THE WEALTH AND ASSET HOLDINGS OF U.S.-BORN AND FOREIGN-BORN HOUSEHOLDS: EVIDENCE FROM SIPP DATA

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SIPP data are used to analyze the wealth of the U.S. foreign-born population. We find that the median wealth level of U.S.-born couples is 2.5 times the median of foreign-born couples, while the median wealth level of U.S.-born singles is three times that of foreign-born singles. Further, there is a great deal of diversity in wealth within the immigrant population. Diversity in net worth manifests itself primarily in source-region differences, while entry-cohort is more closely related to portfolio choices. Established immigrants hold less and recent immigrants hold more financial wealth. An opposite pattern emerges with respect to real estate equity.

1. Introduction

The extent to which immigrants can successfully participate in the economic, social, and political life of the host country is an increasingly important issue as the number of people living outside their country of birth continues to grow.[1] A large literature assesses how immigrants' human capital and labor market outcomes evolve over time, however, we understand very little about the way in which the relative wealth position of foreign-born individuals varies over the settlement process.[2] This is unfortunate because wealth is an important measure of overall economic well-being which directly influences migrants' ability to successfully integrate into host-country society. Wealth provides the resources necessary to finance current consumption and to maintain consumption levels in the face of economic hardship. Wealth in the form of housing provides direct services (Wolff, 1998), while wealthier families are more likely to live in neighborhoods with better educational and health facilities and lower levels of crime and to have more political influence (Gittleman and Wolff, 2000; Altonji and Doraszelski, 2005). Finally,

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[1]The International Labour Organization, for example, recently estimated that worldwide more than 120 million people are immigrants (Stalker, 2000).

[2]The exceptions are Shamsuddin and DeVoretz (1998), Zhang (2002), and Amuedo-Dorantes and Pozo (2002).

wealth is fundamental in providing income security for the one in five immigrants aged 55 plus who are at (or near) the age of retirement.[3]

To our knowledge there is no empirical evidence on the overall wealth position of the total U.S. foreign-born population, although there are many reasons to believe that both the level of wealth and the portfolio choices of immigrants will differ from those of the native-born. Understanding the magnitude (and determinants) of the nativity wealth gap among U.S. households is a particularly important endeavor in light of the continuing high levels of U.S. immigration, the increased propensity of immigrant households to be in poverty, and the large share of foreign-born individuals nearing retirement.[4]

This paper begins to fill this gap by analyzing the net worth and portfolio choices of foreign-born individuals using Survey of Income and Program Participation (SIPP) data. These data are unique in providing information on both household wealth holdings as well as immigration history and have a number of important advantages for the analysis at hand (see below). We adopt a novel empirical specification which explicitly accounts for the large proportion of households with nonpositive wealth. This allows us to answer the following questions: How does net worth vary by nativity status, region of origin, and immigration cohort? How do the portfolio choices of foreign-born and U.S.-born households differ?

We find that foreign-born households are less wealthy than U.S.-born households. The median wealth level of U.S.-born couples is 2.5 times the median wealth level of foreign-born couples, placing the median foreign-born couple between the 30th and 35th percentile of the native-born wealth distribution. Among singles, the median wealth level of the U.S.-born is three times that of foreign-born singles. Moreover, there is a great deal of diversity in wealth levels and asset portfolios within the immigrant population, suggesting a very uneven process of economic and social integration. Diversity in net worth manifests itself primarily in source-region rather than entry-cohort differences and does not in general appear to stem from a divergence in the response of foreign-born households to transitory income shocks. Year of arrival is closely related to portfolio choices—holding net worth constant—with established immigrants holding significantly less and recent immigrants holding significantly more financial wealth. An opposite pattern emerges with respect to real estate equity.

Section 2 reviews both the theoretical issues and empirical evidence surrounding differences in the wealth levels and portfolio choices of native- and foreign-born households. The details of the SIPP data are discussed in Section 3, while information about the nativity wealth gap is provided in Section 4. Section 5 presents both our empirical specification and the estimation results. Our conclusions and suggested directions for future research are discussed in Section 6.

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[3]Although a larger share of the foreign-born population is in the prime working ages 25–54, this is balanced by a much smaller share of foreign-born individuals in the under 18 age group. The net result is that the median age of foreign-born individuals (38.1) exceeds the median age of the native-born (34.5). Furthermore, the proportion of individuals aged 55 plus is virtually identical in the foreign- (20.2 percent) and native-born (20.5 percent) populations (Schmidley, 2001).

[4]See Schmidley (2001) for information about the characteristics—including poverty rates and age structure—of the U.S. foreign-born population.

2. THE NATIVITY WEALTH GAP

2.1. *Theoretical Issues*

Differentials in household wealth stem from differences in inherited wealth, rates of return, or in previous savings behavior—which in turn is a function of both income and consumption patterns. Consequently, a number of things might combine to explain why the wealth position of immigrant households differs from that of similar native-born households. First, a large literature shows that new immigrants face a relative earnings gap at arrival which tends to disappear over time. This pattern is remarkably consistent across U.S. studies, though the magnitude of the initial earnings gap, the extent to which it reflects a gap in unobserved skills, and the speed of convergence all remain matters of contentious debate (see Borjas, 1994). Almost nothing is known about the importance of earnings uncertainty, credit constraints, and a lack of host-country-specific information in generating immigrant wealth patterns though all would be expected to drive a wedge between native- and foreign-born wealth.[5] Moreover, institutional barriers associated with ethnicity, nativity, legal status, or language skills may result in credit constraints which limit migrants' access to the financial markets and hinder the purchase of certain assets (Osili and Paulson, 2004).

Second, social norms and expectations about intergenerational transfers in the sending country may influence not only inherited wealth, but also immigrants' post-migration savings behavior and asset allocation (and consequently rates of return). Chiteji and Stafford (1999) postulate that portfolio choices are influenced by a "social learning process" whereby parental decisions to hold certain kinds of assets influence the subsequent choices of their children. This intergenerational stickiness in portfolios explains part of the racial wealth gap (Chiteji and Stafford, 1999) and it seems reasonable to expect some cultural basis to the savings behavior of immigrants as well. Carroll *et al*. (1994, 1998) explore this issue by studying the cross-national savings patterns of immigrants to Canada and the United States. They find significant country-of-origin variation in the savings of U.S. immigrants—though not in the savings of immigrants to Canada—which they conclude may stem from variation in immigrant selectivity across source countries rather than cultural differences. At the same time, Osili and Paulson (2005) find that immigrants from countries with institutions that are more effective in protecting individual property rights are more likely to participate in U.S. financial markets.

Third, limited access to social welfare programs alters the expected savings behavior of immigrants. Shamsuddin and DeVoretz (1998), for example, find that the wealth levels of foreign-born households in Canada dissipate relatively faster in old age and are more sensitive to levels of social security wealth which is consistent with age and residency requirements that limit some immigrants' access to Canada's federal old-age security (OAS) pension.[6]

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[5]Differential probabilities of self-employment would also be expected to affect portfolio choices (see Heaton and Lucas, 2000).

[6]Such limitations are becoming quite common. The 1996 Personal Responsibility and Work Opportunity Reconciliation Act, for example, restricts the welfare access of non-citizens arriving in the U.S. after August 22, 1996 (Lofstrom and Bean, 2001; Fix and Passel, 2002). Similar bans in Australia prohibit immigrants from receiving income support for the first two years (Cobb-Clark, 2003).

Finally, many immigrants though not strictly temporary, may nonetheless have a higher probability of emigration than native-born individuals.[7] This raises the possibility that economic conditions (including labor market risk) in the sending country—in addition to those in the host country—interact with antici-pated length of stay to influence the savings behavior of immigrants (Galor and Stark, 1990; Dustman, 1997). In particular, Dustman (1997) shows that whether migrants save relatively more or less depends on the correlation in labor-market shocks in the two countries. The ability to diversify across two labor markets (rather than one) may reduce immigrants' income risk leading to less precaution-ary savings.

2.2. *Empirical Evidence*

The limited empirical evidence suggests that natives accumulate more wealth than recent immigrants with similar characteristics, though this gap seems to dis-appear for more established immigrants. Specifically, Shamsuddin and DeVoretz (1998) find that immigrants in Canada less than eight years had a wealth level that was approximately half that of similar Canadian-born households. Over time, however, there was rapid wealth assimilation suggesting that immigrant house-holds needed approximately 15 years to achieve the same wealth level of native-born households with similar characteristics. Carroll *et al*. (1994) also examine Canadian data and find that recent immigrants consume more (i.e. save less) than natives, though this dissipates over time with migrants reaching parity with natives in about 25–30 years.[8] Zhang (2002) also concludes that recent immigrants to Canada are at a relative wealth disadvantage, though more established immigrant households have higher wealth levels than otherwise similar native-born house-holds. He finds, however, that the mean nativity wealth gap is not significantly dif-ferent from zero for couples and is in fact positive and significant for singles.

To our knowledge there is no similar evidence on the relative wealth position of the total U.S. foreign-born population. Carroll *et al*. (1998) use 1980 and 1990 U.S. Census data to calculate average wealth levels by nativity, but make no attempt to control for differences in the characteristics that might be related to wealth.[9] Their results indicate that while immigrants from some source countries (Germany, Taiwan, and the U.K.) have higher relative wealth levels on average, others (Mexico, Portugal, and Japan) have much lower levels of wealth. The authors also find a convergence in the wealth levels of immigrants and natives which is inconsistent with other evidence suggesting that the nativity gap in home ownership rates increased dramatically over the same period (Camarota, 2001; Borjas, 2002).[10] Together these results suggest that there may be important differ-

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[7]See Amuedo-Dorantes and Pozo (2002) for a review of the limited evidence on the savings behav-ior of temporary migrants.

[8]As these are cross-sectional estimates it is not clear whether this represents true assimilation or changes in the characteristics of migration cohorts.

[9]The authors do estimate the determinants of wealth for 17 separate countries of origin; however, neither the individual coefficients nor an overall measure of the nativity wealth gap are presented.

[10]While Camarota (2001) attributes this widening gap to a fall in the homeownership rate of estab-lished immigrants, Borjas (2002) finds that it is due primarily to a fall in the rate of homeownership among recent immigrants. See Borjas (2002) and Painter *et al*. (2003) for reviews of the literature on immigrant homeownership.

ences in the asset portfolios of immigrant and native households in the United States. Finally, using data from the National Longitudinal Survey of Youth (NLSY), Amuedo-Dorantes and Pozo (2002) find that increased income uncertainty leads to significantly higher net wealth for natives, but not immigrants, pointing to more precautionary savings amongst young, native-born households.[11]

3. The Survey of Income and Program Participation

We exploit data drawn from the 1987, 1990, 1991, 1992, 1993 and 1996 SIPP surveys. Each survey is a short, rotating panel made up of 8–12 waves of data—collected every four months—for approximately 14,000 to 36,700 U.S. households. Thus, a typical panel covers a time span ranging from 2.5 years to 4 years. Most SIPP panels did not sample different subpopulations at different rates, however, the 1990 and 1996 panels are exceptions in which low-income households were over sampled. Given this, sampling weights will be used throughout the analysis.[12] Each wave contains both core questions common to each wave and topical questions that are not usually updated in each wave. In addition to core module information, we use data from three topical modules. Immigration (including region of origin and year of arrival) and marital history information is drawn from the migration and marital history modules which are collected in wave 2 in each of the six panel years used in this study. Wealth data is taken from the assets and liabilities module that is usually collected in waves 4 and 7 of each panel survey under consideration.[13] However, we only exploit data from one assets and liabilities module because comprehensive data capturing all components of total household net worth are only available in a single wave of most SIPP panels.[14] Other relevant variables were obtained from the core modules collected during these waves.

Thus, our preliminary sample includes all respondents present in both the wave in which a comprehensive assets and liabilities module was available and wave 2 during which both migration and marital history data was obtained.[15]

SIPP data are not usually thought of as the best source of information for studying trends in wealth holdings. The Survey of Consumer Finance (SCF) inarguably provides a more comprehensive picture of the wealth distribution of American households than do alternative data sources which measure the upper tail of the wealth distribution particularly poorly (see Juster and Kuester, 1991; Wolff, 1998; Juster et al., 1999). Unfortunately, SCF data do not identify immigrants. The Panel Survey of Income Dynamics (PSID) is an alternative data source which does collect information about immigration histories. Given its sampling frame,

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[11]Both native- and foreign-born households respond to increased income uncertainty by raising their levels of net financial wealth, though the magnitude of the effect is larger for natives.

[12]See the SIPP web page (http://www.sipp.sensus.gov/sipp/).

[13]An exception is the 1996 panel in which the assets and liabilities module was collected in waves 3, 6, 9, and 12.

[14]Comprehensive assets and liabilities modules were administered in wave 4 of the 1987, 1990, 1992 panels and wave 7 of the 1991 and 1993 panels. In the 1996 panel comprehensive net worth data were collected in waves 3, 6, 9, and 12. We used net wealth information from wave 3 for the 1996 panel.

[15]This implies that any individual entering the panel after wave 2 cannot be assigned a nativity status and thus has been dropped from the sample.

however, the PSID is not particularly useful for studying the foreign-born population in the United States before 1998 when a representative sample of 491 immigrant families was added to the survey. As only two wealth modules have been collected since then—in 1999 and 2001—examining the wealth holding of immigrants in the United States using PSID data is limited to longitudinal evidence from a (very) short panel with a relatively small sample.[16] Panel data from the Health and Retirement Survey (HRS) provide detailed measures of wealth holdings and—unlike the SCF—identify immigrants along with year of arrival. However, HRS data lack region-of-origin information and—more importantly— are restricted to households whose head was between 51 and 62 years of age in 1992, the initial year of data collection. Thus, the HRS data are not particularly useful for studying the wealth of the foreign-born population generally. Similarly, National Longitudinal Survey (NLS) and National Longitudinal Survey of Youth (NLSY) data shed light only on the wealth holdings of specific birth cohorts.[17]

By pooling data from panel years in which the SIPP collected both wealth and immigration information, we are able to build a data set which contains a much larger number of immigrant households than the PSID or NLSY. While our data will have little to say about the wealth holdings of the very rich, they are quite useful for studying the behavior of the middle class (Wolff, 1998).

Specific asset variables contained in the assets and liabilities module include interest earning assets (held in banking and other institutions), equity in stocks and mutual funds, IRA and KEOGH accounts, own home equity, real estate equity (other than own home), business equity, net equity in vehicles, business equity and other assets not accounted for in previous variables (including total mortgages held, money owed for sale of businesses, U.S. savings bonds, checking accounts and other interest bearing assets). Liabilities include both debts secured by any assets and unsecured debts (including liabilities such as credit card or store bills, bank loans and other unsecured debts). The SIPP wealth module, however, does not cover any future pension rights such as equity in private pension plans or social security wealth. The SIPP wealth module also does not specifically gather information about assets held off-shore which may be particularly important for immigrant households. While respondents are not explicitly told to exclude any off-shore assets when reporting their asset holdings, it is likely that off-shore assets

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[16]The core sample of the PSID collects socio-economic information on U.S. households since 1968. As a result, the core sample of the PSID does not include any immigrants who arrived in the United States after 1968. In 1990 the PSID added 2,000 Latino households consisting of families originally from Mexico, Puerto Rico, and Cuba. While this sample includes three major groups of immigrants in the United States, it still misses the full range of post-1968 immigrants, Asians in particular. To address this crucial shortcoming, the Latino sample was dropped after 1995, and a representative sample consisting of 441 immigrant families was added to the core sample in 1997. In 1999, an additional 70 families were added for a total of 511 immigrant families as of 1999.

[17]Surveying immigrants can be difficult which raises questions about the extent to which results based on our sample can be extended to the wider foreign-born population. Unfortunately, appropriate benchmarks for the wealth and asset holdings of immigrants to the United States do not exist. However, preliminary analysis suggests that the aggregate characteristics (age, marital status, and region of origin) of the foreign-born households identified in SIPP and the March 1995 CPS are substantially the same. See also Passel (2005) who compares the estimated legal-immigrant population to the total foreign-born population counted in the March 2004 CPS to generate an estimate of the unauthorized migrant population.

are disproportionately under-reported and it may be most useful to think of the SIPP data as capturing U.S.-based wealth only. This is a limitation shared by all of the aforementioned data sources and a fuller picture of the wealth position of foreign-born households awaits a survey specifically targeted towards eliciting this information.

Our estimation sample includes both couple- and single-headed native and immigrant households in which the reference person is between 25 years and 75 years old. A married immigrant household is defined as a household in which both partners are born outside of the United States to non-U.S. parents. We have eliminated all married "mixed households" in which one partner is U.S.-born and the other is foreign-born (2,582 households),[18] and all Puerto Rican households (543 households).[19] We have also dropped all immigrant respondents (228 households) for whom the date of migration to the United States was missing. The resulting sample contains respectively a total of 83,077 U.S.-born households (including 35,414 single-headed households) and 6,681 immigrant households (including 2,740 single-headed households). All assets and income data were expressed in 1992 constant dollars using the monthly CPI-U index from the Bureau of Labor Statistics (BLS) as a deflator.

4. The Wealth of U.S.- and Foreign-Born Households

Table 1 reports weighted mean and median asset holdings in 1992 constant dollars for the single- and couple-headed households in our sample. The mean net worth of couple-headed, native-born households is $125,345, while the median is $67,822. As anticipated, this is very similar to the levels of mean net worth reported in NLSY or PSID data, but is much lower than the levels calculated from SCF data (Wolff, 1998; Juster *et al.*, 1999; Amuedo-Dorantes and Pozo, 2002). The median net worth of native-born couples is lower than that of immigrant couples from Europe ($104,759) and somewhat higher than that of couples from Asia ($55,713).[20] In contrast, immigrant couples from Mexico, Central and South America, and the rest of the world (primarily the Middle East and Africa) have much lower median net worth than U.S.-born couples. The same pattern holds for single-headed households as well, with individuals from Europe doing much better and individuals from Asia doing somewhat worse than the U.S.-born.

Non-parametric kernel density estimates of the wealth distributions of immigrant and native-born households for married and single households are shown in Figures 1 and 2 respectively.[21] These figures highlight the fact that wealth distributions—particularly those of U.S.-born households—are highly skewed to the right.

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[18]Preliminary analysis suggested that these households have wealth holdings which are very similar to native-born households.

[19]Puerto Rican-born families are certainly not typical U.S.-born households. However, their unique legal position makes it difficult to sensibly include them in the foreign-born population. In addition, consistent entry date were only available for these respondents in both the 1990 and 1991 panels.

[20]Our region-of-origin aggregation groups Canada and Australia with individuals from Europe. For simplicity, we will refer to this group as "European." Descriptive statistics are presented by region of origin in Appendix Table A1.

[21]All estimation is done in STATA 8.2 using an adaptative kernel estimation method. In producing these figures the Epanechnikov kernel function was used.

TABLE 1

	United States	Total Immig.	of which from:				
			Europe[a]	Asia	Mexico	Ctr/Sth America	Other
Married households							
Mean total net wealth	125,345	89,488	160,279	120,511	30,616	61,465	73,086
Median total net wealth	67,822	28,515	104,759	55,713	6,253	13,641	22,972
Mean asset portfolio							
Financial wealth	37,245	19,536	43,647	30,100	1,340	10,295	8,138
Business	9,997	7,237	8,093	11,795	2,009	5,826	9,095
Real estate	69,289	56,236	99,900	70,117	23,524	40,140	49,693
Vehicles	8,814	6,479	8,640	8,498	3,744	5,205	6,161
Proportion owning							
Financial wealth	0.959	0.845	0.914	0.902	0.705	0.879	0.865
Business	0.136	0.115	0.135	0.157	0.057	0.114	0.108
Real estate	0.823	0.573	0.758	0.609	0.457	0.521	0.515
Vehicles	0.968	0.885	0.898	0.897	0.902	0.861	0.825
Current income[b]	15,351	11,827	14,867	15,321	6,823	10,474	11,820
N	47,663	3,941	669	1,093	1,097	718	334
Single households							
Mean total net wealth	57,234	47,532	84,297	57,356	21,130	21,356	39,846
Median total net wealth	14,981	5,288	36,471	11,058	1,384	973	4,777
Asset portfolio							
Financial wealth	16,945	12,374	26,851	12,607	1,584	3,525	12,379
Business	3,034	3,025	3,629	3,937	1,984	2,058	3,919
Real estate	33,187	28,727	49,526	35,820	15,275	13,678	20,108
Vehicles	4,067	3,406	4,291	4,991	2,287	2,095	3,440
Proportion owning							
Financial wealth	0.833	0.752	0.871	0.879	0.557	0.638	0.822
Business	0.052	0.049	0.067	0.061	0.028	0.034	0.059
Real estate	0.510	0.347	0.523	0.397	0.262	0.210	0.267
Vehicles	0.796	0.665	0.744	0.738	0.685	0.509	0.662
Current income[b]	7,180	6,435	7,551	8,102	4,236	4,964	7,881
N	35,414	2,740	782	477	532	681	268

Notes: Calculations are based on SIPP 1987, 1990, 1991, 1992, 1993 and 1996 panels.
[a]Includes also Canada and Australia.
[b]Quarterly Income reported.
All figures deflated using Monthly CPI-U BLS, Base = June 1992.

At the same time, a significant proportion of households in our sample have negative net worth.[22] In order to assess the magnitude of the nativity wealth gap at different deciles of the wealth distribution, we estimated—separately by household type—a simultaneous quantile regression model of net worth (W_{it}). In particular,

$$(1) \qquad W_{it}^q = a^q + b^q I_i^q + \varepsilon_{it}^q$$

where q reflects a specific decile of the wealth distribution, I is a dummy variable capturing immigrant status, and households and time are indexed by i and t respectively. Equation (1) was estimated simultaneously at different values of q and the

[22]In particular, 17.1 percent of foreign- and 11.36 percent of native-born households have non-positive net worth. Among immigrants, Europeans and Asians have wealth distributions that are more skewed to the right (see Appendix Figure A1 and A2).
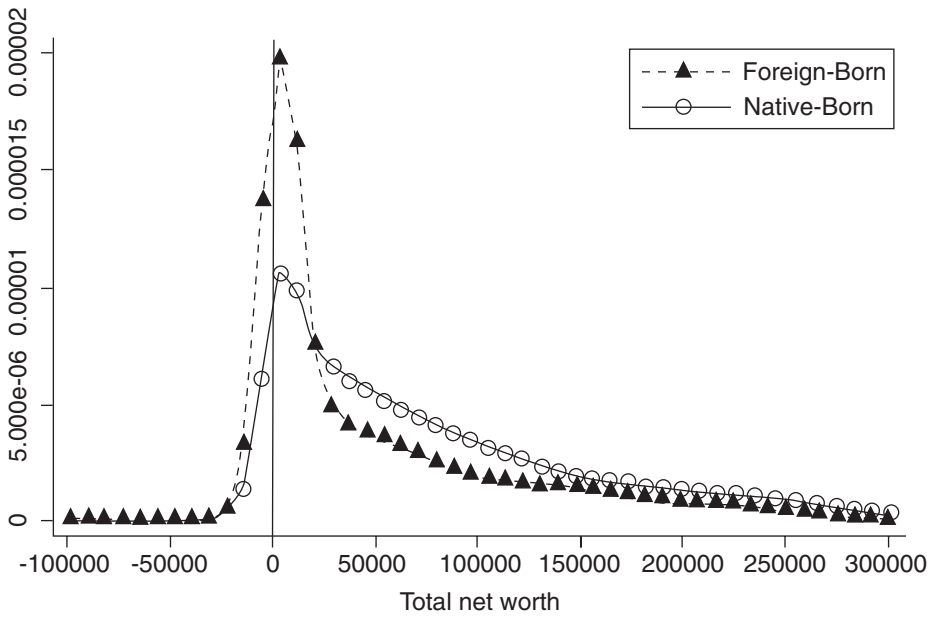
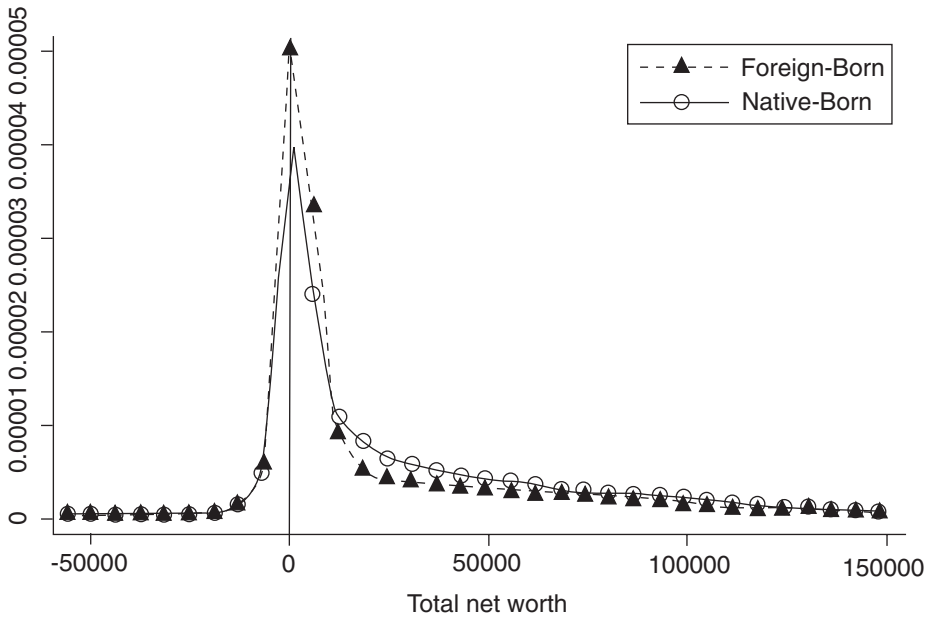Figure 1. Wealth Distributions of Native- and Foreign-Born Married Households

Figure 2. Wealth Distributions of Native- and Foreign-Born Single Households

TABLE 2

NATIVITY WEALTH GAP BY HOUSEHOLD TYPE (SIMULTANEOUS QUANTILE REGRESSION COEFFICIENT[a]
AND STANDARD ERROR); ALL FIGURES EXPRESSED IN CONSTANT 1992 DOLLARS

	Married Households				Single Households			
Percentile	Nativity Gap[a] a	Std. Error b	Net Worth[b] c	Ratio a/c	Nativity Gap[a] e	Std. Error f	Net Worth[b] g	Ratio e/g
10th	−1,860	100	1,971	−0.94	525	110	−318	−1.65
20th	−11,594	15,832	12,509	−0.93	−177	36	279	−0.63
30th	−23,115	14,912	27,470	−0.84	−1,829	1,376	2,385	−0.77
40th	−34,044	12,387	45,658	−0.75	−4,056	2,596	6,277	−0.65
50th	−41,053	14,760	67,822	−0.61	−9,679	6,295	14,981	−0.65
60th	−43,156	22,779	95,194	−0.45	−16,170	6,540	30,475	−0.53
70th	−45,256	21,147	133,257	−0.34	−15,939	7,858	53,801	−0.30
80th	−47,202	11,716	194,967	−0.24	−15,161	3,521	89,382	−0.17
90th	−63,450	68,540	309,259	−0.21	−14,066	10,492	163,327	−0.09
N	51,659				38,168			

Notes:
[a]Coefficient on immigrant status dummy in equation (1).
[b]Calculated by percentile for native-born households.

results—b^q and standard errors—are presented in the first two columns of each panel in Table 2. The equality of the nativity wealth gap throughout the wealth distribution is strongly rejected.[23] Irrespective of household type, the gap in net worth between immigrant and U.S.-born households becomes larger in magnitude as one moves up the wealth distribution—ranging, for example, for couples from $1,860 at the tenth percentile to $63,450 at the ninetieth percentile—but declines as a proportion of net worth.

These differences in net worth are also reflected in the portfolio allocations of foreign-born households from different regions of origin[24] (see Table 1). In general, asset ownership rates are lower within the immigrant population—particularly amongst couple-headed households. The notable exception is the relatively high probability that Asian immigrants hold at least some of their overall wealth as business equity. Consistent with previous evidence (Camarota, 2001; Amuedo-Dorantes and Pozo, 2002; Borjas, 2002; Painter *et al.*, 2003) however, immigrant households are less likely to own real estate, though the real estate equity of European households exceeds that of native-born households. Careful consideration of asset portfolios also reveals a disparity in the asset levels and ownership rates between native-born households and immigrant households from Europe and Asia on the one hand and Mexico, Central and South America and the rest of the world on the other. Overall, there is a great deal of diversity in immigrants' wealth holdings.

[23]Simultaneous estimation across different values of q allows the variance-covariance matrix of the different b^q to be obtained and the significance of the nativity wealth gap at points of the distribution to be tested (see Zhang, 2002). The equality of b^q at all values of q was tested (and rejected) using an F test. These test statistics were $F(9, 51, 602) = 42.67$ for couples and $F(9, 38, 152) = 12.94$ for singles.
[24]Amuedo-Dorantes and Pozo (2002) discuss the asset portfolios of young immigrant and native households.

5.1. *Net Worth*

To understand how wealth levels vary with household characteristics, it is necessary to model the determinants of net worth. Models which specify the level of wealth to be linear in income and the demographic variables impose additive separability between income and demographic characteristics which is not particularly appealing (Altonji and Doraszelski, 2005). In addition, the distribution of wealth is very skewed and for both reasons many researchers are led to take a log transformation in order to obtain a log-normally distributed dependent variable (see, e.g. Shamsuddin and DeVoretz, 1998; Jappelli, 1999).[25] The difficulty is that a log transformation is inappropriate for households with negative or zero net worth and many researchers drop these households from their estimation sample. Because in our data these households are large in number, disproportionately foreign-born, and potentially quite important, we adopt an inverse hyperbolic sine transformation—denoted as "$\sinh^{-1}$"—that is defined for households holding zero or negative wealth (Burbidge *et al.*, 1988).[26] This function approximates $\log(W_{it})$ for positive values of net worth that are not too small and $-\log(W_{it})$ for negative values of net worth that are small enough.

We estimate a reduced-form model of the determinants of net worth (W_{it}) for household i at time t separately for couple- and single-headed households. Specifically,

$$(2) \qquad \sinh^{-1}(W_{it}) = \alpha_0 + Y_{it}\beta + X_{it}\gamma + I_i(\alpha_1 + C_i\lambda + R_i\theta + M_{it}\zeta + Z_{it}\kappa) + t\delta + \eta_{it}$$

In equation (2) Y_{it} is a vector of the household's permanent and transitory income. Life-cycle theory suggests that it is the permanent component of current income upon which savings and consumption decisions—and ultimately wealth accumulation—are based. At the same time, income uncertainty or the presence of credit constraints—which are likely to be particularly relevant for immigrant households—imply that transitory income shocks may have an independent role in savings and consumption behavior. In order to account for this possibility both permanent and transitory income are included in the above model. We generate a permanent income measure by predicting income on the basis of household-type-specific income regressions estimated on the pooled data. Transitory income is the difference between current and permanent income.[27] Blau and Graham (1990)

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[25]The log specification implicitly allows for multiplicative terms in the wealth equation (Altonji and Doraszelski, 2005).

[26]Specifically,

$$g(z_t, \theta) = \sinh^{-1}(\theta z_t)/\theta$$
$$= \log\left(\theta_{z_t} + (\theta^2 z_t^2 + 1)^{\frac{1}{2}}\right)\Big/\theta$$

where we set $\theta = 1$.

[27]Explanatory variables in the income regression include: a cubic in age of the head, education (for both head and spouse), head's occupation (including a dummy for not employed), Census region, time period dummies and for immigrants, year-of-arrival and region-of-origin dummies. Predicted income resulting from this model (run separately by household type) is used as our measure of permanent income. These results are not presented here, but are available upon request. An inverse hyperbolic sine transformation has been used for both permanent and transitory income.

adopt a similar approach, though others use income averaged over some previous period as a measure of permanent income (Feldstein and Pellechico, 1979; Smith and Ward, 1980; Hurst *et al.*, 1998; Chiteji and Stafford, 1999). Still others include only current income and not permanent income in the wealth equation (Smith, 1995; Avery and Rendall, 1997; Shamsuddin and DeVoretz, 1998). Altonji and Doraszelski (2005) discuss some of the differences in these measures of permanent income and an alternative measure based upon the time-invariant, individual-specific effect from a panel regression.[28]

Demographic and human capital characteristics thought to have a direct effect on savings and consumption behavior are captured by vector X_{it},[29] while t is a vector of time period dummies. Further, I_i is a dummy variable which equals one for immigrant households and zero for native-born households. Given the theoretical issues outlined above, it is reasonable to assume that the effect of nativity on net worth may depend on both when immigrants entered the United States and where they came from. Thus, our wealth model includes a complete set of year of immigration (C_i), region-of-origin (R_i), and citizenship status (M_{it}) dummy variables for the head of all foreign-born households. To allow for the possibility that the effect of transitory income shocks on wealth differs by nativity, we also include interactions (Z_{it}) of transitory income with source country and migration cohort.[30] Equation (2) is identified by constraining the coefficients on the cohort, region-of-origin, citizenship status, and period dummies and the transitory-income interactions to sum to zero.[31] Finally, $\eta_{it} \sim N(0,\sigma^2)$ is a random error term and the remaining terms are vectors of parameters to be estimated.

[28]Unfortunately, the short time frame of the SIPP panels (2.5 years for pre-1996 panels and 4 years for the 1996 panel) is not sufficient to allow us to generate a measure of permanent income by simply averaging current income amounts over time. Moreover, many key variables do not vary substantially over this time frame, implying that SIPP does not lend itself easily to measures of permanent income based on panel data models. Consequently, we use a regression on current income to generate a predicted income. We used this as our measure of permanent income. To test the sensitivity of our results to this procedure we also generated a predicted income measure based on current income averaged across all the waves of each panel for which we had data. These results are substantially the same as those reported here and are available upon request.

[29]The variables in X_{it} include: a cubic in age of the head, the number of children aged less than 18 in the household, an indicator that head was previously married and—for couples—years of current marriage and an indicator that the spouse was previously married.

[30]Studying immigrants to Canada, Shamsuddin and DeVortez (1998) model immigrant cohort effects, but constrain the wealth of foreign-born households to be the same across all regions of origin. This is consistent with Carroll *et al.* (1994) who find no evidence of region-of-origin effects in the savings behavior of immigrants to Canada. However, Carroll *et al.* (1998) and Osili and Paulson (2004) find that the savings rates of immigrants to the United States vary significantly by source country, leaving open the possibility of important region-of-origin differences in the net worth of foreign-born individuals in the United States.

[31]This strategy facilitates the interpretation of the results. Specifically, α_0 captures the net worth of native-born households across all of the years, while α_1 is a measure of the extent to which the net worth of immigrant households (across all entry cohorts, source countries and citizenship statuses) differs from that of native-born households.

TABLE 3

DETERMINANTS OF NET WORTH BY HOUSEHOLD TYPE (MARGINAL EFFECTS AND t-STATISTICS)

	Married Households				Single Households			
	dy/dx	t-stat	dy/dx	t-stat	dy/dx	t-stat	dy/dx	t-stat
Income								
Permanent income	22.96	38.71	22.93	35.74	25.48	34.85	25.47	34.78
Transitory income	−11.86	−33.64	−11.86	−33.52	−11.00	−27.10	−11.05	−27.43
Demographics								
Age	11,369.44	21.92	11,364.43	21.96	6,616.49	28.12	6,621.79	28.19
Kids <18	−6,659.12	−1.91	−6,641.62	−1.93	−24,793.97	−8.87	−24,745.25	−8.94
Years married	3,480.52	7.10	3,488.32	7.32				
Head prev. married	−89,895.70	−9.67	−89,969.66	−10.08	21,835.10	4.97	21,773.29	5.02
Spouse prev. married	−20,161.85	−2.16	−20,194.33	−2.13				
Immigrants								
Immigrant status	−23,010.45	−2.17	−20,831.98	−2.00	−16,972.05	−2.08	−16,703.57	−1.93
Citizen	46,675.21	4.64	47,068.34	4.94	10,741.40	1.28	11,692.07	1.41
Non-citizen	−46,675.21	−4.64	−47,068.34	−4.94	−10,741.40	−1.28	−11,692.07	−1.41
Year of entry								
<1960	14,744.66	0.71	18,247.26	0.84	11,965.46	0.78	12,670.01	0.73
1960–1964	3,978.73	0.14	7,371.94	0.26	−33,428.54	−1.29	−42,684.57	−1.49
1965–1969	32,336.03	1.46	41,388.87	1.77	21,243.66	1.20	24,940.46	1.28
1970–1974	20,179.99	1.03	18,664.70	0.79	−25,167.67	−1.28	−24,152.08	−1.24
1975–1979	−16,226.09	−0.77	−17,741.34	−0.82	−5,434.26	−0.31	−6,436.82	−0.33
1980–1984	−12,249.46	−0.61	−25,643.41	−1.15	1,586.83	0.10	2,570.26	0.15
1985+	−42,763.85	−2.15	−42,288.03	−2.10	29,234.52	1.83	33,092.75	1.88
Region of origin								
Europe	45,996.91	2.74	37,992.36	2.16	36,456.41	3.03	35,237.96	2.64
Asia	52,738.00	3.35	51,681.28	3.00	46,511.72	3.38	47,610.02	2.87
Mexico	39,399.40	2.24	41,366.86	2.31	14,385.66	1.02	21,443.83	1.38
Ctr/Sth Amer.	−84,131.42	−3.92	−89,246.12	−4.18	−75,837.42	−5.46	−76,194.58	−5.17
Other	−54,002.89	−2.06	−41,794.38	−1.58	−21,516.38	−1.16	−28,097.23	−1.32

TABLE 3 (*continued*)

	Married Households				Single Households			
	dy/dx	t-stat	dy/dx	t-stat	dy/dx	t-stat	dy/dx	t-stat
Transitory income interactions								
Europe			−9.02	−2.03			0.07	0.03
Asia			1.77	0.88			0.65	0.32
Mexico			1.61	1.62			1.25	1.10
Ctr/Sth Amer.			1.48	0.73			0.08	0.07
Other			4.16	1.86			−2.05	−0.75
<1960			7.21	0.88			0.95	0.24
1960–1964			−0.41	−0.10			−3.58	−1.05
1965–1969			1.97	0.88			1.85	0.61
1970–1974			−3.93	−0.85			0.78	0.35
1975–1979			−1.26	−0.95			−0.23	−0.22
1980–1984			−2.99	−2.16			0.04	0.04
1985+			−0.59	−0.80			0.19	0.27
Panel year								
1987	37,849.98	5.31	37,936.14	5.50	14,536.62	2.66	14,611.11	2.69
1990	5,345.06	0.81	5,366.46	0.83	2,840.15	0.65	2,846.78	0.63
1991	14,169.29	1.95	14,054.09	2.01	−1,792.10	−0.35	−1,698.93	−0.34
1992	−3,776.49	−0.61	−3,752.37	−0.62	−2,986.70	−0.67	−3,051.02	−0.71
1993	22,793.69	3.74	22,918.27	3.73	22,692.26	4.94	22,631.18	4.93
1996	−76,381.53	−12.73	−76,522.59	−13.45	−35,290.23	−9.21	−35,339.13	−9.05
N	51,604		51,604		38,154		38,154	
R²	0.14		0.15		0.14		0.14	

Note: All figures deflated using Monthly CPI-U BLS, Base = June 1992.

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The results—marginal effects and t-statistics—from this estimation are presented in Table 3.[32] Two specifications of the model are considered: our baseline specification, and that which results from including interactions of transitory income with immigrant status, region of origin, and immigration cohort.

Not surprisingly, net worth is strongly related to income—both permanent and transitory—and household composition. Each additional dollar of permanent income is related to higher net worth, while transitory income shocks are associated with a large reduction in net worth.[33] Moreover, the age of the household head is closely related to net worth.[34] Additional children less than age 18 are associated with a reduction in the net worth of single households of almost $25,000. At the same time, net worth differs only marginally between couples with and without children. These results are broadly consistent with previous evidence suggesting that there may not be a uniformly negative effect of family size on wealth accumulation (see Amuedo-Dorantes and Pozo, 2002; Smith and Ward, 1980). Couples' net worth increases with every year of marriage, though previous marriages of either the head or the spouse are associated with significantly less wealth. Single individuals who have been previously married have higher net worth than singles who have not.[35]

Wealth is related to nativity. Amongst couples the nativity wealth gap is approximately $21,000 once differences in income and demographic characteristics are controlled, while amongst singles the gap is just over $16,700. These overall differences are useful in highlighting the wealth position of the foreign-born population generally, but—as noted above—there is a large degree of diversity in the wealth holdings of different immigrant groups. This diversity manifests itself primarily in source-region rather than entry-cohort differences.

[32]Coefficients estimated from the above model using the transformed data have been converted into marginal effects which show the change in net worth (measured in dollars) for each one unit change in the underlying independent variable. To illustrate, consider the effect of a change in x_{it} on wealth levels $\left(\dfrac{\partial W_{it}}{\partial x_{it}}\right)$:

$$\hat{\gamma} = \frac{\partial \sinh^{-1}(W_{it})}{\partial x_{it}}$$
$$= \frac{\partial \sinh^{-1}(W_{it})}{\partial W_{it}} \frac{\partial W_{it}}{\partial x_{it}}$$
$$\frac{\partial W_{it}}{\partial x_{it}} = \hat{\gamma} \frac{\partial W_{it}}{\partial \sinh^{-1}(W_{it})}.$$

Marginal effects for other independent variables are calculated similarly. The non-linear nature of the $\sinh^{-1}$ transformation implies that the marginal effect is dependent upon the point at which it is evaluated. We have followed current practise in calculating the marginal effect for each individual and then taking the average over the relevant sub-sample using the sample weights (see Greene, 1997, p. 876). A continuous approximation has been used for all discrete dependent variables. Finally, the bootstrapped standard errors (with 500 replications) for these marginal effects were used to calculate the reported t-statistics.

[33]Transitory income is measured as the difference between permanent and current income so that positive values reflect a lower than expected current income.

[34]As we do not explicitly control for birth cohorts, the estimated effect of the cubic in age on the level of net worth captures both differences across birth cohorts in the tendency to accumulate wealth as well as any effect of life-cycle stage (aging) on wealth levels.

[35]Panel dummies are included in the model to control for aggregate differences in macro-economic conditions or survey methodologies which might have an impact on wealth levels and asset allocations as a whole.

More specifically, immigrants to the United States from Europe and Asia have a significantly higher level of net worth than does the foreign-born population generally. For example, couple-headed households from Europe and Asia have significantly more net worth ($37,992 and $51,681 respectively) than the average foreign-born household, while for single-headed households the difference is $35,238 for European households and $47,610 for Asian households. These differences are quite large and are sufficient to overcome the negative effect associated with foreign-born status generally. Couples from Mexico also have a level of net worth that is significantly higher than that of foreign-born couples as a whole, while couples from Central and South America are significantly less wealthy. Finally, there are large differences in the wealth levels of foreign-born households that do and do not hold U.S. citizenship.

It is interesting to compare these patterns which control for differences in household characteristics with the results in Table 1 which do not. While the low levels of net worth amongst foreign-born, Mexican households are explained in large part by the characteristics of those households, the relative position of households from Central and South America and the rest of the world appears to worsen once their characteristics are taken into account.[36]

Surprisingly, there is not a great deal of variation in the wealth positions of foreign-born households arriving in the United States at different points in time. There is evidence that the net worth of couple-headed households entering the United States after 1985 is significantly lower than foreign-born couples as a whole. Still, there is no significant difference in net worth across the majority of entry cohorts, and thus, the story appears to be one of ethnic differences in wealth accumulation rather than one of variation with time since migration. The existence of large region-of-origin effects in asset accumulation is perhaps not surprising in light of ethnic differences in the savings behavior (Carroll *et al.*, 1998) and home ownership rates of immigrants to the United States (Borjas, 2002; Painter *et al.*, 2003). At the same time, the results do highlight the large variation in the wealth position of specific ethnic groups which exist within the immigrant population as a whole.

Credit constraints and differential risk associated with potential remigration open up the possibility that migrants may have different savings motives—and different pattern of wealth accumulation—than do natives. To investigate this issue we interact transitory income with a full set of region-of-origin and cohort dummies.[37] The results indicate that there is little variation in the effect of transitory income on the net worth of different region-of-origin groups.[38] Moreover,

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[36]See also Cobb-Clark and Hildebrand (2004) who analyze the sources of the wealth gap for native- and foreign-born Mexican Americans.

[37]We constrain the interaction coefficients to be zero so that these interactions represent deviations from the transitory income effect across the entire population.

[38]The effect of transitory income on net worth for immigrants in a particular cohort or from a particular sending country is a combination of two effects: (1) the aggregate effect of transitory income on net worth; and (2) the interaction of transitory income and the cohort or sending country. Given the non-linear nature of the marginal effects resulting from the inverse hyperbolic sine transformation, it is not possible to simply add these three effects to get the total region- or cohort-specific marginal effect as it would be in the linear case. The region-of-origin, transitory income interactions are not jointly significant for either couples ($p = 0.115$) or singles ($p = 0.730$).

there is no evidence that transitory income shocks have a less negative effect on those households entering the United States in earlier periods and households entering in later periods—who may be more likely to be credit constrained—also do not generally experience a more negative effect of transitory income shocks.[39] Finally, we find no significant differences in the way in which the wealth levels of native- and foreign-born households respond to transitory income shocks.[40] On the whole, these results provide little support for the notion that credit constraints and limited access to social welfare may lead recent immigrant households experiencing transitory income shocks to maintain current consumption levels by reducing wealth levels.[41]

5.2. *Asset Portfolios*

A selective migration process, the potential for return migration, cultural influences on savings behavior, and differences in geographic location and earnings risk are just some of the reasons that native- and foreign-born households—in addition to having different levels of net worth—may allocate their wealth differently across different asset types (see Section 2.1). To investigate the effect of nativity, region of origin, and migration cohort on portfolio choices, we estimate the following reduced-form model of asset composition:

$$(3) \qquad \sinh^{-1}(A_{ikt}) = \alpha_{0k} + Y_{it}b_k + X_{it}c_k + W_{it}d_k + tj_k +$$
$$I_i(\alpha_{1k} + W_{it}m_k + C_{igk} + R_ih_k + M_{it}l_k) + \mu_{ikt}$$

where A_{ikt} is the dollar value of asset k that household i holds in time period t. We define four major asset categories: financial wealth (all interest bearing assets as well as net equity in stocks, mutual funds, IRAs and KEOGH accounts), business equity, real estate equity (including the family home), and net equity in vehicles. Following Blau and Graham (1990), we allow asset composition to depend on net worth (W_{it}) in order to account for any capital market imperfections (such as credit constraints) which might vary across families and be related to the decision to hold a particular asset. Differences in the effect of wealth in the asset portfolios of immigrant families (relative to native-born families) are captured in equation (3) by an interaction term between net worth (W_{it}) and immigrant status (I_i). A vector of demographic characteristics (X_{it}) is included in the model in order to capture a household's stage of the life cycle. As such these characteristics are allowed to have

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[39]The coefficients on the cohort transitory income interactions are also not jointly significant at conventional levels (p = 0.132 for couple-headed households and p = 0.863 for singles).

[40]We tested this by dropping the region-of-origin and cohort, transitory income interactions and replacing them with a simple interaction between foreign-born status and transitory income. This interaction was not significant for either couples or singles. These results are not presented here, but are available upon request.

[41]It is not possible for us to say anything meaningful about the effect of income uncertainty on wealth accumulation given the shortness of the SIPP panel. Amuedo-Dorantes and Pozo (2002), however, investigate whether the precautionary savings motive of immigrant families differs from that of U.S.-born families. They include a measure of income uncertainty in separate models of net and financial wealth and find that native families appear to engage in more precautionary savings than do immigrants, though they are unable to measure precautionary savings which take the form of remittances to the former home country. Income uncertainty is calculated by averaging the squared residuals from annual regressions of log income on demographic and job characteristics. Note, however, that by squaring the residuals, the authors are implicitly constraining positive and negative residuals to have the same effect on wealth accumulation.

a direct effect on asset portfolios. Other characteristics, for example education and occupation, affect asset portfolios only indirectly through their effect on permanent income. As before, Y_{it}, C_i, R_i, M_{it}, and t capture income (both permanent and transitory), region of origin, immigration cohort, citizenship status, and time period effects respectively. The other variables are parameters to be estimated. Finally, equation (3) is estimated as a system of equations and a set of cross-equation restrictions are imposed in order to satisfy the adding-up requirement that the sum of assets across asset types equals net worth.[42]

Marginal effects and t-statistics from this estimation are presented in Table 4 for couple-headed households and in Table 5 for single-headed households.[43] The estimated distribution of an additional dollar of net wealth across asset types is given by the marginal effect on net worth. Other marginal effects show the effect of a one unit change in the corresponding independent variable on a specific asset—holding wealth levels constant. This implies that the sum of the marginal effects of a specific independent variable must sum to zero across the four asset types.

The manner in which households hold their wealth is strongly related to household income levels with higher permanent income associated with increased financial wealth and transitory income shocks associated with lower financial wealth levels. Holding net worth constant, real estate equity falls with increased permanent income, while having a current income level which is lower than expected given household characteristics results in higher levels of real estate equity. In addition, children also play a critical role in determining the composition of households' asset portfolios. Households with minor children hold less financial wealth, but more equity in real estate than childless households with the same level of net worth.[44] Previous marriages are associated with less financial wealth and relatively more real estate, though portfolio allocations are not strongly related to the number of years a couple has been married.

Relative to U.S.-born couples, immigrant couples allocate a higher proportion of their net worth at the margin to equity in vehicles and less to financial wealth or real estate. Specifically, U.S.-born couples allocate $0.43 of every dollar of increased net worth to financial wealth, while foreign-born couples allocate $0.28 less than this to building financial wealth. To some extent, these nativity differences in the marginal propensity of allocate additional wealth to specific asset types may reflect the existing composition of native and immigrant families' asset portfolios. Holding constant net worth, foreign-born couples are estimated to hold $72,085 more in financial wealth and $11,366 less in vehicle equity than otherwise similar U.S.-born couples. Similarly, foreign-born singles are expected to hold $18,709 more financial wealth and $2,772 less vehicle equity than U.S.-born singles with the same level of net worth. Given this, it is perhaps not surprising that immigrants have a higher marginal propensity to allocate additional wealth to vehicle equity rather than financial wealth. At the same time, immigrants' lower propensity to increase real

[42]Specifically, the adding up constraints require that the estimated marginal effect of an additional dollar of wealth sum to one across asset types, while the marginal effect of a change in any other independent variable is restricted to sum to zero. Note that while these constraints hold on average, they may not hold for any particular individual.

[43]Marginal effects and bootstrapped standard errors were calculated in the same manner as above.

[44]These results are broadly consistent with Keister (2000) and Smith and Ward (1980).

TABLE 4

Determinants of Asset Portfolios: Married Households (Marginal Effects and t-Statistics)

	Financial Wealth		Business Assets		Real Estate		Vehicles	
	dy/dx	t-stat	dy/dx	t-stat	dy/dx	t-stat	dy/dx	t-stat
Income								
Permanent income	13.88	63.55	0.55	14.24	−15.20	−70.57	0.77	25.68
Transitory income	−2.15	−15.89	0.11	8.30	2.37	17.35	−0.33	−21.44
Demographics								
Age	3,629.62	13.70	25.48	0.55	−3,635.05	−13.73	−20.06	−0.66
Kids <18	−6,001.09	−5.03	1,091.17	5.65	5,768.33	4.86	−858.42	−6.58
Years married	−149.60	−0.82	57.25	1.89	−56.29	−0.31	148.64	7.21
Head prev. married	−11,181.89	−3.57	363.65	0.74	11,969.23	3.85	−1,150.99	−3.52
Spouse prev. married	−3,084.28	−0.89	1,191.89	2.26	1,279.01	0.37	613.39	1.82
Immigrants								
Immigrant status	72,085.18	12.17	3,807.52	4.43	−64,526.33	−12.31	−11,366.38	−9.99
Citizen	−16,074.99	−5.02	1,266.43	2.33	13,689.29	4.21	1,119.27	2.53
Non-citizen	16,074.99	5.02	−1,266.43	−2.33	−13,689.29	−4.21	−1,119.27	−2.53
Net worth								
Net worth	0.43	76.48	0.01	39.16	0.56	143.75	0.00	0.04
Net worth × Imm.	−0.28	−6.60	0.00	−2.41	−0.05	−7.86	0.33	8.42
Year of entry								
<1960	−33,126.00	−4.19	−177.33	−0.13	35,222.96	4.32	−1,919.64	−1.58
1960–1964	−34,736.39	−3.46	−2,124.40	−1.12	37,275.39	3.73	−414.59	−0.35
1965–1969	−6,760.37	−0.93	−3,389.94	−2.67	11,134.75	1.51	−984.43	−0.78
1970–1974	−4,581.30	−0.65	−1,024.94	−0.77	4,273.05	0.60	1,333.19	1.35
1975–1979	−3,846.34	−0.59	1,667.48	1.38	1,490.85	0.23	688.01	0.81
1980–1984	27,967.64	4.39	2,685.72	2.49	−31,427.46	−4.92	774.09	0.91
1985+	55,082.77	9.00	2,363.42	2.52	−57,969.55	−9.35	523.37	0.58
Region of origin								
Europe	−5,369.44	−0.95	−2,642.42	−2.46	8,653.20	1.54	−641.34	−0.74
Asia	152.05	0.03	−232.47	−0.25	−1,435.76	−0.27	1,516.18	2.11
Mexico	20,161.10	3.68	407.97	0.55	−22,707.71	−4.09	2,138.64	2.56
Ctr/Sth Amer.	−18,312.18	−2.75	1,956.08	2.04	17,009.20	2.60	−653.11	−0.71
Other	3,368.46	0.43	510.85	0.42	−1,518.93	−0.20	−2,360.37	−1.93
Panel year								
1987	6,096.22	2.27	1,561.80	3.27	−10,387.23	−3.94	2,729.20	12.51
1990	340.86	0.14	861.69	1.97	−3,446.78	−1.44	2,244.24	10.16
1991	3,459.63	1.28	489.89	1.13	−4,384.87	−1.61	435.35	1.59
1992	2,432.56	1.08	−634.95	−1.78	−2,556.78	−1.13	759.16	3.27
1993	−561.80	−0.25	−755.50	−2.09	−2,280.97	−1.02	3,598.27	15.79
1996	−11,767.48	−6.29	−1,522.92	−4.28	23,056.63	12.33	−9,766.23	−29.32
N	51,604		51,604		51,604		51,604	
R^2	0.24		0.04		0.19		0.09	

Note: All figures in 1992 constant dollars.

TABLE 5
DETERMINANTS OF ASSET PORTFOLIOS: SINGLE HOUSEHOLDS (MARGINAL EFFECTS AND t-STATISTICS)

	Financial Wealth		Business Assets		Real Estate		Vehicles	
	dy/dx	t-stat	dy/dx	t-stat	dy/dx	t-stat	dy/dx	t-stat
Income								
Permanent income	6.84	31.85	0.21	19.75	-8.69	-40.58	1.64	50.51
Transitory income	-2.36	-17.93	0.01	2.67	2.83	21.50	-0.48	-24.27
Demographics								
Age	991.42	8.36	-3.65	-0.45	-1,066.31	-8.92	78.55	4.64
Kids <18	-1,578.11	-1.90	-3.01	-0.07	3,093.56	3.67	-1,512.43	-12.64
Prev. married	-10,711.98	-7.70	-152.45	-1.66	9,516.81	6.84	1,347.62	7.36
Immigrants								
Immigrant status	18,708.79	6.12	-398.67	-1.73	-15,538.44	-5.44	-2,771.67	-5.44
Citizen	-3,862.65	-1.64	-269.02	-1.37	3,708.36	1.58	422.80	1.16
Non-citizen	3,862.65	1.65	269.02	1.37	-3,708.86	-1.58	-422.80	-1.16
Net worth								
Net worth	0.59	59.31	0.01	13.36	0.35	134.81	0.05	5.66
Net worth × Imm.	-0.09	-1.37	0.00	2.45	-0.03	-4.37	0.12	1.91
Year of entry								
<1960	-8,679.08	-1.84	116.45	0.31	7,586.50	1.61	976.14	1.32
1960–1964	-12,186.19	-1.88	-1,423.82	-3.08	14,153.36	2.17	-543.35	-0.53
1965–1969	4,707.01	0.79	113.51	0.26	-4,344.64	-0.73	-475.88	-0.51
1970–1974	-8,287.80	-1.66	-254.40	-0.70	8,334.01	1.69	208.19	0.27
1975–1979	2,843.44	0.61	325.01	0.78	-2,468.29	-0.52	-700.16	-0.85
1980–1984	1,625.59	0.35	879.73	1.77	-2,903.51	-0.62	398.18	0.54
1985+	19,977.02	4.65	243.52	0.75	-20,357.42	-4.72	136.88	0.19
Region of origin								
Europe	5,136.35	1.42	-173.66	-0.47	-4,821.69	-1.34	-141.00	-0.22
Asia	1,530.96	0.33	-101.02	-0.26	-3,104.28	-0.68	1,674.34	2.42
Mexico	-4,937.73	-1.23	-118.71	-0.47	2,736.13	0.68	2,320.31	3.70
Ctr/Sth Amer.	-5,603.46	-1.50	443.46	1.69	8,084.27	2.16	-2,924.27	-4.89
Other	3,873.89	0.75	-50.08	-0.10	-2,894.43	-0.56	-929.37	-1.11
Panel year								
1987	5,008.47	2.87	307.40	2.44	-5,752.38	-3.30	436.51	2.05
1990	485.40	0.33	45.54	0.46	-690.69	-0.47	159.76	0.89
1991	2,686.78	1.57	-130.24	-1.25	-2,281.34	-1.32	-275.20	-1.22
1992	-474.44	-0.35	-160.47	-1.89	1,253.07	0.92	-618.16	-3.16
1993	2,400.65	1.69	13.11	0.14	-5,117.06	-3.56	2,703.30	14.00
1996	-10,106.86	-9.24	-75.34	-0.89	12,588.40	11.29	-2,406.21	-12.59
N	38,154		38,154		38,154		38,154	
R^2	0.25		0.03		0.23		0.15	

Note: All figures in 1992 constant dollars.

estate equity as a result of increases in net worth is accompanied by lower levels of real estate equity. Specifically, immigrant couples and immigrant singles have $64,526 and $15,538 less real estate equity respectively than corresponding natives. Thus, these results confirm that—consistent with previous evidence (Camarota, 2001; Amuedo-Dorantes and Pozo, 2002; Borjas, 2002; Painter *et al.*, 2003)—on the whole immigrants to the United States hold a much smaller share of their wealth in the form of housing and other real estate. Finally, couple-headed immigrant families have somewhat more business equity than U.S.-born couples.

These aggregate patterns, however, mask a great deal of variation in the asset portfolios of immigrants from different sending countries or who entered the United States in different periods. Relative to immigrant couples generally, couples from Mexico have significantly more financial wealth and vehicle equity, and significantly less real estate equity than the average immigrant with the same level of net worth. It is interesting, however, that there are few significant region-of-origin differences in the amount of wealth that single-headed immigrant families hold in the two most important asset categories—financial wealth and real estate. Furthermore, there is little ethnic variation in business equity levels amongst single-headed immigrant families. The only substantive variation across sending countries is in the vehicle equity that single immigrants hold with Asians and Mexicans holding significantly more and Central and South Americans holding significantly less.

Although migration cohort is relatively unimportant in explaining variation in wealth levels within the immigrant population (see Section 5.1), the year in which an immigrant entered the United States is associated with significant variation in the allocation of wealth across asset types. Holding constant net worth, established immigrant couples entering before 1965 hold significantly less financial wealth than immigrants on average, while more recent immigrants entering after 1979 hold significantly more. An opposite pattern emerges with respect to real estate equity. Similarly, U.S. citizenship is associated with relatively more real estate equity and relatively less financial wealth.

Thus, the asset portfolios of more established immigrants can be characterized by higher levels of real estate equity and lower financial wealth, while more recent immigrants hold less real estate and more financial wealth. As recent immigrants are younger on average than those in more established cohorts, these patterns may by due either to life cycle effects (aging effects) or to birth cohort effects within the immigrant population. Unfortunately, the nature of our data does not allow us to make any progress in sorting out these two effects. At the same time, it is puzzling that corresponding patterns are not present in overall wealth levels, but are reflected only in the way in which different immigrant cohorts allocate their wealth across major asset categories. While not discounting the potential role of aging and birth cohort effects as an explanation, these results may also point to a migration cohort effect which leads more recent immigrants to hold a relatively higher share of their portfolios in liquid as opposed to nonliquid assets.

6. Conclusions

Wealth is an important measure of overall economic well-being which most likely influences immigrants' ability to successfully integrate into host-country

society. Wealth provides the resources necessary to maintain consumption levels in the face of economic hardship, to access better housing, educational, and health facilities, and to have more political influence. At the same time, there are many reasons to believe that both the level of wealth and the portfolio choices of immigrants will differ from those of the native born. This paper adds to the limited empirical literature on the magnitude of the nativity wealth gap by using SIPP data to document how the wealth of immigrant households compares to that of similar U.S.-born households.

Foreign-born households in the United States are less wealthy than their U.S.-born counterparts. The median wealth level of U.S.-born couple-headed households is 2.5 times the median wealth level of foreign-born couples, while among singles the median wealth level of U.S.-born individuals is three times that of foreign-born individuals. These aggregate statistics mask a great deal of diversity in wealth holdings within the immigrant population, however. The diversity in wealth levels manifests itself primarily in source-region rather than entry-cohort differences. While European and Asian immigrants have substantially more wealth than the average immigrant, Central and South Americans have significantly less. Despite the potential for credit constraints and the possibility of remigration to lead immigrants to have a different savings motive (and hence different pattern of wealth accumulation), the nativity gap in net worth does not appear to stem from a divergence in the response of foreign-born households as a group to transitory income shocks. Families in more recent immigrant cohorts do not reduce their net worth more in response to transitory income shocks as we might expect in the face of both credit constraints and a limited ability to access social welfare.

Portfolio choices are related to the year in which an immigrant entered the United States—holding net worth constant—with established immigrants holding significantly less and recent immigrants holding significantly more financial wealth. An opposite pattern emerges with respect to real estate equity. Thus, year of arrival is generally unrelated to overall wealth levels (particularly for single-headed households), but is significantly related to the way in which immigrants allocate their wealth across major asset categories. While we are unable to rule out either aging or birth cohort effects in explaining these patterns, these results also are consistent with a migration cohort effect which leads more recent immigrants to hold a relatively higher share of their portfolio in liquid as opposed to non-liquid assets. Whether this is due to credit constraints (which make the financing of financial wealth easier than the financing of real estate) or to an increased probability of remigration (which raises the desire for liquid rather than nonliquid assets) is an interesting question for future research.

The SIPP data used in this analysis provide a unique opportunity to study the wealth position of the total U.S. foreign-born population. The existence of important region-of-origin and migration-cohort effects is perhaps not surprising in light of the previous literature on the saving behavior and home ownership rates of immigrants. Still, our results do highlight the substantial diversity in wealth holdings within the immigrant population and demonstrate the importance of controlling for both region of origin and immigration cohort when modeling the nativity wealth gap.
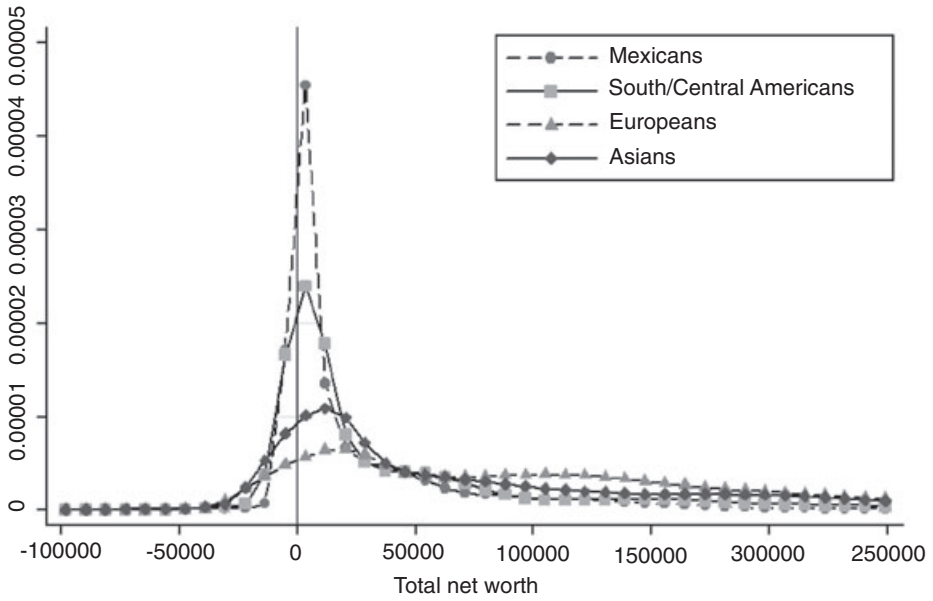
Figure A1. Wealth Distributions of Married Foreign-Born Households by Region of Birth
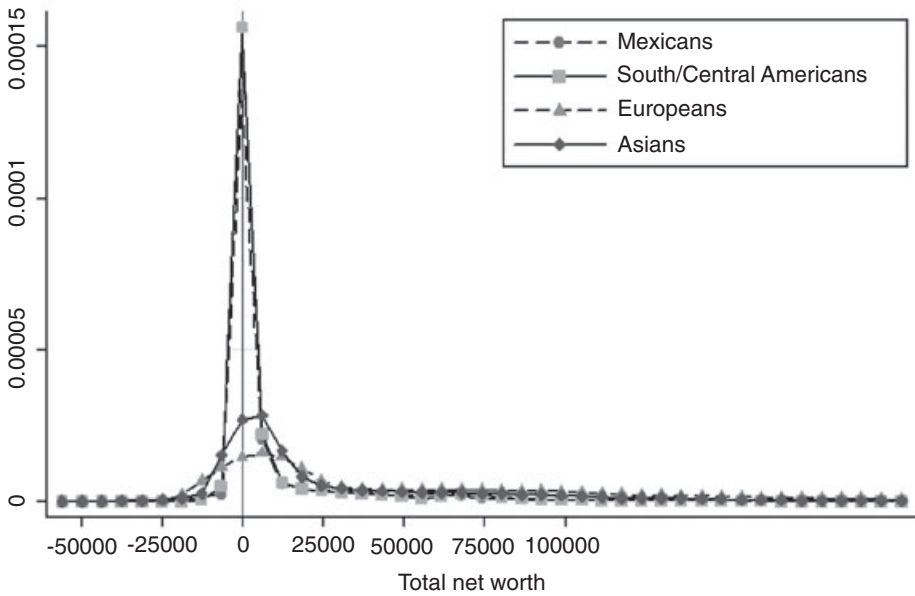

Figure A2. Wealth Distributions of Single Foreign-Born Households by Region of Birth

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TABLE A1

DESCRIPTIVE STATISTICS BY REGION OF ORIGIN AND HOUSEHOLD TYPE POOLED ACROSS SIPP PANELS

| | Married Households | | | | | | | Single Households | | | | | | |
| | | | of which from: | | | | | | | of which from: | | | | |
	U.S.	Total Immig.	Europe[a]	Asia	Mexico	Ctr/Sth America	Other	U.S.	Total Immig.	Europe[a]	Asia	Mexico	Ctr/Sth America	Other
Demographics														
Age	47.2	44.7	50.9	44.4	40.3	45.5	45.2	47.4	46.3	52.9	42.7	42.6	45.8	42.4
Kids <18	0.9	1.4	0.8	1.3	2.1	1.2	1.5	0.4	0.5	0.2	0.4	1.1	0.6	0.5
Education	13.3	11.7	12.9	14.1	8.0	11.8	13.2	12.9	11.8	12.9	13.6	8.4	11.3	13.4
Spouse education	13.1	11.3	12.3	13.4	8.0	11.5	12.8							
Occupation														
Professional	0.254	0.201	0.288	0.323	0.034	0.163	0.251	0.202	0.181	0.243	0.247	0.047	0.134	0.269
Tech., sales, admin	0.176	0.142	0.120	0.210	0.069	0.163	0.159	0.219	0.164	0.165	0.226	0.077	0.178	0.183
Service	0.057	0.111	0.053	0.090	0.132	0.171	0.105	0.096	0.133	0.098	0.078	0.177	0.167	0.157
Farm, forestry	0.025	0.043	0.010	0.011	0.124	0.014	0.018	0.011	0.014	0.006	0.004	0.047	0.007	0.007
Precision prod, craft	0.136	0.125	0.129	0.081	0.187	0.117	0.072	0.057	0.059	0.047	0.059	0.096	0.043	0.063
Operators/laborers	0.128	0.160	0.109	0.095	0.263	0.164	0.129	0.085	0.105	0.068	0.078	0.182	0.123	0.060
Military	0.007	0.003	0.000	0.007	0.002	0.001	0.003	0.002	0.000	0.000	0.002	0.000	0.000	0.000
Region														
Midwest	0.282	0.107	0.190	0.109	0.089	0.042	0.120	0.257	0.104	0.175	0.117	0.081	0.026	0.116
South	0.351	0.246	0.134	0.188	0.250	0.433	0.260	0.347	0.249	0.160	0.187	0.280	0.367	0.257
West	0.174	0.411	0.222	0.479	0.651	0.182	0.287	0.196	0.357	0.281	0.518	0.613	0.181	0.235
Northeast	0.192	0.236	0.454	0.224	0.010	0.343	0.332	0.200	0.290	0.384	0.178	0.026	0.426	0.392
Year of entry														
<1960		0.088	0.245	0.032	0.062	0.063	0.081		0.200	0.451	0.088	0.133	0.078	0.108
1960–1964		0.061	0.093	0.037	0.040	0.106	0.048		0.074	0.098	0.046	0.060	0.085	0.052
1965–1969		0.093	0.127	0.058	0.105	0.110	0.057		0.102	0.102	0.080	0.077	0.140	0.097
1970–1974		0.120	0.099	0.110	0.142	0.114	0.141		0.121	0.051	0.147	0.167	0.145	0.123
1975–1979		0.156	0.090	0.171	0.210	0.104	0.174		0.131	0.069	0.189	0.165	0.123	0.157
1980–1985		0.203	0.103	0.261	0.174	0.253	0.213		0.149	0.069	0.168	0.154	0.182	0.250
1985+		0.279	0.243	0.332	0.267	0.249	0.287		0.224	0.159	0.283	0.242	0.247	0.213
N	47,663	3,941	699	1,093	1,097	718	334	35,414	2,740	782	477	532	681	268

Notes: Calculations are based on SIPP 1987, 1990, 1991, 1992, 1993 and 1996 panels.
[a] Includes also Canada and Australia.

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