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Diverging trajectories of immigrant residential assimilation, 2000-2006: homeownership attainment and household formation

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Zhou Yu

AEB 234
Department of Family and Consumer Studies and Institute of Public and International Affairs
University of Utah
Salt Lake City, UT 84112
Tel: (801)892-5521
Fax: (801)581-5156
Email: zhou.yu@fcs.utah.edu

ABSTRACT

Immigrant homeownership is typically analyzed at the household level, which ignores the role of household formation. To address this concern, this paper examines both indicators—homeownership measured at the household level and household formation at the individual level. The study investigates the residential assimilation of Mexican, Korean, Chinese and Asian Indian immigrants in the top 100 metropolitan areas, along with U.S.-born, non-Hispanic whites as a common reference group. We focus on one immigrant arrival cohort who came in 1985-94, pay particular attention to immigrants who aged 25-34 in 2000, and analyze their pace of residential assimilation from 2000 to 2006 when they reached age 31-40. The six-year period saw an unprecedented run-up in housing price in the U.S. The three immigrant groups have diverging trajectories of assimilation. The Chinese are the least likely to form renter households; as a result, they have the highest homeownership rate. Mexican immigrants have the smallest homeownership advancement, but they are the most likely to form owner households. Asian Indian and Korean immigrants, on the other hand, have the largest improvement in homeownership showing strong upward mobility. But non of the Asian groups have the same levels of household formation as the Mexicans after adjusting for other covariates. The different trajectories of residential adjustment reflect the differences in their paths of immigration, economic status, and English proficiency. Examining household formation provides additional insights into immigrant residential adjustment in the U.S..

INTRODUCTION

Homeownership is the bedrock of the American dream. Research shows that homeowning has long-lasting effects on the well-being of residents (Boehm and Schlottmann 1999; Rohe, Van Zandt, and McCarthy 2002). Therefore, policymakers have put great effort into promoting homeownership (Rossi and Weber 1996; Rohe, Van Zandt, and McCarthy 2002; The Bush Administration 2004). For immigrants, homeownership is a major investment and represents a important commitment to the host society (Clark 2003; Alba and Logan 1992; Krivo 1995). It is not surprising that homeownership, which is measured at the household level, has been widely used an key indicator of immigrant well-being and residential assimilation (e.g., Alba and Logan 1992; Krivo 1995; Rosenbaum 1996).

Homeownership is also a key barometer in an uncertain housing market. On the one hand, aging babyboomers are expected to retire and leave the housing market in the coming decades, dampening the demand for housing (Myers 2007). On the other, 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). Population growth will increase the demand for owner-occupied housing. In order to better understand the dynamics between the two demographic forces, it is necessary to have a good understanding of immigrants' homeownership attainment.

There are large differences in homeownership rates among immigrant groups. Mexicans and other Latino immigrants have low levels of financial and human capital (Pachon and Moore 1981; Borjas 2007). They have lagged far behind in socioeconomic progress and homeownership advancement (Krivo 1995,

1

1986; Coulson 1999; Cortes et al. 2007). Such gap has widened significantly over time (Borjas 2002). This disparity, coupled with a large influx of Latino immigrants in recent years, may lead to ethnic stratification and the expansion of the underclass group (Borjas 2007; Moore and Pinderhughes 1993; Alba 1999).

On the other hand, it is puzzling to see large differences among Asian immigrant groups in residential assimilation (White, Biddlecom, and Guo 1993; Allen and Turner 1996). Korean and Chinese came from the same region, share some common traits, and have similarly high levels of income and educational attainment. While Chinese immigrants have achieved extraordinarily high levels of homeownership soon after arrival (Myers and Lee 1998; Painter, Yang, and Yu 2004), Korean immigrants have been slow to purchase homes (Painter, Yang, and Yu 2003). Meanwhile, Asian Indian immigrants are the most educated group of all and most speak English well (Jensen 1988). They have shown strong upward mobility and are the least reliant on ethnic network (Kitano and Daniels 1995). However, they do not outperform the Chinese in homeownership attainment (Painter, Yang, and Yu 2003).

Immigrant homeownership has been largely measured at the household level, but the household based homeownership measure has its limitations (Myers and Yu 2006). In a simplistic yet widely accepted view, homeownership decision is *only* made at the household level. A higher homeownership rate means better access to homeownership, because more households would be homeowners. Little recognized is that there is a third variable in the homeownership decision. People have a choice not to form independent households. The situation is similar to the U.S. presidential election. In addition

2

to voting for a major-party candidate, voters may choose to vote for a third-party candidate or opt not to vote at all. Similarly, homeownership can be high when would-be renters are absent from the housing market or when fewer renter households are formed over time. This may especially the case among newly arrived immigrants, who are likely to save money by staying with co-patriots, friends, or extended kin (Blank 1998). Moreover, there are variations in household formation rates among ethnic immigrants groups which could inadvertently affect their homeownership rates. Could the limitations of the current homeownership measure help explain the homeownership disparities between immigrants and native-born residents and the gaps among different immigrant groups?

Further complicating our understanding of residential assimilation is the fact that each new wave of post-1965 immigration is substantially different from previous arrival with respect to cohort size, the countries of origin, path of immigration, and socioeconomic status (Fix and Passel 2001; Martin and Midgely 2003; Massey 1995). The recently arrived, who are more numerous and less endowed, are likely to hide the overall progress of immigrants and disguise the underlying upward mobility. It is therefore necessary to look beyond the cross-sectional approach widely used in the literature, because residential assimilation is a longitudinal process in nature.

The present paper examines homeownership attainment and household formation as two indicators of immigrant residential assimilation in the top 100 U.S. metropolitan areas. Newly introduced here is the measure of household formation which refers to the decision whether people become a householder or

3

not and, if new households are formed, whether they are renter or owner households.

This paper also seeks to contribute to the literature of residential assimilation by extending the cohort longitudinal method used in the analysis of immigrant housing trajectories (Myers and Lee 1998). The cohort longitudinal method makes it possible to track the residential adjustment of specific immigrant cohorts and measure their progress in relative to the advancement of U.S.-born, non Hispanic whites.

This paper attempts to address three broad questions. First, how much has immigrants' growing duration in the U.S. affected their homeownership attainment and household formation? Second, do the variable rates of household formation explain the homeownership disparity among the three immigrant groups and why Chinese immigrants have an exceptionally high homeownership propensity? Third, what are the major differences in the residential assimilation among the four immigrant groups, adjusting for the influence of income, education, English proficiency, and marital status?

BACKGROUND

Two models of homeownership achievement

One key debate about immigration and residential assimilation is the degree at which new immigrants have adapted to the mainstream of American society and the economy. Homeownership has been used in the literature as one important indicator.

The literature has offered two contrasting models to explain the way through which immigrants achieve homeownership. The two models are "assimilation" and "stratification." Assimilation here refers to the integration of

4

immigrants in the host society as the direction and eventual outcome (Gordon 1964). An implicit assumption is the desirability of maintaining the established institutions, such as the English language, and the prevailing culture and religion. Immigrants assume a more passive role in the process. In more recent literature, assimilation is treated as a process of attenuation of ethnic differences in stead of an end state achievement (Alba and Nee 1997; Massey 1985). In a major review and reformulation of theory, Alba and Nee (2003) distinguish assimilation as a more dynamics process, allowing for both individual-level assimilation and major shifts in ethnic and racial boundaries. With few exceptions (e.g., Yu 2006; Painter, Yang, and Yu 2004), new immigrants are disadvantaged by their low socioeconomic status, unstable employment, unfamiliar with the culture and language, and lack of credit history and financial knowledge in the new society. As a result, new immigrants are expected to have low homeownership rates (raw rates) and a low propensity for homeownership (after controlling compositional differences and factors such as income, education, English proficiency, and marital status) in the early period after arrival and cluster in areas where homeownership is less prevalent. However, the low homeownership is regarded in the assimilation model as a temporary phenomenon, because new groups just entered into a society and need time to adjust. As immigrants begin to adapt to the host society, they tend to improve occupational mobility, increase English proficiency, and establish permanent residency and credit history (Bean and Stevens 2003). As part of their residential integration, upwardly mobile immigrants will become more able to achieve homeownership and to be absorbed into mainstream America (Alba and Logan 1992). According to this framework, the duration of stay in the U.S. is a key determinant of immigrant

5

assimilation. As the duration of U.S. residence lengthens, immigrants should reduce their homeownership deficit relative to native-born residents. This model also leads to the expectation that English proficiency positively affects homeownership and there may be little differences between immigrant groups in the determinants of homeownership and household formation.

On the other side, the stratification model emphasizes enduring barriers to homeownership and household formation. Under this scenario, the disparities would persist after accounting for relevant socioeconomic and demographic factors and after immigrants have spent decades in the U.S. There are three possible reasons for residential stratification. First, residential choice is an intimate decision. Racial/ethnic majority group is more resistant to residential integration across racial/ethnic lines than to accept social mixing in schools and workplace, especially if the group is racially stigmatized (Farley 1996; Farley, Fielding, and Krysan 1997). Racially segmented housing markets are likely to restrict the residential choice of certain ethnic groups (Kain and Quigley 1972; Wachter and Megbolugbe 1992; Straszheim 1974). Second, racial discrimination is one of the biggest challenges to immigrants and minorities (Gordon 1975; Reimers 1998). Despite the fact that most blacks are U.S.-born and have been in the United States for several generations, their socioeconomic status and residential outcomes still lag far behind whites (e.g., Carliner 1974; Bianchi, Farley, and Spain 1982; Kain and Quigley 1972; Wachter and Megbolugbe 1992). For instance, potential discrimination in mortgage application has disproportionate impacts on minorities and minority neighborhoods (Reibel 2000; Munnell et al. 1996). Third, immigrant background and the context of reception are important determinants of immigrant assimilation (Rumbaut and Portes 2001;

Zhou 1997). Immigrant groups have shown large variations in their assimilation, and sometimes even a pattern of perpetual ethnic differences. The stratification model may be particularly pertinent today because each new wave of immigrants since the 1960s has been progressively larger than the previous one and the trend is likely to persist. More importantly, each new waves of immigrants have become more linguistically isolated, geographically concentrated, and less endowed (Borjas 1999). At the same time, American society has become more stratified and unequal, likely making assimilation a more strenuous process (Massey 1995). Evidently, alarmists have recently raised the possibility that Mexicans and other Latino immigrants may not be assimilated into American society (Huntington 2004).

Homeownership attainment of immigrants

There is an extensive empirical literature on immigrant homeownership attainment in the U.S. Researchers focus on whether immigrants have a lower homeownership propensity than native-born residents and why (e.g., Borjas 2002; Painter, Gabriel, and Myers 2001; Coulson 1999). While it is generally agreed that immigrants have lower homeownership rates, researchers disagree about the magnitude of the differences and how long the differences are going to last. Alba and Logan (1992) use English proficiency as a mark of assimilation and measure its effect on homeownership attainment. Findings show a positive association between English proficiency and homeownership, particularly among ethnic groups that have a large share of immigrants. The magnitude of the association varies among immigrant groups, showing different levels of residential assimilation. Krivo (1995) examines housing inequality between Hispanics and Anglos in 1980, confirming the importance of English proficiency in

homeownership attainment. She relies on cross-sectional analysis to conclude that Hispanic immigrants increase their homeownership propensity with length of U.S. residence. But it may take more than three decades for immigrants to catch up with native-born residents. Coulson (1999) finds that being an immigrant decreases homeownership probabilities. Aging and extended duration of U.S. residence only reduce part of immigrants' homeownership deficit. In addition, Borjas (2002) finds that immigrants in general have a lower homeownership propensity than U.S.-born households and that the gaps have widened between 1980 and 2000. Although locational decisions of immigrants explain part of the differences, changing countries of origin, which has led to a decline in the socioeconomic status of recent immigrants, is found to be the most responsible for the growing homeownership gap.

Yet the finding that immigrants have a lower homeownership propensity than the native-born is far from conclusive for three reasons. First, many studies have ignored variables that are uniquely important to immigrants. For instance, immigrants' demographic makeup is very different from native-born residents. Immigrants are younger than native-born residents and clustered in selected metropolitan areas.

Second, research on immigrants' homeownership generally has relied on cross-sectional analysis, using a single census year and estimating differences across age groups or arrival groups. Inter arrival-group differences are interpreted as the result of increasing duration or the effect of assimilation, but age effects are commingled with both duration and cohort effects. For immigrants, age-at-arrival is a critical determinant of future socioeconomic status and housing outcomes (Chiswick 1978; Borjas 1998; Carliner 2000; Myers

8

and Lee 1998). For example, most new immigrants have joined the American social structure at its lower levels. Immigrants who came to the U.S. at an advanced age are more disadvantaged in the assimilation process. Because these older immigrants (age-at-arrival) have missed an important stage in their housing careers, their chance to be homeowners is irreversible impaired. Moreover, there have been significant changes in federal immigration policy and the conditions of immigrant sending countries over the decades. As a result each new wave of immigrants not only has different mix of origin countries, but also possesses different socioeconomic status and human capital (Borjas 1999). In a major assessment of the assimilation research, Waters and Jimenez (2005) highlight the complexity and the diversity of recent immigration to the U.S. and urge the use of cohort analysis to study the temporal process of assimilation.

Third, previous studies have not taken into consideration the role of household formation in homeownership attainment. Immigrants are different from native-born residents not only in their propensity for household formation, but also in their reasons for forming independent households (Blank and Torrecilha 1998; Glick and Van Hook 2002; Van Hook and Glick 2007). For example, most immigrants to the U.S. at an advanced age are through the means of family reunion (Martin and Midgely 2003; Hirschman, DeWind, and Kasinitz 1999). Many of these older arrivals will not form independent households as much as do their native-born white counterparts, even after accounting for demographic and socioeconomic differences (Wilmoth and Greene 2001; Kamo and Zhou 1994; Angel, Angel, and Markides 2000). They will instead stay with their family members and thus decrease the demand for housing. While it is unclear whether immigrants are more opt to forgo the

formation of renter households or owner households, the variable rates of household formation could significantly affect homeownership outcomes and future housing markets.

Recent studies have begun to rectify these concerns. Myers and Lee (1998) study immigrant homeownership trajectory in Southern California from 1980 to 1990. A double cohort method is used to separately identify the effects of aging and assimilation on homeownership. Only males are used in the analysis and the dependent variable in the statistical analysis is percent males who are owner householders. They find that, although immigrants enter the U.S. with low homeownership, they have strong upward mobility in the housing market and are likely to reach a level of homeownership similar to that of U.S.-born households after a couple decades of U.S. residence. Asian immigrants have progressed more quickly than Latino immigrants[1]. Myers, Megbolugbe, and Lee (1998) expand the study area to the 101 largest metros and pay a particular attention to Mexican immigrants. They reveal that Mexican immigrants show a strong upward trajectory in homeownership attainment and further confirm the importance of separating cohort effects from the effects of aging and duration of U.S. residence.

In addition to studies that employ cohort method, a separate line of research has tried to use statistical procedure to address the deficiencies in previous studies. Painter *et al.* (2003; 2001) suggest that the literature has largely ignored two important factors in homeownership attainment. First, immigrants are intrinsically more mobile than native-born residents, especially

[1] The reference group in the comparison is respective ethnic native-born residents instead of native-born white residents who on average have higher homeownership rates than both native-born Asians and Latinos. The sample size in the study is not large enough to examine individual country-of-origin group.

when they first arrive in the U.S. However, most tenure choice models using cross-sectional data have ignored the differences in mobility and therefore underestimated the homeownership propensity of immigrants (Painter 2000). Second, immigrants are clustered in selected gateway metropolitan areas where housing prices are higher and homeownership rates are lower than in the rest of the country. As a result, both immigrants and native-born residents have low homeownership rates in the gateway metropolitan areas. After accounting for the two factors, there are little differences in homeownership propensity between native- and foreign-born residents. Surprisingly, Chinese immigrants have achieved homeownership probabilities much higher than non-Hispanic whites (Painter, Yang, and Yu 2004). As a surprise to the assimilation literature, Taiwan immigrants in the U.S. who speak English well have lower homeownership probabilities than those who do not. The Taiwanese may be an example that social mobility is decoupled from residential assimilation (Yu 2006).

More recently, Yu and Myers (2007) rely on cohort analysis to examine the pace and determinants of residential assimilation among three immigrant groups in Los Angeles. There is great diversity among immigrant groups in their paths of assimilation. In the end, the authors call for the inclusion of more indictors in the study of residential assimilation.

Living arrangements of immigrants
There is also an extensive empirical literature on the living arrangements of immigrants in the U.S. Most studies find that culture is a key determinant of immigrant living arrangements (Wilmoth and Greene 2001). Acculturation has mixed effects on immigrants' living arrangements (Blank 1998; Van Hook and Glick 2007; Kamo and Zhou 1994). But these studies have not distinguished the

formation of renter households from owner households. Household formation has not been used as an indicator of assimilation. More recently, Myers and Yu (2006) conduct a trend analysis of household formation of the same age groups between 1990 and 2000 and raise the possibility that homeownership rates are distorted by declining household formation during the period.

Data and method

Sample selection: This analysis will be carried out with 2000 decennial census and 2006 American Community Survey (ACS) Public Use Microdata Samples (PUMS) to study cohort progress from 2000 to 2006. 2006 was the first year that ACS includes group quarter population, which is necessary for the study of household formation. The data are downloaded from the IPUMS database (Ruggles et al. 2003).

We follow Chevan (1989) and Myers and Lee (1998) and assign all of the headship/homeownership shared by married couples to the male spouse. First, most males work and report personal income in married-couple households, while fewer females do. Second, the labor force participation rates of males are more consistent across racial/ethnic groups and more reliable over time than those of females (Smith and Ward 1985). Third, while females make up a growing share of householders[2] in married-couple households, their share is still significantly lower than that of males (Myers 1992). It is not entirely clear why some households have male householders while others have females. Fourth, immigrant households tend to be systematically different from native-born

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[2] According to U.S. Census Bureau, head/householder refers to the first person listed on the census form. In the 1980 questionnaire, the decennial census began to use "householder" instead of "head of household. And this reference person could be any household member in whose name the property was owned or rented. Prior to 1970, enumerators were instructed to record the male as the head of house.

residents in their likelihood of having females as householders. Ultimately, we select males because we do not want to arbitrarily assign household headship/homeownership to husbands or wives in married-couple households. Chevan (1989) reveals that similar results would be reached in case females are used in the analysis under equivalent procedures, since men and women share their housing status. For non married-couple households, we will not make any adjustments.

Study areas: We limit our sample to the 100 most populated metropolitan areas which accommodate more than 93 percent of all U.S. immigrants and about 70 percent of all U.S. population. The boundaries of the 100 metropolitan areas are in accordance with the geographic definitions used in the 2000 census. The names of the metropolitan areas are listed in Appendix 1. The areas are comprised of one or more whole counties, with the exception of the New England region where metro areas are built from aggregations of townships. The geography is consistent between the two datasets. Our set of 100 most populated metropolitan areas includes both CMSAs and freestanding MSAs.

One arrival cohort: For the present analysis, we focus primarily on a single immigrant arrival cohort composed of those who arrived in between 1985 and 1995 and observed in 2000 and 2006. Particular attention is paid to the movement of assimilation achieved from 2000 and 2006, after cohort membership and residential behaviors have stabilized after the first 5 disruptive years after immigration.

The choice of this sample is a delicate balance. On the one hand, we want to exclude temporary migrants, such as students and visitors, who could downwardly bias the estimates. On the other hand, we would like to capture the initial stage of immigrant adjustment, which is a critical period of immigrant housing career and residential assimilation in the host society. While we include a number of birth cohorts in the analysis, we focus our analysis on young birth cohort which was age 25-34 in the year 2000. The next six year is the prime age of household formation and homeownership attainment. We capture the same arrival and birth cohort (not the same individuals) again in 2006 and examine how they have fared over the period.

The four immigrant groups and the reference group: We will compare the evidence for four groups of immigrants: Mexican, Korean, Chinese, and Asian Indian immigrants. There are large differences among these immigrant groups. Mexican immigrants are different from the three Asian groups not only in their migration history, but also in their socioeconomic status and residential outcomes (Reimers 1992). Most Mexicans in recent years came to the U.S. as unskilled laborers and have lower levels of education and English proficiency than native-born whites (Ortiz 1996; Lazear 2007). As a result, the Mexicans are more reliant of social network (Light 2006). Mexican immigrants are chosen because they are by far the largest single country-of-origin group in the United States and the population is expected to grow rapidly (Borjas 2007).

In comparison with the Mexicans, Korean and Chinese immigrants have relatively high levels of education. Most of them came to the U.S. as skilled

workers and entrepreneurs[3] as beneficiaries of occupational preferences (Min 1993; Reimers 1992). As result, they have exhibited strong upward economic mobility in the U.S. While Korean and Chinese immigrants came from geographically close areas and share some common traits, they have different histories of migration and occupational and residential preferences (Barringer, Gardner, and Levin 1993; Hing 1993; Wong 2006). Korean immigrants came from a culturally homogenous country and are largely affiliated with Korean Christian Churches and self-segregated into ethnic economy (Min 1990, 2006). While they have shown a preference for city living and renting in areas shared with other ethnic groups (Yu and Myers 2007), Korean immigrants seem to have limited contact with other ethnic groups (Min 1993). The strength of ethnicity has clearly enhanced Korean immigrants' cohesiveness and socioeconomic outcomes, but it has hampered their cultural and social assimilation into the U.S. (Min 1993; Kitano and Daniels 1995).

In contrast to the Koreans, the Chinese immigrants are much more diverse, coming from a variety of countries and regions, including mainland China, Taiwan, Hong Kong, and Southeast Asia. There is great heterogeneity among the Chinese in terms of language use, path of immigration, human capital, and socioeconomic status (Wong 2006; Hong 1976). In general, the Chinese have shown some evidence for spatial adaptation, fared reasonably well in suburban ethnic enclaves, and achieved high levels of homeownership (Painter, Yang, and Yu 2004; Logan, Alba, and Zhang 2002; Yu and Myers 2007; Fang and Brown 1999).

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[3] In recent years, a growing percentage to Asian immigrants came to the U.S. via the family reunification program. According to McKay (2003), more than 95 percent of Mexican immigrants came to the U.S. via family reunion, while 43 percent of Indians and 59 percent of Chinese immigrants came through that channel in 2001.

On the other extreme of the spectrum is Asian Indian immigrants, who have the highest levels of human capital and social mobility of all. Most of them speak English very well and do not need to rely on ethnic network in assimilation (Jensen 1988; Hing 1993). Moreover, they came from a country that is very diverse in culture and social structure. As a result, Asian Indian community is often not bound by geography or institutional connections as do many other ethnic immigrant communities. They have dispersed throughout in metropolitan America (Bacon 1996; Kitano and Daniels 1995).

Because of the differences discussed above, the four immigrant groups are likely to have varied trajectories of homeownership attainment and household formation. It is unclear, however, whether the determinants of homeownership and household formation vary among the ethnic groups. It is possible that such determinants as demographic and socioeconomic factors do not work in the same way for all groups. For instance, the same income may not buy immigrants the same level of homeownership as do the native-born. The literature has shown that Hispanics and blacks are especially penalized in their homeownership attainment (Kain and Quigley 1972; Wachter and Megbolugbe 1992). It is unclear whether new immigrants face the same kind challenges.

To facilitate comparison across the four immigrant groups, a common reference group is needed. We select native-born whites of non-Hispanic origin for this purpose. While it is not necessarily a desirable outcome for the three ethnic immigrant groups to confirm the residential outcomes of the white majority, the white group is generally viewed as a privileged positive that has been the benchmark for the assimilation research. More importantly, the theory of residential assimilation has hypothesized a narrowing of the wide differences

in residential attainment between immigrants and native-born white majorities, which is the long-term outcome in a modern society (Massey 1985). Moreover, it is unclear whether it is appropriate to use U.S.-born residents of the ethnic group as the reference for assimilation. U.S.-born ethnic Asians are few and far between. In addition, the ancestors of U.S.-born ethnic Asian came to the U.S. in circumstances substantially different from current Asian immigrants[4]. Therefore, U.S.-born ethnic Asians have different demographic profiles from their immigrant counterparts and have lower socioeconomic status than native-born whites. The immigrant groups may not want to aspire to residential patterns of their native-born counterparts. Further, using a common reference group facilitates comparisons across the four ethnic groups. So, of necessity, we must select native-born whites as the reference group. To this end, we will not only compare the four immigrant groups with the white reference group to examine the relative changes that have occurred, but also study how the groups have fared in an absolute term.

Measure of assimilation: We use the duration of U.S. residence (derived from census year and reported year of immigrant arrival) as the central variable to measure the assimilation process of immigrants. This variable could be biased by both in- and out-migration. That is, membership in regionally defined cohorts is not closed. The measure of assimilation could be skewed by circular migration and by selective emigration from the region (Redstone and Massey 2004; Ellis and Wright 1998; Lindstrom and Massey 1994). The potential

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[4] In contrast to early waves of Chinese and Korean ethnics who were mostly laborers, contemporary Chinese and Korean immigrants are mostly "human capital" immigrants and small business owners. Many Chinese and Korean immigrants have a higher socioeconomic status than their native-born counterparts upon arrival. Therefore, reaching parity with U.S.-born Chinese and Korean ethnics may not necessarily suggest a high level of assimilation.

for bias is more pronounced in small geographic regions, where migration is more often, and among short-duration migrants, some of whom are undocumented migrants or temporary visitors. Myers (2004; 2005) shows that longer-term, settled immigrants are less vulnerable to measurement error and that there is great stability of marked cohort differences when the same arrival cohort is surveyed repeatedly at multiple censuses.

We take the following four steps to address these potential concerns motioned above. First, the immigrants in our sample have been in the U.S. for at least 5 years. This is to mitigate the effect of economic and residential dislocation as a result of moving between countries, because respondent error is the greatest in the first few years of arrival in the U.S. Second, the measurement error should be less significant, because the time span of this analysis is relatively short (6 years). Third, the study area is the top 100 most populous metropolitan areas of the U.S., which accommodate more than 95 percent of all immigrants in the U.S. Fourth, we control for human capital differences that adjust for the variations between migration groups.

In addition to the duration of U.S. residence, we will also examine the role of English proficiency and human capital in homeownership attainment and household formation.

Outcome variables: Two inter-related outcome variables will be used in the analysis. The first indicator is the per household homeownership measure in which a household either owns or rents the housing unit in which the household lives in, so the outcome variable is binary. Homeownership increases throughout adulthood, and especially in early adulthood. From this perspective, increasing

homeownership refers to a growing share of households being owners, who are converted from renters. The unit of analysis is household.

The second indicator is household formation, in which an individual person has three choices of household formation: 1. not a householder (non householder), 2. a renter householder, or 3. an owner householder. Therefore, the outcome variable has three categories. Any individual in the sample would fall into one of these three categories in the sample. Non householder is used as the base category in the analysis. If one does not head an independent household, the person has to live with roommates, other family members, or in an institutional setting. The unit of analysis is person. The ratio between owner and renter household formation determines homeownership rates. The three category variable is of our key interest as it reveals the tenure and headship status of the person.

Statistic models: For the two indicators of residential assimilation, we will fit a cohort longitudinal models that examine the effect of growing duration. Modeling procedures follow those described in Myers and Cranford (1998). The models can be described as

(O) = Year + BC + (Year*BC) + MC + (BC*MC) + X,

where (O) is the outcome variable of interest, Year is the study year (2000=0 and 2006=1). We specifically study one immigrant arrival cohort who came in 1985-94 and separately compare it with U.S.-born, non-Hispanic whites—a common reference group of the study. While we will binominal logit model to analyze homeownership attainment at the household level, we will

follow Myers and Yu (2006) and use a multinomial logit model to examine household formation.

Birth cohorts will also be analyzed, which were 15-24 (BC1), 25-34 (BC2), 35-44 (BC3), and 45-54 (BC4) in 2000 to 21-30 (BC1), 31-40 (BC2), 41-50 (BC3), and 51-60 (BC4) in 2006, respectively. Principal focus will be given to young adults (BC2) who are at their primary age of forming independent households and purchasing homes. More importantly, vast majority of immigrants arrived in the U.S. at young age and BC2 was the largest birth cohort for immigrants who arrived between 1985 and 1995.

MC refers to immigrant arrival cohort. The reference group is U.S.-born whites of non-Hispanic origin. *(Year*BC)* is the duration effect as each arrival cohort resides 6 years longer in the U.S. *(Year*MC)* reports the differences in age effects between the immigrant arrival cohorts and the native-born reference group. X is the vector of covariates (e.g., income, education, marital status, and English proficiency).

Control variables

Age: Age is an especially critical dimension of residential assimilation, because residential mobility varies so sharply by age (falling markedly after age 30) and because homeownership and household formation depend greatly on age. Age is also important as a determinant of acculturation, with young immigrant children sharing many of the characteristics of second generation children. We sometimes call immigrants who come to the U.S. before their early teens as "1.5 generation." Accordingly, we expect to find sharp differences in housing outcomes depending on the age of people. Moreover, the age differences have cohort continuity from one decade to the next, because initial

advantages are carried forward as the cohort ages to the next age group. We expect a significant interaction between birth cohort and arrival cohort. That is, the younger cohorts who arrived early will exhibit much greater residential integration than older cohorts who came to the U.S. recently.

English proficiency and use at home: Economic incorporation of immigrants is aided by English ability. In addition, English use in the home is pertinent to acculturation, which might additionally enhance the prospects of residential assimilation. Our Asian groups generally show much greater reliance on English than do the Mexicans, and that may help to explain the differences in residential assimilation.

Human capital differences: Educational attainment is the principal measure of human capital, and there are clear differences between Asian and Latino immigrants. Better educated households have greater access to homeownership and perhaps more likely to form independent households, even after controlling for income differences. This can be interpreted as measuring an additional human capital effect (including parental resources that supported the education and may also be supporting present home purchase).

Other control variables: Independent variables used in the homeownership model and the household formation model also include marital status and income. Individuals who are married and have higher levels of income are more likely to form independent households and become homeowners (Sweet 1990). Once we control for demographic factors, human capital, and income, it is not clear how much residential difference will remain across the immigrant groups.

Descriptive findings

Homeownership

Findings are presented first for the descriptive analysis. Tables 1 and 2 report the summary statistics of households by racial/ethnic groups from 2000 to 2006. Table 1 reports only birth cohort 2 (BC2)—25-34 in 2000 and 31-40 in 2006[5], while Table 2 reports the whole sample including birth cohorts 1-4—15-54 in 2000 and 21-60 in 2006. The first column of the tables reports the year of the data. The second column indicates the percentage of group members (households) in the sample who own homes. The tables also present other selected, relevant characteristics of groups (including both homeowners and renters) by groups: their household income, educational attainment, marital status, and English proficiency. We use householder's information to report the information on education, marital status, and English proficiency. To facilitate comparisons, we graph the homeownership rates of BC2 in Figure 1.

Figure 1 makes it clear, first of all, that there are large variations in homeownership rates. Native-born whites of non-Hispanic origin were most likely to own in 2000. More than 50 percent of them were homeowners. In contrast, the four immigrant groups, who came to the U.S. for only 5-15 years, had substantially lower rates in 2000. For instance, only a fifth of the Korean households owned their homes. In light of their initially low rates, all groups saw pronounced increases in homeownership over the short six year period from 2000 to 2006. For native-born whites, the increase was close to 20 percentage points. The immigrants saw even bigger increases than whites. Most likely to own their homes in 2006, wherever these may be located, were the Chinese,

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[5] We use householder's age here.

roughly 75 percent of whom were owners. Their rate was even higher than that of whites and the native average. The Chinese was closely followed by Asian Indian immigrants, roughly 70 percent of whom were owners in 2006. Not surprisingly, Mexican immigrants had the lowest rates. Only 47 percent of them owned their homes in 2006. In sum, all the immigrant groups have shown signs of upward mobility and residential assimilation. While the three Asian groups have shown remarkable progress, the Mexicans have not achieved the same level of progress.

[Figure 1 about here]

Table 1 also reports the socioeconomic and demographic information for BC2. As expected, English proficiency and the levels of education changed little between the two years, while native-born whites, Korean immigrants, Chinese, and Asian Indian immigrants had significant increases in household income and marriage rate. On the one side of the spectrum is Asian Indians who were the highest in the level of education, household income, and marriage rates. On average, Asian Indian immigrant households made more than $120,000 per year in 2006. More than 83 percent of all Asian Indian households were married couple households in 2006. On the other extreme, Mexican immigrants were the lowest in all categories in 2006, except for marriage rates. They only made $41,000 per year on average. 50 percent of them did not speak English well or not al all. 60 percent of them did not finish high school. The results in Table 2, which report all four birth cohorts, largely mirror those shown in Table 1. In general, the four birth cohorts when combined together have slightly lower rates of education and English proficiency than BC2 alone. Again, Asian Indian and Mexican immigrants are at the two extreme ends.

Household formation

Tables 3 and 4 report the summary statistics of population by racial/ethnic groups from 2000 to 2006. Table 3 reports only birth cohort 2 (BC2)—25-34 in 2000 and 31-40 in 2006, while Table 4 reports the whole sample including birth cohorts 1-4—15-54 in 2000 and 21-60 in 2006. Again, the household formation rate is measured at the level of individual person. The first column of the tables reports the year of the data. Columns 2-4 report the percent of individuals that are non-head, renter head, or owner head. The tables also present other selected, relevant characteristics of groups (including all population) by groups: their personal income, educational attainment, marital status, and English proficiency.

[Figure 2 about here]

To facilitate comparisons, we graph the household formation rates of BC2 in Figure 2. The figure shows large variations in the rates of household formation (percent of people that are householders), shown on the grey bar and the black bar combined. Whites have the highest headship rates in both years. About 50 percent of all whites were householders. In contrast, the Chinese had the lowest rates in both years. Only about 40 percent of all Chinese immigrants headed independent households. All groups experienced a gradual increase in the headship rates, reflecting the effect of aging and assimilation. The increases were more pronounced among the four immigrant groups.

Once we separate renter householders from owner householders, the result is even more revealing. Let us look at percapita homeownership[6] first, which is reported as the black bar in Figure 2. Asian Indians and whites had the highest percapita homeownership, which denotes the percentage of group members in the sample that are owner householders. More than 35 percent of all whites and Asian Indians were owner householders in 2006. In contrast, only 23 percent of Mexican immigrants were owner householders. The Chinese were no longer the highest in this category. On the other side, there are also great variations in percapita rentership[7] (the grey bar), which denotes the percentage of group members in the sample that are renter householders. Least likely to head renter households were the Chinese, only 12 percent of whom were renter householders in 2006. Their percapita rentership rate declined precipitously by 9 percentage points from 2000 to 2006. In contrast, the Mexicans only saw 3 points decline during the same period. Mexican immigrants were most likely to from renter households; close to 30 percent of them did so in 2000. In fact, the Mexican immigrants were 15 percentage points higher than the Chinese in percapita rentership rate.

We can see that Chinese immigrants' high homeownership rate is in large part due to the fact that they were least likely to form renter households. In comparison, Mexican immigrants have the highest rate of renter household formation which dampens their homeownership rates measure at the household level. The total number of renter heads and owner heads is equal to the total number of households. We can calculate homeownership rates using the

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[6] Refers to percent of people who are owner householders.
[7] Refers to percent of people who are renter householders.

following formula: Homeownership Rate= Owner heads / (owner heads + renter heads)

The other characteristics presented in Table 3 demonstrate the considerable variations in human capital among these groups. Mexican immigrants had the lowest mean personal income, which was only half of Chinese immigrants' or a third of Asian Indian immigrants' personal income. The discrepancy in personal income is also reflected in education and English proficiency. The three Asian immigrant groups had much higher levels of education and English proficiency than Mexican immigrants. Of all immigrant groups, Asian Indian immigrants had the highest personal income, marriage rate, and English proficiency. There appears to be less variation in marital status. The four immigrant groups all had higher marriage rates than the white reference group, only 63 percent of whom were currently married. All groups experienced a steady increase in personal income, education, and marriage rates from 2000 to 2006. The results in Table 4 which report all four birth cohorts mirror those in Table 3. Keep in mind that the numbers reported here are not adjusted for differences in demographic factors and socioeconomic status. As discussed before, there are large differences between groups. We analyze the two indicators in a multivariate framework in the following section to control for the large differences.

[Tables 3 and 4 about here]

Cohort longitudinal estimation of residential assimilation

Residential assimilation is a longitudinal process. We need to trace cohorts over time in order to fully understand the dynamics of assimilation. Only in this

way we can separate their initial status at arrival from the net progress achieved over the past decade by specific groups of people. As suggested before, we focus on members of the 1985-1994 arrival cohort. Estimation results of homeownership are reported in Table 5, household formation in Table 6. Two sets of estimates are presented for each ethnic group: one includes demographic variables only, the other one includes additional covariates to represent human capital and demographic variables. The two sets of results are listed in the tables side by side. Native-born whites of non-Hispanic origin are included as the reference group for each set of estimates.

Temporal models of cohort longitudinal assimilation

Let us begin by explaining the coefficient estimates in the cohort longitudinal frame. First, birth cohorts (*BC*) show the age coefficients of the full sample observed in 2000. The coefficient estimates are expressed as values relative to BC2 or those who aged 25-34 in 2000. Second, Aging to 2006 *(Year*BC)* report the progress of each birth cohort from 2000 to 2006 relative to that of BC2. Third, the status of immigrants observed in 2000 after the first five years of U.S. residence, relative to native-born whites, is given by the coefficient for immigrant cohort *(MC).* This shows the effect of being an immigrant who arrived between 1985 and 1994 as measured in 2000. Fourth, the subsequent amount of change from 2000 to 2006 (i.e., residential assimilation and upward mobility) in the particular outcome status is given by the interaction term of Year and immigrant cohort *(Year*MC).* This is expressed relative to the Year term which represents change for the native-born white group. Therefore, this interaction term measures of degree of convergence, or divergence, between the immigrant group and the native-born reference group. Fifth, the specific birth

cohort effects or the age-at-arrival effect for each immigrant groups is estimated by the interaction of birth cohort and immigrant cohort *(MC*BC).* Finally, the constant term represents the logit coefficient of the reference group, in this case, native-born Whites of non-Hispanic origin who were age 25-34 in 2000.

Homeownership

Table 5 reports the logit coefficients of homeownership attainment by ethnic groups. Again, homeownership here is measured at the household level. The higher homeownership of older adults is indicated by the large positive logit coefficients for older birth cohorts *(BC).* Meanwhile, the positive value of Year suggests that there has been a significant progress in homeownership over time, reflecting the effect of aging. The regressively negative coefficients for the interaction of Year and birth cohort *(Year*BC)* reveal that progresses over the 6 year period time lessen for older cohorts relative to progresses for the reference cohort (age 25-34 in 2000, 31-40 in 2006) registered by the Year coefficient. The specific birth cohort effect or the age-at-arrival effect are estimated by the interaction for birth cohort and immigrant cohort *(MC*BC).* The negative coefficients for older cohorts indicate that immigrants came to the U.S. at an advanced age are penalized in homeownership attainment.

[Table 5 about here]

Main concerns of this analysis are for immigrant cohort *(MC)* and the interaction of Year with immigrant cohort *(Year*MC).* Again, the immigrant cohort came to the U.S. from 1985 to 1994. First, the negative coefficients for all immigrant cohorts *(MC)* indicate that, relative to the U.S.-born reference group, immigrants had a lower homeownership propensity in 2000. Including covariates

28

only moderately reduces the homeownership differences between immigrants and the native-born. In addition, the interactions with Year *(Year*MC)* then show that immigrants had more rapid increases in homeownership rates. After controlling for human capital differences, immigrants improved more rapidly relative to the white reference group. Asian Indian immigrants had the largest improvement in the six year period, followed by Korean and Mexican immigrants. The Chinese had the highest homeownership probabilities among the four immigrant groups in 2000, the smallest improvement over time.

Household formation

Table 6 reports the logit coefficients of household formation, which is measured at the level of individual person. As discussed before, we use multinomial logit model in the estimation and separately identify renter household formation from owner household formation. In the multinomial logit model, we use non-heads or those who are not householders as the base outcome. Table 6 has a similar outlook as Table 5. The only exception is there are two columns in each set of estimation in Table 6, which report for Renter head and Owner head respectively. The renter household formation peaks in the age 25-34, which is indicated by negative logit coefficients for both young and old birth cohorts *(BC in Renter head).* In contrast, percapita homeownership rate keeps rising with age *(BC in Owner head).* Meanwhile, the values of Year show that there has been a significant increase in owner household formation and a decline in renter household formation, reflecting the aging process. The interaction of Year and birth cohort *(Year*BC)* reveal that older cohorts, relative to increases for the reference cohort (age 25-34 in 2000, 31-40 in 2006) registered by the Year coefficient, are more likely for form renter households and

less likely to form owner households over the 6 year period. The interactions for birth cohort and immigrant cohort *(MC*BC)* reveal that immigrants came to the U.S. at an advanced age have lower percapita homeownership rate than if they came in at younger age.

We pay particular attention to the estimates of immigrant cohort *(MC)* and the interaction of Year with immigrant *cohort (Year*MC).* Results show that, relative to native-born whites, immigrants *(MC)* had lower probabilities to form independent households in 2000. When immigrants formed independent households, they were less likely to form owner households (higher percapita homeownership rate) and more likely to form renter households (lower percapita homeownership rate) than the U.S.-born reference group in 2000. The only exception is the Chinese, who had lower percapita rentership rates than the U.S.-born reference group. The interactions with Year *(Year*MC)* then show that the three Asian groups became more likely to form owner households and less likely to form renter households over the six year period. Consequently, they had higher homeownership rates measured at the household level. Mexican immigrants were the exception. Both coefficients are positive and they had higher rates of percapita rentership and percapita homeownership over time. Since they formed more owners than renters, they also saw increases in homeownership measured at the household level. However, the progress was slower than the three Asian groups. Including covariates only moderately changes the magnitude of the estimates, but not the whole story. We will specifically discuss the effects of the covariates in the following section.

30

The effects of key explanatory factors

The temporal effects may be attributable to the differences in human capital between immigrants and the native-born reference group. The ability to buy a house or form independent households may dependent on factors such as income, martial status, educational, and linguistic attributes. Therefore, we have added measures of human capital to the models, along with interactions between immigrant status and the human capital variables. The results are reported in the bottom half of Tables 5 and 6.

English proficiency

English language ability is the foundation of economic integration and structural assimilation. Presumably, immigrants who speak English well are more able to adapt to this country, more willingly to have a big stake in America, and therefore more likely to purchase homes. The effect of English is given by the coefficients for speaking English only at home or speaking English well. The differential effect of English for the immigrant cohorts is presented by the interaction terms between English proficiency and immigrant status (relative to the English effect for the native-born white reference group).

Consistent with the literature, English proficiency is a significant determinant of residential assimilation for all immigrant groups (e.g, Krivo 1995; Alba and Logan 1992). Immigrants who spoke English well had a higher homeownership propensity than those who do not spoke English well [8]. This effect of English proficiency appears in virtually all the models. In general, the gap between those who speak English well and those who do not speak English well is sizable, in the 0.22-0.68 range in log odds. Asian Indian immigrants had

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[8] We can compare the language coefficients of immigrants by adding two logit coefficients together (one for the native-born reference group and one for the immigrant group).

the largest differences between the two categories. The Chinese who do not speak English only fared better than the native-reference group who speak English only. The results show that the Chinese had very high levels of upward mobility even if they do not speak English only. For the Chinese, it seems that social mobility is decoupled from residential assimilation. In addition, English proficiency had a positive effect on household formation, especially on owner household formation. The only exception was the Chinese; those who spoke English well had lower headship rates in general and percapita rentershipo rates in particular.

Other covariates

Income and education are also important determinants of residential assimilation. For those who have higher income, they are more likely to own homes and to form independent households, especially owner households. But the negative values of the interactions between Mexican immigrant and household income suggest that income do not work in the same way for all groups. It may "cost" Mexican immigrants more to become homeowners than it does others. With respect to household formation, it seems to take Chinese immigrants more to form independent households.

As expected, educational attainment is positively associated with homeownership attainment. However, highly educated Asian immigrants fared less well than comparable native-born whites who had the same level of education. Asian immigrants may have difficulty in transferring their education to the U.S. labor market. Meanwhile, immigrants, who did not have high school diploma, had higher homeownership propensity than the native-born white counterparts. The role of education is more complex in the household formation

model. Education is positively linked to household formation among the three Asian immigrant groups. The opposite is true for the Mexicans. Marriage is positively linked to homeownership and household formation. But being unmarried is less detrimental to immigrants.

Comparing the models with and without the covariates (Tables 5 and 6), the inclusion of covariates increases the predicting powering of the models and changes the magnitude of the coefficient estimates. But it does not fundamentally change the parameter estimates of the temporal variables in the models.

Findings Comparing Ethnic Groups

The facilitate the presentation of those coefficient estimates reported in Tables 5 and 6, we focus on the model with covariates, comparing those coefficients across ethnic groups and across outcome measures. Extracting from those estimations, here in Figure 3 we summarize the two residential assimilation indicators, which are homeownership and household formation. On the top of Figure 3 are the log odds of homeownership, while the bottom two charts are the log odds of percapita ownership and percapita rentership respectively. On the far left of each subplot is U.S.-born reference group derived from the constant term and Year coefficient of the model. On the right are the differential status *(MC)* and changes from 2000 to 2006 *(MC*Year)* estimated by coefficients for each of the four immigrant groups. The values of immigrant groups presented in Figure 3 are all relative to those of native-born, non-Hispanic whites.

It is not straightforward to compare logit odds. Here we use a process of standardization to control for differences among groups in the determinants of

homeownership. We follow a procedure described in Alba and Logan (Alba and Logan 1992) and apply to each equation (coefficient estimates reported in Tables 5 and 6) a consistent set of independent-variable values, in this case, the values of the whole sample (reported in Tables 2 and 4) to "predict" the homeownership rates and household formation rates between 2000 and 2006. Applying this set of values to every group allows the assessment of the extent of homeownership and household formation to be expected in different groups if their members are similarly positioned in terms of household composition, birth cohort, education, and etc. In this way, we are able to assess the two indicators and changes over time, after adjusting for the differences in human capital and socioeconomic status. The rates for each group are reported in Figure 4.

Figure 3 shows that native-born, non-Hispanic whites had a relatively low levels of homeownership in 2000. Evidently, the log odds were close to zero, meaning their likelihood of being homeowners was almost the same as being renters. Shown in Figure 4, their adjusted homeownership rate was about 50 percent. But they have achieved significant progress or a more than 15 percentage point increase (Figure 4) in homeownership as the cohorts advance to 31-40.

[Figures 3 and 4 about here]

In comparison with the white reference group, all immigrant groups had even lower levels of homeownership in 2000. After adjusting for the covariates, Korean immigrants had the lowest homeownership rate (only 22 percent), followed by Asian Indian and Mexican immigrants. As expected, the Chinese were the highest among the four immigrant groups in 2000, achieving an

adjusted homeownership rate of 40 percent. In comparison with Figure 1, the Chinese and the Asian Indians have lower adjusted rates than actual homeownership rates. In other words, if the Chinese and the Asian Indians had the same characteristics as others in the sample, their homeownership rates would have been lower.

All immigrant groups experienced a rapid increase in homeownership probabilities from 2000 to 2006. Their levels of improvement were much larger than that of the U.S.-born white reference group, as indicated by the positive bars shown in Figure 3. The Asian Indians had the steepest increase represented by the tallest bar in log odds (0.68), followed by the Koreans (0.51) and the Mexican (0.31). The absolute homeownership probabilities of all immigrants have increased significantly over time. Even though, the Chinese had the smallest increase among the immigrant groups, they slightly surpassed the native-born white reference group in 2006.

Based on the measure of homeownership along, we would conclude that all immigrant groups had strong upward mobility and a strong propensity for residential assimilation. The three Asian groups had a significant advantage over the Mexicans in the process and the Chinese were the highest achiever. Differences in socioeconomic status and human capital only help explain a small part of the homeownership differences between groups. We would also conclude that new immigrants tend to have low homeownership rates when they first arrive in the U.S. But they improve rapidly.

Once we take household formation into consideration, the story is more nuanced. Figure 3 shows that native-born, non-Hispanic whites had a low headship rate. The two log odds (the constant terms) were significantly lower

than zero. Because they were less likely to form renter households (-2.21) than owner households (-1.76), their homeownership probability is slightly over 50 percent (as shown on the top of Figure 3). Slightly less than 50 percent of all whites formed independent households in 2000. From 2000 to 2006, the white reference group became more likely to form owner households as the cohorts advance to 31-40 and they had lower rentership rates. How to understand this change? Some renters achieved homeownership and some people form new owner households. As a result, there were more households in 2006 than in 2000. But the change was relatively small, meaning that most new homeowners in 2006 were renters in 2000.

In contrast to the white reference group, all immigrant groups had lower levels of percapita homeownership in 2000. But the differences were quite small. Korean immigrants had the lowest rate at 17 percent, followed by Mexican and Asian Indian immigrants. The Chinese were almost the same as the white reference group (Figure 4). At the same time, all immigrant groups, expect the Chinese, had higher percapita rentership rates (percent of people in a given group that are renter householders) than the white reference group. Immigrants' high percapita rentership rates help explain why they had lower homeownership rates than the white reference group.

All immigrant groups had a remarkable progress in household formation. Again, their levels of increase were larger than that of the reference group. Figure 3 shows that, relative to the white reference group, all immigrant groups had higher percapita homeownership rates. The Koreans had the largest increase (0.87) over the white reference group, followed by Mexican and Asian Indian immigrants. The Chinese, however, ranked the last. In any cases, all five groups

had similar rates of percapita homeownership. In other words, with the same number of people, all groups would have similar numbers of owner households. The story on percapita rentership is a bit different. The Mexicans had a slight increase in the probability. All three Asian groups were less likely to form renter households over time. The decline in the Chinese was the largest of all.

What is the overall assessment of household formation? If we use per capita homeownership as an indicator of residential assimilation, all immigrant groups appeared to have achieved a great deal over the six year period. Most of them had higher percapita homeownership rates than the white reference group in 2006 after adjusting for the covariates. The Mexicans seemed to be on par with the three Asian immigrant groups in upward mobility and residential assimilation. They had lower homeownership rates because they were more likely to form renter households. On the other hand, the Chinese appears to be an outlier. They archived high homeownership by having very low rates of renter household formation. In other words, they formed far fewer renter households than other groups. In comparison with the white reference group, the Chinese had a larger decrease in percapita rentership than the increase in percapita ownership (-0.424 vs. 0.139). In fact, the Chinese were the least likely to form renter households in 2006.

Conclusions

This study examines one immigrant arrival cohort which came to the U.S. between 1985 and 1994 and focuses on one birth cohort which was age 25-34 in 2000. We pay particular attention to the cohort progress from 2000 to 2006 as the immigrant cohorts advance to 31-40 in 2006 and extend their U.S. residence for another six years. U.S.-born whites of non-Hispanic origin are included as the

reference group. We compare the progress of the immigrant cohorts with that of the native-born white reference cohort.

We find that despite the adverse condition in the housing market over the six year period, the immigrant cohorts had exhibited strong upward mobility and large increases in immigrants' homeownership probabilities. This is especially true for immigrants who came to the U.S. when they were 20-30 (BC2). Their homeownership rates almost reached parity with that of the native-born white reference group in 2006. In addition, immigrants lived more independently over time and had higher percapita homeownership rates. If we use percapita homeownership as a measure of assimilation, almost all immigrant groups surpassed their native-born white counterparts. Moreover, English proficiency is positively linked to homeownership attainment and household formation. There is also a strong correspondence between the covariates and the two assimilation indicators. The observed differences are moderately attenuated when group differences in the covariates are controlled. All evidence seems to support the assimilation model.

While there has been a remarkable progress, the four immigrant groups had different paces and diverging trajectories in residential assimilation. The Mexicans seem to have followed the traditional model of assimilation, starting low and improving gradually. After residing in the U.S. for more than 17 years, the Mexicans had the slowest progress of all immigrant groups. On the other hand, Mexican immigrants formed a large number of renter households, which disguised their progress in homeownership. If they had formed fewer renter households, they would have a higher homeownership rate. In contrast, the Chinese had a low rate of renter household formation and the rates declined

even further over time, which led to their relatively high homeownership rates and significant increases in homeownership. If we use the percapita homeownership measure, the Chinese are not much better off than the Mexicans in their access to housing and homeownership. Their high homeownership rate is largely a reflection of their percapita rentership rates. Low rates of household formation may be the results of both escalating affordability problems and ethnic preferences, which deserve further investigation.

Both Korean and Asian Indian immigrants had large increases in homeownership probabilities over the six years. However, they achieved such high rates through somewhat different ways. Korean immigrants had the largest increase in percapita homeownership. In contrast, Asian Indians had the largest increase in homeownership probabilities by reducing renter household formation and increasing owner household formation at the same time. All three Asian immigrants are highly educated and are less dependent on ethnic networks. As a result, the assimilation patterns of these "human capital" immigrants are quite different from those of less skilled "labor" immigrants represented by Mexican immigrants. Immigrants appear to have low homeownership when they first arrived in the U.S. But it is less worrisome because immigrants improve rapidly.

The results show the need to study residential assimilation in a longitudinal framework, because each immigrant arrival cohort has different compositional characteristics and socioeconomic status. Consequently, they have different paces and trajectories in residential assimilation. The results also show the necessity to take household formation into consideration in the study of homeownership attainment and residential assimilation.

Immigrants seem to have relied on different strategies to cope with housing market. One strategy is to delay household formation, which is most apparent among Chinese immigrants. Another way is to form more renter households as a more flexible way to adjust to the changing labor market. Mexican immigrants seem to an example. Korean immigrants have increased homeownership by creating many new owner households, while the Asian Indian immigrants have transitioned from rentership to ownership. With good population projections, we are able to use variable rates of household formation and predict future housing demand with more confidence.

These research findings also confirm that residential assimilation is a multi-dimensional process. We have to employ multiple measures to have a more complete understanding of the assimilation process. The dynamics of assimilation is more complex than previously revealed by studies only using the per household homeownership measure.

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