Financial Market Participation of Immigrants and Their Intentions to Emigrate From the United States of America

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In this study, we empirically examine the relationship between U.S. immigrants' intentions to emigrate from the U.S. and their financial market participation. Researchers have explored several determinants of immigrants' financial market participation, namely the characteristics of the immigrants and their country of origin. However, one determinant that has not been explored, due to lack of data, is immigrants' intentions to emigrate from the host country. Using data from the New Immigrant Survey, we find that immigrants with intentions to emigrate from the U.S. are more likely to participate in the financial markets relative to their counterparts with no such intentions. The results also indicate that married immigrants with intentions to emigrate from the U.S. are less likely to own a checking or savings account than immigrants who are not married. In addition, immigrants with the intent to emigrate from the U.S. are more likely to purchase stocks, corporate bonds, or both as they get older.

Keywords: financial instrument, investment account, immigrants, checking account, savings account, logistic estimator

INTRODUCTION

This study examines the relationship between U.S. immigrants' intentions to emigrate from the U.S. and their financial market participation. Financial market participation refers to the ownership of a U.S. checking or savings account and either stock, corporate bonds accounts, or both. Before, upon, or sometimes after arrival in the U.S., immigrants create their intentions regarding emigrating from the U.S., that is, immigrants create intentions about whether or not to live in the United States for the rest of their lives. Immigrants emigrating from the U.S. may choose to return to their country of origin or reside in another country. These intentions to emigrate from the host country affect the assimilation and economic performance of immigrants. Using a sample of Swedish immigrants, Edin et al. (2000) demonstrate that measures of assimilation that do not account for emigration from the host country will not provide unbiased estimates of earnings convergence that occurs after immigration. Similarly, Galor and Stark (1990) show that including the positive probability of return migration in the model results in immigrants saving more than comparable native-born. We examine one aspect of assimilation and economic performance of immigrants, namely their financial market participation, while accounting for their intentions to emigrate from the host country.

Immigrants' possession of a checking or savings account is one of the basic requirements for formal financial integration in the host country. Possessing these accounts benefits both the immigrants as well as the host country. Some benefits to immigrants include facilitating payroll activities, making payments, transferring resources to individuals and countries, establishing credit worthiness, encouraging asset accumulation, and mitigating risks (safe and low-cost savings instruments) (Rhine & Toussaint-Comeau, 1999; Osili & Paulson, 2008; Bohn & Pearlman, 2013). Given the benefits of immigrants' financial market participation, higher participation rates are more likely associated with greater immigrant assimilation and economic welfare, which benefits the host country. Researchers have explored several determinants of immigrants' financial market participation, namely the characteristics of the immigrants and their country of origin. However, one determinant that has not been explored is immigrants' intentions to emigrate from the host country. By examining the impact of immigrants' intentions for emigrating from the host country on their financial market participation, this paper offers a non-characteristic determinant of immigrants' financial market participation along with improved estimates of the determinants affecting their financial market performance. Using data from the New Immigrant Survey, we find that immigrants with intentions to emigrate from the U.S. are more likely to participate in the financial markets relative to their counterparts with no such intentions. Our investigation also identifies that marital status and age of immigrants moderate the relationship between the intent to emigrate from the U.S. and financial market participation. Specifically, married immigrants with intentions to emigrate from the U.S. are less likely to own a checking or savings account than immigrants who are not married. Also, immigrants with the intent to emigrate from the U.S. are more likely to purchase stocks, corporate bonds, or both as they get older. The main empirical evidence that immigrants with intentions to emigrate from the U.S. are more likely to participate in the financial markets than their counterparts with no such intentions has policy implications. Higher financial market participation is correlated with capital accumulation which is beneficial for the U.S. economy, hence, the U.S. should devise measures to prevent emigration intentions from plummeting. In addition, the U.S. may want to engage in financial literacy campaigns that focus particularly on immigrants who do not have intentions to emigrate from the U.S. (plan to live in the U.S. for the rest of their lives) so that these immigrants may become more financially literate, assimilate faster, improve their economic status, and do not pass on the low level of participation in the financial market to future generations.

The remainder of the paper is organized as follows. Section 2 describes the data and country distribution of immigrants and Section 3 presents the descriptive statistics of immigrants' characteristics. Section 4 presents the empirical implementation along with the results and Section 5 concludes.

DATA AND COUNTRY DISTRIBUTION OF IMMIGRANTS

We implement our empirical strategy using the first full cohort of the New Immigrant Survey (NIS-2003-1) which was administered from June 2003 to June 2004. The sampled immigrants obtained their legal permanent residence status during May to November 2003. The New Immigrant Survey, therefore, does not include immigrants residing in the United States illegally. Immigrants were interviewed in their preferred language, and the adult sample survey section used in our analysis recorded 8,573 completed interviews with a 68.6 percent response rate. 60 percent of the interviews were administered by phone, and the remaining interviews were administered in-person.

The survey instruments gathered information on a plethora of topics, including health, education, labor market activities, marriage and family, linguistics, networks, use of government services, religion, and most importantly, financial market participation and intentions to emigrate. The financial market participation and intention to emigrate portions of the survey are paramount to addressing the objective of this study. To the authors' knowledge, the NIS-2003-1 is the only large representative data set of immigrants that simultaneously has the variables immigants' financial market participation and their intention to emigrate from the host country. The merging of all the sections of the survey resulted in a sample size of 8,558 immigrants. The sample used in the analysis consisted of immigrants arriving in the United States from 22 countries and 8 additional countries grouped in regions. The categorization of the country of origin and additional countries in regions were mutually exclusive. An examination of immigrants' countries of origin

in Table 1 shows a considerable level of heterogeneity. As expected, using the weighted percents, the top five immigrating areas of origin included Mexico (17.50%), Europe and Central Asia (8.35%), India (7.28%), Latin America & The Caribbean (6.90%), and East Asia, South Asia and The Pacific (6.38%). On the other hand, the least five immigrating areas to the United States included Ukraine (1.28%), United Kingdom (1.14%), Oceania (0.43%), Other North America (0.04%), and the Arctic region (0.03%).

TABLE 1
IMMIGRANT AREA OF ORIGIN IN THE SURVEY

Country & Region of Birth	Frequency	Unweighted (%)	Weighted (%)
CANADA	103	1.2	1.29
CHINA	475	5.55	5.4
COLOMBIA	133	1.55	2.08
CUBA	145	1.69	1.77
DOMINICAN REPUBLIC	164	1.92	2.24
EL SALVADOR	484	5.66	6.12
ETHIOPIA	199	2.33	1.32
GUATEMALA	189	2.21	2.43
HAITI	154	1.8	2.05
INDIA	773	9.03	7.28
JAMAICA	117	1.37	1.7
KOREA	144	1.68	1.48
MEXICO	1161	13.57	17.5
NIGERIA	172	2.01	1.49
PERU	111	1.3	1.41
PHILIPPINES	511	5.97	5.48
POLAND	196	2.29	1.56
RUSSIA	121	1.41	1.39
UKRAINE	144	1.68	1.28
UK	102	1.19	1.14
VIETNAM	223	2.61	3.06
ADDITIONAL COUNTRIES IN REGIONS			
EUROPE & CENTRAL ASIA	819	9.57	8.35
EAST ASIA, SOUTH ASIA & THE PACIFIC	588	6.87	6.38
OTHER NORTH AMERICA	2	0.02	0.038
LATIN AMERICA & THE CARIBBEAN	498	5.82	6.9
AFRICAN SUB-SAHARAN	391	4.57	3.73
MIDDLE EAST & NORTH AFRICA	391	4.57	4.43
OCEANIA	31	0.36	0.43
ARCTIC REGION	1	0.01	0.03
UNKNOWN	16	0.19	0.22
Total	**8558**	**100**	**100**

Note: The weighted percents account for the probability weights provided by the NIS data to compensate for the selection of specific immigrants with unequal probability of selection (oversampling or undersampling), non-responses, and other types of sampling bias.

DESCRIPTIVE STATISTICS OF IMMIGRANT CHARECTERISTICS

Table 2 presents the summary statistics for the 8,558 immigrants interviewed at the time of obtaining their legal permanent residency (or green card). The dependent variables which capture financial assets ownership were grouped into two categories – the basic formal banking services (checking or savings accounts) and the investment services (shares of stocks or stock mutual, any corporate bonds, or both). The bank account and investment account ownership were drawn from the Asset Section of the survey where respondents were asked if (i) they had any checking or savings accounts held in a bank or institution in the United States, a foreign country, or both? (ii) they had any shares of stocks or stock mutual, and or any corporate bonds held in the United States, a foreign country, or both? In the full sample, roughly 46 percent of all immigrants held a checking or savings account in the United States only or the United States and a foreign country. This statistic informs us that majority of the legal immigrants who were interviewed did not participate in the financial markets. The lack of participation was even more abysmal in the stock trading market with only less than 10 percent of all immigrants having any investment accounts (stocks, any corporate bonds, or both).

TABLE 2
SUMMARY STATISTICS

Variables	Immigrants [Full Sample, n = 8,558]	Intent to emigrate from the U.S., (No) [n=3,111]	Intent to emigrate from the U.S., (Yes) [n=406]	Mean Difference
Forms of savings				
Checking or Savings account in U.S. only or U.S & Foreign (Yes =1, No=0)	0.462 (0.01)	0.453 (0.01)	0.53 (0.028)	-0.077*** (0.03)
Stocks or Corporate bonds, or both (Yes =1, No=0)	0.068 (0.004)	0.059 (0.004)	0.136 (0.017)	-0.077*** (0.013)
Return Migration				
Intent to emigrate (Yes =1, No=0)	0.115 (0.005)	…	…	…
Immigrant characteristics				
Marital Status (Married =1, 0 otherwise)	0.677 (0.008)	0.677 (0.008)	0.67 (0.023)	0.007 (0.025)
Age (in years)	38.587 (0.223)	38.607 (0.235)	38.437 (0.707)	0.17 (0.7)
U.S. Education (in years)	0.858 (0.04)	0.874 (0.044)	0.731 (0.1)	0.143 (0.127)
Gender (Male =1, Female =0)	0.493 (0.008)	0.498 (0.009)	0.456 (0.025)	0.042 (0.026)
Number of Children	1.888 (0.036)	1.888 (0.037)	1.888 (0.127)	-0.00005 (0.1124)
Work for Pay (Yes =1, No=0)	0.595 (0.008)	0.592 (0.009)	0.618 (0.024)	-0.026 (0.026)
Fixed Assets				
Rent residence (Yes=1, No=0)	0.492 (0.01)	0.493 (0.01)	0.489 (0.028)	0.004 (0.03)
Own residence (Yes=1, No=0)	0.204 (0.008)	0.201 (0.008)	0.225 (0.024)	-0.024 (0.024)
Live in Free residence (Yes=1, No=0)	0.304 (0.009)	0.306 (0.009)	0.286 (0.025)	0.02 (0.028)

Assimilation & Health Issues				
Duration in the U.S. (in days)	1838.742	1877.044	1550.108	326.936**
	(41.129)	(43.727)	(120.197)	(127.773)
Health Problems (Yes=1, No=0)	0.256	0.2512	0.29	-0.038*
	(0.007)	(0.008)	(0.023)	(0.023)
Class of Immigrant Admission				
Adjustee	0.514	0.5415	0.5	0.0415
	(0.005)	(0.0089)	(0.0248)	(0.0263)
Spouse of U.S. Citizen	0.176	0.173	0.202	-0.029
	(0.006)	(0.007)	(0.02)	(0.02)
Employment Principal	0.143	0.132	0.227	-0.094***
	(0.006)	(0.006)	(0.021)	(0.018)
Diversity Immigrants	0.142	0.145	0.121	0.025
	(0.006)	(0.006)	(0.016)	(0.018)
Other	0.538	0.549	0.451	0.099***
	(0.008)	(0.009)	(0.025)	(0.026)
***** p<0.01, ** p<0.05, * p<0.1**				

Note: Mean difference equals mean response of immigrant with the intent to emigrate from the mean of immigrant with no intent to emigrate [i.e., mean(no) – mean(yes)].

To examine the differences between immigrants with intentions to emigrate from the U.S. and immigrants without intentions to emigrate from the U.S. with regards to their participation in the financial market and other observed characteristics, we stratify the full sample by the intention to emigrate from the U.S. variable and conduct the test of the mean differences between these two groups.1 The test of the mean difference for financial market participation illustrates that, immigrants with intentions to emigrate from the U.S. are disparate from their counterparts with no such intentions. Contextually, immigrants with the intentions to emigrate from the U.S., are on average, 7.7 percent more likely than immigrants with no emigration intentions to own a financial account (i.e., checking or savings accounts, stocks, and or corporate bonds).

The primary independent variable of interest is the intention to emigrate from the U.S. In the framework of the questionnaire, immigrants who recently received their permanent residence status were asked if they had any intentions to stay in the United States for the rest of their life. Our exploratory analysis reveals that approximately 11 percent of the immigrants responded that they do not have any intentions to stay permanently in the United States. In other words, approximately 9 out of every 10 immigrants had intentions to spend the rest of their lives in the United States. This is of no surprise considering the fact that the United States is often portrayed as the "promised land" where individuals can seek to fulfil their dreams and live in freedom and justice.

Demographic, health, socioeconomic, and other immigration-related characteristics of the respondents relevant to our analysis are also presented in Table 2. In the sample, approximately 68 percent of immigrants reported to be married and the average respondent was 39 years old. The mean years of U.S. schooling for the typical immigrant was approximately 0.8 years of education. Comparatively, immigrants with intentions to reside in the United States for the rest of their lives had more U.S. educational attainment than immigrants with intentions to emigrate, but this difference in the mean years of education in the U.S. was statistically insignificant between the two groups. On average, respondents were less likely to be males (49.3%), have 1.9 children, and more likely to be working for pay at the time of the survey (59%).

Aside demonstrating economic class, home ownership rates also give one of the best indicators about intent of permanent residence. Our results show that 49 percent of immigrants were renting their current place of dwelling while just 20 percent of them own or are in the process of buying their current place of residence. In addition, immigrants with no intentions to emigrate from the U.S. reported to have been residing in the U.S. for an average of 326 days longer and were less likely to have any health-related problems than their counterparts who had intentions to emigrate.

The NIS-2003-1 also contains information on the class of admission through which immigrants obtain their green cards and whether the immigrant modified their status from a temporary visa (adjustee) or is a new arrival. In the construct of this study, an 'adjustee" is an immigrant who entered the U.S. on a temporary nonimmigrant visa (NIV) and eventually switched to having an immigrant visa (IV) while residing in the U.S. In the sample, adjustees formed the majority (51%) relative to the new arrival immigrants (49%). Immigrants admitted into the United States can come on different types of immigrant visas (IV). We group the class of admission into the United States into four mutually exclusive classifications, namely Spouse of U.S. Citizen, Employment Principal, Diversity Immigrants and Other.2 According to the statistics, there is considerable variation among the class of admission. Diversity immigrants are the least represented in the sample followed by the employment principal class. The two largest classes were that of Other (54%) and Spouse of U.S. Citizen (17.6%). Additionally, the adult sample was stratified to over-sample employment-based and diversity immigrants and under-sample spouses of U.S. citizens (Jasso et al., 2006). The mean comparison among the classes of admission with regards to the intentions to emigrate from the U.S. shows that employment principal immigrants are more likely to have the intention to emigrate from the United States whereas immigrants who belong to the class of admission, Other, are more likely to have the intentions to not emigrate from the United States.

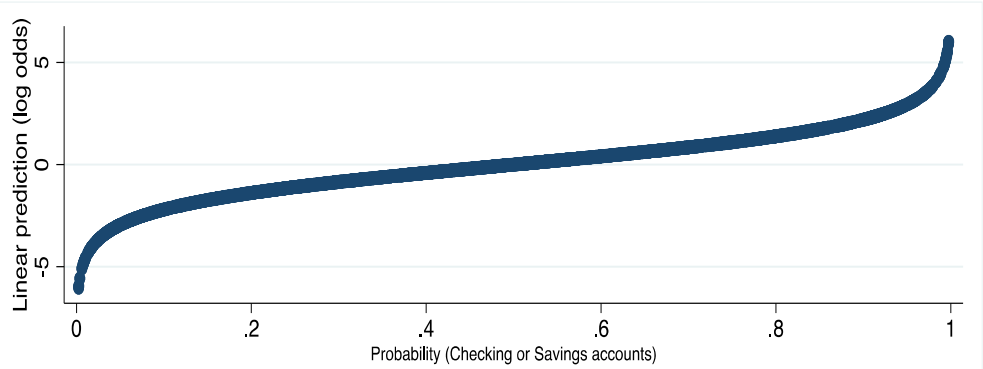
EMPIRICAL IMPLEMENTATION AND RESULTS

The objective of this research is to empirically test the impact of U.S. immigrants' intentions to emigrate from the U.S. on their financial market participation. We model this association using Galor and Stark's (1990) theoretical framework. In their framework, Galor and Stark (1990) derived the proposition that the higher the probability of return migration the higher the level of savings. Thus, because of this possibility of return migration, migrants save more than the native-born. Similarly, this study focuses on immigrants who differ in their intentions to emigrate from the U.S. and their financial market participation to test this corollary. The following analysis omits respondents who failed to identify their country of origin (Unknown category). Also, for our results to be representative of the population, sample estimates were obtained using the probability weights provided by the NIS data, thus all standard errors generated are robust.

For our econometric approach, we employ a logistic estimator for this multivariate analysis primarily because of the dichotomous nature of the response variables.

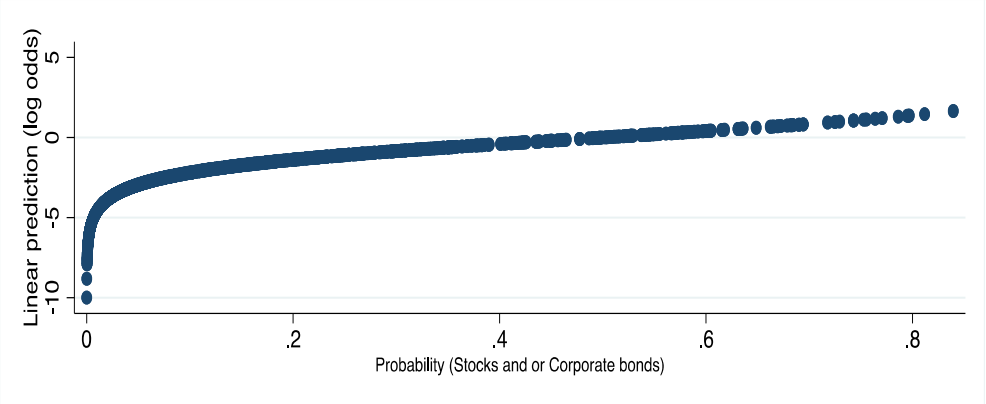
Secondly, the logistic model was preferred over the linear probability model because the nonlinear relationship between the probability and the log odds of the outcome variables provided a better fit for the data (see Figures 1 and 2). How nonlinear is the relationship between the probability and the log odds? Our data produces the range of probabilities that is beyond the 0.20 and 0.80 cut off, indicating that the log odds are not close to a linear function of the probability (Long, 1997; Hellevik, 2009). In the presence of such extreme probabilities, the linear probability model yields predicted probabilities that are greater than 1 or less than 0.

FIGURE 1
NONLINEAR RELATIONSHIP BETWEEN LOG ODDS AND PROBABILITY



Note: This graph was generated using the full model (Model 1D)

FIGURE 2
NONLINEAR RELATIONSHIP BETWEEN LOG ODDS AND PROBABILITY



Note: This graph was generated using the full model (Model 2D)

Tables 3 and 4 presents the odd ratios for the relationship between U.S. immigrants' intentions to emigrate from the U.S. and their financial market participation. The odds ratio in this study is the ratio of the probability a respondent owns a financial account to the probability the respondent does not own one. We build a sequential reduced form model to control for potential bias brought about by having too many predictors in the model, hence, estimating four models. The age adjusted models (Models 1A & 2A) show evidence to the positive association between financial assets ownership and the probability of an immigrant's intentions to emigrate from the U.S.

All else equal, there is a 33.4 percent increase in the odds of an immigrant with intentions to emigrate from the U.S. to own a checking or savings account than of an immigrant with no intentions to emigrate from the U.S. (Model 1A). Table 4 shows even a stronger positive association with the odds of an immigrant with intentions to emigrate from the U.S. to owning investment accounts (stocks, any corporate bonds, or both) increasing by 143.3 percent than their counterparts with no such intentions. The age of immigrants is nonlinearly related to their ownership of bank accounts (checking or savings accounts) and investment accounts (stocks, any corporate bonds, or both) (Models 1A & 2A). This result is not surprising as our output aligns with the life-cycle theory in the sense that individuals accumulate less capital at the early stages of their life, accumulate more capital during their middle ages, and dis-save during retirement or later in life (Paulson & Rhine, 2008; Bohn & Pearlman, 2013; Al-Awad & Elhiraika, 2003).

TABLE 3
LOGISTIC OUTPUT FOR CHECKING OR SAVINGS ACCOUNT

Variables	**Model 1A Odds Ratio**	**Model 1B Odds Ratio**	**Model 1C Odds Ratio**	**Model 1D Odds Ratio**
Intent to emigrate from the U.S.	1.334**	1.360*	1.131	1.911**
	(0.195)	(0.250)	(0.235)	(0.590)
Age (in years)	1.110***	1.094***	1.079**	1.079**
	(0.026)	(0.037)	(0.041)	(0.036)
Age squared	0.999***	0.999**	0.999**	0.999**
	(0.000)	(0.000)	(0.000)	(0.000)
Married		2.325***	1.682***	1.828***
		(0.291)	(0.244)	(0.277)
U.S. education (in years)		1.155***	1.147***	1.146***
		(0.034)	(0.036)	(0.029)
Male		1.291**	1.327**	1.322**
		(0.152)	(0.171)	(0.167)
Number of Children		0.837***	0.964	0.961
		(0.033)	(0.041)	(0.053)
Work for Pay		1.891***	1.783***	1.802***
		(0.247)	(0.253)	(0.260)
Rent residence		1.800***	2.009***	1.991***
		(0.261)	(0.323)	(0.280)
Own residence		2.104***	2.219***	2.217***
		(0.415)	(0.488)	(0.413)
Duration in the U.S.		1.000**	1.000	1.000
		(0.000)	(0.000)	(0.000)
Health Problems		1.332**	1.323*	1.314**
		(0.177)	(0.191)	(0.164)
Adjustee		2.191***	2.376***	2.415***
		(0.384)	(0.489)	(0.394)
Spouse of U.S. Citizen			1.528**	1.533***
			(0.291)	(0.247)
Employment Principal			2.183***	2.156***
			(0.419)	(0.409)
Diversity Principal			1.047	1.037
			(0.198)	(0.133)
Interaction Effect				
Intent to emigrate from the U.S.with Married				0.459**
				(0.160)
Observations	2,690	2,271	2,271	2,271
Country FE	NO	NO	YES	YES
Interaction	NO	NO	NO	YES
Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1				

Note: Model 1D has been adjusted for clustered standard errors.

Models 1B and 2B controls for other important demographic, economic, health, and assimilation factors that may shape and drive the behavior of immigrants in the financial market sphere. We find that immigrants who are married have a higher likelihood of participation in the financial market. For example, the odds of owning a checking or savings accounts are increased by a factor of 2.325 for married immigrants in comparison to immigrants who are not married, *ceteris paribus* (Model 1B). An equivalent effect is seen in the ownership of investment accounts in Model 2B, where married immigrants tend to hold more stocks, corporate bonds, or both accounts relative to their non-married counterparts. This result matches our prior expectation as some married individuals tend to feel more financially stable and hence the probability of saving in the form of opening a bank account or an investment instrument increases (Seto & Bogan, 2013). The degree to which immigrants have access to financial services may partly depend on their level of education received in the source or the host country. This effect may even be greater if they receive some form of formal education in the host country. Acquiring education in the U.S. involves a significant financial commitment and thus individuals are more inclined to save or invest their resources towards achieving that goal. As expected, Models 1B and 2B demonstrates a positive association between immigrants acquiring education in the U.S. and owning a bank account (checking or savings account) and an investment account (stocks, corporate bonds, or both). The results also show that there is a 29.1 percent increase in the odds of having a checking or savings account for male immigrants over female immigrants (Model 1B). Gender was not a determinant of financial security holdings in Model 2B. On the other hand, the number of children in a household was a decreasing function of financial market participation. In Model 1B, an additional child of an immigrant decreases his or her odds of having a checking or savings account by 16.3 percent, whereas the odds of having an investment account (stocks, corporate bonds, or both) decreases by 37.8 percent (Model 2B). This statistically significant relationship could be due to the fact that, households with large numbers of children tend to demand more resources, hence tend to have a lower propensity to save. Rhine and Greene (2006) presents the argument that large households are less probable to open a transactional account if the budget to maintain the needs of the family overshadows the gains from holding a current or savings account. Their article also found that Mexican immigrants, Latin American immigrants, and Asian immigrants with larger family size were more likely to be unbanked relative to immigrants from Europe. Contrarywise, Paulson and Rhine (2008) in their treatise found no evidence of household size of Hmong immigrants on the likelihood of the utilization of financial services (checking or savings account, credit card, and check-cashing outlet) in the United States. Although, the work for pay variable was not a significant predictor of stocks, corporate bonds holdings, or both in Model 2B, it was a positive predictor for checking or savings account holdings in Model 1B at the 1 percent significance level. Implicitly, we can infer that the higher the percentage of people who work and obtain more experience in the U.S. labor market, the more likely they are to have a checking or savings account (Paulson & Rhine, 2008; Rhine & Greene, 2006; Bohn & Pearlman, 2013). In the U.S., a considerable number of employers require their employees to have at least a checking account in order to receive their salary. This, in part, may explain the positive coefficient of the work for pay variable.

Another financial factor, fixed asset, may influence the way an immigrant participates in the financial market. In Table 3, Model 1B shows that immigrants who rent their place of residence have higher odds of having a checking or savings account relative to immigrants who have free residence. Furthermore, the likelihood of having a checking or savings account becomes stronger for immigrant homeowners (Spencer & Fan, 2002; Yuh & Hanna, 2010). That is, the odds of holding a financial instrument like a checking or savings account is more than double for an immigrant homeowner than an immigrant with free residence. Comparing Model 1B to Model 2B corroborates how robust an effect fixed asset ownership is correlated with holding financial securities. In fact, the odds of a homeowner having an investment account (stocks, corporate bonds, or both) is 4.546 times higher than immigrants with free residence. This implies that immigrants who purchase a house may be further along in their ability to access and navigate financial resources and therefore are more likely to hold either a checking or savings account, or securities accounts than non-owning individuals (Fontes, 2011). Extant literature documents that immigrants with longer duration of residence in the host country tends to improve their likelihood of financial market participation (for example Rhine & Greene, 2006; Bohn & Pearlman, 2013; McConnell & Akresh, 2008; Paulson &

Rhine, 2008). Our study, however, finds duration in the U.S. and financial market participation to be independent. In other words, the likelihood of immigrants having a bank account (checking or savings account) or financial securities (stocks, corporate bonds, or both accounts) is the same regardless of their length of stay in the U.S.

TABLE 4
LOGISTIC OUTPUT FOR STOCKS, CORPORATE BONDS, OR BOTH ACCOUNTS

Variables	**Model 2A Odds Ratio**	**Model 2B Odds Ratio**	**Model 2C Odds Ratio**	**Model 2D Odds Ratio**
Intent to emigrate from the U.S.	2.433***	1.907**	1.474	0.245
	(0.520)	(0.479)	(0.449)	(0.283)
Age (in years)	1.142***	1.178***	1.137**	1.137**
	(0.054)	(0.068)	(0.073)	(0.065)
Age squared	0.998***	0.998**	0.999*	0.999**
	(0.001)	(0.001)	(0.001)	(0.001)
Married		2.473***	1.223	1.257
		(0.583)	(0.354)	(0.521)
U.S. education (in years)		1.206***	1.196***	1.187***
		(0.047)	(0.056)	(0.050)
Male		0.912	0.997	0.997
		(0.201)	(0.245)	(0.153)
Number of Children		0.622***	0.827*	0.812***
		(0.057)	(0.085)	(0.063)
Work for Pay		1.214	0.996	1.007
		(0.313)	(0.271)	(0.238)
Rent residence		1.533	1.381	1.427
		(0.545)	(0.469)	(0.499)
Own residence		4.546***	4.123***	4.276***
		(1.820)	(1.591)	(1.657)
Duration in the U.S.		1.000**	1.000	1.000
		(0.000)	(0.000)	(0.000)
Health Problem		1.086	1.238	1.278
		(0.274)	(0.342)	(0.352)
Adjustee		1.660*	1.285	1.290
		(0.495)	(0.395)	(0.379)
Spouse of U.S. Citizen			2.607***	2.641**
			(0.866)	(1.259)
Employment Principal			3.165***	3.086***
			(0.839)	(0.938)
Diversity Immigrants			0.998	1.025
			(0.455)	(0.384)
Interaction Effect	---	---	---	---
Intent to emigrate from the U.S. with age				1.052**
				(0.027)
Observations	3459	2265	1937	1937
Country FE	NO	NO	YES	YES
Interaction	NO	NO	NO	YES
	Robust standard errors in parentheses			
	*** p<0.01, ** p<0.05, * p<0.1			

Note: Model 2D has been adjusted for clustered standard errors.

An individual's wellbeing can have important implications for participation in the financial market. In Table 3, Model 1B shows that immigrants with health problems are more likely than their counterparts with good health status to have a checking or savings account. In other words, the better the health condition of an immigrant, the less likely he or she is to hold a checking or savings account. Our results were opposite to that of Aguila et al. (2016) investigation. In their article, they found no evidence between banking of older Hispanics and their overall health status (includes self-reported, severe condition, mild condition, CESD score (Center for Epidemiologic Studies Degression Scale), and difficulty with activities of daily living (ADL)). However, Hispanics who owned a bank account showed a positive effect on their mental health. The reason for this positive effect, according to the authors, is that, having a bank account reduces the stress of financial instability which has a considerable effect on improving mental wellbeing. The differences in our findings could partly be due to the non-exclusion of the younger adults in our sample. Aside health being a predictor variable, we also found that immigrants who adjusted their residence status while residing in the U.S. are more likely to have a bank account (checking or savings account) and or investment accounts (significant for only Model 2B) than those who came from another country with their permanent residence visas.

The routes through which immigrants obtain their legal permanent residency could potentially be related to their financial market participation in the host country. We therefore build upon Models 1B and 2B by adding the class of admission variable. In addition to controlling for class of admission in Models 1C and 2C, immigrants arriving in the U.S. tend to be very diverse and are shaped by the beliefs of their home country. For example, financial market participation of immigrants could significantly be influenced by institutions back in their country of origin. Good institutional reforms in the immigrants' country of origin may positively influence their beliefs in the financial systems in the U.S. (Osili & Paulson, 2008). To capture such unobserved heterogeneity in our study that potentially could confound our results, we include the country fixed effect in Model 1C and 2C. Tables 3 and 4 reveal a significant positive association between both the variables, spouse of a U.S. citizen and employment principal, with regard to financial market participation. Model 1C for example, shows an increase in the odds of owning a checking or savings account for both groups of immigrants, spouse of U.S. citizen and employment principals, by 52 and 118 percent respectively, when compared to the group of admission classified as Other. In the financial equity market, the relative magnitude of these point estimates are even larger. For example, in Model 2C, there is a 160.7 percent increase in the odds of the wife or husband of a U.S. citizen to have stocks, bonds or both accounts than that of their counterparts in the group of admission designated as Other. This trend continues when examining the employment principal immigrants, which shows an increase of more than twice the odds of holding stocks and bonds than immigrants in the Other group of admission.

Lastly, our investigation also reveals that marital status and age of immigrants moderate the relationship between the intent to emigrate from the U.S. and financial market participation. Adjusting for the standard errors by clustering on the source country of immigrants, Model 1D shows married immigrants with intentions to emigrate from the U.S. have a 54.1 percent lower odds of owning a checking or savings account than their non-married counterparts. Our result may be indicating that, married immigrants with emigration intentions in the near future are uninterested in acquainting themselves with the U.S. banking system. For example, Merkle and Zimmermann (1992) observed in their study that, married Mexican immigrants who left their spouses behind are less likely to have a bank account than their single counterparts and their married counterparts who brought their spouses with them to the United States. Extending their findings, we argue that married immigrants with intentions to emigrate from the U.S. may accumulate more wealth in the home country (especially in the case where their spouses are left behind in the home country) than average immigrants who are not married. With respect to financial securities, age plays an imperative role in the relationship between an immigrant's intention to emigrate from the U.S. and his or her ownership of an investment account. An additional year in age of an immigrant with the intent to emigrate from the U.S. is associated with a 5.2 percent increase in the odds of purchasing stocks, corporate bonds, or both in the financial market.

CONCLUSION

This paper examines the impact of immigrants' intentions to emigrate from the U.S. on their financial market participation. We estimate logistic regression models using the first full cohort of the New Immigrant Survey (NIS-2003-1) and compare the financial market participation of immigrants with and without intentions to emigrate from the U.S. The analysis of our study contributed to the literature by providing empirical evidence of a non-characteristic determinant of immigrants' financial market participation (namely, immigrants' intention to emigrate from the U.S.) along with improved estimates of the determinants affecting their financial market performance. To our knowledge, this paper is the first to examine the empirical relationship between immigrants' intentions to emigrate from the U.S. and their financial market participation. The results indicate that immigrants with intentions to emigrate from the U.S. are more likely to participate in the financial markets relative to their counterparts with no such intentions. The investigation also indicates that married immigrants with intentions to emigrate from the U.S. are less likely to own a checking or savings account than immigrants who are not married. In addition, immigrants with the intent to emigrate from the U.S. are more likely to purchase stocks, corporate bonds, or both accounts as they get older.

The main empirical evidence that immigrants with intentions to emigrate from the U.S. are more likely to participate in the financial markets than their counterparts with no such intentions has policy implications. Suppose emigration intention is not actualized, in this case, immigrants with the intent to emigrate may end up, on average, with a larger possession of bank accounts (checking or savings account) and investment accounts (stocks, any corporate bonds, or both) than their counterparts with no emigration intentions. This higher financial market participation will contribute to the accumulation of capital stock in the United States, which is a key determinant of the economy's output. In addition, assuming immigrants with emigration intentions do not withdraw all their savings or investment at once and remit them to their countries of origin (that is, have a smooth saving pattern), it will be beneficial for the United States to devise measures to keep emigration intentions from plummeting. Our finding that immigrants with no emigration intentions have lower financial market participation calls for an intervention. Some possible explanations for our finding are that this group of immigrants does not understand the importance of wealth accumulation, are ignorant about the financial market, see the U.S. financial services to be overwhelming and complicated or lack confidence in the financial system. Considering these possibilities, financial literacy campaigns may want to focus particularly on immigrants who do not have intentions to emigrate from the U.S. (plan to live in the U.S. for the rest of their lives) so that these immigrants may become more financially literate, assimilate faster, improve their economic status, and do not pass on the low level of participation in the financial market to future generations.

ENDNOTES

1. In this sub-sample, approximately 41.1 percent of immigrants were asked about their intentions to emigrate from the U.S. (i.e., 3,517 out of the 8,558 respondents were asked to declare their emigration intentions in the survey). For the purposes of testing the mean differences between the two groups of immigrants (immigrants with the intentions to emigrate vs. immigrants with no intentions to emigrate), the output from Table 2 was estimated without applying the probability weighting scale. However, the estimates (from Table 2) are not significantly different when we apply the probability weights provided by the NIS.
2. Spouse of U.S. citizens are immigrants who obtain an immigrant visa by marriage to a U.S. citizen. Employment-based immigrants are immigrants who obtain an immigrant visa based on their occupational skills. Diversity immigrants are immigrants who obtain an immigrant visa by lottery. The remainder of immigrants with immigrant visas are classified as Other and include refugees and asylees.

REFERENCES

Aguila, E., Angrisani, M., & Blanco, L.R. (2016). Ownership of a bank account and health of older Hispanics. *Economics Letters*, *144*, 41–44.

Al-Awad, M., & Elhiraika, A. (2003). Cultural effects and savings: Evidence from immigrants to the United Arab Emirates. *The Journal of Development Studies*, *39*(5), 139–151.

Bohn, S., & Pearlman, S. (2013). Ethnic concentration and bank use in immigrant communities. *Southern Economic Journal*, *79*(4), 864–885.

Edin, P-A., LaLonde R., & Åslund, O. (2000). Emigration of immigrants and measures of immigrant assimilation: Evidence from Sweden. *Swedish Economic Policy Review, 7*, 163–204.

Fontes, A. (2011). Differences in the likelihood of ownership of retirement saving assets by the foreign and native-born. *Journal of Family and Economic Issues*, *32*(4), 612–624.

Galor, O., & Stark, O. (1990). Migrants' savings, the probability of return migration and migrants' performance. *International Economic Review*, pp. 463–467.

Hellevik, O. (2007). Linear versus logistic regression when the dependent variable is a dichotomy. *Quality & Quantity*, *43*(1), 59–74. http://doi.org/10.1007/s11135-007-9077-3

Jasso, G., Massey, D.S., Rosenzweig, M.R., & Smith, J.P. (2006). *The new immigrant survey 2003 round 1 (NIS-2003-1) public release data*. Retrieved April 20, 2010. Funded by NIH HD33843, NSF, USCIS, ASPE & Pew. http://nis.princeton.edu

Long, J.S. (1997). Regression Models for Categorical and Limited Dependent Variables (1st ed.). Sage Publications, Inc.

McConnell, E.D., & Akresh, I.R. (2008). Through the front door: The housing outcomes of new lawful immigrants. *International Migration Review*, *42*(1), 134–162.

Merkle, L., & Zimmermann, K.F. (1992). Savings, remittances, and return migration. *Economics Letters*, *38*(1), 77–81.

Osili, U.O., & Paulson, A. (2008). What can we learn about financial access from US immigrants? The role of country of origin institutions and immigrant beliefs. *The World Bank Economic Review*, *22*(3), 431–455.

Paulson, A., & Rhine, S.L. (2008). The financial assimilation of an immigrant group: Evidence on the use of checking and savings accounts and currency exchanges. *Journal of Family and Economic Issues*, *29*(2), 264–278.

Rhine, S.L., & Greene, W.H. (2006). The determinants of being unbanked for US immigrants. *Journal of Consumer Affairs*, *40*(1), 21–40.

Rhine, S.L., & Greene, W.H. (2013). Factors that contribute to becoming unbanked. *Journal of Consumer Affairs*, *47*(1), 27–45.

Rhine, S.L., & Toussaint-Comeau, M. (1999). The use of formal and informal financial markets among black households. *Consumer Interest Annual*, *45*, 146–151.

Seto, S., & Bogan, V.L. (2013). Immigrant household investment behavior and country of origin: A study of immigrants to the United States. *International Journal of Finance & Economics*, *18*(2), 128–158.

Spencer, H.L., & Fan, J.X. (2002). Savers, debtors, and simultaneous debtors and savers. *Journal of Financial Counseling and Planning*, *13*(2), 25.

Yuh, Y., & Hanna, S.D. (2010). Which households think they save? *Journal of Consumer Affairs*, *44*(1), 70.