ABSTRACT

Wages of Mexican American Women: Beyond Human Capital

Elizabeth L. Embry, Ph.D.

Mentor: Robyn L. Driskell, Ph.D.

Labor force participation of Mexican American women, like the labor force participation of *all* women, has been increasing in recent years. Due to the increase in the labor force participation of Mexican American women, their wages and the employment opportunities available to these women merit further attention. Typically, variations in the wages of Mexican American women are attributed to differing human capital characteristics among these women. This study extends upon the human capital research by looking at the effect of citizenship status and failure to naturalize on Mexican women; and by using hierarchical modeling to examine the contextual effects of the labor market that these women work in on their human capital characteristics.

Wages of Mexican American Women: Beyond Human Capital

by

Elizabeth Embry, B.A., M.A.

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Approved by the Department of Sociology

Charles M. Tolbert II, Ph.D., Chairperson

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Approved by the Dissertation Committee

Robyn L. Driskell, Ph.D., Chairperson

F. Carson Mencken, Ph.D.

Diana Kendall, Ph.D.

Charles M. Tolbert II, Ph.D.

Susan K. Johnsen, Ph.D.

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J. Larry Lyon, Ph.D., Dean

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CHAPTER ONE

Introduction

Currently, immigrants from Latin America dominate the flow into the United

States, composing more than half of the immigrant population, most coming from

Mexico (U.S. Census Bureau, 2007). Historically, males have dominated the influx of

immigrants from Latin America to the United States, but recently, higher rates of females

have begun to move to the United States in search of employment. No longer are

Mexican women making the journey to America to join their husbands, who have already

established jobs and households; women are coming on their own, many unmarried, and

seeking employment (De Anda, 2000). This study will examine the labor market chances

available to Mexican American women and how individual characteristics, geographic

context, and labor market characteristics effect their economic outcomes.

Previous research on race, gender, and the labor market has focused more on the

labor force *participation* of Hispanic women, rather than their *earnings*. These studies

have found that while immigrant women are coming into the United States at

approximately the same, or even greater, rates than men, their labor force participation is

significantly lower than their male counterparts. A report by the Pew Hispanic Research

Center shows that the labor force participation rate of Hispanic women was 56.3% in

2007 (Kochhar, 2008). Hispanic males have a labor force participation rate of 80.2%.

Very little research on Hispanic women in the labor market divides the group into

countries of origin. Some studies have shown that country of origin plays a role in the

labor market experiences of Hispanics (McCall, 2001; Trejo, 2003). Mexican Americans (both male and female, immigrant and native-born) are, by far, the largest Hispanic subgroup in the United States. They are also the most disadvantaged, being the least likely of Hispanic groups to earn wages above $35,000 per year, at only 23.6% of the population (Ramirez & Patricia de la Cruz, 2002). For this reason, my research focuses on Mexican American women employed in the U.S. labor force.

The little research that has examined the wages of Mexican American women in the labor force typically treats variations in wages simply as a function of differing human capital characteristics of these women. These studies (Kahn & Whittington, 1996; Baker & Espitia, 2000; Davila & Mora, 2000; Jasinski, 2000; England, Christopher, & Reid, 1999) found that, in general, human capital variables (i.e., educational attainment, experience in the labor market, and age) account for a significant portion of the difference in majority and minority wages, all else being equal. Trejo (2003) finds that fewer years of schooling among Mexican Americans accounted for roughly half of their wage differences with Anglos.

One explanation (not often cited in the human capital literature) for the lower economic outcomes of Mexican Americans is that a large portion of the population in the United States immigrated. Immigrants from Mexico tend to come from modest backgrounds, typically with very low levels of educational attainment, resulting in a lessened ability to compete in the U.S. labor market.

Looking further into the effects of immigration, Freeman et al. (2002) addressed the problem of non-citizenship in the Hispanic community. They showed that many immigrants to the U.S., particularly those of Hispanic origin, never become citizens,

barring their economic mobility in the country. Because of this low rate of naturalization, barriers are erected to Hispanic immigrants' economic mobility (North, 1994). Discrimination by employers, in particular, has been cited as an explanation for inequality. In 1986, the passage of the Immigration Reform and Control Act created requirements for employers to check the naturalization status of their employees and held them accountable for documenting their workers' legal status. Bansak and Raphael (2001) showed that after the passage of IRCA, Hispanic wages in the non-agricultural sector declined due, in part, to employer discrimination against Hispanic immigrants. Phillips and Massey (1999) further argue that the implementation of IRCA did not increase employer discrimination against all immigrant workers, but rather those who are undocumented. Employers have a fear of being caught, and undocumented immigrants are a risk that they do not want to take. Because of this fear, employers are less likely to hire immigrant workers in general. Empirical evidence shows that the passage of IRCA has had a detrimental effect on the wages of Mexican immigrant workers, both documented and undocumented. Prior to the passage of IRCA, the primary determinant of immigrant wages was the amount of time the worker had spent in the United States. After IRCA, however, the legal status of the immigrant became the primary determinant of wages (Donato et al., 2008). For this reason, it is important to take into the account not only the immigrant status of Mexican Americans, but also their current citizenship status.

Several studies (Greenless & Saenz 1999; Donato et al., 2008; Donato, Aguilera, & Wakabayashi, 2005; Massey, Durand, & Malone, 2002; Phillips & Massey, 1999) examine the effect of immigrant status on the wages and labor force participation of

workers themselves. They typically find that being foreign-born hinders a person's ability to compete effectively in the American job market (usually because of human capital differences, like the low aggregate level of education among Mexican American immigrants), restricting them to low wage, unskilled, and seasonal employment. While levels of employment in the Mexican American community tend to be relatively high, this may be a reflection of employer preference for Mexican American immigrants in low-skill, low-wage jobs. These types of jobs tend to offer little chance of upward mobility.

This research focuses on the employment outcomes of Mexican American women. Mexican immigrant women have the wage lowering impacts of gender, ethnicity, and immigrant status working against them simultaneously. At the same time, these individual characteristics are mediated by the environment in which they are experienced, the local labor market. I will incorporate both micro- and macro-level explanations of wage inequality to create a more robust picture of the factors influencing wage determination among Mexican American women, both immigrant and native born.

One area of labor market research looks at the geographic context of the labor market and how location in different areas of the country can influence the economic outcomes of workers. Because of the concentration of the Mexican American population in the Southwest, most of the literature on the regional effects of the labor market for this group focus on variations in socioeconomic attainment differences between those residing in the Southwest and elsewhere in the country. Some studies find that minority workers fare worse economically in areas with larger concentrations of Hispanics, particularly in the Southwest (Crowley, Lichter, & Qian, 2006). Others (see Saenz, 1997

for a classic example) suggest that the wage lowering effects of residence in the Southwest stem from the historical position of Mexican Americans in the region, rather than the current concentration. They claim that the historical legacies of discrimination found in areas where a minority group has traditionally been located remain, and continue to affect their social and economic outcomes.

Another area of labor market research examines the effects of the demographic composition of the labor market on wages of workers. McCall (2001), studying the effect of labor market composition on wages of groups of minority women, finds that Hispanics have significantly lower wages relative to Whites in areas with higher numbers of immigrants. While large populations of immigrants may have downward effects on the members of the immigrant population though, native-born members of the same minority ethnic group may see positive effects. Mora and Davila (2006) find that ethnic enclaves offer mobility opportunities to skilled immigrants and may generate high-skill jobs for natives by keeping certain industries afloat with an influx of low-skill immigrant labor.

This research concentrates on the wages of Mexican American women, examining the effects of individual level human capital characteristics (specifically schooling and citizenship status), and how labor market composition and characteristics (especially the racial/ethnic and gender composition and location in the Southwest) may mediate these effects. I include Anglo women in all analyses as a comparison group. I will use hierarchical linear modeling (HLM) to isolate the effects of labor market composition on specific characteristics of individual female workers (i.e., citizenship status, schooling, and residence in the Southwest).

First, I look at the effect of rate of naturalization on these women. I hypothesize that not being a citizen will have a negative effect on the wages of Mexican women. Furthermore, the effect of non-citizenship will be strengthened by the percent of the labor force population who are non-citizens, as well as the percent of the labor force who are women. The larger the potential pool of non-citizen women, then, the more detrimental the effect of failure to naturalize will be on the women in that labor market. Beyond traditional human capital characteristics and the percent of the labor market of Hispanic ethnicity or female, citizenship status will play a role, and the percent of non-citizens will multiply these effects for Mexican women who are not citizens.

I also examine the effects of labor market characteristics on the returns to wages from education and work experience that Mexican American women receive. At the individual level, I hypothesize that both schooling and additional years of experience in the labor market will have positive effects on the wages of Mexican American women. However, I predict that those women in labor markets with high concentrations of Hispanics and non-citizens will see lower returns from their education and work experience because of the high level of competition in the labor market.

Finally, I look at the differential effects of labor market composition on Mexican American women who live in the Southwest. I predict that the effects of a larger population of Hispanics and non-citizens will have an even greater impact on women who reside in this region, given the area's historical trends regarding Mexican Americans.

Before answering these questions, I outline the existing research in these areas, beginning with studies on the wages of Hispanic origin groups. I highlight the

importance of a more direct focus on the Mexican American population. From this, I

further explore two main perspectives in research on wage determinants. First, I explore

the human capital perspective, with a specific emphasis on immigration, citizenship

status, and educational attainment. Next, I look at the structural perspective and the

existing literature on labor market effects, specifically the geographic context of

employment and the demographic composition of the labor market, in order to better

understand how the environment in which these individual characteristics are experienced

can change their effects on economic outcomes.

CHAPTER TWO

Review of Existing Research

Labor force participation of Hispanic women, like the labor force participation of

all women, has been increasing in recent years. Due to the increase in the labor force

participation of Hispanic women, their wages and the employment opportunities

available to these women merit further attention.

Hispanic Origin Groups and Wages

Most of the research examining the wages of Hispanic women views them as a

generic group, indistinguishable by their country of origin. While Hispanic groups may

share a common language, they have very different experiences in the United States,

including their historical incorporation into the American cultural and economic life, as

well as their participation in the U.S. labor force. The first research to argue for a

distinction between Hispanic-origin subgroups, Bean and Tienda (1987) explain that the

three largest Hispanic origin groups (Mexicans, Puerto Ricans, and Cubans) have

different U.S. experiences, including their country of origin's historical political

relationship with the United States, the economic situation, their geographic

concentration, their educational attainment, and their labor market experience. For

example, Cuban immigrants typically receive a warm welcome in the U.S., as they are

greeted as political refugees from a communist country.

To truly understand the experience of a Hispanic immigrant, then, we must

examine the largest subgroup in their own distinct analysis, rather than grouping all of

them together under the general label "Hispanic." Mexican Americans are by far the largest subgroup, consisting of both immigrant and native born residents. They also tend to be the most economically disadvantaged. Ramirez and de la Cruz (2002) point out that Mexican Americans are the least likely among all Hispanic workers to earn $35,000 or more.

One of the attributes that disadvantages Mexican Americans in general is that a large proportion are recent immigrants to the United States, a status which has been shown to significantly lower wages. Mexican immigrants to the United States typically immigrate for economic reasons, to participate in the work force and often send money back to their families in Mexico. These immigrants comprise a wide variety of workers, some semiskilled, but many unskilled. Because of their disadvantaged position in the labor market, with gender, ethnicity, and immigrant status impacting their wages, the focus of my research is on Mexican American women and their labor market experiences, with special attention on the differential outcomes based on their citizenship and immigration statuses.

Current research on economic outcomes for immigrants in the U.S. typically concentrate in two areas: the *human capital* perspective, which takes into account the immigrant's initial resources, such as education and work experience; and the *structural* perspective, which examines the social structure that greets the immigrant, for example, the opportunities available in the host country (Pedraza, 2000). I combine these often separated areas of research to examine the effect of both human capital characteristics and labor market effects on wages for Mexican American women. By using a multi-level model, I further examine this relationship by exploring the contextual effects of the labor

market on these individual-level human capital characteristics of Mexican American female workers. To begin, it is necessary to review the research on these two areas of study: human capital (specifically immigration status), and structural effects (particularly geographic location and labor market composition).

Human Capital

Human capital is defined as "the knowledge, skills, and experience that enhance an individual's potential value as an economic actor" (Phillips & Massey, 2000). While this could include a variety of factors, most studies agree that there are a few variables that are more significant than others, particularly education and work experience. Indeed, research on wages by gender tends to focus on these two factors, with the argument that human capital characteristics explain a large portion of wage inequality between men and women (England, Christopher, & Reid, 1999). Since the technological advancements associated with a post-industrial society, low skill workers have lost ground. The demand now is for highly skilled workers, particularly those with extensive technological skill and knowledge. The little growth in low skill jobs has been in informal, part-time, and temporary jobs, which are usually very low wage. These are also typically held by women and minorities (McCall, 2001; Reid & Rubin, 2003).

In general, research on Mexican American women's labor force outcomes have found that human capital characteristics significantly impact their wages: education (Bratsberg & Ragan. 2002; Driskell & Embry, 2007; Ferrer, Green, & Riddell, 2006; Phillips & Massey, 1999; Stone & McQuillan, 2007; Trejo, 2003), experience in the workforce (Driskell & Embry, 2007; Stone & McQuillan, 2007; Phillips & Massey, 1999; Trejo, 2003), and English proficiency (Bleakley & Chin, 2008; Casey &

Dustmann, 2008; Driskell & Embry, 2007; Ferrer et al., 2006; Stone & McQuillan, 2007; Trejo, 2003; Phillips & Massey, 1999) have all been shown to positively impact wages for Mexican American women.

In this study, controls for human capital characteristics shown in previous studies to be important predictors of Mexican American women's wages are included: years of schooling, work force experience, citizenship status, year of immigration, age, marital status, presence and age of children, and English speaking ability. For the purposes of this study, schooling and citizenship status are the main focus of the human capital determinants. Age, marital status, presence and age of children, work experience, and English speaking ability are included as control variables because of their effects in previous research.

Immigration

Many studies have shown a negative effect of immigrant status on wages when compared to native born workers (McCall, 2001). Research on Mexican immigrants' incorporation into the labor market shows that while they have high rates of employment, they tend to be segregated in low skill, low wage jobs.

One barrier to higher wages faced by immigrants to the United States is their legal citizenship status. Immigrants that meet the requirements have the option to go through the naturalization process to become a U.S. citizen and theoretically enjoy nearly all of the same benefits, rights, and responsibilities that the Constitution gives to native born U.S. citizens, including the right to vote (Rytina & Caldera, 2008). The requirements for naturalization in the United States (found in the Immigration and Nationality Act) include being 18 years of age or older; having been granted lawful permanent residence in the

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United States (so that no one entering the U.S. illegally can be granted citizenship); having resided in the United States continuously for at least five years; having the ability to speak, read, and write the English language; having knowledge of U.S. government and history; and being "of good moral character" (Rytina and Caldera, 2008). While naturalization is assumed to be the final step in the immigration process, few individuals who meet eligibility actually complete the process of naturalization. Immigrants from Mexico are the least likely to naturalize.

For a number of reasons, Mexican immigrants are less likely to naturalize as United States citizens than their counterparts of other nationalities. Many explanations center around the proximity of Mexico to the United States. The openness of the border between the U.S. and Mexico and the ease with which immigrants are able to return to their home country for visits (or to stay) may contribute to the lower likelihood of naturalization among Mexicans (Gomez & Zackrison, 2003). Many Mexican immigrants came to the United States in the first place for economic reasons, and may be sending money back to their home communities, planning to return at some point. Pedraza (2000) extends on this idea, suggesting that Mexican immigrants occupy a special position in a "transnational community," where they are able to retain their old identities, and develop new, bicultural identities, in which they are being affected by conditions both in their host country and their country of origin. However, Mexico does not allow its citizens to hold dual citizenship in the U.S. and Mexico, which could deter some immigrants from seeking U.S. citizenship.

Another explanation for the low naturalization rates of Mexican immigrants is associated with the structural processes of becoming a citizen. For the most part, it is a

lack of knowledge about the process (although most studies acknowledge that the INS does little to assuage this confusion). Many assume that because of their age or lack of formal education, they would not meet the requirements for citizenship, which include an exam on American government and history. Despite these cultural and structural barriers, however, naturalization in general rose sharply throughout the mid-1990s (although Mexicans were still underrepresented). This change was primarily due to immigrants legalized under the Immigration Reform and Control Act (IRCA) of 1986 through amnesty (Rytina & Caldera, 2008).

IRCA was passed in late 1986 in response to a dramatic increase in the amount of illegal immigration from Mexico to the United States. Voters were angry about the immigration situation and wanted to alleviate the strain on the economy. In response, Congress passed this legislation, which sought to control undocumented workers from Mexico in three ways. First, in order to make U.S. job opportunities less appealing to those in Mexico, IRCA set up a system of sanctions to punish employers who knowingly hired undocumented immigrants, requiring employers to verify that their employees had correct documentation or face severe penalties. Second, in order to make the actual border-crossing journey more difficult for potential illegal immigrants, IRCA allocated additional resources to the U.S. Border Patrol. Finally, and most importantly, IRCA granted amnesty to all undocumented immigrants currently in the U.S. who could prove continuous residence in the country after January 1, 1982 (Phillips & Massey, 1999).

The long term consequences of IRCA for the Mexican American community in the United States has been decidedly detrimental. Recent immigration has been less educated and less skilled, resulting in an overall decline in Mexican American earnings

since 1986 (Bansak and Raphael, 2001). The decline is usually explained as employers discriminating in hiring for fear of economic sanctions. Employers, to protect themselves, may (knowingly or unconsciously) discriminate against all Mexican immigrant workers, whether they have proper documentation or not. Because acquiring falsified documents is possible, employers cannot ensure authenticity. Some may limit hiring of Mexican Americans in general, including both immigrants and native born workers, because that ethnic group contributes the highest proportion of unauthorized labor. Thus, IRCA affects not only undocumented immigrants, but also those who are in the country legally, as well as native born workers of the same ethnicity (Bansak & Raphael, 2001).

This discrimination results in a penalty for Mexican immigrants' lack of citizenship through lower wages. Employer sanctions impose a "tax" on the employment of unauthorized workers and therefore lowers the demand for, and the wages of, those without documents (Bansak and Raphael, 2001). Donato et al. (2008) showed that during the pre-IRCA period, the duration of time spent in the U.S. was the primary determinant of wages, but after IRCA, legal status became the most important factor, with undocumented migrants earning lower wages and being far more likely than legal workers to earn below the federal minimum. Pre-IRCA, two migrants, one documented and one undocumented, with the same endowments of human capital, generally received the same pay. The important factor was the person's skills and abilities. Post-IRCA, wages became more connected to factors associated with migration than individual level human capital characteristics (i.e., English language proficiency or education).

While human capital differences and immigrant status may explain a portion of the differences in wages between workers, it is necessary to look beyond human capital characteristics. Mexican immigrants, for example, tend to be concentrated in the Southwest U.S., a region with a legacy of tension between Mexican Americans and Anglos. Further, the composition of the labor market where a Mexican American woman is located can change the returns she will see to her human capital characteristics, such as education and work force experience.

Regional Effects

Few studies have examined the regional effects and labor market contexts of Mexican American workers. General research tends to focus on either regional variations in labor market experiences (Crowley et al., 2006; Driskell & Embry, 2006) or contextual effects of the particular labor market, but not both.

Most research on Mexican Americans with regional variations focuses on the Southwest. A classic study by Saenz (1997) points out that the relationship between minority concentration and poverty is especially strong in regions where the group has historically been concentrated. For Mexican Americans, with the history of conflict and tension in the Southwest, discrimination tends to be high and effects negative. Studies have found that minority workers fare worse economically in areas with larger concentrations of Hispanics, particularly in the Southwest (Crowley et al., 2006). Employers in the region tend to show a preference for Mexican Americans for low skill, low wage work, and recently arrived immigrants direct workers toward similar jobs as their counterparts who have been in the country for longer, thus continuing the cycle of low skill, low wage employment many immigrants find themselves in. This leads to

higher competition between immigrants for low skill jobs, which in turn leads to lower wages for the group, even holding levels of human capital constant (Crowley et al., 2006; McConnell & LeClere, 2002).

The nature of Mexican immigrants' arrivals and their introduction into the U.S. labor market may facilitate and perpetuate the low wage cycle of immigrants. Mexican immigrants tend to represent low economic status and low levels of educational attainment (Crowley et al., 2006). The point of entry into the labor market is typically in the Southwest. This is expected, as in the Southwest, Mexican immigrants have historically supplied the bulk of unskilled labor. The region is particularly detrimental to the wages of Mexican immigrants, as in the Southwest, they are two times more likely than the native born Mexican American population to live in poverty (McConnell & LeClere, 2002)

There has been a trend recently of Mexican immigrants moving beyond the Southwest (especially to the Midwest) as they arrive and settle in the U.S. (Massey & Capoferro, 2008; Leach & Bean, 2008; Parrado & Kandel, 2008). Rather than improve the situation in the Southwest, though, this new settlement trend may actually worsen the outcomes for those immigrants who remain in the region. McConnell and LeClere (2002) found that those immigrants who move beyond their point of entry into areas in the rural Midwest tended to possess larger stocks of human capital than their Southwest counterparts. Not only did these immigrants have higher education and more work experience, they were also more likely to be documented and have more general U.S. experience. Crowley et al. (2006) found that Mexican American families were less likely to be in poverty if they lived outside of the Southwest, attributing this likelihood to the

tendency for more families with a low poverty risk to move outside of the region (e.g., married couples and families with fewer children).

Labor Market Composition

Fernandez and Su (2004) focus on the labor market as a geographical area that is characterized by competition, and by the notion that the region is filled with "individuals who might plausibly be changed for one another in particular jobs" (p. 546). Measures associated with Blalock's (1967) relative group size hypothesis (which proposes a positive relationship between a minority group's relative size and their level of inequality within a labor market) are a major topic in labor market effects research. This research uses the percent of the minority population in the labor market to explain inequality in economic outcomes. For the purposes of this study, I focus on Mexican Americans, the percent of the labor market of Hispanic ethnicity, and immigrant status.

There have been varied findings on immigrant concentration effects. Some find a negative effect on all immigrant workers (Gouveia & Saenz, 2000; Stone & McQuillan, 2007), while others find a strong negative effect on native-born workers of the same ethnic group and low-skill status (Camarota, 1998). When examining the effects of race and gender on earnings inequality for White, African American, Hispanic, and Asian men and women, McCall (2001) found the percent of the work force in the labor market composed of immigrants to be the *main* source of ethnic wage disparity with Whites for Hispanics and Asians of both sexes, whether they were immigrants or native-born themselves.

To fully examine the intersection of human capital variables and contextual labor market variables in their impact on the wages of Mexican American women, this study

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includes several controls for labor market effects. Operating under the conceptualization of the labor market as an arena where competition takes place and workers are interchangeable, the percent female in the labor market is included, as well as the percent non-citizen and the percent Hispanic. The mean level of education in the labor market is included to control for the human capital variations in the particular area where jobs are being sought. These labor market characteristics are expected to show a relative impact on the human capital variables of Mexican American female workers, especially education and citizenship status.

In sum, Mexican American women are a rapidly growing contingent of the U.S. population, and it is important to understand the economic chances available to them in U.S. labor markets. A further refinement of the existing literature is needed, with the combining of two often separated areas of labor market research: the human capital perspective and the structural perspective. From the human capital standpoint, attention will be given to the opportunities available to those immigrants who are not naturalized, as they are the most economically disadvantaged, as well as Mexican American women's educational attainment. From the structural perspective, the contextual effects of the labor market composition will be explored, as well as the effect of employment in the Southwest U.S., where both Mexican American and Mexican immigrant workers are highly concentrated. I will also use a hierarchical model to test the effect of labor market characteristics on human capital characteristics, allowing for a more refined view of both.

CHAPTER THREE

Theoretical Orientation

Theoretical perspectives on wage inequality usually focus on one of two approaches. Some espouse an individual level, supply side orientation (associated with human capital theory), focusing on the individual attributes of the workers, and how their characteristics may raise or lower wages. Another approach examines a market level, demand side perspective. The focus is on characteristics of the labor markets that may affect workers' wages. Rarely are these two perspectives combined to form a more complete picture of the labor markets, nor or statistical methods often combined to evaluate workers' outcomes at both the individual and the labor market level. Rather, unexplained variance is accounted as some disparities in either human capital characteristics (in the case of labor market theorists), or the labor market (in the case of human capital theorists).

Supply side theory of wage determination is dominated by research on the effects of individual workers' human capital endowments. Human capital consists of all of the knowledge, skills, and experience (relevant to their value as a worker) that a worker contains (Phillips & Massey, 2000). When studying wage inequality, the approach has typically been to explain group differences in terms of disparities in ascribed and achieved statuses between the groups (Becker, 1993). Individual characteristics that are hypothesized to affect earnings, such as education or work experience, are usually a quantifiable proxy for human capital.

Most often, studies of wage differentials of the Hispanic population often employ human capital theory in their explanations. Some studies, in fact, attribute a large proportion of the wage gap between Hispanics and Anglos to differences in human capital (see, for example, Tomaskovic-Devey et al., 2005). Hispanic immigrants, and specifically Mexican immigrants, have low levels of both educational attainment and work experience, significantly lower than native-born Hispanics (Crowley et al., 2006). Furthermore, for immigrant groups, there may be more nuanced sources of human capital that affect their rewards in the labor market. Chiswick and Miller (1999) found that time spent in the United States was a key factor in wage determination for Hispanic immigrants. While immigrants were at a greater disadvantage than native born workers coming into the labor market, time and experience in the U.S. labor force helped them almost completely overcome their initial disadvantage. English speaking ability is often included, as well, as a measure of how well the worker can interact with coworkers and customers. Again, this is especially important for immigrant populations, as the major gap in fluency is between the native and foreign born populations.

I control for human capital characteristics by including measures for the female workers' immigration and citizenship statuses (comparing naturalized and non-naturalized immigrants to their native born counterparts); their educational attainment (measured in years of schooling); work experience; and English speaking ability.

The main limitation of human capital theory lies in its basic assumption of a perfectly equal, competitive labor market. At a given skill level, all workers should be on an "even" playing field, at least from the demand side. All that should matter are individuals' achieved characteristics, such as their educational attainment or work

experience (Becker, 1993). These achievements, education and work experience, are seen as investments made by workers into their stock of human capital. Any increase in wages seen from these investments are returns to the investment. The important element of labor for human capital theorists, then, is the *quality* of the labor that the workers provide, rather than the *quantity* of their work.

Human capital theorists do not debate that there are limitations to their underlying assumption, and they acknowledge the fact that few labor markets meet their equally competitive criterion. However, few studies focusing on human capital have attempted to look beyond these effects at the mechanisms behind what they explain as "market imperfections." Typically, discrimination on the part of employers is identified as the key cause of the imperfections. While human capital differences may influence wages, unexplained variance must be accounted for in a more detailed way. This study attempts to build an explanation which includes, but does not limit itself to, human capital variables by simultaneously examining both the region of the labor market and the characteristics of the labor market (e.g., gender and ethnic composition), and how these may affect returns to the workers' human capital characteristics.

The elements of the labor market in this study fall on the demand side of theoretical perspectives. The labor market is conceptualized as "the arena in which workers exchange their labor power in return for wages, status, and other job rewards" (Kalleberg & Sorenson, 1979). Characteristics of the labor market are completely out of the control of the individual worker, who merely exists and attempts to compete within their given labor market (Leicht, 2008). Examining wages through this macro-level lens allows us to examine the effects that larger forces may have on wage determination. The

two main structural areas used to explain wages of minority workers are the racial composition of the labor market and region of the labor market.

The standard approach of measuring the racial composition of the labor market is to include a control for the percent of the labor market composed of a given minority group. Most studies find negative effects for minorities in labor markets with larger populations of minorities. Cohen (1998) terms this effect the "visibility-discrimination" or "competition" hypothesis. The idea is that increases in the relative size of minority groups will heighten the *perceived* economic and political threat posed to the majority by the minority. This leads to defensive discrimination, which leads to the exclusion of minorities from access to highly valued socioeconomic resources (like education) and positions (high status, high paying jobs).

Alternatively, the "queuing model" (Thurow, 1975; Lieberson, 1980; Albrecht et al., 2005; Albrecht and Albrecht, 2007) suggests a positive relationship between the percent minority in a labor market and socioeconomic well being outcomes among minority residents. According to this theory, all jobs in a labor market are rank-ordered by favorability. Because of either human capital (i.e., higher education) or social capital (i.e., length of residence and ties to community) differences, or outright discriminations, Anglos will tend to receive the best available positions. In a labor market characterized by a large minority population, however, fewer Anglos will exist to compete for the positions at the top. As a result, more positions will be available for minorities to fill. Thus, according to queuing theory, minorities will benefit from a larger minority population.

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The majority of the research on the effect of minority population concentration has explained the effect of percent African American in the labor market, finding that the higher concentrations of African Americans leads to larger wage disparities with Anglos (Cohen, 1998). Reid et al. (2007) take a more broad approach along racial and ethnic lines, finding that competition and discrimination work together to differentiate workers economically along racial and ethnic lines.

The effect of the immigrant population is becoming a more popular area of research, particularly as the Hispanic immigrant population in the U.S. continues to grow. The assumption guiding most of the work is that higher proportions of immigrants will lead to lower wages for unskilled native workers in the labor market. Immigrants, it is thought, are more likely to accept poor working conditions and lower wages from employers because they have a high need to work and because conditions of employment considered substandard in the U.S. exceed those available at the margin in many countries of origin (Crowley et al., 2006). McCall (2001) examined the effect of percent immigrant in the labor market, but found that immigrants tend to settle in labor markets where other immigrants live, and compete more among themselves, to their detriment and to the relative benefit of Anglo workers.

Because the majority of the Mexican American population resides in the Southwest, I further examine the role of regional effects in wage determination. Due to the history of conflict between Mexican Americans and Anglos in the region, it is expected that Mexican Americans will face more difficult obstacles to economic success in this region than they would outside of the Southwest (Crowley et al., 2006). Since immigrants in the Southwest tend to have lower educational attainment and work

experience (McConnell & LeClere, 2002), and because the Southwest is "immigrant-saturated", more competition will arise for the low skill jobs in the area. Immigrants, who have historically been preferred for these types of positions (low skill and low wage), will see a further reduction in wages as more immigrants vie for the same jobs. Bansak and Raphael (2001) suggest that the implementation of IRCA may have contributed to this downgrading of wages in the Southwest. They find that after IRCA, wages for Mexican Americans (regardless of their *actual* immigrant status) decreased, while those for Non-Hispanic Whites increased in the Southwest.

I control for the relative sizes of the minority populations in the female worker's labor market. First, I look at the effect of a larger population of females in the labor market to uncover gender specific competition. I also look at the effects of race and ethnicity by including both the percent African American and the percent Hispanic in the labor market. Percent African American has been shown to reduce the wages of Anglo workers in previous studies, and the Hispanic population represents direct ethnic competition for employment. The percent of the labor market who are not U.S. citizens is also included, to serve as a proxy for competition for wages with recent immigrants who may accept lower wages and poor working conditions. These composition variables are regressed in the individual human capital characteristics of the workers, examining their effect on the returns to education, work experience, and naturalization. Human capital theory and racial composition are not tested against each other, but rather combined to create a more complete picture.

I examine the effect of residence in the Southwest by including it as a first level indicator of wages, but at the second level, I also include labor market composition characteristics, to uncover the exact processes that take place in the region.

In sum, I use a hierarchical approach to examine the effects of both individual level human capital characteristics and labor market characteristics on the economic outcomes of Mexican American women. I specifically focus on citizenship status, education, work experience, and residence in the Southwest, and how their effects may be changed depending on demographic and social characteristics of the labor market. I begin by describing the data to be used, as well as detailing the measurement of the variables used in analysis.

CHAPTER FOUR

Data and Methods

Sample

The primary aim of this study is to determine the effects of human capital and labor market characteristics on the wages of Mexican American women employed either full or part time. Data for individual and labor market characteristics were obtained from the 2000 5% Public Use Microdata Sample (PUMS), collected by the U.S. Census Bureau. These data represent a five percent sample of all people enumerated in the 2000 U.S. Census. The individual-level sample consists of 89,599 Mexican-origin women (native born, naturalized immigrants, and non-citizens) ages 25 to 64, who were employed in the U.S. labor force in 1999 either full time or part time. Full or part time was defined as working 20 or more hours per week for 40 or more weeks in the previous year (1999). For comparison purposes, the analyses are also conducted for Anglo women. All dependent and independent variables are held constant over the analyses, to allow for comparisons between groups. The data are weighted using the PUMS person weight variable (*pwgt*).

Labor market characteristics are summarized by PUMAs for all full and part time employees, both male and female, of all ethnicities. These characteristics were then regressed on the individual level variables using hierarchical linear modeling (HLM) to assess the effect of labor market characteristics on the returns to wages for individual human capital characteristics.

Dependent Variable

The dependent variable used in this analysis is the logged hourly wage in 1999. For each individual, the usual number of hours worked per week in 1999 was multiplied by the number of weeks worked to yield the total hours worked during that year. The total wages or salary income was then divided by the total hours worked in 1999 to obtain the hourly wage. The logged form of the hourly wage is typically used to account for outliers in the distribution, in order to standardize and ease the comparability of the findings (Driskell & Embry, 2006). The practice of logging wages is derived from human capital theory. The theory perceives earnings as "returns on investments" and focuses on rates of return to education, labor force experience, English speaking ability, etc. For the purposes of interpretation of the regression analyses, the coefficients for the independent variables were transformed back into real dollars by taking the antilog and subtracting 1. This allows for the interpretation of coefficients as changes in real wages, rather than percent changes.

Independent Variables

Human Capital

Several measures were included to determine the individual level stocks of human capital with which workers are endowed. First, educational attainment is measured in years of schooling completed. Work experience is measured by years of experience in the labor force, using the standard proxy (age – [years of schooling – 6]) and is based on the average amount of time spent in the labor force (Tomaskovic-Devey, 1993). By subtracting the respondent's number of years of schooling, as well as six additional years, I am able to obtain an estimate of the *potential* number of years that the respondent could

have participated in the workforce. Both education and work experience are centered at their group means in the regression models, so that effects are for increases beyond the average for the group. It is assumed that increased educational attainment and work experience will lead to increased rewards in the labor market. Larger stocks of human capital mean that a worker is able to compete for jobs requiring more skill, and therefore (presumably) with higher wages. Language ability is measured using four variables to describe the fluency of the respondent in English. For the purposes of this analysis, variables for "Speaks English very well," "Speaks English well," and "Does not speak English well" are included, with "Does not speak English at all" as the comparison group. This will show the effect of varying degrees of English ability compared to not having any ability in the language. Three other human capital measures are included to serve as statistical controls: age, marital status, and number of children. Age is measured in ten-year categories, starting with age 25. Those respondents between the ages of 55 and 65 are used as a comparison group in regression analyses. Marital status is measured using a dichotomous variable (1=married; 0=not married). Finally, number of children is measured simply by the reported number of children the respondent has.

Immigration and Citizenship Status

Citizenship status is also included as an individual-level independent variable. For the purposes of this study, the effect of *not* being a citizen on the income potential of Mexican immigrant women employed is of interest. While there is a growing amount of literature on the economic outcomes of Mexican immigrants, few studies differentiate between those migrants who naturalize and those who do not. Previous research shows that following the implementation of IRCA, legal status of the immigrant became the

main determining factor in wages, regardless of human capital endowments (Donato et al., 2008). A series of dummy variables measure the effect of immigration, and allow for comparisons between non-naturalized immigrants, immigrants who are now citizens, and native born members of each racial or ethnic group. This includes those born in the United States, those born abroad, and those who are U.S. citizens by naturalization. Controls are included for the decade of immigration to the U.S. for naturalized citizens. For regression analyses, (1) naturalized immigrants who arrived in the U.S. prior to 1960, (2) in the 1960s, (3) in the 1970s, and (4) in the 1980s are compared with those who immigrated in the 1990s. This allows for comparisons with more recent immigrants, who are more likely to be concentrated in low skill, low wage jobs. The assumption is that those immigrants who have been in the U.S. for a longer period of time will have more U.S. work force experience and larger stocks of human capital to draw from, making them more likely candidates for higher wage employment. A control for citizenship in the U.S. is also included, and allows for comparison between the citizen and non-citizen populations.

Region

A main variable describing characteristics of the respondent's position in the labor market is included at the individual level. A variable is included for residence in the Southwest, where Mexican Americans tend to be concentrated geographically. Because of the tense history of Mexican American-Anglo relationships in the area, discrimination on the part of employers is likely to be high (Crowley et al., 2006). Furthermore, because of the concentration of the recently arrived immigrant population in

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the region, competition between workers for employment will be high, leading to a

downgrading of wages (McConnell & LeClere, 2002).

Labor Market Composition

Labor market composition variables are included in the second level models, and

predict changes in returns to the individual level human capital variables. Second-level

variables serve to put the individual outcomes (predicted in the first level model) into

context. For example, a woman may see a positive relationship between her educational

attainment and wage outcomes, but in an area with a large number of women competing

for similar jobs, education may not matter as much. In this case, the coefficient for the

percent female in the labor market would be negative. This does not necessarily mean

that there is a negative effect on the individual woman's wages; rather, the initial positive

effect of education may be *reduced* by the percent female in the labor market (she will

still see a positive effect, but it will become less and less positive as the female

population grows).

I control for the percent of the labor market composed of females, Hispanics,

African Americans, and non-citizens (all of these measures are centered at their grand

means in the hierarchical models). The percent female in the labor market will uncover

and gender-specific competition occurring. Percent Hispanic and percent non-citizen

control directly for the racial/ethnic competition in the labor market. Because both of

these measures are included, the effect of percent Hispanic becomes the effect for citizen

(native born or naturalized) Hispanics. I control for the percent Hispanic rather than the

percent Mexican American because research on the discriminatory practices of employers

suggests that they do not "see" country of origin; rather, they focus only on broad ethnic

categories. Percent African American is included as a control for other minority

competition. By examining the demographic composition of the labor market,

differences in returns to stocks of human capital can be determined for women in

different labor markets. I also include the mean years of schooling in the labor market.

The average years of schooling in the labor market controls for the skill level of the

potential labor pool. Table 1 contains a summary of the operationalization of all of the

individual level and labor market independent variables used in the analysis.

Table 1

Operationalization of First- and Second-Level Variables Used in Analysis

Level 1 Predictors	Measure
Human Capital	
Immigrant Status	
Naturalized, immigrated pre-1960	Naturalized immigrants by year of immigration to the U.S.; comparison group = 1990s immigrants
Naturalized, immigrated 1960s	
Naturalized, immigrated 1970s	
Naturalized, immigrated 1980s	
Non-citizen	Not naturalized = 1; comparison group = native born
Schooling	Educational attainment in years of schooling; range = 0-20
Potential experience	Age minus years of schooling minus 6
Experience squared	Square of experience
English Ability	
Speaks very well	Respondent's self-reported English speaking ability; comparison group = "Not at all"
Speaks well	
Does not speak well	

(table continues)

Level 1 Predictors	Measure
Demographic Characteristics	
Age	Respondent age in years; comparison group = 55-64
25-34	
35-44	
45-54	
Marital Status	Currently married = 1; not married = 0
Family size	Number of children living at home
Geographic Residence	
Metro	Metro = 1; non-metro = 0
Southwest	Southwest (Arizona, California, Colorado, New Mexico, Texas) = 1; non-Southwest = 0

Level 2 Predictors	Measure
Labor Market Composition	
Percent Black	Percentage of Black workers in the labor market (PUMA)
Percent Hispanic	Percentage of Hispanic workers in the labor market (PUMA)
Percent Female	Percentage of Female workers in the labor market (PUMA)
Percent Non-Citizen	Percentage of workers in the labor market (PUMA) who are not naturalized
PUMA Schooling	Average education level of workers in the labor market (PUMA) measured in years of schooling

Methodology

I begin my analysis by examining the mean wages of women by race and

ethnicity. Based on the findings of these descriptive statistics, I formulate hypotheses to

drive the research. I then conduct ordinary least squares (OLS) regression analysis on the

log of hourly wages for Mexican American women, as well as Anglo women, as a

comparison group. Included in these initial regressions are all of the individual level human capital indicators described above: immigrant and citizenship status, education, labor market experience, age, marital status, and number of children. I also include the labor market variables controlled for at the individual level: residence in the Southwest and metro status. I include these measures at the individual level because they may also be influenced by the labor market composition. These OLS models will show the effect of individual level characteristics on the wages of Mexican American women, without labor market characteristics and composition taken in to account. The results will serve as a baseline for interpretation of, and guideline to direction in, the multi-level model.

Based on the results of the OLS findings, I use hierarchical linear modeling (HLM) to analyze the effects of labor market characteristics on the returns to human capital endowments for Mexican American women. Multi-level models are used when individual-level relationships are thought to be influenced by both characteristics of individuals and the area that they live or work in. HLM allows for simultaneous estimation of a full labor market level model to predict the *slopes* of individual level independent variables. Existing research leaves little doubt that human capital characteristics, such as educational attainment and labor force experience, play a significant role in determining the wages of all groups, including Mexican American women. By controlling for the composition and characteristics of the labor market in which these women act, a multi-level model allows for a more robust interpretation of the effect of human capital traits on economic outcomes. This will allow me to extend on previous research and further examine the relationship between Mexican American women and wages.

A multi-level model consists, in this case, of an individual level model and six area level models. The models are run using ordinary least squares estimation. The basic individual level model in this study is as follows:

$$\text{Wages} = B_0 + B_{1-4}(\text{year of immigration}) + B_5(\text{non-citizen status})$$
$$+ B_6(\text{years of schooling}) + B_7(\text{experience}) + B_8(\text{experience}^2)$$
$$+ B_{9-11}(\text{English ability}) + B_{12-14}(\text{age}) + B_{15}(\text{marital status})$$
$$+ B_{16}(\text{number of children}) + B_{17}(\text{metro}) + B_{18}(\text{Southwest}) + \varepsilon$$

To estimate the effects of labor market characteristics on the intercept, educational attainment, the effect of not being a citizen, and residence in the Southwest, four additional, second-level models are estimated. All include the same area level measures, as follows:

$$B = \gamma_0 + \gamma_1(\text{percent female}) + \gamma_2(\text{percent non-citizen})$$
$$+ \gamma_3(\text{percent Hispanic}) + \gamma_4(\text{percent Black})$$
$$+ \gamma_5(\text{average years of schooling}) + \varepsilon$$

For the individual level models, the antilog coefficients can be interpreted as a real dollar change in the wages of the worker for every one unit change in the independent variable. For example, a coefficient of $.08 for schooling would indicate an $0.08 increase in hourly wages for each additional year of schooling. Area level effects change the slope of these individual level coefficients. A coefficient of $0.07 for percent Hispanic in the second level model for education in the previous example would translate to a $0.07 increase over the $0.08 wage return to years of education already obtained – in other words, the worker in this example would benefit more from their educational attainment in areas with a large Hispanic population. A negative coefficient would decrease the effect of years of schooling on wages, with the worker seeing fewer payoffs from each year of schooling.

Hypotheses

In examining the effects of both human capital and structural factors on the wages of Mexican American women, I explore the following hypotheses:

H_1: At the individual level, the effect of *being a non-citizen* on Mexican women will be negative.

H_{1A}: The effect of being a non-citizen will be strengthened (in the negative direction) by the percent of the labor market who are also non-citizens.

H_{1B}: The effect of being a non-citizen will be strengthened (in the negative direction) by the percent of the labor market who are also female.

H_2: At the individual level, the effect of *educational attainment* will be a positive predictor of wages.

H_{2A}: The positive effect of education will be reduced by the percent of the population who are Hispanic.

H_{2B}: The positive effect of education will be reduced by the percent of the population who are non-citizens.

H_3: At the individual level, the effect of *residence in the Southwest* on Mexican American women will be negative.

H_{3A}: The effect of residence in the Southwest will be strengthened (in the negative direction) by the percent of the labor market who are also Hispanic.

H_{3B}: The effect of residence in the Southwest will be strengthened (in the negative direction) by the percent of the labor market who are also non-citizens.

I begin by examining the descriptive statistics for female workers by race and ethnicity (concentrating on Mexican Americans and Anglos), in order to provide a broad illustration of the characteristics of these women and the differences between their groups. I analyze the effects of their human capital endowments using ordinary least squares (OLS) models predicting changes in the log of wages. I then extend upon human

capital explanations by adding a second level to the OLS models using hierarchical linear modeling (HLM) to predict changes in the returns to human capital characteristics based on labor market variations. For ease of interpretation and application of the findings, I then convert the resulting coefficients into real dollar impacts. Hierarchical linear modeling is preferable for studying my hypotheses because it allows for the simultaneous examination of individual level factors and labor market characteristics, a technique not often employed in previous research on the determinants of Mexican American women's wages. All frequencies and predictive models are run separately for Anglo women and Mexican American women.

CHAPTER FIVE

Findings

I begin by examining the descriptive statistics for both Anglo women and

Mexican American women. I include educational attainment (in years of schooling),

work experience (in years), age, marital status (married vs. not married), number of

children, region of residence, English speaking ability, citizenship status, and year of

immigration to the U.S. (for those who are *naturalized* immigrants). Based on these

findings, I further examine the mean wages of Mexican American women by three

variables of interest: education, region of residence, and citizenship status. I then regress

my independent measures on the dependent variable, log of 1999 wages. Extending on

these findings, I include labor market characteristics in the HLM model to control for the

worker's circumstances.

Table 2 shows the descriptive statistics for Mexican American and Anglo female

workers. First examining educational attainment, one can see that Mexican American

women are far less educated than Anglo women. While Anglo women employed full

time in the work force have an average of 14 years of schooling, Mexican American

women only have 11.4. Their experience, as well, falls short of their Anglo counterparts,

with Mexican American women averaging 33.6 years of work experience, to Anglo

women's 35.3.

Demographically, Mexican American female workers are younger than Anglos:

over 70% of the sample of Mexican American women were under the age of 45,

compared to only 53% of the Anglo sample. Mexican American women are slightly less likely to be married than Anglo women (58.2% vs. 62.2%), but have more children on average (1.2 vs. 0.7).

English language ability is a barrier for Mexican American women, with almost 28% unable to speak English "well" (less than 10% of Anglos fall into this category). Mexican American women are also strongly concentrated in the Southwest: 76% of the workers live in the region, compared to only 17.8% of Anglo female workers. The next highest region of residence for Mexican American female workers was in the Midwest; however, only 10.7% of the Mexican American population reported living there. While more Mexican immigrants may be moving beyond the Southwest upon entry into the U.S., the vast majority still remain in the region.

What is truly interesting here is the distribution of citizenship status. While 96.5% of Anglo female workers were native born citizens of the U.S., only 56.5% of Mexican American workers identify as native born citizens. Of the remaining Mexican female workers, 15.6% are naturalized immigrants; the remaining 27.9% are non-citizens; less than 2% of Anglo female workers fall into either of these two categories. This, again, highlights the importance of looking at labor market outcomes for recent immigrants and those who are not citizens.

Table 3 shows the mean wages of Mexican American and Anglo women. Overall, Mexican American women earn much less than Anglo women ($12.77 per hour compared to $18.35 per hour). When average earnings are broken down by the variables of interest, the relationship becomes more clear. Citizenship status appears to be an especially important predictor of wages among Mexican American women.

Table 2

Means and Proportions of Variables Used in Analysis for Female Workers by Race and Ethnicity

Independent Variables	Anglo Women	Mexican American Women
English Ability		
Very well	74.7%	54.4%
Well	16.0%	17.9%
Not well	8.7%	17.7%
Not at all	0.7%	10.1%
Citizenship Status		
Native Born	96.5%	56.5%
Naturalized Immigrant	1.6%	15.6%
Non-citizen	1.9%	27.9%
Year of Immigration (for naturalized immigrants)		
Pre-1960s	23.1%	6.6%
1960s	27.2%	17.9%
1970s	22.1%	40.4%
1980s	17.8%	27.6%
1990s	9.7%	7.6%
Metro	81.7%	89.4%
Mean Wages	$18.35	$12.77
Years of schooling (mean)	14.0	11.4
Experience (mean)	35.3	33.6
Age		
25-34	24.4%	38.7%
35-44	28.5%	32.4%
45-54	30.4%	20.8%
55-64	16.8%	8.1%
Marital Status		
Married	62.2%	58.2%
Not married	37.8%	41.8%
Number of children (mean)	0.7	1.2
Region		
South	27.5%	5.6%
West	6.8%	5.1%
Northeast	20.0%	2.1%
Midwest	27.3%	10.7%
Southwest	17.8%	76.4%

Note. Analysis uses weighted data (pwgt).

This finding is not surprising, considering the large proportion of the Mexican American female labor force who are not citizens. Mexican American and Anglo women who are citizens are closer in wages than the overall means; the difference in wages is $4.66 for those women who are citizens, while the difference between the groups overall is $5.58. However, when we look at those women who are *not* citizens, there is a drastic difference based on ethnicity. Anglo women who are non-citizens earn about $2.00 less, on average, than their counterparts who are citizens. Mexican women who are not citizens, however, earn $3.68 less than their native born or naturalized counterparts. This means that non-citizen women make about $7,600 less *each* year than those who are citizens. Furthermore, they earn over $6.00 less than Anglo women who are not citizens.

Educational attainment also appears to have a strong effect on the wages of Mexican American women. Those with less than a high school education earn $10.24 per hour, on average, $1.75 less than Anglo women with the same level of education. This amounts to an annual gap of over $3,6000 between Mexican American and Anglo women with less than a high school education. The gap between Mexican American women and Anglo women widens slightly at higher levels of education, giving preliminary evidence that Mexican American women see fewer returns to their educational attainment than Anglo women; those Anglo women with a college degree earn almost $6,500 more each year than their Mexican American counterparts.

Finally, residence in the Southwest has a surprising effect on the wages of Mexican American women. Without controlling for other variables, Mexican American women actually appear to earn slightly higher wages in the Southwest when compared to their counterparts in other areas of the country. Anglo women, likewise, earn more in the

Southwest than in other regions. For Mexican American women, however, the difference

($12.92 in the Southwest vs. $12.24 outside of the Southwest) is small. This initial

finding is contrary to Hypothesis #3, and most of the existing literature; however, it is

consistent with queuing theory, which posits that larger minority populations will benefit

some individual workers. It could be that it is not the *geographic* location of the

Southwest that is detrimental to the wages of Mexican American women, but something

about the composition of the labor market that reduces their wages. In subsequent

analyses, this relationship will be examined more closely.

Table 3
Means Wages of Mexican American and Anglo Female Workers by Variables of Interest

Predictors	Anglo	Difference	Mexican American
Mean Wages (overall)	$18.35	-$5.58	$12.77
Region			
Southwest	$19.74	-$6.82	$12.92
Non-Southwest	$17.97	-$5.73	$12.24
Citizenship Status			
Citizen	$18.70	-$4.66	$14.04
Non-citizen	$16.80	-$6.44	$10.36
Education			
Less than high school	$11.99	-$1.74	$10.24
High school, no college	$13.44	-$1.67	$11.77
Some college	$16.18	-$2.21	$13.97
Bachelor's degree or higher	$23.55	-$3.10	$20.44

Table 4 shows the results from the OLS models for women by race or ethnicity.

For ease of interpretation, the coefficients have been transformed back to real dollars by

taking the antilog of the coefficients. Examining the intercepts first, we see that after

controlling for human capital characteristics of the worker and region of residence, native

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born Mexican American women still start out with lower wages than Anglo women. While a Mexican American woman who is native born and possesses average years of schooling and experience will earn about $7.77 per hour, an Anglo woman with the same human capital characteristics will start at $9.58 per hour.

As hypothesized (H_1), the effect of not being a citizen on Mexican women is negative. Compared to Anglo women, Mexican women also see a stronger negative effect for not naturalizing, compared to their native born counterparts (-.092 vs. -.070). This means that the effect of not naturalizing on Mexican American women is a $0.09 reduction in wages, compared to a $0.07 reduction among Anglo women. Those Mexican immigrant women who do naturalize see different wage effects depending on their year of entry into the U.S. Those who immigrated to the U.S. prior to 1980 see positive effects over recently arrived immigrants (those who immigrated to the U.S. in the 1990s). However, those who immigrated in the 1980s do not see any significant improvement in wages based on time in the U.S. over those who arrived in the 1990s.

My second hypothesis (H_2), that Mexican American women will see positive effects for their educational attainment, was also supported. For every additional year of schooling (above their ethnic group's average), Mexican American women gain $0.05 in real wages (which amounts to $104 per year for a woman working full time, year round); Anglo women, however, gain $0.09 for additional schooling. Even at the individual level, before labor market characteristics are accounted for, Anglo women see greater returns to their education (and therefore human capital attributes, by proxy) than their Mexican American counterparts.

Finally, I account for the region of residence of female workers. My final individual level hypothesis (H_3) predicts that those Mexican American women who reside in the Southwest will see lower wages than those who reside in another region of the country. As expected, Mexican American women who live in the Southwest receive $0.04 lower wages than those who live in other regions. Interestingly, the effect for Anglo women is positive, indicating that they receive $0.04 *higher* wages in the Southwest. This is contrary to the base-level finding in Table 2, and shows that after human capital characteristics of workers are held constant, residence in the Southwest does have the predicted effect. This relationship will be further explored in the hierarchical model, when labor market composition is accounted for.

Table 5 shows the results of the multi-level models, and contains the Level 2 variables (percent female, non-citizen, Hispanic, and African American, as well as the average number of years of schooling in the labor market) regressed on the individual's level of educational attainment, work experience, citizenship status, and residence in the Southwest. The models are shown for both Anglo and Mexican American female workers.

Beginning with the model for the PUMA wages means (β_0), which represents the effect of labor market composition on the log of wages for native born women of each ethnicity, we see that there are different labor market characteristics that influence the women depending on their ethnicity. For both Mexican American and Anglo women, the average years of schooling in the labor market significantly and positively influences wages. The demographic composition of the labor market also has an effect. For native born Mexican American women, the percent non-citizen increases wages by $0.76 per

hour for every percent increase above average. Native born Anglo women see a much larger positive effect for percent non-citizen, and percent Black also positively and significantly impacts wages.

Table 4
OLS Regression of Selected Variables on Log of Hourly Wages for Anglo Women and Mexican American Women (in real dollars)

Independent Variables	Anglo Women		Mexican American Women	
Intercept	$9.58		$7.77	
Immigrant Status				
Naturalized, immigrated pre-1960	$0.08	***	$0.07	***
Naturalized, immigrated 1960s	$0.10	***	$0.06	***
Naturalized, immigrated 1970s	$0.12	***	$0.02	**
Naturalized, immigrated 1980s	$0.05	***	-$0.01	
Non-citizen	-$0.07	***	-$0.09	***
Years of Schooling	$0.09	***	$0.05	***
Experience	$0.00		$0.00	
Experience squared	$0.00	***	$0.00	***
English Ability				
Speaks very well	$0.04		$0.15	***
Speaks well	-$0.05	*	$0.04	***
Does not speak well	-$0.01		$0.01	
Age				
25-34	$0.09	***	$0.10	***
35-44	$0.14	***	$0.15	***
45-54	$0.10	***	$0.11	***
Married	$0.00		$0.04	***
Number of Children	-$0.01	**	-$0.01	**
Metro	$0.21	***	$0.11	***
Southwest	$0.04	***	-$0.04	***
R-square	13.01%		13.76%	
N	*118,885*		*89,599*	

Note. Analysis uses weighted data (pwgt).

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Table 5

Intercepts and Slopes as Outcomes Model of Log of Hourly Wages for Anglo Women and Mexican American Women (in real dollars)*

Independent Variables	Anglo		Mexican American	
Model for the PUMA wages means, β_0				
Intercept, γ_{00}	$8.57	***	$6.73	***
% Female, γ_{01}	-$0.38	*	$0.11	
% Non-citizen, γ_{02}	$2.19	***	$0.76	*
% Hispanic, γ_{03}	-$0.05		$0.02	
% Black, γ_{04}	$0.11	***	-$0.06	
Average schooling, γ_{05}	$0.18	***	$0.13	***
Immigrant Status				
Naturalized, immigrated before 1960 (intercept), β_1	$0.18	***	$0.18	***
Naturalized, immigrated 1960s (intercept), β_2	$0.20	***	$0.21	***
Naturalized, immigrated 1970s (intercept), β_3	$0.18	***	$0.16	***
Naturalized, immigrated 1980s (intercept), β_4	$0.11	***	$0.09	***
Model for Non-Citizen slope, β_5				
Intercept, γ_{50}	-$0.03	***	-$0.05	***
% Female, γ_{51}	-$0.11		-$0.40	
% Non-citizen, γ_{52}	-$0.43	***	-$0.52	***
% Hispanic, γ_{53}	$0.33	*	$0.13	***
% Black, γ_{54}	$0.15		$0.03	
Average schooling, γ_{55}	$0.01		-$0.02	*
Model for Schooling slope, β_6				
Intercept, γ_{60}	$0.09	***	$0.04	***
% Female, γ_{61}	-$0.03		$0.05	
% Non-citizen, γ_{62}	-$0.14	***	-$0.02	
% Hispanic, γ_{63}	$0.06	***	$0.10	***
% Black, γ_{64}	-$0.01		$0.00	
Average schooling, γ_{65}	$0.00		$0.02	***
Experience slope (intercept), β_7	$0.01	***	$0.00	
Experience squared slope (intercept), β_8	$0.00	**	$0.00	

(table continues)

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Independent Variables	Anglo		Mexican American	
English Ability				
Speak English "very well" (intercept), β_9	$0.05		$0.11	***
Speak English "well" (intercept), β_{10}	-$0.03		$0.02	
Speak English "not well" (intercept), β_{11}	$0.00		-$0.01	
Age				
Age 25-34 (intercept), β_{12}	$0.04		$0.02	
Age 35-44 (intercept), β_{13}	$0.08	***	$0.08	**
Age 45-54 (intercept), β_{14}	$0.06	***	$0.07	***
Married (intercept), β_{15}	$0.02	**	$0.04	***
Number of Children (intercept), β_{16}	$0.00		-$0.01	**
Metro (intercept), β_{17}	$0.07	***	$0.02	
Model for Southwest slope, β_{18}				
Intercept, γ_{180}	$0.02		-$0.14	
% Female, γ_{181}	$0.29		$0.50	
% Non-citizen, γ_{182}	$0.64	*	$0.76	
% Hispanic, γ_{183}	-$0.09		-$0.04	
% Black, γ_{184}	-$0.23		-$0.02	
Average schooling, γ_{185}	-$0.02		$0.01	

*Note:* Analysis uses weighted data (pwgt).

Turning to those Mexican women who are not native born citizens of the U.S., I find that, as expected from the results of the OLS model, naturalized immigrants who arrived in the U.S. earlier earn higher wages. In the OLS model, only those who arrived prior to 1980 saw significantly higher wages than their counterparts who immigrated in the 1990s; after controlling for area level characteristics in the HLM model, however, I find that even those naturalized immigrants who arrived in the U.S. in the 1980s earn higher wages than those who arrived in the 1990s. The same is true for Anglo women, with about the same effects for each group.

One of the main focuses of this study is the effect of *not* naturalizing on Mexican immigrant women. In the HLM model, non-citizen status maintains its negative effect on the wages of Mexican women. My first second-level hypothesis, that the effect of being a non-citizen will be strengthened (in the negative direction) by the percent of the labor market who are also non-citizens (H_{1A}) is supported. For every increase in the non-citizen population (above average levels), Mexican women who are not citizens will see another $0.52 reduction in wages, and a $0.57 reduction in wages overall compared to their native born counterparts. When compared with Anglo women and their own native born coethnics, Mexican women experience a larger negative effect from a larger non-citizen population in the labor market (as illustrated in Figure 1).

My second hypothesis, that the effect of not being a citizen will be strengthened (in the negative direction) by the percent of the labor market who are also female (H_{1B}), however, was not supported. The percent of the labor market who are also female does not have a significant effect on the wages of Mexican women who are not citizens.

Interestingly, two other area level effects did significantly change the effect of citizenship status on the wages of non-citizen Mexican women. First, the percent Hispanic in the labor market is positive and significant. Because I control for both the percent Hispanic and the percent non-citizen in the labor market, the effect for percent Hispanic is essentially that for percent *citizen* (native born or naturalized) Hispanics. For every increase (above average) of citizen Hispanics in the labor market, the negative effect of a Mexican woman being a non-citizen is reduced by $0.13 (see Figure 2). The average level of schooling in the labor market, on the other hand, has a detrimental effect on the wages of Mexican women who are not citizens. For every increase in average

levels of schooling in the PUMA, Mexican women who are not citizens see a strengthened negative effect on their wages.
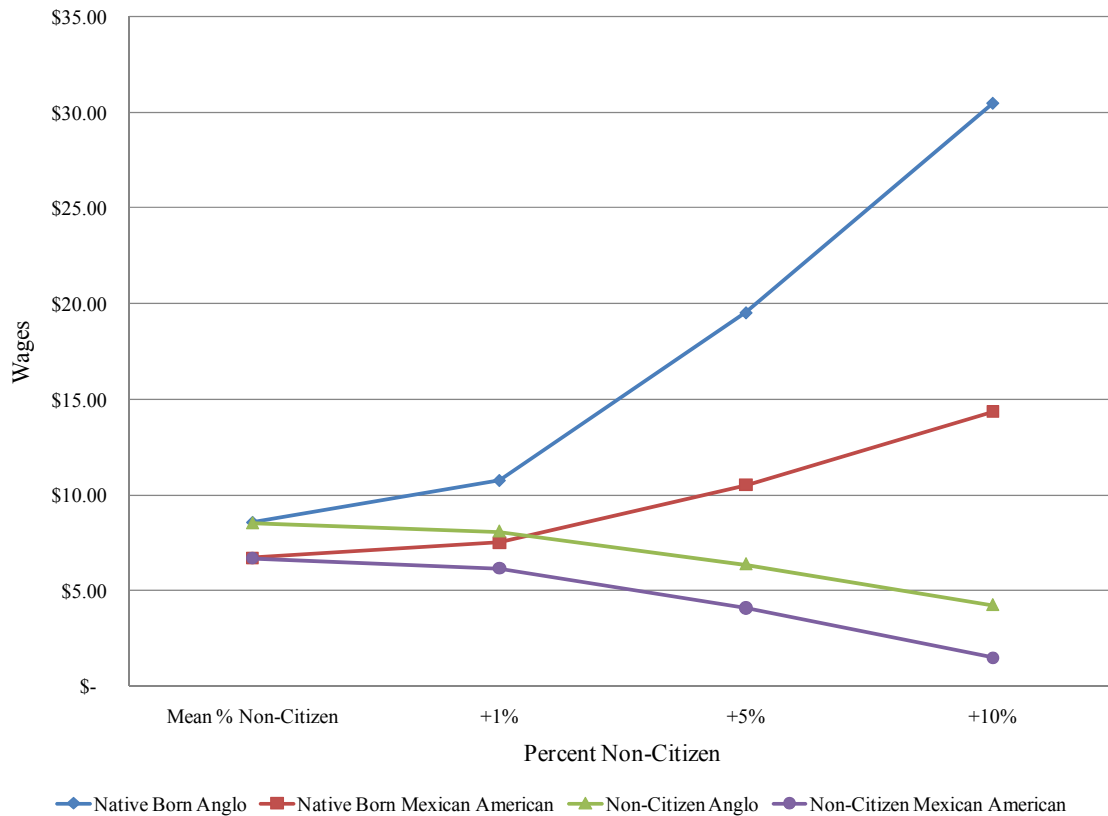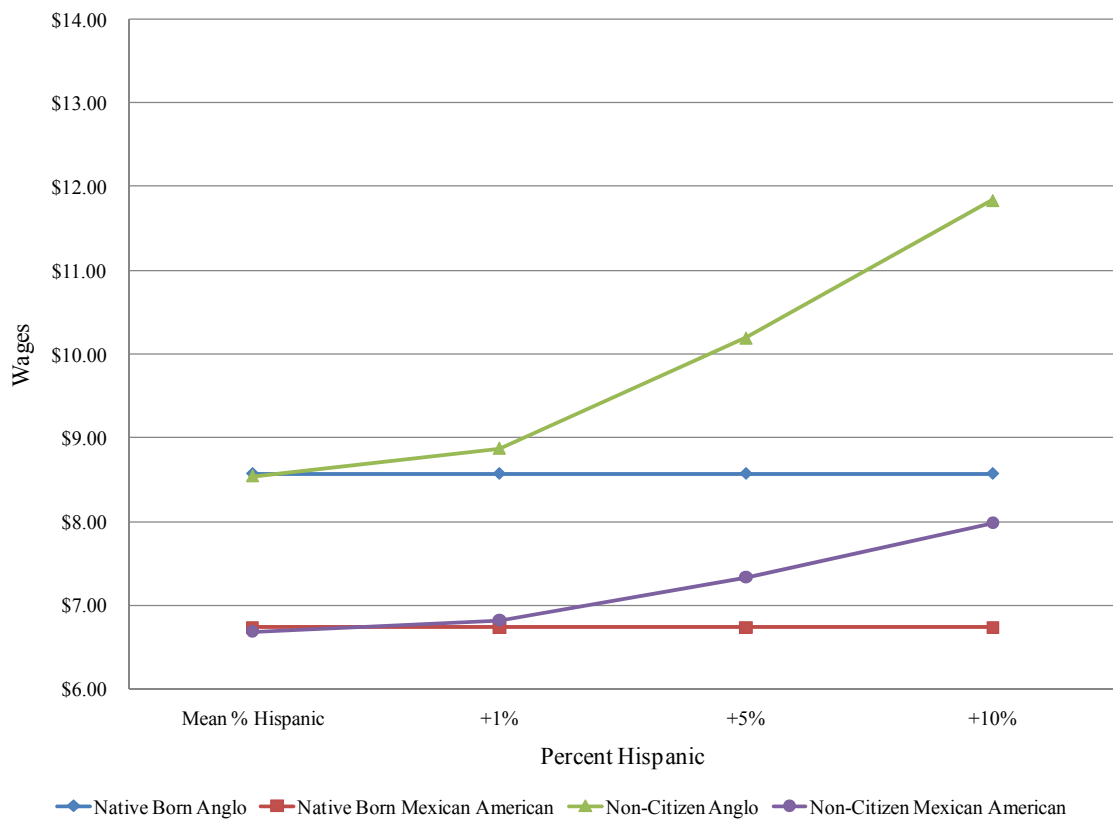

Figure 1. Effect of Percent Non-citizen on Wages of Native Born and Non-Citizen Mexican American and Anglo Women

Figure 3 illustrates my next set of second-level hypotheses, which concern the returns to schooling for Mexican American women, and predict first that the positive effect of education will be reduced by the percent of the population who are Hispanic (H_{2A}) and second that the positive effect of education will be reduced by the percent of the population who are non-citizens (H_{2B}). Schooling itself maintains its positive and significant effect on the wages of Mexican American women when labor market characteristics are controlled for. For Mexican American women, every additional year of schooling (beyond the group's mean) results in a $0.04 increase in wages. Anglo

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women, on the other hand, receive much higher returns to their schooling: $0.09 for every additional year of schooling beyond the group's mean. Examining the second-level predictors, I find that the percent Hispanic in the labor market exerts a *positive* effect on returns to schooling for Mexican American women. For every percent increase in the Hispanic population (above average), Mexican American women see a positive effect on their education slope of $0.10. This does not support my hypothesis (H_{2A}), which was driven by the literature on competition theory, and suggests that when it comes to ethnic-based competition in the Mexican American community, queuing theory may be a better explanation. Anglo women also see this positive effect, although it is smaller ($0.06). The effect of the percent Hispanic on returns to education is summarized in Figure 3.

Figure 2. Effect of Percent Hispanic on Wages of Native Born and Non-Citizen Mexican American and Anglo Women

My second education hypothesis (H$_{2B}$), about the effect of percent non-citizen on returns to education, was not supported. The percent non-citizen in the labor market did not have a significant impact on the returns to educational attainment for Mexican American women. The effect, however, is significant for Anglo women, who lose $0.14 of their returns to education for every increase in the non-citizen population in the labor market.

Finally, working from the original hypothesis about Southwest residence (H$_3$), I predicted that the negative effect of residing in this region would be strengthened (in the negative direction) by the percent of the population who were Hispanic (H$_{3A}$) and
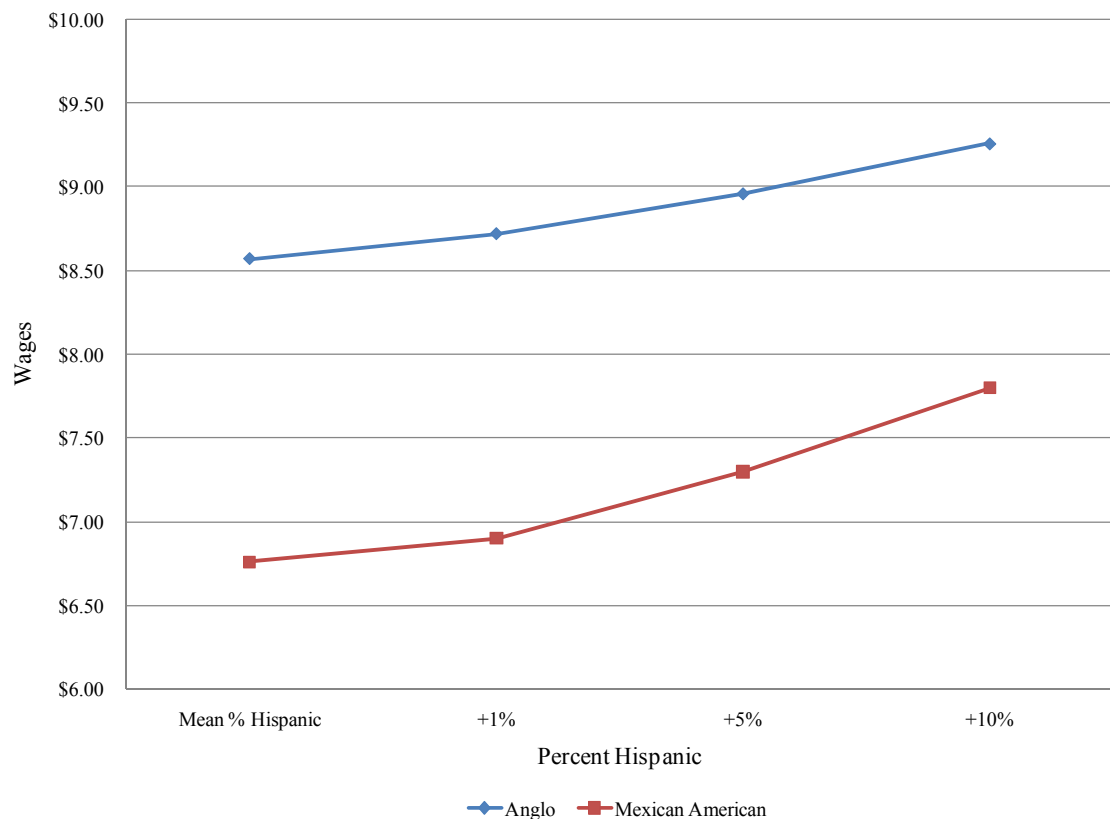
Figure 3. Effect of Percent Hispanic on the Slope of Educational Attainment for Mexican American and Anglo Women

non-citizens (H_{3B}). In this case, neither hypothesis was supported, because residence in the Southwest lost its significance once area level variables were taken into account. It appears that the demographic composition of the labor market has more of an effect than the geographic location. While this is contrary to previous findings, most of these studies did not examine the relationship between wages and residence in the Southwest beyond the individual level (this study also found a negative effect in the initial OLS model). By examining the composition of the labor market beyond just its geographic location, I am able to uncover the nuances of this relationship. It appears that the Southwest's large populations of non-citizens are a driving force in lowering wages; geography itself doesn't matter.

Finally, working from the original hypothesis about Southwest residence (H_3), I predicted that the negative effect of residing in this region would be strengthened (in the negative direction) by the percent of the population who were Hispanic (H_{3A}) and non-citizens (H_{3B}). In this case, neither hypothesis was supported, because residence in the Southwest lost its significance once area level variables were taken into account. It appears that the demographic composition of the labor market has more of an effect than the geographic location. While this is contrary to previous findings, most of these studies did not examine the relationship between wages and residence in the Southwest beyond the individual level (this study also found a negative effect in the initial OLS model). By examining the composition of the labor market beyond just its geographic location, I am able to uncover the nuances of this relationship. It appears that the Southwest's large populations of non-citizens are a driving force in lowering wages; geography itself doesn't matter.

These findings support the idea that both human capital and structural characteristics should be examined when exploring the labor market experiences of *any* group. Structural characteristics have multiple facets. For Mexican American women, the region of residence matters before the actual composition of the labor market is taken into account, but is not significant after. Further, key human capital characteristics, such as (in the case of Mexican American women) educational attainment and citizenship status are strengthened by the context within which they exist (in the case of educational attainment, a stronger positive relationship occurs in labor markets with larger Hispanic populations; in the case of citizenship status, a stronger negative effect is found for non-citizens in labor markets with larger non-citizen populations). Human capital variables are important in determining wages, but the environment within which these human capital attributes are used matters as well, and can attenuate their effects.

These findings emphasize the importance of including both micro- and macro-level variables when examining the wages of any group. Further, when studying the economic or social outcomes of the Hispanic population, it is important to distinguish between groups based on their country of origin (which can lead to vastly different experiences in the U.S.) and their nativity status (as immigrants to the U.S. may experience the labor market differently than their native born counterparts).

CHAPTER SIX

Discussion and Conclusions

This study examined the economic outcomes of Mexican American women, using individual level human capital predictors (educational attainment and citizenship status), region of residence, and labor market composition. Previous research has traditionally focused on only one of these three areas. The research that has accounted for both human capital indicators and labor market composition variables has typically included percent minority measures in the individual level model. This study extends upon those findings by controlling for the effect of labor market composition on human capital measures of Mexican American women. By including these measures, I am better able to explain the specific effects of demographic composition of the labor market. I found that both human capital endowments *and* labor market characteristics influence the wages of Mexican American women, and that labor market characteristics can determine the returns Mexican American women receive for their human capital characteristics. Educational attainment and citizenship status, in particular, were found to be strong predictors of wages among these women, and the percent of the labor market composed of non-citizens and Hispanic citizens (both naturalized and native born) altered these effects.

At the individual level, I hypothesized that 1) not being a citizen would significantly decrease the wages of Mexican immigrant women; 2) educational attainment would positively improve wages for Mexican American women; and 3) the

effect of residence in the Southwest would be detrimental to wages. All three of these initial hypotheses were supported at the individual level, in the OLS regression model.

Those Mexican immigrant women who are not citizens experience a significant negative impact on their wages. At the individual level, this effect is quite strong, representing a $0.09 reduction in *hourly* wages. For a full-time, year-round worker, this translates to $3.60 per week, or $187.20 per year, even after controlling for the human capital characteristics of the worker. Because over a quarter (27.9%) of Mexican women in the labor force are immigrants who are not citizens, this effect has even greater implications. Anglo women also experience a negative effect ($0.07) for not naturalizing; however, less than 2% of Anglo women in the workforce fall into this category. While several studies have found that Hispanic immigrants earn less than their native born counterparts (McCall, 2001), few have examined the effect of citizenship status. Donato et al., 2008, a notable exception, find that citizenship status has a strong negative effect on economic outcomes for Mexican workers. They attribute this to changes in hiring practices following the implementation of IRCA. Prior to IRCA, human capital endowments had a stronger effect than citizenship status, while after the Act, citizenship was the strongest predictor. Another possible explanation for the effect of citizenship status concerns the time required to become a citizen. To be eligible for naturalization, an immigrant must have resided in the country legally for five years. During this time period, they may acuire experience in the U.S. workforce and increased English ability, contributing to their assimilation into American culture. The acquisition of citizenship could imply more than just a political label. While I find that not

naturalizing does have a negative effect on the wages of Mexican immigrant women, it is not as strong as the effect of educational attainment.

For Mexican American women, educational attainment is the strongest predictor of wages (although the effect is not as strong as it is for their Anglo counterparts). This finding is supported by previous research from the human capital perspective (Bleakley & Chin, 2008; Bratsberg & Ragan, 2002; Casey & Dustmann, 2008; Driskell & Embry, 2007; Ferrer et al., 2006; Phillips & Massey, 1999; Stone & McQuillan, 2007; Trejo 2003). With the transition from a manufacturing-based industrial economy to one that is dominated by low skill service sector jobs, the need for higher education becomes increasingly important. Indeed, the rise in skills-based inequality has often been attributed to skills based technological change that lowered the demand for and wages of unskilled and low skilled workers (Hauan, Landale, & Leicht, 2000). Since the technological advancements associated with a post-industrial society, low skill workers have lost ground. The demand now is for highly skilled workers, particularly those with extensive technological skill and knowledge. The little growth in low skill jobs has been in informal, part-time, and temporary jobs, which are usually very low wage. These are also typically held by women and minorities (McCall, 2001; Reid & Rubin, 2003). Mexican immigrant women who are non-citizens have the lowest educational attainment of all Mexican American women, and are therefore at the highest risk for falling into this secondary labor market.

The effect of residence in the Southwest is negative for Mexican American women at the individual level, before the demographic composition of the labor market is taken into account. According to these findings, Mexican American women in the

Southwest receive $0.04 lower hourly wages than their counterparts in other areas of the country (Anglo women, on the other hand, receive $0.04 higher wages in the region). This effect was not evident before including other human capital characteristics of the worker. Like citizenship status, this finding is amplified when we look at the geographic distribution of Mexican American women. For example, 76.4% of Mexican Americans reside in the Southwest, most of which are immigrants, both naturalized and not. However, these effects of region were not seen when the demographic composition of the labor market was included, suggesting that this finding is a statistical artifact of the relationship between the percent Hispanic and percent non-citizen in the labor market, rather than an effect of geographic region, per se.

While these individual level findings are not surprising, this study extends on previous research to include the characteristics of the labor market. I regress the labor market characteristics on the slopes of the human capital variables of interest. To focus the study, educational attainment, citizenship status, and residence in the Southwest are included. The hierarchical linear modeling methodology allows for a more detailed view of the nuances of human capital effects on the wages of workers. Rather than being able to predict the returns to education for Mexican American women, for example, I am able to predict those returns given the specific environment in which the woman is working and competing for employment.

At the labor market level, I predict several effects on the returns to education, citizenship status, and Southwest residence. For those women who are not citizens, I draw on the competitive labor market literature and predict that the proportion of the labor market composed of females and non-citizens will amplify the negative effect of

non-citizen status on Mexican immigrant women. While both of these characteristics did have negative effects, only the percent non-citizen was a significant negative predictor. For non-citizen women, direct competition seems to come from other non-citizens, rather than other women in general. An interesting finding here, although not hypothesized, is the effect of percent Hispanic on the returns to citizenship status for Mexican women. Those women who are not citizens actually receive *higher* wages (than they would otherwise receive) in labor markets with large percent of Hispanic populations.

Similar effects of the demographic composition of the labor market were seen on the returns to education for Mexican American women. The percent Hispanic within the labor market acted to reinforce benefits from education. However, the percent non-citizen in the labor market did not have significant effects on the returns to educational attainment. In other words, a Mexican American woman will earn more for every additional year of education she obtains in a labor market with a larger citizen Hispanic population, but she will be unaffected by the naturalization status of that population, at least where schooling is concerned.

The percent Hispanic (native born and naturalized citizens) in the labor market positively impacts the returns to both education and citizenship status for Mexican American women. However, the percent non-citizen in the labor market exerts a negative impact on citizenship status, decreasing hourly wages for non-citizens by $0.52 per hour. Thus, Mexican non-citizens are not competing against other Hispanics who are already citizens of the U.S. They are competing with other non-citizens, those who are in the same socially and politically disadvantaged positions as themselves. This is consistent with the discrimination predicted by those studying the effects of IRCA on the

wages of Mexican immigrants, who found that following IRCA, the legal status of the immigrant had a greater effect on wages than their ethnicity. I find that rather than employers discriminating against *all* Hispanics on the basis of ethnicity, they are focusing only on those who are not citizens; even when appropriate documentation can be provided, many employers seem to think it is easier to avoid the risk all together. This becomes a problem for those Mexican immigrants who are in this country legally working, but are classified with their counterparts who have entered the country illegally.

These findings are also consistent with queuing theory (Thurow, 1975; Lieberson, 1980; Albrecht et al., 2005; Albrecht & Albrecht, 2007), which posits that opportunities for employment in any labor market are rank-ordered. Because of either social capital advantages or discrimination on the part of employers, dominant group members (Anglos and men) usually receive the positions at the top of the hierarchy. When subordinate group members are the majority of the population in an area, however, there will be fewer dominant group members to fill the top positions. Necessarily, some minority group members and women will be placed in these positions, freeing up less skilled positions at the bottom of the employment "ladder." Jimenez (2007) finds qualitative support for this relationship:

> "[Native born] Mexican Americans thus believe that the immigrant-driven growth of the Mexican-origin population benefits them because they are most likely to 'get the call' when there is a need for racial and ethnic representation." (p. 614)

In these labor markets, native born Mexican Americans are seen as valuable employees because they possess both a familiarity with U.S. culture and institutions, and the ability to communicate with Spanish-speaking clientele. My finding that percent citizen Hispanic increases the wages of native born workers

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supports this hypothesis. Competition then arises for the lower wage jobs among those with the least amount of human capital. A large number of disadvantaged individuals competing for low-skill jobs could lead to employers lowering the wages for these jobs.

In a labor market composed primarily of Mexican Americans, native born workers typically hold the highest endowments of human capital, followed by naturalized immigrants, and finally, those who are not citizens. For example, a non-citizen Mexican woman who lives in a labor market with an above average percent of *citizen* Hispanics, but with an average level of non-citizens, will see advantages in the form of increased wages. The native born and naturalized women in this same labor market will be earning higher wages (especially those with the highest educational attainment) than they would in other labor markets with fewer Hispanics. This is because they are in positions that Anglo women would normally fill. In turn, the non-citizen women, who are at the bottom of the employment ladder, will see higher wages because they will be able to fill positions that would normally be filled by their co-ethnic citizens.

If the percent non-citizen in the labor market is above average, however, it will reverse the positive effect of the percent Hispanic, because the magnitude of the effect is much greater. There is more competition at the bottom of the ladder. For example, Pisani and Yoskowitz (2002), in a qualitative study of domestic workers in Laredo, TX, found that employers paid wages well below the federal minimum wage ($22.63 per 8-hour day), but were able to do so because of the large pool of potential workers to draw from. Over half of employers said that they could replace their maids within a week if they needed to, and almost all said that they could do it within a month. A large pool of

workers are available, because even at these wages well below the U.S. federal minimum

wage, there are many "willing" to work for less pay and in poor conditions, given the

alternative of not working at all. Figure 4 (below) illustrates this relationship for both

citizen and non-citizen Mexican-origin women. Note that Mexican American women

who are citizens receive higher wages in labor markets with large non-citizen

populations, but are unaffected by the percent citizen Hispanic.
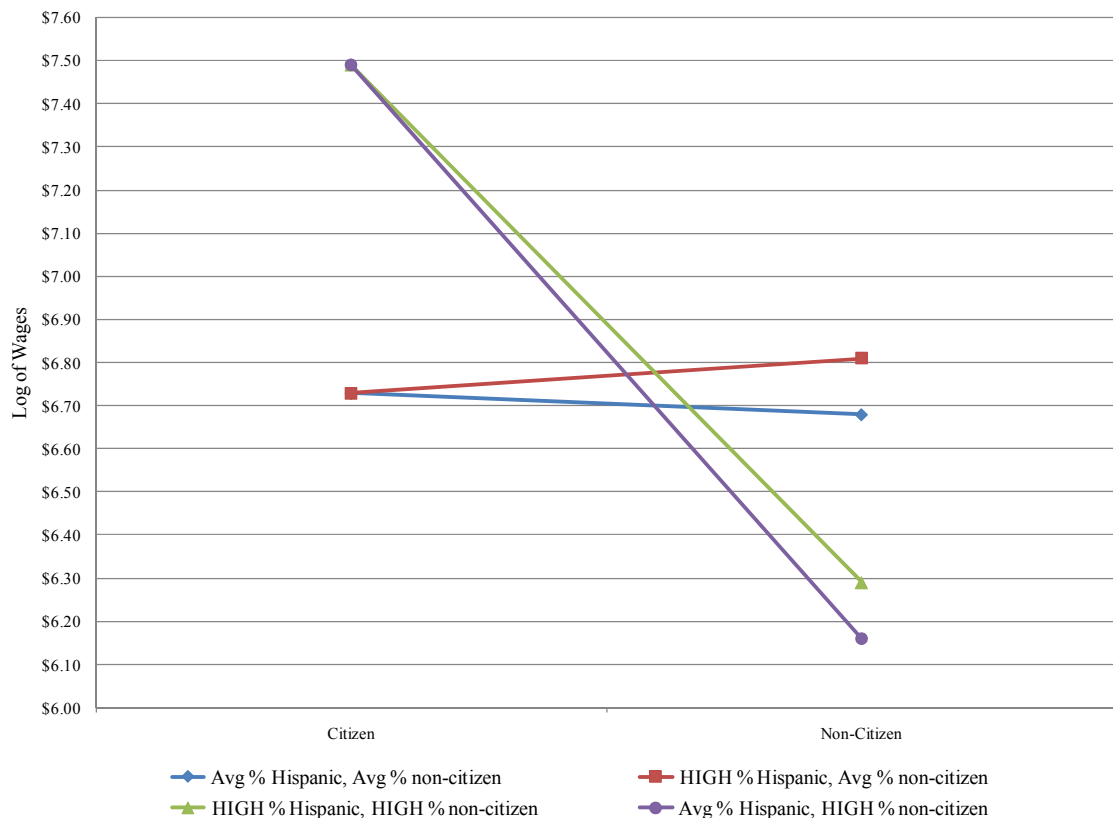
Figure 4. Effect of Percent Hispanic and Percent Non-Citizen on the Slope of Citizenship
Status for Mexican American Women

The average percent Hispanic in all labor markets is 9.8%, while the average

percent non-citizen is 6.6%. A non-citizen woman in a labor market at these average

levels will earn $6.71 per hour. However, if the percent Hispanic climbs to 11%, while

the percent non-citizen remains stable, she will earn $6.84 per hour. Even a 1% increase

in the percent non-citizen, though, will bring the non-citizen Mexican female worker back down to $6.32 per hour, lower than in a labor market with average populations of Hispanics and non-citizens. Mexican non-citizen women will gain the most in labor markets that are over 10% Hispanic, but less than 6.5% non-citizen.

Another compelling finding is that the negative effect of residence in the Southwest loses its significance completely when the composition of the labor market is controlled. Contrary to previous research that claims disadvantage due to the historical conflict in the geographic region (Crowley et al., 2006), it appears that racial and ethnic composition has more of an effect. By controlling for the demographic composition of the labor market, this study was able to isolate the effect, rendering the effect of geographic location insignificant. However, because ethnic composition does affect economic outcomes, and because most non-citizen Mexican women are located in the Southwest, the region will appear detrimental at the macro level.

This study does have some limitations, due primarily to the nature of the data. While Census data offer the advantages of coverage and detail, they do not contain any direct measures of the social networks of immigrants or employer discrimination. Previous research has shown that immigrants who arrive in the U.S. with extensive social networks tend to fare better economically than those who do not. This study does find that non-citizens experience higher wages in those areas with large numbers of Hispanics. However, wages are lowered when there is a large population of non-citizens. Future research should examine this relationship further, possibly examining the effect of ethnic enclaves and immigrant-owned businesses within these enclaves.

Related to this, Census data are unable to capture many of the nuances of educational attainment. For example, we are unable to precisely measure *where* the immigrant's education occurred, whether it be in the country of origin, or after their arrival in the U.S. Trejo (2003) and Bratsberg and Ragan (2002) find that Mexican-origin *men* saw lower returns to education than native born Mexican American men who were educated in the U.S. Further, even in the U.S., *quality* of education can vary greatly between states, cities, and even schools within the same district. For the purposes of this study, quality and location of education were held constant, as the quantity of education was the main focus. However, future research should take quality and location into account, to determine whether these factors affect returns to time spent in the education system.

Employer discrimination is one of the most often cited, but least empirically tested, explanations for inequality in minority and majority earnings. Davila, Pagan, and Grau (1998) showed that the introduction of employer sanctions through IRCA did not decrease illegal immigration, nor did it slow down the employment *rate* of illegal immigrants. Rather, it worsened the economic situation for *all* immigrant workers, and some native born, through discriminatory practices by employers. While my data do not allow for a direct test of this effect, the strong negative effect of the percent non-citizen in the labor market implies competition for jobs with very low wages. The competition hypothesis and queuing theory both suggest that competition for the lowest skill jobs leads to a downgrading of wages in this area. However, when those competing for the jobs are the non-citizen immigrants with little to no political power, discrimination seems a likely outcome.

Another limitation, closely linked with employer discrimination, is the inability of Census data to capture wages earned in the informal economy. Census data measures the respondent's income from wages and salaries, and supplemental income gained in the informal economy usually goes unreported. Anecdotal evidence suggests that a significant proportion of wages among non-citizens are derived from this type of "contingent" employment, where workers are hired as subcontractors or through temp agencies, employee leasing companies, or other intermediaries. For Mexican-origin women, this typically includes domestic and commercial cleaning. Workers employed in this informal economy tend to receive lower wages than those in the formal economy. Ross (2004) addresses the problem of non-payment and underpayment of wages in this informal sector of the economy, using a case study of non-citizen workers in Austin, TX:

> "Talking to low-wage contingent workers and social service agencies in
> Austin and surrounding counties, it was apparent that unpaid wages were
> so common in Central Texas that most of the people I spoke with had
> come to accept it as an occupational hazard… The few workers who had
> exercised their rights and reported unpaid wages often encountered
> retaliation or fruitless investigations rather than recovered wages." (p.
> 120)

The group at the highest risk of falling victim to this form of discrimination is non-citizens. Ross (2004) showed that those workers who were undocumented were less likely to pursue non-payment of wages through the legal system, either because they were afraid of "calling attention to themselves" or because they were threatened with deportation by the very employers who refused to pay their wages. Considering that at least some portion of the non-citizen workers in American are members of this underground, informal economy, the cost of not being a citizen may be even higher than these findings suggest.

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Finally, the use of the PUMA as a proxy for the labor market has been cautioned by some (Tolbert & Sizer, 1996). The main disadvantage to using PUMAs as approximations of labor markets is that the geography is determined independently by each state, and consistency cannot be assured. However, PUMAs are used as labor market measures here because they have sufficient population (more than 100,000 people), they are fully contained within counties, and they include both metro and non-metro workers.

In conclusion, this study finds that the effects of human capital stocks on returns to wages must be put into the context of the environment in which the worker is competing. Different labor market compositions will influence the returns to education, for example, and will do so differently based on the attributes of the worker. The fact that the strongest individual level effect on wages of Mexican American women was educational attainment emphasizes the need to improve the educational opportunities available to these women. Returns to education are even higher in labor markets dominated by Hispanics, suggesting that women in minority labor markets (particularly in the Southwest), would see even larger effects.

This study also reveals the importance of citizenship to success in the U.S. workforce. The increasing Mexican-origin population in the United States does not currently have the political and social power that their growing numbers would suggest. Pantoja and Gershon (2006) show that the degree to which Mexican American political power is proportional to its demographic size is dependent on whether the foreign born segment seeks and acquires citizenship in a timely manner. With Mexican-origin immigrants the least likely of any immigrant group to become citizens, they see the

widest impacts from this effect. Some Mexican American immigrants who would like to naturalize may not because of a fear of the process, and lack of confidence about their own abilities. Grass-roots systems need to be implemented in local communities to educate the Mexican American immigrant community about the process of naturalization. Qualitative evidence (Pantoja & Gershon, 2006) suggest that the foci of these education programs should be based on the political system (specifically the importance of voting and being politically informed) and civic engagement. While some immigrants do not naturalize because they do not want to, many are hesitant to begin the process. With more education about the process, perhaps naturalization will rise, and with them, economic outcomes for Mexican American women. These findings suggest that naturalization could be an avenue to improved economic outcomes for immigrant workers.

Before any changes are made to the current immigration policy in the U.S., extensive research should be done to assess the possible impacts of the legislation on the immigrant community.   While IRCA was intended to aid the undocumented population in the U.S. and decrease the rate of illegal immigration, empirical evidence has shown that it did not decrease illegal immigration, and, in fact, *worsened* the economic situation of the immigrant labor force (both documented and undocumented). Similar proposals, including the revival of a temporary guest worker program or another legalization program, could have similar effects. These effects should be tested *before* implementation to avoid some of the pitfalls that came with IRCA.

Mexican non-citizen women are the most vulnerable constituency of an already disadvantaged group. This study extended upon the existing research on the wages of
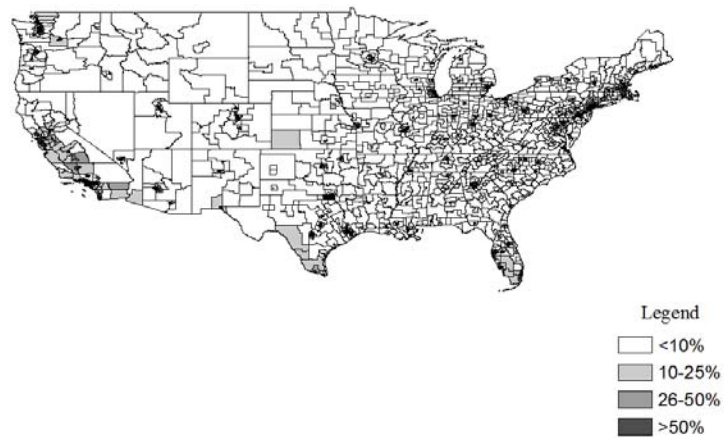
Mexican American women, showing the labor market contexts in which they may see

some benefits. For these women, the main avenues for economic gain seem to come

from increased educational attainment and from situating themselves in labor markets
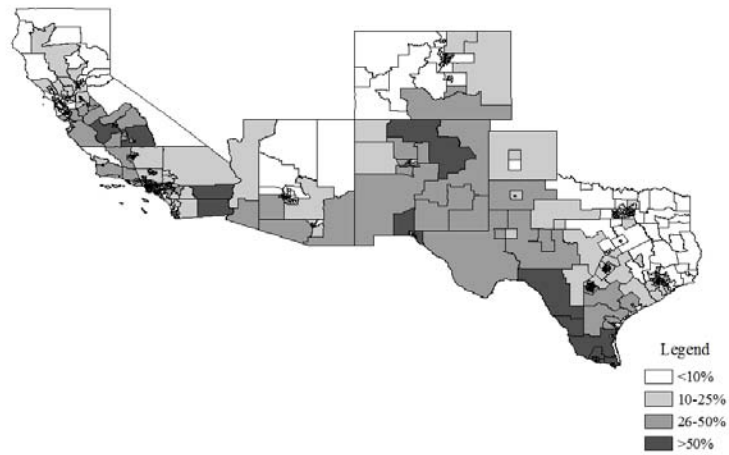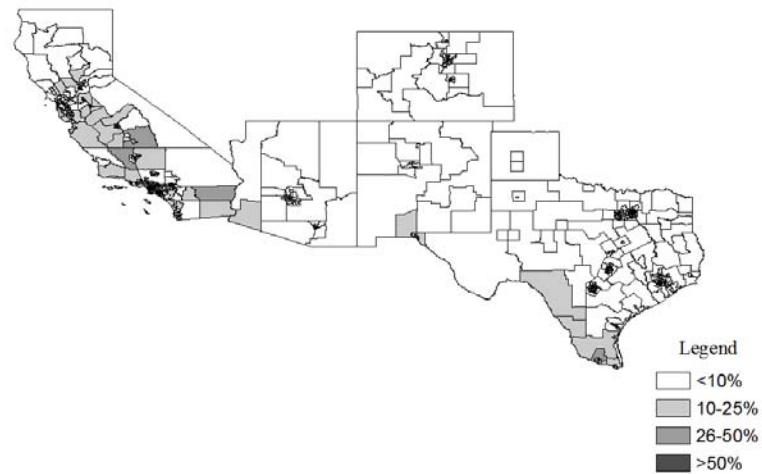
with more opportunities for advancement.

APPENDIX

MAPS
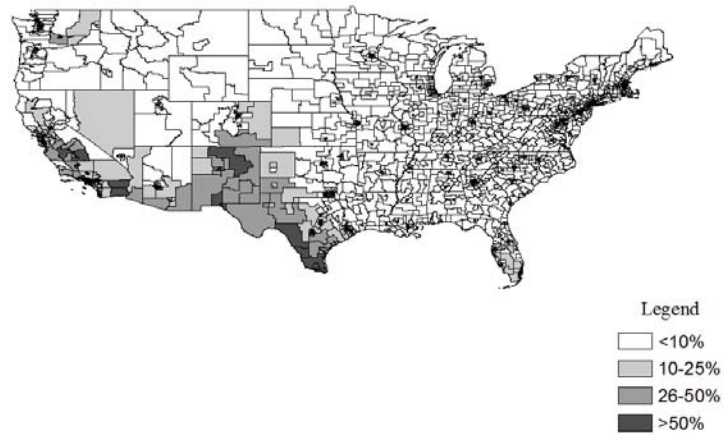
Figure A.1. Percent Hispanic by PUMA

Figure A.2. Percent Non-Citizen by PUMA

Figure A.3. Percent Hispanic by PUMA, Southwest Only

Figure A.4. Percent Non-Citizen by PUMA, Southwest Only

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