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Homeownership and Housing Equity: An Examination of Native- Immigrant Differences in Housing Wealth

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Abstract This paper examines the differences in homeownership between immigrants and native-born residents using the National Longitudinal Survey of Youth 1979 (NLSY79) data. We estimate the preference for homeownership and the amount of home equity held by households using a two-stage procedure. The results indicate that, although immigrants are less likely to be homeowners, immigrants who make the decision to own homes are more likely to have greater housing equity than native-born residents. About 66 to 70% of the disparity in homeownership can be explained by the difference in characteristics. The remaining disparity results from different homeownership functions estimated for the two groups. We discuss the implications of these findings for policy makers, real estate market researchers, and scholars of consumer behavior.

Keywords Investment decision · Housing equity · Immigration · Homeownership

JEL E20 · J10

Introduction

Homeownership has long been linked to notions of independence, security, and material and personal well-being. The decision to own a home, like other forms of investments, can serve as a financial reserve. In fact, a house is typically the largest single component of household assets, and therefore must be examined in the context of immigrants' asset preferences and investment allocations. At last

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measure in 2007, immigrant share of first-time buyers was 19% and of repeat buyers was 12%.[1] The increasing presence of foreign-born Americans (Larsen 2004) calls for in depth study of patterns of homeownership as part of immigrant investment preferences as compared to native-born residents' behaviors.

This study examines the differences in home equity between immigrants and native-born residents using the NLSY79 data set. The immigrants in this study comprise of foreign-born citizens who were born outside the United States to non-U. S.-born parents. Furthermore, in order to determine how much of nativity status difference in homeownership can be explained by differences in the explanatory variables between groups in the economy, we use a decomposition technique originally developed by Oaxaca (1973) and Blinder (1973). We then provide estimates of relative importance of these factors in accounting for the gaps in homeownership. Our study enables a comprehensive examination of divergent paths to housing wealth assimilation.

There are many reasons to believe that both the investment decision and the level of housing equity of immigrants will diverge from those of native-born residents. Many immigrants face earnings profiles that differ from native-born residents in terms of levels and earnings risk. Similarly, there may be cultural differences that influence the savings decisions of immigrants (Carroll et al. 1994; 1999). In addition, the prospect of remigration may further alter immigrants' incentives for precautionary savings (Amuedo-Dorantes and Pozo 2002; Dustmann 1997; Galor and Stark 1990).

This paper proceeds as follows. The next section briefly discusses the theoretical framework of household portfolio selection, the empirical methodology of our study, and previous empirical work on this subject. This is followed by a detailed account of the data, including descriptive evidence on immigrants' and native-born residents' wealth composition. Our findings are presented in the fourth section. The final section concludes the paper.

Theoretical Framework Empirical Methodology

Generally, in a world of uncertainty, a rational choice is made by invoking the principle of expected utility. It is assumed that an individual's utility function is increasing and concave downward in wealth. The first part of this assumption implies that investors prefer more wealth to less while the second indicates that investors are risk averse. Denoting w as the end of period wealth, the utility function can be written as u = u (w). Expected utility, E [u (w)], depends on all the statistical moments of the probability distribution of w. However, previous empirical studies show that the first two moments, mean and the variance of the end of the period of wealth, are highly statistically significant. Thus, the expected utility can be expressed as a function of expected return and variance as follows:

$$E\{u(w)\} = f\{E(w), v(w)\}$$

[1] The numbers are from the latest State of the Nation's Housing Report from the Harvard Joint Center for Housing Studies

Expected utility is increasing in expected return and decreasing in the variance of the return. Even after extensions that include the riskless assets and multi-period time horizon, the model offers the following insight — all investors face the same efficient frontier in the asset market given the homogenous beliefs about the probability distribution of asset returns, but their portfolio selection may vary.

Conceptually, variation in household assets stems from differences in inherited wealth, rates of return, or savings behavior, which in turn are functions of both income and consumption patterns. Thus, there are several ways in which both the asset levels and portfolio choices of immigrants may differ on average from those of their native-born counterparts. For example, immigrants face earnings profiles that appear to differ in terms of both levels and earnings risk. A large body of economic literature points to the fact that immigrants experience on average a relative earnings gap at arrival that diminishes with years of residence in the receiving country (Borjas 1985). Similarly, recent studies on saving behavior of immigrants indicate that immigrants have lower wealth accumulation through savings than native-born residents (Amuedo-Dorantes and Pozo 2002; Cobb-Clark and Hildebrand 2006).

Drew (2002) finds that the median value of a first-time home purchased by immigrant households is approximately 50% higher than the value of a home for native-born first-time home buyers. The authors explain that since the majority of the new immigrants live in large metropolitan areas with higher real estate prices, the median value of their homes are also higher. In addition, studies by Coulson (1999) and Painter (2000) suggest that length of residence in the U.S. has a positive effect on immigrants' access to homeownership. Region of origin differences are also linked with housing wealth. Mexican immigrants have lower levels of real estate equity than immigrants from Central and South America, Europe, and Asia, ceteris paribus (Cobb-Clark and Hildebrand 2006).

In the empirical analysis we model the demand for homeownership as a two-stage decision making process. First, households choose whether or not to own homes. The second stage shows the amount of home equity the households own through their homes. This paper uses the Heckman two-stage model (1976; 1979). The model proposes the estimation of coefficients using probit analysis in stage one and calculation of the inverse Mill's ratio, λ, for the sample. The inverse Mill's ratio is then incorporated as a regressor in the second stage OLS model for estimating the determinants for home equity. We use the two-stage model instead of the general OLS in order to avoid the presence of some self selection bias if estimates are calculated based on the housing equity of only those respondents who choose to report their participation in home ownership.

However, our main concern in this paper is what proportion of the observed differences in homeownership is due to immigration status and what proportion is due to underlying differences between immigrants and native residents over and beyond ethnicity. The factors over and beyond ethnicity include socio-economic status, demographic factors, human capital attainment, risk tolerance, uncertainty of income, and state of residence. To answer this question, the empirical model is used to compute both crude and adjusted nativity differences in our homeownership measure. The typical approach to decomposing differences in wages, employment, and wealth is to use some variation of what is known as the Blinder-Oaxaca technique, first developed by Oaxaca (1973) and Blinder (1973). The technique

takes advantage of the additive separability of ordinary least squares to decompose the difference in average outcomes between two groups. The average native-immigrant gap in housing equity is decomposed between the mean differences in observed characteristics and the differences in returns to these characteristics. The difference in home equity for immigrants versus native-born residents can be stated as:

$$\Delta = \ln HE_{\mathrm{I}} - \ln HE_{\mathrm{NB}} = (\alpha_I - \alpha_{NB}) + (\beta_I - \beta_{NB})X_{NB} + (X_I - X_{NB})\beta_I$$

HE^{I}-HE^{NB} represents the difference in housing equity for native-born and immigrant households. X^{NB} and X^{I} are row vectors of average value for individual characteristics of native-born and immigrant Americans, respectively. β^{NB} and β^{I} are vector coefficient estimates. The first term in the equation therefore corresponds to part of the difference in home equity that is attributed to differences in the coefficients of the characteristics and is referred to as the unexplained component of the gap in housing equity; the second term represents the differences due to the differences in endowments. The endowments are the differences between factors related to demographic, socio-economic, behavioral, and regional characteristics of the native-born and immigrant respondents, which have been included in the model. As suggested by prior studies (Oaxaca and Ransom 1994; Wang and Hanna 2007) both sets of estimates for immigrant and native-born are used. The decomposition results demonstrate the relative contribution to differences in housing equity that can be attributed to various demographic and socioeconomic factors, which are controlled for in this study.

Data

We exploit data drawn from a comprehensive dataset containing economic, social, demographic, and behavioral characteristics derived from the National Longitudinal Survey of Youth 1979 (NLSY79), a nationally representative dataset comprising 12,686 respondents, managed by the Center for Human Resource Research of The Ohio State University. The 1979 wave began with a national survey of individuals born between 1957 and 1964. The NLSY79 surveyed the same households between 1979 and 2004 comprising 21 waves of this panel in subsequent years.[2]

This survey includes 796 immigrants born outside the United States. We then add immigration specific data from questions asked in 1979, 1983, and 1990. In addition, the time period covered in our study represents a point when these households have entered the wealth formation phase of their life cycle. In this study we also incorporate the NLSY geo-codes for immigrant nativity and regions of residence of the respondents. This information is obtained from a supplementary geo-codes dataset which is merged with the publicly available data.

[2] Zagorsky (1997, 1999) finds that the wealth and investment data contained in the NLSY data set correlates well with the wealth data in other major national databases such as the Survey of Consumer Finance (SCF), Panel Study of Income Dynamics (PSID), and Survey of Income and Program Participation (SIPP).

Our dependent variable in the first stage of the model, Homeownership, is a binary variable coded as '1' if homeowner and as '0' if not a homeowner. In the second stage, we use the log of net home equity. We calculate net home equity by deducting the amount of money owed on the house from the house's market value in 2004.

In addition, to correctly estimate our model, our analysis controls for many personal, family, and work aspects that might alter the asset portfolio selection including respondents' attitude toward risk. The independent variable of interest is coded as '1' if immigrant and '0' if not. Age is included because it is a significant predictor of financial asset holdings and investment participation (Ameriks and Zeldes 2000). Extant literature shows that whites are more likely than minorities to hold high-risk and high-return assets (Keister 2000; Zhong and Xiao 1995). Hence, in order to control for this demographic difference, race is included as a control variable. Household income, education, martial status, and gender are also controlled because of their association with wealth and savings in prior literature (Zagorsky 2005). Having children is also included as a variable to proxy preference for present consumption (Keister 2003).

Furthermore, past studies indicate differences in risk tolerance between immigrants and native-born residents (Amuedo-Dorantes and Pozo 2002). In order to control for this difference, risk tolerance is included in the model. The risk tolerance variable is created using responses to questions from the 1993 wave of the NLSY dataset addressing respondents' attitude towards risk. The risk variable coincides with those created by Lusardi (1998) from the Health and Retirement Survey (HRS) dataset and Amuedo-Dorantes and Pozo (2002) from the NLSY dataset. In this study, the respondents in the top quartile of the risk tolerance scale are coded as '1', and '0' if they fall in the lower quartiles of the risk tolerance scale.

Similarly, findings from past studies suggest a negative association between income uncertainty and asset ownership (Robst et al. 1998; Turnbull et al. 1991). Income uncertainty in this study is determined following the technique suggested in the Robst, et al. 1998 study. To determine income uncertainty, income for the individual years is regressed against socioeconomic and demographic characteristics. Residuals of annual income regressions from 1994 to 2004 are obtained. Uncertainty is equal to the standard deviation of the residual earnings ($\sigma\ e_{it}$). This method is also comparable to estimations of income uncertainty carried out in other past studies (Amuedo-Dorantes and Pozo 2002; Kazarosian 1997).

Our study also incorporates geo-coded variables for nativity of the immigrants and the region of residence of the respondents. The immigrant nativity is then represented through major region of origin variables (Mexico, South and Central America, Asia, Eastern Europe, Middle-East and North Africa, Sub-Saharan Africa and Canada, EU, Australia, and New Zealand). This grouping of regions is consistent with past literature on demography of international populations (Adams 2003; Preston 1976). Since homeowners in our sample did not represent immigrants from Sub-Saharan Africa, the Sub-Saharan Africa variable had to be dropped.

In order to control for regional differences in home equity accumulation, the states of household residences within the United States were also included in the model. The geographic variables for the states of residences of Arizona, California, Colorado, Connecticut, Florida, Georgia, Illinois, Massachusetts, Michigan, Missouri, New Jersey, New Mexico, New York, Ohio, Oregon, Texas, Washington, and

Wisconsin were compared against other states. Along with these variables, factors controlling for urban and rural areas and SMSAs were also included in the model.

We run three separate models to estimate the factors affecting homeownership and housing equity differences between immigrants and native-born households. Model 1 includes the control variables with immigrants but without nativity controls, model 2 includes the control variables along with nativity of immigrants and model 3 is the model with immigrants only.

Table 1 shows the demographic and socioeconomic composition as well as investment participation rates, of immigrants and native-born residents. The mean

Table 1 Descriptive statistics

Variables	All	Native	Immigrant
Sociodemographic Factors			
Age	42.8	42.8	43.1
Family Size	3.1	3.1	3.4
Income	$64,384	$64,626	$61,087
Male	48.0%	48.0%	48.0%
Married	36.0%	35.0%	37.0%
Race			
White	49.1%	51.1%	32.8%
Black	24.8%	26.5%	13.4%
Hispanic	12.1%	9.9%	38.7%
Asian	2.7%	1.2%	9.1%
Native American	5.3%	5.3%	0.0%
Others	6.0%	6.0%	6.0%
Educational Attainment			
< High School	12.0%	9.9%	23.7%
High School Grad	44.7%	44.9%	38.7%
Some College	24.3%	24.9%	23.3%
College Graduate	12.0%	12.5%	8.3%
Graduate Education	7.0%	7.8%	6.0%
Years in US			
25–29 years			24.8%
30–34 years			27.3%
35–39 years			23.8%
40–44 years			19.5%
45–47 years			4.6%
Investment Participation			
Homeowner	35.3%	35.4%	35.1%
Have Bank Accounts	76.2%	77.0%	72.1%
Have Govt. Bonds	11.2%	11.3%	8.4%
Have Stocks	16.3%	16.4%	11.3%
Have Mutual Funds	13.5%	13.6%	12.1%

family income for native-born residents ($64,626) is higher than that of the immigrants ($61,068). The immigrants have a slightly lower participation rate in homeownership (35.1%) as opposed to that of the native-born (35.4%). Immigrants have a larger average family size (3.4) than native-born residents (3.1). The descriptive statistics reveal that a higher percentage of immigrants have a low educational attainment of high school or less. Conversely, native-born residents have a much higher percentage of college graduates.

Results

Table 2 presents the results of probit estimation of homeownership. Our results indicate that married individuals are more likely to own homes than those who are single, divorced, or widowed, across all three models. Black households are less likely to own homes in models 1 and 2, and conversely, Asian households are more likely to own homes compared to whites in model 1. Hispanics were also less likely to own homes in model 2 when controlling for nativity. Also, the probability of home ownership is lower among the residents living in the states of New York, California, and Illinois in model 1, and after controlling for immigrant nativity, residents of New York and California are still less likely to own homes in model 2 and in the immigrant only model (model 3). Additionally, the probability of homeownership is also lower among immigrants who are residents of California, Florida, Illinois, Massachusetts, New Jersey, New York and Oregon. The probability of homeownership is higher among residents living in the states of Georgia, Michigan, and Missouri in model 1 and for Connecticut in model 2 and among immigrants settled in Colorado and Connecticut in the immigrant only model (model 3) when compared with the reference group of other states. College degree is positively related to homeownership in models 1 and 2. Among other variables, larger family size is positively associated with homeownership in the first two models (Table 2).

The coefficient from model 1 shows that immigrants are less likely than native-born residents to own homes. Homeownership is positively related to the socioeconomic variables such as financial wealth across all three models. Additionally, income (models 1, 2) and job tenure (models 1, 2) are positively associated with home ownership. Income uncertainty, as found in earlier studies, is negatively associated with homeownership in the first two models controlling for immigrants, as well as immigrants by nativity. Additionally, we find in model 3 that immigrants from Eastern Europe, the Middle East, and North Africa were more likely to own homes when compared with the reference group of immigrants from Canada, Australia, and the European Union. Also, immigrants' years of stay were positively associated with homeownership in the immigrant only model.

The results from Table 3 indicate that immigrants hold a larger amount of home equity than the native-born residents. This indicates that once homeownership is taken into account, immigrant homeowners are more likely to hold a greater amount of home equity. Income, financial wealth, attainment of college degree or higher, and being married were significant across all three models; job tenure, inheritance, and family size were significant and positively associated with home

Table 2 Stage 1: probit of homeownership

	Model 1				Model 2				Immigrant Only			
Variable	Coeff	St. Dev	MFX	Sig	Coeff	St. Dev	MFX	Sig	Coeff	St. Dev	MFX	Sig
Immigrant	−0.179	0.090		**								
Age	−0.027	0.085			0.047	0.459			−0.037	0.253		
Age square	0.061	0.088			−0.001	0.005			0.187	0.270		
Married	0.583	0.075		***	0.647	0.002		***	0.867	0.206		***
Male	−0.116	0.075			0.094	0.091			0.127	0.168		
Race (Ref: White)												
Black	−0.171	0.061		***	−0.426	0.061		***	−0.403	0.312		
Hispanic	−0.013	0.115			−0.269	0.074		***	−0.014	0.197		
Asian	0.966	0.425		**	0.263	0.281						
Family size	0.049	0.025		**	0.087	0.024		***	−0.002	0.066		
Children	0.044	0.080			−0.014	0.050			0.463	0.232		**
College Degree	0.269	0.079		***	0.251	0.073		***	0.330	0.219		
Log Income	0.250	0.047		***	0.405	0.057		***	0.094	0.115		
Log Financial wealth	0.491	0.022		***	0.512	0.034		***	0.564	0.072		***
Log Tenure	0.078	0.024		***	0.139	0.021		***	0.028	0.061		
Risk Tolerance	−0.013	0.024			−0.032	0.031			0.004	0.067		
Log Income Uncertainty	−0.072	0.037		*	−0.054	0.032		*	0.078	0.107		
Inherit	0.098	0.122			0.384	0.322			0.394	0.329		
Urban	−0.063	0.075			−0.085	0.055			0.117	0.205		
Metro Area (SMSA)	−0.088	0.078			−0.145	0.172			0.123	0.205		
States (Ref: Other states)												
Arizona	0.314	0.250			−0.177	0.243			−0.016	0.389		
California	−0.506	0.110		***	−0.311	0.094		***	−3.684	0.668		***
Colorado	0.147	0.195			0.105	0.183			0.827	0.406		*
Connecticut	0.340	0.248			0.452	0.189		**	0.437	0.148		**
Florida	−0.011	0.129			−0.186	0.131			−2.251	0.621		***
Georgia	0.433	0.161		***	0.168	0.134			0.254	0.842		
Illinois	−0.301	0.174		*	−0.11598	0.151			−1.581	0.541		**
Massachusettes	−0.200	0.267			0.005	0.238			−3.638	0.994		***
Michigan	0.430	0.164		***	0.254	0.184						
Missouri	0.348	0.202		*	0.158	0.131						
New Jersey	0.181	0.205			0.032	0.148			−1.447	0.764		*
New Mexico	0.249	0.309			0.244	0.295			−0.045	0.388		
New York	−0.595	0.128		***	−0.561	0.111		***	−2.582	0.663		***
Ohio	0.152	0.136			−0.441	0.289		*				
Oregon	−0.213	0.422			−0.093	0.112			−1.263	0.623		**
Texas	0.156	0.114			−0.064	0.113			−0.591	0.513		
Washington	0.225	0.272			0.023	0.134			−0.591	0.593		
Wisconsin	0.258	0.180			0.224	0.154						

Table 2 (continued)

Variable	Model 1				Model 2				Immigrant Only			
	Coeff	St. Dev	MFX	Sig	Coeff	St. Dev	MFX	Sig	Coeff	St. Dev	MFX	Sig
Nativity (EU, CAN, AUS, NZ)												
Mexico					0.032	0.142			−0.159	0.329		
Asia					0.241	0.593			0.425	0.727		
Middle East–N. Africa					0.511	0.585			0.904	0.454		**
South Central America					0.188	0.228			−0.335	0.282		
Eastern Europe					−0.714	0.664			1.639	0.564		***
Years of Stay									0.078	0.035		*
Intercept	−4.885	0.472		***	−7.675	0.567		***	−6.825	1.358		***

*$p<.1$, **$p<.05$, ***$p<.01$

equity in models 1 and 2. Conversely, black and Hispanic households and households with children were likely to have lower home equity across all three models. Also, income uncertainty was negatively associated with housing equity in models 1 and 2. Residents living in California, Illinois, Massachusetts, Missouri, New Jersey, and New York had higher home equity when compared to other states (models 1, 2), whereas in the immigrant only model (model 3), the residents of California, Illinois, Missouri, New Jersey, New York, and Oregon had higher home equity than the control group of other states. Conversely, the residents of Michigan and Texas had significantly lower housing equity across all three groups. In model 2 we find that immigrants from Eastern Europe, Asia, the Middle East, and North Africa had higher home equity than the control group. The inverse Mill's ratio is statistically significant across all the three models. This demonstrates that inverse Mill's ratio (λ) is related to the value of a home when controlling for other factors. The negative slope of λ is a correction for the regression line based on the probability of homeownership.

The results of the decomposition analysis for homeownership in Table 4 show that approximately 74% of the difference in housing equity between immigrant and native-born individuals can be explained by the difference in characteristics, while the remaining 26% is due to the differences in behavior and treatment. The main differences are explained through age, which seems to be more favorable for the native-born. The effect of financial wealth is higher for the native-born. The results show that residence in the states of New York and California benefited immigrants. When accounting for other factors, marital status, education, income, and residence in urban areas benefited the native-born. In addition to this, residence in the states of Georgia, Massachusetts, Michigan, New Mexico, Oregon, and Washington also favored the native-born more than the immigrants. Conversely, being Asian and residence in Arizona, Connecticut, Florida, New Jersey and Wisconsin favored the immigrants.

Table 3 Stage 2: OLS of home equity

Variable	Model 1			Model 2			Model 3		
	Coeff	St. Dev	Sig	Coeff	St. Dev	Sig	Coeff	St. Dev	Sig
Immigrant	0.191	0.054	**						
Age	−0.074	0.261		−0.436	0.213		−0.770	0.656	
Age square	0.001	0.003		0.005	0.004		0.008	0.007	
Married	0.896	0.074	***	0.262	0.121	**	0.584	0.121	***
Male	−0.015	0.013		−0.016	0.039		0.029	0.076	
Race: Black	−0.202	0.051	***	−0.244	0.053	***	−0.418	0.154	***
Hispanic	−0.191	0.051	**	−0.188	0.074	**	−0.190	0.096	**
Asian	0.148	0.139		0.168	0.185		0.196	0.228	
Family size	0.088	0.016	***	0.085	0.018	***	−0.035	0.038	
Children	−0.382	0.040	***	−0.198	0.051	***	−0.251	0.112	**
College Degree	0.123	0.034	***	0.178	0.045	***	0.218	0.087	**
Log Income	0.228	0.051	***	0.441	0.057	***	0.225	0.066	***
Log Financial wealth	0.075	0.014	***	0.074	0.025	***	0.015	0.015	***
Log Tenure	0.207	0.024	***	0.205	0.073	***	0.011	0.031	
Risk Tolerance	0.001	0.012		0.015	0.023		0.001	0.033	
Log Income Uncertainty	−0.081	0.019	***	−0.009	0	***	−0.015	0.047	
Inherit	0.185	0.054	***	0.254	0.018	***	−0.296	0.149	
Urban	0.025	0.038		−0.039	0.045		−0.031	0.107	
Metro Area (SMSA)	0.018	0.037		0.019	0.047		0.167	0.103	
States: Arizona	−0.063	0.125		0.048	0.131		0.035	0.208	
California	0.724	0.161	***	0.472	0.212	**	0.82	0.446	**
Colorado	−0.024	0.147		0.272	0.189		−0.425	0.428	
Connecticut	0.103	0.115		0.201	0.137		0.011	0.965	
Florida	0.049	0.101		−0.078	0.133		0.111	0.267	
Georgia	−0.176	0.131		−0.177	0.218		−0.037	0.29	
Illinois	0.434	0.064	***	0.268	0.084	***	0.411	0.189	**
Massachusetts	0.523	0.103	***	0.448	0.149	***	−3.638	0.994	***
Michigan	−0.227	0.067	***	−0.241	0.139	*	−0.206	0.056	***
Missouri	0.556	0.108	***	0.131	0.068	*	0.591	0.223	***
New Jersey	0.379	0.101	***	0.128	0.051	***	0.572	0.159	***
New Mexico	−0.023	0.119		−0.02	0.203		−0.016	0.221	
New York	0.784	0.114	***	0.552	0.098	***	1.117	0.25	***
Ohio	0.007	0.063		−0.052	0.245		−0.331	0.169	*
Oregon	0.086	0.195		−0.008	0.076		0.707	0.304	**
Texas	−0.139	0.068	*	−0.263	0.071	***	−0.145	0.037	*
Washington	0.145	0.103		−0.067	0.078		0.352	0.221	
Wisconsin	0.139	0.085		0.142	0.098		0.157	0.271	
Nativity (EU, CAN, AUS, NZ)									
Mexico				−0.013	0.113		−0.159	0.329	
Asia				0.523	0.119	***	0.425	0.325	

Table 3 (continued)

Variable	Model 1			Model 2			Model 3		
	Coeff	St. Dev	Sig	Coeff	St. Dev	Sig	Coeff	St. Dev	Sig
Middle East-N.Africa				0.841	0.254	***	0.904	0.454	**
South Central America				0.148	0.139		−0.335	0.282	
Eastern Europe				1.521	0.351	***	1.639	0.564	***
Years of Stay							0.078	0.035	*
Lambda	−0.156	0.014	***	−0.138	0.021	***	−0.124	0.038	***
Intercept	10.956	0.139	***	10.981	0.175	***	4.857	0.148	***

*$p<.1$, **$p<.05$, ***$p<.01$

Conclusion

This paper extends the literature on housing market participation of immigrants by focusing on their homeownership and housing equity building decisions compared with the native-born residents. The results from the first part of the study indicate that, although immigrants are less likely to be homeowners, those immigrants who do own homes are more likely to have greater housing equity than native-born resident households. The results from the decomposition analysis also suggest that being married, having longer job tenure, and earning greater income result in greater housing equity among native-born homeowners. One possible explanation is that due to lack of understanding or access to the U.S. banking system and the existing capital market imperfections such as credit constraints (Cobb-Clark and Hildebrand 2006), immigrants save up more for their down payment than native-born residents and, therefore, own a greater portion of equity in homes initially, especially during their early to middle wealth forming years.

The current disparity in homeownership between the native-born and foreign-born households requires that policy makers prioritize and develop strategies that can help in providing greater access to homeownership information for immigrants. Organizations such as the consumer credit counseling services currently provide first time home buyer education targeted primarily at lower income groups. Foreign-born home buyer participation in these types of education seminars can be increased. Our study also illustrates the importance of human capital and other socio-demographic factors on homeownership and home equity building decisions of households. These findings provide important information for economists and real estate researchers and can help in further identifying the differences in characteristics and demographics of potential customers in the native- and foreign-born home buyer market segments. Although our study focuses on the demand side of the housing market and asset portfolio selection of the buyers, an analysis of the supply side of homeownership financing is also necessary. Future scholars can extend the findings of this study by taking into account the supply side of the market and examine some of the community related characteristics that might also play a role in the housing market participation decisions of immigrants.

Table 4 Decomposition of home equity (Immigrants vs. Native-born)

Mean prediction Immigrants:	11.408					
Mean Native-born	11.257					
Due to Endowment	0.076					
Due to coefficients	0.074					
% unexplained	26					
% explained	74					
	Immigrants		Native		[2]	[3]
	Coef.	Mean	Coef.	Mean	$(B_I-B_{NB})X_{NB}$	$Bi(X_I-X_{NB})$
Immigrants		11.408		11.257		
Age	−0.497	43.282	−0.378	42.974	−5.113	−0.153
Married	0.077	0.762	0.050	0.783	0.021	−0.002
Male	−0.004	0.547	0.004	0.523	−0.004	0.000
Black	−0.295	0.029	−0.173	0.080	−0.008	0.015
Hispanic	−0.140	0.219	0.341	0.006	−0.002	−0.030
Asian	0.228	0.047	0.171	0.006	0.000	0.009
Family size	0.017	3.342	0.049	3.341	−0.106	0.000
Children	−0.006	0.792	−0.067	0.806	0.049	0.000
College Degree	0.024	0.267	0.081	0.297	−0.017	−0.001
Log Income	0.041	11.127	−0.010	11.165	0.569	−0.002
Log Financial wealth	0.605	12.042	0.656	12.119	−0.614	−0.047
Log Tenure	−0.021	5.625	−0.013	5.644	−0.045	0.000
Inheritance	0.022	0.124	−0.043	0.103	0.007	0.000
Log Income Uncertainty	−0.001	−1.357	−0.013	−1.430	−0.017	0.000
Urban	−0.044	0.828	0.053	0.742	−0.072	−0.004
Metro Area	0.153	0.820	0.042	0.763	0.085	0.000
Log Appreciation	0.319	1.565	−0.029	1.484	0.516	0.026
Arizona	0.108	0.022	0.102	0.013	0.000	0.001
California	0.309	0.151	0.372	0.079	−0.005	0.022
Colorado	−0.014	0.029	0.153	0.027	−0.005	0.000
Connecticut	0.208	0.051	0.094	0.023	0.002	0.006
Florida	0.091	0.062	0.020	0.039	0.003	0.002
Georgia	0.219	0.008	0.108	0.026	0.003	−0.004
Illinois	0.377	0.040	0.186	0.039	0.007	0.000
Massachusetts	0.616	0.008	0.229	0.020	0.007	−0.007
Michigan	0.322	0.040	0.023	0.068	0.020	−0.009
Missouri	−0.006	0.009	−0.169	0.026	0.004	0.000
New Jersey	0.441	0.033	0.376	0.031	0.002	0.001
New Mexico	−0.142	0.013	−0.530	0.001	0.000	−0.002
New York	0.487	0.075	0.103	0.043	0.017	0.016
Ohio	0.015	0.072	0.029	0.064	0.000	0.000
Oregon	0.192	0.003	−0.094	0.007	0.002	−0.001
Texas	0.028	0.090	−0.151	0.046	0.008	0.001
Washington	−0.164	0.021	−0.087	0.016	−0.001	−0.001
Wisconsin	−0.180	0.029	0.004	0.062	−0.011	0.006
Intercept	13.456	1.000	11.158	1.000	2.298	0.000

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