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# Caught in the Housing Bubble

*Immigrants' housing outcomes in traditional gateways and newly emerging destinations*

*By Gary Painter & Zhou Yu*



**Caught in the housing bubble:**

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**and newly emerging destinations**

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## **ABSTRACT**

Research has documented that immigrants have moved in large numbers to almost every metropolitan area and select rural areas in the country (e.g., Lichter and Johnson 2009; Painter and Yu 2010). In the midst of these demographic shifts, the country has experienced a profound recession. To date, there has been little research on the impact of the recession on immigrants across the country. Using the 2006 and 2009 American Community Survey microdata, we assess how the recent economic crisis has affected immigrants with respect to three housing outcomes (residential mobility, homeownership, and household formation) to compare housing outcomes at two important time points in the recent economic cycle. The results suggest the early impact of the recession has not been as severe on immigrants as one might expect. In particular, the places where immigrant populations are newest have not experienced reductions in homeownership as those in the large immigrant gateways. Even in the established gateways, the decline in homeownership has been smaller for immigrants than for native-born households. Regression results suggest that the negative impacts from the recession are strongest in the gateway metropolitan areas, and that after controlling for residence in the hardest hit areas, changes in unemployment rates and increases in metropolitan level default rates have a negative impact on homeownership rates.

## **Introduction**

Immigrants and their children, who make up the lion's share of U.S. population growth (Passel and Cohn 2008; Frey et al. 2009), are a growing component of housing and labor markets in the United States (Myers and Liu 2005 ; Borjas 2001). While new immigrants continue to arrive in traditional gateways and replace people who moved away, immigrants have dispersed from immigrant gateways and settled directly in newly emerging destinations from their countries of origin (Singer 2004; Frey et al. 2009). As a result, immigrants are playing an increasing role in determining housing demand across the heartland of America (Painter and Yu 2010). Accordingly, the recent immigration literature has now shifted its focus toward newly emerging immigrant destinations (e.g., Zúñiga and Hernández-León 2005; Gozdziaik and Martin 2005 ; Waters and Jimenez 2005; Massey 2008 ; McConnell 2008 ).

While the Great Recession that occurred at the end of the 2000s has officially ended, the negative impact on the well-being of many Americans persists. The housing boom in the early 2000s pushed up housing prices to an unprecedented level (Office of Federal Housing Enterprise Oversight 2007; Myers and Ryu 2008); the subsequent bust of the housing bubble has, in a relatively short time, caused a substantial decline in housing values and imposed economic stress on households. The economic crisis, in turn, has led to the loss of jobs and the risk of future job losses and the intensification of the housing downturn. Despite multiple policy interventions, home foreclosure rates continue at high levels, and national housing prices have been slow to recover.

Immigrants, especially those who came to the U.S. recently, may be especially vulnerable to the negative impacts of the current economic crisis. Many immigrants have low

socioeconomic status and a higher rate of poverty and unemployment than native-born residents (Kochhar 2009). Immigrants are also, on average, younger than their native-born counterparts, and they are disproportionately new labor and housing market entrants. Latino immigrants, in particular, are concentrated in many metropolitan areas in the construction sector, which has suffered greatly in the recent downturn. Further, early evidence shows that home foreclosures are concentrated in minority neighborhoods where many immigrant live (Joint Center for Housing Studies of Harvard University 2011; Reid 2009). The economic downturn is made worse for the immigrant populations because many of them are not eligible for social welfare programs (Fix and Passel 2001).

Because of the increasing geographic and ethnic diversity of the immigrant population leading up to the recession, there are a number of research questions that this analysis will answer. First, we will assess how the housing outcomes of Asian and Latino immigrants changed from 2006 and to 2009. Specifically, we will compare how homeownership rates, household formation, and residential mobility have changed since 2006 across different regions of the United States. As past literature has shown (Painter and Yu 2008, 2010), the immigrant population varies across the country in timing of their arrival to those metropolitan areas and to the United States. Second, we will analyze how the role of the economic environment and the strength of a metropolitan immigrant network have on the decision to own a home or form an independent household. We use house prices, rents, and changes in the mortgage delinquency rates at the metropolitan level to capture changes in housing market conditions, and changes in the metropolitan employment rate to capture job market conditions. We then use metropolitan level indicators for the strength of an immigrant network to determine whether immigrants living

in places with stronger immigrant communities may have experienced smaller negative effects on their housing outcomes due to the support of the networks.

The results suggest that while the housing market outcomes of most households declined, the housing outcomes of immigrants in some of the smaller metropolitan areas in the country actually improved. Across the United States, the negative impact of the recession on the housing outcomes of immigrants was less severe than for native-born households. One reason that immigrant housing outcomes did not worsen in small metropolitan areas was that the recession was less severe, but more importantly, we find that the immigrant population that had become more mature. Households living in metropolitan areas which experienced higher rates of delinquency and higher unemployment rates were less likely to own a home, signifying the importance of the weakness in the job and housing market. Immigrants living in metropolitan areas with stronger networks were more likely to be a homeowner after the recession than before. In contrast to the findings of previous research investigating the impact of economic conditions on the household formation of native-born households (Painter, 2010), the impact of the changing economic conditions did not reduce headship rates for immigrants in this recession.

## **Background**

The immigrant population has grown rapidly in the U.S. Immigrants and their U.S.-born descendants are expected to grow by 117 million in the next four decades, making up 82 percent of the U.S. population growth of the period (Passel and Cohn 2008). This population growth has important implications for housing demand at a time when aging baby boomers are retiring and leaving the housing market (Frey and DeVol 2000; Myers 2007).

Immigrants have many characteristics that distinguish them from native-born residents. Two of the most important differences that lead to worse housing outcomes are that they are younger and tend to move more often (Martin and Midgely 2003; McConnell and Akresh 2008). However, immigrants' housing outcomes are not static. As immigrants adapt to the host society, they become more economically upward mobile and steadily advance their housing careers (Myers and Lee 1998; Massey 1985 ; Alba, Rumbaut, and Marotz 2005). In recent years, immigrants moved in large numbers from established gateways to emerging gateways and small metropolitan areas. In addition, a growing number has migrated directly to the new destinations from their countries of origin (Lichter and Johnson 2009).

Immigrants face challenges in the new destinations, where there has been a substantial increase in immigrant population in recent years (Singer 2009). In contrast to traditional gateways, the new destinations lack well-developed institutions and established ethnic networks that facilitate integration and advancement. Public services are often insufficient to accommodate the need of this rapidly growing population. Immigrants have also experienced growing hostility and anti-immigrant sentiment in the new destinations, which have little experience or identity with immigration (Singer 2009; Massey and Capoferro 2008). All these factors may have had detrimental effects on immigrants' residential adaptation and housing outcomes in the new destinations. On the other hand, the recession has not hurt housing and labor markets outside traditional gateways as much. Housing is also more available and more affordable in smaller metropolitan areas (Painter and Yu 2008).

While the effect of the Great Recession lingers, we have only recently begun to assess the effect on the housing outcomes of immigrants in the new destinations. The literature has not examined the impact of the Great Recession on residential mobility and housing outcomes

among immigrants. We know that the Great Recession has curtailed the flow of new immigrants to the U.S. and stabilized the immigrant population in the U.S. At the same time, the Great Recession may disrupted the normal upward trajectory of immigrants' housing careers, as immigrants have been forced to disperse from traditional gateways (Frey 2009).

This study will focus on three specific housing outcomes to provide a full picture of how immigrant and native-born households have been affected by the recession. We first focus on homeownership because this is often been a marker of immigrant integration(Myers and Lee 1998; Alba and Logan 1992) and has been a focus of housing policy because of the associated positive externalities on communities (Green and White 1997). However, a focus on homeownership alone is incomplete. While the Great Recession has clearly hurt housing markets through price declines and foreclosures, the national homeownership rate (measured at the household level) in 2009 has only declined by about three percentage points from its peak in 2005, merely returning to the pre-bubble levels in 2002.(e.g., Glaeser, Gottlieb, and Gyourko 2010),

Recently, studies have suggested that one reason that homeownership rates may not have fallen more rapidly is a decline in household formation (e.g. Yu and Myers 2010 ; Haurin and Rosenthal 2007 ; Painter 2010). There is growing evidence that the number of multi-generational and doubling-up households has increased, which results in fewer independent households being formed (Pew Social Trends Staff 2010; Yen 2009). Immigrants have lower rates of household formation than do native-born households during normal economic times, so it might be the case that immigrants are more likely to adjust their housing demand and reduce the rate of household formation more rapidly (Blank 1998; Hughes 2003).



Another important determinant of housing demand in metropolitan area is related to the mobility of populations. It is clear that the recession has resulted in a rapid decline in the mobility of U. S. households (Frey 2009). The decline is particularly pronounced among long-distance movers (between counties), who are mostly like to change jobs. Only 11.6 percent of U.S. residents moved between 2010 and 2011, a new historical low since 1948 (Frey 2011). Since immigrants tend to be more mobile than native-born residents in the labor and housing markets (Borjas 2001), but it is unclear whether immigrants would respond by increasing or decreasing their mobility in the face of labor market turmoil and underwater mortgages.

## **Data**

This analysis relies on the 2006<sup>1</sup> and 2009 microdata file of the American Community Survey (ACS), which are downloaded from Integrated Public Use Microdata Series (Ruggles et al. 2008). The 2000 Decennial Census 5% Public Use Microdata Sample (PUMS) are used to cross-tabulate trends of migration and to provide other comparisons.

We compare the housing outcomes in three types of metropolitan areas: traditional immigrant gateways, emerging gateways and mid-size metropolitan areas. We follow previous studies such as Singer (2004) and Painter and Yu (2010) to create the three types of metropolitan areas based on population size, immigrant ratio to the total metropolitan population, and the relative size of new immigrants. As discussed in previous research, immigrants are likely to have

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<sup>1</sup> One might argue that we should have used 2005 American Community Survey data as the before point for comparison. However, the 2005 data do not code marital status and non-family household membership is exactly the same way as 2000 Decennial Census and other ACS data. Therefore, we use 2006 ACS data in our analysis. We end in 2009 because the 2010 data are collected with a slightly different sampling frame than the 2006-2009 data. Therefore, the data are most comparable across this period.

different housing outcomes in the three types of metropolitan areas. In addition, the recession has had quite different impacts across these different types of metropolitan areas.

***Dependent variables:*** In order to assess the impact of the recession on housing outcomes, we will first summarize three specific residential outcomes: homeownership, household formation, and residential mobility. While these three measures are not completely independent from each other, studying more than one housing outcome will provide a more nuanced view of how immigrants have fared during the recent economic crisis. We will then focus on homeownership and household formation in the subsequent multivariate analysis.

The first measure, homeownership, is measured at the household level. The second measure, headship, is measured at the person level. The headship rate is the ratio of household heads in the population aged 18-65 divided by the number of adults in the population aged 18-65, and is related to the likelihood of any individual to form an independent household. The final measure is residential mobility, where a move is observed within the past year.

We separately tabulate those who moved within the respective metropolitan area and those who migrated across metropolitan areas. In so doing, we will examine whether the immigrant effect on mobility varies by geography and by group. This in turn may have led to population shifts in the location of immigrant households over the recessionary period. As previous research has demonstrated (Painter, Gabriel, and Myers 2001), recent movers are likely to make different housing choices as do non-movers. Therefore, it is critical to account for recent moves in the multivariate analysis of homeownership choice.

There are also potential differences across immigrant groups, who may have responded to the economic recession differently. In the large immigrant gateways, Asian immigrants have

been found to have equal or higher rates of homeownership than native-born households (e.g., Light 2006; Painter, Yang, and Yu 2003), while at the same time, Asian immigrants in other cities do not have the same advantage (Painter and Yu 2010). Some Asian immigrants are "human capital" immigrants and come to the U.S. through the channel of employment (Nee and Sanders 2001). As a result, Asian immigrants, as a group, may not have as large a negative impact from the current economic crisis.

In contrast to Asian immigrants, Latino immigrants have typically been found to have worse housing outcomes than the white population across the country (e.g., Coulson 1999; Krivo 1995). In the past, time in country was a strong predictor of increasing homeownership, but no difference in overcrowding (Painter and Yu 2008). Many Latino immigrants are "labor" immigrants who engage in labor intensive activities (U.S. Bureau of Labor Statistics 2009; Suárez-Orozco and Pérez 2002). Due mainly to a slump in the construction industry, the unemployment rates for Latinos have been substantially higher than non-Latinos in recent years (Kochhar 2008; U.S. Bureau of Labor Statistics 2009 ; Bean and Bell-Rose 2003). Furthermore, Latino homeowners relied more heavily on subprime loans to finance home purchases than whites and Asians (Kochhar and Gonzalez-Barrera 2009). Therefore, Latino immigrants may have suffered more from the recent downturn than other groups.

***Independent variables:*** Housing outcomes are determined by a household's needs, preferences, and socioeconomic constraints. These characteristics shift over time, reflecting changes in age, educational attainment, marital status, family size, income, and other life course characteristics. The variable housing outcomes between groups are in part due to the differences in their individual characteristics. It is therefore necessary to control for these covariates in the study of housing outcomes.

The independent variables include demographic factors (age group, immigrant groups, marital status, migration history) and economic factors (household income, education level of the householder). Since immigrants are included in the model, it is necessary to include a duration of stay in the U.S. variable and an indicator to measure English proficiency. Because the impacts of the recession have not been homogenous across the country, we separately identify intra-metropolitan movers from inter-metropolitan movers and include migration origin as a control variable (Painter and Yu 2008). Next, we include a metropolitan level fixed effect in the model to capture features of a metropolitan area that are not observed in the data. When modeling the likelihood that owns a home, we use the metropolitan area homeownership rate, and when modeling the determinants of headship, we use the metropolitan area headship rate.

There are three factors that might influence housing outcomes of immigrants across the United States that we place a special focus on in this paper. First, we include variables to describe the current housing market conditions and the changes in these markets over the period of the recession. These include the twenty-fifth percentile housing price and median rent in the metropolitan area, and changes in the mortgage delinquency rate within a metropolitan area<sup>2</sup>. That later measure captures the extent of the severity of the housing downturn in the area. It would be expected that lower house prices, higher rents, and smaller changes in default rates would lead to better housing outcomes. Second, we include changes in the unemployment rate in each metropolitan rate to capture how the macroeconomic environment has changed in the metropolitan areas. Finally, we include variables that capture the strength of an immigrant's

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<sup>2</sup> We use the percent of home mortgages in each metropolitan area that have been delinquent for more than 30 days (including those that are in foreclosure) to calculate the mortgage delinquency rate for each year. Data on county level mortgage delinquency rates were obtained from the Federal Reserve Bank of New York's Credit Conditions website, available online at <http://www.newyorkfed.org/creditconditions/>, and are based on data from Lender Processing Services. The data include only first-lien mortgages.

network in a metropolitan area. These include the percentage of immigrants in the metropolitan area that have been in the United States more than 10 year, and the percentage of immigrants who speak English well and who are not linguistically isolated.

## **Methodology**

We first present summary data on homeownership rates, headship rates, and trends in migration to demonstrate how the recession has impacted immigrants and native-born households across the nation. We then use multivariate probit models to examine the determinants of homeownership and headship in 2009 in the nation as a whole, and in the gateway metropolitan areas, the emerging gateways, and a group of smaller metropolitan areas, separately.<sup>3</sup> These estimates will be compared to similar models in 2006 if certain factors have become more important in determining housing outcomes after the recession.

The homeowner choice and headship models use a sample of both movers and non-movers. In past research (e.g., Painter, Gabriel, and Myers 2001) on homeownership choice, models have used sample of recent movers while controlling for selection bias that might exist in that sample. Unfortunately, these models could not be estimated in the ACS because of the small sample of movers during the past year in many metropolitan areas.<sup>4</sup> Instead, a careful accounting of the origin of recent mover households is included in the models. Specifically, we include variables that indicate whether a move was within the same metropolitan area, a gateway metropolitan area, an emerging gateway, a foreign country, or some other part of the United States.

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<sup>3</sup> For definitions of gateways and emerging gateways, see Painter and Yu (2010).

<sup>4</sup> Much of the past research by Painter and his coauthors used the decennial Census, which classified recent movers as households that moved within the past 5 years. The ACS only reports mobility for the past year. This, in combination with the fact that mobility fell during the recession, makes Heckman style correction models proposed by Painter (2000) intractable.

Because homeownership is estimated on a sample of households, it can provide an incomplete picture of the impact of the recession (e.g., Yu and Myers 2010; Leppel 1991; Ermisch and Di Salvo 1997; Painter 2010). In contrast, some individuals may have chosen to delay entry into the housing market or join another household to economize on expenses. Therefore, the entire population from age 18-65 is used in the study of household formation. To estimate the impacts of socioeconomic, regional, and macroeconomic characteristics on household formation, we use a standard binomial logit model to estimate the probability of someone becoming a householder. While as a group, immigrants have lower rates of household formation than the native-born (Painter 2010), this behavioral model will provide insights into how immigrants have changed their headship rates as a result of the recession.

**Additional hypothesis testing:** While we first document the differences by immigrant group and geographic context, we are particularly interested in the extent to which metropolitan context and changing context are affecting housing outcomes. Next we will separately include contextual variables and test a number of hypotheses to explain the differences in housing outcomes.

First, we test the role of housing price and rent and differential trends in housing price in explaining variable housing outcomes. Lower housing prices increase housing affordability and increase the chance of household overleveraging, but lower house prices could also signal a slower expected appreciation in the future. Higher rents would be expected to lower both homeownership rates and headship rates. We also investigate how the change in default rates over the 2006-2009 period impact homeownership and headship rates. It is expected that metropolitan areas with higher default rates would have both lower homeownership rates due to households losing their homes, and lower headship rates due to the potential increase in doubling

up. Second, we include changes in the unemployment rate in each metropolitan rate to capture how the macroeconomic environment has changed in the metropolitan areas.

Finally, we investigate the effect of social networks, as in Painter and Yu (2010), to study whether social networks have helped cushion the housing downturn among immigrants and to examine whether the social network effect varies by immigrant group and by metropolitan type. Two variables are used to measure the strength of social networks. The first one is the percent of immigrants in each metropolitan area that have been in the U.S. for more than 10 years. The assumption is that metropolitan areas with more long-time immigrants will have stronger social networks. The second one is the percent of immigrant group who speaks English well and who are not linguistically isolated.<sup>5</sup> We expect to find that stronger social networks will have a positive effect on immigrants' homeownership in the metropolitan areas (Painter and Yu, 2010), and that this effect might be larger after the recession when the effects of the economic crisis are greatest. However, the effect on headship rates is not clear. Immigrants may more able to find roommates and relatives to share living space in places where ethnic network is stronger.

## **Results**

### *Summary Statistics*

While the focus of this paper is discovering how housing outcomes for foreign-born and native-born households have been affected by the housing and economic downturn, we first provide evidence on how population shifts and mobility have impacted metropolitan areas differently. Table 1 displays the change in one year mobility rates (percent moved in the last

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<sup>5</sup> According to the Census Bureau, linguistically isolated households refer to those in which either no person age 14+ speaks only English at home, or no person age 14+ who speaks a language other than English at home speaks English "Very well". All members of such a household are considered linguistically isolated, even though children under 14 who speak only English may live there.

year) over the 2006-2009. The data are displayed across the three types of metropolitan areas that we are focusing on in this analysis. As is evident, mobility rates declined across the nation, and that these declines were much more pronounced among the immigrant population. Mobility rates for native-born populations fell about one percentage point nationwide, but mobility rates for immigrants fell from 2.7 percentage points to 4.2 percentage points nearly reaching the mobility rates of the native-born. In the gateway metropolitan areas, the one year mobility rates of immigrants fell lower than that of native-born households.

Next, Table 2 presents the net change in population in these metropolitan areas from 2000 to 2006 and from 2006 to 2009. The growth rate of the native-born population slowed considerably in the latter part of the decade. More interestingly, the native-born population fell in the gateway metropolitan areas by 1 percentage point from 2000-2006, while continuing to grow (albeit more slowly) in other parts of the country. The combined evidence in Table 1 and 2 suggests that intra-metropolitan mobility fell a great deal across the country. For immigrants, there was an increase in movement out of the gateway metropolitan areas to other parts of the country that was not compensated by inflows into these areas from other parts of the US and abroad.

Given the context of the changes in mobility and population flows over the period from 2006-2009, Table 3 presents the changes in the homeownership and headship rates from 2006-2009. As is documented in Table 3 and is well appreciated, homeownership rates rose from 2000-2006, and then fell after 2006 in all areas for native-born households. While the homeownership rates of immigrants are lower than native-born household throughout the United States, the recession has seen a smaller drop in the homeownership rates of immigrants than



among native-born households. Interestingly, the homeownership rate of immigrants in small metros increased by 0.7 percentage points from 2006-2009.

Table 4 examines the changes in homeownership rates for Asian and Latino Immigrants separately. In contrast to native-born households (Table 3), many of the gains in homeownership rates experienced during the first part of the decade remained after the recession.

Homeownership rates for Asian immigrants fell one half of one percentage point across the country, and about 1 percentage point for Latino immigrants. However, the homeownership rates for Latino immigrants in smaller metropolitan areas actually increased slightly during the recession.

As was argued above, despite only small declines in homeownership rates after the recession, housing outcomes may have worsened for households if more people have been forced to live together. To determine whether this might be happening, we present headship rates for both native-born and immigrant households from 2000 until 2009, which gives a snap shot of headship rates before the current recession, and during it (Table 5). In general, headship rates are lower for immigrants than for native-born households, but the declines during the recession have been largest for native-born households (up to 1.1 percentage points). Overall, there has been very little change in the headship rate for immigrants. In fact, as Table 6 shows there have been some places throughout the country where headship rates have risen slightly for Asian and Latino immigrants. Overall, the trends in headship over the past decade demonstrates declines for native-born households, and slight increases for immigrants from 2000-2006, and relatively no change after 2006.

### ***Multivariate Analysis***

Table 7 presents probit model estimates of the determinants of homeownership using a pooled sample of 80 metropolitan areas (Column 1), followed by samples of the gateway metropolitan areas, emerging gateways, and smaller metropolitan areas. These four samples are compared because the impact of the housing downturn and the economic crisis that has followed has been very different across the country. The estimation sample includes native-born white and black households and Asian and Latino foreign-born households. As has been found in the literature, minority and immigrant households have lower rates of homeownership even after controlling for their socioeconomic status differences. New immigrant households are less likely to own than black households, but the relative likelihood for Asian and Latino immigrants differs across the types of metropolitan areas. After immigrants have been in the country 10 years or more, their probability of owning a home increases. Asian immigrants are more likely to own in the gateway metropolitan areas, and Latino immigrants are more likely to own in the smaller metropolitan areas. This finding might signal selective migration of Asian immigrants within the United States.

After controlling for housing market and individual characteristics, homeownership rates are actually highest in the gateway cities signaling the important role of house prices in depressing homeownership there. However, immigrants are more likely to own in the emerging gateways and small metros. Recent movers are much less likely to own their homes, although there are not large differences between the origins of the move. The movers with the smallest reduction in the probability of buying a home came from smaller metropolitan areas in our sample, and the movers with the largest penalty came from areas outside of our analysis sample.

Turning to the economic drivers of the decision to own, higher house prices and lower rents reduce the probability of owning a home. These effects are largest in the gateway

metropolitan areas. Next, Table 7 displays how changes in mortgage delinquency rates impact the likelihood of buying a home. In metropolitan areas where the changes in delinquency are greater, households are less likely to own a home. Again, these effects are largest in the immigrant gateways where the housing downturn has been most severe. Changes in the unemployment rates had similar impacts on the likelihood of owning a home. In places where unemployment rose the fastest, households were least likely to own a home. The impact of unemployment rates was not evident in the smaller metropolitan areas where the economic downturn was not as great.

Table 8 present similar models estimated for the year 2006 in order to assess if coefficients may have changed over the period. Most of the coefficients of the models are qualitatively similar. The largest differences are in the gateways, which is not surprising since the housing and economic crisis was greatest there. We note that movers to and within the gateways were more likely to buy a home in 2006 than 2009. Households were more sensitive to the housing price and rent in 2006 than in 2009. We also observe that changes in the mortgage delinquency rate over the past 3 years did not predict homeownership, which is not surprising because the period had so few delinquencies. Changes in unemployment were only important in predicting homeownership in the gateway metropolitan areas. Finally, the time in country was a slightly stronger predictor of immigrant homeownership in 2009, when compared to 2006.

In Table 9, we present the results for Asian and Latino immigrants. As is evident, there are a number of changes in the magnitude of the estimated effects over the 3 year period. Immigrants in small metros are more likely in 2006 to rent than own after controls for other characteristics. However, this effect became positive for Latino immigrants by the end of the decade, and the negative effect for Asian immigrants fell. The percent of immigrants who speak

English well and who are not linguistically isolated became much more important after the recession for Latino immigrants, while the effect is similar for Asian immigrants across time. The percent of the immigrant population that has been in the country more than 10 years is a consistent positive influence on homeownership for both immigrant groups after the recession, while it had no impact on Asian immigrant before the recession. On net, the evidence suggests that networks have become more important in influencing homeownership since the recession began.

The biggest change concerns the sensitivity of immigrants to housing market conditions. In 2009, the estimated sensitivity of immigrants to house prices and rents rose dramatically. As in the general population, increases in the delinquency rate lower the probability of owning a home. However, the effects were very small for Latino immigrants. Changes in the metropolitan unemployment rate lowered the probability of owning a home for Latino immigrants, but this characteristic did not have an impact on the probability that an Asian immigrant is a homeowner.

Next, we present evidence of the impacts of changes in the economic environment on the likelihood that someone will be a household head (Table 10). After controlling for socioeconomic characteristics, African Americans are more likely to be a household head, and Asian immigrants are less likely to be a household head. Latinos are less likely than whites to be a household head in the established gateways, but more likely in our sample of smaller metropolitan areas. The likelihood of being a household head is highest outside the gateways, and higher for immigrants outside the gateways. Mobility predicts headship, particularly if the move is within the same metropolitan area.

After controlling for the individual characteristics, the changes in the economic environment have a smaller additional impact than the changes did for homeownership. Namely, changes in the unemployment rate and mortgage delinquency rate at the metropolitan level do not impact headship. The most important housing market characteristic in predicting headship rates is the rent in the metropolitan area. As would be expected, higher rents lower headship.

Rather than display the 2006 headship results for the whole sample, we display the changes in the estimated coefficient for Asian and Latino immigrants over the 2006-2009 period (Table 11). The biggest changes in the period were the importance of the immigrant networks. In 2009, living in a metropolitan area with more immigrants that had been in the country more than 10 years or with relatively fewer linguistically isolated immigrants lowers the headship rate. This suggests that there was more doubling up in these metropolitan areas after the recession than before. Prior to the recession, Latino immigrants were more likely to be an independent head if there were more immigrants in the area that had been in the country more than 10 years. After the recession, immigrants were more likely to double up in places where ethnic networks were more prevalent. There were also small changes in the sensitivity of headship rates to rents, but the changes in the unemployment rate and metropolitan level delinquency rate was not predictive of headship rates after controlling for household demographic characteristics.

## **Discussion**

The recession has clearly lowered housing outcomes for native-born households. Many of the findings in the study are as expected. Not only have homeownership rates fallen across the country, but the headship rate has also fallen, increasing the housing burden to existing households. After controlling for household characteristics, metropolitan areas with bigger

changes in the unemployment rate and the delinquency rate are predicted to have lower homeownership rates.

In contrast to the findings for the native-born population, the housing outcomes of immigrants did not fall as much in the recession as might have been expected. The declines in homeownership and headship rates were smaller for immigrants, and in some metropolitan areas, the declines did not happen from 2006-2009. The presence of strong immigrant networks predicts higher homeownership, but lower headship rates, after controlling for other characteristics of the household and housing market. Immigrants were much more sensitive to metropolitan housing prices and rents after the recession. These results do not explain why immigrants appeared to fare better than their native-born counterparts.

The biggest difference in the immigrant population before and after the recession is the length of time that an average immigrant has steadily fallen. As is evident in Table 12, the percent of the population in our study that is a new immigrant has steadily fallen over the decade. In 2000, the percent of the population that was immigrant in our study areas was around 17.5 percent. This number increased to 20.2 percent in 2006, and there was no change in the immigrant population during the recession. However, there was a change in the location of the immigrant population and in the time in the U.S. As noted earlier, the immigrant population fell in the gateway metropolitan areas from 2006-2009, and grew from 2006-2009 in the emerging gateways and smaller metropolitan areas.

More importantly, the percent of the population that was a new immigrant fell across the country. In 2000, 42% of the immigrants in our sample had been in the country less than 10 years. This number declined to 38% in 2009. The biggest declines were in the gateway and

emerging gateways, with declines ranging from 39-32% and 49-40%, respectively. In the overall population, the percent that was new immigrant in emerging gateways and small metros rose from 2000-2006, but fell from 2006-2009, even as the percent of the population that was an immigrant in those areas continued to rise.

Overall, the immigrant population was more settled at the end of the decade, than at the beginning. There were fewer newcomers at the end of the decade. This was true both in terms of the duration in country (Table 12), and in mobility rates (Table 4). Both of these facts combine to predict better housing outcomes. The downturn in the housing market may have even provide opportunities as house prices fell for immigrants that kept their jobs because research has clearly demonstrated the upward trajectory of the immigrant population (e.g., Myers and Lee 1998; Painter and Yu 2008). The recession undoubtedly hurt immigrants as well as native-born households, but one of the largest impacts of the recession was the cut-off of the flow of new immigrants to the U.S. (Papademetriou and Terrazas 2009). Another possibility is that some less successful immigrants have returned to their countries of origin. However, we are not able to directly test this hypothesis.

### **Concluding remarks**

The findings of this analysis clearly show that the housing outcomes for most households fell during the recession. The primary exception was for immigrant population in small metropolitan areas. The reason that this was the case was likely to a less severe recession in these areas, and to an immigrant population that had become more mature. Households living in metropolitan areas which experienced higher rates of delinquency and higher unemployment rates were less likely to own a home, signifying the importance of the weakness in the job and

housing market. In areas with stronger immigrant networks, immigrants were more likely to have higher homeownership rates, but lower headship rates after the recession than before. This suggests that one should be cautious in interpreting the importance of an immigrant network on homeownership, because part of that increase may be due to reductions in household formation.

One of the biggest changes in the housing market that this analysis did not explicitly model is the change in mobility. There was a clear reduction in mobility rates across the country. This reduction was larger for immigrants than native-born households, but the reduction for immigrants was likely partially due to the lack of new foreign migration to the United States or even some reverse migration. As research has shown, recent movers are less likely to own (Painter, 2000). This might suggest that as people begin to move and leave their homes, homeownership rates may fall further.

Another avenue for future research would be to explore how changes in particular segments of the job market have impacted the location choice and housing outcomes of immigrants. Because immigrants tend to concentrate in particular industries, we would expect them to be more adversely impacted when their employment is concentrated in the sectors like construction that were most devastated in the current recession. At the same time, immigrants are more geographically mobile if they do not have strong ties to particular areas, and may therefore move when the job market conditions change.



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**Table 1. Percent Moved in the Last Year by Geography and Immigrant Status, 2006 and 2009**

	<b>2006</b>	<b>2009</b>	<b>Differences</b>
Native Born Households			
The U.S.	16.8	15.3	-1.5
The Three Areas	16.5	15.4	-1.1
Established Gateways	13.7	13.3	-0.4
Emerging Gateways	17.5	16.2	-1.3
Small Metros	17.5	16.1	-1.5
Immigrants			
The U.S.	19.9	16.7	-3.2
The Three Areas	19.3	16.2	-3.1
Established Gateways	16.5	13.7	-2.7
Emerging Gateways	23.2	19.7	-3.4
Small Metros	22.3	18.1	-4.2

Source: 2006 and 2009 ACS data and based authors' calculation

Note: The native-born household sample includes only non-Hispanic Whites and Blacks, while the immigrant sample is limited to Asian and Latino Immigrants.

**Table 2. Percent Changes in Population, 2000-2006 and 2006-2009**

	<b>2000-2006</b>	<b>2006-2009</b>
The Native-born (the U.S.)	4.1	0.6
The Three Areas	4.0	1.4
Established Gateways	-1.0	0.2
Emerging Gateways	6.5	2.0
Small Metros	5.6	1.6
Immigrants (the U.S.)	25.4	2.3
The Three Areas	23.8	1.7
Established Gateways	13.3	0.0
Emerging Gateways	43.8	3.9
Small Metros	35.8	3.6

Source: 2000 Decennial Census Public Use Microdata Sample, 2006 and 2009 ACS data and based authors' calculation

Note: The native-born sample includes only non-Hispanic Whites and Blacks, while the immigrant sample is limited to Asian and Latino Immigrants.

**Table 3. Homeownership Rates by Geography and Immigrant Status, 2000-2009**

	<b>2000</b>	<b>2006</b>	<b>2009</b>	<b>Diff. 00-06</b>	<b>Diff. 06-09</b>
Native Born Households					
The U.S.	67.3	67.9	66.0	0.6	-1.9
The Three Areas	65.1	66.7	64.5	1.6	-2.2
Established Gateways	60.7	62.8	60.3	2.2	-2.5
Emerging Gateways	65.8	67.6	65.4	1.8	-2.2
Small Metros	67.9	68.7	66.5	0.8	-2.2
Immigrants					
The U.S.	45.2	49.8	49.1	4.6	-0.7
The Three Areas	44.8	50.0	48.8	5.3	-1.2
Established Gateways	43.1	47.6	46.0	4.5	-1.7
Emerging Gateways	46.8	53.3	51.8	6.5	-1.5
Small Metros	48.3	52.6	53.3	4.2	0.7

Source: 2000 Decennial Census Public Use Microdata Sample, 2006 and 2009 ACS data and based authors' calculation

Note: The native-born household sample includes only non-Hispanic Whites and Blacks, while the immigrant sample is limited to Asian and Latino Immigrants.

**Table 4. Homeownership Rates by Geography and Immigrant Group, 2000-2009**

	<b>2000</b>	<b>2006</b>	<b>2009</b>	<b>Diff. 00-06</b>	<b>Diff. 06-09</b>
Asian Immigrants					
The U.S.	52.1	59.0	58.6	6.9	-0.4
The Three Areas	52.9	59.8	59.4	7.0	-0.5
Established Gateways	52.4	56.9	56.8	4.5	-0.1
Emerging Gateways	54.9	64.8	63.4	9.9	-1.3
Small Metros	51.4	61.5	61.0	10.1	-0.6
Latino Immigrants					
The U.S.	41.5	45.1	44.1	3.6	-1.0
The Three Areas	40.3	44.8	43.1	4.5	-1.7
Established Gateways	38.3	42.7	40.0	4.4	-2.7
Emerging Gateways	41.9	47.1	45.4	5.2	-1.7
Small Metros	46.6	48.2	49.4	1.6	1.3

Source: 2000 Decennial Census Public Use Microdata Sample, 2006 and 2009 ACS data and based authors' calculation

**Table 5. Headship Rates by Geography and Immigrant Status, 2000-2009**

	<b>2000</b>	<b>2006</b>	<b>2009</b>	<b>Diff. 00-06</b>	<b>Diff. 06-09</b>
Native Born Households					
The U.S.	48.0	47.4	46.9	-0.5	-0.5
The Three Areas	48.2	47.3	46.3	-0.9	-1.0
Established Gateways	47.6	46.0	44.9	-1.6	-1.1
Emerging Gateways	48.8	47.5	46.4	-1.3	-1.1
Small Metros	48.3	48.1	47.3	-0.2	-0.8
Immigrants					
The U.S.	38.3	40.3	40.2	1.9	-0.1
The Three Areas	38.2	40.0	40.0	1.8	0.0
Established Gateways	37.9	39.7	39.6	1.8	-0.1
Emerging Gateways	38.5	40.0	40.2	1.6	0.1
Small Metros	38.7	41.1	41.0	2.4	0.0

Source: 2000 Decennial Census Public Use Microdata Sample, 2006 and 2009 ACS data and based authors' calculation

Note: The native-born household sample includes only non-Hispanic Whites and Blacks, while the immigrant sample is limited to Asian and Latino Immigrants.



**Table 6. Headship Rates by Geography and Immigrant Group, 2000-2009**

	<b>2000</b>	<b>2006</b>	<b>2009</b>	<b>Diff. 00-06</b>	<b>Diff. 06-09</b>
Asian Immigrants					
The U.S.	40.3	41.9	41.8	1.6	-0.1
The Three Areas	40.1	41.5	41.6	1.4	0.2
Established Gateways	39.6	41.0	41.4	1.4	0.4
Emerging Gateways	41.1	42.2	42.3	1.1	0.1
Small Metros	40.4	42.1	41.3	1.7	-0.8
Latino Immigrants					
The U.S.	37.4	39.5	39.4	2.1	0.0
The Three Areas	37.2	39.3	39.1	2.1	-0.1
Established Gateways	37.1	39.0	38.6	2.0	-0.4
Emerging Gateways	37.0	39.0	39.1	1.9	0.1
Small Metros	37.8	40.6	40.9	2.8	0.3

Source: 2000 Decennial Census Public Use Microdata Sample, 2006 and 2009 ACS data and based authors' calculation

**Table 7. Probit Estimates of Homeownership, 2009**

Variables	Full Sample			Established Gateways		Emerging Gateways		Small Metros	
	dF/dx	Std. Err.		dF/dx	Std. Err.	dF/dx	Std. Err.	dF/dx	Std. Err.
Number of obs =	41,747,206			13,222,272		13,974,290		14,549,876	
Pseudo R2 =	0.303			0.293		0.300		0.315	
Race and Immigrant Status (Omitted: Non-Hispanic Whites)									
Blacks	-0.242 ***	0.000		-0.266 ***	0.000	-0.203 ***	0.000	-0.223 ***	0.000
Asian Immigrants	-0.356 ***	0.001		-0.294 ***	0.001	-0.331 ***	0.001	-0.345 ***	0.001
Latino Immigrants	-0.414 ***	0.001		-0.402 ***	0.001	-0.366 ***	0.001	-0.308 ***	0.001
Immigrant Status (Omitted: Come To U.S. in the Past 10 Yrs.)									
Came To U.S 10-19 Years Ago	0.203 ***	0.000		0.212 ***	0.001	0.211 ***	0.001	0.187 ***	0.001
Came To U.S 20+ Years Ago	0.265 ***	0.000		0.313 ***	0.001	0.251 ***	0.000	0.231 ***	0.001
Metropolitan Status (Omitted: Established Gateways)									
Emerging Gateways	-0.020 ***	0.000							
Small Metros	-0.008 ***	0.000							
Immigrants in Emerging Gateways	0.054 ***	0.000							
Immigrants in Small Metros	0.075 ***	0.001							
Moved in the Last Year (Omitted: Those Who Did Not Move)									
Moved within the Metros	-0.361 ***	0.000		-0.316 ***	0.001	-0.380 ***	0.000	-0.369 ***	0.000
Moved from Traditional Gateways	-0.362 ***	0.001		-0.298 ***	0.001	-0.451 ***	0.002	-0.425 ***	0.002
Moved from Emerging Gateways	-0.433 ***	0.001		-0.435 ***	0.001	-0.405 ***	0.001	-0.476 ***	0.002
Moved from Small Metros	-0.214 ***	0.010		-0.060 **	0.021	-0.080 ***	0.011	-0.104 ***	0.013
Moved from Other Places	-0.447 ***	0.000		-0.438 ***	0.001	-0.449 ***	0.001	-0.455 ***	0.001
Moved from Foreign Countries	-0.313 ***	0.001		-0.311 ***	0.002	-0.301 ***	0.002	-0.314 ***	0.002
Housing Price and Rent									
The 25th Percentile Housing Price (log)	-0.167 ***	0.000		-0.415 ***	0.001	-0.051 ***	0.001	-0.044 ***	0.001
Puma Median Rent (log)	0.319 ***	0.001		0.769 ***	0.002	-0.008 ***	0.002	0.056 ***	0.002
Changes 2006-2009									
Mortgage Delinquency Rates	-0.017 ***	0.000		-0.058 ***	0.001	-0.001 **	0.000	-0.018 ***	0.000
Unemployment Rates by Metropolitan Areas	-0.012 ***	0.000		-0.026 ***	0.002	-0.018 ***	0.001	0.002 ***	0.000
Socioeconomic Characteristics**	X			X		X		X	
Metropolitan level fixed effects***	X			X		X		X	

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

\*\* Other control variables include age, marital status, personal income, educational attainment, and English proficiency.

\*\*\* Metropolitan homeownership rates of the year are used to control for metropolitan fixed effects.

**Table 8. Probit Estimates of Homeownership, 2006**

Variables	Full Sample		Established Gateways		Emerging Gateways		Small Metros	
	dF/dx	Std. Err.	dF/dx	Std. Err.	dF/dx	Std. Err.	dF/dx	Std. Err.
Number of obs =	41,812,201		13,421,544		13,925,689		14,464,968	
Pseudo R2 =	0.280		0.259		0.283		0.295	
Race and Immigrant Status (Omitted: Non-Hispanic Whites)								
Blacks	-0.237 ***	0.000	-0.290 ***	0.000	-0.213 ***	0.000	-0.216 ***	0.000
Asian Immigrants	-0.356 ***	0.001	-0.316 ***	0.001	-0.306 ***	0.001	-0.342 ***	0.001
Latino Immigrants	-0.393 ***	0.001	-0.391 ***	0.001	-0.329 ***	0.001	-0.331 ***	0.001
Immigrant Status (Omitted: Come To U.S. in the Past 10 Yrs.)								
Came To U.S 10-19 Years Ago	0.180 ***	0.000	0.176 ***	0.001	0.191 ***	0.001	0.185 ***	0.001
Came To U.S 20+ Years Ago	0.238 ***	0.000	0.265 ***	0.001	0.237 ***	0.000	0.218 ***	0.000
Metropolitan Status (Omitted: Established Gateways)								
Emerging Gateways	-0.021 ***	0.000						
Small Metros	-0.051 ***	0.000						
Immigrants in Emerging Gateways	0.075 ***	0.000						
Immigrants in Small Metros	0.071 ***	0.001						
Moved in the Last Year (Omitted: Those Who Did Not Move)								
Moved from Foreign Countries	-0.344 ***	0.001	-0.298 ***	0.002	-0.349 ***	0.002	-0.376 ***	0.002
Moved from Traditional Gateways	-0.230 ***	0.001	-0.166 ***	0.001	-0.304 ***	0.001	-0.265 ***	0.002
Moved from Emerging Gateways	-0.356 ***	0.001	-0.368 ***	0.002	-0.336 ***	0.001	-0.376 ***	0.002
Moved from Small Metros	-0.387 ***	0.009	-0.142 ***	0.014	-0.549 ***	0.023	-0.601 ***	0.009
Moved within the Metros	-0.276 ***	0.000	-0.223 ***	0.001	-0.282 ***	0.000	-0.301 ***	0.000
Moved from Other Places	-0.415 ***	0.000	-0.367 ***	0.001	-0.431 ***	0.001	-0.422 ***	0.001
Housing Price and Rent								
The 25th Percentile Housing Price (log)	-0.050 ***	0.000	-0.619 ***	0.006	-0.047 ***	0.001	-0.003 ***	0.001
Puma Median Rent (log)	0.031 ***	0.002	2.201 ***	0.024	-0.020 ***	0.003	-0.026 ***	0.002
Changes 2003-2006								
Mortgage Delinquency Rates	0.001 ***	0.000	0.013 ***	0.000	-0.001 ***	0.000	0.000 ***	0.000
Unemployment Rates by Metropolitan Areas	0.012 ***	0.000	-0.060 ***	0.001	0.032 ***	0.000	0.011 ***	0.000
Other Control Variables**	X		X		X		X	
Metropolitan Level Fixed Effects ***	X		X		X		X	

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

\*\* Other control variables include age, marital status, personal income, educational attainment, and English proficiency.

\*\*\* Metropolitan homeownership rates of the year are used to control for metropolitan fixed effects.

**Table 9. Probit Estimates of Homeownership by Immigrant Groups, 2006 and 2009**

Variables	2006				2009			
	Latino Immigrants		Immigrants		Latino Immigrants		Asian Immigrants	
	dF/dx	Std. Err.	dF/dx	Std. Err.	dF/dx	Std. Err.	dF/dx	Std. Err.
Number of obs =		4,809,761		2,555,876		4,853,611		2,638,661
Pseudo R2 =		0.209		0.246		0.251		0.265
Immigrant Status (Omitted: Come To U.S. in the Past 10 Yrs.)								
Came To U.S 10-19 Years Ago	0.211 ***	0.001	0.234 ***	0.001	0.203 ***	0.001	0.283 ***	0.001
Came To U.S 20+ Years Ago	0.332 ***	0.001	0.355 ***	0.001	0.322 ***	0.001	0.390 ***	0.001
Metropolitan Status (Omitted: Established Gateways)								
Emerging Gateways	0.038 ***	0.001	0.047 ***	0.001	0.018 ***	0.001	0.005 ***	0.001
Small Metros	-0.047 ***	0.001	-0.025 ***	0.002	0.048 ***	0.001	-0.011 ***	0.002
Moved in the Last Year (Omitted: Those Who Did Not Move)								
Moved from Foreign Countries	-0.246 ***	0.002	-0.455 ***	0.002	-0.251 ***	0.002	-0.414 ***	0.002
Moved from Traditional Gateways	-0.055 ***	0.002	-0.214 ***	0.002	-0.240 ***	0.002	-0.349 ***	0.002
Moved from Emerging Gateways	-0.215 ***	0.003	-0.362 ***	0.003	-0.288 ***	0.002	-0.373 ***	0.003
Moved from Small Metros	-0.123 ***	0.001	-0.423 ***	0.027	-0.299 ***	0.001	0.347 ***	0.005
Moved within the Metros	-0.156 ***	0.001	-0.183 ***	0.001	-0.190 ***	0.000	-0.256 ***	0.001
Moved from Other Places	-0.193 ***	0.001	-0.399 ***	0.002	-0.294 ***	0.001	-0.416 ***	0.002
Housing Price and Rent								
The 25th Percentile Housing Price (log)	-0.099 ***	0.001	-0.034 ***	0.002	-0.319 ***	0.001	-0.192 ***	0.002
Puma Median Rent (log)	0.006	0.006	0.004	0.009	0.399 ***	0.003	0.336 ***	0.004
Immigrant Presence at the Metro Level								
Percent in the U.S. for More than 10 Years	0.529 ***	0.005	-0.002	0.011	0.261 ***	0.005	0.237 ***	0.011
Percent Networkers**	-0.097 ***	0.021	0.362 ***	0.022	1.075 ***	0.018	0.357 ***	0.022
Changes 2003-2006 (2006) or 2006-2009 (2009)								
Mortgage Delinquency Rates	-0.010 ***	0.000	-0.001 **	0.000	-0.002 ***	0.001	-0.019 ***	0.001
Unemployment Rates by Metropolitan Areas	0.040 ***	0.001	-0.023 ***	0.001	-0.008 ***	0.001	0.004 *	0.002
Other Control Variables***	X		X		X		X	
Metropolitan Level Fixed Effects ****	X		X		X		X	

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ 

\*\* Percent who speak English well or speak English very well AND not linguistically isolated.

\*\*\* Other control variables include age, marital status, personal income, educational attainment, and English proficiency.

\*\*\*\* Metropolitan homeownership rates of the year are used to control for metropolitan fixed effects.

**Table 10. Probit Estimates of Headship, 2009**

Variables	Full Sample		Established Gateways		Emerging Gateways		Small Metros	
	dF/dx	Std. Err.	dF/dx	Std. Err.	dF/dx	Std. Err.	dF/dx	Std. Err.
Number of obs =	92,798,794		30,684,777		30,860,180		31,253,837	
Pseudo R2 =	0.135		0.136		0.136		0.137	
Race and Immigrant Status (Omitted: Non-Hispanic Whites)								
Blacks	0.051 ***	0.000	0.042 ***	0.000	0.049 ***	0.000	0.064 ***	0.000
Asian Immigrants	-0.088 ***	0.000	-0.082 ***	0.001	-0.087 ***	0.001	-0.086 ***	0.001
Latino Immigrants	-0.022 ***	0.000	-0.034 ***	0.001	-0.005 ***	0.001	0.013 ***	0.001
Immigrant Status (Omitted: Come To U.S. in the Past 10 Yrs.)								
Came To U.S 10-19 Years Ago	0.059 ***	0.000	0.049 ***	0.000	0.070 ***	0.001	0.046 ***	0.001
Came To U.S 20+ Years Ago	0.089 ***	0.000	0.074 ***	0.000	0.084 ***	0.001	0.085 ***	0.001
Metropolitan Status (Omitted: Established Gateways)								
Emerging Gateways	0.012 ***	0.000						
Small Metros	0.024 ***	0.000						
Immigrants in Emerging Gateways	0.015 ***	0.000						
Immigrants in Small Metros	0.002 ***	0.000						
Moved in the Last Year (Omitted: Those Who Did Not Move)								
Moved from Foreign Countries	-0.014 ***	0.001	-0.038 ***	0.001	-0.033 ***	0.001	0.039 ***	0.001
Moved from Traditional Gateways	0.043 ***	0.001	0.066 ***	0.001	0.032 ***	0.001	0.020 ***	0.001
Moved from Emerging Gateways	0.043 ***	0.001	0.059 ***	0.001	0.047 ***	0.001	0.019 ***	0.001
Moved from Small Metros	0.096 ***	0.006	0.050 ***	0.001	0.049 ***	0.001	0.060 ***	0.001
Moved within the Metros	0.079 ***	0.000	0.077 ***	0.012	0.164 ***	0.012	0.095 ***	0.009
Moved from Other Places	0.058 ***	0.000	0.086 ***	0.000	0.067 ***	0.000	0.081 ***	0.000
Housing Price and Rent								
The 25th Percentile Housing Price (log)	0.013 ***	0.000	0.035 ***	0.000	-0.002 **	0.001	0.002 ***	0.000
Puma Median Rent (log)	-0.121 ***	0.001	-0.165 ***	0.001	-0.111 ***	0.002	-0.069 ***	0.001
Changes 2006-2009								
Mortgage Delinquency Rates	0.000 ***	0.000	-0.001 ***	0.000	-0.001 ***	0.000	0.000 ***	0.000
Unemployment Rates by Metropolitan Areas	-0.001 ***	0.000	0.013 ***	0.000	0.002 ***	0.000	-0.005 ***	0.000
Other Control Variables**	X		X		X		X	
Metropolitan Level Fixed Effects ***	X		X		X		X	

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

\*\* Other control variables include age, marital status, personal income, educational attainment, and English proficiency.

\*\*\* Metropolitan headship rates of the year are used to control for metropolitan fixed effects.

**Table 11. Probit Estimates of Headship by Immigrant Groups, 2006 and 2009**

Variables	2006						2009			
	Latino Immigrants			Asian Immigrants			Latino Immigrants		Asian Immigrants	
	dF/dx	Std. Err.		dF/dx	Std. Err.		dF/dx	Std. Err.	dF/dx	Std. Err.
Number of obs	=	12,275,454		6,166,073			12,425,263		6,336,965	
Pseudo R2	=	0.097		0.096			0.094		0.096	
Immigrant Status (Omitted: Come To U.S. in the Past 10 Yrs.)										
Came To U.S 10-19 Years Ago	0.061 ***	0.000		0.012 ***	0.001		0.065 ***	0.000	0.014 ***	0.001
Came To U.S 20+ Years Ago	0.093 ***	0.000		0.034 ***	0.001		0.106 ***	0.000	0.047 ***	0.001
Metropolitan Status (Omitted: Established Gateways)										
Emerging Gateways	0.008 ***	0.001		0.010 ***	0.001		0.006 ***	0.001	0.016 ***	0.001
Small Metros	0.015 ***	0.001		0.012 ***	0.001		-0.009 ***	0.001	0.005 ***	0.001
Moved in the Last Year (Omitted: Those Who Did Not Move)										
Moved from Foreign Countries	-0.102 ***	0.001		-0.015 ***	0.001		-0.100 ***	0.001	-0.044 ***	0.001
Moved from Traditional Gateways	-0.001	0.001		0.087 ***	0.001		-0.014 ***	0.002	0.090 ***	0.002
Moved from Emerging Gateways	0.034 ***	0.002		0.098 ***	0.002		-0.023 ***	0.002	0.072 ***	0.002
Moved from Small Metros	0.269 ***	0.018		-0.056 **	0.017		0.031 *	0.015	0.461 ***	0.010
Moved within the Metros	0.041 ***	0.000		0.078 ***	0.001		0.047 ***	0.000	0.078 ***	0.001
Moved from Other Places	0.045 ***	0.001		0.098 ***	0.002		0.020 ***	0.001	0.102 ***	0.002
Housing Price and Rent										
The 25th Percentile Housing Price (log)	-0.007 ***	0.001		0.019 ***	0.001		0.010 ***	0.001	0.039 ***	0.001
Puma Median Rent (log)	-0.117 ***	0.003		-0.115 ***	0.005		-0.161 ***	0.002	-0.176 ***	0.002
Immigrant Presence at the Metro Level										
Percent in the U.S. for More than 10 Years	0.071 ***	0.003		-0.030 ***	0.006		-0.087 ***	0.004	-0.043 ***	0.006
Percent Networkers**	-0.053 ***	0.012		-0.133 ***	0.013		-0.261 ***	0.011	-0.163 ***	0.013
Changes 2003-2006 (2006) or 2006-2009 (2009)										
Mortgage Delinquency Rates	0.000 ***	0.000		0.000	0.000		-0.001 ***	0.000	0.000 ***	0.000
Unemployment Rates by Metropolitan Areas	0.008 ***	0.000		0.002 ***	0.000		0.003 ***	0.000	0.002 ***	0.000
Other Control Variables***	X			X			X		X	
Metropolitan Level Fixed Effects ****	X			X			X		X	

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ 

\*\* Percent who speak English well or speak English very well AND not linguistically isolated.

\*\*\* Other control variables include age, marital status, personal income, educational attainment, and English proficiency.

\*\*\*\* Metropolitan headship rates of the year are used to control for metropolitan fixed effects.

**Table 12. The Distribution of Immigrant Population**

	Percent Immigrant	Percent new Immigrant	Of the Immigrants , percent new
2000			
The Three Areas	17.5	7.4	42.1
Traditional Gateways	31.1	12.0	38.6
Emerging Gateways	13.3	6.5	49.3
Small Metros	7.4	3.4	45.3
2006			
The Three Areas	20.2	7.7	38.3
Traditional Gateways	34.1	11.5	33.7
Emerging Gateways	17.1	7.8	45.6
Small Metros	9.3	3.9	42.3
2009			
The Three Areas	20.3	7.1	35.1
Traditional Gateways	34.0	10.7	31.5
Emerging Gateways	17.4	7.0	40.5
Small Metros	9.5	3.6	38.5

Source: 2000 Decennial Census Public Use Microdata  
Sample, 2006 and 2009 ACS data and based authors'  
calculation



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