DO IMMIGRANTS HAVE LOWER PARTICIPATION RATES IN U.S. FINANCIAL MARKETS?

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ABSTRACT

This paper uses data from the National Longitudinal Survey to examine the differences in individual financial market participation among native-born and immigrant Americans. The results indicate that when compared with natives, immigrants are less likely to own financial assets. A decomposition analysis of financial asset ownership reveals that income gap along with differences in educational attainment as well as the wealth and risk tolerance are the biggest contributors to this disparity. Additionally, income, wealth, inheritance, and educational attainment are positive predictors of financial market participation. Age, income, net worth and number of years of stay in the United States are positively associated with increase in financial wealth of immigrants across time.

JEL: D14, G11, N30

KEYWORDS: Immigrants, Household finance, Investor behavior, Stock market participation

INTRODUCTION

The degree of economic integration of immigrants is an issue of importance for policy makers, researchers, and scholars of international economics. Financial market participation represents one key aspect of economic assimilation. Currently, 1 in every 9 Americans is an immigrant (Osili and Paulson, 2008). Recent studies on individual savings behavior have found that immigrants save less than native-born Americans (Amuedo-Dorantes and Pozo, 2002; Cobb-Clark and Hildebrand, 2006) and that immigrants are less likely to have checking or savings accounts (Osili and Paulson, 2008). Similar literature on Canadian immigrants has found that, although immigrants initially saved less than their Canadian-born counterparts; the disparity in savings declined with an immigrant's integration into Canadian society (Carroll, Rhee and Rhee, 1994).

There are many reasons to believe that the portfolio choices of immigrants will diverge from those of native-born residents. Many immigrants face income profiles that differ from native-born residents in terms of levels and earnings risk. The migration process itself leads immigrants to be a highly selected sample of individuals (Borjas, 1985). Similarly, there may be a cultural basis to the differences in investment participation between immigrants and Native-born Americans (Carroll, Rhee and Rhee, 1999). In addition, the prospect of remigration may further alter immigrants' incentives for financial investments (Amuedo-Dorantes and Pozo, 2001; Dustmann, 1997).

Given the demographic and socioeconomic changes taking place in American society, further research is necessary to gain greater insight into the individual financial market participation of immigrants. Investment decision making requires accessibility to stock markets and the ability to synthesize available financial information, on the part of the immigrant investors. Furthermore, having knowledge of the differences in investment preferences of immigrants and natives can pave the way for future policies and programs aimed at reducing the gap in asset ownership and wealth accumulation, which may currently exist. This study examines the differences in financial market participation between immigrants and native-born Americans, and estimates the factors that may affect preferences for financial asset ownership using the National Longitudinal Survey of youth 1979(NLSY79) data set. The remainder of this paper is organized as follows: in the next section a review of literature is provided. This is then followed by a

methodology section that provides a detailed account of the empirical models and the data used in this study. Next, the empirical results are examined. Finally, the paper closes with a discussion of some key findings and concluding comments.

LITERATURE REVIEW

Immigrant Assimilation

Recent studies on individual savings behavior indicate that immigrants have lower wealth accumulation than native-born Americans (Cobb-Clark and Hildebrand, 2006), and immigrants are less likely to have checking or savings accounts (Osili and Paulson, 2008). Amuedo-Dorantes and Pozo (2002) found in their study that immigrants had lower precautionary savings than the native-born Americans. Borjas (1985, 1994) found that immigrant Americans initially faced an income disparity upon arrival, but this income difference reduced with the immigrants' number of years of stay in the country. From their research on Canadian immigrants, Carroll et al. (1994) found that initially, immigrants saved less than native-born Canadians; however, this gap reduced as immigrants assimilated economically over time. Results from another Canadian study showed that immigrants were financially less informed than their Canadian-born counterparts (Morissette and Zhang, 2004). Carroll et al. (1999) found that U.S. immigrants increased their wealth between 1980 and 1990 at a much faster rate than the U.S.-born households. The researchers also found that recent immigrants initially consumed more and saved less than natives, but this difference was reduced as their economic participation and access to investments grew over a period of approximately 25 to 30 years. An early study by Chiswick (1978) indicated that immigrant income rose over time as their labor market experience increased. Wage inequalities compared to native-born American households disappeared after immigrants had been in the United States 10 to 15 years. Saxenian (2002) however found in her study that highly skilled immigrants were more likely to own start up businesses and create wealth in the economy. There is also evidence from past studies that immigrants displayed a home country bias when diversifying their portfolio of investments (Amadi and Bergin, 2006).

According to the Pagano and Jappelli (1993) study, lending institutions were more likely to charge higher interest rates to the immigrant borrowers. Drew (2002) found that the median value of a first-time home purchased by immigrant Americans was approximately 50 percent higher than the value of a home for native-born first-time home buyers. According to the author, this resulted in larger payments and heavier cost burden for immigrant first-time home buyers, as compared to native-born home buyers. Another research also found that immigrants were hesitant to borrow from financial institutions and instead preferred borrowing through the non-traditional channels such as relatives or friends (Rhine and Toussaint-Comeau, 1999). Newberger et al. (2004) found that lack of access to conventional credit also constrained the ability of immigrants to start up new businesses.

Financial Market Participation

Haliassos and Bertaut (1995) found in their research that approximately 75% of households in the U.S. did not own financial assets. Findings from another recent study indicate that although household income and net worth increased considerably between 1998 and 2001, this growth in income and net worth was greater for households with higher than median income (Aizcorbe, Kennickell and Moore, 2003). Another significant finding of this study was that financial market participation among households, through investments in stocks, mutual funds, and retirement plans, increased substantially between 1998 and 2001. Chapman, Dow, and Hariharan (2005) found that households responded to changes in stock market prices by shifting their investments between financial asset-based and non-financial asset-based assets. Choudhury (2001) found that minorities engaged in lower financial market participation than white households. Past studies also indicate that the level of financial asset ownership increases with an increase

in the level of education (Wang and Hanna, 1997). The Wang and Hanna study also found that investment allocation in financial assets increased with income.

Cortes, Herbert, Wilson and Clay (2007) showed that immigrant homeownership increased with age, income, level of education and net worth. Interestingly, another study found that immigrants were 60% more likely than native-born investors to exit from of the financial markets (Osili and Paulson, 2008). Newberger, Rhine and Chiu (2004) used data from the Survey of Income and Program Participation (SIPP) to show that nearly 32% of the immigrants did not hold transactional accounts. Rhine and Green (2006) found that lower educational attainment, lower income and cultural differences reduced the likelihood of holding bank accounts among immigrants.

METHODLOGY

Hypotheses

Past research indicates that most households need to own some financial assets for wealth accumulation over time (Choudhury, 2001; Campbell and Viceira, 2003). Additionally, investors are constrained in their investment decisions by educational attainment, income, and risk tolerance (Carroll et al., 1994; Wang and Hanna, 1997). Immigrant asset ownership increased with age, income, level of education and net worth (Cortes et al., 2007). The following is a description of the three hypotheses that were explored in this study:

Hypothesis 1: Immigrants have lower financial market participation than native-born Americans when controlling for other socioeconomic, financial, and demographic characteristics.

Hypothesis 2: Individual financial market participation increases with income, educational attainment and risk tolerance after controlling for other factors.

Hypothesis 3: Financial wealth of immigrants increases across time with their age, income, educational attainment and number of years of stay in the United States after controlling for other socioeconomic and demographic characteristics.

Financial market participation= f (immigrant, age, marital status, gender, race, family size, children, educational attainment, income, networth, inheritance, risk tolerance)

Δ financial wealth of immigrants = f (age, marital status, gender, race, family size, children, educational attainment, income, networth, risk tolerance, years of stay in the United States)

Data and Sample

This study uses a comprehensive data set containing economic, social, demographic, and behavioral characteristics derived from the National Longitudinal Survey of Youth 1979 (NLSY79), a nationally representative panel data set comprised of 12,686 respondents managed by the Center for Human Resource Research at the Ohio State University. The 1979 wave began with a national survey of individuals born between 1957 and 1964. NLSY79 has surveyed the same households between 1979 and 2004 during 21 waves of this panel. Zagorsky (1999), found that the wealth and investment data contained in the NLSY data set correlates well with the wealth data in other major national databases, such as the Survey of Consumer Finance (SCF), Panel Study of Income Dynamics (PSID), and Survey of Income and Program Participation (SIPP). The sample includes 796 immigrants, who were born abroad to non-U.S. citizens before 1979. Data from the years 2004 and 1994 were chosen for this study because of

the detailed investment information available in this most recent 2004 wave and because the 2004-1994 period represents phase where these households have entered the wealth formation years of their life cycle.

Variables

The dependent variable for the first part of this study is financial asset ownership, a binary variable coded as "1" if the individual owns stocks or mutual funds or "0" if otherwise. For this study, the self-reported information from 2004 is used. In the second part of this study, dependent variable is the change in financial wealth between 1994 and 2004. This variable constructed by taking the log of the difference in value of stocks, bonds and mutual funds held between 2004 and 1994.

The independent variable of interest in this study is coded as "1" if an immigrant or "0" if not. Other control variables consist of demographic, financial, and socioeconomic characteristics. Age and age square are included because age is a significant predictor of financial asset holdings and investment participation (Ameriks, Caplin and Leahy, 2007). Prior research has shown that whites are more likely than minorities to hold high-risk and high-return assets (Keister, 2000; Wang and Hanna, 1997). Hence, in order to control for this demographic difference, race is included as a control variable. Past studies indicate differences in risk tolerance between native-born and immigrant Americans (Amuedo-Dorantes and Pozo, 2002; Barsky, et al., 1997). To control for this difference, risk tolerance is included in the model. The risk tolerance variable is created using responses to questions from the 1993 wave of the NLSY data set that address respondents' attitude towards risk. The risk variable coincides with those created by Lusardi (1998) from the HRS data set and Amuedo-Dorantes and Pozo (2002) from the NLSY data set. Education, marital status, having children, and gender are also controlled because of their association with wealth and retirement plan participation in prior literature (Springstead and Wilson, 2000; Yuh and DeVaney, 1996; Zagorsky, 2005). Past studies indicate that income, inheritance, and wealth are associated with asset ownership and savings (Amuedo-Dorantes and Pozo, 2002; Menchik and Jianakoplos, 1997; Osili and Paulson, 2008). In order to control for this, income, inheritance, and wealth are included among the control variables for this study. Additional control variables used in the second part of this study are the log values of income and net worth in 1994, and educational attainment in 1994. Immigrants' number of years of stay in the United States is also included in the model for the second part of this study.

Analysis

Descriptive Statistics: A descriptive statistical analysis is performed initially to examine the demographic composition, educational attainment, income, and investment preferences of natives and immigrants. The demographic characteristics include age, family size, gender, marital status, children, and race. Investment preferences include homeownership, stockownership, mutual fund investments, bonds, and having money in bank accounts.

Financial Asset Ownership: The first part of this study examines the determinants of financial market participation and whether immigrants differ significantly from native-born Americans in their preference for financial asset ownership. The probit estimation technique is used for calculating the coefficients of the hypothesized variables. These estimates are then applied to calculate the marginal effects for the independent as well as other control variables.

Decomposition of Financial Asset Ownership

While part of the differences in preference for financial asset ownership across native-born households and immigrants may be due to differences in characteristics. Another part can also be attributed to

differences in coefficients. This paper follows closely the Fairlie (2005) procedure to decompose the differences into the two components. The Fairlie method is an extension of the Blinder-Oaxaca decomposition method (Blinder, 1973; Oaxaca, 1973). Using the Oaxaca and Ransom (1994) study, the difference in financial asset ownership for immigrants versus native-born Americans can be stated as:

$$Y^{NB} - Y^{I} = \left[\sum_{i=1}^{N^{NB}} \frac{F(X_i^{NB} \beta^{NB})}{N^{NB}} - \sum_{i=1}^{N^{I}} \frac{F(X_i^{I} \beta^{NB})}{N^{I}} \right] + \left[\sum_{i=1}^{N^{I}} \frac{F(X_i^{I} \beta^{NB})}{N^{I}} - \sum_{i=1}^{N^{I}} \frac{F(X_i^{I} \beta^{I})}{N^{I}} \right] \qquad (1)$$

Y^{NB}-Y^{I} represents the difference in financial asset ownership for native-born and immigrant households. F is the cumulative distribution function and n represents the sample size in different groups. X^{NB} and X^{I} are row vectors of average value for individual characteristics of native-born and immigrant Americans, respectively. β^{NB} and β^{I} are vector coefficient estimates. The first term in the equation, therefore, corresponds to part of the difference in financial asset ownership that is attributed to differences in characteristics, and the second term represents the differences in behavior treatment. The contribution of each variable to the gap is equal to the change in average predicted probability by replacing the immigrant distribution with the native distribution of that variable while holding the distribution of other variables constant. Alternatively, the difference in the probabilities of financial asset ownership can be decomposed as:

$$Y^{NB} - Y^{I} = \left[\sum_{i=1}^{N^{NB}} \frac{F(X_i^{NB} \beta^{I})}{N^{NB}} - \sum_{i=1}^{N^{I}} \frac{F(X_i^{I} \beta^{I})}{N^{I}} \right] + \left[\sum_{i=1}^{N^{NB}} \frac{F(X_i^{NB} \beta^{NB})}{N^{NB}} - \sum_{i=1}^{N^{NB}} \frac{F(X_i^{NB} \beta^{I})}{N^{NB}} \right] \qquad (2)$$

In equation 1, native-born coefficients are used as weights for the first term, and immigrant characteristics are used as weights in the second term. In equation 2, immigrant coefficients are used as weights for the first term, and native-born characteristics are used as weights in the second term. The procedure requires one-to-one matching of observations from immigrant and native-born respondents. Since the number of native-born respondents is greater than the number of immigrants, random subsamples of native-born respondents are needed. To better approximate the entire native-born sample while controlling for selection bias due to sample differences between immigrant and native-born groups, the sampling process is repeated 1,000 times, and the mean of the computed statistics estimated from alternative weights is then calculated. As suggested by prior studies (Oaxaca and Ransom, 1994; Leppel, 2007), both sets of estimates for immigrant and native-born respondents are used along with the overall sample. Therefore, the decomposition analysis is conducted using the overall, native-born and immigrant samples. Using coefficients from the probit analyses, the decomposition results demonstrate the relative contribution to differences in financial asset ownership that can be attributed to various demographic and socioeconomic factors that are controlled for in this study.

Change in Immigrants' Financial Wealth (1994-2004)

The second part of this study examines the determinants of increase in financial wealth of immigrants between 1994 and 2004. This period is chosen because it represents the primary wealth formation phase in the life cycle of respondents included in the NLSY79 cohort. An ordinary least squares (OLS) regression is used for estimating the predictors of immigrants' financial wealth accumulation. Also, as suggested in Wooldridge (2006), robust standard errors are used to control for heteroskedasticity.

RESULTS

Descriptive Statistics

Table 1 shows demographic characteristics, socioeconomic composition, and investment participation rates of natives and immigrants. The mean household income for natives ($64,626) is higher than that of immigrants ($61,087). Although immigrants have a slightly lower participation rate in homeownership (35.1%) as opposed to that of the native-born sample population (35.4%), the disparity is much greater for financial asset holdings, such as stocks, mutual funds, and bonds, and for having bank accounts. In this study, 11.3% of immigrants own stocks compared to 16.4% of native-born Americans. Also, immigrants have a lower participation rate in mutual fund ownership (8.1%) compared to natives (13.6%). Immigrants have a larger average family size (3.4) compared to natives (3.1). Moreover, the educational attainment of native-born Americans is much higher than that of the immigrants.

Table 1: Descriptive Statistics

Variables	All	Native	Immigrant
Sociodemographic Factors			
Age	42.8	42.8	43.1
Family Size	3.1	3.1	3.4
Household Income	$64,384	$64,626	$61,087
Male	48.0%	48.0%	48.0%
Married	36.0%	35.0%	37.0%
Race			
White	49.1%	51.1%	32.8%
Black	24.8%	26.5%	13.4%
Hispanic	12.1%	9.9%	38.7%
Asian	2.7%	1.2%	9.1%
Native American	5.3%	5.3%	0.0%
Others	6.0%	6.0%	6.0%
Educational Attainment			
< High School	12.0%	9.9%	23.7%
High School Grad	44.7%	44.9%	38.7%
Some College	24.3%	24.9%	23.3%
College Graduate	12.0%	12.5%	8.3%
Graduate Education	7.0%	7.8%	4.0%
Years in US			
25-29 years			24.8%
30-34 years			27.3%
35-39 years			23.8%
40-44 years			19.5%
45-47 years			4.6%
Investment Participation			
Homeowner	35.3%	35.4%	35.1%
Have Bank Accounts	76.2%	77.0%	72.1%
Have Govt. Bonds	11.2%	11.3%	8.4%
Have Stocks	16.3%	16.4%	11.3%
Have Mutual Funds	13.5%	13.6%	8.1%

This table shows the summary statistics from the data. Percentage distribution of the socio-demographic, education and investment related characteristics are provided for the overall sample in the first column, and the native-born and immigrant samples in the other two columns. Mean values of age, family size and income are also shown for the overall, native-born only and immigrant only samples

Determinants of Financial Asset Ownership

Results from Table 2 show that immigrants are less likely than natives to own financial assets. This is consistent with past studies, which found that immigrants have lower participation rates in investment

asset ownership than natives (Cobb-Clarke and Hildebrand, 2006; Osili and Paulson, 2008). Also, consistent with past studies, this research finds that income, risk tolerance and net worth are positive predictors of financial asset ownership (Gutter, Fox and Montalto, 1999). The results of this study also indicate that the probability of financial asset ownership increases with family size, educational attainment, being married, and for those who receive inheritance. These results support the findings from previous research on household investment participation and asset holdings (Bertaut, 1998). Estimates from this model also indicate that those who have children are less likely to own financial assets. This result is also consistent with past findings (Keister, 2000). Among other estimates, black and hispanic investors are less likely to own financial assets when compared with the control group of whites. This finding also agrees with findings from past research (Gutter et al., 1999; Wang and Hanna, 1997).

Table 2: Probit of Financial Asset Ownership

Variables	Coefficient	Marginal Effects	Significance
Immigrant	-0.282	-0.056	***
Age	0.084	0.019	
Age square	-0.001	-0.000	
Married	0.062	0.014	**
Male	0.004	0.001	
Black	-0.201	-0.042	***
Hispanic	-0.240	-0.052	***
Asian	0.390	0.111	
Family size	0.064	0.015	***
Children	-0.292	-0.075	***
College & up	0.179	0.044	***
Log Income	0.328	0.078	***
Log Net worth	0.209	0.050	***
Risk Tolerance	0.123	0.034	**
Inherit	0.305	0.082	***
Constant	-5.661		***
Observations	4495		
Pseudo R-squared	0.1564		

*This table shows the probit estimation of financial asset ownership. The first column shows the coefficients, the second column shows the marginal effects and the final column shows the level of significance of the relationship. *, **, and *** indicate significance at 10, 5 and 1 percent levels respectively.*

Decomposition Analysis of Financial Asset Ownership

The results of the decomposition analysis for financial asset ownership in Table 3 show that approximately 60% to 65% of the difference in financial asset ownership between immigrant and native-born respondents can be explained by a difference in characteristics, while the remaining 35% to 40% is due to differences in behavior and treatment. The largest portion of this gap is due to income disparity. Income difference accounts for approximately 25% to 37% of the financial asset ownership disparity in this study. Among other factors, net worth (14.7% to 15.6%), risk tolerance (3.4% to 7.8%), educational attainment (8.6% to 12.4%), and receiving inheritance (2.8% to 4.4%) contribute to greater financial asset ownership among native-born Americans compared to immigrants. Having children (2.7% to 3.7%) and age (1.3% to 2.3%) also favor native-born financial asset ownership. Among immigrants, family size (7.4% to 8%) and being Asian (2.1% to 3.7%) support financial asset ownership. The results of this analysis show that the estimations from all three sample coefficients exhibit reasonably consistent estimation.

Table 3: Decomposition Analysis of Stockownership

	Full Sample	Immigrant	Native-born
Native-born Ownership Rate	0.1996	0.1996	0.1996
Immigrant Ownership Rate	0.1358	0.1358	0.1358
Immigrant/Native gap	0.0638	0.0638	0.0638
Contribution from Differences in:			
Age	0.0008	0.0015	0.0009
St.Error	0.0007	0.0024	0.0007
Percentage	1.3%	2.3%	1.4%
Married	0.0002	0.0000	0.0002
St.Error	0.0008	0.0023	0.0008
Percentage	0.4%	0.0%	0.4%
Male	0.0000	0.0000	0.0000
St.Error	0.0003	0.0014	0.0004
Percentage	0.0%	0.0%	0.0%
White	0.0002	0.0002	0.0002
St.Error	0.0004	0.0012	0.0004
Percentage	0.3%	0.3%	0.3%
Hispanic	0.0030	0.0020	0.0030
St.Error	0.0019	0.0055	0.0019
Percentage	4.7%	3.2%	4.7%
Asian	-0.0013	-0.0023	-0.0013
St.Error	0.0033	0.0035	0.0033
Percentage	-2.1%	-3.7%	-2.1%
Family size	-0.0047	-0.0051	-0.0048
St.Error	0.0018	0.0063	0.0018
Percentage	-7.4%	-8.0%	-7.5%
Children	0.0023	0.0017	0.0024
St.Error	0.0010	0.0039	0.0010
Percentage	3.6%	2.7%	3.7%
College & Up	0.0055	0.0079	0.0055
St.Error	0.0015	0.0063	0.0015
Percentage	8.6%	12.4%	8.7%
Inheritance	0.0018	0.0028	0.0018
St.Error	0.0011	0.0058	0.0011
Percentage	2.8%	4.4%	2.8%
Risk Tolerance	0.0048	0.0022	0.0049
St.Error	0.0010	0.0029	0.0010
Percentage	7.5%	3.4%	7.8%
Log Income	0.0160	0.0237	0.0160
St.Error	0.0052	0.0032	0.0052
Percentage	25.1%	37.1%	25.0%
Log NW	0.0095	0.0099	0.0094
St.Error	0.0012	0.0047	0.0011
Percentage	14.9%	15.6%	14.7%
All included variables	0.0380	0.0415	0.0381
	59.2%	64.8%	59.5%

This table shows the decomposition analysis of financial asset ownership. The first column shows the variables, the second column shows decomposition for the full sample, the third column shows the estimates drawn from the immigrant only sample and the last column shows the estimates drawn from the native-born only sample.

Predictors of Financial Asset Accumulation among Immigrants

The predictors of change in financial wealth of immigrants between 1994 and 2004 are estimated in table 4. The results of the ordinary least squares regression show that age square, being married and men are positively associated with increase in value of financial assets during 1994-2004. These results are consistent with recent findings on household investment behavior from the Ameriks et al. (2007) study. Results also show that when compared with the reference group of white immigrants, the hispanics experienced a lower increase in their financial wealth between 1994 and 2004. Having children was also negatively associated with increase in financial equity during the period. However, completion of college or higher in 1994, income and net worth in 1994 and risk tolerance are positive predictors of increase in financial wealth among immigrants during this period. These results are in concordance with similar findings in the general population of American households in a number of past studies (Springstead and Wilson, 2000; Yuh and DeVaney, 1996; Zagorsky, 2005). Consistent with previous studies on immigrant economic assimilation (Chiswick, 1978; Borjas, 1985; Carroll et al. 1999), this research also finds that immigrants' number of years of stay in the United States is positively associated with increase in the value of their financial assets.

Table 4: Predictors of Financial Asset Accumulation (1994-2004) Among Immigrants

Variables	Coefficient	Robust Standard Error	Significance
Age	-0.003	0.007	
Age square	0.005	0.003	*
Married	0.042	0.012	**
Male	0.015	0.009	*
Black	-0.022	0.024	
Hispanic	-0.041	0.017	**
Asian	0.019	0.046	
Family size	0.004	0.005	
Children	-0.062	0.012	***
College or higher	0.059	0.011	***
Log Income	0.036	0.007	***
Log Net worth	0.021	0.003	***
Risk Tolerance	0.011	0.005	**
Years of stay	0.042	0.017	**
Constant	13.401	0.146	***
R square	0.221		

*This table shows the OLS estimation of the change in financial wealth from 1994-2004 for the immigrants. The first column shows the variables, the second column shows the estimated coefficients, the third column shows the standard errors and the final column shows the level of significance of the relationship. *, **, and *** indicate significance at 10, 5 and 1 percent levels respectively.*

DISCUSSION

This paper adds to existing literature on the economic participation of immigrants by focusing on the investment behavior of U.S. immigrants and comparing them with native-born American citizens. The evidence from the probit analysis of financial asset market participation demonstrates that immigrants are less likely to own financial assets than natives. Even though it is common knowledge that risky asset participation, such as financial asset ownership, is important for wealth accumulation and must be an integral part of the personal financial planning process (Altonji and Doraszelski, 2005), immigrant households continue to avoid the financial asset markets. This can be attributed to the existing lack of access to and lower investment opportunities for immigrants (Dustmann, 1997).

A large portion of the disparity in financial asset ownership among immigrant and native-born Americans can be explained through the differences in income, wealth and risk tolerance. The lower financial market participation of immigrants seen in this study may also offer some explanation for the lower wealth accumulation of immigrants found in earlier studies (Amuedo-Dorantes and Pozo, 2002; Carroll et al., 1994).

The results also show that wealthier immigrants with higher educational attainment and higher income increased their financial wealth during the 1994 and 2004 period. While risk tolerance was a factor, the immigrants' number of years of stay in the United States was positively associated with this change. These results tend to suggest that immigrants' financial wealth increases with the increase in their human capital and as they gradually integrate into the American society over a period of time.

CONCLUSION

This paper used data from NLSY79 to investigate differences in preference for financial asset ownership among immigrants and natives and the predictors of immigrants' financial asset accumulation across time. This data set included respondents between the ages of 37 and 49, thus comprising a cohort in the wealth accumulation phase of the life cycle. A lower rate of financial market participation may possibly result from the slow rate of economic assimilation by immigrants, which perhaps causes inadequate saving for their retirement. As ownership of financial assets, has been shown to be an important factor in the wealth accumulation process (Altonji and Doraszelski, 2005; Campbell and Viceira, 2003), a continued disparity in financial asset ownership may perpetuate the existing native-immigrant economic gap. Although findings from previous studies on immigration indicate that immigrants are able to integrate completely into society in about 10 to 15 years (Chiswick, 1978; Shamsuddin and DeVoretz, 1998), this study was comprised of immigrants who have been in the United States for much longer periods; however, as evidenced by the results, such disparities persist. Given this scenario, it will be important for future scholars and immigration policy makers to develop strategies that can help improve immigrants' access to market participation. The results of this study show that immigrants with higher income and educational attainment increased the value of their financial assets during the 1994-2004 period.

One possible reason for the low financial asset ownership of immigrants when compared with the native-born Americans is their lack of financial education. In the future, policy makers should place greater emphasis on creating better financial awareness among immigrants in order to facilitate their investment market participation and quicker economic assimilation into society. Also in the future, similar research, including immigrants' country of origin, can be conducted to study in greater detail whether nativity differences contribute to the differences in economic participation and the asset ownership decisions made by immigrants.

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