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

by

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The Wealth and Asset Holdings of U.S.-Born and Foreign-Born Households: Evidence from SIPP Data

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Abstract

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 2.3 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.

JEL: J61, G11, J10

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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 individuals living outside their country of birth continues to grow worldwide.[1] A large economics literature has developed, assessing how the relative human capital (e.g., educational attainment, language ability, and health status) and labor market outcomes (e.g., earnings, occupation, and employment rates) of immigrants change with time since migration. However, little attempt has been made to examine how 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 the ability of migrants to successfully integrate into host-country society. Wealth provides migrants with 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 with better educational and health facilities and lower levels of crime and to have more political influence (Gittleman and Wolff, 2000; Altonji and Doraszelski, 2001). Finally, wealth plays a key role in providing income security for the one in five immigrants aged 55 plus who are at (or near) the age of retirement.[3]

[1] The International Labour Organization, for example, recently estimated that worldwide the number of migrants now exceeds 120 million people (Stalker, 2000). In the United States the foreign-born population has grown from 9.6 million in 1970 to 28.4 million today (Camarota, 2001).

[2] The exceptions are Shamsuddin and DeVortez (1998) and Zhang (2002) who study immigrants to Canada and Amuedo-Dorantes and Pozo (2001) who study immigrants to the United States.

[3] Although relative to natives 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

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. The migration process itself leads immigrants to be a highly selected sample of individuals (Borjas, 1987) and there may be a cultural basis to savings behavior (Carroll, et al., 1994, 1998). An inability to access the social welfare system and the prospect of remigration may further alter immigrants' incentives for precautionary savings (Amuedo-Dorantes and Pozo, 2001; Shamsuddin and DeVoretz, 1998; Dustman, 1997; Galor and Stark, 1990), while differences in native- and foreign-born residential patterns may lead to a divergence in the proportion of wealth held in housing stock (Painter, et al., 2001). Finally, immigrants may face earnings profiles that differ both in terms of levels and earnings risk.

To our knowledge there is no empirical evidence on the aggregate, relative wealth position of the total U.S. foreign-born population. Yet 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 in the United States using Survey of Income Program Participation (SIPP) data. These data are unique in providing information on both household wealth holdings and immigration history and have a number of important advantages for the analysis at hand (see below). We adopt –

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 foreign-born population in the United States.

unlike many others in the wealth literature – 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?

Our results reveal that foreign-born households are less wealthy than U.S.-born households. The median wealth level of U.S.-born couples is 2.3 times the median wealth level of foreign-born couples, placing the median foreign-born couple between the 30 - 35th percentile of the native-born wealth distribution. Among singles the median wealth level of the U.S. born is three times that of the foreign born leaving immigrants in the 35th - 40th percentile of the native wealth distribution. Furthermore, 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. At the same time, the year in which an immigrant entered the United States 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 Survey of Income and Program Participation 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.

2 The Nativity Wealth Gap

2.1 Theoretical Issues:

At any point in time, disparity in wealth across households stems 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 of immigrant households differs from that of similar native-born households. First, a large literature shows that – relative to the native born – new immigrants face an earnings gap at arrival which tends to disappear with time since migration. This pattern is remarkably consistent across U.S. studies, though the magnitude of the earnings gap at arrival, the extent to which it reflects a relative unobserved skills gap, and the speed of convergence itself all remain matters of contentious debate. (See Borjas, 1994 for a review.) Almost nothing is known about the empirical 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]

Second, there is a great deal of diversity within the immigrant population. Social norms and expectations about intergenerational transfers in the sending country may influence not only inherited wealth, but post-migration savings behavior and asset allocation (and consequently rates of return) as well. Chiteji and Stafford (1999), for example, 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 sticki-

[5] A differential probability of being self-employed would also be expected to affect a household's portfolio choices (Heaton and Lucas, 2000).

ness in asset portfolios explains part of the racial wealth gap in the United States (Chiteji and Stanford, 1999) and it seems reasonable to expect that there might be 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 that while the savings patterns of immigrants to Canada are not significantly different across countries of origin (Carroll, et al., 1994), this is not true of immigrants to the United States (Carroll, et al., 1998). Interestingly, however, the authors conclude that these latter findings do not support the importance of cultural effects in savings because the savings patterns of immigrant groups – while different from one another – do not resemble the national savings patterns of their home countries. They point instead to the possibility that immigrant selectivity varies across regions of origin.

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 faster in old age and are more sensitive to levels of social security wealth than are the wealth levels of similar Canadian-born households. These results are consistent with age and residency requirements which limit some immigrants' access to Canada's federal old-age security (OAS) pension.[6] At the same time, relative patterns of wealth accumulation at younger ages varies with the survey year considered, though foreign-born households consistently reduce their wealth levels more in response to an additional child than do native-born households.

Finally, many foreign-born individuals though not strictly temporary, may

[6] Such limitations are becoming quite common across receiving countries. The 1996 Personal Responsibility and Work Opportunity Reconciliation Act, for example, restricts the welfare access of non-citizens arriving in the United States 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 after arrival (Cobb-Clark, 2002).

nonetheless have a higher probability of emigration than native-born individuals.[7] This opens up the possibility that economic conditions (including labor market risk) in the sending country – in addition to those in the host country – interact with anticipated 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 more or less than similar natives depends on the correlation in labor-market shocks in the two countries. Specifically, the ability to diversify across two labor markets (rather than one) may reduce immigrants' income risk leading to less precautionary savings.

2.2 Empirical Evidence:

In general, the limited empirical evidence suggests that natives accumulate more wealth than recent immigrants with similar characteristics, though this gap seems to disappear for more established immigrants. For example, Shamsuddin and De-Voretz (1998) report that in 1984 immigrants who had been in Canada less than 8 years had a wealth level that was approximately half that of similar Canadian-born households. Over time, however, there was rapid wealth assimilation leading the authors to conclude that an immigrant household in Canada would need approximately 15 years to achieve the same wealth level of a native-born household 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, relative to Canadian-born households,

[7] A small literature focuses on the relationship between length of stay and the savings behavior of temporary migrants. See Amuedo-Dorantes and Pozo (2001) for a review.

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

recent immigrants to Canada are at a wealth disadvantage, while more established immigrant household have higher wealth levels than otherwise similar native-born households. On average, however, he finds that the mean wealth gap is not significantly different 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 any differences in those underlying characteristics that might be related to wealth.[9] Their results indicate that while immigrants from some regions of origin (Germany, Taiwan, and the United Kingdom, for example) have higher average wealth levels than native-born households, others (for example, Mexico, Portugal, and Japan) have much lower levels of wealth. The authors also report that in the ten-year period between the two censuses, immigrant wealth increased three-fold while the wealth holdings of native households increased one and a half times. This narrowing of the gap in wealth levels 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] Taken together, these results suggest that there may be important differences 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 (2001) find that young native-born households accumulate slightly more

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

[10] While Camarota (2001) attibutes this widening gap to a fall in the homeownership rate of established 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. (2001) for reviews of the literature on immigrant homeownership patterns.

net and financial wealth than do similar young immigrant households. Increased income uncertainty leads to a significant increase in 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

This paper exploits data drawn from the 1987, 1990, 1991, 1992, 1993 and 1996 surveys of the Survey of Income and Program Participation (SIPP). Each survey is a short, rotating panel made up of 8 to 12 waves of data – collected every 4 months – for approximately 14,000 to 36,700 U.S. households. Thus, a typical survey year covers a time span ranging from 2 1/2 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 of the survey contains both core questions that are common to each wave and topical questions about a particular topic (for example, household assets and immigration history) that are not updated in each wave. In our case, immigration information (including region of origin and year of immigration) is collected in the second wave of each survey. Household wealth information is generally collected in Wave 4 or Wave 7.[13]

SIPP data are not usually thought of as the best source of information for studying trends in wealth holdings in the United States. The Survey of Consumer

[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/) for more information.

[13] The exception is the 1996 survey when the wealth module was collected in Wave 3.

Finance (SCF) inarguably provides a more comprehensive picture of the wealth distribution of American households than do alternative data sources – such as SIPP – 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, 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 one wealth module has been collected since then – in 1999 – examining the wealth holding of immigrants in the United States using PSID data is limited to cross-sectional evidence from a relatively small sample.[14] 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 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.

By pooling data from all of the years in which the SIPP collected both wealth and immigration information, we are able to build a data set which contains a

[14]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 in for a total of 511 immigrant families as of 1999.

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).

The SIPP wealth data come from a topical module on household assets and liabilities. Specific asset variables contained in the SIPP data include: interest earning assets (held in banking and other institutions), equity in stocks and mutual fund shares, 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 business, 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 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 off-shore assets 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.[15] We

[15] We have excluded a small number (n = 634) of households in which the respondent is recorded

have eliminated all married "mixed households" in which one partner is U.S.-born and the other is foreign-born (2,092 households).[16] We have also dropped all immigrant respondents (797 households) for whom the date of migration to the United States was missing. The resulting sample contains respectively a total of 83,294 U.S.-born households (including 35,372 single-headed households) and 6,779 immigrant households (including 2,748 single-headed households).

4 The Wealth and Assets 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.[17] The mean net worth of couple-headed, native-born households in our data is $124,844, while the median is $67,760. As anticipated, this is very similar to the levels of mean net worth reported using NLSY or PSID data, but is much lower than the levels calculated from SCF data (Amuedo-Dorantes and Pozo, 2001; Juster, et al, 1999; Wolff, 1998). The median net worth of native-born couples is somewhat lower than that of immigrant couples from Europe ($105,838) and somewhat higher than that of couples from Asia ($55,365).[18] 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 levels than U.S.-born couples. The same pattern holds for single-headed households as well with

as both having migrated to and born in the United States.

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

[17] Sampling weights are used to take into account the stratified sampling design.

[18] 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.

individuals from Europe doing somewhat 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 household are shown by household type in Figures 1 and 2.[19] These figures highlight the fact that wealth distributions – particularly those of U.S.-born households – are highly skewed to the right. At the same time, a significant proportion of households in our sample have negative net worth.[20] 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,

$$W_{it}^{q} = a^{q} + b^{q} I_{i}^{q} + \varepsilon_{it}^{q} \tag{1}$$

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 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.[21] Irrespective of household type, the gap in net worth between immigrant and U.S.-born households becomes larger

[19] All estimation is done in STATA 7.0. In producing these figures the Epanechnikov kernel and STATA's optimal bandwidth were used.

[20] In particular, 18.6 percent of foreign- and 12.0 percent of native-born households have non-positive net worth. Within the immigrant population, Europeans and Asians have wealth distributions that are more skewed to the right than those of Mexian and Central and South American immigrants (see Appendix Figures A1 and A2).

[21] Simultaneous estimation across different values of q allows the variance-covariance matrix of the different b^{q} to be obtained and the equality of the nativity wealth gap at various points of the distribution to be tested (see Zhang, 2002). The equality of $\hat{b}^{q}$at all values of q was tested (and rejected) using a F test. These test statistics were F(9, 51,951) = 32.82 for couples and F(9, 38,118) = 50.25 for singles.

in magnitude as one moves up the wealth distribution ranging – for example, for couples from $2,312 at the tenth percentile to $71,793 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.[22] (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 European and Asian immigrants hold at least some of their overall wealth as business equity. Consistent with previous evidence (Amuedo-Dorantes, 2001; Camarota, 2001; Painter, et al., 2001; Borjas, 2002) however, immigrant households are less likely to own real estate, though the real estate equity of European and Asian 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 wealth holdings within the immigrant population.

5 Empirical Specification and the Results

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, 2001). In addition, the distribution of wealth

[22] Amuedo-Dorantes and Pozo (2001) discuss the asset portfolios of young immigrant and native households.

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 Shamsuddin and DeVoretz, 1998 and Jappelli, 1999, for example).[23] 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).[24] This function approximates log(W$_{it}$) for positive values of net worth that are not too small and -log(W$_i$) 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,

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

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

[23] The log specification implicitly allows for multiplicative terms in the wealth equation (Altonji and Doraszelski, 2001).

[24] Specifically,

$$\begin{aligned} g(z_t, \theta) &= \sinh^{-1}(\theta z_t)/\theta \\ &= \log(\theta z_t + (\theta^2 z_t^2 + 1)^{\frac{1}{2}})/\theta \end{aligned}$$

where we set $\theta = 1$. See Kapteyn, et al. (1999) for a recent example.

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.[25] Blau and Graham (1990) adopt a similar approach, though others use income averaged over some previous period as a measure of permanent income (Feldstein and Pellechio, 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 (2001) 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.

Demographic and human capital characteristics thought to have a direct effect on savings and consumption behavior are captured by vector X_{it}[26], 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 both on when immigrants entered the United

[25] The explanatory variables in the income regression include: a cubic in age of the head, education (for both head and spouse), head's occupation, 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.

[26] The variables in X_{it} include: a cubic in age of the head and the number of children aged less than 18 in the household.

States and where they came from. Thus, our wealth model includes a complete set of year of immigration (C_i) and region-of-origin (R_i) 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 immigrant status, source country, and migration cohort.[27] Equation (2) is identified by constraining the coefficients on the cohort, region-of-origin, and period dummies and the transitory-income interactions to sum to zero.[28] Finally, $\eta_{it} \sim N(0, \sigma^2)$ is a random error term and the remaining terms are vectors of parameters to be estimated.

The results – marginal effects and t-statistics – from this estimation are presented in Table 3.[29] Two specifications of the model are considered: our baseline

[27] 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, these authors also find that the savings rates of immigrants to the United States varies significantly by source country (Carroll, et. al., 1998), leaving open the possibility of important region-of-origin differences in the net worth of foreign-born individuals in United States.

[28] Thus, 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 and source countries) differs from that of native-born households.

[29] 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 ($\frac{\partial W_{it}}{\partial x_{it}}$):

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

Marginal effects for other independent variables are calculated similarly. The nonlinear 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, pg. 876). A continuous approximation has been used for all discrete dependent variables. Finally, the boot-strapped standard errors for these marginal effects were

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 both permanent and transitory household income. What is interesting is that the effect of income on net worth is essentially the same for couple- and single-headed households. Each additional dollar of permanent income is estimated to increase net worth by just over $25.00. At the same time, negative transitory income shocks are associated with a large reduction – $13.22 for couple-headed households and $15.45 for single-headed households – in net worth.[30] To some degree the similarity in the relationship between income and net worth across household types may reflect our inability to account for marital history in assigning household status. Couple-headed households may be newly established, while individuals in single-headed households may have spent a substantial proportion of their lives as part of a couple. Because wealth accumulation is a process which takes place over a number of years, perhaps decades, it would be useful to control for complete marital histories in modeling net worth.[31] Unfortunately, our data do not permit this.

There is a strong relationship between the age of the household head and net worth particularly for couple-headed households. As our model does 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. Each child less than age 18 in the household is associated with a significant reduction in the

used to calculate the reported t-statistics.

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

[31] See Smith and Ward (1980) who discusse the importance of accounting for marital and fertility histories in assessing asset accumulation and family structure.

net worth of single households of more than $26,000. At the same time, there is no significant difference in the net worth of couple-headed households with and without children. These results are broadly consistent with the literature which suggests that there may not be a uniformly negative effect of family size on asset accumulation. Amuedo-Dorantes and Pozo (2001), for example, find that while larger family size is associated with lower net worth among native-born families in the NLSY, there is no significant effect of family size on the wealth levels of foreign-born families. Similarly, Smith and Ward (1980) find that the effect of children depends critically on marriage duration. While children born early in a marriage depress assets by approximately 12 percent, those born after nine years of marriage raise assets 2 percent.

Wealth is related to nativity. Amongst couple-headed households the nativity wealth gap is approximately $22,000 once differences in income and demographic characteristics are controlled, while amongst single-headed households the gap is more than $10,000 which is not quite significant at conventional levels. These aggregate differences are useful in highlighting the wealth position of the foreign-born population in the United States 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.

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 ($47,039 and $63,661 respectively) than the average foreign-born household, while for single-headed households the difference is $32,784 for European households and $45,858 for Asian households. These differences are quite large and are sufficient to overcome the negative effect associated

with foreign-born status generally. Households from Mexico have a level of net worth levels that is not significantly different from that of the foreign-born population as a whole, while those households from Central and South America are significantly less wealthy than similar immigrant households. It is interesting to compare these patterns which control for differences in household characteristics with those results in Table 1 which does not. While the low levels of net worth amongst foreign-born households Mexico 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.

Somewhat 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 established migrants who entered the United States before 1960 is higher than that of the foreign-born population as a whole, while the net worth of couple-headed households entering after 1985 is significantly lower. Still, there is no significant difference in net worth across the majority of entry cohorts, and in particular, the wealth level of recent single-headed households is not significantly different from that of other foreign-born, single-headed household entering the United States up to two and a half decades before. 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 (Painter, et al., 2001; Borjas, 2002). 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 immigrant status and a full set of region of origin and cohort dummies.[32] The results indicate that there is no significant nativity gap either for couple- or single-headed households in the effect of transitory income shocks on net worth. Still, there is some significant variation in the effect of transitory income shocks within the couple-headed foreign-born population. Specifically, for every dollar that current income falls below permanent income, net worth is reduced an additional $3.78 for couple-headed European households. Transitory income shocks also have a more negative effect on those households entering the United States between 1980 and 1984 and a less negative effect for immigrant families entering before 1960.[33] These results suggest 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. Interestingly, there is no evidence of significant variation in the effects of transitory income shocks within the population of single-headed, foreign-born households.[34]

[32] The model is identified by restricting the sum of the interaction coefficients to be zero.

[33] The effect of transitory income on net worth for immigrants in a particular cohort or from a particular sending country is a combination of three effects: 1) the aggregate effect of transitory income on net worth; 2) the interaction of transitory income and migrant status; 3) 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.

[34] It is not possible for us to say anything meaninful about the effect of income uncertainty on wealth accumulation given the shortness of the SIPP panel. Amuedo-Dorantes and Pozo (2001), 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 carry out more precautionary savings than do immigrants, though they are unable to measure precautionary savings which take

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:

$$\begin{aligned} \sinh^{-1}(A_{ikt}) &= a_{0k} + Y_{it}b_k + X'_{it}c_k + W_{it}d_k + tj_k \\ &\quad + I_i(\alpha_{1k} + W_{it}m_k + C_i g_k + R_i h_k) + \mu_{ikt} \end{aligned} \tag{3}$$

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 choice 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). Furthermore, X'_{it} is a vector of demographic characteristics – in particular, a cubic in age of the head and the number of children aged less than 18. These

the form of remitances 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.

variables are assumed to capture a household's stage of the life cycle and as such are allowed to have 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, and t capture income (both permanent and transitory), region of origin, immigration cohort, 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.[35]

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.[36] 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. For both couples and singles, higher permanent income is associated with an increase in financial wealth, while transitory income shocks reduce financial wealth levels. For every dollar increase in permanent income – holding net worth constant – financial wealth increases by \$16.86 for couple-headed households and by \$10.72 for single-headed households, while financial wealth is reduced by

[35] 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.

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

$2.65 (couples) and $2.61 (singles) for every dollar that current income lags behind permanent income. In contrast, the business equity of couple-headed households is negatively related to permanent income levels and positively related to transitory income. This effect is very small – though significant – and may suggest that these households respond to transitory income shocks and low permanent income by establishing their own businesses. Single-headed households also reduce the amount of wealth held as business equity as their permanent income increases, but unlike couple-headed households, reduce it further as transitory income shocks become larger. Vehicle equity increases by $0.79 for couples and by over a dollar ($1.81) for singles for every dollar that permanent income increases, though transitory income shocks reduce the vehicle equity of both types of households. 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.

As with wealth levels, the allocation of wealth across asset types is strongly related to age. Because we do not explicitly control for birth cohorts, the estimated effect of the cubic in age on the level of any particular asset captures both differences across birth cohorts in the tendency to accumulate that asset wealth as well as any effect of life-cycle stage (aging) on asset portfolios. Children also play a critical role in determining the composition of households' asset portfolios. Couples with children aged less than 18 hold less financial wealth and have less vehicle equity, but more net equity in businesses and real estate than childless couples with the same level of net worth. Specifically, financial wealth is reduced – and real estate equity increased – by approximately $5,200 for every child in the household. Holding constant net worth, single-headed households with children hold significantly more of their wealth in the form of real estate equity and less in the form of financial wealth, business equity or vehicle equity than do singles

without children. As with couples, the effect of children on the amount of real estate equity is quite large, approximately $3,796 for each child aged less than 18 living in the household. These results are broadly consistent with Keister (2000) who estimates separate models of the propensity to hold specific types of assets and concludes that – relative to childless families – families with children are more likely to own a home, and white families with children are more likely to own a business, though the effect of children on the propensity to own a business is negative and significant for Hispanic families. Smith and Ward (1980) also conclude that children – particularly young children born early in a marriage – alter the composition of savings by reducing financial wealth levels and increasing holdings of durable goods.

Not surprisingly, couples and singles allocate their wealth across the asset categories in a somewhat different manner. For every additional dollar of increased net worth, financial wealth increases by $0.45 for couple-households and by $0.56 for single-headed households. Couples increase their net real estate equity by more as their net worth increases ($0.51 versus $0.32), and have a lower marginal propensity ($0.03 versus $0.11) to increase vehicle equity. Irrespective of household type, any increase in net worth is associated with very small increases (approximately $0.01) in holdings of business wealth. Relative to U.S.-born households, immigrant households allocate a higher proportion of their net worth at the margin to equity in vehicles and less to financial wealth or real estate. For example, U.S.-born couples allocate $0.45 of every dollar of increased net worth to financial wealth, while foreign-born couples allocate $0.24 less than that to financial wealth. Couple-headed immigrant families allocate slightly less and singles allocate slightly more to building business equity.

To some extent, these nativity differences in the marginal propensity to 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 $73,795 more in financial wealth and $10,342 less in vehicle equity than otherwise similar U.S.-born couples. Similarly, foreign-born singles are expected to hold $21,710 more financial wealth and $2,492 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 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 $61,308 and $18,373 less real estate equity respectively than corresponding natives. Thus, these results confirm that – consistent with previous evidence (Amuedo-Dorantes, 2001; Camarota, 2001; Painter, et al., 2001; Borjas, 2002) – 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, both couple-headed and single-headed immigrant families have somewhat less business equity than U.S.-born families.

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 Asia hold less financial wealth ($12,240) and more business ($3,101), real estate ($7,889), and vehicle equity ($1,251). In contrast, Mexican couples have significantly more financial wealth and vehicle equity, and significantly less business and real estate equity than the average immigrant with the same level of net worth. It is interesting, however, that there are no 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 im-

migrant families, although Mexicans hold slightly less and Europeans slightly more business equity than other immigrants. 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 1969 hold significantly less financial wealth than immigrants on average, while more recent immigrants entering after 1980 hold significantly more. An opposite pattern emerges with respect to real estate equity. In general, there is no significant variation in the vehicle or business equity that immigrants from different cohorts hold. Similar results hold for single-headed immigrant households.

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 be due either to life cycle effects (aging effects) or to birth cohort effects within the immigrant population. Unfortunately, the nature of our data do 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 portfolio 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 2.3 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. At the same time, more recent immigrant cohorts reduce their net

worth more in response to transitory income shocks which is consistent with 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, 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 nonliquid 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 savings 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.

7 References

References

[1] Altonji, Joseph G. and Ulrich Doraszelski, 2001. "The Role of Permanent Income and Demographics in Black/White Differences in Wealth", NBER working paper, 8473, September, 2001.

[2] Amuedo-Dorantes, Catalina and Susan Pozo, 2001. "Precautionary Savings by Young Immigrants and Young Natives" *Southern Economic Journal*, forthcoming.

[3] Avery, R and M. Rendall, 1997. "The Contribution of inheritances to Black-White disparities in the United States", working paper, Board of Governors of the Federal Reserve System.

[4] Blau, Francine D. and John W. Graham, 1990. "Black-White Differences in Wealth and Asset Composition", Quarterly Journal of Economics, Vol. 105(2), May, pp. 321-339.

[5] Borjas, George J., 1994. "The Economics of Immigration", *Journal of Economic Literature,* 32, December, pp. 1667 - 1717.

[6] ——, 1987. "Self-Selection and the Earnings of Immigrants." American Economic Review, 77(4), pp. 531 – 553.

[7] ——, 2002. "Homeownership in the Immigrant Population", NBER Working Paper 8945, May 2002.

[8] Burbidge, J., Magee, L., Robb, A., 1988, "Alternative Transformations to Handle Extreme Values of the Dependent Variable", *Journal of the American Statistical Association*, 83-401, pp. 123-127.

[9] Camarota, Steven A., 2001. "The Slowing Progress of Immigrants: An Examination of Income, Home Ownership, and Citizenship, 1970-2000", Center for Immigration Studies, *Backgrounder*, March 2001, pp. 1 - 15.

[10] Carroll, Christopher D., Byung-Kun Rhee, and Changyong Rhee, 1994. "Are There Cultural Effects on Saving? Some Cross-Sectional Evidence", *Quarterly Journal of Economics*, 109(3), August, pp. 685 - 699.

[11] ——, 1998. "Does Cultural Origin Affect Saving Behavior? Evidence from Immigrants", NBER Working Paper 6568, May 1998.

[12] Chiteji, Ngina S. and Frank P. Stafford, 1999. "Portfolio Choices of Parents and Their Children as Young Adults: Asset Accumulation by African-American Families", *American Economic Review*, Vol. 89(2), pp. 377 - 380.

[13] Cobb-Clark, Deborah A., 2002. "Public Policy and the Labor Market Adjustment of New Immigrants to Australia", Forschungsinstitut zur Zukunft der Arbeit (IZA), Discussion Paper, no. 620, October 2002, forthcoming, Journal of Population Economics.

[14] Dustman, Christian, 1997. "Return Migration, Uncertainty and Precautionary Savings", *Journal of Development Economics*, 52, pp. 295 - 316.

[15] Feldstein, Martin and Anthony Pellechico, 1979. "Social Security and Householde Wealth Accumulation: New Microeconometric Evidence", *Review of Economics and Statistics*, 61(3), August, pp. 361 - 368.

[16] Fix, Michael and Jeffry Passel, 2002. "The Scope and Impact of Welfare Reform's Immigrant Provisions", Urban Institute Discussion Paper, January, 2002.

[17] Galor, Oded and Oded Stark, 1990. “Migrants’ Savings, the Probability of Return Migration and Migrants’ Performance”, *International Economic Review,* 31(2), May, pp. 463 - 467.

[18] Gittleman, Maury and Edward N. Wolff, 2000. “Racial Wealth Disparities: Is the Gap Closing?", working paper no. 311, New York University, August 2000.

[19] Greene, William H., 1997. *Econometric Analysis*. 3rd Edition. Upper Saddle River, New Jersey: Prentice Hall.

[20] Heaton, John and Deborah Lucas, 2000. “Portfolio Choice and Asset Prices: The Importance of Entrepreneurial Risk”, *The Journal of Finance,* 55(3), June, pp. 1163 - 1198.

[21] Hurst Erik, Ming Ching Luoh, and Frank Stafford, 1998. “The Wealth Dynamics of American Families, 1984-94", *Brookings Papers on Economic Activity*, 1, pp. 267 - 337.

[22] Jappelli, Tullio, 1999. "The Age-Wealth Profile and the Life-Cyclye Hypothesis: A Cohort Analysis with a Time Series of Cross-Sections of Italian Households", *Review of Income and Wealth*, 45(10, March, pp. 57 - 75.

[23] Juster, F. Thomas and Kathleen A. Kuester, 1991. “Differences in the Measurement of Wealth, Wealth Inequality, and Wealth Composition Obtained from Alternative U.S. Surveys", *Review of Income and Wealth*, Series 37, Number 1, March, pp. 33 - 62.

[24] Juster, F. Thomas, James P. Smith, and Frank Stafford, 1999. “The Measurement and Structure of Household Wealth", *Labour Economics*, 6, pp. 253 - 275.

[25] Kapteyn, Arie, Rob Alessie, and Annamaria Lusardi, 1999. "Explaining the Wealth Holdings of Different Cohorts: Productivity Growth and Social Security", unpublished working paper, August, Tilburg University.

[26] Keister, Lisa A., 2000. "Family Structure, Race, and Wealth Ownership: A Longitudinal Exploration of Wealth Accumulation Processes", unpublished working paper, Department of Sociology, Ohio State University.

[27] Lofstrom, Magnus and Frank D. Bean. "Labor Market Conditions and Post-Reform Declines in Welfare Receipt Among Immigrants", IZA Discussion Paper, 347, August, 2001.

[28] Painter, Gary, Lihong Yang, and Zhou Yu, "Heterogeneity in Asian American Homeownership: The Impact of Household Endowments and Immigrant Status", unpublished working paper, Lusk Center for Real Estate, University of Southern California, 2001.

[29] Schmidley, Dianne A., 2001. *Profile of the Foreign-Born Population in the United States, 2000,* U.S. Census Bureau, Current Population Reports, Series P23-206, Washington, DC: U.S. Government Printing Office.

[30] Shamsuddin, Abul F.M. and Don J. DeVoretz, 1998. "Wealth Accumulation of Canadian and Foreign-Born Households in Canada", *Review of Income and Wealth*, 44(4), December, pp. 515 - 533.

[31] Smith, James P., 1995. "Racial and Ethnic Differences in Wealth in the Health and Retirment Study", *Journal of Human Resources*, 30 (Supplement), pp. S158 - S183.

[32] Smith, James P. and Michael P. Ward, 1980. "Asset Accumulation and Family Size", *Demography*, Vol. 17(3), August, pp. 243-260.

[33] Stalker, Peter (2000). Workers Without Frontiers: The Impact of Globalization on International Migration, Boulder, CO: Lynne Rienner Publishers, Inc.

[34] Wolff, Edward N., 1998. "Recent Trends in the Size Distribution of Household Wealth", *Journal of Economic Perspectives*, Vol. 12(3), summer, pp. 131 - 150.

[35] Zhang, Xuelin, 2002. "The Wealth Position of Immigrant Families in Canada", unpublished working paper, Statistics Canada.

8 Figures, Tables and Regression Results

Figure 1: Non-parametric estimates of wealth distributions

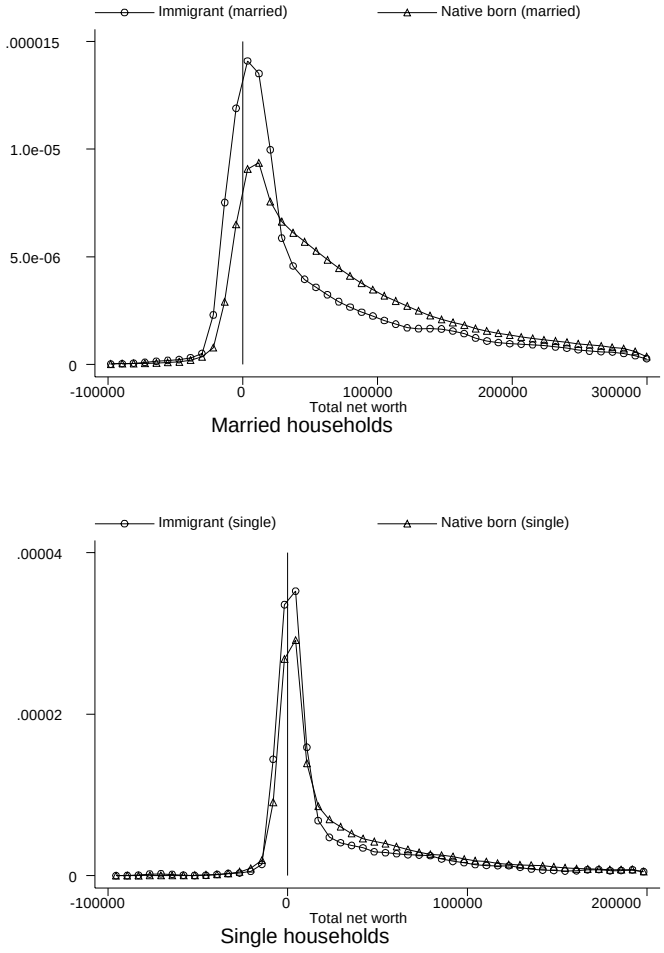

Figure 2:

Table 1: Wealth Holdings by Region of Birth and Household Type

		Immigrant Households					
	United States	**Total Immig**	**Europe[a]**	**Asia**	**Mexico**	**Ctr/Sth America**	**Other**
Married Households							
Mean Total Net Wealth	124844	90360	159560	119702	29933	62087	77636
Median Total Net Wealth	67760	29189	105838	55365	6062	13746	27731
Asset Portfolio							
Financial Wealth	37058	19797	43442	29995	1251	9864	10076
Business	9935	7602	9493	11912	1601	5558	11111
Real Estate	69071	56508	98055	69352	23367	41488	50345
Vehicles	8780	6453	8570	8442	3713	5177	6104
Proportion Owning							
Financial Wealth	0.959	0.846	0.922	0.903	0.694	0.873	0.874
Business	0.136	0.114	0.139	0.156	0.057	0.109	0.110
Real Estate	0.823	0.575	0.766	0.607	0.452	0.517	0.529
Vehicles	0.968	0.889	0.916	0.899	0.903	0.856	0.831
Current Income	15191	11917	15023	15320	6848	10488	11940
N	47922	4031	739	1080	1080	778	354
Single Households							
Mean Total Net Wealth	57323	46041	84131	58607	20986	19354	39672
Median Total Net Wealth	15100	4976	36300	11486	1395	487	4871
Asset Portfolio							
Financial Wealth	16969	12035	26806	13028	1629	3337	12404
Business	3703	3032	3575	4352	2027	1950	4072
Real Estate	33203	27670	49535	36162	15027	12150	19691
Vehicles	4077	3304	4215	5065	2303	1917	3505
Proportion Owning							
Financial Wealth	0.833	0.740	0.877	0.885	0.564	0.597	0.830
Business	0.053	0.048	0.068	0.066	0.025	0.028	0.058
Real Estate	0.511	0.337	0.520	0.407	0.264	0.189	0.262
Vehicles	0.796	0.648	0.742	0.744	0.684	0.466	0.671
Current Income	7114	6308	7520	8144	4251	4749	7810
N	35372	2748	756	454	510	771	257

[a] Includes also Canada and Australia.

Table 2: Nativity Wealth Gap by Household Type
(Simultaneous Quantile Regression Coefficient[a] and Standard Error)

	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	-1613	100	2017	-0.80	462	115	-281	-1.65
20th	-11300	18008	12453	-0.91	-134	37	308	-0.43
30th	-22995	16271	27462	-0.84	-1877	115	2414	-0.78
40th	-33858	12618	45642	-0.74	-4477	2876	6380	-0.70
50th	-40609	15671	67760	-0.60	-10149	7066	15100	-0.67
60th	-42657	20633	95037	-0.45	-18069	4959	30681	-0.59
70th	-42435	19137	133009	-0.32	-18387	6603	53916	-0.34
80th	-45256	11599	194037	-0.23	-17229	4160	89148	-0.19
90th	-59590	34731	306900	-0.19	-18939	9472	163407	-0.12
N								

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

Table 3: Determinants of Net Worth by Household Type
(Marginal Effects and Standard Errors)

	Married Households				Single Households			
	dy/dx	**t-stat**	**dy/dx**	**t-stat**	**dy/dx**	**t-stat**	**dy/dx**	**t-stat**
Permanent Income	25.61	37.19	25.62	38.15	27.40	31.58	27.37	31.28
Transitory Income	-13.22	-39.44	-13.10	-38.13	-15.45	-38.73	-15.50	-37.71
Age	14798.88	51.94	14933.27	53.04	6916.79	32.50	7002.69	32.36
Kids<18	-2930.74	-0.85	-2890.59	-0.85	-26566.14	-10.56	-26508.28	-10.59
Immigrant Status	-22287.23	-2.27	-23402.62	-2.23	-10851.72	-1.58	-10438.78	-1.37
Year of Entry								
<1960	33764.72	1.78	45487.46	2.27	22942.78	1.98	28308.22	2.30
1960-1964	2038.65	0.07	7131.00	0.24	-11852.65	-0.63	-15069.50	-0.74
1965-1969	37387.41	1.68	43373.98	1.82	12199.45	0.84	13713.67	0.87
1970-1974	18684.79	0.88	11450.44	0.49	-12417.42	-0.78	-14645.76	-0.87
1975-1979	-5979.80	-0.31	-9402.21	-0.44	-12311.38	-0.85	-17198.69	-1.04
1980-1984	-14267.32	-0.74	-23505.01	-1.13	-16334.02	-1.14	-17084.18	-1.15
1985	-71628.44	-3.92	-74535.65	-3.91	17773.24	1.41	21976.24	1.56
Region of Origin								
Europe	47039.32	2.94	38961.34	2.18	32784.41	2.97	29299.78	2.51
Asia	63660.54	4.24	66094.30	3.98	45857.61	3.52	49853.65	3.44
Mexico	15724.38	0.92	19556.92	1.12	7340.95	0.62	11274.48	0.88
Ctr/Sth Amer.	-96659.69	-4.89	-98270.30	-4.84	-75757.56	-7.23	-74880.06	-6.55
Other	-29764.55	-1.24	-26342.26	-0.99	-10225.41	-0.63	-15547.85	-0.86
Trans. Income Interactions								
*Immigrant			0.13	0.18			1.11	0.83
*Europe			-3.78	-2.18			-3.29	-1.45
*Asia			0.97	0.90			1.20	0.65
*Mexico			1.13	1.42			3.05	1.03
*Crt/Sth Amer.			0.63	0.53			0.10	0.15
*Other			1.04	0.80			-1.06	-0.74
*<1960			6.36	2.38			6.40	1.78
*1960-1964			0.46	0.17			-3.46	-0.99
*1965-1969			0.80	0.34			-0.33	-0.14
*1970-1974			-2.60	-1.54			-1.54	-0.68
*1975-1979			-1.39	-1.50			-0.84	-0.86
*1980-1984			-2.62	-1.99			-0.34	-0.43
*1985			-1.01	-1.49			0.11	0.30
Panel Year								
1987	51173.11	7.05	51556.03	7.36	18568.92	3.58	18502.39	3.59
1990	2697.61	0.47	2598.50	0.45	363.18	0.09	342.73	0.09
1991	17091.56	2.58	16904.71	2.57	48.37	0.01	176.46	0.04
1992	-3186.97	-0.54	-3134.03	-0.52	-2664.07	-0.64	-2589.43	-0.62
1993	25145.10	4.49	25182.29	4.45	27822.87	6.76	27749.22	6.65
1996	-92920.41	-15.96	-93107.49	-15.84	-44139.27	-12.23	-44181.37	-12.23
N	51953		51953		38120		38120	

Table 4: Determinants of Asset Portfolios: Married Households
(Marginal Effects and Standard Errors)

	Financial Wealth		Business Assets		Real Estate		Vehicles	
	dy/dx	**t-stat**	**dy/dx**	**t-stat**	**dy/dx**	**t-stat**	**dy/dx**	**t-stat**
Permanent Income	16.86	76.03	-1.14	-23.49	-16.51	-76.04	0.79	25.21
Transitory Income	-2.65	-22.45	0.04	2.16	2.93	24.55	-0.33	-21.09
Age	4793.69	30.41	680.30	15.83	6845.86	34.76	502.73	18.65
Kids<18	-5179.28	-4.15	799.94	4.19	5191.26	4.21	-811.92	-6.48
Immigrant Status	73794.59	12.66	-2144.55	-2.29	-61307.84	-12.21	-10342.20	-9.08
Net Worth	0.45	81.75	0.01	42.69	0.51	134.84	0.03	8.02
Net Worth * Imm.	-0.24	-5.70	0.00	-2.06	-0.05	-8.88	0.29	7.47
Year of Entry								
<1960	-37470.23	-5.28	1651.57	1.08	36816.13	5.23	-997.47	-1.01
1960-1964	-59429.60	-6.14	1413.92	0.73	58360.18	6.15	-344.50	-0.30
1965-1969	-15857.22	-2.12	-2106.91	-1.51	19290.87	2.65	-1326.74	-1.06
1970-1974	942.13	0.14	-1069.05	-0.76	-1562.90	-0.23	1689.82	2.06
1975-1979	-5122.28	-0.82	2181.53	1.70	2186.34	0.35	754.42	0.90
1980-1984	35886.30	5.68	-48.39	-0.05	-36025.75	-5.85	187.84	0.22
1985+	81050.90	14.92	-2022.67	-2.27	-79064.86	-15.08	36.64	0.04
Region of Origin								
Europe	-18295.13	-3.40	1841.32	1.63	16516.57	3.10	-62.76	-0.07
Asia	-12240.44	-2.40	3100.54	2.89	7889.10	1.56	1250.81	1.79
Mexico	34306.67	6.70	-6250.17	-7.80	-29991.46	-5.89	1934.96	2.55
Ctr/Sth Amer.	-7103.44	-1.13	820.86	0.88	7200.53	1.18	-917.96	-1.06
Other	3332.34	0.45	487.44	0.35	-1614.74	-0.22	-2205.04	-2.11
Panel Year								
1987	54511.46	21.38	-1925.09	-3.99	-56694.19	-22.65	4107.83	17.97
1990	-7769.65	-3.22	1593.88	3.81	4307.08	1.80	1868.69	8.52
1991	-5010.56	-1.94	753.52	1.71	4152.09	1.60	104.94	0.40
1992	-7033.13	-3.36	-340.04	-0.93	6781.30	3.27	591.87	2.78
1993	-11707.97	-4.93	-31.48	-0.08	8483.95	3.62	3255.49	14.39
1996	-22990.15	-11.87	-50.79	-0.14	32969.77	16.93	-9928.82	-30.22
N	51953		51953		51953		51953	
R^2	0.25		0.03		0.23		0.11	

Table 5: Determinants of Asset Portfolios: Single Households
(Marginal Effects and Standard Errors)

	Financial Wealth		Business Assets		Real Estate		Vehicles	
	dy/dx	**z-stat**	**dy/dx**	**z-stat**	**dy/dx**	**z-stat**	**dy/dx**	**z-stat**
Permanent Income	10.72	52.96	-0.37	-13.39	-12.16	-59.92	1.81	40.33
Transitory Income	-2.61	-21.41	-0.02	-2.66	3.30	27.09	-0.67	-32.40
Age	1464.88	16.57	97.31	5.61	2583.56	21.61	128.71	7.32
Kids<18	-1699.21	-2.03	-452.37	-9.62	3795.76	4.52	-1644.19	-14.01
Immigrant Status	21709.78	7.47	-844.56	-3.87	-18372.87	-6.75	-2492.36	-5.50
Net Worth	0.56	56.20	0.01	18.91	0.32	127.26	0.11	11.47
Net Worth * Imm.	-0.08	-1.26	0.00	2.12	-0.04	-5.10	0.12	1.90
Year of Entry								
<1960	-10440.25	-2.36	-17.44	-0.04	9219.84	2.09	1237.85	1.83
1960-1964	-13611.19	-2.21	-1084.22	-2.27	15503.04	2.51	-807.63	-0.93
1965-1969	1861.15	0.36	305.05	0.81	-1710.91	-0.33	-455.29	-0.53
1970-1974	-14533.70	-2.94	308.43	0.82	13859.11	2.84	366.16	0.48
1975-1979	7107.91	1.51	68.20	0.17	-7004.78	-1.44	-171.33	-0.22
1980-1984	3071.34	0.72	893.04	1.90	-3958.82	-0.95	-5.56	-0.01
1985+	26544.73	7.08	-473.06	-1.48	-25907.48	-6.93	-164.20	-0.26
Region of Origin								
Europe	-2062.42	-0.57	655.19	1.82	1875.55	0.52	-468.32	-0.82
Asia	-4131.52	-0.84	75.56	0.17	2505.96	0.52	1549.99	2.34
Mexico	1379.81	0.38	-726.09	-2.64	-2966.43	-0.83	2312.71	3.80
Ctr/Sth Amer.	880.24	0.26	-83.77	-0.32	2344.59	0.70	-3141.06	-5.99
Other	3933.89	0.79	79.11	0.16	-3759.68	-0.75	-253.32	-0.33
Panel Year								
1987	16700.30	9.72	-156.30	-1.23	-18624.31	-10.75	2080.31	8.81
1990	-2504.97	-1.77	283.50	2.67	2425.41	1.72	-203.94	-1.10
1991	274.14	0.17	-59.14	-0.58	426.13	0.26	-641.13	-2.82
1992	-3652.91	-2.57	13.78	0.15	4599.59	3.24	-960.46	-5.08
1993	-612.10	-0.42	132.76	1.51	-1836.49	-1.26	2315.83	12.22
1996	-10204.46	-8.63	-214.60	-2.43	13009.67	11.04	-2590.60	-13.40
N	38120		38120		38120		38120	
R^2	0.24		0.03		0.25		0.17	

Table A1: Descriptive Statistics by Region of Origin and Household Type

	Married Households							Single Households						
	U.S.	Total Immig.	Europe	Asia	Mexico	Ctr/Sth Amer.	Other	U.S.	Total Immig.	Europe	Asia	Mexico	Ctr/Sth Amer.	Other
Demographics														
Age	47.2	44.7	50.8	44.4	40.1	45.6	45.1	47.4	46.5	52.9	42.7	42.7	46.2	42.4
Kids < 18	0.9	1.4	0.8	1.3	2.1	1.2	1.4	0.4	0.5	0.2	0.4	1.1	0.6	0.5
Education	13.3	11.8	12.9	14.2	8.1	11.8	13.2	12.9	11.8	12.9	13.6	8.4	11.1	13.5
Spouse Education	13.1	11.3	12.4	13.4	8.1	11.3	12.8							
Occupation														
Professional	0.207	0.154	0.210	0.261	0.022	0.113	0.198	0.178	0.151	0.209	0.218	0.035	0.110	0.222
Tech., Sales, Admin.	0.149	0.115	0.096	0.158	0.060	0.145	0.127	0.206	0.150	0.140	0.216	0.082	0.157	0.175
Service	0.052	0.100	0.046	0.071	0.128	0.150	0.107	0.087	0.117	0.086	0.066	0.151	0.144	0.144
Farm, Forestry	0.010	0.036	0.007	0.005	0.113	0.013	0.008	0.007	0.011	0.003	0.004	0.043	0.004	0.004
Precision Prod, Craft	0.115	0.102	0.100	0.065	0.162	0.093	0.059	0.049	0.048	0.041	0.053	0.088	0.029	0.039
Operators/Laborers	0.119	0.145	0.095	0.087	0.252	0.147	0.102	0.082	0.100	0.065	0.073	0.182	0.109	0.062
Military	0.007	0.003	0.001	0.007	0.002	0.003	0.003	0.002	0.000	0.000	0.002	0.000	0.000	0.000
Region														
Midwest	0.281	0.110	0.199	0.112	0.089	0.048	0.121	0.255	0.103	0.179	0.119	0.076	0.032	0.113
South	0.351	0.247	0.137	0.189	0.255	0.415	0.257	0.334	0.243	0.160	0.187	0.284	0.324	0.253
West	0.175	0.403	0.230	0.478	0.646	0.177	0.291	0.196	0.343	0.283	0.511	0.612	0.158	0.245
Northeast	0.190	0.240	0.434	0.221	0.010	0.360	0.331	0.198	0.311	0.377	0.183	0.025	0.485	0.389
Year of Entry														
< 1960		0.098	0.268	0.034	0.063	0.073	0.099		0.200	0.464	0.086	0.131	0.083	0.109
1960-1964		0.064	0.089	0.038	0.043	0.109	0.051		0.076	0.095	0.051	0.059	0.091	0.051
1965-1969		0.093	0.120	0.056	0.103	0.122	0.056		0.109	0.107	0.084	0.080	0.149	0.097
1970-1974		0.120	0.100	0.110	0.140	0.117	0.136		0.122	0.052	0.150	0.169	0.144	0.125
1975-1979		0.157	0.091	0.174	0.211	0.108	0.181		0.138	0.071	0.196	0.167	0.141	0.163
1980-1984		0.199	0.103	0.257	0.175	0.242	0.203		0.153	0.074	0.172	0.161	0.182	0.253
1985+		0.270	0.229	0.331	0.266	0.229	0.274		0.202	0.136	0.262	0.233	0.210	0.202
N	47922	4031	739	1080	1080	778	354	25372	2748	756	454	510	771	257

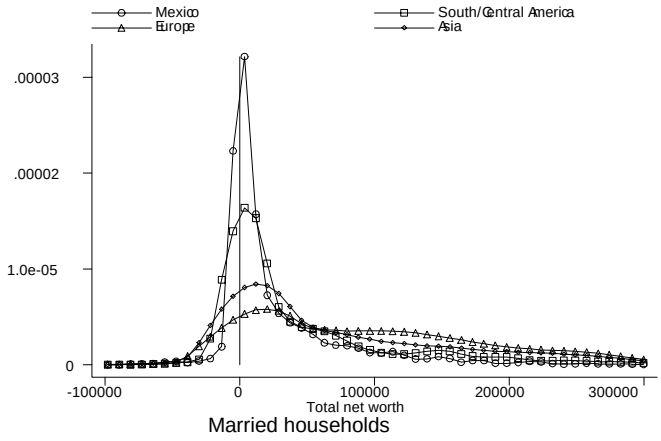

Figure A1:

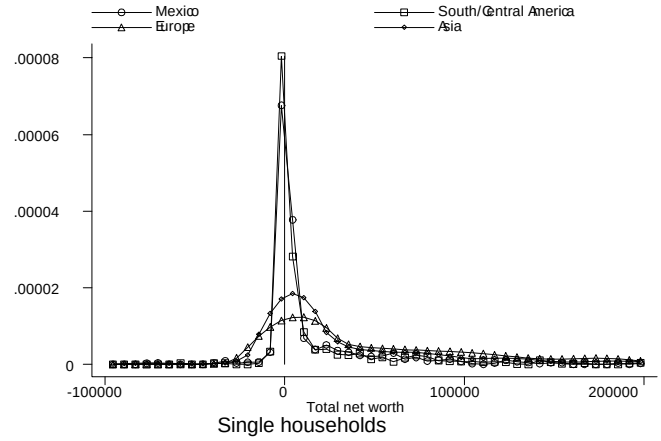

Figure A2

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