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**1. Introduction. 2. Theoretical Background- 3. Methodology.  
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**Abstract.** This paper uses data from the Legalized Population Survey to study the determinants of U.S. immigrant's home ownership. The main interest of the paper is on the relationship between house ownership in the U.S. and house ownership abroad. The results show that house ownership of U.S. immigrants is positively related to house ownership abroad. The results are especially significant for females and for the ownership of a second house in the U.S. These results seem to imply that migrants balance their portfolios between housing investments in the U.S. (safe assets) and housing investments abroad (risky assets). It is possible that these housing investments abroad can account for some of the low house ownership rates that previous studies have found for U.S. immigrants.

**Keywords:** Housing, Migration, Asset Accumulation.

**Abstract:** Este trabajo usa datos de la Encuesta de Población Legalizada para estudiar los determinantes de la propiedad de vivienda de los inmigrantes en Estados Unidos. El interés principal de este trabajo es la relación entre la propiedad de vivienda en Estados Unidos y la propiedad de vivienda en el extranjero. Los resultados muestran que la propiedad de vivienda de los inmigrantes en Estados Unidos está relacionada positivamente con su propiedad de vivienda en el extranjero. Los resultados son especialmente significativos en cuanto a las mujeres y en cuanto a la propiedad de una segunda casa en los Estados Unidos. Estos resultados parecen implicar que los inmigrantes equilibran sus portafolios entre inversiones en Estados Unidos (activos seguros) e inversiones de vivienda en el extranjero (activos riesgosos). Es posible que estas inversiones de vivienda en el extranjero puedan explicar en algún grado las bajas tasas de propiedad de vivienda que estudios anteriores han encontrado para los inmigrantes en Estados Unidos.

**Palabras Clave:** Vivienda, Migración, Acumulación de activos.

**Clasificación JEL:** R21, F22, G11

# Portfolio Reasons for Homeownership: The Case of Immigrants

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## 1. Introduction

The results of previous studies have consistently found that housing ownership of immigrants in the U.S. is significantly lower than that of U.S. born whites.<sup>2</sup> This gap has been reported to have increased during the last couple of decades (Borjas, 2002). These low housing ownership rates are especially dramatic among the Hispanic immigrant population (Coulson, 1999). Moreover, those Hispanic immigrants that do own houses live in housing that is considered “inferior” to that of U.S. born whites (Krivo, 1995).

Different studies have analyzed the issue of house ownership among immigrants. In addition to the set of variables normally used to explain housing ownership (income, education, marital status, etc.) various studies have included variables directly related to the migrant context. Two variables included in the context of Hispanics are measures of assimilation and location in the United States. The location variables are included to account for the fact that Hispanic immigrants tend to locate in metropolitan areas. For instance, Alba and Logan (1992) in a study using three Hispanic groups (Cubans, Mexicans and Puerto Ricans) find that English ability (a measure of assimilation) and variables related to metropolitan areas are important determinants of housing ownership.

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<sup>2</sup> Some exceptions include Yu (2003). Yu found that Taiwanese emigrants have higher housing ownership rates than natives.

The previous literature on Hispanic immigrant housing ownership has focus mainly on the effect that migrant characteristics (including assimilation) and location choice have on housing ownership (e.g. Alba and Logan, 1992; Borjas, 2002; Coulson, 1999; Krivo, 1995; Myers and Lee, 1996, 1998; Myers et al., 1998). On the other hand, the portfolio motive for housing investments is infrequently considered.

Individuals demand housing for consumption purposes (living in the house) but also for investment purposes (Brueckner, 1997; Dusansky and Wilson, 1993; Henderson and Ioannides, 1983). In the case of immigrants living in the U.S., housing for consumption purposes is not that different from natives. Both migrants and natives need to live somewhere. They may choose to buy or rent. But in terms of the investment motive for housing ownership there is a crucial difference. Migrants have the option of investing in housing in their country of origin.

In the case of a native, overseas housing ownership, while feasible is unlikely due to the significant legal and transaction costs involved, including information costs. This information costs are especially important for developing countries. On the other hand, migrants can take advantage of their superior knowledge about their home countries and obtain a higher return on housing investments there. Thus, there is an incentive for migrants to undertake housing investments in their countries of origin.

Because of the history of political instability in developing countries , investment in developing countries may be seem as more risky than investments in the U.S. Thus, while investment at home can yield a higher return because of the migrant's superior knowledge about the country, it also means exposure to more risk. This means that migrants should also invest in safe assets in order to diminish the risk in their portfolios. One of the assets that migrants can use to diversify their portfolios is housing. In terms of housing that means investing in housing in the U.S. Migrants will like to invest at home because of the high return to those investments, but will also like to invest in the U.S. in order to reduce their exposure to risk.

In this paper we use data from the Legalized Population Survey to analyze how the ownership of a house abroad relates to housing ownership in the U.S. In order to conduct this analysis we control for home country economic conditions, emigrant's assimilation level, family composition in the

home and host country, income, gender, marital status, age, education and other demographic factors. Results show that housing ownership in the home and host country are complements. This suggests that migrants balance their portfolios between investments in the host and home country. These housing investments in the home country may be the reason why some studies have found so surprisingly low housing ownership rates for immigrants in the U.S.

## 2. Theoretical Background

Assume that we have an emigrant living for two periods. In the first period the emigrant gets utility from consuming a non-housing good ( $c^1$ ) in the host country and from consuming housing units ( $h^b$ ) in the host country at a price  $p^1$ . In the second period the emigrant sells the housing units for a price  $p^2$  and makes a fixed payment that will cover his/her housing needs for the rest of his/her life. In the first period the emigrant may also invest in housing in the home country ( $h^*$ ) at a price  $p^{*1}$ . In the second period the emigrant sells the house in the home country for a price  $p^{*2}$ .

At the beginning of the first period the emigrant gets an income  $y^1$  and uses this income to consume the non-housing good ( $c^1$ ), consume housing units in the host country ( $h^b$ ) and to invest in housing in the home country ( $h^*$ ). In the second period the emigrant gets income  $y^2$  and the earnings from selling the houses. In this period the emigrant consumes a non-housing good ( $c^2$ ) and makes the fixed payment to cover housing needs for the rest of his/her life ( $r$ ).

The emigrant's problem is to maximize:

$$U(c^1, h^b) + \beta V(c^2, r) \quad (1)$$

Subject to:

$$y^1 = c^1 + p^1 h^b + p^{*1} h^* \quad (2)$$

$$c^2 = y^2 + p^2 h^b + p^{*2} h^* - r \quad (3)$$

The first order conditions of this problem are:

$$-U_1 p^1 + U_2 + \beta V_1 p^2 = 0 \quad (4)$$

$$-U_1 p^{*1} + \beta V_1 p^{*2} = 0 \quad (5)$$

This first order conditions imply that:

$$\beta p^1 \left( \frac{p^{*2}}{p^{*1}} - \frac{p^2}{p^1} \right) = \frac{U_2}{V_1} \quad (6)$$

Equation (6) implies that if the marginal utility of housing in the home country is positive ( $U_2 > 0$ ), then the return to housing investments in the home country should be higher than the return to housing investments in the host country ( $p^{*2} / p^{*1} > p^2 / p^1$ ). In the host country a house serves as both an investment and a place to live. If you are investing in housing in the home country it must be because you are obtaining a higher return on that investment.

### 3. Methodology

In the empirical estimation we use a series of logistic models to test the relationship between having a house in the U.S. and owning a property abroad. The equation to be estimated is:

$$House\ U.S. = f(X_{it}, House\ Abroad) \quad (8)$$

The dependent variable (House U.S.) can take one of two forms. The first housing variable that we use is a dummy indicating that the emigrant owns a house in the U.S. The second dependent variable is a dummy indicating that the emigrant owns two houses in the U.S. Likewise, the variable House Abroad is a dummy indicating that the emigrant owns a house outside the U.S.

The independent variables include variables that represent emigrant's assimilation to the U.S., attachment to the home country, family composition, home country conditions and other demographic factors. In order to represent the assimilation of the emigrant we include as independent variables a measure of English proficiency (English), retirement preferences (Retire) and time in the U.S. (Time). We also include a dummy for sending remittances to the home country (Remittances). Those emigrants that remit to the home country should have more attachment to the home country.

On the other hand, family composition in the U.S. is also an important determinant of home ownership. Those families with more members in the

U.S. should have a higher demand for housing. In order to control for family composition in the U.S. we include the number of children in the house in the U.S. (Children U.S.) and the number of parents residing with the emigrant (Parents U.S.) The same argument applies to family composition in the home country. To control for family composition in the home country we include dummies for having a spouse abroad (Spouse Abroad) and sons or daughters abroad (Child Abroad).

We also control for a series of emigrant characteristics in the form of income (Income), education (Education), marital status (Married), age (Age) and gender (Gender). Home country economic conditions are represented by home country real GDP per capita (Home GDP). We include city specific fixed effects to account for the difference in housing markets in different locations of the U.S.

If the migrants are diversifying their portfolios between housing ownership abroad and housing ownership in the U.S. then having a house abroad should be positively related to having a house in the U.S. In this case the relationship between owning a second house in the U.S. and owning a house abroad should also be positive, but stronger.

Table I has the definition of all the variables used in the estimation. We conduct the estimations using the full sample, a sub-sample of females and a sub-sample of Mexicans

#### **4. Data**

The data use in this paper comes from the Legalized Population Survey (LPS). The LPS is composed of two parts the 1989 survey sponsored by the U.S. Immigration and Naturalization Service and the 1992 round sponsored by the U.S. Department of Labor. We use the 1992 round in our estimations.

The 1992 round of the LPS contains information about 4,012 formerly undocumented emigrants from a broad array of countries that The Immigration Reform and Control Act of 1986 gave the opportunity of obtaining amnesty and become legal permanent residents. About half of the sample is composed of Mexicans. Emigrants from Guatemala and El Salvador also have a considerable presence in the sample.

The Immigration Reform and Control Act of 1986 consisted of two phases. In the first phase applicants were qualified for temporary legal residence. One of the requirements to be selected was living in the U.S. prior to the year 1982. The emigrants were then given 18 months to satisfy an English language requirement and to learn American civic matters. After fulfilling these and other bureaucratic requirements the emigrants could acquire legal permanent residency.<sup>3</sup>

Table II reports on the descriptive statistics for all the variables used in the estimation. Around 30 percent of the emigrants in our sample own a house in the U.S. and close to 10 percent owns two houses in the U.S. These numbers seem to be consistent when we limit our sample to Mexicans and females. On the other hand, there appears to be large differences between the samples with respect to owning a house abroad. In the full sample around 20 percent of the individuals own a house abroad, this falls to 17 percent for the Mexican sub-sample and 15 percent for the female sub-sample.

Table III compares our sample with the descriptive statistics calculated by Borjas (2002) using U.S. census data. From Table III we see that the homeownership rates for immigrants in our sample are lower than those in Borjas (2002). Moreover, in our sample those emigrants that entered the U.S. when they were older (39-48) have very low home ownership rates when compared to Borja's estimations. The difference is that in our estimations we have documented immigrants that were previously undocumented. Borjas studies all types of immigrants including those that were never undocumented.

## 5. Results

The results of the estimation, using as independent variable a dummy indicating if the emigrant owns a house in the U.S., are presented in Table IV. From Table IV we see that variables related with family composition and location are important determinants of housing ownership. In this case being married and the number of children in the U.S. have positive effects on housing ownership, while having a spouse abroad and having children abroad have negative effects on housing ownership.

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<sup>3</sup> Martin and Taylor (1990) showed that farmers in California did not adjust to IRCA and kept hiring undocumented workers. This is surprising given the fact that IRCA increased the sanction for hiring undocumented workers.

Variables related to the emigrant's U.S. level have also some importance. English proficiency, time in the U.S. and wanting to retire in the U.S. seem to be having a positive effect on housing ownership. From the other control variables income and home country GDP have a positive effect on house ownership.

The main purpose of our analysis is to see how house ownership in the home country relates to house ownership in the host country. For the full sample and for the Mexican sample housing ownership in the home country has a positive but insignificant effect on house ownership in the host country. On the other hand, for the female sample house ownership in the home country is positively related to house ownership in the host country.

The results using a variable indicating if the emigrant owns two houses in the U.S. are presented in Table V. In this case for the full sample and the two sub-samples, having a house abroad is positively and significantly related to owning a second house in the host country.

## **6. Concluding Remarks**

In this paper we used data from the Legalized Population Survey to test the relationship between house ownership in the home country and house ownership in the host country. The results show that house ownership in the host country is positively related to house ownership in the home country. The results are especially significant for females and for the ownership of a second house in the U.S.

These results seem to imply that migrants balance their portfolios between housing investments in the home country and housing investments in the host country. It is possible that these housing investments in the home country can account for some of the low house ownership rates that previous studies have found for migrants.

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Table 1 – Variables Included in the Estimation. <sup>7</sup>

Variable	Expected Sign	Source	Description
<b>Independent Variables</b>			
House U.S.		LPS	This is a dummy equal to one if the emigrant owns a house in the U.S.
Second House U.S.		LPS	This is a dummy equal to one if the individual owns two houses in the U.S.
<b>Family Related Variables</b>			
Married	+	LPS	This is a dummy variable equal to 1 if the individual indicated being married or living in the same house with a consensual partner.
Spouse Abroad	-	LPS	This is a dummy variable equal to 1 if the individual has a spouse living abroad.
Gender*Married	+/-	LPS	Married is a dummy variable equal to 1 if the emigrant is married or living with a couple in the same house.
Children Abroad	-	LPS	This is a dummy variable equal to 1 if the individual has any sons or daughters living abroad.
Children U.S.	+	LPS	This is the number of children living in the same house (in the U.S.) as the emigrant.
Parents U.S.	+	LPS	This is the number of parents of the emigrant (or the couple if married) living in the same house (in the U.S.) as the emigrant.
<b>Assimilation Measures</b>			
Retirement	+	LPS	This is a dummy variable equal to 1 if the emigrant wants to retire in the U.S.
English	+	LPS	This is a dummy equal to 1 if the individual said that he speaks English well or very well.
Time	+	LPS	This is the number of years that the emigrant has been permanently residing in the U.S.
Remittances	-	LPS	This is a dummy variable equal to 1 if the individual send remittances.
<b>Other Variables</b>			
House Abroad	+/-		This is a dummy equal to one if the individual owns a house or real state property abroad.
Age	+	LPS	This is the age of the emigrant at the time of the survey.
Gender	+/-	LPS	This is a dummy variable equal to 1 for female and 0 for male.
Income	+	LPS	This is the income level of the emigrant in a 0 to 14 scale.
Education	+	LPS	This is the years of education indicated by the emigrant.
Home GDP	+/-	IFS	This is the real GDP per capita of the home country in the previous year. For Mexican Sample is the real GDP per capita of the emigrant's state in Mexico.

<sup>7</sup> LPS = Legalized Population Survey, IFS = International Financial Statistics.

**Table II**  
Descriptive Statistics

Variable	Full	Sample	Mexico	Sample	Female	Sample
	Mean	S.D.	Mean	S.D.	Mean	S.D.
House U.S.	.3015	.45898	.3208	.46694	.3026	.4596
Second House U.S.	.1041	.30545	.1089	.31164	.1087	.3114
House Abroad	.1993	.39957	.1744	.37957	.1496	.3568
Married	.7449	.43596	.7647	.42430	.6948	.4606
Spouse Abroad	.0364	.18745	.0315	.17484	.0229	.1495
Children Abroad	.1651	.37141	.1196	.32464	.1413	.3484
Children U.S.	2.032	1.5609	2.265	1.6957	2.233	1.4971
Parents U.S.	.1697	.48945	.1767	.50636	.1579	.4665
Retirement	.6068	.48852	.6351	.48154	.642	.4796
English	.3533	.4780937	.2684	.4432862	.3033241	.4598533
Time	12.77	3.517888	12.98	4.041071	13.02493	3.494685
Remittances	.5592	.4965553	.5226	.4996368	.4965374	.5001612
Age	38.42	9.800751	37.11	9.865147	38.99584	10.36593
Gender	.4742	.499417	.4619	.4986951	-	-
Gender* Married	.3295	.4701383	.3367	.4727352	-	-
Income	4.218	2.868466	3.922	2.67149	2.831717	2.48406
Education	8.248	4.367644	6.886	3.890037	7.936288	4.290729

**Table III**

Homeownership rates compare to Borjas (2002) estimates

Period of Arrival	Age Group	Borjas estimates using the 1990 U.S. Census	Second Round LPS
1970-1974	25-34 in 1980	58.4	43.4
	35-44 in 1980	65.4	33.8
	45-54 in 1980	61.6	11.1

**Table IV** – Fixed Effect Logit Results Dependent Variable: House in the U.S. <sup>a</sup>

Variable	Full Sample	Mexican Sample	Female Sample
House Abroad	.1683361 (1.47)	.0383231 (0.23)	.3982922 (2.16)**
Married	.9586605 (4.68)*	1.061001 (3.75)*	1.914895 (9.56)*
Spouse Abroad	-1.554053 (-4.09)*	-2.126512 (-3.34)*	-3.203853 (-3.07)*
Children Abroad	-.5332334 (-3.60)*	-.3601294 (-1.56)	-.4540302 (-1.93)***
Children U.S.	.1537685 (4.46)*	.174088 (4.04)*	.1827894 (3.65)*
Parents U.S.	.1011949 (0.95)	.2031684 (1.45)	-.2112765 (-1.17)
Retirement	.160106 (1.68)***	.0941163 (0.71)	.1217367 (0.85)
English	.2691232 (2.35)**	.2485138 (1.56)	-.0410524 (-0.23)
Time	.0459382 (3.38)*	.0541529 (3.31)*	.0681099 (3.30)*
Remittances	.0120556 (0.12)	.1154377 (0.89)	-.0974917 (-0.69)
Age	.0251989 (4.35)*	.023577 (2.84)**	.0106575 (1.26)
Gender	-.340424 (-1.34)	-.3640705 (-1.02)	-
Gender*Married	1.103656 (4.04)*	1.245738 (3.25)*	-
Income	.1975352 (10.01)*	.1817434 (6.21)*	.139555 (4.79)*
Education	.0159314 (1.23)	.0245178 (1.29)	.0484824 (2.41)**
Home GDP	.0000498 (3.21)*	1.28e-06 (0.01)	.0000501 (2.00)**
LR chi2	517.72*	267.07*	255.85*
N	3,012	1,600	1,428

<sup>a</sup> A \* means significant at the 1% level, a \*\* means significant at the 5% level and a \*\*\* means significant at the 10% level. t ratios are in parenthesis. Estimations include fixed effects for the office in which the emigrant applied for residency.

**Table V –**  
Fixed Effect Logit Results Dependent Variable: Second House in the U.S. <sup>α</sup>

<b>Variable</b>	<b>Full Sample</b>	<b>Mexican Sample</b>	<b>Female Sample</b>
House Abroad	.4371607 (2.89)*	.4398423 (2.01)**	.5403863 (2.28)**
Married	1.271781 (3.21)*	1.722525 (2.73)*	1.716097 (5.38)*
Spouse Abroad	-2.618568 (-2.57)**	-33.52426 (-0.01)	-33.72102 (-0.01)
Children Abroad	-.4357296 (-1.98)**	.0371863 (0.11)	-.3147128 (-0.92)
Children U.S.	.1539698 (3.23)*	.1759575 (2.93)*	.1709938 (2.46)**
Parents U.S.	.2221703 (1.43)	.199515 (0.93)	-.1667818 (-0.60)
Retirement	.1860703 (1.36)	-.0605222 (-0.32)	.2286738 (1.13)
English	.186708 (1.15)	.1886143 (0.84)	.1573472 (0.65)
Time	.0449578 (2.43)**	.0535248 (2.41)**	.0584047 (2.00)**
Remittances	-.1189801 (-0.87)	-.1896361 (-1.03)	-.0597356 (-0.31)
Age	.0230305 (2.79)*	.0146421 (1.22)	.0000363 (0.01)
Gender	.1122009 (0.24)	.2027662 (0.27)	-
Gender*Married	.5655386 (1.15)	.5227976 (0.66)	-
Income	.1394 (5.39)*	.1042974 (2.64)*	.0921002 (2.46)**
Education	.0133057 (0.74)	.0324756 (1.24)	.0135593 (0.50)
Home GDP	.0000267 (1.50)	-.0002587 (-1.78)***	.0000244 (0.94)
LR chi2	209.06*	116.81*	96.27*
N	3,012	1,598	1,377

<sup>α</sup> A \* means significant at the 1% level, a \*\* means significant at the 5% level and a \*\*\* means significant at the 10% level. t ratios are in parenthesis. Estimations include fixed effects for the office in which the emigrant applied for residency.