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Use of Bank and Nonbank Financial Services:
Financial Decision Making by Immigrants and Native Born

by
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Abstract

This study determines that the decisions to use nonbank financial services and to have a bank account are made jointly by immigrant and native born families. Immigrant families, especially those from Mexico or other Latin American countries, have a higher probability of using nonbank financial services than native born families, regardless of their banking status. Residing in concentrated ethnic enclaves or being a U.S. citizen, however, lowers the probability of their using these services. Among native born families, being Black or Hispanic increases the probability of using these services. Our findings support continued efforts to encourage participation in the financial mainstream among immigrant and minority native born families. The benefits and consumer protections can help these families establish financial stability, resiliency, and economic mobility. To our knowledge, this is the first comprehensive study of immigrant families' joint decision making about using nonbank financial services and bank account ownership.

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Introduction

A banking relationship with a federally insured depository institution brings about numerous consumer protections such as Federal Deposit Insurance Corporation (FDIC) deposit insurance, safeguards covering debit card and credit users under the Electronic Fund Transfer Act and the Truth in Lending Act, and other protections.[1] In 2013, 7.7% of U.S. households were without a bank deposit account (unbanked households) and 20% of banked households also obtained financial services from nonbank financial service providers (underbanked households). About 25% of all households, banked or unbanked, obtained financial services from nonbank providers such as check cashers, pawn shops, and payday lenders (FDIC 2014).[2]

The use of bank and nonbank financial services differs substantially for immigrants relative to native born households. For immigrants, 13% are in unbanked households, another 26% are in underbanked households, and overall close to 33% of immigrant households obtained transaction financial services from nonbanks.[3] The purpose of our study is to determine the extent to which immigrant and native born households use bank and nonbank financial services and to identify the factors that influence usage of financial services for these populations. We conducted this analysis by examining the joint decision about using nonbank financial services and having a bank account for these two groups. Of particular interest was how immigrant-

[1] Additional consumer financial protection information is available at the Consumer Financial Protection Bureau, http://www.consumerfinance.gov/the-bureau/.
[2] Nonbank financial services in the FDIC's report include three transactional products (money orders, check cashing, and remittances) and five credit products (payday loans, pawn shop, refund anticipation loans, rent-to-own services, and auto title loans).
[3] Authors calculations using June 2013 National Survey of Unbanked and Underbanked Households.

specific attributes such as age at migration, years since migration, residence in an ethnic enclave, citizenship status, and home country banking characteristics influenced the joint decision.

In addition to consumer financial protections, personal safety is an important consideration for households choosing financial services from bank and nonbank financial services providers. An unbanked household who uses nonbank financial services (NBFS) providers for check cashing and other services is likely to have more cash and as such may have more exposure to possible loss, theft, or worse. This possibility is supported by Kubrin and Hipp (2014) who found a strong association between the presence of nonbank financial services providers and higher neighborhood crime rates. Households with mainstream banking relationships benefit from being covered by consumer protections which spill over into the communities where they reside (Paulson et al., 2006).

To our knowledge, this is the first comprehensive study that includes the joint decision making by immigrants as well as native born using a bivariate probit model. We believe that the findings from this study will help inform policymakers, financial institutions, and others interested in furthering the participation of immigrants and native born in the banking system.

Factors Influencing Immigrant Financial Integration

Immigrants represent a growing share of the U.S. population. In 1970, immigrants represented 4.7% of the population; by 1990, they accounted for almost 8%; and by 2013, immigrants were over 13% of the U.S. population (Migration Policy Institute 2015a). Depending, in part, on the socioeconomic conditions in their home country, some recent arrivals to the U.S. may have lower levels of education, proficiency in the English language, job skills,

labor market experience, and earnings capacity than native born.[4] In time, as these immigrants and their family members invest in human capital, it is expected that the differentials in at least some of these measures will narrow between immigrants and native born. From an intergenerational perspective, this should be particularly true for children who were very young when they migrated to the U.S. or children of immigrants born in the U.S. because their investments in human capital will tend to take the same trajectory as those of native born children.[5]

The ease of integration into the new country's financial system will be influenced by the degree of maturation of the home country's retail banking system and the immigrant's participation in that system. It is expected that immigrants from countries that have similar financial systems and bank participation rates to the U.S. will find it easier and more straightforward to financially integrate into the banking system than immigrants from countries that have dissimilar financial structures and bank participation rates. Under these latter circumstances, immigrants may be more cautious about or have a lack of trust in participating in U.S. financial markets due to bad experiences with or lack of knowledge about these markets. It is expected that immigrants with this home country background will be somewhat slower to integrate into the U.S. financial system. Putting this into perspective, the financial system in Mexico is fairly dissimilar to the U.S. as the consumer bank participation rate is 27%. In contrast, most European countries have financial structures similar to the U.S. with much higher bank participation rates, all hovering in the mid to high 90s participation rates (World Bank, 2013).

[4] See Batalova and Fix (2011), Migration Policy Institute (2011b), and Migration Policy Institute (2015b).
[5] In this situation, the children of immigrants either may be young immigrants when they arrive to the U.S. or are born in the U.S. after their parents have migrated, in which case they are native born citizens. See Fuligni (2006), Batalova and Fix (2011), and Kuziemko and Ferrie (2014).

Other aspects of financial integration, such as using credit cards and other payment methods, contributing to savings and retirement programs, becoming a home owner, and making investments in stocks or bonds, also may be unfamiliar practices for certain immigrant populations.

Osili and Paulson (2006) discuss how immigrants' belief systems are shaped by the institutions in their home country.[6] The authors find that immigrants who originate from countries with more democratic or broadly accessible socioeconomic and political institutions are more likely to integrate into the U.S. financial mainstream than immigrants from countries with less similar institutions. As a result, we expect that immigrants' home country financial markets and belief system will have an important influence on their decisions about using bank and nonbank financial services in the U.S.

Other immigrant-specific characteristics have been shown to influence financial integration. For example, immigrants who had become U.S. citizens or who migrated to the U.S. at a younger age are less likely to be unbanked.[7] Being younger at the time of migration also contributes to gaining English proficiency and being able to socially assimilate more rapidly than those who arrive later in life.[8] In contrast, immigrants who migrated at an older age might be expected to take longer to integrate if they need time to gain English language proficiency and acquire an adequate understanding of and subsequent reliance on the U.S. financial system.

[6] At the time Osili and Paulson (2006) was written, there was no available cross-country data measuring how extensive consumer banking markets were, such as the share of the population with bank accounts or the per capita number of bank branches or ATMs. Rather, the authors used measures of institutional quality, e.g., citizens' property protection from government confiscation or expropriation, degree of non-governmental interference in the banking system, degree of branch penetration, and share of remittances to GDP.

[7] See Rhine and Greene (2006) and Osili and Paulson (2004).

[8] See Chiswick and Miller (2011), Bleakley and Chin (2010), GAO (2010), Edward P. Lazear (2007), Meng and Gregory (2005), Toussaint-Comeau and Rhine (2004), Dávila and Mora (2000), and Funkhouser and Ramos (1993).

Earlier studies showed that years of education had an important influence on financial integration.[9] Both immigrant and native born families with more years of education were less likely to be unbanked than those with fewer years of education. Immigrants, however, are more heavily represented among those households with less education. In 2013, 27% of immigrants who were 25 years of age or older did not have a high school diploma; whereas 8% of native born in this age group had not graduated from high school.[10] A complicating factor for some immigrant groups is that they arrive to the U.S. with a relatively low "home country" literacy level, meaning that they have a limited ability to read or write in their native language. Under these circumstances, the individuals will be profoundly challenged in comprehending account applications, contracts, or other legal documents written in their native language and most certainly will find themselves in an intractable situation when the documents are written in English. Knowledgeable family, friends, or trusted advisors such as representatives from community organizations, especially those situated in immigrant communities, can share information so that sound financial decisions about opening bank accounts and integrating more broadly into the new country's financial markets can take place.[11]

Historically, immigrants entered the U.S. and clustered into a small number of MSAs within a few states. Today, more than half of all immigrants live in just four states and a third live in just nine metropolitan areas.[12] The population density of an immigrant's ethnic group or enclave is the most important determinant of destination choice for newly-arrived immigrants.[13]

[9] See Bohn and Pearlman (2013), Osili and Paulson (2006), Rhine and Greene (2006) and Osili and Paulson (2004).
[10] Authors' calculations using the June 2013 National Survey of Unbanked and Underbanked Households.
[11] For an extensive discussion, see Paulson et al. (2006).
[12] The top four states are California, New York, Texas, and Florida. The top nine MSAs are New York City, Los Angeles, Houston, Dallas, Chicago, Miami, Washington, DC, San Francisco, Phoenix, and Boston. Authors' calculations using American Community Survey (ACS) Five-year Public Use Microdata Sample (PUMS), 2009–2013.
[13] See Bartel (1989), Dunlevy (1991), and Zavodny (1999).

Ethnic enclaves have been described as places where immigrants can sustain their cultural heritage and social identity, bring about family reunification, and share information needed to more easily integrate into the new country's labor, housing, and financial markets.[14] When immigrants arrive to a new country, it is natural for them to gravitate to places where their language is spoken, their socioeconomic and cultural norms practiced, and where job opportunities exist. Migration costs also can be lower when immigrants have family members or friends to help them locate housing, find jobs, and integrate into the local community.

The implications for immigrants located in enclaves have been somewhat mixed in the literature. For labor market decisions and outcomes, numerous studies have found evidence of a positive influence for immigrants residing in ethnic enclaves because of effective information dissemination through social networks.[15] This contrasts with other studies which showed that immigrants residing in ethnic enclaves earned less income and were slower to integrate more broadly beyond the enclave than immigrants who initially resided outside of enclaves. Whether residents in enclaves are more or less likely to be connected to the financial mainstream has been addressed in only a few studies. Employing longitudinal data from the 1996-2000 Survey of Income and Program Participation (SIPP), Osili and Paulson (2004) determined that immigrants who resided in more ethnically concentrated areas were more likely to be unbanked. Similar results were found by Bohn and Pearlman (2013) who employed the same national data series for the years 1990, 1996, and 2001. Both studies point to the possibility that unbanked households living in ethnic enclaves rely primarily on enclave-related social or informal networks and nonbank financial service providers located in these neighborhoods.

[14] See Waters (1990) and Bartel (1989).
[15] See Damm (2009), Edin et al. (2003), and Portes and Jensen (1989). In addition, Xie and Gough (2011) provide a useful overview of the literature.

Role of Nonbank Financial Service Providers

Both unbanked immigrants and native born families must find ways to receive income and make payments. Nonbank financial service providers such as check cashing businesses offer many services these families need to manage their day-to-day finances. For example, unbanked families can cash paychecks, pay bills like utilities on-site, and purchase money orders to satisfy other obligations. Some consumers have bank accounts but also use nonbank financial services providers to meet their financial needs. According to FiSCA, the national trade association representing the financial services center industry (e.g., check cashing businesses), 58% of its members' customers maintain at least one bank or credit union account and use financial services from check cashing businesses to help manage their finances.

Numerous studies and industry reports have described why consumers turn to nonbank financial service providers in lieu of mainstream financial institutions.[16] Major reasons for banked and unbanked families patronizing nonbank financial service providers include convenience, fee transparency and predictability, and immediate access to funds when cashing checks. In addition, nonbank financial services providers tend to be open more days a week and extra hours per day than banks, giving families greater accessibility and additional scheduling ease for getting their financial transactions needs met.

Our study contributes to the literature by considering a household's decision making process for financial transactions services as a joint decision between nonbank and bank providers. By recognizing that these decisions are not being made in vacuum, our analysis provides a richer understanding of the factors that contribute to these decisions for immigrants and native born families.

[16] See Birkenmaier and Fu (2015), Prager (2014), Goodstein and Rhine (2014), Gross et al. (2012), Smith et al. (2008), Rhine et al. (2006), Barr, (2004), Dunham (2001), and FiSCA.

Data and Sample Description

For the empirical analysis, we primarily use the June 2013 National Survey of Unbanked and Underbanked Households, a supplement to the Current Population Survey (CPS), sponsored by the FDIC and administered by the U.S. Census. This dataset includes a full array of socioeconomic and demographic variables as well as information on bank account ownership and the use of numerous transaction and credit financial services offered by nonbanks. For the purpose of this study, we are focusing on nonbank financial services that map most closely in functionality to basic bank account transactions: check cashing services and money orders.[17]

The CPS data is supplemented by three additional sources of data: 1) the American Community Survey Public Use Microdata Sample (PUMS) from the Census Bureau, which will be used to estimate the concentration of immigrants by country of origin in each metropolitan statistical area (MSA) analyzed; 2) the Global Financial Development Database (GFDD) from the World Bank, which includes country-level data on financial system characteristics, including variables on access to financial institutions in over 200 countries; and 3) the Bureau of Labor Statistics Local Area Unemployment Statistics (LAUS) to proxy local economic activity.[18]

Immigrants tend to migrate to certain geographic areas or ethnic enclaves, and the concentration of this enclave can have a role in immigrants' financial decision making. Past research generally used an enclave variable, broadly defined in terms of populations who migrated from large geographical regions such as Europe rather than an immigrant's own

[17] A consumer's motivations for making remittances or using credit products are beyond the scope of this study and are set aside in this analysis.

[18] Information about PUMS data is available at http://www.census.gov/programs-surveys/acs/data/pums.html; GFDD at http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTGLOBALFINREPORT/0,,contentMDK:23492070~pagePK:64168182~piPK:64168060~theSitePK:8816097,00.html; and LAUS data at http://www.bls.gov/lau/.

country of origin.[19] We employ a more precise measure to create our enclave variable using the Census Bureau American Community Survey (ACS) five-year Public Use Microdata Sample (PUMS), 2009–2013. The ACS is a nationwide survey designed to provide communities with reliable and timely demographic, social, economic, and housing data every year. The five-year sample is the largest available (over 15 million records) and is recommended for measuring small populations such as enclaves. The geographic variable from the Public Use Microdata Area (PUMA) is built on Census tracts and counties. The ACS data is merged to a crosswalk file created from the 2014 Census Topologically Integrated Geographic Encoding and Referencing (TIGER) files which includes MSAs, states, and PUMAs.

For each MSA included in the CPS data, the total number of immigrants from each country of origin are calculated, then the share of the total population.[20] For immigrants from home country i living in MSA j, we have

$$\text{Enclave}_{ij} = \frac{\sum_{ij}}{\sum_{j}} \ .$$

It is expected that immigrants from countries with more highly developed consumer financial institutions will have greater knowledge of and experience with these institutions than immigrants who come from countries with less developed consumer financial institutions. As such, financially knowledgeable and experienced immigrants are expected to more easily integrate into the U.S. financial system by opening bank deposit accounts and using other bank-related products and services than nonbank products and services. Similarly, immigrants who had a familiarity with or access to their home-country bank branches may be more likely to use U.S. bank branches than those immigrants without this home-country knowledge or experience.

[19] See Bohn and Pearlman (2013).

[20] Of the total 264 MSAs in the CPS data, 29 did not have immigrants in the population and another 21 either had insufficient enclave or other data for analysis. In total, 214 MSAs were analyzed in this empirical investigation.

To account for the potential influence of these home country influences, we include two measures from the GFDD: the percent of the household's home country population that is banked (Hm_Banked) and the proportion of bank branches per 100,000 people (Hm_Branch) in the home country.

The unemployment rate for each MSA (UnempMSA) from the LAUS data is included in the empirical investigation as a control for the economic climate which could have an impact on banking and financial services decisions in that particular geography. It measures the average unemployment rate based on the month of the survey, June 2013, and the preceding eleven months.

The definitions and mean proportions of the characteristics from the household survey and supplemental datasets are shown in Table 1. There are 28,329 household observations, 3,668 immigrant households and 24,661 native born households.[21] A household is classified as an immigrant household if the householder – defined as the owner or renter of the home – reports being foreign born. Other household members could have different characteristics from the householder. Sample sizes are adequate to further separate immigrant households into separate country or region-of-origin groups: Mexico, Latin America, Europe, and Asia.[22] Throughout this study, we use the terms family and household interchangeably.

[21] A sample of 40,998 households participated in the June CPS Unbanked/Underbanked Supplement. Omitted from this sample were households residing outside of metropolitan statistical areas (11,634 households), households residing in U.S. territories (192 households), immigrant households from countries outside the scope of analysis (315 households), and immigrant households for which home country banking information was not available (528 households).

[22] This methodology was originally developed by Cobb-Clark and Hildebrand (2002) and followed by Rhine and Greene (2006). Sample size was sufficient to separate the Mexican immigrant sample from the other Latin American region. The Latin America region includes countries located in Central and South America as well as the countries located in the Caribbean. The Europe region includes countries in Europe, the Balkan countries, Russia, other countries in the former USSR, Canada, and Australia; while the Asia region includes countries in the Middle East and Asia. However, insufficient sample size precluded us from undertaking a more detailed analysis of immigrants from other specific countries within the designated regions. It also prevented us from including immigrants from countries in Africa and the Oceania region.

Economic Model and Econometric Framework

We will treat the household's joint decision about using nonbank financial services and owning a bank account from a consumer choice theoretical framework. A bivariate probit model is employed to evaluate the linkage between these two decisions for immigrants and native born, respectively. For household *i* in MSA $_j$ the decision to use nonbank financial services (NBFS), $y_{ij,1}$ = NBFS = 1 if the household uses nonbank financial services and 0 otherwise. Similarly, the household's decision to hold a bank account, $y_{ij,2}$ = BANKED = 1 if the household is observed to possess a checking or savings deposit account and equals 0 otherwise. The full model is:

$$y_{ij,1}^* = \boldsymbol{\beta}'\mathbf{x}_{ij,1} + \varepsilon_{ij,1}, \qquad y_{ij,1} = 1 \text{ if } y_{ij,1}^* > 0, \text{ 0 otherwise,} \qquad (1)$$

$$y_{ij,2}^* = \boldsymbol{\beta}'\mathbf{x}_{ij,2} + \varepsilon_{ij,2}, \qquad y_{ij,2} = 1 \text{ if } y_{ij,2}^* > 0, \text{ 0 otherwise,} \qquad (2)$$

where the observed effects, $\mathbf{x}_{ij,1}$ and $\mathbf{x}_{ij,2}$, respectively, represent the household's socioeconomic and demographic attributes and $y_{ij,1}$ and $y_{ij,2}$ denote NBFS and BANKED, respectively. The disturbances are jointly normally distributed with

$$E[\varepsilon_{ij,1}] = E[\varepsilon_{ij,2}] = 0,$$

$$Var[\varepsilon_{ij,1}] = Var[\varepsilon_{ij,2}] = 1,$$

$$Corr[\varepsilon_{ij,1}, \varepsilon_{ij,2}] = \rho.$$

With two observed decisions, the preceding specification defines a bivariate probit model in which the correlation of the unobserved effect is ρ (RHO). The joint decision results in four possible outcomes: (1) NBFS = 1 and BANKED = 1, (2) NBFS = 0 and BANKED = 1, (3) NBFS = 1 and BANKED = 0, and (4) NBFS = 0 AND BANKED = 0. Of particular interest to this study is the identification of the specific socioeconomic and demographic attributes that

influence the likelihood of using nonbank financial services (NBFS = 1) conditioned upon being banked (BANKED = 1) and the likelihood of using nonbank financial services (NBFS = 1) conditioned on being unbanked (BANKED = 0). The estimated correlation coefficient, RHO, will suggest whether these two decisions are being made jointly by immigrant and native born families, respectively.

Empirical Investigation

Table 2 compares the banking status and use of nonbank financial services for native born and all immigrant families as well as the four region-of-origin immigrant group families. Among the four immigrant groups, the heaviest users of U.S. nonbank financial services are those from Mexico (35.7%) and the Latin American (33.3%) region. Those with the highest banked rates in the U.S. are from the European (97.3%) and the Asian (97.3%) region. Our empirical investigation will determine whether Mexican and Latin American immigrants are significantly more likely to be unbanked and to use nonbank financial services than European or Asian immigrant groups once economic, demographic, and immigrant-specific characteristics are controlled for in the analysis.

Past studies show that age at migration (MigratAge) and U.S. citizenship (Citizen) have an influence on bank account ownership. Our study takes the literature an important step further to determine how these two attributes influence the family's joint decision about using nonbank financial services and having a bank account. We also include a home-country ethnic enclave measure (LnEnclave) to capture the influence that residing in ethnically concentrated areas has on these joint decisions. The percentage of the population in immigrant families' home countries that is banked (Hm_Banked) and the proportion of bank branches per 100,000 population in the

home countries (Hm_Branch) are included to account for knowledge about or experience with home country financial markets. It is expected that as these home country explanatory variables become larger, the likelihood of using nonbank financial services will be lower.

We expect that the number of years in residence in the new country will influence the joint decision to use nonbank financial services and have a bank account. We account for tenure in the U.S. by creating a series of binary variables equal to 1 if the immigrant's arrival falls within the following annual intervals: years prior to 1950 until 1974 (YR5074), 1975 to 1983 (YR7583), 1984 to 1989 (YR8489), 1990 to 1995 (YR9095), 1996 to 2001 (YR9601), 2002 to 2007 (YR0207), or 2008 to 2013 (YR0813) and 0 otherwise for these binary variables.[23] It is expected that families who have resided in the U.S. longer are more likely to have integrated into the new country economy, including financial services markets. Whether this translates to using nonbank financial services and/or holding deposit accounts at a bank are empirical questions for this study.

A potential complication of this measure for immigrant integration is that it may pick up "cohort" effects not already accounted for that also influence the joint decision. Table 3 displays selected immigrant characteristics across cohort groups which have been defined by the year they migrated to the U.S. What is striking is the fairly recent change in composition of immigrants by region of origin. For cohort groups prior to 2008, the proportions of immigrants from the four major areas studied are fairly consistent. However, for the YR0813 (2008 to 2013)

[23] The somewhat longer span of years accounted for in the YR5074 and YR0813 variables is a result of the coding used by Census and the relatively small sample sizes in the early and last years accounted for in the survey. For example, YR5074 includes those who entered the U.S. prior to 1950 (1.45% of the sample) and those who entered from 1950 until 1959 (4.7% of the sample). Admittedly, somewhat ad hoc, we used several measures to account for this end of the distribution and found that aggregating up to 1974 was reasonable both in terms of sample size and robust effect on the findings. For the opposite end of the distribution, beginning in January 2011, Census coded those who entered during the 2008 to 2011 period together; starting January 2012, those who entered in years from 2008 to 2009 and from 2010 to 2012 were each coded separately; and starting January 2013, those who entered in years from 2010-2013 were coded together. Hence, aggregating from 2008 was necessary.

cohort, there is a substantial increase in the proportion of Asian region immigrants and a sizeable decrease in the share of Mexican immigrants. The YR0813 cohort also has a substantially larger proportion of college graduates and a larger proportion from countries with higher banked rates.[24] With the exception of those who migrated in 1974 or earlier, we find that a lower proportion of the YR0813 cohort uses nonbank financial services, than other cohorts groups. While caution should be exercised when comparing these and the other cross section bank- and nonbank-related measures, in the empirical investigation we control for observable differences between YR0813 and the other cohort groups and analyze the most recent year cohort, YR0813, against the other migration year cohorts.

Consistent with previous studies, we expect that families with higher income (Faminc2, Faminc3, and Faminc4) or more education (HighSchool, SomeCollege, and College) are less likely to be unbanked and to use nonbank financial services. It is expected that those who are married (Married), are homeowners (OwnHome), or have a greater number of family members (FamSize) are less likely to be unbanked. Whether families with these attributes also are less likely to use nonbank financial services may depend on how their decisions are being affected by factors such as a need for convenience or access to funds. In contrast, younger (Age34) families or families who are members of minority groups, including Black (Black), Hispanic (Hispanic), and other race (OtherRace) are more likely to be unbanked and to use nonbank financial services.[25] Research has also shown that householders who participate in the workforce, either being employed (Employed) or unemployed (Unemployed), are less likely to be unbanked than those who were not in the labor force. We make a distinction between being employed and

[24] More discussion about the post Great Recession effects on immigrant migration and composition in the U.S. and other industrialized nations is provided in Migration Policy Institute (2011a).
[25] See FDIC (2014), Rhine and Greene (2013), Barr, Dokko and Feit (2011), Barr (2004), Hogarth and O'Donnell (1997), Kooce-Lewis, Swagler, and Burton (1996), and Caskey (1994, 1997).

being self-employed (SelfEmploy) because of the potential importance that self-employment may have on the labor market decisions of some immigrants.[26]

A priori, it is reasonable to think that families who possess attributes that positively influence their being banked would also be less likely to use nonbank financial services. As shown in Table 4, however, 18% of banked immigrant families use nonbank financial services. Similarly, Table 4 reports that 15% of banked native born families use these services. Being banked does not preclude the decision to use nonbank financial services by these families. The empirical investigation will examine whether certain economic, demographic or immigrant-specific attributes influence using nonbank financial services conditioned on families being either unbanked or banked.

Results

To determine how economic and demographic attributes influence the joint decision of using nonbank financial services and having a bank account, bivariate probit models are estimated for immigrants and native born, respectively. The coefficients and standard errors from the estimated models are shown in the Appendix: Tables A1 and A2 report the estimates for immigrants and B1 and B2 show the estimates for native born.

Joint Financial Services Decision

Table 5 reports the partial effects based on the estimated model for immigrant families and Table 6 shows the partial effects derived from the estimated model for native born families. Overall, we find that RHO, the estimated correlation coefficient, is significant in both models, suggesting that these decisions were made jointly by immigrants and native born, respectively,

[26] See Oyelere and Belton (2012), Lofstrom, M. (2009), Toussaint-Comeau (2008), Fairlie and Woodruff (2005), Borjas (1986) and Light et al. (1993).

and that this is the appropriate empirical model for the investigation. As shown in Table 5, when evaluated at the attribute means, the mean probability that unbanked immigrants use nonbank financial services is 55%, while the mean probability that banked immigrants use these nonbank services is substantially lower at 19%. For unbanked native born in Table 6, the mean probability of using nonbank financial services is 48% and 15% for banked native born. Contrasting these figures suggests that unbanked immigrants are 15% more likely to use nonbank financial services than unbanked native born, while banked immigrants are 27% more likely to use nonbank financial services than banked native born.[27]

Immigrant-Specific Attributes

A closer look is taken at the partial effects in Table 5 to gain a better understanding of how immigrant-specific factors are contributing to the probability of using nonbank financial services given the families' banking status decision. Elasticities are also reported so that appropriate comparisons can be made of the attribute effects between unbanked and banked families. Not surprisingly, the relatively low probability that banked families use nonbank financial services causes many of the attribute elasticities for this group to be fairly large.

Our findings in Table 5 show that, after accounting for other immigrant-specific attributes and family economic and demographic characteristics, home country banking features, including the percentage of home country banked population (Hm_Banked) and the proportion of home country branches per 100,000 population (Hm_Branch), do not have a significant effect on the use of nonbank financial services for either unbanked or banked families. It is worth noting that, in this joint decision, the higher is the percentage of the home country's banked

[27] These percentages are calculated as: (Partial $\text{Effect}_{\text{Immigrants}}$ – Partial $\text{Effect}_{\text{Native Born}}$)/Partial $\text{Effect}_{\text{Native Born}}$). In general, comparisons of the influence of attributes between immigrants and native born, conditioned on banking status, are made by comparing the elasticities reported in Table 5 and Table 6.

population (Hm_Banked), the lower is the likelihood of being unbanked in the U.S. Likewise, the higher is the percentage of the home country's banked population (Hm_Banked), the greater is the probability of being banked in the U.S. (see Appendix, A1 and A2).

Being from a certain country or region has a positive, significant influence on the probability of using nonbank financial services, regardless of banking status. As an example, unbanked immigrants from Mexico (Mexico) and the Latin American (Latin America) region are 12.4 and 11.6 percentage points, respectively, more likely to use nonbank financial services than Asian immigrants. Turning to the elasticities in Table 5, we find that unbanked Mexican immigrants are 22.5% (.124/.55) more likely than unbanked Asian immigrants to use nonbank financial services. For unbanked Mexican immigrant families, this translates to a probability of 67.4% of using nonbank financial services, relative to the mean probability of 55%. Banked Mexican immigrants are 62.6% (.119/.19) more likely than banked Asian immigrants to use nonbank financial services. In this case, the probability of using nonbank financial services for banked Mexican immigrant families is 31%, relative to the mean probability of 19%.

It may not be too surprising that unbanked families turn to nonbank financial services. However, Mexican and Latin American immigrant families who are banked also are more likely to use nonbank financial services. As such, these findings suggest that there are underlying reasons for these banked families to turn to nonbank financial service providers. Factors such as quicker access to funds or added convenience may be influencing the decision of Mexican and Latin American region families to use nonbank providers.

Immigrants that are U.S. citizens (Citizen) are significantly less likely to use nonbank financial services, regardless of banking status. The influence is greater for banked immigrants (elasticity of -15.3%) than for unbanked immigrants (elasticity of -2.5%). This may suggest that

those who have become citizens have taken more steps to financially and socially integrate into the new country.

As shown in Table 5, as an ethnic enclave (LnEnclave) becomes more concentrated, the probability of using nonbank financial services declines, regardless of whether the immigrant family has a bank account or not. Specifically, a 0.01 increase in the proportional value of an ethnic enclave is estimated to lower the probability that the ethnic group uses nonbank financial services by 0.016. As an example, let's consider an enclave that initially has a 0.20 proportion of Mexican unbanked immigrants. If this enclave becomes 10% more concentrated with Mexican unbanked immigrants, the proportion increases to 0.22 and the probability that this particular group uses nonbank financial services falls by 0.16 (0.016 times 10). In this situation, the probability that Mexican unbanked immigrants use nonbank financial services is 39% (0.55 – 0.16).

Although enclave effects are likely quite complex, there are several reasons why residing in a more concentrated ethnic enclave could lower the likelihood of using nonbank financial services. Earlier studies described enclaves as communities where information is shared to help residents adjust and adapt to the new country. A negative finding for banked immigrants may suggest that enclave-related networks are influencing these families away from nonbank financial services providers. For unbanked immigrants, it is possible that they may have a greater tendency to make informal, cash-only transactions, especially within their cultural or social networks, rather than use bank or nonbank financial services. We find support for this in an analysis of the case where NBFS = 0 and BANKED = 0. Under these circumstances, unbanked (BANKED = 0) immigrants residing in concentrated enclaves are significantly more

likely not to use nonbank financial services (NBFS = 0).[28] Examples of social networks being used for meeting financial transactions needs are cashing pay checks through informal arrangements with family and friends, lending and savings circles, and more recently, crowd funding offered through social media channels.

Table 5 also shows that unbanked immigrants who arrived to the U.S. between 2002 and 2007 (YR0207) and between 1996 and 2001 (YR9601) were 6.7 and 7.8 percentage points, respectively, more likely to use nonbank financial services than those who arrived in 2008 or later. Similarly, banked immigrants who arrived between 2002 and 2007 and between 1996 and 2001 were 5.3 and 5.4 percentage points more likely to use nonbank financial services than those who arrived in 2008 or later. Whether conditioned on being unbanked or banked, we do not find that being younger at time of migration (MigratAge) has a significant influence on the likelihood of using nonbank financial services. However, being younger at time of migration does lower the likelihood of being unbanked (see Appendix A1 and A2).

Native Born – Race and Ethnicity

Among native born families, Black and Hispanic families are more likely to use nonbank financial services than White or non-Hispanic families, regardless of banking status. As shown in Table 6, native born unbanked Black (Black) families are 17.3 percentage points more likely to use nonbank financial services than unbanked White families, while Black banked families are 12.4 percentage points more likely to use nonbank financial services than banked White families. Given the mean probability of using nonbank financial services among banked native born is 15%, banked Black families are 85.3% (.124/.15) more likely to use nonbank financial services than banked White families. This translates to a 27.4% probability that banked Black families use nonbank financial services. Unbanked Black families are 37.1% (.173/.48) more likely to

[28] The results are available from the authors upon request.

use nonbank financial services than unbanked White families. This translates to a probability of 65.3% that unbanked Black families use nonbank financial services, while the mean probability is substantially lower at 48%. For native born unbanked Hispanic (Hispanic) families, the likelihood of using nonbank financial services is 6.0 percentage points higher than for unbanked non-Hispanic families. That is, the probability that an unbanked Hispanic family uses nonbank financial services is 54%, relative to the mean probability of 48%. Likewise, native born banked Hispanic families are 4.8 percentage points more likely to use nonbank financial services than banked non-Hispanic families. For native born banked Hispanic families, the probability of using nonbank financial services is 19.8% relative to the mean probability of 15%.

These findings suggest that Black and Hispanic families remain substantially more likely to use nonbank financial services than White or non-Hispanic families, regardless of whether they are banked or unbanked. Black and Hispanic families also are more likely to be unbanked (see Appendix B1).

Economic and Demographic Attributes

Turning to economic attributes for immigrants (Table 5) and native born (Table 6), we find that completing more years of education and having higher family income lowers the likelihood of using nonbank financial services for immigrants and native born regardless of banking status. For example, having a college degree (College) relative to not having a high school diploma, lowers the likelihood that unbanked immigrant families use nonbank financial services by 6.3 percentage points, while for college educated banked immigrant families the influence is by 8.3 percentage points. Similarly, the probability of using nonbank financial services for unbanked and banked immigrants and native born families falls by incrementally larger amounts at higher income quartiles. As an example, unbanked native born with quartile 2

income (Faminc2) are 4.0 percentage points less likely to use nonbank financial services than those with the lowest income (Faminc1); whereas unbanked native born with quartile 4 income (Faminc4) are 8.8 percentage points less likely to use nonbank financial services than those with the lowest income (Faminc1). Family income effects are larger (larger elasticities) for banked than unbanked immigrants and native born, respectively.

Being employed (Employed) increases the likelihood of using nonbank financial services for immigrant and native born families. For example, unbanked immigrants and native born are 8 and 7.2 percentage points, respectively, more likely to use nonbank financial services than families not in the labor force. Being unemployed also positively influences the likelihood that native born use nonbank financial services regardless of banking status. Younger (Age34) unbanked immigrants are 6.0 percentage points more likely to use nonbank financial services, while younger unbanked native born are almost 3.0 percentage points more likely to use these services. Turning to the elasticities, we find that, conditioned on being banked, immigrants who are younger are more likely to use nonbank financial services by almost 23%. Younger banked native born are about 13% more likely to use nonbank financial services.

Those with larger families (FamSize) are more likely to use nonbank financial services. Larger effects are found for native born (4.2 percentage points for unbanked and 2.5 percentage points for banked) than for immigrants, which are fairly small (1.1 percentage points for unbanked and less than 1.0 percentage point for banked). Being married (Married) does not significantly influence the use of nonbank financial services for immigrants but has a negative influence for native born. Specifically, native born who are married are less likely to use nonbank financial services by roughly 3.0 percentage points, regardless of being unbanked or banked. Finally, owning a home (Ownhome) lowers the probability of using nonbank financial

services for both unbanked and banked immigrant and native born families. The elasticities indicate that this effect is fairly large for native born.

Concluding Remarks

This investigation shows that decisions about using nonbank financial services and owning a bank account are made jointly by immigrant and native born families. For immigrants, the probability of using nonbank financial services is higher than for native born, regardless of whether families decide to hold a bank account or not. Among immigrants, those from Mexico and the Latin American region are more likely to use nonbank financial services than other immigrant groups; while native born Black and Hispanic families are more likely than White or non-Hispanic families to use nonbank financial services.

We find that immigrants who have become U.S. citizens are less likely to use nonbank financial services, especially those who are banked. Immigrant families residing in concentrated enclaves are also less likely to use nonbank financial services. Although enclave effects are likely quite complex, it appears that banked immigrants may be influenced by enclave-related networks away from nonbank financial services providers; whereas unbanked immigrants may be using cultural or social networks to make cash transactions rather than use either bank or nonbank financial services providers.

As expected, migrating from countries with higher consumer banked rates lowers the likelihood of being unbanked in the U.S., however, this home country characteristic has an insignificant influence on an immigrant family's decision to use nonbank financial services. For both immigrant and native born families, earning higher family income, having more years of education, or owning a home lowers the probability of using nonbank financial services; whereas

those who are employed, younger, or have larger families are more likely to use these financial services.

Differences in unbanked rates for certain immigrant and native born groups could raise questions about how effective past efforts have been in bringing these populations into the financial mainstream. To roughly gauge how unbanked rates have changed over time, we compare our results using the June 2013 CPS data to earlier research by Rhine and Greene (2006), using U.S. Census SIPP panel data between 1996 and 1999.[29] As shown in Table 7, the unbanked rate for each immigrant family group fell over the period between 1996-1999 and 2013. For example, for those from Mexico the unbanked rate fell by 25 percentage points. Similarly, the unbanked rate fell by 10 percentage points for native born Hispanic families. Taken together, these findings show that much progress has been made over the last two decades. Even so, persistent gaps remain, especially for native born Black families who experienced only modest improvement in their mainstream participation over this timeframe. Our study reinforces the need for continued efforts to engage immigrant and minority native born families and encourage their participation in the banking system.

A recent study by the Rengert and Rhine (2016) describes various strategies pursued by banks to engage underserved consumers. One such strategy is to offer nonbank financial services such as check cashing and money orders to consumers who otherwise would obtain these services from nonbanks. The fact that consumers are jointly deciding to use nonbank as well as bank financial services suggests that this bank strategy could be particularly helpful for immigrant and minority native born groups. Banks pursuing this strategy have said that it has

[29] The purpose of this comparison is to gain a sense about the direction and potential magnitude of change in the unbanked rates of these groups overtime. For these comparisons, it should be kept in mind that the families observed in these two Census data sources are not longitudinally linked and, as such, caution should be used in drawing conclusions about comparisons across datasets.

helped them engage and build relationships with unbanked consumers so that once financially ready, these consumers can open traditional deposit accounts with them. To engage and educate immigrant families, financial institutions can collaborate with key local community organizations and agencies to provide information about the benefits of using mainstream financial services. Enclave-related organizations and agencies that provide services to these communities can be a conduit for helping financial institutions build trust and familiarity with immigrant families. In a similar way, financial institutions can collaborate with organizations that have strong ties to minority native born communities and agencies that serve these communities. Community and agency partners also can advise financial institutions about how to develop and maintain strong, long-term relationships with immigrant and minority populations in their market areas.

Unbanked immigrant and minority native born families may have little experience with banking institutions and may have limited knowledge about personal finance or investment opportunities available in the U.S. With assistance from community partners, financial institutions can offer financial education classes and conduct outreach and marketing about their basic, lower-cost transaction and savings products through participation in neighborhood and bank branch events. Our research suggests that other venues for financial education and outreach collaborations are K-12 and post-secondary schools, workplace sites, and nonprofit organizations or agencies involved in the immigrant's settlement and citizenship process. A recent study by Barcellos et al. (2016) shows that, to be most effective, financial education materials need to be designed to take into account the relevant aspects of financial decision making among immigrant groups. In addition, the Consumer Financial Protection Bureau (CFPB) published an informative Issue Brief (CFPB 2016) that describes several practical

examples of promising financial education approaches and programs, along with financial products, that are tailored to serve immigrant populations. This research also discusses some of the challenges immigrant families face in building financial well-being as well as challenges that may be encountered by financial educators and other service providers, such as the need to offer financial education and materials in the immigrants' native language. A household's joint decision between bank and nonbank financial services further suggests that financial educators should include information about using nonbank financial services along with their discussion about bank products and services so that consumers can make informed decisions about both options.

By making available financial education and access to lower-cost products that have transparent features and fees through trusted advisors (e.g., community organizations working with ethnic and racial groups), financial institutions are better able to surmount the reasons given by families for being unbanked (FDIC 2014). The lack of progress for Black families reported in this study highlights a fundamental need to better understand what factors pose barriers so that initiatives can be developed to help these families surmount these challenges and receive the benefits from participating in the financial mainstream. An important step for financial institutions could be to collaborate with organizations that have close ties to the Black community.

In summary, we believe that immigrant and minority native born families who integrate into the financial mainstream gain the benefits and consumer protections that help them establish financial stability, resiliency, and economic mobility, while financial institutions engaged in helping bring these families into the financial mainstream are able to build long-term customer relationships in the communities where they do business.

As with most empirical investigations, certain limitations should be kept in mind with this study. Consistent with earlier studies, we were unable to analyze immigrants from countries within the Latin American, European, or Asian regions. We also were unable to include in the analysis immigrants from African or Oceanian countries because there was inadequate data representation from these countries. As such, it is important to keep in mind that each of these immigrant country regions represents very diverse people—both across country borders and within country boundaries. Interventions, especially at the local level, will be much more tailored to the specific ethnic and cultural context of the immigrant group's country of origin.

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Table 1. Description of Sample Proportions/Means for Immigrants and Native Born

	Description	Immigrants	Native Born
Dependent Variables			
Unbanked = 1	Respondent or family member does not own a checking and/or a savings account	.136	.069
Banked = 1	Respondent or family member has a checking and/or savings bank account	.864	.931
Underbanked = 1	Respondent or family member has a checking and/or savings bank account and obtained check cashing services or money orders from a nonbank financial services provider in the last 12 months.	.159	.151
Economic Attributes			
Education	***Respondent has:***		
NoHighSchool	Less than high school	.253	.075
HighSchool	Completed high school	.222	.256
SomeCollege	Completed some college	.196	.311
College	Completed at least 4 years of college	.329	.357
Family Income	***Family has:***		
Faminc1	Quartile 1 family income	.218	.239
Faminc2	Quartile 2 family income	.266	.246
Faminc3	Quartile 3 family income	.254	.307
Faminc4	Quartile 4 family income	.262	.207
Employment	***Respondent is:***		
Employed	Employed, not self employed	.616	.548
SelfEmploy	Self-Employed	.087	.067
Unemployed	Unemployed	.039	.044
NILF	Not in the labor force	.258	.341
Home Ownership			
OwnHome	Family owns a home	.511	.656
Demographic Attributes			
Age	***Respondent is:***		
Age34	34 years of age or younger	.226	.221
Marital Status	***Respondent is:***		
Married	Married	.557	.457
Family Size			
Famsize	Number of adults and children in family	3.085	2.395
Children Present			
Children	Children < 16 years of age present in home	.424	.274
Race/Ethnicity-U.S. Born	***Respondent is:***		
White	Race is White	--	.743
Black	Race is Black	--	.156
Other Race	Race is Asian, Pacific Islanders, or other	--	.026
Hispanic	Ethnicity is Hispanic	--	.074

Table 1 (continued)

	Description	Immigrants	Native Born
Foreign-Born Attributes			
Home Country or Area	***Respondent's :***		
Mexico	Home country is Mexico	.302	--
Latin America	Home country in the Latin America Region	.222	--
Europe	Home country in the European Region	.181	--
Asia	Home country in the Asian Region	.295	--
Migration Age	***Respondent's:***		
MigratAge	Age at migration	24.1	--
Year of Migration	***Respondent:***		
YR5074	Migrated prior to 1950 until 1974	.180	--
YR7583	Migrated between 1975 - 1983	.142	--
YR8489	Migrated between 1984 - 1989	.124	--
YR9095	Migrated between 1990 - 1995	.153	--
YR9601	Migrated between 1996 - 2001	.178	--
YR0207	Migrated between 2002 - 2007	.141	--
YR0813	Migrated between 2008 - 2013	.082	--
Citizenship	***Respondent is:***		
Citizen	A naturalized citizen	.551	--
Ethnic Enclave			
Enclave	Home country population / total population in the metro area - defined for each home country immigrant group in every metro area		
LnEnclave	Natural log (Enclave)	-4.757	--
Home Country Banking			
Hm_Banked	Percentage of the home country population banked	.437	--
Hm_Branch	Percentage of bank branches per 100,000 of home country population	.180	--
Geographic Controls			
Region of the Country	***Respondent resides in:***		
Northeast	Northeast region of the U.S.	.22	.20
Midwest	Midwest region of the U.S.	.11	.24
South	Southern region of the U.S.	.32	.34
West	Western region of the U.S.	.35	.22
Unemployment in MSA			
UnempMSA	Average unemployment rate in the MSA, based on the month of the survey (June 2013) and the preceding eleven months	7.92	7.43
Sample Size		3,668	24,661

Sources: June 2013 FDIC National Survey of Unbanked and Underbanked Households, a supplement to the U.S. Census Bureau Current Population Survey, the 2013 World Bank Global Financial Development Database, the American Community Survey Public Use Microdata Sample (2009-2013) from the U.S. Census Bureau, and the Bureau of Labor Statistics Local Area Unemployment Statistics (LAUS) .

Table 2. Banking Status and Use of Nonbank Financial Services

			Immigrants			
	Native Born	**Immigrants**	**Mexico**	**Latin America**	**Europe**	**Asia**
Banking Status						
Unbanked	.065	.136	.275	.180	.027	.027
Banked	.935	.864	.725	.820	.973	.973
Underbanked	.151	.159	.196	.214	.112	.107
Nonbank Financial Services						
Uses nonbank financial services	.190	.240	.357	.333	.126	.120
Does not use nonbank financial services	.810	.760	.643	.667	.874	.880
Sample	24,661	3,668	1,050	755	767	1,096

Sources: June 2013 FDIC National Survey of Unbanked and Underbanked Households, a supplement to the U.S. Census Bureau Current Population Survey, the 2013 World Bank Global Financial Development Database, and the American Community Survey Public Use Microdata Sample (2009-2013) from the U.S. Census Bureau.
Nonbank financial services include check cashing services and money orders.

Table 3. Selected Characteristics for Immigrant Grouped By Year of Migration to the U.S.

	YR0813 (2013-2008)	YR0207 (2007-2002)	YR9601 (2001-1996)	YR9095 (1995-1990)	YR8489 (1989-1984)	YR7583 (1983-1975)	YR5074 (1974 and before)
Years in the U.S.	5 years to 2013	6 to 11 years	12 to 17 years	18 to 23 years	24 to 29 years	30 to 38 years	39 or more years
	%	%	%	%	%	%	%
Unbanked Only	14	23	18	15	8	8	4
Unbanked & Use Nonbank Financial Services	20	30	29	22	23	22	15
Banked & Use Nonbank Financial Services	13	17	19	14	18	17	12
Education, Employment and Residence							
No High School	19	30	26	23	24	26	23
High School	18	21	26	24	21	22	21
Some College	13	14	18	22	23	20	20
College	50	35	30	30	32	31	36
Employed	70	76	75	75	76	70	45
Self Employed	5	7	9	11	9	12	
Enclave	2	3	4	3	4	4	
Home Country Characteristics							
Mexico	12	30	35	29	28	26	18
Latin America	23	30	27	26	30	27	22
Europe	13	10	13	14	11	12	36
Asia	52	30	26	32	32	37	24
Hm_Banked	49	39	39	41	41	43	62
Hm_Branch	18	18	18	17	16	16	22
Sample Size	301	517	653	561	455	521	660

Sources: June 2013 FDIC National Survey of Unbanked and Underbanked Households, a supplement to the U.S. Census Bureau Current Population Survey, the 2013 World Bank Global Financial Development Database, and the American Community Survey Public Use Microdata Sample (2009-2013) from the U.S. Census Bureau.
Nonbank financial services include check cashing services and money orders

Table 4. Use of Nonbank Financial Services By Banking Status

Immigrants						
	Banked		**Unbanked**		**Total**	
	#	**%**	**#**	**%**	**#**	**%**
Did Not Use Nonbank Financial Services	2,626	82	191	41	2817	78
Used Nonbank Financial Services	577	18	274	59	851	22
Total Immigrant Sample	3,203	100	465	100	3,668	100
Native Born						
	Banked		**Unbanked**		**Total**	
	#	**%**	**#**	**%**	**#**	**%**
Did Not Use Nonbank Financial Services	19,678	85	590	41	20,268	82
Used Nonbank Financial Services	3,556	15	837	59	4,393	18
Total Native Born Sample	23,234	100	1,427	100	24,661	100

Sources: June 2013 FDIC National Survey of Unbanked and Underbanked Households, a supplement to the U.S. Census Bureau Current Population Survey, the 2013 World Bank Global Financial Development Database, and the American Community Survey Public Use Microdata Sample (2009-2013) from the U.S. Census Bureau.
Nonbank financial services include check cashing services and money orders.

Table 5. Probability of Using Nonbank Financial Services (NBFS) Conditioned on Banking Status: Immigrants

	NBFS=1 Given Banked=0		NBFS=1 Given Banked=1	
Pr(NBFS=1 Given Banking Status) evaluated at attribute means	**Mean Probability of 55%**		**Mean Probability of 19%**	
	Partial Effects (Standard Errors)	**Elasticity (Partial Effect/ Pr(Joint Condition))**	**Partial Effects (Standard Errors)**	**Elasticity (Partial Effect/ Pr(Joint Condition))**
Economic Attributes				
Education (NoHighSchool is omitted category)				
HighSchool	-0.026** (0.023)	-0.047	-0.032** (0.017)	-0.168
SomeCollege	-0.005 (0.034)	- 0.009	-0.026 (0.023)	-0.137
College	-0.063*** (0.031)	-0.115	-0.083*** (0.020)	-0.437
Family Income (Faminc1 is omitted category)				
Faminc2	-0.030*** (0.023)	-0.055	-0.048*** (0.017)	-0.253
Faminc3	-0.034*** (0.032)	-0.062	-0.065*** (0.021)	-0.342
Faminc4	-0.050*** (0.029)	-0.091	-0.096*** (0.019)	-0.505
Employment (NILF is omitted category)				
SelfEmploy	0.046 (0.034)	0.084	0.020 (0.024)	0.105
Employed	0.080*** (0.023)	0.145	0.045*** (0.016)	0.237
Unemployed	0.033 (0.052)	0.060	0.025 (0.039)	0.132
Home Ownership (Non-Homeowner is omitted category)				
Ownhome	-0.047*** (0.022)	-0.085	-0.055*** (0.016)	-0.289
Demographic Attributes				
Younger Age (Older than 34 is omitted category)				
Age34	0.060* (0.031)	0.109	0.043* (0.022)	0.226
Marital Status (Not married is omitted category)				
Married	0.013 (0.024)	0.024	-0.003 (0.017)	-0.016
Size Of Family				
FamSize	0.011* (0.006)	0.020	0.008* (0.004)	0.042
Immigrant Attributes				
Home Country and/or Region (Asian Group Is Omitted Category)				
Mexico	0.124*** (0.036)	0.225	0.119*** (0.025)	0.626
Latin America	0.116*** (0.033)	0.211	0.108*** (0.023)	0.568
Europe	0.001 (0.033)	0.002	0.013 (0.023)	0.068
Age At Migration				
MigratAge	-0.001 (0.001)	-0.002	-0.001 (0.001)	-0.005
Citizenship (Non-Citizenship Is omitted category)				
Citizen	-0.012** (0.024)	-0.025	-0.029** (0.015)	-0.153
Home Country Enclave (Home country population/total population for each metro area)				
LnEnclave	-0.016* (0.009)	-0.029	-0.011* (0.006)	-0.058
Year of Migration to U.S. (YR0813 is omitted category				
YR0207	0.067** (0.037)	0.122	0.053** (0.027)	0.279
YR9601	0.078* (0.044)	0.142	0.054* (0.030)	0.284
YR9095	0.019 (0.044)	0.035	0.015 (0.032)	0.079
YR8489	0.095 (0.047)	0.173	0.055 (0.032)	0.289
YR7583	0.073 (0.053)	0.133	0.041 (0.038)	0.216
YR5074	0.050 (0.052)	0.091	0.014 (0.037)	0.074
Home Country Banking Experience				
Hm_Banked	0.044 (0.054)	-0.060	0.017 (0.037)	-0.089
Hm_Branch	-0.149 (0.079)	-0.271	-0.102 (0.057)	-0.537
RHO (correlation coefficient)	0.429*** (0.039)		-0.429*** (0.039)	
Sample Size (Unweighted)	3,668		3,668	

Note: ***, **, * denote significance at the 1%, 5%, and 10%, respectively. The coefficients from the estimated bivariate probit model, including regional covariates, MSA unemployment, and state fixed effects, are available from the authors upon request. The standard errors are corrected for clustering at the metropolitan CBSA level. Partial effects are calculated based on attribute means.

Table 6. Probability of Using Nonbank Financial Services (NBFS) Conditioned on Banking Status: Native Born

	NBFS=1 Given Banked=0		**NBFS=1 Given Banked=1**	
Pr(NBFS = 1 Given Banking Status) evaluated at attribute means	**Mean Probability of 48%**		**Mean Probability of 15%**	
	Partial Effects (Standard Errors)	**Elasticity (Partial Effect/ Pr(Joint Condition))**	**Partial Effects (Standard Errors)**	**Elasticity (Partial Effect/ Pr(Joint Condition))**
Economic Attributes				
Education (NoHighSchool is omitted category)				
HighSchool	-0.034*** (0.015)	-0.073	-0.031*** (0.009)	-0.207
Somecollege	-0.027*** (0.013)	-0.056	-0.037*** (0.008)	-0.247
College	-0.080*** (0.016)	-0.167	-0.078*** (0.009)	-0.527
Family Income (Faminc1 is omitted category)				
Faminc2	-0.040*** (0.011)	-0.096	-0.038*** (0.006)	-0.287
Faminc3	-0.067*** (0.012)	-0.169	-0.065*** (0.007)	-0.493
Faminc4	-0.088*** (0.015)	-0.225	-0.085*** (0.008)	-0.653
Employment (NILF is omitted category)				
SelfEmploy	0.044** (0.020)	0.096	0.026** (0.012)	0.180
Employed	0.072*** (0.009)	0.158	0.037*** (0.006)	0.267
Unemployed	0.069*** (0.018)	0.148	0.054*** (0.011)	0.380
Home Ownership (Non-Homeowner is omitted category)				
Ownhome	-0.117*** (0.010)	-0.265	-0.089*** (0.006)	-0.633
Demographic Attributes				
Younger Age (Older than 34 is omitted)				
Age34	0.029*** (0.009)	0.069	0.018*** (0.006)	0.133
Marital Status (Not married is omitted category)				
Married	-0.034*** (0.026)	0.070	-0.033*** (0.006)	0.220
Size of Family				
Famsize	0.042*** (0.003)	0.071	0.025*** (0.002)	0.140
Race/Ethnicity (White is omitted category)				
Black	0.173*** (0.013)	0.371	0.124*** (0.007)	0.853
Other Race	0.004 (0.021)	0.019	0.009 (0.013)	0.080
Hispanic	0.060*** (0.019)	0.129	0.048*** (0.011)	0.333
RHO (correlation coefficient)	0.380*** (0.024)		-0.380*** (0.024)	
Sample Size (Unweighted)	24,661		24,661	

Note: ***, **, * denote significance at the 1%, 5%, and 10%, respectively. The coefficients from the estimated bivariate probit model, including regional covariates, MSA unemployment, and state fixed effects, are available from the authors upon request. The standard errors are corrected for clustering at the metropolitan CBSA level. Partial effects are calculated based on attribute means.

Table 7. Unbanked Rates for Immigrants and Native Born: 2013 and 1996-99

	2013[1]	1996-1999[2]	Change		2013[1]	1996-1999[2]	Change
Immigrants				**Native Born**			
Mexico	28	53	**-25**	Black	21	24	**-3**
Latin Amer	18	37	**-19**	Hispanic	12	22	**-10**
Europe	3	17	**-14**	Other Race	7	26	**-19**
Asia	3	20	**-17**	White	3	14	**-11**

[1]2013, June CPS, authors' calculations.
[2]1996-1999, SIPP panel, U.S. Census. See Rhine and Greene (2006).

Appendix

A1. Bivariate Probit Model - Immigrants		
	Index Equation for NBFS = 1	**Index Equation for Banked = 0**
	Coefficients (Standard Errors)	**Coefficients (Standard Errors)**
Constant	-0.833*** (0.406)	0.414 (0.406)
Economic Attributes		
Education (NoHighSchool is omitted category)		
HighSchool	-0.144** (0.068)	-0.296*** (0.102)
SomeCollege	-0.132 (0.090)	-0.484*** (0.104)
College	-0.371*** (0.084)	-0.812*** (0.104)
Family Income (Faminc1 is omitted category)		
Faminc2	-0.221*** (0.066)	-0.565*** (0.067)
Faminc3	-0.307*** (0.080)	-0.872*** (0.091)
Faminc4	-0.455*** (0.079)	-1.299*** (0.183)
Employment (NILF is omitted category)		
SelfEmploy	0.060 (0.096)	-0.265* (0.144)
Employed	0.161*** (0.062)	-0.233*** (0.080)
Unemployed	0.102 (0.154)	0.051 (0.142)
Home Ownership (Non-Homeowner is omitted category)		
Ownhome	-0.243*** (0.064)	-0.474*** (0.096)
Demographic Attributes		
Younger Age (Older than 34 is omitted category)		
Age34	0.165* (0.086)	--
Marital Status (Not married is omitted category)		
Married	-0.026 (0.066)	-0.246*** (0.064)
Size Of Family		
FamSize	0.030* (0.016)	--
Children Present	---	0.008 (0.071)
Immigrant Attributes		
Home Country and/or Region (Asian Group Is Omitted Category)		
Mexico	0.504*** (0.105)	0.680*** (0.138)
Latin America	0.454*** (0.091)	0.565*** (0.112)
Europe	0.067 (0.092)	0.262 (0.175)
Age At Migration		
MigratAge	-0.004 (0.003)	-0.007** (0.004)
Citizenship (Non-Citizenship Is omitted category)		
Citizen	-0.142** (0.059)	-0.451*** (0.095)
Home Country Enclave (Home country population/total population for each metro area)		
LnEnclave	-0.042* (0.023)	0.012 (0.032)
Year of Migration to U.S. (YR0813 is omitted category		
YR0207	0.214** (0.103)	0.134 (0.154)
YR9601	0.208* (0.118)	-0.018 (0.030)
YR9095	0.162 (0.125)	0.038 (0.142)
YR8489	0.197 (0.128)	-0.248 (0.174)
YR7583	0.145 (0.149)	-0.217* (0.126)
YR5074	0.278 (0.145)	-0.438** (0.180)
Home Country Banking Experience		
Hm_Banked	- 0.045 (0.144)	-0.305* (0.177)
Hm_Branch	-0.388 (0.237)	0.080 (0.461)
RHO (correlation coefficient)	0.429*** (0.039)	
Sample Size	3,668	3,668

Note: ***, **, * denote significance at the 1%, 5%, and 10%, respectively. The coefficients from the estimated bivariate probit model, including regional covariates, MSA unemployment, and state fixed effects, are available from the authors upon request. The standard errors are corrected for clustering at the metropolitan CBSA level. Partial effects are calculated based on attribute means.

A2. Bivariate Probit Model - Immigrants		
	Index Equation for NBFS = 1	**Index Equation for Banked = 1**
	Coefficients (Standard Errors)	**Coefficients (Standard Errors)**
Constant	-0.833*** (0.406)	-0.414 (0.406)
Economic Attributes		
Education (NoHighSchool is omitted category)		
HighSchool	-0.144** (0.068)	0.296*** (0.102)
SomeCollege	-0.132 (0.090)	0.484*** (0.104)
College	-0.371*** (0.084)	0.812*** (0.104)
Family Income (Faminc1 is omitted category)		
Faminc2	-0.221*** (0.066)	0.565*** (0.067)
Faminc3	-0.307*** (0.080)	0.872*** (0.091)
Faminc4	-0.455*** (0.079)	1.299*** (0.183)
Employment (NILF is omitted category)		
SelfEmploy	0.060 (0.096)	0.265* (0.144)
Employed	0.161*** (0.062)	0.233*** (0.080)
Unemployed	0.102 (0.154)	-0.051 (0.142)
Home Ownership (Non-Homeowner is omitted category)		
Ownhome	-0.243*** (0.064)	0.474*** (0.096)
Demographic Attributes		
Younger Age (Older than 34 is omitted category)		
Age34	0.165* (0.086)	--
Marital Status (Not married is omitted category)		
Married	-0.026 (0.066)	0.246*** (0.064)
Size Of Family		
FamSize	0.030* (0.016)	--
Children Present	---	-0.008 (0.071)
Immigrant Attributes		
Home Country and/or Region (Asian Group Is Omitted Category)		
Mexico	0.504*** (0.105)	-0.680*** (0.138)
Latin America	0.454*** (0.091)	-0.565*** (0.112)
Europe	0.067 (0.092)	-0.262 (0.175)
Age At Migration		
MigratAge	-0.004 (0.003)	0.007** (0.004)
Citizenship (Non-Citizenship Is omitted category)		
Citizen	-0.142** (0.059)	0.451*** (0.095)
Home Country Enclave (Home country population/total population for each metro area)		
LnEnclave	-0.042* (0.023)	-0.012 (0.032)
Year of Migration to U.S. (YR0813 is omitted category		
YR0207	0.214** (0.103)	-.134 (0.154)
YR9601	0.208* (0.118)	0.018 (0.030)
YR9095	0.162 (0.125)	-0.038 (0.142)
YR8489	0.197 (0.128)	0.248 (0.174)
YR7583	0.145 (0.149)	0.217* (0.126)
YR5074	0.278 (0.145)	0.438 ** (0.180)
Home Country Banking Experience		
Hm_Banked	- 0.045 (0.144)	0.305* (0.177)
Hm_Branch	-0.388 (0.237)	-0.080 (0.461)
RHO (correlation coefficient)	-0.429*** (0.039)	
Sample Size	3,668	3,668

Note: ***, **, * denote significance at the 1%, 5%, and 10%, respectively. The coefficients from the estimated bivariate probit model, including regional covariates, MSA unemployment, and state fixed effects, are available from the authors upon request. The standard errors are corrected for clustering at the metropolitan CBSA level. Partial effects are calculated based on attribute means.

B1. Bivariate Probit Model – Native Born		
	Index Equation for NBFS = 1	**Index Equation for Banked = 0**
	Coefficients (Standard Errors)	**Coefficients (Standard Errors)**
Constant	-0.683*** (0.041)	-0.664*** (0.093)
Economic Attributes		
Education (NoHighSchool is omitted category)		
HighSchool	-0.148*** (0.040)	-0.314*** (0.050)
SomeCollege	-0.185*** (0.036)	-0.625*** (0.051)
College	-0.384*** (0.039)	-0.953*** (0.066)
Family Income (Faminc1 is omitted category)		
Faminc2	-0.188*** (0.029)	-0.455*** (0.041)
Faminc3	-0.316*** (0.031)	-0.764*** (0.054)
Faminc4	-0.416*** (0.039)	-1.012*** (0.098)
Employment (NILF is omitted category)		
SelfEmploy	0.117** (0.052)	-0.010 (0.093)
Employed	0.161*** (0.026)	-0.181*** (0.037)
Unemployed	0.256 (0.046)	0.399*** (0.063)
Home Ownership (Non-Homeowner is omitted category)		
Ownhome	-0.243*** (0.064)	-0.576*** (0.035)
Demographic Attributes		
Younger Age (Older than 34 is omitted category)		
Age34	0.079*** (0.025)	--
Marital Status (Not married is omitted category)		
Married	0.164*** (0.026)	-0.412*** (0.044)
Size Of Family		
FamSize	0.114*** (0.008)	--
Children Present	--	0.381*** (0.035)
Race/Ethnicity (White is omitted category)		
Black	0.577*** (0.032)	0.636*** (0.041)
Other Race	0.049 (0.021)	0.205** (0.091)
Hispanic	0.228*** (0.051)	0.385*** (0.071)
RHO (correlation coefficient)	0.380*** (0.024)	
Sample Size	24,661	24,661

Note: ***, **, * denote significance at the 1%, 5%, and 10%, respectively. The coefficients from the estimated bivariate probit model, including regional covariates, MSA unemployment, and state fixed effects, are available from the authors upon request. The standard errors are corrected for clustering at the metropolitan CBSA level. Partial effects are calculated based on attribute means.

B2. Bivariate Probit Model – Native Born		
	Index Equation for NBFS = 1	**Index Equation for Banked = 1**
	Coefficients (Standard Errors)	**Coefficients (Standard Errors)**
Constant	-0.683*** (0.041)	0.664*** (0.093)
Economic Attributes		
Education (NoHighSchool is omitted category)		
HighSchool	-0.148*** (0.040)	0.314*** (0.050)
SomeCollege	-0.185*** (0.036)	0.625*** (0.051)
College	-0.384*** (0.039)	0.953*** (0.066)
Family Income (Faminc1 is omitted category)		
Faminc2	-0.188*** (0.029)	0.455*** (0.041)
Faminc3	-0.316*** (0.031)	0.764*** (0.054)
Faminc4	-0.416*** (0.039)	1.012*** (0.098)
Employment (NILF is omitted category)		
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Employed	0.161*** (0.026)	0.181*** (0.037)
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Ownhome	-0.243*** (0.064)	0.576*** (0.035)
Demographic Attributes		
Younger Age (Older than 34 is omitted category)		
Age34	0.079*** (0.025)	--
Marital Status (Not married is omitted category)		
Married	0.164*** (0.026)	0.412*** (0.044)
Size Of Family		
FamSize	0.114*** (0.008)	--
Children Present	--	-0.381*** (0.035)
Race/Ethnicity (White is omitted category)		
Black	0.577*** (0.032)	-0.636*** (0.041)
Other Race	0.049 (0.021)	-0.205** (0.091)
Hispanic	0.228*** (0.051)	-0.385*** (0.071)
RHO (correlation coefficient)	-0.380*** (0.024)	
Sample Size	24,661	24,661

Note: ***, **, * denote significance at the 1%, 5%, and 10%, respectively. The coefficients from the estimated bivariate probit model, including regional covariates, MSA unemployment, and state fixed effects, are available from the authors upon request. The standard errors are corrected for clustering at the metropolitan CBSA level. Partial effects are calculated based on attribute means.