Immigrant and Native Asset Accumulation in Housing:

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Abstract

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Introduction

Wealth means economic security. For many people, purchasing a home is the largest expenditure they will make during their lifetime, as well as their greatest source of wealth. Further, homeownership is associated with a host of positive social behaviors from voting and political activity to community connection. The social benefits of homeownership are consistently recognized by the federal government by the number of federal programs designed to facilitate home purchases, particularly for those with lower incomes who otherwise could not enter the housing market, and by the fact that mortgage interest is an itemized deduction for federal taxes. Just as there is an earnings gap between immigrants and natives, there is also an overall homeownership gap. According to Borjas (2002) there was a 20 percentage point difference in homeownership rates in 2000. In general, however, questions about immigrant asset accumulation have remained nearly unasked in the face of hundreds of articles about immigrant assimilation. Do immigrants acquire assets at the same rates and by the same determinants as do natives? In this paper we focus on asset differences between immigrants and natives by examining the acquisition of a single asset—one's home.

Immigrants, more so than any other group, may lack access, knowledge and confidence in U.S. financial institutions. Financial institutions, in turn, may see immigrants, particularly non-citizens, as less credit worthy applicants.[1] How do the myriad of differences in income, education, legal status, family types, race, ethnicity, and location influence homeownership? Once purchased, do homes provide the same wealth accumulation for immigrants as they do for natives? We examine the determinants of homeownership rates, the value of purchased homes, a measure of potential housing wealth, the equity owned for those who have purchased a home, a

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[1] We did not find any evidence that there is official discrimination by any institutions bon the basis of citizenship status.

measure of actual housing wealth, and the rate of 100% ownership, a measure of wealth security. While past authors have concentrated on immigrants, immigrant nativity, and residential location to explain homeownership differences, a more nuanced discussion takes place when immigrants are separated into immigrant citizens and non-citizens, and when nationality is compared to ethnicity. Recognizing the role of citizenship, the U.S. Census Bureau, in its last housing report comparing immigrants and natives, consistently reports information by citizenship status (Census Bureau, 2003a). Our findings indicate that the most important difference between immigrant and native households is entry into the housing market itself. Immigrants are significantly less likely to purchase a home than their native counterparts. However, once they have entered the housing market, the value of their homes, level of equity and probability of completely owning a home are more similar to those of natives.

The results of our study have important economic as well as policy implications. Given that the distribution of wealth is much more unequal than that of income, homeownership is a particularly important vehicle for reducing this gap. In addition, it has been argued that homeownership is an important aspect of community participation.   These implications are particularly important for immigrants. Closer community ties through homeownership may mean that immigrants are more likely to retain steady employment, improve language skills and provide better education for their children. Whether homeownership is the cause or effect of these related outcomes, it is important to understand better the factors that influence the housing decisions of immigrants.

Home Ownership Issues

Home ownership is considered a hallmark of life in the United States. The constraints to ownership are numerous and immigrants often find themselves on the wrong side of the barriers

to purchasing a home. Bostic, Calem, and Wachter (2004) review the literature and identify

income, wealth, and credit constraints as the principal reasons (from the demand side) that

people are unable to purchase a home. They note the declining credit quality of renters over time

and say it is possible that "successive waves of immigrants have had larger proportions with

credit quality below the critical threshold levels" (13). They also note that race based

discrimination and predatory lending are possible explanations. In an investigation of the impact

of affordable lending efforts, Robert Quercia, Roberto McCarthy and Susan Wachter (2003)

identify the populations associated with such constraints as minority, low to moderate income,

central city residents, and young households but do not mention immigrants specifically.

Wealth accumulation equity studies have mostly addressed differences in home

ownership between African Americans and whites. There are three consistent features to this

literature: a large wealth gap, the importance of household composition, and the extent to which

the gap is unexplained. Francine Blau and John Graham (1990) find that after controlling for

income and other characteristics, 75% of the wealth differential remains unexplained and note

that differences in housing equity could result from lower rates of appreciation in African

American neighborhoods. They also found that if given the higher levels of income of whites,

African Americans would over-invest in housing relative to whites. Ioannides and Rosenthal

(1994), find African Americans are significantly less likely to own property than whites.

Gyourko and Linneman (1996) ask about changes in home ownership patterns over time and

conclude that marital status and family type are declining in importance while the returns to

skills and race are increasing in determining who owns homes.

People in minority populations and immigrants may find that the most notable barrier to

home ownership may well be the decision by mortgage lenders to deny loan applications. The

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impact of a bias in those decisions is felt by families over the long run because of housing's unique features. It is both a consumption and asset good. Some kind of shelter is necessary and the marginal payments on a mortgage are often similar in size to rental payments. While rental payments are sufficient to acquire shelter, mortgage payments provide shelter while also acting as savings, improving one's welfare through wealth accumulation. In a now famous study of mortgage lending, Alicia Munnell, Geoffrey Totall, Lynn Browne, and James McEaneany (1996:39) found that "even after accounting for the applicant's obligation ratios, wealth, credit history, and loan-to-value ratio, and property, neighborhood and lender characteristics, as well as the stability of income, and whether he or she received private mortgage insurance, the race of the applicant still plays an important role in the lender's decision to approve or deny the loan".

For more than twenty years the literature on the economic differences between immigrant and native workers has concentrated on wages or annual earnings (see, for examples, Chiswick, B. 1978; Borjas, G. 1985; Duleep, H. and M. Regets, 1998; Kossoudji, S. and D. Cobb-Clark, 2002). While the wage/earnings gap is important, the long term implications of consistently lower earnings on immigrants' retirement and ultimate residential decisions are unknown. Many immigrants purchase property in their home country, but we have little idea what the economics are behind the location choice of homeownership. We are also only beginning to learn about the determinants of home ownership in the United States for immigrants.

A small and growing literature has begun to assess differences between native and immigrant homeownership rates. Nearly every study reveals a significant difference in homeownership rates for natives and immigrants. Painter, Gabriel and Meyers, (2001) and Coulson (1999) find that Latino immigrants are less likely to own their own home, while the results for Asian immigrants are mixed. Coulson (1998) finds that immigrants consistently

reduce the rates of homeownership of different ethnic groups by 10 to 16 percentage points. Borjas (2002) notes that the "homeownership gap" has been increasing since 1980.

Several authors claim that although homeownership rates for immigrants are more similar to African American than white rates, the causes for the differential may be quite different. While discrimination in housing markets often sits squarely in the middle of the explanation of differential homeownership rates for African Americans, and may provide some explanation for immigrants, questions about immigrants' familiarity with US financial institutions, the role of time horizons, and the question of credit constraints often arise when immigrants are studied. Krivo (1995) considers potential problems with credit markets and also notes that less than fluent English may lead to difficulty negotiating contracts. She finds that the individual characteristics of immigrants are important to explain the ownership differential but may be more important in the aggregate as a "neighborhood context". She is also one of the few authors to consider housing value. She finds that the foreign born have higher valued houses, but she does not adequately control of the size of the city of residence, which plays an important role in housing values. Coulson (1998) claims that lower rates of home ownership are largely explained by being immigrants, living in large metropolitan places where homeownership rates are generally low, having less education and by being younger than the average household heads. Alba (1992) found strong support for every group for the importance of individual characteristics' effect on homeownership, especially age, household composition, and socioeconomic position. Many authors find that homeownership rates differ by nationality or broad sending region (where typically Asians and Latinos are the identified groups). There is little discussion about why those differences arise. Borjas (2002) makes several claims: that only a small part of the native/immigrant homeownership gap is a result of differences in characteristics, that the

different locations of residence of natives and immigrants are important to explain the homeownership gap, and changes in national origin, combined with lower wages for "newer" national origin groups, drive the differences. But he doesn't know if lower home ownership rates stem from discrimination against "newer" groups, or if "the way the population is self selected from each source country's population could be responsible for the remaining differences" (20).

Although there is a dense discussion about home ownership by race and the newer literature on immigrant native differences, there is little understanding of the combination of the two identity issues. Studies of race ignore origin—and ethnicity—and studies of origin typically ignore race. This fact is crucial because it is impossible through the use of nationality identifiers to separate demand (lack of knowledge about U.S. financial institutions) from supply (prejudice in lending) issues. We ask here whether it is possible to address those questions through the use of both nationality (which is pertinent only for immigrants) and ethnicity/race (which is pertinent for all residents).

Perhaps because immigrant housing literature is still relatively new, homeownership rates typically remain the point of analysis (with the exception of Krivo). Ownership rates and the gap in homeownership rates for immigrants and natives are important to help understand the long term economic health of the population. Why does the homeownership gap exist? Many of the characteristics that are associated with homeownership militate against immigrant homeownership. City dwellers, those with lower income, and younger adults are less likely to own homes and immigrants have a high rate of urban residence, earn less money on average than natives, and are younger on average. Immigrants, unlike most natives, are likely to have family and community connections abroad and may choose to invest in housing or other assets in the

home country rather than in the U.S (find that article on housing in China). At every age, immigrants may have spent fewer years in the U.S. labor market, and so may have less money to use as a down payment on a home. Further, immigrants' lack of knowledge of financial institutions, combined with potential cultural, ethnic, or racial biases on the part of lending institutions could both act to reduce immigrant homeownership rates. But the homeownership rate, like the labor supply rate, is just the entry into the vexing question of asset accumulation differences between natives and immigrants. Like job tenure, equity suggests how much people are investing in their homes. Like income, housing value informs us about how well people are doing economically. Like retirement, 100% ownership reveals a level of reduced economic need.

Data and Methods

We use the 1996 Survey of Income and Program Participation (SIPP) for this analysis. Each observation is the reference person for a household, who we will refer to as the head of household, whether or not the person has related persons in the household. Each person must be in both the migration history universe and the assets universe.[2] The final sample has 22070 natives and 2784 immigrants.

There are four outcomes investigated in this paper that are generated by three bivariate systems.[3] The first dependent variable is homeownership. When we use the phrase "homeownership rates" or "homeowners", we really refer, as most people do, to homeowners/buyers. The second is the value of the home, which gives a partial estimate of long

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2 Several additional restrictions were made to the sample. The sample is restricted to those aged 25 and older, so it was necessary to have non-missing data on the date of birth. Also, the place of birth needed to be observed to determine immigrant status. A small number of people living in mobile homes were eliminated from the sample because of the nebulous ownership position of people who own the building but rent the land where it sits. Some people for whom specific important information (like whether or not the house had a mortgage) is missing were eliminated from the sample. Home ownership depends on the house having a value of at least $1000.

3 In each case, the hypothesis that rho = 0 (or that there was no systematic selection) was rejected at any significance level.

run wealth. Current wealth for homeowners is contingent on how much of the home is owned. The equity held in a home is the third dependent variable.[4] The final dependent variable is defined as "100% owner" and distinguishes between those who are still buying their home by paying a mortgage and those who are 100% owners and who have no mortgage on their homes and own them outright.

The value, equity, and 100% ownership samples are selected on the values of the homeowner variable. Value, equity and 100% ownership are each jointly estimated with homeownership using bivariate maximum likelihood techniques. In each case, the probit equation for ownership determines selection. The equity and the value equations are estimated using continuous joint maximum likelihood techniques while the equation of total ownership is estimated as a bivariate probit.

People from U.S. territories are natives, and so have fewer obstacles to homeownership than those born in foreign countries. However, in many cases, people from Puerto Rico, Guam, American Samoa, etc. are culturally and linguistically more like immigrants. In this paper, those born in U.S. territories are considered to be immigrants. Citizen immigrants, then, include immigrants who have acquired U.S. citizenship after living in the United States, and people from U.S. territories who are born citizens. Non-citizens are those immigrants who have not obtained U.S. citizenship. We include the following variables in all four equations. The earned income measure is an approximation of permanent income, but given the short panel is more adequately called "smoothed income". The square of income is also included and both are interacted with the immigrant dummy to ascertain whether there are differences in behavior by immigrants and natives at the same income levels, allowing for the possibility that immigrants choose to spend

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4 Both value and equity are measured in 1997 dollars.

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and invest their income differently than natives. This is of particular interest for homeownership, since remittances to the home country are important for many immigrants, but not natives. Income is only calculated for non-retirees. Whether or not one is retired from a job is included as a dummy variable. We include a measure of poverty level income that is calculated by the Census Bureau. This variable, the standard dollar measure of income required to be above the poverty line for each household in each residential location, helps to account for the cost of living, and in particular, housing and rental costs in these cities. Immigrants are much more likely than natives to live in cities. MSA residence distinguishes people who live in any of the approximately 100 identified MSA cities or city groups in the United States. In particular, immigrants are more likely to live in large cities that are often called gateway cities. The identified gateway cities constitute a group of fourteen large cities that have significant immigrant populations.[5]

A number of other demographic characteristics are also included in the regressions. Marital status and gender are interacted because of the asset accumulation issues with which each is associated. We have allowed four categories, woman with married spouse present, woman without married spouse present, man with married spouse present, and man without married spouse present. It has also been noted that education is correlated with social and civic activities, including homeownership. Three education groups are included: those with less than a high school education, with a high school degree or some college, and with a college degree or more education.

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[5]The cities are Atlanta, Boston, Chicago, Dallas, Detroit, Miami, Los Angeles, Houston, New York, Phoenix, Philadelphia, San Francisco, Seattle, and Washington, DC.

Some variables are in the ownership equation, or the value, equity, or 100% ownership equations but not both. All of the standard literature on homeownership notes the life-cycle association with the buildup in housing assets. Age, as well as age squared and cubed are included to account for the life cycle aspects of homeownership. We also include the number of children in the household since the decision to purchase a home often depends on this aspect of family structure and because mortgage lenders calculate an obligation ratio based partly on this information . On the other hand, once the home has been purchased, equity, value and 100% ownership depend more on how long the home has been occupied rather than the age of the household head or family size. Age and children are included in the ownership equation, but not the equity, value and 100% ownership equations. Length of ownership is included in the value, equity, and 100% ownership equations. Finally, we include a dummy in the equity, value and 100% ownership equations to indicate whether the mortgage was obtained through an FHA loan. FHA loans are important to include because such loans are at or below market lending rates and can be based on down payments as low as three percent, thus influencing equity. Further, it permits low income home purchasers to buy houses that are valued higher than those they could purchase through private lending markets.

Numerous authors discuss the importance of the nationality of immigrants in determining homeownership. We found problems with this approach both conceptually and empirically when only the immigrant population ethnic and national origins are distinguished. We understand that culture is a two way street and attempt a more nuanced approach. We do include eight nationality dummy variables to capture cultural norms toward asset ownership, ideas about money and saving, values and attitudes toward risk, attitudes about land and housing as a particular form of asset ownership, and country specific preferences to investing in the home

country.[6] We acknowledge, however, that the cultural issues associated with nationality may also be present for natives of the same ethnicity—some of whom grew up with immigrant parents and grandparents. More importantly, while race can typically thought of as a black/white dichotomy in the United States, the expression of racial outcomes has always been more subtle. Questions of discrimination in home ownership are consistently raised for people of varying skin hues, backgrounds and cultural norms. As a result, we add another set of dummy variables that express self identified race and ethnicity characteristics. Our ethnicity dummies include ten combinations of race and self reported ethnic background.[7] Familiarity with institutions not the same, make this point.

A Description of Homeownership Characteristics

Differences in homeownership rates are adequately determined by a number of characteristics of natives and immigrants. Two, though, stand out, as startlingly important. Every real estate agent knows the home selling mantra—location, location, location. Location matters here also, and the fact that such a high proportion of immigrants live in large "gateway" cities where homeownership is generally low and home values are high, will describe much of the findings in this paper. Second, a relatively few authors separate immigrants into immigrant citizens and immigrant non-citizens. Citizenship, and all it proxies, matters. When we compare

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6 Some of the categories consist of more than one nationality, due to sample size restrictions. The nationality variables are Canada/Australia/British Isles, Northwestern Europe, South Eastern Europe and Russia, East and South Asia, the Pacific Islands, the Caribbean and U.S. territories, Central America, South America, Africa, and the Middle East.

7 Similarly, because of limitations in the data, ethnicity/race is combined into broad groupings. The ethnicity/race dummy variables are English ethnicity, North West European ethnicity, South East European ethnicity, Asian or Pacific Islander race or ethnicity, Caribbean ethnicity, Central American ethnicity, South American ethnicity, African American ethnicity or African/black race, Ethnicities of the Middle East, Native American or Native Indian race.

immigrant and native homeowners, the differences between immigrants and natives nearly disappear.

Table 1 documents the proportions of homeowners among various groups. As noted earlier, 72 percent of native household heads are homeowners as are 51 percent of immigrant household heads. That is, natives are 41 percent more likely to be homeowners than immigrants. This large gap has driven much of the discussion about asset accumulation and assimilation for immigrants. But this gap principally exists because of a dearth of homeownership among non-citizen immigrants. Natives are only 7 percent more likely to own homes than immigrant citizens but are twice as likely as non-citizens to own homes. This simple fact was traditionally unrecognized in the literature but was noted in the Bureau of the Census' 2003a report. Even before standardizing on numerous characteristics, then, the "homeownership gap" has been significantly reduced by simply conditioning on citizenship.[8]

Two further observations stand out in Table 1. First is that natives and immigrant citizens have almost exactly the same homeownership rates in cities of any size. Just over two-thirds of native and immigrant household heads who live in any Metropolitan Statistical Area (MSA) are homeowners. About 70 percent of immigrants, but only 60 percent of natives, live in MSAs. The outstanding difference between immigrant citizens and natives is in non-MSA households where a higher proportion of natives are homeowners (74 percent) and a lower proportion of immigrants are homeowners (57 percent) but only 28 percent of immigrants live in non-MSA areas. Second is that non-citizens are unlikely to own homes. Only 38 percent of all non-citizens (who are about 50 percent of immigrants) are homeowners. There is a similar drop in homeownership for non-citizens in non-MSA areas. A non-citizen in a non-MSA area (29

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[8] We have tried, but failed, to find any official banking rules or known banking practices that suggest than non-citizenship is grounds for denial of a mortgage.

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percent homeowners) is 28 percent less likely to be a homeowner as a non-citizen in any MSA area (40 percent homeowners). It may be, but this is unsubstantiated, that immigrant farm workers or other low skilled immigrants are living disproportionately in rural areas and they are unlikely to purchase homes.

The following table (Table 2) documents the characteristics of immigrants and natives in different tenure groups. The first thing to notice is that immigrant homeowners have higher value homes and have more equity in their homes than natives (XXX_TEST). Larger housing values come straight from the fact that housing values are higher in the large cities where immigrants live. The equity differences are smaller than the value differences, and immigrants typically owe a higher proportion of the value of their homes than do natives. Of the households that completely own their own home, immigrant equity more than $20,000 higher than native equity. Immigrants have owned their homes just under four fewer years than natives.

Several outstanding features of homeownership stand out in this table. First, economically and demographically, immigrant and native 100% owners look more like each other than they do like renters or homeowners in general. Particularly startling is the reduced proportion of each group that lives in an identified MSA. 100% homeowners are more likely than homeowners in general or than renters to live in rural areas. Second is the differences in age among the three ownership groups. Immigrants and natives in each ownership group exhibit similar average ages, but renters in each nativity are seventeen years younger on average than are 100% owners. Family structures for immigrant and native homeowners are also remarkably similar. About one-half of all homeowners are married men.[9] Similar percentages of immigrant and native 100% homeowners are retired. Finally, several important differences remain even

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[9] The reference person in the household is partly decided by determining the first owner of the home.

within ownership groups. Immigrants have much less education (although approximately the same percent of college graduates and they have more kids per household than do natives.

Discussion of Analytical Results

Homeownership

Our concern, in this paper, is to highlight the differences in the determinants of home ownership for immigrants and natives. The homeownership column of Table 3 documents the marginal estimates derived from the probit specification on home ownership in the bivariate regressions.[10] There are several important differences between immigrants and natives that need to be highlighted. First, non-citizens have more than a 15 percentage point lower probability of home ownership after controlling for all other characteristics, including nationality, ethnicity, and length of residence in the United States. This dramatic relationship is consistent through estimation tests, sample size changes, and the use of alternative specifications. There has been, principally because of concern about a lack of social and political incorporation, significant concern that the rate of citizenship acquisition has declined in recent years, this impact suggests that there may be strong economic reasons for concern as well. Second, the relationship between earned income and homeownership appears to be relatively consistent for both immigrants and natives, although the shape of the influence of income is different for the two groups. The relationship between income and homeownership is higher for immigrants (.00057 + .00029 per $10 additional per month) but so is the decline with income squared (-.00001 -.00001) leaving a relatively low difference between the two groups. These significant, but small, differences principally show up at lower income level. The impact is revealed in Figure 1, which shows the

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10 Average predicted probability is .72131.

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predicted probability of homeownership by income group (and for Retirees) and by citizenship/immigrant status.[11] Income and home ownership are consistently positively related over the incomes in the sample. The differences in the relationship between income and homeownership show up strongest at the lowest income levels, but even so, the difference between immigrant citizens and natives is consistently small. The large differences come from a lack of citizenship in the United States.

The role of residence for immigrants and natives is as expected and important to remember when addressing the home ownership gap. Gateway city residents have marginal probabilities that are 6 percentage points lower than all other residents (notice that there is no significant impact of living in ANY MSA compared to non-MSA areas). But immigrants in gateway cities are 4 percentage points more likely to own homes than native gateway city residents. This fact is important because of the disparities in residence between natives and immigrants.

A large number of studies have shown that nationality is correlated with home ownership in the United States, but it has been difficult to ascertain why some nationality groups are less likely to own homes than others. Borjas (2002) believes that we observe with homeownership a phenomenon similar to the "quality" argument he makes against new immigrant waves. Immigrants from countries where immigration has increased in recent years are less likely to own homes. We find that immigrants from ALL nationality groups except for Africa are significantly less likely to own homes than natives. This fact is important to remember as major banks and other financial institutions grapple with the issues of immigrant asset development and the use of financial institution services. But the nationality ordering does not necessarily follow

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11 These predicted probabilities take into account the influence of all characteristics.

trends in migration. East Asians are less likely to purchase homes than those from Canada/Australia/British Isles, but are equally like to purchase homes (non-significant difference) as those from South and East Europe.

It seems to be in ethnicity/race where the "waves of migration" phenomenon is more prevalent. Except that it ethnicity has much less to do with migration at all. Remember that everyone (native and immigrant) is self reported in one or another ethnic/race group. The omitted group is "American/white". No European ethnic group has a significantly different homeownership probability from the omitted group. Every other ethnicity, with the exception of Middle Eastern ethnic groups, does have significantly lower homeownership probabilities. That is, whether one is immigrant or native, ethnicity matters. Further, it changes the way we think about nationality origins and their impact. The two forces combine to suggest powerful forces that act to deter home ownership for some groups. A black man from the Caribbean has a lower probability as an immigrant from the Caribbean (13 percentage points) and a lower probability from being of being black (12 percentage points lower), while an Asian from the Caribbean Islands also has the 13 percentage point nationality reduction but an 8 percentage point ethnicity/race probability deduction. A white European from the Caribbean Islands only has a 13 percentage point reduction, but a native of Caribbean ethnicity has a 23 point probability reduction. The three ethnic/race combinations that include minority races all have lower home ownership probabilities.

Deconstructing this phenomenon suggests that nationality grouping alone do not adequately enlighten us about home ownership probabilities. Unless the knowledge of U.S. financial institutions and cultural values on homeownership systematically vary by ethnicity in the home country, and there are supply side constraints to homeownership, then, we may surmise

that it is likely that supply dilemmas act to constrain home ownership for different ethnic groups and acts as a double barrier for immigrants in non-European ethnic groups.

Home Value

A different story emerges when we consider the determinants of housing value.[12] We examine housing value because, even though many homeowners do not actually own most of their home value, it represents people's potential long term access to wealth. The impact of being an immigrant has virtually disappeared when we consider housing value. There is no differential income influence for immigrants and natives. There is a linearly positive relationship between income and home value for all groups. Similarly, non-citizens do not have lower home values than citizen immigrants or natives. Although there is a large jump in value for Gateway city residents, immigrants who live in Gateway cities have neither higher nor lower housing values than all Gateway city residents. Finally, there is absolutely no impact of nationality on housing values—with the exception of housing values for immigrants from the Middle East, who have housing values than are nearly $40,000 higher than natives'. Now when we put all impacts together and examine predicted probabilities of homeownership, we observe predicted probabilities that show virtually no difference between immigrant citizens and non-citizens, and marginally lower predicted values for natives (see Figure 2).

Ethnicity, however, does still have an impact on access to potential wealth and any immigrant differentials in housing value operate only through their ethnicity. Those of English ($4796.78), South or East European ($17002.64), and Caribbean ethnicities ($17226.26) all have higher predicted housing values than "American/whites". Asian or Pacific Islander

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12 Both housing value and equity may be better measured as logs for estimation purposes to reduce the impact of skewness on the results. The bivariate procedure is notoriously unstable when there are many zeros (as there are for equity) even if recoded to 1. For this reason, we directly estimated both equity values and housing values. Tests suggest that there is significant skewness in the two distributions and we must express some cautionary notes about these results. However, two-step and single equation estimations produced similar, but less precise results.

race/ethnicities ($28146.38) also have higher housing values, and African American/black ($-23460.25) race/ethnicities have lower housing values. No ethnic/race group other than African Americans has significantly lower housing values than "American/whites". Thus, an Asian or Pacific Islander (whether native or immigrant) has a lower probability of owning a home, but if he or she does so, its value will be nearly worth approximately $30,000 more than the home of a similar white native (remember that we have accounted for residence, price levels, and other characteristics).

Equity

Equity is an indicator of current wealth and represents the amount that an individual could recover from the home by selling it. The relationship between income and equity is small and linearly positive for natives (with a zero coefficient on income and a positive coefficient on income squared) but has a more pronounced U shape for immigrants (with a significant negative coefficient for income and positive coefficient on income squared). This income difference might arise for several reasons. First, refinancing has undergone a boom in the United States in the past ten years, which may explain the lack of a stronger income relationship as people in all income levels refinance homes and use the money for other purposes. If immigrants are more risk averse about their homes (as some people surmise) then they are less likely to refinance and so more likely to accumulate equity than natives. Second, the same risk aversion may lead immigrants to either pay higher down payments or to pay off their houses faster than natives. Third, if the attitude toward the consumption versus investment values of a house is tilted toward investment for immigrants, then, again, we'd expect to see higher equity levels.

Citizens and non –citizens have no significant difference in equity levels indicating that non-citizenship does not add any measure of risk aversion in housing. But residence does play

an important role. Figure 3 shows the remarkable Gateway residents have nearly $28,000 more equity than all other residents. Immigrants who live in Gateways also have higher equity, but they have $9800 less in equity than other Gateway residents.

Equity values for immigrants by nationality and everyone by ethnicity suggest that there is no single story that explains the differences in wealth for immigrants and natives. Nearly every nativity group is predicted to have higher equity than natives but there is no significant difference for East Asians, Pacific Islanders, Caribbean Islanders, South Americans, or those from Africa. Further, with the exception of African American/black ethnicity and Central American ethnicity, all other ethnic groups have the same or higher equity than "American/whites". An immigrant ethic of saving, a higher level of risk aversion, or other value differences between immigrants and natives appear to be responsible for the fact that immigrants often have higher equity levels than either natives in general and natives of their own ethnic group. Central American immigrants have an estimated $22829 more in equity than natives. If they are of Central American ethnicity, they have $13966 more in equity than natives of Central American ethnicity ($228829 – $8863). Similarly, immigrants from the Middle East have higher equity (by $57384) than natives and natives of Middle Eastern ethnicity. In nearly every case (excepting those from East Asia and the Pacific Islands and the Caribbean) the equity advantage is in the hands of immigrants.

The combination of these effects shows up in predicted equity in Figure 3. Both immigrant citizens and immigrant non-citizens are predicted to have higher equity levels than natives—especially at lower incomes. Natives catch up to non-citizens at higher income levels and come close to immigrant citizens. But in terms of equity, or current housing wealth, immigrants fare better.

100% Ownership

We claim that 100% ownership is a measure of reduced economic need (no need to pay monthly mortgage or rent) or increased economic security. The results of the 100% home ownership equation suggest that both immigrants and natives use home ownership as the ultimate safety net. Unlike the outcomes in the other equations that document fairly traditional patterns of relationships between the explanatory variables and outcomes, we find that the relationships in the 100% ownership equation reveal that economic insecurity in other areas may drive those who have invested in their homes to fully own them so that they have a secure living environment. In nearly every case we find the opposite patterns as with ownership, value and equity. Although marriage, gender, and education effects haven't been yet discussed, they exhibit the typical and expected patterns in the other three equations. In contrast, both unmarried women and unmarried men are more likely to totally own their homes than a married person of either gender. Those with less education than a college degree are more likely to totally own their own homes than those with a college degree. Further, income tends to be negatively related to 100% ownership. Impressively, it is even more negatively related to 100% ownership for immigrants. One exception to this statement is non-citizenship. Non-citizens are no more or less likely to totally own their own homes than citizens. But following that rule, more years in the United States is associated with a lower likelihood of totally owning one's home.

Total home ownership is unique that there is not a single ethnic group whose probabilities are different from the omitted groups', except for the probability for African Americans (which is 8 percentage points higher than "American/whites". Once again, totally owning one's home appears to act as a hedge against uncertainty, bringing a small advantage to African Americans who are disadvantaged in all other aspects of housing markets. Similarly, the measured

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coefficients on nationality groups are all positive, although only about one-half of them are significant. Nonetheless, the sizes of the impact of nationality is substantial: Central Americans have a 17 percentage point advantage, South Americans a 20 percentage point advantage, East or South Asians a 22 percentage point advantage, South or East Europeans a 19 percentage point advantage, and Canada/Aust/British Isles immigrants a 16 percentage point advantage. These results suggest that immigrants in many nationality groups advance purposefully to total home ownership if they are able to enter the home market.

The lack of advantage for natives and the negative effect of income is shown in the final figure, Figure 4, which documents predicted 100% ownership for natives, immigrant citizens, and non-citizens. There is virtually no difference in predicted 100% ownership for any of the three groups at any income level (or for retirees).

Putting It All Together

Many people ask whether immigrants will keep housing markets viable as the native population ages. Simply examining the probability of home purchasing returns a less than rosy prognosis. Immigrants are less likely to own homes in the United States than are natives. The gloomy picture is mitigated when immigrants are separated into immigrant citizens, whose home ownership probabilities are nearly the same as those of natives, and immigrant non-citizens, who have low rates of home ownership whatever their other characteristics. Once immigrants have a "foot in the door", however, there is no consistent disadvantage to immigrants, whether they be citizens or not. In fact, for all three wealth indicators, immigrant citizens and non-citizens alike are at an advantage or at no disadvantage to natives.

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Table 1[13]
Proportion of Homeowners by Residential location
For Natives, Immigrant Citizens and Non-citizens
(percent of various samples in each location in parentheses)

	Natives	Immigrant Citizens	Immigrant Non-Citizens
Entire Sample	0.721	0.667	0.377
Non-MSA Residents	0.735	0.574	0.292
MSA Residents	0.711	0.702	0.399
	(59.7% of natives)	(72.1% of I citizens)	(79.7% of non-citizens)
Gateway City Residents	0.688	0.685	0.368
	(27.4% of natives)	(50.8% of I citizens)	(58.9% of non-citizens)

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[13] Using weighted sample

Table 2[14]
Descriptive Statistics by Home Ownership and Immigration Status
(Standard Errors in Parentheses)

	Homeowners		100% Home Owners		Renters	
	Native	**Immigrant**	**Native**	**Immigrant**	**Native**	**Immigrant**
Property Value	$125,524 ($95,281)	$145,484 ($97,526)	$104,718 ($88,390)	$122,924 ($92.234)	--	--
Equity	$80,787 ($80,822)	$82,268 ($83,385)	$99,629 ($87,371)	$112,935 ($92,857)	--	--
FHA or VA Loan	0.21	0.24	--	--	--	--
Years Owned Home	16.3 (13.6)	12.7 (11.6)	23.5 (15.2)	19.6 (14.3)	--	--
Non-citizen	--	0.35	--	0.24	--	0.64
Years in the US	--	22.85 (14.64)	--	32.89 (15.17)	--	13.79 (12.17)
Gateway City Resident	0.26	0.54	0.21	0.46	0.31	0.56
MSA Resident	0.59	0.79	0.49	0.69	0.62	0.72
Poverty Income (Month)	$1,002 ($323)	$1,159 ($423)	$892 ($288)	$1,000 ($400)	$935 ($327)	$1133 ($418)
Age	52.2 (15.8)	50.1 (15.0)	61.9 (14.9)	60.0 (15.3)	45.3 (16.5)	43.5 (14.7)
Retiree	0.31	0.22	0.54	0.45	0.17	0.12
Monthly Earnings	$3,463 ($4,016)	$3,599 ($3,850)	$1754 ($2086)	$1823 ($3684)	$2388 ($2851)	$2257 ($2271)
Less than High School Diploma	0.14	0.27	0.23	0.35	0.23	0.44
HS Diploma or Some College	0.58	0.46	0.59	0.44	0.59	0.40
College Graduate	0.28	0.27	0.19	0.21	0.18	0.12
# Kids	0.67 (1.05)	1.03 (1.31)	0.33 (0.82)	0.60 (1.17)	0.71 (1.15)	1.09 (1.39)
Married/Woman	0.18	0.17	0.15	0.15	0.10	0.14
Unmar./Woman	0.22	0.21	0.29	0.33	0.45	0.29
Married/Man	0.49	0.52	0.44	0.40	0.19	0.36
Unmarried/Man	0.11	0.10	0.12	0.12	0.26	0.21
N (unweighted)	15,551	1,309	7,038	476	6,631	1,282

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[14] Using weighted sample

Table 3 (Panel 1)

Coefficients and Marginals from Bivariate Regressions
(Standard Errors in Parentheses)[15]

	Home Ownership (Marginals)	Home Value	Home Equity	100% Ownership (Marginals)
Married Woman	-.00913	**8371.83**	**4730.15**	-.00534
	(.01038)	(1902.95)	(1577.86)	(.01270)
Unmarried Woman	**-.23663**	1916.45	-2454.22	**.05365**
	(.00957)	(2010.32)	(1643.91)	(.01378)
Unmarried Man	**-.27810**	-574.70	-3726.78	**.08801**
	(.01166)	(2567.33)	(2096.13)	(.01741)
Less than High School Diploma	**-.13558**	**-43939.10**	**-35271.86**	**.16238**
	(.01238)	(2451.64)	(2034.12)	(.01553)
HS Diploma or Some College	**-.02664**	**-28776.03**	**-20206.77**	**.06551**
	(.00837)	(1696.79)	(1407.81)	(.01113)
Monthly Earnings	**.00057**	**70.29**	-3.05	**-.00065**
	(.00002)	(4.94)	(4.06)	(.00003)
Monthly Earnings Squared	**-.00001**	-.26	**1.28**	**.00001**
	(.00000)	(.18)	(.15)	(.00000)
Monthly Earnings*Immigrant	**.00029**	-14.85	**-34.62**	**-.00029**
	(.00006)	(13.22)	(10.96)	(.00009)
Monthly Earnings Squared*Immigrant	**-.00001**	.73	**1.63**	**.00001**
	(.00000)	(.63)	(.52)	(.00000)
Monthly Poverty Income	**.00014**	1.65	**-7.52**	**-.00014**
	(.00002)	(2.52)	(2.09)	(.00002)
Retiree	**.14238**	**24167.32**	**14896.68**	**.02655**
	(.01049)	(2414.01)	(1976.33)	(.01673)
Years in the US	**.00667**	291.96	18.62	**-.00278**
	(.0008)	(196.16)	(162.60)	(.00139)
Non-Citizen	**-.15524**	8236.93	-2173.05	-.01804
	(.02431)	(5609.70)	(4657.00)	(.03806)
Years Owned Home		-97.04	**785.65**	**.01347**
		(60.03)	(49.93)	(.00049)
FHA Loan		**-8241.87**	**-24675.3**	**-.36822**
		(1704.06)	(1420.80)	(.00968)
MSA Residence	.00213	**5331.97**	2093.88	**-.05059**
	(.00769)	(1640.30)	(1361.35)	(.01081)
Gateway City Residence	**-.05989**	38248.61	27886.55	-.01310
	(.00908)	(1903.27)	(1578.25)	(.01281)
Gateway City Residence*Immigrant	**.03917**	-4457.51	**-9793.9**	-.00248
	(.01900)	(5113.65)	(4249.29)	(.03398)
Kids Under 18	**-.01306**			
	(.00564)			
Age	.010752			
	(.00675)			
Age Squared	.000210			
	(.00013)			
Age Cubed	**.00000**			
	(.00000)			

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15 Significant at standard 5% level in boldface. Wald Chi-square equity/ownership = 2819.73 (p=0.0000), value/ownership = 3584.54 (p=0.0000), 100% ownership/ownership = -19155.36 (p=0.0000).

Table 3 (Panel 2)

Coefficients and Marginals from Bivariate Regressions
(Standard Errors in Parentheses)[16]

	Home Ownership (Marginals)	Home Value	Home Equity	100% Ownership (Marginals)
Nationality				
Canada/Aust/British	**-.28661**	10540.27	**25512.18**	**.16106**
	(.05282)	(10823.14)	(8981.36)	(.06709)
North West European	**-.19256**	2757.86	**28235.55**	.11722
	(.06476)	(11401.89)	(9458.38)	(.07449)
South East European	**-.38821**	13963.97	**33444.19**	**.19278**
	(.04480)	(10685.13)	(8866.87)	(.08651)
East South Asia	**-.37538**	-16825.59	3700.25	**.21658**
	(.05156)	(11841.28)	(9826.98)	(.06709)
Pacific Island	**-.28019**	-25735.29	-20053.96	.05190
	(.06906)	(13943.04)	(11575.22)	(.09497)
Caribbean/US Terr.	**-.13449**	-12139.50	4990.97	.07681
	(.04597)	(10737.65)	(8926.64)	(.06917)
Central America	**-.23884**	10340.31	**22829.95**	**.17132**
	(.04443)	(10065.08)	(8359.66)	(.06132)
South America	**-.39877**	9278.83	22280.07	**.19923**
	(.05992)	(14665.61)	(12173.57)	(.08651)
Africa	-.10186	-26837.29	3358.07	.02592
	(.08215)	(18068.02)	(15010.40)	(.12445)
Middle East	**-.37186**	**39766.19**	**57384.39**	.15787
	(.08214)	(19010.32)	(15793.95)	(.11197)
Ethnicity				
English Ethnicity	-.01687	**4796.78**	**6112.78**	-.02532
	(.01008)	(2035.86)	(1689.19)	(.01348)
North West European Ethnicity	-.00457	2446.84	**4219.73**	-.02996
	(.01027)	(2085.44)	(1730.33)	(.03181)
South East European Ethnicity	-.01809	**17002.64**	**12130.82**	-.02320
	(.01226)	(2466.61)	(2046.57)	(.01648)
Asian/Pacific Islander Ethnicity/Asian Race	**-.07734**	**28146.38**	**23866.63**	.00116
	(.03468)	(7569.03)	(6286.08)	(.04997)
Caribbean Ethnicity	**-.22937**	**17226.26**	11321.32	.05881
	(.03494)	(8411.52)	(6990.28)	(.05437)
Central American Ethnicity	**-.07359**	-5160.94	**-8892.79**	.03914
	(.02014)	(4464.42)	(3707.31)	(.02928)
South American Ethnicity	**-.13344**	-8124.56	-2134.58	.06154
	(.04203)	(9288.19)	(7716.49)	(.05919)
African American ethnicity/Black	**-.11820**	**-23460.25**	**-17510.14**	**.08028**
	(.01133)	(2557.57)	(2121.04)	(.01666)
Ethnicity of Middle East	-.07177	-13085.29	-14330.47	-.02898
	(.07913)	(17075.31)	(14186.35)	(.11501)
Native Amer/Amer Indian	**-.07894**	-5345.69	-7066.15	.01814
	(.02541)	(5751.71)	(4778.25)	(.03654)

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16 Significant at standard 5% level in boldface. Wald Chi-square equity/ownership = 2819.73 (p=0.0000), value/ownership = 3584.54 (p=0.0000), 100% ownership/ownership = -19155.36 (p=0.0000).

Figure 1

Homeownership Probabilities

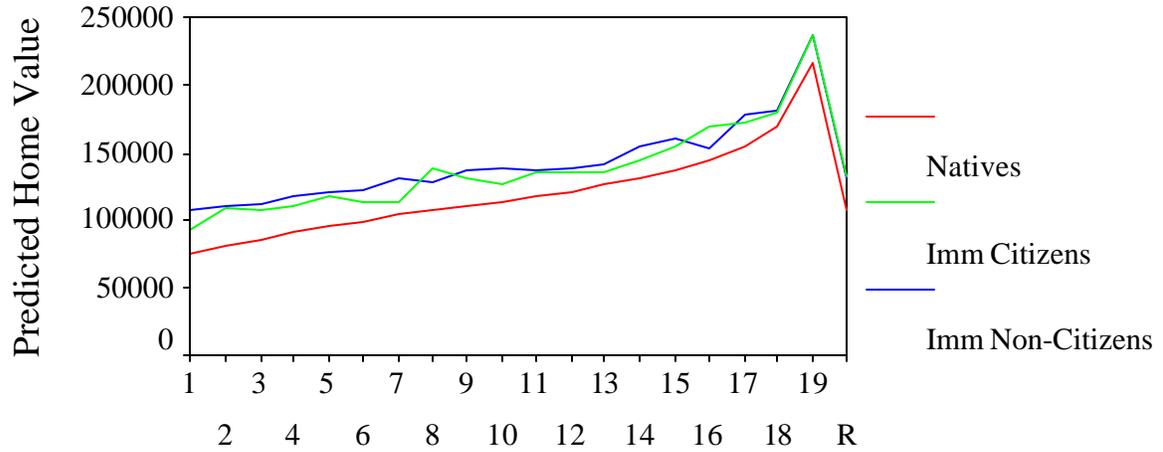### (Based on Bivariate Estimation)
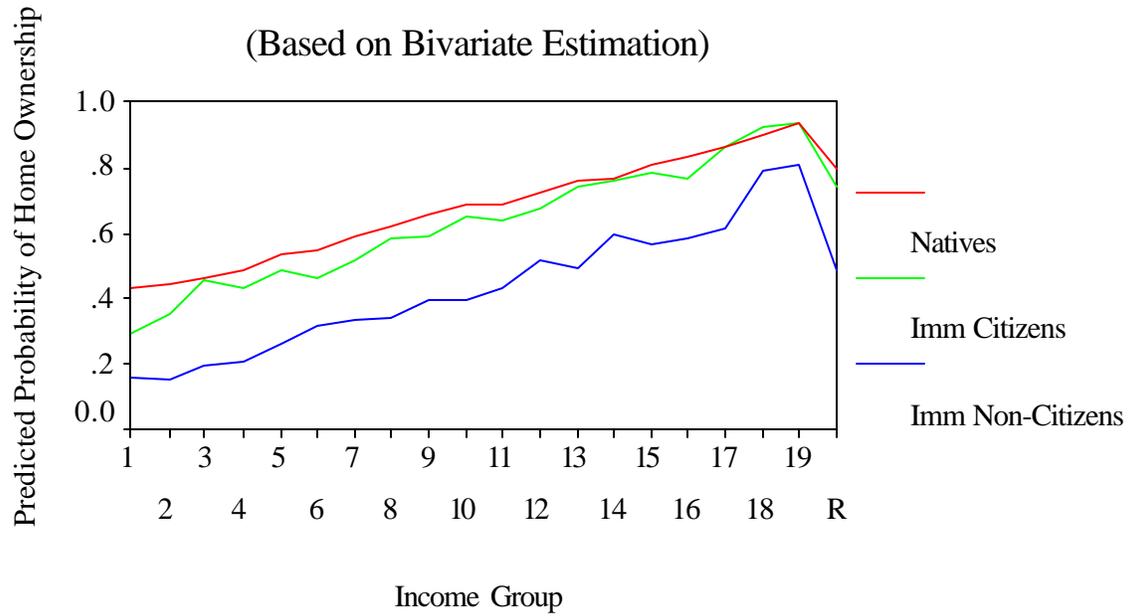
Income Groups are in equal population shares/highest two groups joined.

R stands for Retired.

Figure 2

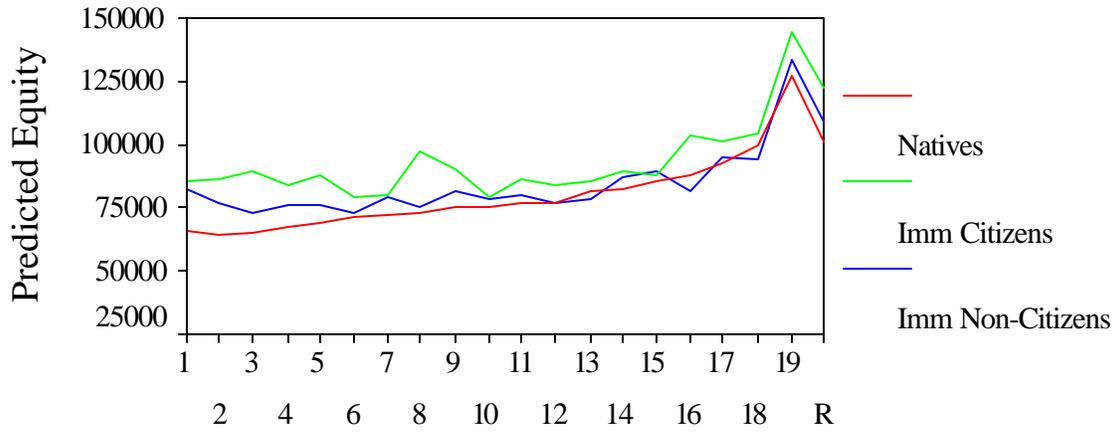## Predicted Home Values

in 1997 $

Income groups are in equal population shares/highest two groups joined

R stands for retired.

Figure 3

Predicted Equity Values

in 1997 $
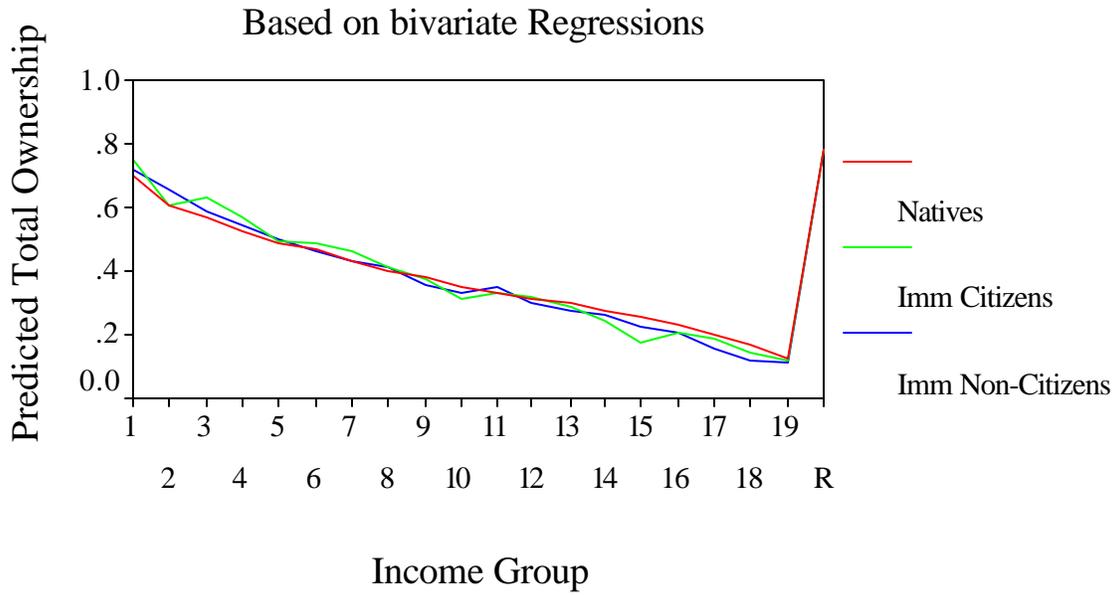

Income groups are in equal population shares/highest two groups joined

R stands for retired.

Figure 4

Predicted 100% Home ownership

Based on bivariate Regressions

Income groups based on equal population shares/two highest groups joined

R stands for retired.