age earnings profiles of these populations in Mexico City, based upon the models of schooling differentials (Tables 5.1 and 5.2), there are distinct differences between each of the groups. Comparing opposite ends of the spectrum (non-indigenous natives and Oaxacan indigenous language speakers who identify as indigenous), native women with low educational attainment earn comparable or even lower wages than their Oaxacan counterparts. This pattern is evident for those who have a middle school or lower education. For example, women in both groups with less than an elementary education begin by earning approximate 1,500 to 1,800 pesos per month and reach their peak of earnings of about 2,500 pesos per month around age 40 (figures 4.1 – 4.8). A similar pattern exists for men (figures 3.1 – 3.8). At the

Population	Education				Constant
	Completed Primary	Completed Intermediate	Completed Secondary	College Graduate or equivalent	
<b>Mexico City Residents</b>					
<b>Born in Oaxaca: Indigenous-identified + Indigenous Language Speakers</b>	0.051 (0.083)	0.158* (0.071)	0.097 (0.121)	0.754*** (0.216)	7.320*** (0.255)
<b>Born in Oaxaca: Non-indigenous-identified, Indigenous language Speakers</b>	0.440* (0.143)	0.365* (0.119)	0.368 (0.223)	1.497*** (0.262)	6.68*** (0.445)
<b>Born in Oaxaca: Indigenous-identified, Spanish-only speakers</b>	0.002 (0.153)	0.236 (0.157)	0.207 (0.153)	1.01*** (0.201)	7.418*** (0.325)
<b>Born in Oaxaca: Non-Indigenous Spanish-only Speakers</b>	0.123* (0.061)	0.250*** (0.058)	0.414*** (0.063)	1.105*** (0.078)	6.934*** (0.240)
<b>Born in Mexico City: Non-Indigenous + Spanish Speakers (Natives)</b>	0.123*** (0.013)	0.241*** (0.012)	0.494*** (0.012)	1.122*** (0.014)	6.918*** (0.031)
<b>Oaxaca Residents</b>					
<b>Indigenous-identified + Indigenous Language Speakers</b>	0.197*** (0.014)	0.363*** (0.016)	0.688*** (0.018)	1.208*** (0.022)	6.747*** (0.047)
<b>Non-indigenous-identified, Indigenous language Speakers</b>	0.169*** (0.062)	0.368*** (0.069)	0.638*** (0.073)	1.118*** (0.069)	7.008*** (0.192)
<b>Indigenous-identified, Spanish-only speakers</b>	0.168*** (0.021)	0.338*** (0.020)	0.542*** (0.023)	1.00*** (0.028)	6.783*** (0.054)
<b>Non-Indigenous Spanish-only Speakers</b>	0.195*** (0.015)	0.312*** (0.019)	0.535*** (0.018)	0.990*** (0.022)	6.841*** (0.054)

\*\*\* p < 0.001

\*\* p < 0.01

\* p < 0.05

Note: All models also control for age and age-squared

Table 5.1: Predicted monthly wages (in natural logs) of men according to educational attainment, relative to men with less than an elementary education

Population	Education				Constant
	Completed Primary	Completed Intermediate	Completed Secondary	College Graduate (or equivalent)	
<b>Mexico City Residents</b>					
<b>Born in Oaxaca: Indigenous-identified + Indigenous Language Speakers</b>	0.258*** (0.082)	0.427*** (0.080)	0.388*** (0.100)	0.614 (0.379)	7.087*** (0.275)
<b>Born in Oaxaca: Non-indigenous-identified, Indigenous language Speakers</b>	0.350* (0.162)	0.859*** (0.212)	0.657*** (0.171)	N/A N/A	6.531*** (0.628)
<b>Born in Oaxaca: Indigenous-identified, Spanish-only speakers</b>	-0.019 (0.209)	0.313 (0.173)	0.576** (0.219)	1.398*** (0.215)	6.448*** (0.674)
<b>Born in Oaxaca: Non-Indigenous Spanish-only Speakers</b>	0.189*** (0.057)	0.346*** (0.063)	0.352* (0.165)	1.153*** (0.161)	7.564*** (0.440)
<b>Born in Mexico City: Non-Indigenous + Spanish Speakers (Natives)</b>	0.141*** (0.021)	0.385*** (0.018)	0.737*** (0.018)	1.350*** (0.019)	6.731*** (0.042)
<b>Oaxaca Residents</b>					
<b>Indigenous-identified + Indigenous Language Speakers</b>	0.279*** (0.029)	0.511*** (0.051)	1.181*** (0.027)	1.685*** (0.027)	6.228*** (0.114)
<b>Non-indigenous-identified, Indigenous language Speakers</b>	0.264** (0.102)	0.541*** (0.164)	1.026*** (0.101)	1.693*** (0.120)	6.579*** (0.355)
<b>Indigenous-identified, Spanish-only speakers</b>	0.222*** (0.030)	0.467*** (0.030)	0.913*** (0.032)	1.418*** (0.083)	6.267*** (0.083)
<b>Non-Indigenous Spanish-only Speakers</b>	0.304*** (0.023)	0.547*** (0.024)	0.936*** (0.027)	1.439*** (0.032)	6.330*** (0.067)

\*\*\*  $p < 0.001$

\*\*  $p < 0.01$

\*  $p < 0.05$

Note: All models also control for age and age-squared

Table 5.2: Predicted monthly wages (in natural logs) of women according to educational attainment, relative to women with less than an elementary education

Figures 3.1 – 3.8: Predicted monthly wages of men by educational attainment

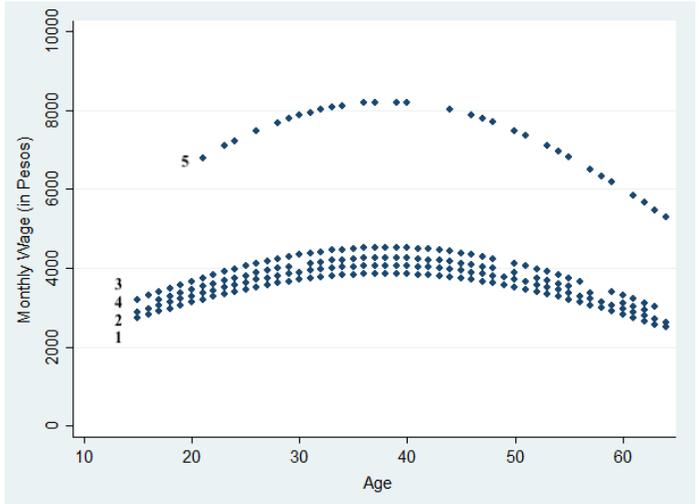


Figure 3.1: Oaxacan indigenous-identifying, indigenous language speakers in Mexico City

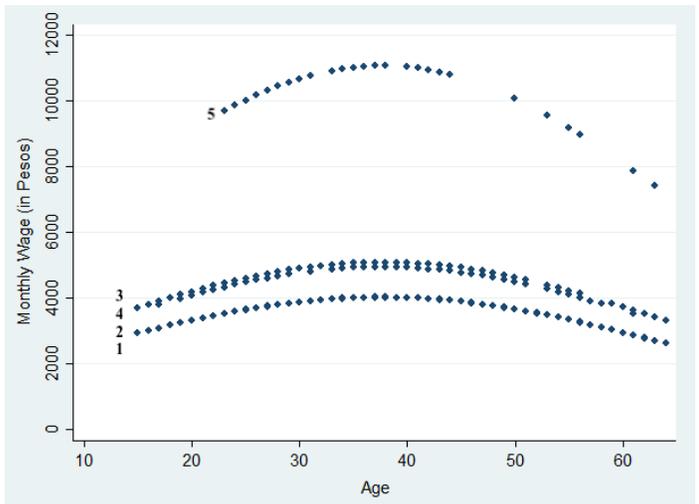


Figure 3.2: Oaxacan indigenous-identifying, Spanish language speakers in Mexico City

- 1: Less than primary
- 2: Primary
- 3: Intermediate
- 4: Secondary
- 5: College or equivalent

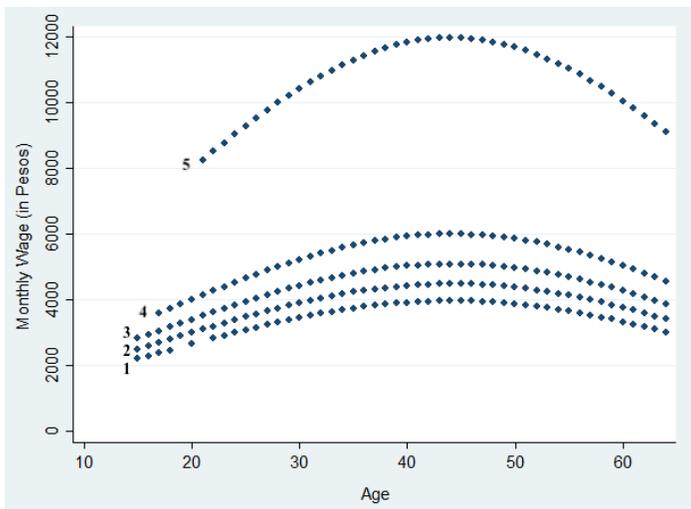


Figure 3.3: Oaxacan non-indigenous identifying, Spanish language speakers in Mexico City

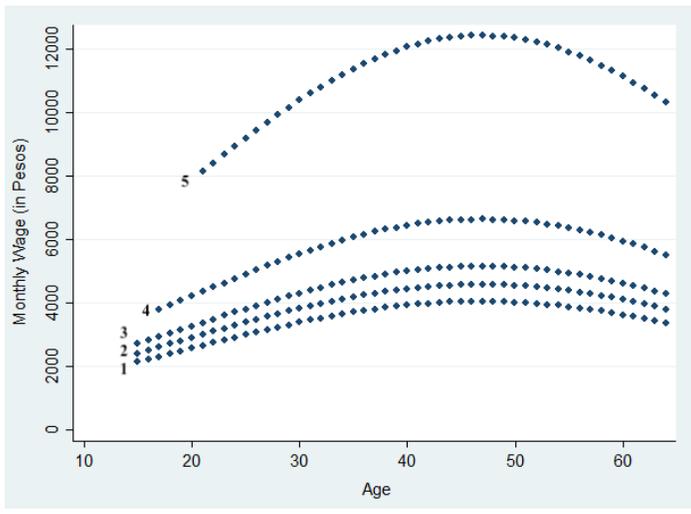


Figure 3.4: Mexico City born, non-indigenous identifying, Spanish language speakers

- 1: Less than primary
- 2: Primary
- 3: Intermediate
- 4: Secondary
- 5: College or equivalent

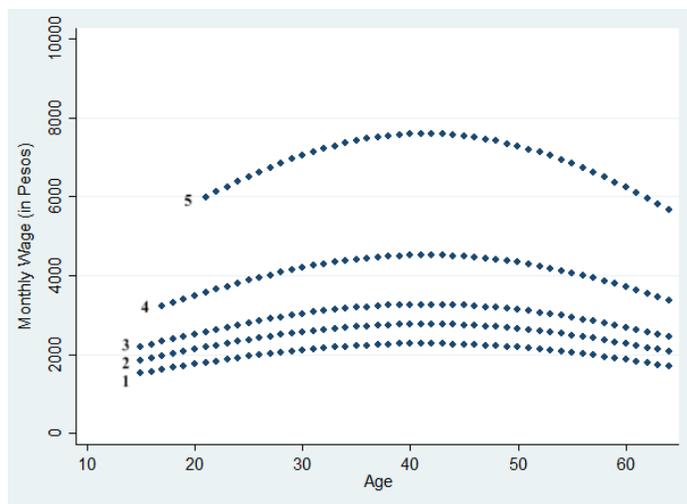


Figure 3.5: Indigenous identifying, indigenous language speakers in Oaxaca

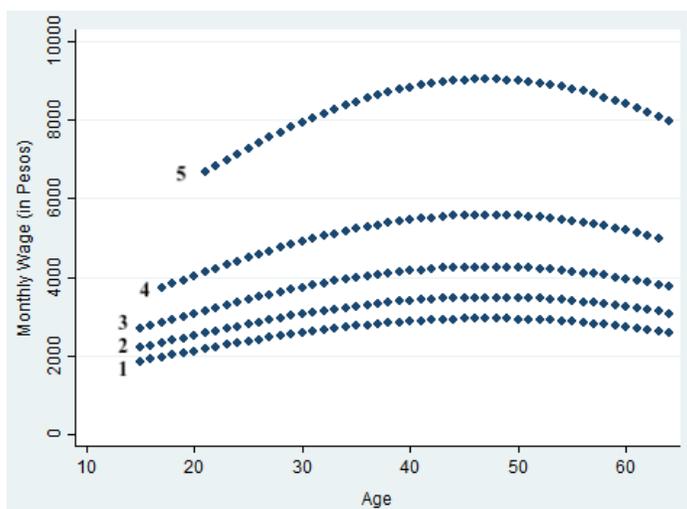


Figure 3.6: Non-indigenous identifying, indigenous language speakers in Oaxaca

- 1: Less than primary
- 2: Primary
- 3: Intermediate
- 4: Secondary
- 5: College or equivalent

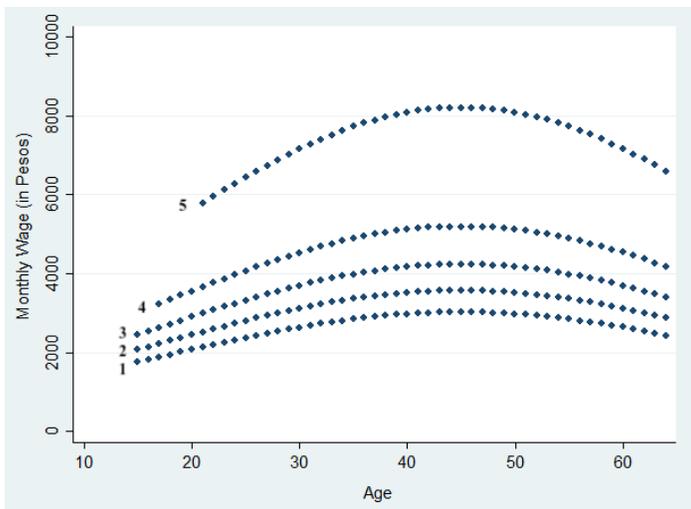


Figure 3.7: Indigenous-identifying, Spanish language speakers in Oaxaca

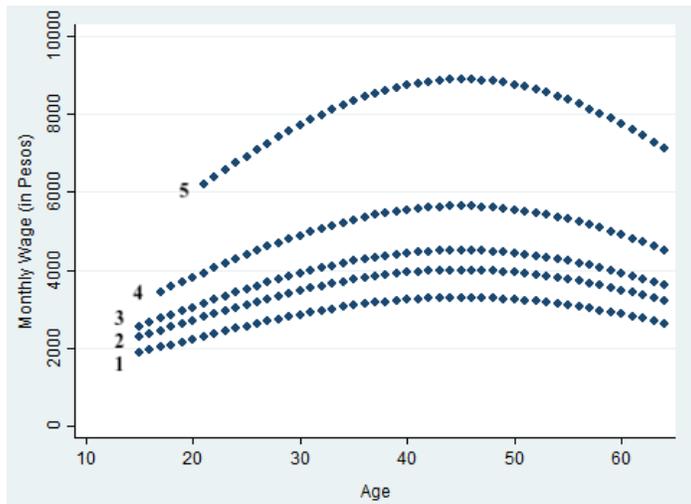


Figure 3.8: Non-indigenous identifying, Spanish language speakers in Oaxaca

- 1: Less than primary
- 2: Primary
- 3: Intermediate
- 4: Secondary
- 5: College or equivalent

Figures 4.1 – 4.8: Predicted monthly wages of women by educational attainment

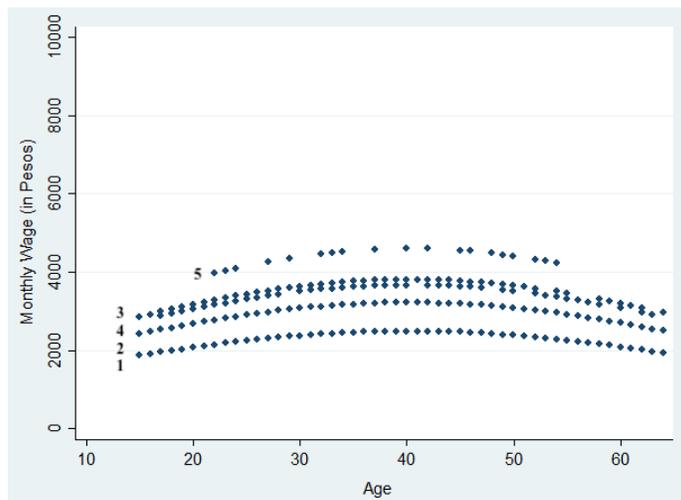


Figure 4.1: Oaxacan indigenous-identifying, indigenous language speakers in Mexico City

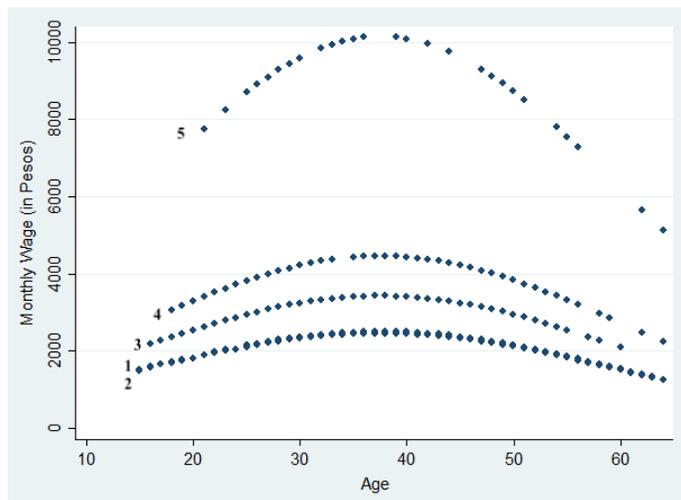


Figure 4.2: Oaxacan indigenous-identifying, Spanish language speakers in Mexico City

- 1: Less than primary
- 2: Primary
- 3: Intermediate
- 4: Secondary
- 5: College or equivalent

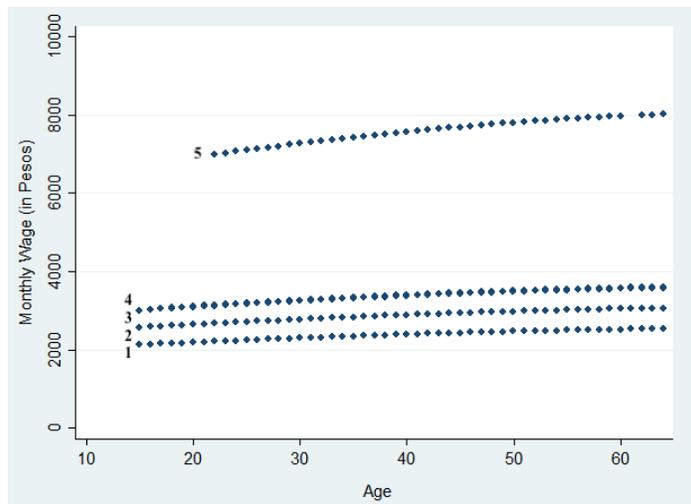


Figure 4.3: Oaxacan non-indigenous identifying, Spanish language speakers in Mexico City

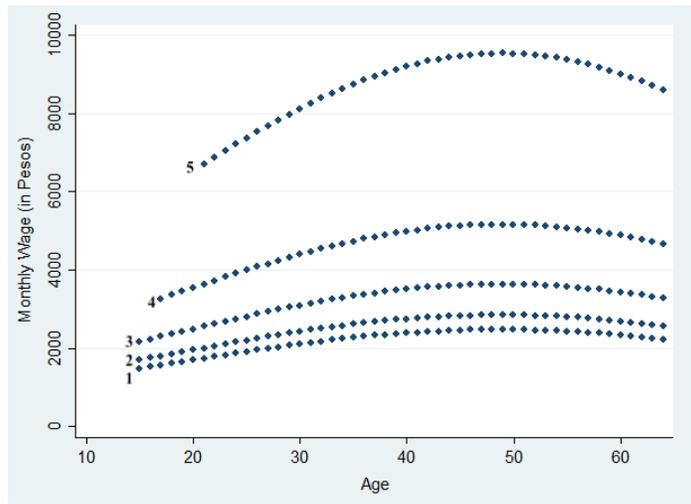


Figure 4.4: Mexico City born, non-indigenous identifying, Spanish language speakers

- 1: Less than primary
- 2: Primary
- 3: Intermediate
- 4: Secondary
- 5: College or equivalent

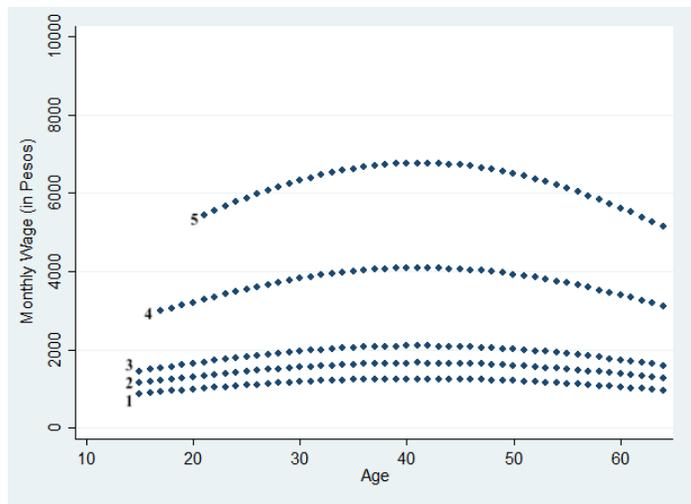


Figure 4.5: Indigenous identifying, indigenous language speakers in Oaxaca

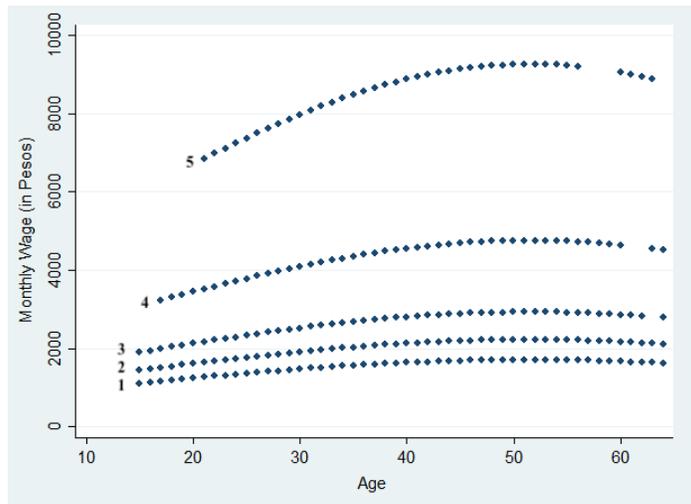


Figure 4.6: Non-indigenous identifying, indigenous language speakers in Oaxaca

- 1: Less than primary
- 2: Primary
- 3: Intermediate
- 4: Secondary
- 5: College or equivalent

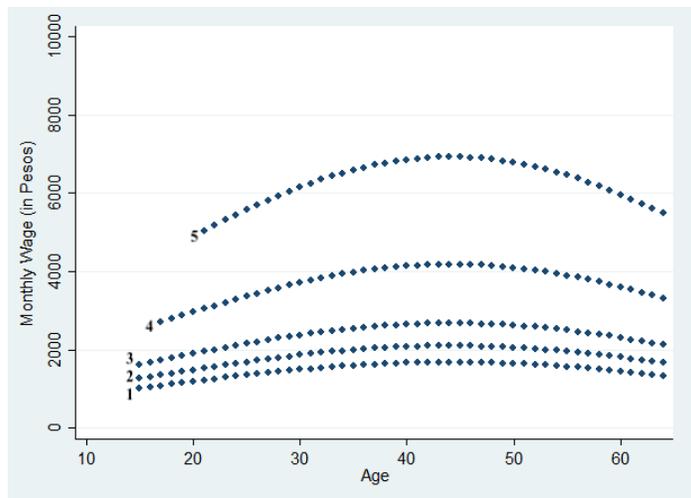


Figure 4.7: Indigenous-identifying, Spanish language speakers in Oaxaca

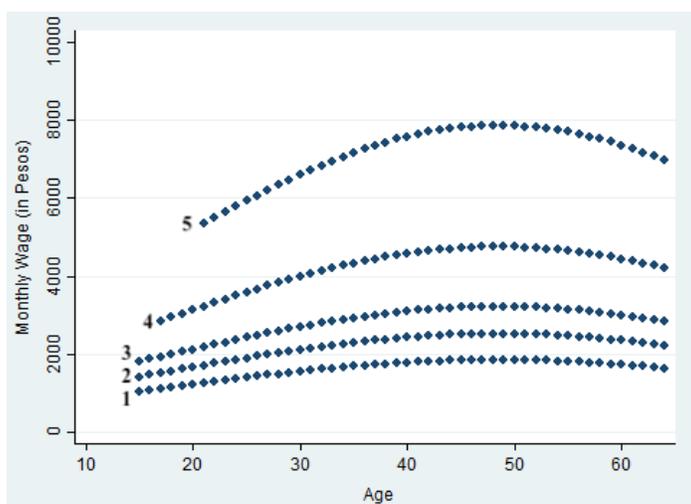


Figure 4.8: Non-indigenous identifying, Spanish language speakers in Oaxaca

- 1: Less than primary
- 2: Primary
- 3: Intermediate
- 4: Secondary
- 5: College or equivalent

lowest educational levels (middle school and lower), non-indigenous native men and Oaxacan indigenous language speaking men earn comparable wages at the youngest working ages. However, native men reach somewhat higher peak wages over their lifetimes than Oaxacan men. The main differences between men in each group occur at the secondary and college levels. For Oaxacan men, there is little differentiation between wages at the lowest four educational levels with only incremental increases (about 200 to 400 pesos) between each level. For native Mexico City men, there is a greater difference between the lower three levels and a wage premium of around 2,000 pesos for secondary school graduates over those who only completed middle school. For college educated men, the wage difference between native Mexico City men and indigenous language speaking men from Oaxaca has grown to about 4,000 pesos per month (8,000 for Oaxacans compared to 12,000 for Mexico City natives).

However, wage disparities between these two groups of women grow more apparent among those with a secondary education and especially among college graduates. A college educated Oaxacan woman who identifies as indigenous and speaks an indigenous language is expected to earn about 4,000 pesos per month at the start of her career – by age 40 she can expect to earn only 4,500 pesos per month. Relative to all other groups, male or female, this wage is exceedingly low for a college educated person. Compare this peak wage to that of a secondary school graduate – they can expect to earn a maximum of around 3,800 pesos, just 700 pesos less per month. A college educated non-indigenous Mexico City native woman will start out by earning around 7,000 pesos per month and rising to a peak of about 9,500 pesos per month. This is nearly double that of somebody who has a secondary education (~5,000 pesos per month).

In other areas of analysis, such as unemployment and labor force participation, non-indigenous Mexico City native women and non-indigenous Oaxacan migrant women had rather similar age profiles. This is not the case for wages. For non-indigenous Oaxacan women, their age earnings profiles appear linear. That is, there is no decrease in wages as women approach retirement age. Their wages increase minimally over their lifetimes, but they do continue to increase nonetheless. Men continue to show the typical pattern where wages increase until they reach their early 40s followed by a decrease in wages until retirement. For all educational levels (except college), wages for non-indigenous Oaxacan women are more comparable to those of indigenous language speaking women from Oaxaca rather than non-indigenous Mexico City native women. This suggests that wage disadvantages for Oaxacan women in Mexico City stem more from being migrants rather than being indigenous.

The exception is for college educated non-indigenous Oaxacan women who earn 7,000 to 8,000 pesos per month throughout their careers as opposed to the 4,000 to 4,500 pesos earned by a comparable indigenous language speaking women. For college educated women, lower wages may be more related to indigenous language use than migration status because Oaxacan migrant women who only identify as indigenous do not earn the same low wages. Where wages for women who only identify as indigenous are comparable or slightly higher than their indigenous language speaking counterparts across the lower four educational categories, college educated indigenous women earn significantly higher wages. In fact, their earnings range of 8,000 to 10,000 pesos per month over their careers is higher than even native, non-indigenous Mexico City women.

Non-indigenous Mexico City native men and non-indigenous Oaxacan migrant men do have very similar age earnings profiles at all levels of educational attainment. The wages for

native men are slightly higher than those of Oaxacan men, but the differences are relatively small compared to the wage disparities seen for women.

Looking at these populations back in Oaxaca, educational attainment has a significant influence on wages. Each additional level of education leads to a statistically significant wage increase for both men and women in each of the four populations being studied. The age-earnings curves for men and women remain surprisingly consistent between the four groups. Generally, the three lowest levels of educational attainment (less than elementary, elementary, and middle) remain close to each other in terms of wages. Although the models show that higher education leads to a statistically significant increase in wages, it is apparent from the age-earnings curves that having a high school or especially a college education is a clear differentiator for wages in Oaxaca.

For women, as mentioned earlier, the age-earnings curves are generally consistent across the four populations. In each of these four groups, women start their working lives earning similar wages, particularly in the three lowest educational levels. Wages range from 1,000 to 1,500 pesos per month for those with less than an elementary education to 1,500 to 2,000 pesos per month for those with a middle school education. For women with relatively low educational attainment (nine years or less), wages remain flat throughout their working lives or at best these women will receive a slow and modest increase until their wages peak around age 40. Non-indigenous Oaxacan women who do not speak an indigenous language fare the best in this regard, although that is not saying much. For example, a woman with a middle school education may start working in her late teens by earning around 2,000 pesos a month – by age 40, she is earning a little more than 3,000 pesos a month. A comparable woman who both identifies as indigenous and speaks an indigenous language might earn about 1,600 pesos per month once she

reaches working age – women in their late 30s and early 40s are earning little more than 2,000 pesos per month.

Of course, the situation is different for Oaxacan women with a high school or college education, although relatively few women in Oaxaca remain in school that long, particularly in rural and predominantly indigenous communities. Women with high school or college educations have higher starting wages and reach higher peaks than their counterparts with lower educational attainment. This is again most apparent for non-indigenous Oaxacan women who do not speak an indigenous language – a woman with a college education starts out earning around 5,500 pesos per month, but by her late 40s is earning near 8,000 pesos a month. The comparable indigenous woman who speaks an indigenous language starts at a slightly higher wage than the non-indigenous woman, but her peak earnings never come close. She peaks at less than 7,000 pesos around age 40. This wage disparity is not necessarily due to indigenous language use. Oaxacan women who speak an indigenous language, but do not identify as indigenous earn a higher wage than either group previously discussed. They start out earning around 7,000 pesos per month and, at the highest point, are earning about 9,500 pesos a month. College educated women who identify as indigenous and do not speak an indigenous language can expect wages between 5,000 and 7,000 pesos per month across their working lives. There does appear to be an indigenous wage disadvantage even among the college-educated population in Oaxaca. Those women that speak an indigenous language but do not identify as indigenous may be academics, for example, that chose to learn those languages as part of their studies. It may not be a case of women who maintained this one aspect of their indigenous heritage while no longer fully identifying as indigenous.

Relative to women, men in Oaxaca generally experience more wage growth throughout their lives and higher wage differentiation by educational attainment, particularly at the lowest educational levels. As expected, men earn more than women overall when controlling for age and education. Despite the fact that men's wages grow more than women's over time, the growth for some groups remains small. For example, indigenous language speakers who also identify as indigenous with less than an elementary education can expect their wages to grow from a minimum of about 1,600 to a peak of 2,200 pesos per month. This is an improvement, however, over the comparable women whose wages will stay mostly flat at about 1,000 pesos per month. Men with higher educational attainment (secondary or college) can expect their wages to grow more than men with lower educational attainment, regardless of indigenous identity or language use.

Men in each of the four groups start by earning approximately the same wages ( $\pm$  500 pesos), regardless of indigenous identity, language use, or educational level. Those with less than an elementary education earn 1,500 to 2,000 pesos per month and those with a college education earn about 6,000 pesos per month at the start of their careers. The primary difference for each of these four groups is the potential for wage growth over time. There is a distinct divide indigenous language and Spanish speakers in terms of earnings growth. Non-indigenous language speaking Oaxacan men, whether they identify as indigenous or not, generally have more favorable wages and wage growth patterns than comparable indigenous language speaking men. For example, for either group of non-indigenous language speaking Oaxacan men with less than an elementary education, their expected wages start around 2,000 pesos per month and reach a peak of over 3,000 pesos per month. Even among college educated men, those who speak an indigenous language and identify as indigenous can still expect to earn less money than their

non-indigenous, Spanish speaking counterparts. The former may earn a peak of around 7,500 pesos per month, while the latter group may earn nearly 9,000 pesos per month. Out of the four groups with a college education, men who speak an indigenous language and do not identify as indigenous will earn the most over the course of their working lives, reaching a peak of more than 9,000 pesos per month. Their initial wages are also slightly higher than the other three groups – about 6,500 pesos compared to 6,000 pesos. As discussed previously, this pattern was also seen with women. This unique wage advantage may suggest an academic relationship with indigenous language rather than a strictly cultural or ancestral connection.

### **Wages – Returns to Occupation:**

Adding occupation into these wage models (tables 6.1, 6.2, 7.1, and 7.2) results in interesting parallels with education. For native born, non-indigenous Mexico City residents, higher educational attainment again results in significantly higher wages for both men and women. The same is true for higher status occupations – white-collar and highly skilled blue-collar workers have significantly higher wages than workers in the lowest status category (low skilled blue-collar). However, similar to educational attainment, higher status and higher skilled occupations do not necessarily result in significantly higher wages for the Oaxacan-born indigenous population of Mexico City. In some cases, being employed in a higher status/skilled occupation can result in lower wages than working in the lowest status/skilled jobs.

Starting at one end of the indigenous spectrum, people who both identify as indigenous and speak an indigenous language, higher education leads to a significantly higher wage for women, but higher status/skilled occupations do not. Relative to low skilled blue-collar workers, women who are employed in high skilled blue-collar or low skilled white-collar occupations can

Population	Education				Constant
	Completed Primary	Completed Intermediate	Completed Secondary	College Graduate (or equivalent)	
<b>A. Mexico City Residents</b>					
<b>Born in Oaxaca: Indigenous-identified + Indigenous Language Speakers</b>	0.055 (0.084)	0.149* (0.073)	0.077 (0.126)	0.715*** (0.205)	7.272*** (0.253)
<b>Born in Oaxaca: Non-indigenous-identified, Indigenous language Speakers</b>	0.381** (0.148)	0.280* (0.120)	0.300 (0.219)	0.870*** (0.233)	6.727*** (0.446)
<b>Born in Oaxaca: Indigenous-identified, Spanish-only speakers</b>	-0.004 (0.139)	0.233 (0.143)	0.208 (0.142)	0.817*** (0.201)	7.327*** (0.330)
<b>Born in Oaxaca: Non-Indigenous Spanish-only Speakers</b>	0.135* (0.061)	0.268*** (0.061)	0.393*** (0.066)	0.910*** (0.088)	6.910*** (0.232)
<b>Born in Mexico City: Non-Indigenous + Spanish Speakers (Natives)</b>	0.125*** (0.013)	0.232*** (0.012)	0.429*** (0.012)	0.903*** (0.015)	6.900*** (0.030)
<b>B. Oaxaca Residents</b>					
<b>Indigenous-identified + Indigenous Language Speakers</b>	0.170*** (0.014)	0.289*** (0.016)	0.529*** (0.020)	0.955*** (0.029)	6.946*** (0.047)
<b>Non-indigenous-identified, Indigenous language Speakers</b>	0.144* (0.062)	0.327*** (0.070)	0.518*** (0.077)	0.854*** (0.115)	7.045*** (0.199)
<b>Indigenous-identified, Spanish-only speakers</b>	0.154*** (0.021)	0.301*** (0.021)	0.462*** (0.024)	0.830*** (0.033)	6.844*** (0.055)
<b>Non-Indigenous Spanish-only Speakers</b>	0.184*** (0.015)	0.283*** (0.019)	0.470*** (0.019)	0.828*** (0.024)	6.875*** (0.052)

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$

Note: All models also control for age and age-squared

Table 6.1: Predicted wages (in natural logs) of men according to educational attainment and occupational status, relative to men with less than an elementary education and employed in a low skilled blue-collar occupation

Population	Occupation			Constant
	High-Skilled Blue Collar	Low-Skilled White Collar	High-Skilled White Collar	
<b>A. Mexico City Residents</b>				
<b>Born in Oaxaca: Indigenous-identified + Indigenous Language Speakers</b>	0.223** (0.073)	0.085 (0.077)	0.098 (0.158)	7.272*** (0.253)
<b>Born in Oaxaca: Non-indigenous-identified, Indigenous language Speakers</b>	0.262* (0.106)	0.135 (0.120)	0.907*** (0.199)	6.727*** (0.446)
<b>Born in Oaxaca: Indigenous-identified, Spanish-only speakers</b>	0.225** (0.089)	0.004 (0.075)	0.312* (0.137)	7.327*** (0.330)
<b>Born in Oaxaca: Non-Indigenous Spanish- only Speakers</b>	0.141** (0.042)	-0.002 (0.046)	0.349*** (0.069)	6.910*** (0.232)
<b>Born in Mexico City: Non-Indigenous + Spanish Speakers (Natives)</b>	0.123*** (0.008)	0.066*** (0.008)	0.380*** (0.012)	6.900*** (0.030)
<b>B. Oaxaca Residents</b>				
<b>Indigenous-identified + Indigenous Language Speakers</b>	-0.313*** (0.013)	0.004 (0.017)	0.138*** (0.025)	6.946*** (0.047)
<b>Non-indigenous-identified, Indigenous language Speakers</b>	-0.108* (0.052)	0.088 (0.074)	0.272 (0.105)	7.045*** (0.199)
<b>Indigenous-identified, Spanish-only speakers</b>	-0.130*** (0.014)	0.039* (0.018)	0.164*** (0.027)	6.844*** (0.055)
<b>Non-Indigenous Spanish-only Speakers</b>	-0.061*** (0.015)	0.038* (0.019)	0.198*** (0.024)	6.875*** (0.052)

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$

Note: All models also control for age and age-squared

Table 6.2: Predicted wages (in natural logs) of men according to educational attainment and occupational status, relative to men with less than an elementary education and employed in a low skilled blue-collar occupation

Population	Education				Constant
	Completed Primary	Completed Intermediate	Completed Secondary	College Graduate (or equivalent)	
<b>A. Mexico City Residents</b>					
<b>Born in Oaxaca: Indigenous-identified + Indigenous Language Speakers</b>	0.269*** (0.081)	0.438*** (0.081)	0.437*** (0.116)	0.608 (0.319)	7.076*** (0.278)
<b>Born in Oaxaca: Non-indigenous-identified, Indigenous language Speakers</b>	0.370** (0.153)	0.800*** (0.198)	0.683*** (0.167)	N/A N/A	6.576*** (0.607)
<b>Born in Oaxaca: Indigenous-identified, Spanish-only speakers</b>	-0.039 (0.205)	0.266 (0.276)	0.395 (0.202)	1.021*** (0.252)	6.431*** (0.614)
<b>Born in Oaxaca: Non-Indigenous Spanish-only Speakers</b>	0.170** (0.061)	0.271*** (0.069)	0.234 (0.135)	0.742*** (0.155)	7.582*** (0.430)
<b>Born in Mexico City: Non-Indigenous + Spanish Speakers (Natives)</b>	0.128*** (0.020)	0.327*** (0.018)	0.578*** (0.019)	1.035*** (0.021)	6.681*** (0.043)
<b>B. Oaxaca Residents</b>					
<b>Indigenous-identified + Indigenous Language Speakers</b>	0.176*** (0.026)	0.310*** (0.052)	0.825*** (0.033)	1.252*** (0.046)	6.418*** (0.096)
<b>Non-indigenous-identified, Indigenous language Speakers</b>	0.261*** (0.099)	0.536*** (0.140)	0.909*** (0.116)	1.611*** (0.181)	6.828*** (0.342)
<b>Indigenous-identified, Spanish-only speakers</b>	0.196*** (0.029)	0.389*** (0.030)	0.735*** (0.034)	1.143*** (0.045)	6.264*** (0.084)
<b>Non-Indigenous Spanish-only Speakers</b>	0.267*** (0.022)	0.462*** (0.024)	0.764*** (0.027)	1.167*** (0.032)	6.328*** (0.067)

\*\*\* p < 0.001, \*\* p < 0.01, \* p < 0.05

Note: All models also control for age and age-squared

Table 7.1: Predicted monthly wages (in natural logs) of women according to educational attainment and occupational status, relative to women with less than an elementary education and employed in a low skilled blue-collar occupation

Population	Occupation			Constant
	High-Skilled Blue Collar	Low-Skilled White Collar	High-Skilled White Collar	
<b>A. Mexico City Residents</b>				
<b>Born in Oaxaca: Indigenous-identified + Indigenous Language Speakers</b>	-0.142 (0.097)	-0.085 (0.089)	0.040 (0.207)	7.076*** (0.278)
<b>Born in Oaxaca: Non-indigenous-identified, Indigenous language Speakers</b>	0.313 (0.211)	0.259 (0.133)	0.033 (0.206)	6.576*** (0.607)
<b>Born in Oaxaca: Indigenous-identified, Spanish-only speakers</b>	-0.324 (0.259)	0.138 (0.151)	0.534* (0.217)	6.431*** (0.614)
<b>Born in Oaxaca: Non-Indigenous Spanish-only Speakers</b>	-0.179 (0.166)	0.134* (0.054)	0.490*** (0.108)	7.582*** (0.430)
<b>Born in Mexico City: Non-Indigenous + Spanish Speakers (Natives)</b>	0.093*** (0.015)	0.154*** (0.010)	0.472*** (0.014)	6.681*** (0.043)
<b>B. Oaxaca Residents</b>				
<b>Indigenous-identified + Indigenous Language Speakers</b>	0.614*** (0.034)	0.183*** (0.037)	0.350*** (0.048)	6.418*** (0.096)
<b>Non-indigenous-identified, Indigenous language Speakers</b>	0.560*** (0.113)	-0.043 (0.099)	0.059 (0.164)	6.828*** (0.342)
<b>Indigenous-identified, Spanish-only speakers</b>	0.203*** (0.031)	0.187*** (0.024)	0.390*** (0.038)	6.264*** (0.084)
<b>Non-Indigenous Spanish-only Speakers</b>	0.209*** (0.023)	0.161*** (0.017)	0.384*** (0.031)	6.328*** (0.067)

\*\*\* p < 0.001, \*\* p < 0.01, \* p < 0.05

Note: All models also control for age and age-squared

Table 7.2: Predicted monthly wages (in natural logs) of women according to educational attainment and occupational status, relative to women with less than an elementary education and employed in a low skilled blue-collar occupation

expect to earn less money. However, the differences are minor and not significant. Even being employed in a high skilled white-collar job results in a negligible, non-significant wage increase for these women. The story for men is more varied. Having a middle school or college education leads to a significantly higher wage, but an elementary or secondary education does not.

Employment in a high skilled blue-collar occupation leads to a significantly higher wage than a low skilled blue-collar job, but not for either low-skilled or high-skilled white-collar occupations.

For people that only identify as indigenous, the patterns are quite different. For women, only completing secondary school or college has a significant influence on wages. In terms of occupation, employment in high skilled white-collar occupations is the only category resulting in a significantly higher wage relative to low skilled blue-collar jobs. For men, only college graduates experience significantly higher wages than those who did not complete primary school. High skilled blue-collar and high skilled white-collar workers have wages significantly higher than low skilled blue-collar workers, but those employed in low skilled white-collar jobs do not.

For Oaxacan migrants that speak an indigenous language, but do not identify as indigenous, each level of educational attainment is significant for women and all except secondary school completion are significant for men. In terms of occupation, only low skilled white-collar jobs are significant for women. For men, all occupations except low skilled white-collar jobs are significant.

At the opposite end of the spectrum, non-indigenous Oaxacan migrants who do not speak an indigenous language exhibit their own unique relationships between education, occupation, and wage. While the patterns are most similar to non-indigenous native Mexico City residents, there are some exceptions. For women, each level of educational attainment is significant

(although secondary school completion is borderline) as is each category of occupational status. The exception is high skilled blue-collar workers. Their wages are lower than low skilled blue-collar workers, but not significantly lower. For men, each level of educational attainment and occupational status is significant, except for low skilled white-collar workers. Their wages are negligibly lower than low skilled blue-collar workers.

The populations in Oaxaca show different relationships between education, occupation, and wage than the Oaxacan population of Mexico City. The expected wages of people in Oaxaca are, however, arguably more logical than for those living in Mexico City. Starting with indigenous Oaxacan women who speak an indigenous language, each level of educational attainment results in significantly higher wages than for women who did not complete primary school. Each occupational category also leads to significantly different wages relative to women working in low skilled blue-collar jobs. Working in a high skilled blue-collar occupation actually results in significantly lower wages for women. Being employed in a white-collar occupation (whether high or low skilled) results in significantly higher wages. For indigenous Oaxacan men who speak an indigenous language, the relationships between education, occupation, and wage are largely the same as for women. Each level of educational attainment is significant. Low skilled white-collar is the occupational category that is not significant. As with women, being employed in a high skilled blue-collar job results in significantly lower wages.

Among the indigenous Oaxacan population that does not speak an indigenous language, each level of education and each occupational category leads to a significantly different wage than the reference group (less than primary school or low skilled blue-collar workers) for both men and women. Generally, higher education and higher status/skilled work results in a

significantly higher wage, except for high skilled blue-collar workers who have a significantly lower wage.

For non-indigenous Oaxacans who do speak an indigenous language, educational attainment is significant for both men and women. Occupational status is more mixed. For men and women, high skilled blue-collar workers have significantly lower wages than their low skilled counterparts. For women, the other two occupational categories do not have a significant impact on wages; for men, high skilled white-collar workers have significantly higher wages.

For non-indigenous Oaxacans who do not speak an indigenous language, educational attainment and occupational status do have a significant influence on wages for both men and women. As with the indigenous population this generally means higher education and higher status/skilled work results in a significantly higher wage. The exceptions, as with every other group in Oaxaca, are high skilled blue-collar workers who are expected to earn a significantly lower wage than their low skilled counterparts.

## CHAPTER V

### DISCUSSION AND CONCLUSION

Education can be thought of as an investment that should pay off in the long run in the form of higher wages or insertion into higher status occupations. For non-indigenous, Spanish speakers in Mexico City and Oaxaca, this is certainly the case. For each additional level of educational attainment, there is generally a clear and significant increase in wages for men and women, showing increased returns on an investment in more schooling.

Among Oaxacan residents, this clear return on increased schooling is not only prominent among non-indigenous Spanish speakers, but among every group, whether or not they speak an indigenous language or identify as indigenous.

However, among the Oaxacan indigenous population in Mexico City, including both indigenous language speakers and those who identify as indigenous, higher educational attainment does not necessarily result in higher wages. That is, the return on investment is limited, non-existent, or even negative. While having a college degree (or equivalent post-secondary training) does generally result in a significantly higher return on investment, realistically most indigenous people do not reach that point. It would be expected that completing secondary school (12 years of schooling) would result in significantly higher wages compared to having less than a primary school education. Among the Oaxacan indigenous migrant population in Mexico City, that is not true. Expected wages are frequently higher or at

least comparable for those that have an intermediate education, rather than secondary. In the previous examples of non-indigenous Oaxacan migrants in Mexico City and indigenous Oaxacan residents, staying in school longer almost always results in a better return on investment. For Oaxacan indigenous migrants, they may earn more money by leaving school earlier, especially after completing intermediate school. There generally appears to be no economic reason to complete secondary school, unless they also plan to go on to college. Paradoxically, it could also be seen as a disadvantage to continue on to secondary school and end there.

The fact that the low return on increased schooling is limited to Oaxaca indigenous migrants in Mexico City shows these patterns are possibly related to both migration status and indigeneity. These patterns do not appear for non-indigenous Oaxacan migrants in Mexico City nor for indigenous Oaxacan residents.

Similar to education, there is an expectation that employment in higher-skilled or higher-status occupations should result in higher wages or, in other words, a higher return to investments in training or education. Results are considerably mixed. Using low-skilled, blue-collar jobs as a reference category, movement into a higher status (i.e. white-collar), but still low-skilled, occupation does generally result in a wage increase, albeit insignificant, suggesting a low return on wages in terms of occupational status. This finding is generally consistent across groups although non-indigenous Mexico City natives and Oaxacan women residents may find a more significant return on wages.

An investment in specialized training that would permit them to move from a low-skilled to a high-skilled blue-collar job provides better returns for certain groups and the worst returns for others. For all men in Mexico City, including Oaxacan and Mexico City natives and indigenous and non-indigenous people, a high-skilled blue-collar job leads to significantly higher

wages, relative to low-skilled blue-collar workers. This suggests that investing in specialized training offers worthwhile returns for these men.

The opposite is true of men in Oaxaca, whether indigenous or not. Wages for high-skilled blue-collar workers are significantly lower than for low-skilled blue-collar workers, suggesting there is no financial benefit in investing in the skills necessary to succeed at a high-skilled blue-collar job.

For women in this study, the opposite pattern emerges. In Mexico City, women in high-skilled blue-collar jobs earn less than those employed in low-skilled blue-collar jobs. In Oaxaca, women in high-skilled blue-collar positions earn significantly more money than women in low-skilled blue-collar positions.

Even employment in higher-skilled and higher-status occupations (i.e. high-skilled, white-collar) does not guarantee a high return in terms of wages. This is especially evident among indigenous-identified and indigenous language speaking Oaxacan migrants in Mexico City where employment in a lower status, blue-collar occupation will often yield a better return in wages.

Wage inequality appears to be less of an issue in Mexico City than initially expected, especially among those with relatively low educational attainment. Predicted monthly wages for the indigenous Oaxacan migrant population are frequently comparable or even slightly higher than for non-indigenous Mexico City natives for those with low educational attainment. This suggests that wage discrimination may be less of a problem for less educated people who are pursuing work in low-status, low-wage, and low-skilled sectors. Differences are more pronounced among the indigenous migrant college-educated population, particularly for Oaxacan migrant women who self-identify as indigenous and speak an indigenous language. This may

suggest that highly educated indigenous people are struggling to find high-paying work that matches their educational level or skillsets. This could be due to outright wage discrimination. Perhaps migrant social networks are geared toward helping people find work in low-wage and low-status sectors and highly educated migrants lack the connections to find work in occupations that more closely match their qualifications. In any case, there is a disconnect between less educated and more educated Oaxacan indigenous migrants to Mexico City where those with the lowest educational attainment appear to be more integrated into the urban labor market.

The results are mixed as to whether migrating from Oaxaca to Mexico City leads to better labor market outcomes. Some people, like college educated women who self-identify as indigenous and speak an indigenous language, can expect to have higher wages by staying in Oaxaca. This may suggest that these groups experience difficulty in integrating into the urban labor market. College educated men, however, will have higher wages by migrating to Mexico City. For those with lower educational attainment, especially women, there is generally an economic benefit to migration, although in some cases the costs of migration may outweigh the wage benefits.

In terms of the migrant adaptation scholarship, this study shows that indigenous Oaxacan migrants are incorporating in some ways into the Mexico City labor market, but this varies significantly by educational attainment with less educated indigenous Oaxacan migrants generally incorporating better than higher educated indigenous Oaxacan migrants. Although migrants who self-identify as indigenous and speak an indigenous language frequently earn lower wages than comparable non-migrants or non-indigenous migrants, the differences are often relatively small.

The economic incorporation of this group is closely related to their history of social incorporation into the city. Knowing that indigenous migrants from Oaxaca do have strong social networks and connections, in the form of hometown associations for example (see Hirabayashi 1993 and Gissi 2012), it is reasonable to assume that these social networks are helping migrants find employment and allowing them to better incorporate themselves into the labor market than if they had no connections. If social networks are playing a significant role in finding employment, these networks may have stronger connections to certain industries and lines of work and are better equipped to assist certain migrants (i.e. lower-skilled or lower educated migrants) more than other, higher-skilled migrants. Many of the indigenous migrants from Oaxaca have lower levels of educational attainment and are more likely to pursue employment in low-skilled or low-status, blue-collar occupations, so with the help of social networks, there may be more opportunities in these sectors. Since there are fewer indigenous Oaxacan migrants in occupations that require more skills or higher educational attainment, their social networks will afford them fewer opportunities for employment that matches their skill or educational levels. This is perhaps why wage differentials are more pronounced among the college-educated migrant population – they are struggling to incorporate into an urban labor market because they have fewer connections in the occupations they are most qualified for. In Villarreal's (2016) discussion of the "education-occupation mismatch" of internal migrants in Mexico, his findings suggested that internal migration may allow people to insert themselves into higher-status or higher-skilled occupations. That does not appear to be the situation for highly educated indigenous migrants. This mismatch still exists even after migration to Mexico City as they seem to continue to struggle, perhaps even more so than in Oaxaca, to find employment that matches their education and skill level. In any case, there is a need for more research on the ways

different dimensions of migrant adaptation (i.e. economic and social) may influence each other, such as how social networks and hometown associations can help labor market incorporation.

The discussion of indigenous migrant incorporation also relates to the topic of indigenous inequality. Flores and Telles (2012) argue that socioeconomic stratification has already been determined by educational attainment and parental background before people even enter into the labor force. Thus, indigenous self-identity and indigenous language use would not be expected to be related to poorer labor market outcomes. If those outcomes are dictated primarily by parental background, that in turn influences educational attainment and the occupations in which these people are employed. When comparing expected wage levels for people in Mexico City with the same levels of educational attainment, wage disparities are most apparent among the indigenous, college-educated migrant population. Among those with lower levels of educational attainment, wage inequality is much less. Wage disparities among the college-educated population are much less apparent in Oaxaca, so socioeconomic stratification appears to be caused by more than educational attainment and parental background. The exact causes of socioeconomic stratification for the indigenous migrant population in Mexico City, especially those with a college education, are unclear, but may be related to discrimination or the availability of social networks. Further research is necessary to clarify the causes of wage inequality for this population.

This study is only a starting point for potential future research in this area. Future studies should aim to better understand the relationship between educational attainment and low-wage, low-status occupational insertion for the indigenous migrant population. For groups that appear to experience more difficulty in successfully integrating into the urban labor market, like college-educated indigenous migrant women, there is a need to understand the factors preventing or

limiting their incorporation into high-skilled and high-paying jobs that match their skill levels. Similarly, for segments of the indigenous population that have the best labor market outcomes, particularly those with outcomes better than those of the non-indigenous population, it would also be useful to discern the factors that have allowed their successful integration into the urban labor market. Together, these studies would tell a more nuanced story of the economic incorporation of indigenous migrants. While discrimination may continue to be a factor in poorer labor market outcomes for certain segments of the indigenous population, based on the disparate outcomes for some groups, there are likely to be more elements at play. If these elements can negatively impact their labor market outcomes, it is very likely other aspects of their urban incorporation experience are also adversely affected, such as their incorporation into non-indigenous social networks. While, as this study shows, some members of the indigenous migrant community in Mexico City are having positive economic incorporation experiences, Mexico's indigenous population continues to experience struggles in their daily lives and their situation requires continued attention from academics and others alike.

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## APPENDIX

## Appendix A: Municipalities of the Mexico City Metropolitan Area

Code	Municipality
Ciudad de México (Distrito Federal until January 2016)	
09002	Azcapotzalco
09003	Coyoacán
09004	Cuajimalpa de Morelos
09005	Gustavo A. Madero
09006	Iztacalco
09007	Iztapalapa
09008	La Magdalena Contreras
09009	Milpa Alta
09010	Álvaro Obregón
09011	Tláhuac
09012	Tlalpan
09013	Xochimilco
09014	Benito Juárez
09015	Cuauhtémoc
09016	Miguel Hidalgo
09017	Venustiano Carranza
Hidalgo	
13069	Tizayuca
Estado de México	
15002	Acolman
15009	Amecameca
15010	Apaxco
15011	Atenco
15013	Atizapán de Zaragoza
15015	Atlautla
15016	Axapusco
15017	Ayapango
15020	Coacalco de Berriozábal
15022	Cocotitlán
15023	Coyotepec
15024	Cuautitlán
15025	Chalco

15028	Chiautla
15029	Chicoloapan
15030	Chiconcuac
15031	Chimalhuacán
15033	Ecatepec de Morelos
15034	Ecatzingo
15035	Huehuetoca
15036	Hueypoxtla
15037	Huixquilucan
15038	Isidro Fabela
15039	Ixtapaluca
15044	Jaltenco
15046	Jilotzingo
15050	Juchitepec
15053	Melchor Ocampo
15057	Naucalpan de Juárez
15058	Nezahualcóyotl
15059	Nextlalpan
15060	Nicolás Romero
15061	Nopaltepec
15065	Otumba
15068	Ozumba
15069	Papalotla
15070	La Paz
15075	San Martín de las Pirámides
15081	Tecámac
15083	Temamatla
15084	Temascalapa
15089	Tenango del Aire
15091	Teoloyucan
15092	Teotihuacán
15093	Tepetlaoxtoc
15094	Tepetlixpa
15095	Tepotzotlán
15096	Tequixquiac
15099	Texcoco
15100	Tezoyuca
15103	Tlalmanalco
15104	Tlalnepantla de Baz
15108	Tultepec
15109	Tultitlán

15112	Villa del Carbón
15120	Zumpango
15121	Cuautitlán Izcalli
15122	Valle de Chalco Solidaridad
15125	Tonanitla