

The relationship between Hispanic residential location and homeownership

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Introduction and summary

For many families, homeownership is a foundation for financial asset building and future wealth accumulation. Increased homeownership has been linked to improved property maintenance, higher property values, greater community involvement, and enhanced neighborhood stability (Glaeser and Shapiro, 2002; Rohe and Stewart, 1996; and Cox, 1982). The opportunity for homeownership, therefore, contributes to a community's overall economic stability and growth.

The potential benefits of homeownership are not equally distributed across ethnic groups and ethnic communities. Although Hispanics represent the fastest growing minority/immigrant population in the U.S., their homeownership rate is among the lowest of any ethnic group. In 2000, close to 70 percent of U.S.-born households were homeowners; householders from Europe had a homeownership rate of 63 percent; and householders from Asia had a rate of 52 percent. By comparison, the homeownership rate for Latin American immigrants was 41 percent and 39 percent for Mexican immigrants specifically (U.S. Census Bureau, 2001).

Over the last few years the homeownership gap between Hispanics and non-Hispanics has narrowed. Between 1994 and 2002, the rate of homeownership for Hispanics increased by 17 percent, from 41.2 percent to 48.2 percent; while the rate for non-Hispanics increased by 6 percent from 65.9 percent to 70 percent (U.S. Census Bureau, 2003). Retsinas and Belsky (2002) suggest that the narrowing of this gap can be attributed in part to the increase in mortgage loans to low-income and minority households. Even so, as of 2002, more than a 20 percentage point gap in homeownership rates remained between Hispanics and non-Hispanics.¹ Recent increases in unemployment and foreclosures on homes owned by poorer minority families are stark reminders that closing the wealth gap through homeownership remains a challenge (Fleishman, 2002).

The Hispanic population in the U.S. has traditionally been concentrated in only a few states and in particular urban areas (Bartel, 1989). For a large proportion of immigrants, particularly those from Mexico or other Latin American countries, housing needs remain critical. For example, Mexican and other Latin American immigrants are much more likely to live in crowded and severely inadequate housing and/or to experience a severe housing cost burden (Lipman, 2003).² As a consequence, community development initiatives that respond to emerging and traditional immigrant communities may be very important.³

This study seeks to identify the socioeconomic, demographic, and life-cycle characteristics that influence the location choice and the homeownership decision for Hispanic immigrants. We ask two basic questions. First, is homeownership more or less likely for Hispanics who choose to reside in an ethnic location; and second, is the location decision jointly or endogenously made with the homeownership decision? Our findings suggest that, indeed, the location and homeownership decisions are jointly made. Furthermore, the decision to reside in a Hispanic enclave has a positive, significant influence on the likelihood of owning a home.

Overview of the literature

Most previous research on this subject has looked at immigrant homeownership within specific urban areas. For example, Schill et al. (1998) analyzed the experience of immigrants in New York City; and Hamilton and Cogswell (1997) looked at Hispanics in Syracuse. Our study contributes to the literature by examining the implications of ethnic geographic

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concentration on the homeownership decision of Hispanic households in the Chicago metropolitan area.

Research suggests that disparities in homeownership between immigrants and non-immigrants can be explained by differences in socioeconomic and demographic characteristics (for example, Pitkin et al., 1997; Myers and Lee, 1996 and 1998; and Myers et al., 1998). Coulson (1998) finds that Hispanics have a lower homeownership rate because Hispanic household heads tend to have less education, hold immigrant status, and are younger than non-Hispanics.⁴ This study also points out that immigrant groups tend to concentrate in central cities where housing prices are relatively high, causing affordability constraints to be more binding.

Earlier, Krivo (1995) determined that the “immigrant context”⁵ decreases the likelihood of homeownership among Hispanics in Los Angeles. However, the magnitude of this influence differs by Hispanic subgroup. Specifically, the negative effect of immigrant concentration on homeownership is more subdued for Mexicans than for non-Mexican Hispanics. At the same time, the Mexican “location context” tends to be more crowded with inferior or substandard quality housing. Alba and Logan (1992) find that, as the proportion of Mexicans and Cubans in a metropolitan area becomes larger, the likelihood of homeownership increases, while for other immigrant groups, such as Puerto Ricans and Vietnamese, the likelihood of homeownership decreases. More recently, Borjas (2002) argued that a sizable proportion of the homeownership gap is due to differences in the location decisions made by immigrants rather than their differences in socioeconomic background. He shows that in several major American cities, “ethnic clustering” increases the probability that immigrant households own their homes. He gives two potential explanations for this finding: first, housing prices in increasingly dense neighborhoods may encourage homeownership as an investment; and second, ethnic networks within enclaves can more effectively channel information flows about homeownership opportunities.

The body of existing literature agrees that ethnic enclaves have a direct impact on the homeownership decision, although views diverge about the direction of the effect. Still, a much less explored aspect of the analysis of homeownership is the fact that the choice of location is endogenous with the decision to be a homeowner. It is reasonable to assume that the decision to reside in an ethnic enclave is not a random process. A number of factors are likely to influence an immigrant’s decision to choose an “enclave” rather than a location with only a sparse number of residents from their co-ethnic group.

Enclaves offer an alternative means of cushioning the relatively high cost of integration that some immigrants may face (Chiswick and Miller, 2002). Immigrants with less human capital, in terms of language, education, or labor skills, may have greater difficulty in adapting or assimilating to the new culture and, therefore, may need more of the support an ethnic enclave provides. For similar reasons, older immigrants also may choose such a location. Immigrants with less incentive to invest in learning to speak a new language, such as those who plan to repatriate at some point in the future, would tend to prefer to live with others who speak their language and share their culture. As such, unobserved factors that contribute to location choice might also influence the homeownership outcome of immigrants. The impact of ethnic enclaves on homeownership shown in previous research using conventional probit analysis techniques might be biased. In this article, we draw from the immigrant location choice literature and consider the *inside enclave/outside enclave* residential location decision to be endogenously or jointly determined with the homeownership decision.⁶ We propose a bivariate probit technique to model the location and the homeownership decisions.⁷ Our findings suggest that, for Hispanic immigrants, the location and homeownership decisions are jointly made. Moreover, the decision to reside in a Hispanic enclave has a positive, significant influence on the likelihood of owning a home.

Data and descriptive statistics

The data we use in this analysis are drawn from the public use micro statistics (PUMS) of the 1990 U.S. Census, 5 percent sample. The PUMS is advantageous because it provides a sample of Hispanics that is larger than other surveys such as the *American Housing Survey* or the *Current Population Survey*. Furthermore, it includes a wealth of information on immigrant status, mobility history, and language proficiency that are important for our study.

The Chicago metropolitan statistical area (MSA) is divided into 47 public use micro areas (PUMAs). PUMAs are the smallest geographical units defined by the 1990 PUMS in the public version of the data. Within the Chicago metropolitan area, we identify PUMAs that are heavily populated by Hispanics and compare them with other PUMAs that have fewer Hispanic residents. These smaller geographical units allow us to identify specific Hispanic areas and potentially to capture *ethnic enclave* or *ethnic affinity* effects. This is in contrast to previous studies that typically considered only cross-metropolitan variation effects in analyzing the homeownership decision (for example, Borjas, 2002).

While the Hispanic population in the sample made up 10 percent of the population of the entire Chicago MSA, one of the PUMAs had an 86 percent household population of Hispanic origin. (It combines South Lawndale, known as Little Village and the neighboring Lower West Side, known as Pilsen, two communities on the southwest side of the City of Chicago). Another PUMA had 58 percent of its household population of Hispanic origin. (It includes Rogers Park and Uptown on the north side). These two PUMAs comprise the Hispanic enclave with a majority Hispanic population. The remaining PUMAs (or “other locations” in our analysis) had a population less than 26 percent Hispanic, with most having 10 percent or less Hispanic households. The clear concentration of Hispanic households in the two PUMAs is consistent with the *inside-enclave/outside-enclave* pattern of choice observed for many other immigrant groups (Funkhouser and Ramos, 1993).

Table 1 provides the definition and mean value of variables for the Hispanic and other locations in the analysis. The sample includes Hispanic households residing in the Chicago MSA, with heads of household 18 to 64 years of age, who either own or rent their primary residence and who had positive household income. A striking difference between these two groups is that Hispanics with the most human capital tend to locate outside the areas with the largest concentration of Hispanics. Specifically, households in the Hispanic locations have on average less education and less proficiency in English. They also have been in the U.S. for a shorter period of time. A greater proportion of households living within the Hispanic locations also tend to have less income and lower homeownership rates.⁸ The larger household size observed within the Hispanic locations is consistent with the findings reported for Hispanics in the Los Angeles metropolitan area (Krivo, 1995). Typical of immigrant groups and low-income households, mobility was fairly high (Kan, 2000). Forty-two percent moved to the Hispanic locations in the MSA from a different area within the state of Illinois; 10 percent came from a foreign country; and 3 percent moved from a different state in the U.S. Households in the Hispanic locations seem to be much less mobile than those in other locations; 45 percent of households in the Hispanic locations were non-movers compared with 38 percent of those who resided in other locations. Surprisingly, movement across PUMA locations within the Chicago metropolitan area was a fairly uncommon occurrence—over the period observed, none had moved to the Hispanic locations from a different PUMA; and only 2 percent of individuals living in other locations undertook such a move.⁹ There was in general a higher tendency for individuals to

move in other locations in the Chicago MSA, as opposed to the Hispanic locations in the Chicago MSA, if they came from a different state or if they came from a different area outside the Chicago MSA.

Homeownership and ethnic enclave choice

We consider the following two-equation model to evaluate the possible linkage between two binary choices—the decision to own a home (OWNHOME) and the decision to reside in an enclave (HISPANIC LOCATION).

- 1) $y_1 = f_1(x_1, y_2)$, and
- 2) $y_2 = f_2(x_2)$.

In the first equation, the dependent variable, $y_1 = \text{OWNHOME}$, is equal to one if the householder owns their home and zero otherwise. Then, x_1 represents all exogenous variables on the right-hand side of the first equation. These include personal characteristics, such as socioeconomic, demographic, and life-cycle attributes, immigrant status, and assimilation indicator variables, and location characteristics, namely the relative price of owning a home versus renting. In addition, we assume that the decision to own is a function of location choice, y_2 .

For the second equation, the dependent variable, $y_2 = \text{HISPANIC LOCATION}$, is equal to one if the household chooses to reside in a Hispanic ethnic enclave and zero otherwise. The variable x_2 represents a vector of right-hand indicator variables that include socioeconomic, demographic, and life-cycle attributes, and immigrant status characteristics. In addition, the covariates include indicator variables for the previous location of the households and whether they moved from abroad or from within the Chicago metropolitan area, as opposed to not having moved at all.

Note that the main aspect of the model is that y_2 , or HISPANIC LOCATION, a covariate in the first equation, is also the dependent variable in the second equation—HISPANIC LOCATION is assumed to be endogenous. The model is therefore a recursive, simultaneous model. However, although we have two equations, the familiar simultaneous equation techniques (for example, two-stage least squares) are inappropriate because the model is nonlinear. We propose a bivariate probit model to ascertain whether the probability of choosing an ethnic enclave location (HISPANIC LOCATION) is jointly determined with the homeownership decision (OWNHOME).¹⁰ Below, we explain the motivation behind our choice of covariates in each of the equations, then discuss the results.

TABLE 1

Descriptive statistics: Hispanics in the Chicago MSA

Variables	Definition of variables	Hispanic location	Other location
OWNHOME	1 if owns with mortgage or owns free and clear, 0 if renting	0.37	0.53
HISPANIC LOCATION	PUMA locations with 86% and 58% Hispanic population, respectively, 0 for all other PUMAs	1.0	—
COLLEGE	1 if college degree and beyond, 0 otherwise	0.01	0.03
HIGH SCHOOL	1 if HS diploma or equivalent, 0 otherwise	0.37	0.45
NO HIGH SCHOOL	1 if less than HS diploma, 0 otherwise	0.62	0.52
PERMANENT INCOME	Predicted values of log household income (\$1990)	9.26	9.40
TRANSITORY INCOME	Residuals of log household income (\$1990)	-0.06	0.02
MARRIED	1 if married, 0 otherwise	0.54	0.59
HHSIZE	1 number of persons in household	4.96	4.55
CHILDREN	1 if dependent children present, 0 otherwise	0.20	0.20
AGE 18-24	1 if age is 18 to 24, 0 otherwise	0.25	0.23
AGE 25-34	1 if age is 25 to 34, 0 otherwise	0.33	0.35
AGE 35-44	1 if age is 35 to 44, 0 otherwise	0.25	0.25
AGE 45-54	1 if age is 45 to 54, 0 otherwise.	0.12	0.11
AGE 55-64	1 if age is 55 to 64, 0 otherwise	0.05	0.06
MEXICO	1 if place of birth is Mexico, 0 otherwise.	0.56	0.45
NO ENGLISH	1 if speaks English "not well" or "not at all," 0 otherwise	0.36	0.24
US BORN	1 if born in U.S. or of American parents, 0 otherwise	0.23	0.34
NATURALIZED CITIZEN	1 if born abroad and naturalized, 0 otherwise	0.16	0.18
YSM5	1 if 5 or fewer years since migration, 0 otherwise	0.14	0.12
YSM6-10	1 if 6 to 10 years since migration, 0 otherwise	0.32	0.25
YSM11-20	1 if 11 to 20 years since migration, 0 otherwise	0.43	0.53
YSM21-30	1 if 21 to 30 years since migration, 0 otherwise	0.04	0.04
YSM31-40	1 if 31 to 40 years since migration, 0 otherwise	0.06	0.05
YSM41+	1 if over 40 years since migration, 0 otherwise	0.01	0.01
HOME VALUE	25th quartile of log value of home in PUMA	5.78	5.96
MEDIAN RENT	Median value of rent in PUMA	393.2	517.5
MOVE_PUMA	1 if moved across PUMAs in the Chicago MSA, 0 otherwise	0.00	0.02
MOVE_IL	1 if moved from an area in Illinois outside the Chicago MSA, 0 otherwise	0.42	0.47
MOVE_US	1 if moved from a different state in the U.S. outside of Illinois, 0 otherwise	0.03	0.05
MOVE_FOREIGN	1 if moved from a foreign country, 0 otherwise	0.10	0.09
NON MOVERS	1 if did not move in last 5 years, 0 otherwise	0.45	0.38
Sample size		3,752	10,374

Determinants of homeownership choice***Socioeconomic, demographic, and life-cycle characteristics***

The choice of variables to include in the OWNHOME and HISPANIC LOCATION equations is guided by arguments and evidence from the literature and from the availability of variables in the data. There is agreement in the literature that the homeownership decision depends on socioeconomic, demographic, and life-cycle (including family structure) attributes

(Goodman, 1990). Following this convention, marital status (MARRIED), size of the household (HHSIZE), whether dependent children are present (CHILDREN), and the age of the head of household (various age groups) are included. We expect these characteristics to capture the preferences for homeownership. Educational attainment is viewed as one potential indicator of wealth prospects, and we use it here as a proxy for the wealth-related taste for homeownership. We control for level of schooling using two indicator

variables that reflect whether the head of household completed college or beyond (COLLEGE) or graduated from high school (HIGH SCHOOL). We expect that heads of household that have either a high school diploma or a college degree are more likely to be homeowners than those who have not completed high school.

We include household income to determine how nominal housing affordability influences the homeownership decision. As is customary, we include both permanent and transitory components of household income (Goodman and Kawai, 1982). Permanent income (PERMANENT INCOME) is the predicted value of the measured income estimated by a regression on a set of instrumental variables related to human capital and other demographic characteristics, while transitory income (TRANSITORY INCOME) is the difference between the observed measured household income and predicted income. We expect permanent income to have a positive influence on homeownership. Although included as a control, transitory income may be less important to the homeownership decision because the typical costs associated with the home purchase process (that is, transactions, search, and moving costs) are so substantial that they may not be covered by transitory income (Goodman, 1990).

Immigration and assimilation factors

The immigrant experience of Hispanics has important implications for homeownership outcomes for several reasons. Acquired English language fluency is an important human capital attribute for immigrants and an indicator of potentially greater integration into the mainstream financial system. We might expect that immigrants with greater English language fluency are more likely to be homeowners. However, in a Hispanic neighborhood where transactions may be conducted in Spanish, a lack of English language fluency may not necessarily hinder homeownership. We include the variable NO ENGLISH, whether householders reported that they speak English “not well” or “not at all,” to determine the influence that this lack of human capital has on homeownership.

Second, lack of familiarity with the U.S. credit system may result in households being less informed about opportunities and programs that could help them purchase a home. The length of time a person has resided in the U.S., therefore, is important. From a lender’s point of view, the length of time a person has resided at a particular address in the U.S. can be considered for lending qualification or underwriting purposes (Warren, 1995). The longer a person has resided in the U.S., the less their immigrant status should influence the likelihood of homeownership. We control for length of time since migration in a nonlinear

fashion with dummies for incremental years since migration. For example, YSM5 is equal to one if the household head migrated less than five years prior to the survey. We also include an indicator variable for whether the householder is a U.S.-born citizen, US BORN (note, in this case, years since migration is equal to zero). We include whether the head of household is a naturalized citizen (NATURALIZED CITIZEN) as an indicator variable for integration or assimilation potential. The indicator variable, MEXICO, is equal to one if the head of household’s birthplace is Mexico (or zero otherwise). We include this variable to control for potential differences in homeownership between Mexican and other Hispanic householders.

The location choice variable

We include HISPANIC LOCATION in the OWNHOME equation to measure the direct impact that the decision to reside in an ethnic enclave has on the likelihood of homeownership. Whether homeownership is more or less likely for households who choose to live in a Hispanic enclave is unclear from the literature. If the influence of Hispanic location has a significant and positive influence on the likelihood of homeownership, these two decisions are jointly made and residing in a Hispanic enclave increases the likelihood of homeownership. Alternatively, if the relationship between Hispanic location and homeownership is significant and negative, this implies that living in an enclave lowers the probability of owning a home.

Housing prices

Higher housing prices may lead to greater affordability constraints, especially for lower-income and more recent immigrant groups. Because other studies have shown that Hispanics have lower income levels relative to other ethnic/racial groups, affordability is likely to be relevant to their homeownership decision. Gyourko and Linneman (1996) used the 25th percentile of the log housing value in an MSA as an indicator variable to capture the costs of a typical inexpensive home and the median rent value to capture local housing prices. We follow their approach by including the 25th percentile of the log housing value in each PUMA (HOME VALUE) to control for local housing affordability. We also include the median rent in the PUMA (MEDIAN RENT) to control for the typical cost of renting in the PUMA. Areas with relatively high housing values or low rents may be expected to lengthen the transition to homeownership (Painter et al., 2000).

Determinants of enclave location choice

The independent variables in the second equation (HISPANIC LOCATION) comprise socioeconomic, demographic, and life-cycle characteristics, similar

to the first equation. The inclusion of these personal characteristics in the location choice equation follows the immigration literature that suggests that individuals who choose to locate in enclaves tend to self-select in terms of personal attributes and as such tend to have relatively homogeneous personal characteristics. For example, individuals with less human capital, who are older, and who are not proficient in English may have greater difficulty in adapting to the new culture and may therefore prefer an enclave location. We include indicator variables for age, education, language proficiency, and assimilation factors, as previously defined, to assess the extent to which they impact the decision to reside in an ethnic enclave.

Typically, researchers have looked at the movement or mobility of households to better understand the location decision (Painter et al., 2000; Kan, 2000; and Boehm et al., 1991). Mobility is viewed as reflective of households' responses to variations in local labor market opportunities or differences in neighborhood amenities (for example, school quality). Households that experience greater geographical mobility are expected to have a greater proclivity toward spatial diversity and, therefore, are less likely to reside in a Hispanic enclave than their non-mover counterparts. Following previous research that shows that consideration for mobility is important to the location decision, our HISPANIC LOCATION model controls for geographic mobility. The variable MOVE_US indicates whether the head of household's residence five years earlier was in another state. The variable MOVE_IL indicates whether the individual moved from a different location within the state of Illinois to the Chicago metropolitan area, while MOVE_PUMA denotes whether a move was made across PUMAs within the Chicago metropolitan area.

Empirical results

Table 2 reports the results of the bivariate probit model.¹¹ Households that decide to live in a Hispanic location are significantly more likely to be homeowners. The significance of the location coefficient suggests that the homeownership decision is jointly made with the decision to locate in a Hispanic enclave.

Generally speaking, the likelihood of homeownership is greater for those with higher levels of education, permanent income, or those that are married, have larger families, or are U.S.-born or naturalized citizens. Conversely, those who are younger or have been in the U.S. for a shorter period of time are significantly less likely to be a homeowner.

Factors that influence the decision to locate in a Hispanic enclave are also shown in table 2. Those

with higher education, greater permanent or transitory income, are more mobile, or are a U.S.-born or naturalized citizens are less likely to choose a Hispanic location.

Given that a household chooses to reside in a Hispanic enclave, the question becomes: How do the factors that determine this choice also influence the homeownership decision? The marginal effects reported in table 3 provide answers to this question. The marginal effects convey the magnitude and direction to which the different attributes influence the homeownership decision (OWNHOME = 1), in the case where a householder chooses to reside in a Hispanic enclave (HISPANIC LOCATION = 1).¹² As shown in table 3, householders residing in a Hispanic location who have a high school or college education (HIGH SCHOOL or COLLEGE) are approximately 3 percentage points and 6 percentage points, respectively, more likely to be homeowners than their less educated counterparts residing in a Hispanic enclave. Being married or having a larger family also increases the likelihood of owning a home for those living in a Hispanic enclave by 2.9 percentage points and 2.7 percentage points, respectively. Similarly, the likelihood of owning a home increases by 5.1 percentage points and 7.1 percentage points, respectively, for older respondents (AGE 45–54 and AGE 55–64) living in a Hispanic enclave relative to the comparison group (individuals between 35 and 45 years of age). Younger respondents residing in a Hispanic enclave, however, are significantly less likely to be homeowners. Specifically, the probability of homeownership for those between the age of 18 and 24 is lower by almost 2.2 percentage points, while the probability is 3.1 percentage points lower for those in the 25 to 34 age category.

The number of years since migration has a substantial influence on the likelihood that a resident of a Hispanic enclave is a homeowner. For example, individuals who migrated five years ago or fewer (YSM5) are almost 10 percentage points less likely to be a homeowner than those with 11–20 years since migration. Those who have been in the U.S. between 31 and 40 years are 6.2 percentage points more likely to be a homeowner than the comparison group. Naturalized citizens residing in a Hispanic enclave are 1.4 percentage points more likely to be homeowners, whereas U.S.-born citizens residing in a Hispanic enclave are 1.9 percentage points less likely to be homeowners.

Finally, an increase of 10 percent in home value for those residing in a Hispanic enclave lowers the probability of homeownership by 2 percentage points, while higher median rental prices increase the likelihood of homeownership by 1.3 percentage points.

TABLE 2

Bivariate probit model

Dependent variables	OWNHOME		HISPANIC LOCATION	
Intercept	2.35*	(0.40)	0.24**	(0.15)
HISPANIC LOCATION	1.01*	(0.08)	—	
Socioeconomic characteristics				
COLLEGE	0.34*	(0.07)	-0.38*	(0.09)
HIGH SCHOOL	0.19*	(0.02)	-0.09*	(0.03)
PERMANENT INCOME	0.09*	(0.01)	-0.06*	(0.01)
TRANSITORY INCOME	-0.0001	(0.00)	-0.0004*	(0.00)
Demographic and life-cycle characteristics				
MARRIED	0.22*	(0.02)	-0.16*	(0.03)
HHSIZE	0.10*	(0.01)	0.01*	(0.01)
CHILDREN	0.04	(0.03)	-0.03	(0.03)
AGE 18-24	-0.13*	(0.04)	0.05	(0.04)
AGE 25-34	-0.15*	(0.03)	0.03	(0.03)
AGE 45-54	0.21*	(0.04)	-0.04	(0.04)
AGE 55-64	0.33*	(0.05)	-0.14**	(0.06)
Immigration and assimilation factors				
MEXICO	0.03	(0.03)	—	
NO_ENGLISH	-0.37*	(0.03)	0.26*	(0.03)
US BORN	0.28*	(0.04)	-0.33*	(0.03)
NATURALIZED CITIZEN	0.18*	(0.03)	-0.20*	(0.03)
Y5M	-0.64*	(0.05)	—	
Y6M-10	-0.36*	(0.03)	—	
Y21-30	0.14*	(0.05)	—	
Y31-40	0.22*	(0.05)	—	
Y41+	0.11	(0.12)	—	
Housing price variables				
HOME VALUE	-0.84*	(0.07)	—	
MEDIAN RENT	0.19*	(0.02)	—	
Mobility indicator variables				
MOVE_PUMA	—		-0.59*	(0.12)
MOVE_IL	—		-0.29*	(0.02)
MOVE_US	—		-0.59*	(0.06)
MOVE_FOREIGN	—		-0.43*	(0.04)
ρ (1,2)			-0.75*	(0.05)
Log likelihood			-16,038	.77

Notes: * Significant at less than 0.01. ** Significant at less than 0.05. Standard errors are in parentheses. The omitted education category is less than high school level education; the omitted age category is age 44 (ages 35 to 44); the omitted language category is "speak only English at home"; the omitted mobility category is NON_MOVERS.

In summary, by order of the magnitude of the marginal effects, positive influences on the decision to own for households residing in an enclave are life-cycle characteristics (being older), being in the country for a longer period of time, and being more educated. By contrast, some of the factors that are most potent in inhibiting this decision are being in the country for a shorter period of time and having a lack of proficiency in English.

It is worth noting that decomposing the marginal effects into direct and indirect effects reveals that the positive impact of the education variable on homeownership is somewhat lessened when one considers the indirect effect of having chosen an ethnic enclave location.¹³ (For example, for the COLLEGE variable, the direct effect = 0.082; the indirect effect = -0.057; total effects

as reported = 0.065). Moreover, the negative effect of English language deficiency on homeownership is less substantial when accounting for the location selection's indirect effect. (For the NO_ENGLISH variable, the direct effect = -0.893; indirect effect = 0.043; total effects as reported, = -0.860). This suggests that these human capital factors exert a somewhat lessened impact on homeownership in the context of an immigrant/ethnic enclave. This finding is consistent with the proposition that ethnic enclaves may serve as a more viable alternative for those individuals that possess less of these human capital attributes. Even so, these characteristics remain important to the homeownership decision inside enclaves.

TABLE 3

Marginal effects

Probability (OWNHOME = 1 | HISPANIC LOCATION = 1)

Variable	Marginal effect
COLLEGE	0.065*
HIGH SCHOOL	0.033*
PERMANENT INCOME	0.013*
TRANSITORY INCOME	-0.0001
MARRIED	0.029*
HHSIZE	0.027*
CHILDREN	0.066
AGE 18–24	-0.022*
AGE 25–34	-0.031*
AGE 45–54	0.051*
AGE 55–64	0.071*
MEXICO	0.006
NO ENGLISH	-0.146*
US BORN	-0.019*
NATURALIZED CITIZEN	0.014*
YSM5	-0.099*
YSM6–10	-0.074*
YSM21–30	0.040*
YSM31–40	0.062*
YSM41+	0.029
HOME VALUE	-0.202*
MEDIAN RENT	0.013*

Note: * Significant at less than .01 level.

not only test the robustness of our approach but will also help inform policymakers about the determinants of immigrant homeownership in diverse settings. As a further consideration, the financial integration of immigrant households and whether these households have a banking relationship with mainstream financial markets will likely play an important role in determining whether they have access to credit for a home mortgage. Because Hispanic households are more likely to be unbanked (lacking a transactions account with a mainstream financial institution) than other ethnic/racial groups, their future prospects for homeownership opportunities may be hindered (Hogarth and O'Donnell, 1997; Greene et al., 2003). Future research may also benefit from an investigation of other factors that may be related to access to credit and financial services. These include attitudes toward borrowing and preferences for or access to alternative and/or informal credit sources.

New data from the 2000 U.S. Census points to a strikingly large dispersion of Hispanic communities across the Chicago metropolitan area. This suggests that Hispanic immigrant populations are mobile over time. Gains in human capital, such as English language proficiency and education, socioeconomic integration, and mobility outside of concentrated enclaves are likely to occur naturally in the long term. As such, we expect future homeownership rates to rise for Hispanics, potentially more so in locations outside of the traditional Hispanic enclaves.

Conclusion

The methodology developed in this article could be applied to other metropolitan areas. Indeed, we hope that this study will encourage researchers to conduct similar analyses for other areas, other racial/ethnic groups, and other time periods. Doing so will

NOTES

¹There is also a large gap between black and white homeownership rates. Much of the recent literature has focused on the black–white differential (for example, Gyourko and Linneman, 1996; Munnell et al., 1996; Yinger, 1986).

²As defined by the American Housing Survey (AHS), a severe cost burden means that the housing costs exceed 50 percent of reported income and severely inadequate housing means that the housing has severe physical problems, including lack of reliable plumbing or heating or faulty wiring.

³Drew (2002) discusses the potential impact of immigrants on the U.S. housing market.

⁴Coulson used the 1996 *Current Population Survey* data.

⁵Krivo defines the “immigrant context” as an index incorporating the percentage of the population that is Hispanic and foreign-born, that is Hispanic and living in the U.S. ten years or less, and that is Hispanic and speaks English less than very well within the metropolitan area. Krivo’s study is based on 1980 PUMS data.

⁶Studies that focus on native groups have used a multinomial/nested logit technique to model the location choices that tend to span across many places (for example, Deng et al., 2003).

⁷Borjas (2002) raises the issue of endogeneity of immigrant location choice and homeownership result estimates. To address this concern, he estimates a probit model of homeownership for the refugee population, which he approximates by classifying all immigrants who originate in main refugee-sending countries as refugees. The refugee countries included are Afghanistan, Bulgaria, Cambodia, Cuba, the former Czechoslovakia, Ethiopia, Hungary, Laos, Poland, Romania, Thailand, the former U.S.S.R, and Vietnam. His logic is that refugees have much less choice in deciding where to live than non-refugees and their location is randomly determined by sponsoring agencies. For our analysis of Hispanics, this approach was not warranted since Hispanics in the Chicago metropolitan area are mostly economic immigrants.

⁸The homeownership rate for Hispanics in the Chicago metropolitan area is 46 percent (Joint Center for Housing Studies, 1999).

⁹It is possible that some households moved from one neighborhood to another within the PUMA; our level of geographic grouping does not allow us to identify such movements.

¹⁰For the reader interested in a formal derivation of the bivariate probit, see Greene (2003), chapter 21, p. 716.

¹¹As an extension of the probit model, the bivariate probit does not impose any stringent structure in terms of variables to be included in each of the equations for identification purposes. The OWNHOME equation does not include the mobility indicator variables that appear in the HISPANIC LOCATION equation, because inclusion of these variables (although arguably, they could be explanatory variables in the decision to own model), annihilates the effect of the location covariate in the OWNHOME equation—the model becomes overidentified. The second equation does not include the housing prices variables because they would be perfect predictors of location by construction—the price indicators are based on the PUMA’s location housing prices. Years since migration variables were also omitted in the location choice model because of similar collinearity concerns.

¹²The second alternative, $\text{prob}(\text{OWNHOME} = 1 | \text{HISPANIC LOCATION} = 0)$ was also considered. Generally, the results mirror those reported in table 3 where $\text{HISPANIC LOCATION} = 1$. The results are available upon request from the senior author.

¹³The results in table 3 are the total marginal effects. An attribute’s total marginal effect in the homeownership model is the sum of its direct and indirect effects. The direct effect is produced by the attribute’s presence in the first equation, OWNHOME. The indirect effect is also produced if this same attribute is included in the second equation, HISPANIC LOCATION. Accordingly, the total marginal effect on OWNHOME is the sum of the direct and indirect effects for those attributes that are specified in both equations. Attributes that are included in the second equation directly influence the probability of choosing a Hispanic enclave. This effect is transmitted back to the first equation through the attribute, HISPANIC LOCATION, which appears in the OWNHOME equation, thus exerting the secondary, or indirect effect. Readers interested in more details about the marginal effects of the bivariate probit can consult Greene (2003).

REFERENCES

- Alba, R. D., and J. R. Logan,** 1992, "Assimilation and stratification in the homeownership patterns of racial and ethnic groups," *International Migration Review*, Vol. 26, No. 4, Winter, pp. 1314–1341.
- Bartel, A.,** 1989, "Where do the new U.S. immigrants live?," *Journal of Labor Economics*, Vol. 7, No. 4, October, pp. 371–379.
- Boehm, T. P., H. W. Herzog, Jr., and A. M. Schlottmann,** 1991, "Intra-urban mobility, migration, and tenure choice," *The Review of Economics and Statistics*, Vol. 72, No. 1, February, pp. 59–68.
- Borjas, J. G.,** 2002, "Homeownership in the immigrant population," Research Institute for Housing America, working paper, No. 02-01, March.
- Chiswick, B., and P. W. Miller,** 2002, "Do enclaves matter in immigrant adjustment?," University of Illinois at Chicago, Department of Economics, unpublished paper.
- Coulson, E.,** 1998, "Why are Hispanic- and Asian-American homeownership rates so low? Immigration and other factors," *Journal of Urban Economics*, Vol. 45, pp. 209–227.
- Cox, K.,** 1982, "Housing tenure and neighborhood activism," *Urban Affairs Quarterly*, Vol. 18, pp. 107–129.
- Deng, Y., S. L. Ross, and S. M. Wachter,** 2003, "Racial differences in homeownership: The effect of residential location," *Regional Science and Urban Economics*, Vol. 33, No. 5, pp. 517–649.
- Drew, R. B.,** 2002, "New Americans, new homeowners: The role and relevance of foreign-born first-time homebuyers in the U.S. housing market," Harvard University, Joint Center for Housing Studies, No. 2-2, August.
- Fleishman, S.,** 2002, "2nd quarter foreclosure rates highest in 30 years," *The Washington Post*, September 14.
- Funkhouser, E., and F. A. Ramos,** 1993, "The choice of migration destination: Dominican and Cuban Americans to the mainland United States and Puerto Rico," *International Migration Review*, Vol. 27, pp. 537–556.
- Glaeser, E. L., and J. M. Shapiro,** 2002, "The benefits of the home mortgage interest deduction," Harvard Institute of Economic Research, discussion paper, No. 1979, October.
- Goodman, A. C.,** 1990, "Demographics of individual housing demand," *Regional Science and Urban Economics*, Vol. 20, pp. 83–102.
- Goodman, A. C., and M. Kawai,** 1982, "Permanent income, hedonic prices, and demand for housing: New evidence," *Journal of Urban Economics*, Vol. 23, pp. 214–237.
- Greene, W. H.,** 2003, *Econometric Analysis*, fifth edition, Upper Saddle River, NJ: Prentice Hall.
- Greene, W. H., S. L. W. Rhine, and M. Toussaint-Comeau,** 2003, "Who uses check-cashing businesses? A look at racial/ethnic differences," Federal Reserve Bank of Chicago, working paper, No. WP 2003-10.
- Gyourko, J., and P. Linneman,** 1996, "Analysis of the changing influences on traditional households' ownership patterns," *Journal of Urban Economics*, Vol. 39, pp. 318–341.
- Hamilton, S., and S. J. H. Cogswell,** 1997, "Barriers to home purchase for African-Americans and Hispanics in Syracuse," *Journal of Policy Development and Research*, U.S. Department of Housing and Urban Development, Vol. 3, No. 1, March, pp. 91–130.
- Hogarth, J., and C. O'Donnell,** 1997, "Being accountable: A descriptive study of unbanked households in the U.S.," Proceedings of the Association for Financial Counseling and Planning Education.
- Joint Center for Housing Studies,** 1999, *The State of the Nation's Housing*, Cambridge, MA: Harvard University.
- Kan, K.,** 2000, "Dynamic modeling of housing tenure choice," *Journal of Urban Economics*, Vol. 48, No. 1, pp. 46–69.
- Krivo, L.,** 1995, "Immigrant characteristics and Hispanic–Anglo housing inequality," *Demography*, Vol. 32, Issue 4, November, pp. 599–615.

- Lipman, B. J.**, 2003, "America's newest working family: Cost, crowding, and conditions for immigrants," *New Century Housing*, Vol. 4, No. 3, July.
- Munnell, A., L. E. Browne, J. McEneaney, and G. M. B. Tootel**, 1996, "Mortgage lending in Boston: Interpreting HMDA data," *American Economic Review*, Vol. 86, pp. 25–53.
- Myers, D., and S. W. Lee**, 1998, "Immigrant trajectories into homeownership: A temporal analysis of residential assimilation," *International Migration Review*, Vol. 32, Fall, pp. 593–625.
- _____, 1996, "Immigration cohorts and residential overcrowding in Southern California," *Demography*, Vol. 33, February, pp. 51–65.
- Myers, D., I. Megbolugbe, and S. W. Lee**, 1998, "Cohort estimation of homeownership attainment among native-born and immigrant populations," *Journal of Housing Research*, Vol. 9, pp. 237–269.
- Painter, G., G. Stuart, and D. Myers**, 2000, "The decision to own: The impact of race, ethnicity, and immigrant status," Research Institute for Housing America, working paper, No. 00-02, June.
- Pitkin, J., D. Myers, P. Simmons, and I. Megbolugbe**, 1997, "Immigration and housing in the United States: Trends and prospects," Fannie Mae Foundation, Washington, DC, report, May.
- Retsinas, N. P., and E. S. Belsky**, 2002, "Low-income homeownership: Examining the unequal goal," Washington D.C. Brookings Institution Press, available at www.brookings.edu/press/books/low_income_homeownership.htm.
- Rohe, W. M., and L. Stewart**, 1996, "Homeownership and neighborhood stability," *Housing Policy Debate*, Vol. 7, pp. 37–81.
- Schill, M. H., S. Friedman, and E. Rosebaum**, 1998, "The housing conditions of immigrants in New York City," *Journal of Housing Research*, Vol. 9, No. 2, pp. 201–235.
- U.S. Census Bureau**, 2004, *American Housing Survey*, Washington, DC, available at www.census.gov/hhes/www/ahs.html.
- _____, 2003, *Homeownership Rates by Race and Ethnicity of Householder*, Washington, DC, available at www.infoplease.com/ipa/A0883976.html.
- _____, 2001, "Profile of the foreign-born population in the United States: 2000," *Current Population Reports*, special studies, December, pp. 123–206.
- Warren, D.**, 1995, "Fair lending and credit scoring," *Mortgage Banking*, Vol. 56, November, pp. 55–58.
- Yinger, J.**, 1986, "Measuring racial discrimination with fair housing audits: Caught in the act," *American Economic Review*, Vol. 76, pp. 881–893.