

# VARIATIONS IN RETIREMENT ACCOUNT HOLDINGS: EVIDENCE FROM NATIVE AND IMMIGRANT WOMEN IN THE U.S.

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## ABSTRACT

*This study investigated how immigrant status and life expectancy in the country of origin relate to variations in retirement savings among working age women in the U.S. Specifically, utilizing the National Longitudinal Survey of Youth 1979 Cohort data, this study compared native-born Americans, naturalized citizens, and female, non-U.S. citizens in regards to retirement-specific accounts. Overall, naturalized U.S. citizens had higher odds of saving for retirement than non-U.S. citizens; however, after controlling for socio-economic backgrounds, the difference was not significant. Variations in female life expectancies provided weak support to correlate with saving for retirement among female immigrants. Rather, variations in the demographic characteristics of these women explained the differences in the odds of having savings in a U.S. retirement account. The findings gave support for immigrants' economic assimilations corresponding with delayed cultural assimilations and implications for financial service professionals who work with immigrant clients.*

**JEL:** D14, G11

**KEYWORDS:** Foreign Born, Immigrant, Naturalized Citizen, Retirement, Savings, Women

## INTRODUCTION

For working class individuals and families in the U.S., their primary income sources after retirement are Social Security, employer sponsored savings, and personal savings (McCourt, 2006). With the future anticipation for reduced Social Security benefits and a decline in the coverage rates among workers supported by employer sponsored defined benefit pensions, the relative importance of more self-directed plans, such as personal savings, has increased. Therefore, the current trend in retirement financial preparation requires women, who often live longer than men do, to be even more responsible for financing their retirement through voluntary saving. Due to increased life expectancy, everyone in the U.S. faces the possibility of living longer after retirement. At the same time, an individual's perception toward such risk is highly personal and relative. Individual perception toward his or her own future economic well-being varies as to the absolute distance of his or her retirement future. With the changes in retirement and the individual and family financial environment being the only consistency, understanding retirement preparedness among immigrant and non-immigrant women is essential.

A significant number of people living in the U.S. are immigrants. In 2010, 5.6% of the population was naturalized citizens, and 7.3% was non-citizens (U.S. Census Bureau, 2012). Moreover, foreign-born non-U.S. citizens have the highest poverty rate at 21.6%, compared to 12.1% among native-born and 9.8% among naturalized citizens (U.S. Census Bureau, 2012). Overall, reflecting such statistics, are naturalized citizens more prepared for retirement than native-born Americans are, and does the opposite hold true for non-citizens compared to their native-born counterparts? How immigrants are preparing for eventual retirement is a great concern not only for them but also from the public policy perspective.

Recent studies show that immigrants are at a disadvantage regarding financial preparedness, because immigrants are less likely to hold financial assets (Chatterjee, 2009b) and have more relaxed attitudes about financial preparations for retirement than native-born U.S. citizens (Fontes & Gutter, 2006). Further,

women have greater needs for financial preparedness than men do. Lastly, countries of origin, marital status, presence of children, and educational attainment affect women's economic well-being and thus retirement preparedness.

The variations in cultural assimilation patterns, beyond economic assimilation, among immigrants from different countries may explain the variations in retirement preparedness among immigrants. One such example might be life expectancy in their home countries. Although this study did not find any association between the female life expectancy in the home country and the odds of retirement account holding status among immigrant women, variations in lifestyle customs and expectations or cultural assimilation patterns may be reflected in the life expectancies of their home countries, which may or may not correlate with their economic assimilation. This study is based on the assumption that the amount of savings for retirement that each working-age woman considers adequate varies, reflected, even if somewhat discounted or inflated, on their actual account holdings and the savings balance, even after controlling for their spending levels in pre-retirement years.

The theoretical basis of this study came from the segmented assimilation theory (Portes & Zhou, 2003). According to this theory, there are three assimilation patterns: upward mobility, downward mobility, and economic assimilation with delayed cultural assimilation. This study examined which of these assimilation patterns apply to the retirement preparation behavior among the selected population of immigrant women of childrearing age with different backgrounds. The remainder of the manuscript includes a literature review, focusing on immigration and retirement savings and then on gender, marital status, childbearing, education, and country of origin; data and methodology; results; and concluding comments.

## LITERATURE REVIEW

Three determinants of longevity in the U.S. are being female, having more wealth, and being healthy. Similarly, when anticipating longer life expectancies, older Americans save more (De Nardi, French, & Jones, 2009). Compared to native-born U.S. citizens, foreign-born individuals living in the U.S. are less likely to hold individual assets and thus, are less prepared financially for retirement. In addition to age, gender, marital status, ethnicity, household income and net worth, immigrants' risk tolerance levels and years in the U.S. are positively associated with the probability of owning U.S. financial assets (Chatterjee, 2009; Chatterjee, 2009a). These factors associated with financial assets ownership rates reflect both economic and cultural assimilation (Portes & Zhou, 2003). The following literature review focuses on variations in immigration status and retirement savings in the U.S., followed by other factors that explain variations in retirement savings, such as gender, marital status childbearing, education, and origin country.

### Immigration and Retirement Savings

Various factors put immigrants at an economic disadvantage in the United States. Language is one such factor, especially for Hispanic immigrants (Shobo, 2004), who are also the majority of the foreign-born population in the U.S. (Grieco et al., 2012). Moreover, foreign-born non-U.S. citizens have the highest poverty rate at 21.6%, compared to 12.1% among native-born and 9.8% among naturalized citizens (U.S. Census Bureau, 2006). Some of these non-citizens will become naturalized citizens in the future, and some of the rest are likely to remain in the U.S. How this population is preparing for eventual retirement is of great concern, not only for the immigrants themselves but also for practicing financial professionals and policy makers.

Young immigrants save less for future economic uncertainty than native-born Americans (Amuedo-Dorantes & Pozo, 2002). An earlier study pointed out that uncertain income explains lower financial asset holdings among immigrants than natives (Chatterjee, 2009). Immigrants generally begin saving for

retirement later than native-born Americans, possibly because immigrants are more likely to be expecting to rely on social networks for support, depending on their countries of origin, rather than their own financial means (Fontes & Gutter, 2006). Immigrants also have limited resources because of the cost of immigration and because they lack the knowledge and financial skills needed for investment and savings (Fontes & Gutter, 2006). Other possible reasons include the differences in “risk preferences” and a shift of financial assets to home countries for future financial security (Amuedo-Dorantes & Pozo, 2002). Immigrants may be more willing to take risks than native-born Americans (Halek & Eisenhauer, 2001), while risk tolerance explained the investment assets among both native-born and immigrant populations (Chatterjee, 2009b). Immigrants were indeed less likely to hold investment assets than the native-born population, and the likelihoods were higher when educational attainment and income levels were higher (Chatterjee, 2009b).

The amount saved in retirement financial assets may be explained by the choices individuals and households make regarding asset allocation and in frequencies of changes and timing of such changes (Harness, Finke, & Chatterjee, 2010), in addition to the initial investment amounts. If immigrants are less knowledgeable about the market nature of defined contribution retirement accounts, due to slower cultural assimilation than economic assimilation, then they may well have disadvantageous retirement asset holdings than their native-born counterparts. The longer immigrants remain in the U.S. the more knowledge they accumulate. In sum, the duration since entering the U.S., citizenship status, and plans to return to a home country with a lower cost-of living may all influence the relative perceptions toward retirement savings.

#### Gender, Marital Status, Childbearing, Education, and Country of Origin

Women are particularly at a higher risk of outliving their retirement savings than men. On average, women earn less than men in the labor market (U.S. Census Bureau, 2007a), yet they tend to live longer than men (United Nations, 2007). Women who remain single or are divorced may have to be fully responsible for their retirement financial well-being, since they are unable to rely on the financial contributions made by their husbands’ earnings. This study focuses on the retirement savings among immigrant women aged 39 to 46 in 2004. For many of these women, this period overlaps with their wage earning years, making the savings during these years significant predictors of economic well-being after retirement age. Further, there is a variation in the likelihood to marry and remain married among women of different racial and ethnic groups (U.S. Census Bureau, 2007b). This places women in some groups at further disadvantage in terms of retirement saving than others. One reason that the lifetime earnings of women tend to be lower than those of men is that they have more responsibility for bearing and rearing children. For single mothers, the relative burden is greater than their married counterparts are.

The variation in educational attainment and skill formation that enhance an individual’s earning potential partially explain differences in earnings. The earning patterns of women vary based on race and educational attainment (Seligman & Mimura, 2007). Using the 2000 U.S. Census data, Seligman and Mimura (2007) investigated female earnings during childrearing ages based on the fertility patterns of those with selected racial and educational backgrounds, using a three-year earning average. The comparisons of earning patterns of the women who had no dependent child(ren) in the household and those with the most ‘typical’ fertility (number and age of children) for each race and education group showed the classic M-shaped earning curve applied only to Asian and White women with Bachelor’s degrees who followed the typical fertility pattern. African American women with a Bachelor’s degree who followed their typical fertility pattern showed no evidence of earning loss when compared with their no child cohort. It is therefore necessary to study whether such variations exist among immigrant women.

There are studies both on retirement saving and life expectancy as well as on immigrant and retirement savings. However, limited literature exists in the area of retirement savings and the life expectancy of

immigrants according to their countries of origin. One such study on both males and females, using the Survey of Income and Program Participation, found that the retirement asset holdings among Asian and European origin immigrants did not differ from that of native-born citizens, while Latino immigrants had lower likelihoods of having a retirement account than native-born citizens (Fontes, 2011). Further, the variations in the retirement account holdings were explained by cultural assimilation and ethnic identity rather than variations in savings in general (Fontes, 2011). Indeed, what partially fills such a gap is the finding that the gender unique development levels of the home country explain the variations in economic achievement in the U.S. (Huh, 2011).

In summary, the literature on immigrants saving for retirement is limited, and various factors influence individual and family savings behavior. Immigrants in general are at an economic disadvantage, and they may be more relaxed about retirement savings than native-born Americans. Women, including immigrant women, are at higher risk of living too long to support themselves in old age than their male counterparts. Countries of origin, marital status, and childrearing influence their economic well-being, along with educational attainment. Perceived life expectancy that influences the calculation of retirement planning could vary among female immigrants from different home countries, due to differences in life expectancy in different countries of origin.

Two questions motivated this study. First, are foreign-born women of childrearing age less likely to save for retirement and save less than socio-economically comparable native-born American women? Second, in the current U.S. environment, where the trend is self-directed preparation for retirement, do these immigrant women follow a pattern of economic assimilation with delayed cultural assimilation (Portes & Zhou, 2003)? Some immigrants are economically disadvantaged because of language barriers and less valued educational and work experiences from their home countries; they may also have lower perceived life expectancies, and they may be more likely to be risk takers than their native-born counterparts (Halek & Eisenhauer, 2001). We expect variations in the retirement saving behavior of immigrant women based partially on the variations in factors, such as immigration status and life expectancy.

## **DATA AND METHODOLOGY**

The data from this study came from the 1979, 1990, and 2004 interviews of the National Longitudinal Survey of Youth 1979 (NLSY79) Cohort. This panel data source has a nationally representative sample of individuals who were 14 to 21 years of age when the survey began. In this study, the variables used from the 1979 survey include some demographic information of the respondents. Those used from the 1990 survey are immigrant status and country of origin information. This adds a restriction to the data, because some of the ‘non-citizen immigrants’ in the observations may have become naturalized citizens by 2004. Retirement savings and time-varying socio-demographic information, such as marital status and family poverty status, came from the 2004 survey. The analysis focused on employer-sponsored retirement savings in the respondent’s name and savings in tax-advantaged accounts, such as traditional IRAs, Roth IRAs, and the Keogh plans in either the respondent or the spouse’s name. Since the retirement savings information came from 2004, all dollar values are in 2004 values.

The sample includes all female respondents, both immigrants (n=205) and non-immigrants (n=3,544). Some immigrants were naturalized citizen (n=85), while others were non-citizen immigrants (n=120). These women were between the ages of 39 to 46 in 2004. An immigrant is someone who was not a U.S. citizen at birth. The women included in this study had been living in the U.S. since 1979 and thus, represent long-term residents rather than a current representative sample of those who are not native-born Americans. Table 1 presents the sample distributions based on the immigrant’s status and country of origin. The majority of naturalized citizens and non-citizen immigrants were from Latin American countries. The sample provided a small number of immigrants, both naturalized citizens and non-citizens, with savings in retirement accounts. An even smaller number reported the amounts in these accounts.

Table 1: Sample Description by Immigrant Status and Country of Origin as of 1990

Country of Origin	Immigrant Status			Total
	Native Born U.S. Citizen	Naturalized Citizen	Non-Citizen Immigrant	
U.S.	3,544	0	0	3,544
Mexico	0	27	70	97
Cuba	0	10	5	15
Dominican Republic	0	5	10	15
Jamaica	0	6	3	9
Guatemala	0	3	3	6
Other	0	34	29	63
Total	3,544	85	120	3,749

*This table shows the numbers of women included in this study by their immigrant status in three categories and countries of origin.*

### Statistical Approach

Descriptive statistics include t-tests, chi-square tests, and simple regression models. The regression modeled the amounts in retirement accounts among immigrant respondents for descriptive purposes. The response variable in the first regression model was employer sponsored retirement accounts, and that in the second model was tax-advantage accounts in either the respondent or the spouse’s name.

Two types of multivariate statistical techniques were considered. First, the odds of having retirement savings were assessed using logistic regression to answer the research questions. The first comparison for each retirement savings account type was to assess the differences in the odds of having the account between naturalized citizens and non-citizens and to see if there were differences in the odds of having an account based on the female life expectancy in their home countries. The United Nation’s social indicators resource provided information about life expectancy. The second comparison used the same sample as the first but controlled for socio-demographic characteristics. The third comparison was among three groups: native-born U.S. citizens, naturalized citizens, and non-citizens.

The three response variables in the logistic regression models were if the respondent held an employer sponsored retirement savings account, if she or her spouse held a tax advantage account (IRA, Roth IRA, and Keogh), and if she had either one of these two accounts. Two main explanatory variables were the immigrant status and female life expectancy in the country of origin. The immigrant status was classified in three categories, where the baseline was non-citizen, and two other categories are native-born U.S. citizen and naturalized U.S. citizen. The life expectancy among women in the country of origin was measured in years.

The full models included control variables. The control variables were women’s demographic (age, marital status, and educational attainment) and other household characteristics (presence of children in the household and household income relative to poverty thresholds). Household income relative to the poverty thresholds served as the proximity for economic assimilation. Race and ethnicity were not included in the final models, because they were not statistically significant control variables in the immigrant-only models. Lastly, bivariate comparisons of the mean amount of savings in retirement accounts among those who reported the saving amount used t-tests.

The data prepared from the NLSY79 were certainly not without limitations. First, limited sample size did not allow for multivariate analyses of the dollar amounts in retirement savings accounts. Second, information regarding immigrants that may help explain the variations in retirement savings, but were not included in this study, are the duration in the U.S., whether they have immediate family members living in their home countries, if they make remittances to families in their home countries, employment status and occupation, and information about spouses if they were married. Future studies using data that are more appropriate will add to the knowledge. The future of the global and personal environment is uncertain for many, if not all of us. The probability that immigrants will return to their home countries

may be higher than the probability that native-born citizens will live overseas after retirement, but the survey does not provide reliable information to predict such plans, which poses the third limitation. Fourth, employment status and the occupation of the respondents were not included as control variables due to the complex association among these and marital status. Lastly, not only the women’s job status but also by their husbands’ job status influences accessibility to some retirement savings vehicles.

**RESULTS**

Tables 2 and 3 give weighted sample characteristics according to three types of immigrant status: native-born U.S. citizens, naturalized citizens, and non-citizen immigrants. Table 2 compares the retirement savings account holdings among three groups of women. First, the percentage of women with any savings in employer-sponsored retirement savings accounts was significantly different statistically among the three citizenship groups. Non-citizens (13%) were least likely to have any money in an employer sponsored retirement account. Among those who had such savings, the mean balance reported was higher among naturalized citizens (\$66,318) than native-born citizens (\$28,297) and non-citizens (\$27,482). Second, among those who reported having tax-advantage retirement accounts, the amount saved in these accounts was no different among the three groups of women. Third, when the two types of retirement savings were combined, the percentage of non-citizen women with any retirement savings was smaller (16%) – almost one-half of the other groups. Again, the total amount saved was not statistically different among the three groups.

Table 2: Retirement Account Assets by Immigrant Status (weighted)

Variables	Immigrant Status		
	Native Born U.S. Citizen	Naturalized Citizen	Non-citizen Immigrant
Have money in employer sponsored retirement account*	22.06%	20.91%	12.86%
If yes, mean balance in employer sponsored account	\$28,297 <sup>a</sup> (44,508)	\$66,318 <sup>ab</sup> (58,234)	\$27,482 <sup>b</sup> (12,465)
Have money in tax-advantage retirement account	16.47%	14.47%	4.72%
If yes, mean balance in tax-advantage retirement account	\$31,278 (71,188)	\$27,021 (52,873)	\$50,037 (95,343)
Have money in both or one of the above accounts**	31.90%	29.83%	15.50%
If yes, mean balance in these accounts	\$35,730 (62,086)	\$59,584 (59,583)	\$38,046 (65,262)

*This table shows weighted sample characteristics in terms of retirement account holdings and the amount of such savings in U.S. dollars by three immigrant status categories. The percentages include those who had such accounts among each category, while the dollar amounts are the mean balance of such accounts, among those who had one. Numbers in the parentheses are standard deviations. The numbers with the same letters in superscript denote statistically significant differences in the means. \*\* and \* indicate significance at less than 5 and 10 percent levels respectively.*

Table 3 shows the descriptive sample characteristics by the immigration category. Female life expectancy in the home country of origin, race or ethnicity, educational attainment of the respondents, and household income relative to poverty thresholds were different among the three groups. Specifically, the life expectancy was longer in the U.S. at 81 years than the average expectancy of both the naturalized citizen and non-citizen immigrants’ home countries at about 78 years. It appears that the proportion of Asians and Hispanics were much lower among native-born citizens than among immigrant groups, while there were no immigrants who identified themselves as “Native American, Hawaiian, or Pacific Islander” or “Other.” Naturalized citizens belong to the most educated group, followed by the native-born citizens and non-citizen immigrants. Lastly, in this sample, the household income relative to poverty thresholds was higher among non-citizen immigrants than among native-born citizens. This characteristic of the study sample reflects that the immigrant sample for the current study is not a representative sample of women living in the U.S. who were not born as U.S. citizens, but rather, it is the sample of long-term U.S. resident immigrants.

Table 3: Sample Characteristics by Immigration Status (weighted)

Variables	Immigrant Status		
	Native Born U.S. Citizen	Naturalized Citizen	Non-citizen Immigrant
Female life expectancy in home country in years	81 <sup>ab</sup> (N/A)	77.79 <sup>a</sup> (3.83)	77.77 <sup>b</sup> (3.69)
Age in years	42.75 (2.34)	42.95 (1.73)	42.93 (1.71)
Race and ethnicity (baseline: White)***			
Asian	0.67%	9.13%	9.08%
Black	13.84%	12.23%	6.42%
Hispanic	4.05%	38.13%	64.11%
Native American, Hawaiian, or Pacific Islander	5.30%	0.00%	0.00%
Other	6.04%	0.00%	0.00%
Married	64.72%	69.05%	67.90%
Educational attainment***			
< high school	4.83%	3.26%	24.10%
High school	40.89%	32.85%	46.62%
> high school	54.28%	63.89%	29.29%
Presence of children at home	71.58%	74.77%	78.46%
Household income relative to poverty thresholds	158.77 <sup>b</sup> (46.57)	167.45 (34.60)	173.98 <sup>b</sup> (34.59)

This table shows the descriptive sample characteristics in terms of life expectancy and demographic variables by three immigrant status categories. Numbers are column percentages for dichotomous variables and means and standard deviations for numeric variables. The statistical tests of independence used for the former were Chi-square tests, while those used for the latter were three sets of t-tests for each of the two combinations of three citizenship groups. There are statistically significant differences between the means of the two groups with the same letters at  $p < 0.10$ . \*\* and \* indicate significance at less than 5 and 10 percent levels respectively.

While Table 4 shows two simple regression model results of the amounts in the retirement savings accounts, given the respondents reported values, the results of the first model shows no difference in the amounts saved in employer sponsored accounts between naturalized citizens and non-citizen immigrants. This is inconsistent with the weighted t-test results. While the second model does not show differences in the amounts saved in tax advantage accounts between the two groups, either; it supports the hypothesis that the longer female life expectancy of home country relates to the higher amount of savings for retirement.

Table 4: Simple Regression Model Results of Amount Saved in Two Types of Accounts by Immigrants

Panel A: Employer Sponsored Account			
Variables	Coefficient Estimate	Standardized Error	T-Value
Intercept	-3927.47	101986.07	-0.04
Naturalized U.S. citizen (vs. non-citizen)	16669.37	17428.06	0.96
Life expectancy	366.54	1330.48	0.28
R-square	0.04		
N	33		
(df)	(2)		
Panel B: Tax Advantage Account			
Variables	Coefficient Estimate	Standardized Error	T-Value
Intercept	-1541569.42	444507.69	-3.47***
Naturalized U.S. citizen (vs. non-citizen)	-35197.37	42860.34	-0.82
Life expectancy	20598.96	5645.56	3.65***
R-square	0.51		
N	17		
(df)	(2)		

This table shows the regression estimates of the equation: Amount saved (\$) =  $\beta_0 + \beta_1(\text{Naturalized U.S. citizen vs. non-citizen}) + \beta_2(\text{Female life expectancy in home country})$  with the immigrant sample. The response variable in both was the dollar amounts in the accounts of those who had reported positive values in such accounts. Panel A shows the results for the employer sponsored account. Panel B shows the results for the tax-advantage account. The first figure in each cell is the regression coefficient, the second is the standardized error, and the last is the t-statistic. \*\*\*indicate significance at less than 1 percent level.

### Multivariate Logistic Regression Results

Table 5 shows the results of nine logistic regression models that assessed the odds of having retirement savings in three categories among three different groups of women. The three categories of retirement savings are employer-sponsored, tax-advantage, and either of these two. The sample size is small in the immigrant-only models, with 203 usable observations.

The first model in each account type is the immigrant-only simple model that examined the odds of having retirement accounts by the citizenship status and life expectancy of the home country. Specifically, for instance, in the simple model, the following logit model was estimated to identify the determinants of retirement account holdings:

$$L_i = \ln(P_i/1-P_i) = \beta_0 + \beta_1(\text{naturalized U.S. citizen vs. non-citizen}) + \beta_2(\text{life expectancy}), \quad (1)$$

where  $L$  is linear in explanatory variables ( $X$ ), and  $P$  is the probability ranging from 0 and 1. The results of the logistic regression show that the odds that female naturalized U.S. citizens had employer-sponsored or either employer-sponsored or tax advantage retirement account savings were more than twice as much as those for non-citizen immigrants. The odds that the naturalized citizens had either account were three times as much as those for non-citizen immigrants. Variations in female life expectancy in the home countries did not appear to have any correlation with the odds of setting aside money in retirement savings accounts among immigrants, when citizenship status was controlled.

The second model in each of the account types is the immigrant-only full model, where socio-demographic characteristics of these women were controlled. Specifically, for each of these three models, the following logit model was estimated to identify the determinants of retirement account holdings:

$$L_i = \ln(P_i/1-P_i) = \beta_0 + \beta_1(\text{naturalized U.S. citizen vs. non-citizen}) + \beta_2(\text{life expectancy}) + \beta_3(\text{age}) + \beta_4(\text{married}) + \beta_5(\text{high school graduate}) + \beta_6(\text{presence of children at home}) + \beta_7(\text{household income relative to poverty threshold}), \quad (2)$$

In the full models, the odds of having an employer-sponsored account or a tax advantage account were no longer different between naturalized citizens and non-citizen immigrants. The odds that the immigrants with a high school education had an employer-sponsored retirement account were 11 times as much as those without a high school education. The odds that married immigrant women had a tax-advantage retirement account were about four times as much as those of non-married immigrant women were. While the employer-sponsored account had to be in the respondent's name, a tax advantage account could be in either the respondent's or the spouse's name in the NLSY79 data. The odds that naturalized U.S. citizens had either type of retirement account were still twice as much as those that the non-citizen immigrants had such accounts, even when controlling for socio-demographic characteristics. The odds that the immigrants with a high school education had either an employer-sponsored or a tax advantage retirement account were seven times as much as those without a high school education.

Is immigration status associated with the odds of having retirement savings among female native-born citizens, naturalized citizens, and non-citizen immigrants, controlling for other socio-economic variables? To answer this question, the following logit model was estimated to identify the determinants of retirement account holdings for each of the three response variables:

$$L_i = \ln(P_i/1-P_i) = \beta_0 + \beta_1(\text{native-born U.S. citizen vs. non-citizen}) + \beta_2(\text{naturalized U.S. citizen vs. non-citizen}) + \beta_3(\text{age}) + \beta_4(\text{married}) + \beta_5(\text{high school graduate}) + \beta_6(\text{presence of children at home}) + \beta_7(\text{household income relative to poverty threshold}). \quad (3)$$



Table 5: Logistic Regression Results of Having Retirement Savings Balances by Account Types

Panel A: Employer Sponsored Account									
Variables	Immigrant			All					
	Simple Odds Ratio	Coefficient Estimate	Wald Chi-Square	Full Odds Ratio	Coefficient Estimate	Wald Chi-Square	Odds Ratio	Coefficient Estimate	Wald Chi-Square
Intercept	-	-0.79	0.06	-	-5.44	1.25	-	0.13	0.02
Native-born U.S. citizen (vs. non-citizen)	-	-	-	-	-	-	1.59	0.10	0.55
Naturalized U.S. citizen (vs. non-citizen)	2.56	0.47	5.79**	1.89	0.32	2.36	1.87	0.26	1.75
Life expectancy	0.99	-0.01	0.07	1.01	0.00	0.01	-	-	-
Age	-	-	-	1.07	0.06	0.52	0.96	-0.04	4.48**
Married	-	-	-	0.65	-0.22	0.92	1.21	0.10	4.22**
Graduated from high school	-	-	-	11.33	1.21	5.35*	4.31	0.73	38.37 ***
Presence of children at home	-	-	-	0.51	-0.34	1.40	1.20	0.09	2.38
Household income relative to poverty threshold	-	-	-	1.00	0.00	0.00	1.00	-0.00	8.84***
Pseudo R-square	-	0.03	-	-	0.09	-	-	0.02	-
Log-Likelihood ratio (df)	-	174.24	-	-	159.97	-	-	3,775.90 (8)	-
N	-	203	-	-	203	-	-	3,749	-

  

Panel B: Tax Advantage Account									
Variables	Immigrant			All					
	Simple Odds Ratio	Coefficient Estimate	Wald Chi-Square	Full Odds Ratio	Coefficient Estimate	Wald Chi-Square	Odds Ratio	Coefficient Estimate	Wald Chi-Square
Intercept	-	-4.11	0.61	-	-8.42	1.13	-	-3.90	13.77
Native-born U.S. citizen (vs. non-citizen)	-	-	-	-	-	-	1.95	0.23	1.62
Naturalized U.S. citizen (vs. non-citizen)	2.83	0.52	3.86**	2.04	0.36	1.60	1.89	0.20	0.59
Life expectancy	1.02	0.02	0.10	1.01	0.01	0.01	-	-	-
Age	-	-	-	1.16	0.15	1.62	1.03	0.03	1.44*
Married	-	-	-	3.68	0.65	2.97*	2.87	0.53	68.72***
Graduated from high school	-	-	-	4.16	0.71	1.71	7.26	0.99	22.53***
Presence of children at home	-	-	-	3.56	0.64	1.64	0.88	-0.07	0.75
Household income relative to poverty threshold	-	-	-	0.99	-0.01	1.93	1.00	-0.00	3.15*
Pseudo R-square	-	0.02	-	-	0.07	-	-	0.04	-
Log-Likelihood ratio (df)	-	112.64	-	-	102.97 (7)	-	-	2,691.51 (7)	-
N	-	203	-	-	203	-	-	3,749	-

  

Panel C: Either Account									
Variables	Immigrant			All					
	Simple Odds Ratio	Coefficient Estimate	Wald Chi-Square	Full Odds Ratio	Coefficient Estimate	Wald Chi-Square	Odds Ratio	Coefficient Estimate	Wald Chi-Square
Intercept	-	-2.09	0.40	-	-5.41	1.32	-	-0.05	0.00
Native-born U.S. citizen (vs. non-citizen)	-	-	-	-	-	-	1.83	0.15	1.44
Naturalized U.S. citizen (vs. non-citizen)	3.04	0.56	9.76***	2.24	0.40	4.54**	2.13	0.30	2.73
Life expectancy	1.01	0.01	0.06	1.02	0.02	0.17	-	-	-
Age	-	-	-	1.07	0.06	0.66	0.97	-0.03	2.96
Married	-	-	-	0.95	-0.03	0.02	1.64	0.25	33.65***
Graduated from high school	-	-	-	7.00	0.97	6.43**	5.32	0.84	57.17
Presence of children at home	-	-	-	0.65	-0.22	0.64	1.15	0.07	1.65***
Household income relative to poverty threshold	-	-	-	1.00	-0.00	0.49	1.00	-0.00	11.24***
Pseudo R-square	-	0.05	-	-	0.11	-	-	0.04	-
Log-Likelihood ratio (df)	-	199.40	-	-	185.37 (7)	-	-	4,319.30 (7)	-
N	-	203	-	-	203	-	-	3,749	-

This table shows the results of nine logistic regression models where the response variable was the odds of having retirement savings accounts. Specifically, the first model, immigrant simple model, estimated of the equation:  $L_i = \ln(P_i/1-P_i) = \beta_0 + \beta_1(\text{naturalized U.S. citizen vs. non-citizen}) + \beta_2(\text{life expectancy})$  where L is linear in explanatory variables (X), and P is the probability ranging from 0 and 1. The second model, immigrant full mode, estimated the equation:  $L_i = \ln(P_i/1-P_i) = \beta_0 + \beta_1(\text{naturalized U.S. citizen vs. non-citizen}) + \beta_2(\text{life expectancy}) + \beta_3(\text{age}) + \beta_4(\text{married}) + \beta_5(\text{high school graduate}) + \beta_6(\text{presence of children at home}) + \beta_7(\text{household income relative to poverty threshold})$ . The final model with immigrant and native-born U.S. citizens estimated the equation:  $L_i = \ln(P_i/1-P_i) = \beta_0 + \beta_1(\text{native-born U.S. citizen vs. non-citizen}) + \beta_2(\text{naturalized U.S. citizen vs. non-citizen}) + \beta_3(\text{age}) + \beta_4(\text{married}) + \beta_5(\text{high school graduate}) + \beta_6(\text{presence of children at home}) + \beta_7(\text{household income relative to poverty threshold})$ . The response variable was having had balance in retirement savings account. Panel A shows the results for the employer sponsored account. Panel B shows the results for the tax-advantage account. Panel C shows the results for either type of account. The numbers presented here are odds ratios, coefficient estimates, and Wald Chi-square statistics. Log-likelihood ratios test the significance of the model; all models were statistically significantly different from null. \*\*\*, \*\*, and \* indicate significance at less than 1, 5, and 10 percent levels respectively.

The results show that the odds of having retirement savings were not different among the three groups ('All' models), once the degree of economic assimilation was taken into consideration. Control variables associated with the higher odds of having these retirement savings were being married, having at least a high school diploma, and having higher household income relative to the poverty thresholds. These control variables were consistently significant across the three retirement savings categories examined. Differences in educational background perhaps imply differences in employment status, occupational status, and access to employee-sponsored retirement savings accounts. There was no evidence that having a child negatively or positively relates to the odds of having retirement savings among these women.

## CONCLUDING COMMENTS

Two goals of this study were to assess if the life expectancies in home countries were positively associated with immigrant women's retirement financial preparedness and to examine the differences in such preparedness among native-born U.S. citizens, naturalized citizens, and non-citizen immigrant women in the U.S. The data came from the National Longitudinal Survey of Youth 1979 Cohort. The primary methodological approach was to estimate the odds of holding two types of retirement accounts—employer sponsored and other types of tax advantage accounts—or either one of these, based on three aforementioned immigrant status categories, life expectancies in their home countries, and demographic characteristics that may explain the variations in retirement financial preparedness.

The results gave support for the long-term resident immigrant women's economic assimilation with delayed cultural assimilation. Naturalized citizens are more likely to have had retirement savings than non-citizen immigrants ('Simple' models). Once controlling for the household income relative to poverty threshold, among other variables, the odds of having retirement savings were no different among non-citizen immigrants, naturalized citizens, and native-born citizens ('All' models). Naturalized citizens appeared to be more assimilated culturally and economically to the U.S. retirement system than non-citizen immigrants ('Immigrant full models').

Overall, immigration status was associated with retirement savings among immigrant women when not considering economic assimilation, while life expectancy in home countries did not explain the variations in these savings in multivariate models. The positive association between life expectancy and the amount saved in tax advantage account needs a careful interpretation, as the sample size of the model was very small ( $n=17$ ). The fact that both groups of immigrants were not different, at least in terms of having the employer-sponsored and tax-advantage retirement accounts when controlling for socio-economic background supports, the economic assimilation of immigrant women accompanied cultural assimilation with regard to these savings. However, there is a slight hint of delayed cultural assimilation. Although not statistically significant, the odds of having retirement savings among naturalized citizens in the full models are greater than those among non-citizens. The small sample size of immigrant women with retirement savings might have hindered a robust analysis.

As found in Fontes and Gutter (2006), there were some differences in retirement preparedness between native-born citizens and naturalized citizens (Table 2). Non-citizen immigrants face more uncertainty about the future than naturalized citizens. The finding that the latter group of women had higher odds of having a retirement account than the former confirms Charterjee (2009). Regarding a control variable, possibly because of the narrow range in the age of the women included in the study, this study found mixed associations between age and saving, unlike earlier work by Amuedo-Dorantes and Pozo (2002).

A few limitations of the current study need to be mentioned. Non-citizen immigrant women included in the study had been in the U.S. at least from 1978, when the sample was identified, through 2004. No recent immigrants were included in this study, and this may explain why the household income relative to poverty thresholds was higher among non-citizen immigrants than among native-born citizens in the

study sample. Many non-citizen immigrants in this study were unlikely to be in the U.S. temporarily. Recent immigrants and other non-citizen immigrants may be more likely to face challenges navigating the financial planning world than naturalized citizens or native-born citizens of otherwise comparable socioeconomic backgrounds. One barrier could be language, particularly financial planning terminology and concepts, even if they are from English speaking countries. Another barrier is differences in perceptions toward retirement financial support systems in their home countries where they may rely on younger family members or more comprehensive social welfare systems. The second limitation of the study is there is no examination of the immigrant status of spouses of married respondents. Spouses of varying backgrounds may influence retirement preparation differently, and is worthy of future study. Finally, the double-hurdle model needs reassessment with a larger sample size.

## REFERENCE

- Amuedo-Dorantes, C., & Pozo, S. (2002). Precautionary saving by young immigrants and young natives. *Southern Economic Journal*, 69(1), 48-71.
- Chatterjee, S. (2009). Financial market participation of immigrants and native-born Americans: the role of income uncertainty. *International Business & Economics Research Journal*, 8(5), 1-9.
- Chatterjee, S. (2009a). Do immigrants have lower participations in the U.S. financial markets? *The International Journal of Business and Finance Research*, 3(2), 160-168.
- Chatterjee, S. (2009b). Individual stockownership in the United States: Native-immigrant gap and the role of risk tolerance. *International Research Journal of Finance and Economics*, 28, 1-13.
- De Nardi, M., French, E., & Jones, J. B. (2009). Life expectancy and old age savings. *American Economic Review*, 99(2), 110-115.
- 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. doi: 10.1007/s10834-011-9262-3
- Fontes, A., & Gutter, M. S. (2006). *Difference in the onset of formal retirement saving between native and foreign born individuals: An event history analysis*. Paper presented at the American Council on Consumer Interests.
- Grieco, E. M., Acosta, Y. D., de la Cruz, G. P., Gambino, C., Gryn, T., Larsen, L. J., . . . Walters, N. P. (2012). The Foreign-Born Population in the United States: 2010 *American Community Survey Reports*. Washington, D.C.: U.S. Census Bureau.
- Halek, M., & Eisenhauer, J. G. (2001). Demography of risk aversion. *Journal of Risk & Insurance*, 68(1), 1-24.
- Harness, N. J., Finke, M. M., & Chatterjee, S. (2010). Household investment asset variation and wealth. *International Business and Economics Research Journal*, 4(2), 1-12.
- Huh, Y. (2011). The effect of home-country gender status on the labor market success of immigrants. *Journal of Human Development and Capabilities: A Multi-Disciplinary Journal for People-Centered Development*, 12(3), 367-392.

McCourt, S. R. (2006). Define benefits and define contribution plans: A history, market overview and comparative analysis *Benefit and Compensation Digest: Web Exclusives* (Vol. June): International Foundation of Employee Benefit Plans

Portes, A., & Zhou, M. (2003). The new second generation: Segmented assimilation and its variants. *Annals of the American Academy of Political and Social Science*, 530, 74-96.

Seligman, J., & Mimura, Y. (2007). *Maternity timing, wealth accumulation, and economic well-being in retirement*. University of Georgia. Athens, Georgia.

Shobo, Y. (2004). *African immigrants: Assimilation and well being in the U.S.* National Poverty Center Summer Workshop. University of Michigan. Ann Arbor, Michigan.

United Nations. (2007). *World mortality report 2007*. Retrieved from: <http://www.un.org/esa/population/publications/worldmortalityreport2007/WORLD%20MORTALITY%20REPORT.PDF>

U.S. Census Bureau. (2006). *Table 4. People and families in poverty by selected characteristics: 2004 and 2005*. Retrieved from: <http://www.census.gov/prod/2006pubs/p60-231.pdf>

U.S. Census Bureau. (2007a). *PINC-01. Selected characteristics of people 15 years and over by total money income in 2006, work experience in 2006, race, Hispanic origin, and sex*. Retrieved from [http://pubdb3.census.gov/macro/032007/perinc/new01\\_064.htm](http://pubdb3.census.gov/macro/032007/perinc/new01_064.htm) and [http://pubdb3.census.gov/macro/032007/perinc/new01\\_073.htm](http://pubdb3.census.gov/macro/032007/perinc/new01_073.htm)

U.S. Census Bureau. (2007b). *America's families and living arrangements: 2006 Table A1. Marital status of people 15 years and over, by age, sex, personal earnings, race, and Hispanic origin, 2006*. Retrieved from: <http://www.census.gov/population/socdemo/hh-fam/cps2006/tabA1-whtalonenonhisp.xls> and <http://www.census.gov/population/socdemo/hh-fam/cps2006/tabA1-blkalone.xls> and <http://www.census.gov/population/socdemo/hh-fam/cps2006/tabA1-asialalone.xls> and <http://www.census.gov/population/socdemo/hh-fam/cps2006/tabA1-hisp.xls>

U.S. Census Bureau. (2012). *The foreign-born population in the United States: 2010. American Community Survey Reports*. Retrieved from: <http://www.census.gov/prod/2012pubs/acs-19.pdf>

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