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Immigration and Underbanking: An Analysis of the Financial Integration of Immigrant Populations

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IMMIGRATION AND UNDERBANKING:
AN ANALYSIS OF THE FINANCIAL INTEGRATION OF IMMIGRANT
POPULATIONS

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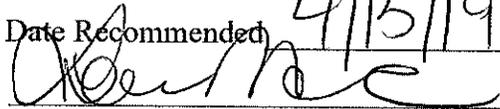Of the Requirements for the Degree
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By
James Baugh

May 2019

IMMIGRATION AND UNDERBANKING:
AN ANALYSIS OF THE FINANCIAL INTEGRATION OF IMMIGRANT POPULATIONS

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IMMIGRATION AND UNDERBANKING:
AN ANALYSIS OF THE FINANCIAL INTEGRATION OF IMMIGRANT POPULATIONS

James Baugh   May 2019   86 Pages

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   Underbanking, or use of alternative financial services such as payday lenders rather than traditional banks, is a practice that has substantial financial and social harm. Given that literature and prior research shows that immigrants face unique cultural barriers to financial assimilation, the current study examines how immigrant status influences one's odds of being underbanked. Using the June 2015 Underbanking Supplement to the Current Population Survey, immigrants are delineated by first- and second-generation status, as well by the development status of their country of origin, and their relationship to underbanking is examined through a series of logistic regression analyses. Results indicate that first-generation immigrants from developing countries continue to face substantial barriers to full financial assimilation, while those from developed countries share similar outcomes as citizens. Second-generation immigrants whose parents are from developing countries, however, have lower odds to be underbanked, showing that generational progress is occurring. Implications of this analyses are that future research should not assume immigrants all share one monolithic experience in the context of economic integration.

Introduction

It has long been understood by the sociological discipline (and others) that micro- and macroeconomics play a significant role in the formation and execution of society. At every level, from countries engaging in international trade to the individual who works for less than a living wage, economics has, both historically and presently, provided a key space for rich investigations into the ways in which people interact with each other through societal organizations and structures. However, the implications of the relationships between banks, which serve as the hubs of economic interaction at the microeconomic level, and individuals are largely unexplored from a sociological perspective. This is troubling, due to the recurring trend of a break down in that relationship, leading to massive, negative economic implications on those individuals whose lose their relationships with their banks and instead operate through alternative financial services (AFS), such as check-cashing centers, payday lenders, and pawn shops (Rhine & Greene, 2012; Northwood & Rhine, 2016). This trend, known as underbanking, is the focus of the study.

Even less attention is paid to the influence of an underbanking trend within the American immigrant population. It is an unfortunate reality that, in the United States, immigration status and poverty often go hand-in-hand (Pauwels, 2011; Stookey, 2010). Immigrants, regardless of being documented or undocumented, are a financially vulnerable population, often subject to less-than-adequate or even harmful financial infrastructure outside of traditional, brick-and-mortar bank locations (Pauwels, 2011). Immigrant populations may feel they are unable to use actual banks for a variety of reasons, such as language barriers, cultural barriers, financial illiteracy with the U.S.

banking system, or, for those who are undocumented, fear that engaging with banks will make them easier to identify by the government (Pauwels). As a result, underbanking is particularly severe among immigrant populations (Pauwels, 2011; Stookey, 2010). However, research concerning correlations between particular elements of immigrant status, namely second-generation immigrants and countries of origin, has largely gone unexplored thus far. The current study seeks to expand our understanding of this problem by examining the relationships between immigration status and underbanking severity using data from the June 2015 FDIC supplement to the Current Population Study.

Literature Review

What is Underbanking?

Before an in-depth discussion of the general body of literature surrounding underbanking, it is appropriate to briefly discuss how underbanking is currently defined. The U.S. Council of Economic Advisers defines underbanking as being reliant on alternative financial services, such as payday lenders, check cashing businesses, and pawn shops, due to a lack of access to traditional banking infrastructure (Council of Economic Advisers, 2016). This lack of access can stem from many causes, such as a lack of nearby bank locations, inconvenient banking hours, or a general distrust of the banking system (Rhine & Greene, 2012). However, a better definition might be one that leaves out any attempt to identify cause. The U.S. FDIC's definition of underbanking (which will be used for this study), for example, explains the phenomenon as when one has used alternative financial services, such as payday loans, auto title loans, or pawn

shops, within the last 12 months (Burhouse et al, 2016). Additionally, the FDIC draws a distinction between being underbanked and unbanked, which they explain as not having a checking or savings account with a bank. (To clarify any residual confusion, all unbanked people are also underbanked, because they must engage in financial exchange outside banks. Underbanked people may have an account, but do not always use it for the average financial exchange. For example, someone might have a bank account, but due to inconvenient bank hours, be forced to use a check-cashing service to access their paycheck.) While the FDIC definition is indelicate in other ways, as will be discussed later, it better suits the purpose of this study. Additionally, it should be noted that underbanked households, as opposed to individuals, are defined as when neither the head of household nor their partner has the relevant account access (Gross et al, 2012).

The General State of Underbanking Research

While underbanking is a relatively new term to economic sociology (Google Scholar only returns 66 entries for the term "underbanking," most of which are about racing tracks or aviation models, which use underbanking in a geometrical sense), studies about the effects and implications of the relationship between banking infrastructure and financial exclusion/inclusion have been around for decades in economics (Seaver & Fraser, 1979). Specifically, it was recognized that branch banking was a preferable model of banking, because it supposedly brought more bank locations to more consumers, allowing for a fuller integration into the economy. Thus, while the term might be a new addition to our sociological lexicon, one should not assume that no attention has been paid to this aspect of microeconomics before now, albeit sometimes under other names, such as "fringe banking," which is a common term in economics.

However, a general misconception about underbanking brought forward by Seaver & Fraser, and the previously mentioned definition, is that geographic access to a bank is the main causal factor concerning whether someone is underbanked. In reality, the core causes of underbanking are hard to identify, as research has shown a large variety of reasons why underbanking occurs. For example, we know that underbanking *can* be the result of a simple lack of locally accessible banking infrastructure (Rhine & Greene, 2012). In fact, "bank deserts," areas where no banking infrastructure exists, have become increasingly common since 2008, and happens in mostly low-income and racial minority neighborhoods (Amel & Prager, 2014). Yet proximity to banks does not ensure that people are banked, as people may also be excluded due to financial illiteracy, mistrust of the financial system, or even banking policies meant to exclude those individuals whom banks find less profitable (Rhine & Greene, 2012). There is also research that suggests that AFS locations occur in higher frequency around traditional banking locations, and we would expect the opposite to be true if simply having a bank nearby meant people would choose to bank there (Lee, Gainey, & Triplett, 2013). Thus, narrow focus on solely the geographic distribution of bank branches as a cause of underbanking is at best misguided, and at worst, counterproductive.

All of this is not to say that access to a physical bank location is not important to consider or that it should be ignored as a factor. Indeed, research suggests physical locations are an important aspect to banking and that their importance may even serve as a limiting factor on other forms of banking, such as mobile or online banking (Hegerty, 2015). Hegerty's analysis shows that, while online forms of banking are on the rise, there are still certain elements of banking that most people are simply too unfamiliar with to do

without assistance, or too uncomfortable with to do online. Additionally, in the poorer and less white neighborhoods, where AFS tends to aggregate, internet access tends to be less universal, meaning that a physical bank branch location could still be important to service customers who cannot access more modern forms of traditional banking. For example, due to the prevalence of smart phones and digital business, mobile banking creates access to banking services in ways that are not tied to any physical infrastructure (Karp & Nash-Stacey, 2015). However, as Hegerty notes, it is precisely the areas that are the least likely to be able to afford smart phones and secure internet access that are also the least likely to have banks.

While declining bank locations may not be the lynchpin on their own, it should be discussed that AFS locations have greatly increased since the 1990's (Lee, Gainey, & Triplett, 2013). There are more payday lending locations in this country than there are Starbucks, and in most states, more than there are McDonald's (Center for Responsible Lending, 2009). This is due largely to the exceptions to certain financial regulations granted to AFS industries during that period, which greatly reduced their oversight and allowed them to flourish (Lee, Gainey, & Triplett, 2013). While some states have started to implement new regulations, which has stabilized the growth of AFS in those regions, most states have not yet taken such action, and in those states, the number of AFS locations continues to climb. AFS, particularly payday lenders, also increasingly operate online, allowing them access to a wider market and a path around regulations that would otherwise limit or even prevent their predatory practices (Caplan, 2014). To make the problem worse, many companies and stores that were not originally designed to offer such services, such as Wal-Mart and the gas station chain Seven Eleven, now offer them

as well. AFS have no "deserts"; they are available everywhere, nationwide. It should also be remembered that the poor often have limited choice concerning how, when, and where they engage in financial interactions, making AFS the worst but also only available option for some of the people in this population (Eisenberg-Guyot et al, 2018). Thus, while banks are declining, AFS are filling the gap left behind, giving them a functional monopoly on the vulnerable populations they often target, essentially creating a captive market for financial engagement.

AFS as a Financial Predator

Mentioned several times throughout the paper, the idea of AFS engaging in predatory lending practices will be discussed thoroughly here. AFS specifically target low-income and minority neighborhoods, with the purpose of trapping their customers into cycles of debt and continuous loans with shocking levels of interest (Caplan, 2014). Part of this problem is the result of AFS marketing themselves as easy, quick, short-term solutions. However, research shows that as much as 76% of payday loan customers are constantly having to take out another high interest loan (Parrish & King, 2009). Of those repeat customers, 87% of them are forced to take out another payday loan within the very next payment period. This is likely because most payday loans are taken out for recurrent expenses, like paying rent, although a substantial amount is also taken out in response to unexpected financial costs, such as medical bills (Eisenberg-Guyot, 2018).

To explain why in more detail, let us first examine how a payday loan typically works. A customer takes out a loan, usually less than $500, with a very high interest rate. This loan is due to be paid on the customer's next payday. In theory, and according to most payday lenders, this is a useful tool, because it allows customers to indirectly gain

immediate access to their next paycheck, and ideally, the loan would be paid off immediately. However, this is quite often not how it works out for the customer (Parrish & King, 2009). The incredibly high interest rate on these loans (which averages typically around 400%) creates a massive and short-term balloon payment that can take up to 50% of the average customer's paycheck to pay off. Taking this much of their check to pay off their payday loan often leaves customers in the familiar position of not having enough money to last until their next payday, and without access to credit or traditional banking infrastructure, that customer may have no little to no option but to take out another payday loan. Additionally, AFS centers sometimes employ inaccurate or even intentionally misleading information about how their services work, causing borrowers to underestimate cost while overestimating their ability to pay back the loan easily (Eisenberg-Guyot et al, 2018). Sometimes referred to as "churning," this process of constantly repeating the loan cycle effectively locks customers into debt (Parrish & King, 2009). As mentioned previously, AFS often aggregates in low-income and minority neighborhoods who are less likely to have access to traditional banks, making them a captive customer base (Caplan, 2014; Amel & Prager, 2014). Of course, this is a cycle that the payday lending industry, a multibillion dollar industry as a result of their repeat customers, has no incentive to break (Parrish & King, 2009). Specifically, payday lending only derives about 2% of its total business each year from first-time, non-repeated borrowers. Most borrowers take out nine loans per year, and 60% of payday lender revenue is generated by borrowers who take out 12 or more loans per year.

Pawn shops, another form of AFS included in our definition, deserve more attention by researchers, especially considering their age, dating back to the 15th century,

in comparison to other forms of AFS that are relatively young (Lee, Gainey, & Triplett, 2013). In 2011, the National Pawnbrokers Association estimated that the number of pawn shops was more than 13,000 and constituted a $14.5 billion industry annually (Kubrin & Hipp, 2016). Pawnbrokers typically work by giving a customer a loan based on the deposit of some piece of personal property, where the loan is typically 30 to 75% of the value of the item (Lee, Gainey, & Triplett, 2013). They make a profit by charging a low interest fee and being able to sell the item as forfeit should the loan go unpaid. While still a common form of AFS, it is important to note that potential borrowers must pass a different bar of entry for these loans: while a payday loan simply requires a source of income, a pawn shop loan requires possessing a piece of property, or pieces of property, deemed valuable enough that a loan based on a smaller portion of its value is still enough to meet one's financial need. Thus, pawnshops provide an alternative method of obtaining cash and short-term loans for the unemployed, as long as they have items of value that can be pawned. Despite this, the loans given by pawn shops can still be accompanied by incredibly high interest rates (Kubrin & Hipp, 2016). These rates are limited differently by state, but are typically determined by a percentage of the value of the loan, and can range anywhere from 12% to 300%, making them another potentially much more expensive avenue of financial interaction compared with traditional banks.

Check-cashing services also receive little attention in the current body of research concerning underbanking, despite their prevalence making them potentially the most commonly used (Kubrin & Hipp. 2016). Their popularity stems from the fact that they do not provide loans that require repayment with high interest; rather, they collect a percentage-based fee from the value of a check in exchange for providing the remaining

value of the check immediately in cash. This fast turnaround for access to funds is appealing and has obvious utility, even compared with some bank services who may delay the access to a check's value for a short time. This quickness of access explains the service's popularity, even among those with a bank account: check cashing services handle about 180 million checks annually, worth roughly $55 billion. While the lack of a high interest, short-term loan might make check-cashing seem more benign than other forms of AFS, it should be noted that the average fees charged for cashed checks is 2.52%, but sometimes climbing as high as 5%. Applying the average rate to the value of the average checks they handle, check-cashing services drain roughly $1.4 billion from the underbanked people they serve, in return for granting immediate access to the rest of their funds.

Until now, only a few forms of AFS have been mentioned in detail. This is not an oversight; rather, the vast majority of the literature studying AFS has determined these forms as the most predatory (Lee, Gainey, & Triplett, 2013). This sadly means that a more in-depth investigation into most of the other forms of AFS included in the definition used for this analysis would be very difficult and largely speculative without further research that is beyond the scope of this analysis. Fortunately, the methods discussed above account for most AFS interactions in the United States, and so while there is much research left to be done on other manifestations of underbanking, the current body of literature surrounding check-cashing services, payday lenders, and pawn shops, is sufficient to serve as the basis for this paper.

Underbanking as a Sociological Issue

It is appropriate at this point to recognize that it is undeniable that underbanking has the look, at the surface, of being a solely microeconomic issue. However, when examined in depth, underbanking is clearly something that sociologists should seek to greater understand:

First, at the individual level, financial exclusion is a major indicator of social exclusion (Fernandez-Olit, Aredes-Ga´zquez, & Cuesta-Gonza´lez 2016). Specifically, Fernandez-Olit and colleagues were able to identify that being underbanked negatively correlated with social exclusion, drawing the conclusion that the less one interacts with banks, the more one is excluded from society. While their analysis was specific to Europe, they drew several applicable conclusions. For example, in economies that are "highly banked," meaning a majority of the population uses banks to manage their personal finances, being underbanked is a real barrier to social inclusion. Additionally, they find that poverty rates for socially excluded populations increase after a financial crisis within a country and identify that populations on the brink of poverty can be pushed below the poverty line when (a) they do not have a bank and (b) a crisis creates a situation where a bank can serve as a mediating force on the impact of a crisis. Both are applicable to the United States, where a majority of the population is banked (with underbanking being estimated around 12%), and where access to a bank helps generate financial security (Gross et al, 2012). As will be discussed in depth later, immigrant populations are uniquely vulnerable to this, as they fall victim to many barriers to social integration which are unique to these groups.

Second, when underbanking is examined demographically, we see that it is largely comprised of vulnerable populations. Specifically, underbanked people are often

younger, low-income, low-educated, and people of color (Gross et al, 2012). Low-income status as an indicator for being underbanked is particularly accurate in urban neighborhoods, such as New York City, where the average rate of underbanking is higher than the national average, but spikes to three times that average in the Bronx, which happens to be the poorest of the boroughs that form the city (King and Saldarriaga, 2017). Additionally, immigrants, with or without approval from the government, have a tendency to shy away from traditional banking infrastructure. Overall, being either low-income status, or having an immigrant status, accounts for over half of all underbanked people.

Third, underbanking creates an alarming number of barriers to financial stability; something sociologists have long understood to carry negative implications to individuals and family stability (Birkenmaier et al, 2015). During periods of economic hardship, individuals turn to credit or savings to manage unexpected costs. However, without these resources at their disposal, underbanked individuals often turn to less efficient methods of payment, such as cash (which requires physically going to payment locations, requiring transportation, and often, time off work), or the use of alternative financial services (AFS), that cost much more than banking services. As will be discussed in depth below, this carries a host of negative implications, from food insecurity to loss of employment, creating an interlocking web of barriers to social stability.

Fourth, high rates of underbanking may have implications beyond the individual who does not have a bank. An at length examination of the relationship between underbanking and national-level economics has shown that countries with high rates of underbanking experience slower technological advancement, job creation, and social

mobility (Calomiris and Haber, 2011). Although Calomiris and Haber focus more on the "credit starving" aspect of underbanking to a degree not appropriate for this study, they do highlight an important reality: while underbanking may manifest itself most obviously within the finances of underbanked individuals, there is a larger impact to society, and specifically social mobility, when one takes a step back from the individual to see the millions of people who qualify to wear the label of "underbanked." Due to the continued growth of the ratio of immigrant groups in the U.S., understanding the financial health and practices of immigrant populations will become increasing important to understanding overall financial trends within our economy and society as a whole (Chatterjee & Zahirovic-Herbert, 2012).

Implications of being Underbanked

Vulnerability to financial shock and lack of credit. As discussed previously, underbanking is a source of serious financial instability. While the circumstances of the underbanked are often neglected by research (Baek & Devaney, 2010), prior studies have found that the average wealth gap between banked and underbanked households is substantial, estimated to be around $42,000 (Ampudia & Erhmann, 2017). Additionally, these alternative services are extremely costly compared with banks (Office of the Inspector General, 2014). In 2012, it was estimated that the comparative cost between AFS and traditional banks was $89 billion. This number is highly impactful to people at lower tiers of income. In that same year, households whose total income was $25,000 a year or less paid on average $2,412 to AFS, roughly 9.5% of their total income, which is

equivalent to what those households spent on food for the year (Office of the Inspector General). This is particularly devastating, because the underbanked are on average only $26 away from "breaking even" on their monthly bills; meaning that having access to a bank would allow for a monthly financial surplus, rather than a financial deficit. This stems from several factors, including the unfair business practices of formalized alternative financial services (Anderloni et al, 2007), or the use of informal, underground money transfer networks, especially in the cases of immigrant families attempting to move money internationally (Peterson, 2013).

Relatively little is known about the ways in which households make decisions about financial plans, such as dedicated savings or managing high-interest credit (Hilgert & Hogart, 2003). For example, research from the 2008 financial crisis found that the response by families to economic hardship is often strenuous and reliant on short-term economic measures that are negative in the long term (Baek & Devaney, 2010). Although underbanking has been on the decline in the population as a whole, roughly half of underbanked households once had banks, and now do not (Rhine & Greene, 2012). This indicates, for a substantial part of this group, it is not that they *never* had a bank account, but rather, something is pushing them away from being banked. Additionally, it has been shown that households in particular are not skilled in predicting or reacting to economic hardships or unforeseen financial expenses, acting with a heavy reliance on credit (Baek & Devaney, 2010). This means, for those households that are underbanked, the typical resources used to deal with economic hardship are not available. With all of this in mind, the lack of a financial safety net and vulnerability to financial shock should be seen as the core issue faced by the underbanked.

Additionally, being without a bank also opens the possibility of "credit invisibility," which is what happens when a person has such little interact with the traditional banking infrastructure, they do not have enough credit to apply for loans (Turner, Walker, & Dusek 2009). This, in turn, limits their ability to borrow and cover unexpected costs, and their ability to establish helpful resources to increase their financial stability, such as buying a car/house, pursuing higher education, or opening a business (Turner, Walker, & Dusek 2009; Nguyen, 2014). This highly restricted access to an important potential resource in social mobility, combined with high cost of AFS, creates a situation where the underbanked are uniquely vulnerable to economic downturns, at both the micro and macro levels (Zedlewski, Chaudry, & Simms, 2008). Without the ability to support themselves, the underbanked often get stuck behind the barrier of cyclical poverty, and a high reliance on social programs, which sadly may also be affected by macroeconomics or changing budgets, due to shifts in politics (Bok and Simmons, 2002).

Employment. The relationship between employment and underbanking can be understood as bidirectional: unemployment can encourage underbanking, and underbanking can also encourage unemployment. The first point is easy to observe and understand, as people without jobs may feel less compelled to exert any effort on obtaining a bank account they may see themselves not using (Birkenmaier et al, 2015). Getting a job, then, can compel people to become fully banked, as the value of being banked increases, and some aspects of getting paid by an employer, such as direct deposit, is entirely impossible without an account.

However, the other direction of this relationship is also true. Specifically, this can be seen through employment practices like credit checks as a qualification of being hired, which is used by over half of American employers (Rosen and Bagus, 2010). Being underbanked means sacrificing your participation in several key aspects of modern society when it comes to economics, and the loss of these aspects can make one less appealing to companies who view these aspects as important. Thus, while the idea that unemployment can cause underbanking seems obvious, it is important to remember that the absence of a bank account can prevent getting that job in the first place.

These implications are doubly true with immigrant populations, who are more likely to experience a unique aspect of this relationship: they are much more likely to engage in informal "day labor" work, where wages are "under the table" and negotiated outside legally mandated requirements (Valenzuela, 2000). Not only is this population unlikely to engage with banks, but the very nature of the jobs they are likely to work discourage them from involving their incomes from traditional financial systems.

Food Insecurity. Research into financial practices of families and households indicates that lacking stable bank access is a reliable predictor of also facing food instability and hardship, which is generally defined as lacking the capacity to satisfy basic nutrition and food consumption needs (Birkenmaier et al, 2015). People who fall into this category face challenges such as having to reduce food intake below recommended levels, or relying on food that does not provide healthy levels of nutrients. (While many Americans do not eat healthy food, they at least have access to it.) Food insecurity carries with it a long list of negative implications for families, from lowered academic and social

outcomes for children (Bhattacharya, Currie, & Haider, 2004; Jyoti, Frongillo, & Jones, 2005), to reduced health outcomes and malnutrition of people of all ages (Melchior et al, 2009), making it one of the most damaging manifestations of underbanking that can occur for a household.

Health. Underbanking has also been shown to create anxiety, stress, and increased levels of general dissatisfaction (Okech, 2013; Eisenberg-Guyot et al, 2018). While the most obvious associations between these occurrences and underbanking stem from the associated instability, Okech additionally found that having a bank account can be seen as a status symbol that represented a certain level of maturity and togetherness. Thus, mental health is affected not just by the financial instability generated from underbanking, but also underbanking itself, as those without an account may be constantly reminded in their everyday economic exchanges that they are going without something that, they perceive, financially mature and literate people have.

Identifying the exact implications on health that underbanking has is difficult for several reasons (Eisenberg-Guyot et al, 2018). Specifically, the underbanked are already likely to experience constant sources of stress that impact health from other sources, like discrimination. Additionally, as short-term loans are often taken out to pay unexpected financial costs, it is possible that there is some issue of reverse causality, wherein people who are sick seek out AFS, rather than AFS being the source of the negative health outcome. Taking both of these into account, Eisenberg-Guyot and colleagues examined longitudinal financial data and self-reported health claims, and found that, controlling for necessary variables and elements of the model, people who had recently taken out a

short-term loan from an AFS location were 38% more likely to report their health as poor or fair, and people without bank accounts were 17% more likely to report the same. Their research explains that these connections should not be ignored, as constant, chronic stress such as the type caused by underbanking is associated with higher risk of cardiac, metabolic, immune, and inflammatory issues, as well as substance abuse and, in severe causes of mental strain and depression, suicide.

Underbanking and Crime

As mentioned before, potentially one of the strongest implications of proximity to, and use of, AFS is the increased exposure to criminal activity (Kubrin et al, 2011; Kubrin & Hipp, 2016). Research into this topic has shown that simply being located nearby AFS (within 5 miles) has a significant positive association with the rates of crime, particularly robbery and other forms of theft as well as assault, in one's neighborhood, even when controlling for other types of land use and socio-demographics (Kubrin & Hipp, 2016). There are many potential reasons for this, both directly related to aspects of criminology and indirectly related through broader effects on the community.

Directly, and most obviously, people who are trapped in cycles of debt created by reliance on AFS are potentially more likely to turn to criminal activities as a supplement to their incomes (Kubrin et al, 2011). Additionally, AFS locations have been identified as both crime generators and crime attractors (Kubrin & Hipp, 2016). Crime generators are locations that just generally bring in large amounts of people and foot traffic, creating an increased opportunity for crime. Inevitably, as more people congregate, more people willing to engage in criminal behavior, as well potential victims of that behavior, are brought together. However, crime attractors uniquely provide elements that specifically

attract both potential criminals and potential victims. Common crime attractors are businesses that involve relatively high amounts of cash-based exchanges, and many AFS transactions end by providing a customer a large sum of cash, making them particularly vulnerable to robbers seeking to bring in a large haul. Readily available cash also tends to attract potential criminals as well, who may be seeking to transfer funds into cash (which is much easier to use in criminal transactions), or to sell illicitly gained property to a pawn shop. Ultimately, while AFS often bring in a higher frequency of the general public, they also inherently contain elements and practices that establish conditions that are highly favorable to potential criminals.

Adding to this situation is the fact that the more predatory the AFS seem to be, the worse the corresponding rise in crimes rates are for the surrounding area (Kubrin & Hipp, 2016). While their analysis was limited to only payday lenders, check-cashing services, and pawn shops, Kubrin and Hipp were able to identify that different AFS locations increase crime rates differently, with payday lenders increasing the frequency of robbery by 94% on their block, check-cashing increasing that rate by 70%, and pawn shops increasing larceny by 23%. Essentially, the AFS with the potentially largest impact on the personal finance of the underbanked is also the most likely to subject them to robbery. This analysis also showed that AFS as a crime attractor does not simply concentrate crime in one specific area, meaning crime decreases in others, rather its criminogenic nature radiates out to other blocks and across the neighborhood they populate.

Indirectly, AFS have been theoretically tied to weaker social ties within a neighborhood, contributing to the deterioration of internal social controls that tend to aid in lowering crime rates (Kubrin & Hipp, 2016). As will be discussed more in-depth in the

theoretical framing of this research, the disorganization introduced into a community by AFS can decrease community capacity for things like communication and supervision between community members while increasing both actual and perceived degeneration of the value of community membership and instability in the area. These breakdowns can contribute to higher crime rates within affected communities by inhibiting internal community functions that normally act as a preventative measure against land use becoming criminogenic.

Ultimately, being subject to reliance AFS ultimately means also being faced with a higher likelihood of being the victim of robbery (Kubrin & Hipp, 2016). Immigrant populations are particularly vulnerable to this affect due to their potential reluctance to report such crimes to the authorities (Osili & Paulson, 2004). These robberies can be devastating, as customers are now without what was potentially the cash value from their weekly paycheck or are potentially on the hook for paying back a predatory loan without at least having the benefit from paying off whatever the loan was being taken out for. Crime as an implication of underbanking acts to magnify and compound the core issues being faced by this population: without a bank to work through, customers are subject to incredibly expensive fees when conducting financial business, only to then be subject to significantly higher odds that their funds, now mostly in cash, will be taken from them in a robbery. Having a bank account would mean not only is the money one earns is more effectively used, but also more securely kept out of the hands of potential criminal elements. Also of note is that these crimes, of course, do not only target customers of underbanking, but instead target everyone who lives in affected neighborhoods, regardless of banking status (Kubrin et al, 2011). As Kubrin and colleagues note: "…*all*

residents pay when they reside in neighborhoods with a concentration of payday lenders" (p. 457).

Interestingly, there have also been counter-arguments that suggest that focusing on payday lenders is based on a bias against those industries for being immoral, or even simply unlikable (Wilcox & Eck, 2011). Wilcox and Eck argue that there are other factors that contribute to the negative effects, specifically on crime rates, that researchers seem to witness in the areas that experience high rates of payday lenders. They conclude that the research is simply assuming a linkage between criminalization and something we consider to be unpopular, and that "doing nothing" is a viable policy option. While I agree that researchers should always be cautious about letting personal bias against unpopular sites or facilities interfere with our ability to accurate perform research and describe results, I believe the focus of this criticism is far too narrow; even if the link between crime rates and payday lenders is not directly causal, more recognized influencers of crime rates, such as poverty, instability, etc., are all positively associated with the presence of underbanking. Simply put, AFS is clearly contributing to the factors that could increase crime rates, meaning payday lenders could be simply one step removed, rather than not being associated at all.

Other Controls

There are many factors that can play into one's underbanking practices (Rhine & Greene, 2012), and in recognition of that, this study includes a list of control variables that should briefly be explained here. First, income level is a key factor. A steep decline in income has been identified as the single largest indicator of becoming underbanked (Rhine & Greene, 2012; King & Saldarriaga, 2017). Additionally, the average annual

income of the underbanking population tends to be low, less than $30,000 (Office of the Inspector General, 2014). Employment status is also highly correlated with underbanking, for previously discussed reasons pertaining to the lack of a job resulting in less incentive to seek a bank account (Birkenmaier et al, 2015). Level of education is also a determining factor (Rhine & Greene, 2012; Office of the Inspector General, 2014; King & Saldarriaga, 2017). In 2011, the FDIC estimated that roughly 45% of the underbanked population had attended at least some college (Office of the Inspector General, 2014). Education has also been shown to have a significant negative influence on the likelihood that a fully banked family becomes underbanked (Rhine & Greene, 2012). For all the above reasons, these three factors (income, employment, and education) are isolated by this study as key determinants and are tested on their own before adding in the remaining controls, as will be explained in more detail below.

While white families make up about half the underbanked population (Office of the Inspector General, 2014), black and Hispanic people have a disproportionately higher likelihood to currently be underbanked and to become underbanked in the future (Rhine & Greene, 2012; King & Saldarriaga, 2017). The underbanked population is also disproportionately young, with most of the underbanked being under the age of 25 (Office of the Inspector General, 2014). While the gender gap in underbanking is relatively small, data indicates that women are slightly more likely to be underbanked than men (Gross et al, 2012). Marital status can be an influencing factor on banking decisions, because a married couple is likely to engage in more financial interactions than a single person would, increasing the incentive to have a bank account (Rhine & Greene, 2012). The number of children is also controlled for the same reason: Rhine and Green's

analysis indicates that more members of the family mean more financial transactions, and more transactions means a higher level of incentive to have a bank account. Race/ethnicity, age, gender, marital status, and number of children will all be included in this analysis.

Theoretical Framework

Immigration and Assimilation Theory

While sociological investigation into immigration and the experience of immigrants is a longstanding tradition of the discipline, those investigations often seek to understand the socioeconomic conditions of immigrants through measuring human capital issues (like education) or labor participation rates (Paulson & Rhine, 2007; Chatterjee & Zahirovic-Herbert, 2012). Largely forgotten is the ability of immigrants to assimilate into the formal financial systems of their destination country. Furthermore, generalizations about the economic health of immigrants tend to gloss over huge differences in race, gender, and legal status among different immigrant groups or even individual immigrants (Waters & Jimenez, 2005).

This lack of nuanced research into the formal financial assimilation of immigrants is unfortunate for a few reasons. First, as explained throughout this study, having access to a bank is a key gatekeeping issue to other aspects of financial health, such as dealing with financial shocks, owning a home, being able to start a small business, or the ability to securely retire (Osili & Paulson, 2004). Second, as immigration rates continue to climb, the financial well-being of the national economy will be increasingly dependent on

the financial health of the immigrant populations who participate in it (Chatterjee &

Zahirovic-Herbert, 2012). Finally, since engagement with formal financial institutions

requires a high degree of trust, the extent to which immigrants formally assimilate into

the banking system is an important indicator of how these groups adapt to and gain trust

in that system (Osili & Paulson, 2004).

In general, most theoretical approaches to explaining the assimilation rates of

immigrants see behaviors as a convergence of lines, where the line of behaviors an

immigrant brings with them tends to draw closer over time to the line of behaviors

engaged in by most native-born members of a society (Brown & Bean, 2006). However,

this is by no means a simple, linear relationship for all immigrants or in every facet in the

assimilation experience. Barriers to assimilation exist due to cultural, structural, and

contextual issues, such as discrimination, and can slow or even prevent the full

assimilation of certain immigrants or in certain areas, such as finances (Lee, 2009; Brown

& Bean, 2006). Thus, while the convergence of lines may appear accurate from a

generalized perspective, specific contexts of assimilation may not follow this pattern.

Financial assimilation is an apt example of this phenomenon. Economic mobility

and wealth accumulation is recognized as having an influence on all aspects of

assimilation for immigrant groups (Paulson & Rhine, 2007; Brown & Bean, 2006). While

it is generally true that the financial health of immigrants tends to improve over time, the

amount of time it takes for the differences between immigrants and native-born people to

disappear is considerable, estimated by some to be as long as 15-25 years (Paulson &

Rhine, 2007). Bank account ownership is no exception to this trend, as research has

shown that underbanking rates are particularly persistent even for immigrants who have

lived in the U.S. for several years (Osili & Paulson, 2004). Understanding this timeframe puts an important focus on second-generation immigrants, because the children of immigrants are likely entering into financial markets at the critical time in which full assimilation is obtainable (Paulson & Rhine, 2007; Brown & Bean, 2006).

Furthermore, immigrants are more prone to risky behaviors as a result of this slowed financial integration (Chatterjee & Zahirovic-Herbert, 2012). Beyond being less likely to have a bank account, they invest less resources into these accounts on average even when they own them. They are also more likely to become underbanked compared to native-born people, meaning they are more likely to have an account and then either lose it or close it themselves (Osili & Paulson, 2006). This backwards movement represents "negative assimilation," where immigrants move further away from the typical behavior of native-born people (Brown & Bean, 2006).

Thus, when examining underbanking from a theoretical perspective, it becomes apparent that, while there is a clear tendency of the lines of financial behavior to converge over time, there are unique barriers for immigrants that prevent full assimilation from occurring. Institutional shortcomings, discrimination and social bias, and systemically lower wealth accumulation and opportunities for mobility create a context in which immigrants are less able to formally participate in our financial system. Ultimately, a manifestation of this nexus of barriers to assimilation is persistently higher underbanking rates among immigrant populations.

Immigration Status and Financial Practices

Immigrant populations are highly unlikely compared with the general population to be involved in traditional financial institutions (King & Saldarriaga, 2017).

Investigations into the 2013 Current Population Survey (CPS) that asked relevant

questions about financial practices confirmed this to be the case (Northwood & Rhine,

2016). This is particularly true of the Latin American and Hispanic community, where

33% of the population is underbanked, and recent immigrants of this population

experience underbanking rates as high as 50% (Stookey, 2010). It has been noted that this

may be difficult to gauge for undocumented immigrants, who may be reluctant to self-

report (Ondersma, 2016). Attempting to counter this with a qualitative approach,

Ondersma's study utilized a snowball sample of undocumented immigrants in New York

City, and found that, of 52 individuals interviewed, 44 of them (81%) had engaged in

underbanking behaviors.

The reasons why this community seems to be especially afflicted by

underbanking are as varied as the reasons why underbanking exists. Immigrant

populations are likely to face language barriers, political pressure, and financial literacy

problems (Pauwels, 2011; Stookey, 2010). Culturally, they may see available financial

routes, like bankruptcy, as unwanted or unethical, or believe that banking services are not

available to immigrants. Overall, the reasons for underbanking in these populations

cannot be blamed solely on either banks or the population, as broader social structures

often have greater influence on financial integration than either of these parties do

(Stookey, 2010).

Differences Between First- and Second-Generation Immigrants

As mentioned before, immigration status is one of the largest indicators for

financial exclusion and underbanking. First-generation immigrants do experience higher

rates of poverty and unemployment than the general public, however, this effect has been

shown to be greatly reduced when it comes to their children, called second-generation immigrants (Pew Research Center, 2013). Indeed, findings have shown that second-generation immigrant adults experience less poverty, higher employment rates, higher marriage rates, higher home ownership, and higher rates of graduating both high school and college compared with their parents. These tend to hold true not just overall, but within every age group over 25, indicating higher levels of life-long success, and not just an early or late advantage.

Reflected throughout all of these is the idea that second-generation immigrant adults have assimilated more thoroughly and successfully than their parents (Pew Research Center, 2013). They likely grew up inside the American educational system, allowing them to better overcome any potential language and cultural barriers their parents might have faced. Overall, it can be said that this group resembles the general population much more than first-generation immigrants do. Due to their more robust assimilation and higher average incomes, one might expect that the rate of underbanking among second-generation immigrants would be closer to that of those whose parents were native born than the rates experienced by first-generation immigrants. This study seeks to explore this idea and expound upon whether or not the trend of assimilation of the children of immigrants holds true for banking practices, which is something that no other study of underbanking has examined.

Banking Practices in Developed and Developing Countries

Financial behaviors among the general population vary widely by country. Since 2011, the World Bank has managed the Global Financial Inclusion Index (also called "Global Findex"), that gives comparable financial behavior indicators by country

(Demirguc-Kunt et al, 2015). This index revealed that in 2014, around 62% of adults globally had a bank account, and that the number of unbanked adults dropped by 20% between 2011 and 2014. However, this number when viewed within individual countries varies widely: the highly developed economies of The Organization for Economic Co-operation and Development (OECD) member-countries showed equally high rates of account ownership, as much as 94% among adults. Compared to developing countries, who averaged 54% but saw rates as low as 14% in regions like the Middle East, the gaps in financial inclusion between stages of development become apparent.

These gaps do not just extend to inclusion, but to financial literacy as well, the rates of which are similar to that of account ownership (Klapper, Lusardi, & Van Oudheusden, 2015). The combination of being excluded from financial infrastructure while also receiving little to no effective education on how these systems work or why they are important to managing personal finances creates a myriad of barriers to financial integration upon entering a new country (Chatterjee & Zahirovic-Herbert, 2012). However, a person immigrating to a developed economy from another already developed economy may experience far fewer of these barriers, as they would be much more likely to have already had an account and understand its importance. It stands to reason, then, that not all immigrant groups would experience underbanking the same way, depending on the state of financial inclusion and literacy in country from which they immigrated. Indeed, research has shown that the immigrants from countries or regions more financially similar to the U.S. experienced less difficulty in establishing formal participation in our economic system (Chatterjee & Zahirovic-Herbert, 2012). As Chatterjee and Zahirovic-Herbert identify in their study, a more nuanced discussion of

underbanking and immigration requires recognizing and accounting for these differences at the country level, which this study seeks to facilitate.

Current Study

Underbanking is a financial phenomenon that has many causes and undesirable effects in society, especially for immigrant populations. Especially for those who immigrated from less developed countries, this group may experience increased rates of underbanking for several reasons, such as cultural and language barriers and differing banking practices from their country of birth. Being underbanked carries many negative implications, and when viewed through the lens of social capital, is clearly seen as potentially devastating for the financial stability of those affected. The current study seeks to contribute to a growing body of literature concerning the financial integration and banking practices of immigrant populations in the U.S. This will be accomplished by testing the following hypotheses:

(H1) First-generation immigrants from developing countries will be the most likely to be unbanked, underbanked, or to engage in individual underbanking behaviors compared to all other groups.

 (H2) Second-generation immigrants from developing countries be more likely to be unbanked, underbanked, or to engage in individual underbanking behaviors, than citizens.

(H3) First- and second-generation immigrants from developed countries will be most similar to citizens than all other immigrant groups.

<center>**Methodology**</center>

Data

   In June 2015, as an addendum to the Current Population Survey, the FDIC conducted a survey that asked for a variety of information concerning the banking status of individuals and families (Burhouse et al, 2016). This data is nationally representative and large in scope: 52,801 households participated in the June 2015 CPS, and of those, 36,534 participated in the underbanking supplement. As a subset of the CPS respondents, we know that respondents to the underbanking supplement consisted only of civilians, who were both older than 15 years of age, and noninstitutionalized.

Measures

   It should be noted that for all but one of the relevant variables to this analysis, the survey presented "Yes/No" questions, which were then dummy coded ("No"=0 and "Yes"=1) unless otherwise noted. For each variable, respondents who answered "Don't Know" or refused to answer the question were marked as missing, although a better understanding of the group who answered "Don't Know" should be the goal of a future study. Additionally, around 30,000 people were listed as "Not in Universe" for all variables, due to those who took the CPS but not the underbanking supplement; these respondents were removed from the data set. After further removal of respondents who listed themselves (or their parents, in the case of second-generation immigrants) as being from countries identified as "in transition" (explained in more detail below), the total sample size used for this analysis is 36,220.

   Dependent Variables. *Being unbanked*. Respondents were asked, "Do you or anyone else in your household have a checking or savings account now?" This variable

<center>29</center>

was reverse coded for this analysis, since a response of "Yes" is actually a banked behavior for this question ("Yes"=0. "No"=1). If they answered "No," then they were marked as *unbanked*.

Being underbanked. This includes all respondents who either reported being unbanked, or answered "Yes" to having engaged in any form of alternative financial services, including "money orders, check cashing, international remittances, payday loans, refund anticipation loans, rent-to-own services, pawn shop loans, or auto title loans" outside of traditional banks within the last 12 months." *Being underbanked* is a dummy indicator where 1 = having said "Yes" to any of the items and thus being underbanked, and 0 = being fully banked (having a bank account and not having used any AFS in the past 12 months).

Each of the underbanking behaviors were then analyzed individually as dependent variables in the order of *using a money order, using check-cashing services, sending international remittances, taking out a Tax Refund Anticipation Loan, taking out a payday loan, taking out a pawn shop loan, using a rent-to-own service, and taking out an auto title loan*. Order was determined by the number of respondents who answered "Yes" to each behavior, ranging from most to least common.

Independent Variables. *Immigrant status*. This study divides respondents into five categories for analysis: *first-generation from a developing country, first-generation from a developed country, second-generation whose parents are from a developing country, second-generation whose parents are from a developed country, and U.S. citizens (reference)*. To create these variables, a few steps were taken. Respondents were asked to identify their citizenship status and how their citizenship was obtained, if they

were citizens. Respondents were also asked to identify their country of birth, as well the country of birth for their mothers and their fathers. For this analysis, those who identified as "citizen through naturalization" or as "not a citizen" were coded as first-generation immigrants. Those who indicated that they were citizens through being born in the U.S. or one of the U.S. territories and also indicated that both of their parents were not born in the U.S. were coded as second-generation immigrants. Finally, those who identified as citizens by being born in the U.S. or one of the U.S. territories who had at least one parent who was born in the U.S. were coded as *citizens* (reference category). Additionally, citizens include those who indicated they had obtained citizenship by being born abroad to "American parents".

Respondents were also asked to report their country of birth, as well as for each of their parents, each of which was assigned its own numeric code. These codes were then compared against the 2014 United Nations Country Classification Index to assign them to one of three categories: developing, developed, and in transition (United Nations, 2014). For countries of birth that no longer exist, the countries were coded as the country that currently exists where the old one once was; for example, the USSR was coded as Russia. In instances where this could not be determined, or general categories such as "Other – Europe" were used, the countries were coded into whatever category best represented their geographical region. Due to its small nature, and recognition by the U.N. that countries in this group experience qualities that could classify them easily in the other categories, the response category of "in transition" was dropped from the data set.

From these two sets of variables (first-/second-generation, developed/developing country), the five dummy variables used in this analysis were generated. For first-

generation immigrants, developed/developing country status is simply based upon their listed of country of birth. For second-generation immigrants, this is based upon their parents' country of birth. The respondent is listed as a *second-generation immigrant whose parents are from developing countries* if both parents are listed as being from developing countries. If one or both parents are listed as being from a developed country, the respondent is listed as a *second-generation immigrant whose parents are from developed countries*. *Citizens* are the reference category.

Control Variables. *Race/ethnicity* was defined as *Non-Hispanic White* (reference category), *Non-Hispanic Black, Hispanic, Non-Hispanic Asian, and Non-Hispanic Other*. *Sex* is a dummy variable indicating the respondent is *male* (reference category) or *female*. *Age* is a continuous variable ranging from 15 to 85. *Education* is measured in four categories: *less than high school, high school, some college, and college* (reference category). *Annual Income* is measured in this study by taking the midpoint of the presented ranges, divided by 1000 (so that a response of "38" indicates an income of roughly $38,000 a year). *Employment* is divided into three categories: *employed* (reference category), *unemployed,* and *not in labor force* (which generally refers to people such as discouraged workers, who are not actively seeking employment). For this analysis, students and "persons keeping house" were included in the *unemployed* category, where in the original coding, they were listed as "Not in Labor Force." *Marital Status* was collapsed into three categories: *Married, Never Married* (reference category)*, and Widowed/Divorced/Separated*. Finally, *Number of Own Children* is a continuous variable and includes all children that are in the household, under 18, and the biological offspring of the respondent.

Regression and Statistical Strategy

To test our hypotheses, a series of logistic regression strategies were employed. For each relationship being tested (*unbanked, underbanked*, and then each of the 8 individual underbanking behaviors), a set of three regression models will be run. In model 1, only *first-generation from a developing country, first-generation from a developed country, second-generation whose parents are from a developing country,* and *second-generation whose parents are from a developed country* are included, with citizens as the reference category. Model 2 will add in controls for *education, employment*, and *income*. As mentioned briefly before, isolating these control variables will allow for the analysis to examine these key determinants of underbanking in closer detail. Model 3 will then add in the remaining controls of *race/ethnicity, age, sex, marital status*, and *number of own children*. This will allow for a better understanding of the nature of the relationship between immigration and underbanking in the context of other potentially influencing factors.

Results

Descriptive Statistics

Table 1 contains summary descriptive statistics for the demographics of the sample, as well as immigrant status both with and without the distinction between developing/developed country of origins and a summary of the frequency of underbanking behaviors. When it comes to underbanking behaviors, we can see that 6.37% of respondents reported being unbanked and 6.36% reported being underbanked. 14.82% reported purchasing a money order in the last 12 months, which is the timeframe for all of the listed behaviors. 6.62% reported using a check-cashing service. 63.93% of

respondents who said they had sent international remittances within the last 12 months reported doing so outside of a traditional bank. Of the remaining behaviors, 2.65% reported taking out a Tax Refund Anticipation Loan, 1.9% reported taking out a payday loan, 1.89% reported taking out a loan through a pawn shop, 1.84% reported using a rent-to-own service, and 1.41% reported taking out an auto title loan.

In the context of immigration status, 86.17% of respondents reported being citizens. First-generation immigrants comprise 10.98% of respondents, with 1.68% being from developed countries and 9.3% being from developing countries. Second-generation immigrants make up 2.85% of respondents, with 1.08% having parents from developed countries and 1.77% having parents from developing countries.

Finally, of the respondents included in this analysis, 10.46% of respondents reported having less than a high school education, 26.83% reported having a high school education, 29.56% reported having at least some college education, and 33.15% reported having a college degree. 60.23% of respondents reported being currently employed, with 10.26% being unemployed and 29.51% being not in the labor force. Annual income of the respondents is roughly $65,420 (SD=$53,950). When it comes to race, 72.9% are white, with 10.58% being Black, 10.14% being Hispanic, 3.56% being Asian, and 2.81% being other races. The average age of the respondents is 51.81 years old (SD=17.1 years). Sex is a nearly even split, with 49.89% females and 50.11% males. In the context of marital status, 23.77% reported having never been married, 49.36% reported being currently married, and 26.87% reported being widowed, separated, or divorced. The average number of children among respondents is 0.5 (SD=0.97).

Table 1: Descriptive Statistics of Respondents to the Underbanking Supplement (N = 36,220)			
Demographics	Freq.	%/Mean	SD
Underbanking Behaviors			
Being Unbanked (N = 36,220)	2,307	6.37%	-
Being Underbanked (N = 36,220)	9,252	6.36%	-
Buying a money order (N = 34,590)	5,083	14.82%	-
Using check-cashing services (N = 34,322)	2,273	6.62%	-
Sending international remittances (N = 1,655)	1,058	63.93%	-
Taking out a Tax Refund Anticipation Loan (N = 34,194)	906	2.65%	-
Using a payday loan service (N = 34,310)	653	1.90%	-
Taking out a pawn shop loan (N = 34,311)	650	1.89%	-
Using a rent-to-own service (N = 34,244)	630	1.84%	-
Taking out an auto title loan (N = 34,200)	483	1.41%	-
Immigration Status			
Citizen	31,212	86.17%	-
First Generation Immigrant	3,976	10.98%	-
Second Generation Immigrant	1,032	2.85%	-
Immigration Status by Country of Origin			
Citizen	31,212	86.17%	-
First Generation, From Developed Country	609	1.68%	-
First Generation, From Developing Country	3,367	9.30%	-
Second Generation, Parents from Developed Country	392	1.08%	-
Second Generation, Parents from Developing Country	640	1.77%	-
Education			
Less Than High School	3,787	10.46%	-
High School	9,717	26.83%	-
Some College	10,708	29.56%	-
College Degree	12,008	33.15%	-
Employment			
Employed	21,814	60.23%	-
Unemployed	3,716	10.26%	-
Not in Labor Force	10,690	29.51%	-
Annual Income	-	65.42	53.95
Race			
White	26,405	72.90%	-
Black	3,833	10.58%	-
Hispanic	3,674	10.14%	-
Asian	1,289	3.56%	-
Other	1,019	2.81%	-
Age	-	51.81	17.1
Sex			
Male	18,071	49.89%	-
Female	18,149	50.11%	-
Marital Status			
Never Married	8,609	23.77%	-
Married	17,879	49.36%	-
Widowed/Seperated/Divorced	9,732	26.87%	-
Number of Children	-	0.5	0.97

Due to the relatively high volume of tables in the following analysis, a table has been placed at the end of this section (Table 12) that includes the Model 3 results for all dependent variables examined in this study.

Being Unbanked

Table 4 contains the results of analysis in the context of being unbanked, or not owning a checking or savings account with a bank. In Model 1, both categories of first-generation immigrants are significantly different from citizens, with those from developed countries having 72% lower odds, and those from developing countries having 180% greater odds of being unbanked. However, neither category of second-generation immigrant was significantly different from citizens in this model.

Introducing education, employment status, and income in Model 2 does not change this pattern: first-generation immigrants remain significantly different, with those from developed countries having 63% lower odds and those from developing countries having 73% greater odds, and both categories of second-generation immigrants not being significantly different from citizens. Education clearly plays a big part of account ownership: compared to those with a college degree, those with less than high school have 553% greater odds, those with a high school education have 255% greater odds, and those with at least some college have 130% greater odds of being unbanked, all of which are significant. Compared to those who are employed, the unemployed are significantly different, having 104% greater odds of being unbanked. Those not in the labor force are also significantly different, but with 38% lower odds of being unbanked. (Recall that this category includes discouraged workers, students, and "persons keeping house"). Annual

income is significant in this model and is associated with 4% lower odds for every $1,000 above the mean reported by respondents. This result is unchanged in Model 3.

Model 3 includes the remaining controls and changes the pattern for immigrant groups. While first- and second-generation immigrants from developing countries are significantly different from citizens, having 26% greater odds and 49% lower odds of being underbanked respectively, either category of immigrant from developed countries are no longer significantly different in this model. Changing the reference category shows first-generation immigrants from a developing country have 120% greater odds of being unbanked compared to those from a developed country, which is significant. Additionally, second-generation immigrants whose parents are from a developing country have 60% lower odds compared to first-generation immigrants from developing countries, and 57% lower odds compared to second-generation immigrants whose parents are from a developed country, which are also both significant (results for contrasts not shown).

The inclusion of additional control variables reduces the magnitude of relationships between education and underbanking, but all remain significant. Compared to those with a college degree, those with less than high school have 448% greater odds, those with a high school education have 201% greater odds, and those with at least some college have 92% greater odds. It appears that the more education people obtain, the less likely they are to be unbanked in comparison to all those with lower levels of education (results not shown, all contrasts significant).

In terms of employment status, the magnitude and significance of being unemployed, compared to those who are employed, remains the same as in Model 2.

However, those not in the labor force, while still significantly different, now instead have 47% *greater* odds of being unbanked compared to the employed. They also differ significantly from the unemployed, with 38% lower odds of being unbanked.

Compared to whites, Blacks have 232% greater odds of being unbanked, while Hispanics have 151% greater odds, and other races have 143% greater odds, which are all significant. Asians do not differ significantly from whites in this analysis. When compared to Blacks, all contrasts are significant: Hispanics have 25% lower odds of being unbanked, Asians have 74% lower odds of being unbanked, and other races have 27% lower odds of being unbanked. Changing the reference to Hispanics, only Asians differ significantly, having 65% lower odds of being unbanked. Finally, in reference to Asians, those of other races have 179% greater odds of being unbanked. (Results of contrast categories not shown).

Age has a significant relationship with being unbanked in this analysis and is associated with having 2% lower odds of being unbanked for year older a respondent is than the mean. Sex is also significant, with males having 20% greater odds than females to be unbanked. In terms of marital status, when compared to those who have never married, those who are married have 41% lower odds of being unbanked, and those who are widowed, separated, or divorced have 16% lower odds of being unbanked, both of which are significant. In reference to those who are married, the widowed, separated, or divorced differ significantly, having 42% higher odds of being unbanked (results not shown). Finally, number of children is significant, associated with 19% higher odds of being unbanked for each additional child reported by respondents.

Table 2: Logistic Regression Analysis of Immigrants for Being Unbanked

	Model 1 Odds Ratio	Model 1 SE	Model 2 Odds Ratio	Model 2 SE	Model 3 Odds Ratio	Model 3 SE
First Generation, From Developed Country	0.28***	(0.09)	0.37**	(0.12)	0.57	(0.19)
First Generation, From Developing Country	2.80***	(0.15)	1.73***	(0.11)	1.26**	(0.11)
Second Generation, Parents from Developed Country	0.57	(0.16)	0.64	(0.19)	1.17	(0.35)
Second Generation, Parents from Developing Country	1.24	(0.20)	0.95	(0.16)	0.51***	(0.09)
Education						
Less than High School			6.53***	(0.66)	5.48***	(0.58)
High School			3.55***	(0.35)	3.01***	(0.30)
Some College			2.30***	(0.23)	1.92***	(0.20)
College Degree or Higher	-		-		-	
Employment Status						
Employed	-		-		-	
Unemployed			2.04***	(0.13)	2.04***	(0.13)
Not in the Labor Force			0.62***	(0.04)	1.47***	(0.11)
Annual Income			0.96***	(0.00)	0.96***	(0.00)
Race						
White	-		-		-	
Black					3.32***	(0.21)
Hispanic					2.51***	(0.21)
Asian					0.87	(0.17)
Other					2.43***	(0.27)
Age					0.98***	(0.00)
Male					1.20***	(0.06)
Marital Status						
Never Married	-		-		-	
Married					0.59***	(0.04)
Widowed/Separated/Divorced					0.84*	(0.06)
Number of Children					1.19***	(0.03)
N	36220		36220		36220	
Psuedo R-squared	0.02		0.25		0.30	
Chi Squared	338.00		4239.99		5160.58	
P-Value	0.00		0.00		0.00	
Exponentiated coefficients; Standard errors in parentheses						
Notes: * p<0.05 ** p<0.01 *** p<0.001						

Table 3: Logistic Regression Analysis of Immigrants for Being Underbanked	Model 1		Model 2		Model 3	
	Odds Ratio	SE	Odds Ratio	SE	Odds Ratio	SE
First Generation, From Developed Country	0.61***	(0.07)	0.75*	(0.09)	0.95	(0.11)
First Generation, From Developing Country	2.71***	(0.10)	2.08***	(0.08)	1.66***	(0.09)
Second Generation, Parents from Developed Country	0.47***	(0.07)	0.54***	(0.08)	0.76	(0.12)
Second Generation, Parents from Developing Country	1.34***	(0.12)	1.16	(0.11)	0.71***	(0.07)
Education						
Less than High School			2.86***	(0.13)	2.75***	(0.13)
High School			1.77***	(0.06)	1.74***	(0.07)
Some College			1.54***	(0.06)	1.48***	(0.05)
College Degree or Higher	-		-		-	
Employment Status						
Employed	-		-		-	
Unemployed			1.36***	(0.05)	1.27***	(0.05)
Not in the Labor Force			0.58***	(0.02)	1.06	(0.04)
Annual Income			0.99***	(0.00)	0.99***	(0.00)
Race						
White	-		-		-	
Black					3.01***	(0.12)
Hispanic					1.77***	(0.09)
Asian					1.01	(0.08)
Other					2.11***	(0.15)
Age					0.98***	(0.00)
Male					1.00	(0.03)
Marital Status						
Never Married	-		-		-	
Married					0.78***	(0.03)
Widowed/Separated/Divorced					0.98	(0.04)
Number of Children					1.09***	(0.02)
N	36220		36220		36220	
Psuedo R-squared	0.02		0.09		0.13	
Chi Squared	767.46		3659.92		5390.13	
P-Value	0.00		0.00		0.00	
Exponentiated coefficients; Standard errors in parentheses						
Notes: * p<0.05 ** p<0.01 *** p<0.001						

Being Underbanked

Table 5 shows the results of determining the odds of being underbanked, or of engaging in any of the 9 underbanking behaviors. In Model 1, all four categories of immigrants are statistically significant. Compared to citizens, being from a developed

country is associated with lower odds of being underbanked, with 39% lower odds for first-generation immigrants and 53% lower odds for second generation immigrants. As predicted, being from a developing country has the opposite relationship, with first-generation immigrants in this category experiencing 171% greater odds, and second-generation immigrants experiencing 34% greater odds.

In Model 2, those from developed countries remain significant, with first-generation immigrants having 25% lower odds, and second-generation immigrants having 46% lower odds. However, while first-generation immigrants from a developing country remain significant with 108% greater odds, second generation immigrants whose parents are from a developing country show no statistically significant difference from citizens. Education plays a significant role across all categories, where, compared to those with a college degree, those with less than a high school education experience 186% greater odds of being underbanked, those who completed high school experience 77% greater odds, and those who have received at least some college education experience 54% greater odds. Employment status, with those who are employed as the reference category, showed the unemployed to experience 36% greater odds to be underbanked, while those who identified as not in the labor force have 42% lower odds, with both results being significant. Annual Income, measured in $1,000s and centered to the mean, is statistically significant, and is associated with 1% lower odds for every increase of $1,000 above the mean. This result remains unchanged in Model 3.

Introducing the rest of the controls for Model 3, we see that only immigrants from developing countries are statistically significantly different from citizens, with first-generation immigrants showing 66% greater odds of being underbanked, and second-

generation immigrants showing 29% lower odds to be underbanked. The result for neither of the categories of immigrant from developed countries are significant. When adjusting the reference category to first-generation immigrants from developed countries, we see that first-generation immigrants from developing countries are significant, with 75% greater odds. When controlling for first-generation immigrants from developing countries, both categories of second-generation immigrants are significant, showing 54% lower odds for those whose parents are from developed countries, and 57% lower odds for those whose parents are from developing countries. (Results for contrasts not shown).

Largely following the pattern from the results of the unbanked analysis, introducing the rest of the controls lessened the magnitude of the relationship between education and being underbanked, but all categories remain significant. Respondents have lower odds of being underbanked compared to those with less education, no matter what category is selected as the reference (results not shown, all contrasts significant).

Model 3 shows that, for employment status, those who are unemployed remain significantly different from those who are employed, at 27% greater odds of being underbanked. However, those not in the labor force are no longer significantly different. Adjusting the reference category to those who are unemployed (results not shown), those not in the labor force have 17% lower odds to be underbanked, which is significant.

Race is shown to have a substantial influence on one's odds of being underbanked, with Blacks having 201% greater odds, Hispanics having 77% greater odds, and those from other racial groups having 111% greater odds of being underbanked when compared to whites. Asians are not significantly different from whites. Switching the referent category to Blacks, we can see that they experience the greatest odds

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compared to the other races, with Hispanics experiencing 41% lower odds, Asians experiencing 66% lower odds, and other races experiencing 30% lower odds. When compared to Hispanics, Asians report 43% lower odds and other races report 19% greater odds, and finally, when compared to Asians, those of other races have 109% greater odds to be underbanked. (Results not shown; all contrasts significant).

Age is statistically significant in this analysis and is associated with 2% lower odds for every year older than the mean the respondent reported being. Sex, on the other hand, is not statistically significant at all. Marital status in Model 3 shows that, compared to those who have never been married, married respondents have 22% lower odds of being underbanked. Those who are widowed, separated, or divorced are not significantly different. However, compared to married respondents, those who are widowed, separated, or divorced have 26% greater odds of being underbanked, which is significant (results not shown).

Money Order

Table 6 shows the results of the analysis pertaining to whether respondents had taken out a money order within the last 12 months. In Model 1, all four categories of immigrants differ significantly from citizens. First- and second-generation immigrants from developed countries have 44% lower odds and 55% lower odds, respectively, of using a money order. First- and second-generation immigrants from developing countries have greater odds, with first-generation immigrants having 77% greater odds and second-generation immigrants having 40% higher odds.

In Model 2, the pattern for immigrants from developed countries continues, with first-generation immigrants having 30% lower odds, and second-generation immigrants having 49% lower odds, both of which are significant. For those from developing countries, however, only first-generation immigrants remain significantly different from citizens, with 35% greater odds. In terms of education, in comparison to those with a college degree, all others differ significantly, with those with less than high school having 133% greater odds, those with a high school education having 76% greater odds, and those with at least some college having 57% greater odds of using a money order. When compared to those who are employed, the unemployed have 13% greater odds, and those not in the labor force have 41% lower odds of using a money order, both of which are significant. Annual income is also significant and is associated with having 1% lower odds of using a money order for every $1,000 above the mean reported by respondents. This remains unchanged in Model 3.

In Model 3, the only category of immigrant that differs significantly from citizens are first-generation immigrants from developing countries, who have 14% greater odds of using a money order. Further analysis with contrast categories (results not shown) shows that second-generation immigrants whose parents are from developing countries are significantly different when compared to first-generation immigrants from developing countries and have 27% lower odds of using a money order. No other contrasts were significant.

Education's relationship with this underbanking behavior follows the same pattern as in prior analyses: all categories remain significant with slightly lessened magnitude in their coefficients. All contrast categories remain significant as well and

show that respondents have lower odds of using a money order when compared to those with less education (results not shown).

In the context of employment, Model 3 shows no significant difference between the employed, unemployed, and those not in the labor force, even when adjusting the reference to account for all contrast categories.

Compared to whites, Blacks have 246% greater odds of using a money order, Hispanics have 77% greater odds, and those of other races have 113% greater odds, which are all significant. Asians again do not differ significantly from whites. When adjusting reference categories (results not shown; all contrasts significant), the same pattern observed in the underbanking and unbanking analyses are observed for money orders: Hispanics, Asians, and other races differ significantly from Blacks, all having lower odds of using a money order. When compared to Hispanics, Asians have 54% lower odds and other races have 20% greater odds. Compared with Asians, other races have 159% greater odds of using a money order.

Age has a significant relationship with using a money order and is associated with having 2% lower odds for every year above the mean reported by respondents. Sex is significant, with males reporting 9% lower odds of using a money order compared to females. Compared to those who never married, those who are married have 14% lower odds, which is significant, but those who are widowed, separated, or divorced, do not differ significantly. Compared to those who are married, those who are widowed, separated, or divorced differ significantly, having 27% greater odds. Finally, number of children was not shown to have a significant relationship with using a money order.

Table 4: Logistic Regression Analysis of Immigrants for Purchasing a Money Order						
	Model 1		Model 2		Model 3	
	Odds Ratio	SE	Odds Ratio	SE	Odds Ratio	SE
First Generation, From Developed Country	0.56***	(0.08)	0.70*	(0.11)	0.91	(0.14)
First Generation, From Developing Country	1.77***	(0.08)	1.35***	(0.07)	1.14*	(0.07)
Second Generation, Parents from Developed Country	0.45***	(0.09)	0.51**	(0.11)	0.76	(0.16)
Second Generation, Parents from Developing Country	1.40**	(0.15)	1.23	(0.14)	0.84	(0.10)
Education						
Less than High School			2.33***	(0.13)	2.18***	(0.13)
High School			1.76***	(0.08)	1.71***	(0.08)
Some College			1.57***	(0.07)	1.50***	(0.07)
College Degree or Higher	-		-		-	
Employment Status						
Employed	-		-		-	
Unemployed			1.13*	(0.05)	1.04	(0.05)
Not in the Labor Force			0.59***	(0.02)	0.99	(0.05)
Annual Income			0.99***	(0.00)	0.99***	(0.00)
Race						
White	-		-		-	
Black					3.46***	(0.15)
Hispanic					1.77***	(0.11)
Asian					0.82	(0.10)
Other					2.13***	(0.17)
Age					0.98***	(0.00)
Male					0.91**	(0.03)
Marital Status						
Never Married	-		-		-	
Married					0.86***	(0.04)
Widowed/Separated/Divorced					1.09	(0.05)
Number of Children					1.03	(0.02)
N	34297		34297		34297	
Psuedo R-squared	0.01		0.06		0.11	
Chi Squared	190.06		1852.70		3151.40	
P-Value	0.00		0.00		0.00	
Exponentiated coefficients; Standard errors in parentheses						
Notes: * p<0.05 ** p<0.01 *** p<0.001						

Table 5: Logistic Regression Analysis of Immigrants for Using a Check-cashing Service						
	Model 1		Model 2		Model 3	
	Odds Ratio	SE	Odds Ratio	SE	Odds Ratio	SE
First Generation, From Developed Country	0.64*	(0.13)	0.81	(0.17)	0.97	(0.21)
First Generation, From Developing Country	1.59***	(0.10)	1.18*	(0.08)	1.10	(0.10)
Second Generation, Parents from Developed Country	0.59	(0.16)	0.73	(0.20)	0.93	(0.26)
Second Generation, Parents from Developing Country	1.15	(0.18)	0.97	(0.16)	0.74	(0.13)
Education						
Less than High School			2.49***	(0.20)	2.34***	(0.20)
High School			1.83***	(0.12)	1.79***	(0.12)
Some College			1.69***	(0.11)	1.63***	(0.11)
College Degree or Higher	-		-		-	
Employment Status						
Employed	-		-		-	
Unemployed			1.29***	(0.08)	1.23**	(0.08)
Not in the Labor Force			0.52***	(0.03)	0.88	(0.06)
Annual Income			0.99***	(0.00)	0.99***	(0.00)
Race						
White	-		-		-	
Black					1.59***	(0.10)
Hispanic					1.34***	(0.11)
Asian					0.65*	(0.12)
Other					1.94***	(0.20)
Age					0.98***	(0.00)
Male					1.07	(0.05)
Marital Status						
Never Married	-		-		-	
Married					0.81***	(0.05)
Widowed/Separated/Divorced					0.99	(0.07)
Number of Children					1.07**	(0.02)
N	34322		34322		34322	
Psuedo R-squared	0.00		0.05		0.07	
Chi Squared	58.47		833.46		1119.74	
P-Value	0.00		0.00		0.00	
Exponentiated coefficients; Standard errors in parentheses						
Notes: * p<0.05 ** p<0.01 *** p<0.001						

Check-cashing Services

Table 7 shows the results of analysis concerning the use of check-cashing services within the last 12 months. In Model 1, only first-generation immigrants differ significantly from citizens, with those from developed countries having 36% lower odds,

and those from developing countries having 59% higher odds of using a check-cashing service.

In Model 2, only one immigrant category remains significant: first-generation immigrants from developing countries have 18% greater odds of using a check-cashing service when compared to citizens. When it comes to education, compared to those with a college degree, those with less than high school have 149% greater odds of using a check-cashing service, those with a high school education have 83% greater odds, and those with at least some college have 69% greater odds. Employment status is shown to also play a substantial role. In reference to the employed, the unemployed have 29% greater odds of using a check-cashing service, and those not in the labor force have 48% lower odds, both of which are significant. Annual income is shown to have a significant relationship and is associated with 1% lower odds to use a check-cashing service for every $1,000 above the mean reported by respondents. This remains unchanged in Model 3.

In Model 3, no immigrant category remains significantly different from citizens. When testing contrast categories for further analysis (results not shown), only one significant comparison exists: when compared to first-generation immigrants from developing countries, second-generation immigrants whose parents are from developing countries have 34% lower odds to use a check-cashing service.

As with other prior models, the introduction of the rest of the control variables slightly decreases the magnitude of the coefficients of education, but all categories remain significant compared to those with a college degree. Additionally, when adjusting the reference category to those with less than high school, those with a high school

education have 24% lower odds of using a check-cashing service, and those with at least some college have 30% lower odds, both of which are significant. However, there are no other significant contrasts when a high school education is the reference category. (Results for contrasts not shown).

In the context of employment status, compared to the employed, the unemployed have 23% greater odds of using a check-cashing service. Further analysis shows that, only when compared to the unemployed, those not the in the labor force differ significantly and have 39% lower odds of using a check-cashing service (results not shown).

Compared to whites, Blacks have 59% greater odds to use a check-cashing service, Hispanics have 34% greater odds, and those of other races have 94% greater odds, all of which are significant. Asians also differ significantly, having 35% lower odds. In reference to Blacks, only Asians are significantly different, with 59% lower odds to use a check-cashing service. When the reference is adjusted to Hispanics, Asians remain significant with 51% lower odds, and other races are significant with 45% greater odds. Compared to Asians, other races have 197% greater odds of using a check-cashing service, which is significant. (Results for contrasts not shown).

Age is shown to have a significant relationship with using a check-cashing service and is associated with 2% lower odds for every year above the mean reported by respondents. Sex is not significant in this analysis. When it comes to marital status, compared to those who have never married, those who are married differ significantly, having 19% lower odds of using a check-cashing service. While those who are widowed, separated, or divorced are not significantly different from those who never married, they

are significantly different compared to those who are married, having 23% greater odds of using a check-cashing service (results not shown). Finally, number of children is shown to have a significant relationship and is associated with 7% greater odds to use a check-cashing service for each additional child reported by respondents.

International Remittances

Table 8 shows the results of analysis concerning sending international remittances outside of a traditional bank. In Model 1, neither first- nor second-generation immigrants from developed countries differ significantly from citizens. However, first- and second-generation immigrants from developing countries are significantly different, having 189% greater odds and 204% greater odds, respectively, to send such remittances.

In Model 2, first- and second-generation immigrants from developing countries remain the only categories that are significantly different from citizens, with first-generation immigrants having 109% greater odds to send remittances outside a bank, and second-generation immigrants having 144% greater odds. In terms of education, compared to those with a college degree, those with less than school have 173% greater odds to send such remittances, those with a high school education have 85% greater odds, and those with at least some college have 53% greater odds. There is no significant difference when comparing the employed to the unemployed or to those not in the labor force. Annual income is shown to be statistically significant but returns an odds ratio of exactly 1.00 in both Models 2 and 3, meaning income has no effect on the odds of sending such remittances.

In Model 3, immigrants from developing countries remain significant, with first-generation immigrants having 109% greater odds to send remittances outside a bank, and second-generation immigrants having 139% greater odds. When adjusting the reference category to first-generation immigrants who are from developed countries, immigrants from developing countries are significantly different, with first-generation immigrants having 131% greater odds, and second-generation immigrants having 164% greater odds (results not shown; no other contrasts significant).

Compared to those with a college degree, those with less than high school have 124% greater odds, and those with a high school education have 62% greater odds, both of which are significant. Those with at least some college are not significantly different. When testing contrast categories (results not shown), those with at least some college have 40% lower odds to send such remittances outside a bank when compared to those with less than high school. No other contrasts were significant.

When testing employment, including all contrast categories (results not shown), no significant results were returned.

Compared to whites, only Blacks and Asians differ significantly, having 72% greater odds and 36% lower odds, respectively, of sending remittances outside a bank. Asians differ significantly from Blacks, having 63% lower odds, and from Hispanics, having 46% lower odds. (Results for contrasts not shown; no other contrasts significant).

Age, sex, marital status, and number of children were all shown to have no statistically significant relationships when examining sending remittances outside a bank.

Table 6: Logistic Regression Analysis of Immigrants for Sending International Remittances Outside of a Bank						
	Model 1		Model 2		Model 3	
	Odds Ratio	SE	Odds Ratio	SE	Odds Ratio	SE
First Generation, From Developed Country	0.74	(0.19)	0.90	(0.24)	0.91	(0.24)
First Generation, From Developing Country	2.89***	(0.33)	2.09***	(0.26)	2.09***	(0.35)
Second Generation, Parents from Developed Country	0.43	(0.36)	0.41	(0.35)	0.48	(0.41)
Second Generation, Parents from Developing Country	3.04***	(0.93)	2.44**	(0.76)	2.39**	(0.81)
Education						
Less than High School			2.73***	(0.49)	2.24***	(0.44)
High School			1.85***	(0.29)	1.62**	(0.27)
Some College			1.53**	(0.22)	1.33	(0.20)
College Degree or Higher	-		-		-	
Employment Status						
Employed	-		-		-	
Unemployed			0.75	(0.12)	0.77	(0.13)
Not in the Labor Force			0.72	(0.13)	0.89	(0.18)
Annual Income			1.00***	(0.00)	1.00**	(0.00)
Race						
White	-		-		-	
Black					1.72*	(0.38)
Hispanic					1.18	(0.23)
Asian					0.64*	(0.13)
Other					1.23	(0.42)
Age					0.99	(0.01)
Male					1.06	(0.13)
Marital Status						
Never Married	-		-		-	
Married					1.12	(0.17)
Widowed/Separated/Divorced					0.94	(0.19)
Number of Children					1.06	(0.06)
N	1655		1655		1655	
Psuedo R-squared	0.05		0.09		0.10	
Chi Squared	109.58		187.74		217.73	
P-Value	0.00		0.00		0.00	
Exponentiated coefficients; Standard errors in parentheses						
Notes: * p<0.05 ** p<0.01 *** p<0.001						

Table 7: Logistic Regression Analysis of Immigrants for Taking Out a Tax Refund Anticipation Loan						
	Model 1		Model 2		Model 3	
	Odds Ratio	SE	Odds Ratio	SE	Odds Ratio	SE
First Generation, From Developed Country	0.64	(0.21)	0.77	(0.25)	0.84	(0.27)
First Generation, From Developing Country	0.93	(0.11)	0.75*	(0.09)	0.62**	(0.10)
Second Generation, Parents from Developed Country	0.40	(0.20)	0.51	(0.26)	0.62	(0.31)
Second Generation, Parents from Developing Country	1.14	(0.28)	0.98	(0.24)	0.73	(0.19)
Education						
Less than High School			1.60***	(0.21)	1.55**	(0.21)
High School			1.57***	(0.15)	1.59***	(0.16)
Some College			1.31**	(0.13)	1.31**	(0.13)
College Degree or Higher	-		-		-	
Employment Status						
Employed	-		-		-	
Unemployed			1.18	(0.12)	1.03	(0.10)
Not in the Labor Force			0.46***	(0.04)	0.70**	(0.08)
Annual Income			0.99***	(0.00)	1.00***	(0.00)
Race						
White	-		-		-	
Black					1.57***	(0.15)
Hispanic					1.19	(0.16)
Asian					1.46	(0.33)
Other					1.53*	(0.25)
Age					0.99**	(0.00)
Male					0.89	(0.06)
Marital Status						
Never Married	-		-		-	
Married					0.77**	(0.07)
Widowed/Separated/Divorced					0.74**	(0.08)
Number of Children					1.19***	(0.04)
N	34194		34194		34194	
Psuedo R-squared	0.00		0.02		0.04	
Chi Squared	7.15		189.74		311.28	
P-Value	0.13		0.00		0.00	
Exponentiated coefficients; Standard errors in parentheses						
Notes: * p<0.05 ** p<0.01 *** p<0.001						

Tax Refund Anticipation Loan

Table 9 shows the results of analysis concerning the use of a Tax Refund Anticipation Loan. In Model 1, none of the immigrant categories reported being significantly different from citizens.

In Model 2, first-generation immigrants from developing countries are the only immigrant category to differ significantly from citizens and have 25% lower odds of taking a Tax Refund Anticipation Loan. When it comes to education, compared to those with a college degree, those with less than high school have 60% greater odds of taking such a loan, those with a high school education have 57% greater odds, and those with at least some college have 31% greater odds. In terms of employment status, only those not in the labor force are significantly different from the employed, with 54% lower odds of taking such a loan. Annual income is shown to have a significant relationship with taking such a loan and is associated with 1% lower odds for every $1,000 above the mean reported by respondents. While income remains significant in Model 3, it reports an odds ratio of exactly 1.00, meaning there is no change in the odds of taking such a loan based on annual income.

In Model 3, first-generation immigrants from developing countries remain significant, having 38% lower odds of taking a Tax Refund Anticipation Loan. No other immigrant category is significantly different from citizens, and there are no significant contrasts (results not shown).

Compared to those with a college degree, all other categories remain significant, with those with less than high school have 55% greater odds of taking a Tax Refund Anticipation Loan, those with a high school education having 59% greater odds, and those with at least some college having 31% greater odds. Further analysis using contrast categories shows only one additional significant difference: when compared to those with a high school education, those with at least some college have 17% lower odds of taking such a loan (results not shown).

When it comes to employment status, those not in the labor force remain significantly different from the employed, having 30% lower odds of taking a Tax Refund Anticipation Loan. While the unemployed are not significantly different from the employed in this model, when set as the reference category, those not in the labor force are significantly different, having 32% lower odds of taking such a loan.

In the context of race, when compared to whites, Blacks have 57% greater odds of taking a Tax Refund Anticipation Loan, and those of other races have 53% greater odds, both of which are significant. Hispanics and Asians do not significantly differ from whites in this analysis, and no contrast categories report significant differences upon further analysis (results not shown).

Age is shown to have a significant relationship with taking out a Tax Refund Anticipation Loan and is associated with having 1% lower odds for every year above the mean reported by respondents. Sex is not significant in this analysis. In terms of marital status, when compared to those who never married, those who are married have 23% lower odds of taking such a loan, and those who are widowed, separated, or divorced have 26% lower odds, both of which are significant. (No contrasts for marital status were significant in this model; results not shown). Finally, number of children is shown to have a significant relationship and is associated with having 19% greater odds to take out such a loan for each additional child reported by respondents.

Payday Loans

Table 10 shows the results of analysis concerning the use of a payday loan within the last 12 months. In Model 1, only one category of immigrant was shown to be

significantly different from citizen: first-generation immigrants from a developed country have 82% lower odds of using a payday loan.

In Model 2, again only first-generation immigrants from a developed country were significant, having 76% lower odds of using a payday loan compared to citizens. In terms of education, when compared to those with a college degree, those with less than high school have 158% greater odds of using a payday loan, those with a high school education have 116% greater odds, and those with at least some college have 134% greater odds. When it comes to employment status, only those not in the labor force differed significantly from the employed, with 58% lower odds of using a payday loan. Annual income is shown to have a significant relationship with using a payday loan and is associated with 1% lower odds for every $1,000 above the mean reported by respondents. This remains unchanged in Model 3.

In Model 3, there are no significant relationships between citizens and any of the four immigrant categories. This persists when testing contrast categories, as no significant relationships emerge when comparing any of the immigrant categories to each other (results not shown).

Education in the context of using a payday loan does not follow the same pattern as the other behaviors mentioned up to this point. Compared to those with a college degree, all other categories remain significant, with those who have less than high school having 135% greater odds, those with a high school education having 106% greater odds, and those with some college having 121% greater odds. While in prior results, it followed that less education meant comparatively higher odds across all categories, those with some college education report higher odds than those with a high school education

compared to those with a college degree. There are no significant differences shown when adjusting the reference to any other category (results not shown).

In the context of employment status, those not in the labor force have 28% lower odds of using a payday loan compared to the employed, which is significant. No other significant relations were shown on further analysis with contrast categories (results not shown).

When it comes to race, compared to whites, Blacks have 140% greater odds of using a payday loan, Hispanics have 60% greater odds, and those of other races have 155% greater odds. Asians do not differ significantly from whites. Adjusting the reference category to Blacks shows that Hispanics have 33% lower odds and Asians have 68% lower odds, both of which are significant. Compared to Hispanics, Asians have 52% lower odds, while other races have 60% greater odds, which are both significant. Finally, when compared to Asians, other races differ significantly, having 231% greater odds of using a money order. (Results for contrasts not shown).

Age has a significant relationship with using a payday loan and is associated with 2% greater odds for every year about the mean reported by respondents. Sex does not have any significant relationship to using a payday loan. In terms of marital status, there is no significant difference for those who are married, or those who are widowed, separated, or divorced, compared to those who have never married. However, when compared to those who are married (results not shown), those who are widowed, separated, or divorced do differ significantly, having 27% greater odds of using a payday loan. Finally, number of children does have a significant relationship, and is associated

Table 8: Logistic Regression Analysis of Immigrants for Taking Out a Payday Loan	Model 1		Model 2		Model 3	
	Odds Ratio	SE	Odds Ratio	SE	Odds Ratio	SE
First Generation, From Developed Country	0.18*	(0.13)	0.24*	(0.17)	0.30	(0.22)
First Generation, From Developing Country	1.16	(0.15)	0.89	(0.12)	0.77	(0.13)
Second Generation, Parents from Developed Country	0.14	(0.14)	0.19	(0.19)	0.26	(0.26)
Second Generation, Parents from Developing Country	1.42	(0.37)	1.21	(0.31)	0.88	(0.25)
Education						
Less than High School			2.58***	(0.41)	2.35***	(0.38)
High School			2.16***	(0.28)	2.06***	(0.28)
Some College			2.34***	(0.30)	2.21***	(0.28)
College Degree or Higher	-		-		-	
Employment Status						
Employed	-		-		-	
Unemployed			0.93	(0.11)	0.82	(0.10)
Not in the Labor Force			0.42***	(0.04)	0.72**	(0.09)
Annual Income			0.99***	(0.00)	0.99***	(0.00)
Race						
White	-		-		-	
Black					2.40***	(0.25)
Hispanic					1.60**	(0.24)
Asian					0.77	(0.28)
Other					2.55***	(0.42)
Age					0.98***	(0.00)
Male					0.92	(0.08)
Marital Status						
Never Married	-		-		-	
Married					0.88	(0.10)
Widowed/Separated/Divorced					1.11	(0.13)
Number of Children					1.12**	(0.04)
N	34310		34310		34310	
Psuedo R-squared	0.00		0.04		0.07	
Chi Squared	22.64		288.11		446.67	
P-Value	0.00		0.00		0.00	
Exponentiated coefficients; Standard errors in parentheses						
Notes: * p<0.05 ** p<0.01 *** p<0.001						

Table 9: Logistic Regression Analysis of Immigrants for Taking Out a Pawn Shop Loan

	Model 1		Model 2		Model 3	
	Odds Ratio	SE	Odds Ratio	SE	Odds Ratio	SE
First Generation, From Developed Country	0.26*	(0.15)	0.35	(0.20)	0.44	(0.26)
First Generation, From Developing Country	0.81	(0.12)	0.58***	(0.09)	0.49***	(0.09)
Second Generation, Parents from Developed Country	0.27	(0.19)	0.34	(0.24)	0.44	(0.31)
Second Generation, Parents from Developing Country	1.12	(0.32)	0.94	(0.27)	0.63	(0.20)
Education						
Less than High School			2.52***	(0.40)	2.31***	(0.38)
High School			2.24***	(0.30)	2.12***	(0.29)
Some College			2.05***	(0.28)	1.90***	(0.26)
College Degree or Higher	-		-		-	
Employment Status						
Employed	-		-		-	
Unemployed			1.61***	(0.17)	1.62***	(0.18)
Not in the Labor Force			0.57***	(0.06)	1.17	(0.15)
Annual Income			0.98***	(0.00)	0.99***	(0.00)
Race						
White	-		-		-	
Black					1.37**	(0.16)
Hispanic					1.49**	(0.22)
Asian					0.82	(0.31)
Other					1.82***	(0.31)
Age					0.97***	(0.00)
Male					1.41***	(0.12)
Marital Status						
Never Married	-		-		-	
Married					1.06	(0.12)
Widowed/Separated/Divorced					1.88***	(0.22)
Number of Children					1.09*	(0.04)
N	34311		34311		34311	
Psuedo R-squared	0.00		0.07		0.09	
Chi Squared	15.82		442.62		595.63	
P-Value	0.00		0.00		0.00	
Exponentiated coefficients; Standard errors in parentheses						
Notes: * p<0.05 ** p<0.01 *** p<0.001						

with 12% greater odds of using a payday loan for each additional child reported by respondents.

Pawn Shops

Table 11 shows the results of analysis concerning the use of a pawn shop loan within the last 12 months. In Model 1, only first-generation immigrants from developed

countries are significantly different when compared to citizens and have 74% lower odds of using a pawn shop loan. None of the other immigrant groups differ significantly in this model.

In Model 2, the only immigrant group that is significantly different from citizens are first-generation immigrants from developing countries, who have 42% lower odds of using a pawn shop loan. When it comes to education, compared to those with a college degree, those with less than high school have 152% greater odds, those with a high school education have 124% greater odds, and those with some college have 105% greater odds, all of which are significant. In terms of employment, both the unemployed and those not in the labor force differ significantly from the employed, with the former having 61% greater odds to use a pawn shop loan, and the latter having 43% lower odds. Annual income is shown to have a significant relationship with the use of a pawn shop loan and is associated with 2% lower odds for every $1,000 above the mean reported by respondents. This remains significant in Model 3, but changes to having 1% lower odds.

In Model 3, first-generation immigrants from developing countries remain significant, having 51% lower odds to use a pawn shop loan compared to citizens. No contrasts are significant in this analysis (results not shown).

Introducing the rest of the controls has the same pattern on education as in former results when using those with a college degree as the reference category: all remain significant with slightly lessened coefficients. However, in this analysis, no contrasts were significant (results not shown).

In the context of employment status, when compared to the employed, the unemployed remain significant and have 62% greater odds to use a pawn shop loan. Those not in the labor force are no longer significant. When compared to the unemployed, however, those not in the labor force are significant, having 38% lower odds of using a pawn shop loan (results not shown).

Compared to whites, Blacks have 37% greater odds to use a pawn shop loan, Hispanics have 49% higher odds, and those of other races have 82% greater odds, all of which are significant. Asians do not differ significantly from whites. Further analysis with contrast categories revealed no other significant relationships (results not shown).

Age has a significant relationship and is associated with having 3% lower odds for every year above the mean reported by respondents. Sex is also significant, with males having 41% greater odds to use a pawn shop loan compared to females. In terms of marital status, no significant difference is shown between those who never married and those who are married. However, those who are widowed, separated, or divorced differ significantly from those who never married, having 88% greater odds, and from those who are married, with 78% greater odds (results not shown). Finally, number of children is shown to have a significant relationship and is associated with 9% greater odds to use a pawn shop loan for each additional child reported by respondents.

Rent-to-own Services

Table 12 shows the result of analysis dealing with the use of a rent-to-own service within the last 12 months. For this analysis, there were no second-generation immigrants

whose parents are from developed countries who had used such services, creating a zero-cell issue. To resolve this, they were removed from the regression model; thus, immigrant categories are being compared to both citizens and second-generation immigrants whose parents are from developed countries for this analysis. In Model 1, only first-generation immigrants from a developed country were shown to be significantly different, having 72% lower odds of using a rent-to-own service.

In Model 2, first-generation immigrants from a developed country are no longer significant. However, both categories of immigrant a developing country do differ significantly, with first-generation immigrants having 39% lower odds of using a rent-to-own service, and second-generation immigrants having 56% lower odds. Education appears to play a substantial role in this relationship, as those with less than high school have 433% greater odds, those with a high school education have 242% greater odds, and those with at least some college have 216% greater odds, compared those with a college degree. In the context of employment, only those in the labor force differ significantly from the employed and have 55% lower odds of using such a service. Annual income is shown to have a significant relationship and is associated with having 2% lower odds of using such a service for every $1,000 above the mean reported by respondents. Annual income remains significant in Model 3, but the association changes to having 1% lower odds.

In Model 3, both categories of immigrants from developing countries remain significantly different, with first-generation immigrants having 47% lower odds and second-generation immigrants having 75% lower odds. Further analysis showed no significant contrast categories (results not shown).

Education continued a similar pattern as in prior analysis: those with less than high school have 409% greater odds of using a rent-to-own service, those with a high school education have 240% greater odds, and those with at least some college have 198% greater odds compared to those with a college degree. When adjusting the reference category to those with less than high school (results not shown), those with a high school education have 33% lower odds, and those with at least some college have 42% lower odds. No other contrasts were significant in this analysis.

When it comes to employment, those who are unemployed become significant in this model, and have 26% lower odds of using a rent-to-own service. Those who are not in the labor force, however, are only significant when compared to the unemployed, and have 72% greater odds of using such a service (results not shown).

Compared to whites, Blacks have 54% greater odds of using a rent-to-own service, Hispanics have 44% greater odds, and those of other races have 94% greater odds, which are all significant. Asians do not differ significantly from whites in this analysis. No contrast categories were shown to be significant (results not shown).

Age is shown to have a significant relationship with using a rent-to-own service and is associated with having 4% lower odds for every year above the mean reported by respondents. Sex is also significant, with males having 26% lower odds compared to females to use such a service. Compared to those who have never married, those who are married are significantly different and have 31% greater odds. Those who are widowed, separated, or divorced do not differ significantly from either of the other groups. Finally, number of children is shown to have a significant relationship and is associated with 20% greater odds of using such a service for every additional child reported by respondents.

Table 10: Logistic Regression Analysis of Immigrants for Using a Rent-to-Own Service						
	Model 1		Model 2		Model 3	
	Odds Ratio	SE	Odds Ratio	SE	Odds Ratio	SE
First Generation, From Developed Country	0.28*	(0.16)	0.39	(0.23)	0.50	(0.29)
First Generation, From Developing Country	1.08	(0.15)	0.71*	(0.10)	0.53***	(0.09)
Second Generation, Parents from Developed Country	-		-		-	
Second Generation, Parents from Developing Country	0.54	(0.22)	0.44*	(0.18)	0.25**	(0.11)
Education						
Less than High School			5.33***	(0.93)	5.09***	(0.92)
High School			3.42***	(0.55)	3.40***	(0.55)
Some College			3.16***	(0.50)	2.98***	(0.48)
College Degree or Higher	-		-		-	
Employment Status						
Employed	-		-		-	
Unemployed			0.95	(0.11)	0.74*	(0.09)
Not in the Labor Force			0.45***	(0.05)	1.27	(0.16)
Annual Income			0.98***	(0.00)	0.99***	(0.00)
Race						
White	-		-		-	
Black					1.54***	(0.17)
Hispanic					1.44*	(0.21)
Asian					1.33	(0.45)
Other					1.94***	(0.33)
Age					0.96***	(0.00)
Male					0.74***	(0.06)
Marital Status						
Never Married	-		-		-	
Married					1.31*	(0.15)
Widowed/Separated/Divorced					1.23	(0.15)
Number of Children					1.20***	(0.04)
N	34244		34244		34244	
Psuedo R-squared	0.00		0.07		0.12	
Chi Squared	10.97		461.57		729.41	
P-Value	0.01		0.00		0.00	
Exponentiated coefficients; Standard errors in parentheses						
Notes: * p<0.05 ** p<0.01 *** p<0.001						

Table 11: Logistic Regression Analysis of Immigrants for Taking Out an Auto Title Loan						
	Model 1		Model 2		Model 3	
	Odds Ratio	SE	Odds Ratio	SE	Odds Ratio	SE
First Generation, From Developed Country	0.25*	(0.17)	0.30	(0.22)	0.34	(0.24)
First Generation, From Developing Country	1.14	(0.17)	0.88	(0.14)	0.75	(0.15)
Second Generation, Parents from Developed Country	-		-		-	
Second Generation, Parents from Developing Country	1.33	(0.41)	1.15	(0.36)	0.89	(0.30)
Education						
Less than High School			3.16***	(0.57)	3.11***	(0.57)
High School			2.35***	(0.35)	2.34***	(0.36)
Some College			2.38***	(0.34)	2.30***	(0.34)
College Degree or Higher	-		-		-	
Employment Status						
Employed	-		-		-	
Unemployed			1.19	(0.16)	1.07	(0.15)
Not in the Labor Force			0.52***	(0.06)	0.95	(0.14)
Annual Income			1.00***	(0.00)	1.00**	(0.00)
Race						
White	-		-		-	
Black					1.35*	(0.19)
Hispanic					1.13	(0.20)
Asian					1.19	(0.39)
Other					1.11	(0.27)
Age					0.97***	(0.00)
Male					0.97	(0.09)
Marital Status						
Never Married	-		-		-	
Married					1.49**	(0.20)
Widowed/Separated/Divorced					1.70***	(0.25)
Number of Children					1.11*	(0.05)
N	34200		34200		34200	
Psuedo R-squared	0.00		0.03		0.04	
Chi Squared	8.19		141.58		215.77	
P-Value	0.04		0.00		0.00	
Exponentiated coefficients; Standard errors in parentheses						
Notes: * p<0.05 ** p<0.01 *** p<0.001						

Auto Title Loan

Table 13 shows the results of analysis concerning taking out an auto title loan within the last 12 months. As with the rent-to-own analysis, second-generation immigrants whose parents are from a developed country created a zero-cell issue and were removed from the regression model. Comparison of the immigrant categories will thus be to citizens and these second-generation immigrants. In Model 1, only first-

generation immigrants from a developed country are significantly different and have 75% lower odds of taking out an auto title loan.

In Model 2, no immigrant category was shown to be significantly different. Taking education into account, those with less than high school have 216% greater odds of taking out an auto title loan, those with a high school education have 135% greater odds, and those with at least some college have 138% greater odds, all of which are significant when compared to those with a college degree. In the context of employment status, only those not in the labor force differ significantly from the employed and have 48% lower odds. Annual income is shown to have a significant relationship, but reports an odds ratio of exactly 1.00, meaning there is no change in the odds of taking such a loan based on annual income. This remains unchanged in Model 3.

In Model 3, no significant differences were observed between the immigrant categories, even when considering all contrast categories (results for contrasts not shown).

Compared to those with a college degree, all categories remain significantly different, with those with less than high school having 211% greater odds of taking out an auto title loan, those with a high school education having 134% greater odds, and those with at least some college having 130% greater odds. When adjusting the reference category to be those with less than high school, those with at least some college have 26% lower odds of taking out such a loan, which is significant (results not shown). No other contrasts were significant.

When it comes to employment, no significant differences were observed between the analyzed categories, even when considering all contrasts (results not shown).

In the context of race, only significant difference was observed: when compared to whites, Blacks have 35% greater odds of taking out an auto title loan. (No contrasts significant, results not shown).

Age is shown to have a significant relationship with taking out an auto title loan and is associated with having 3% lower odds for every year above the mean reported by respondents. Sex is not significant in this analysis. Compared to those who have never married, those who are married have 49% greater odds of taking out such a loan, and those who are widowed, separated, or divorced have 70% greater odds. (No significant contrasts; results not shown). Finally, number of children is shown to have a significant relationship and is associated with 11% greater odds of taking out such a loan for every additional child reported by respondents.

Discussion and Conclusion

The current study is an analysis of the economic integration of immigrants through the lens of underbanking, or the practice of engaging with alternative financial service such as payday lenders or pawn shops instead of traditional banking services. As a particularly damaging financial practice, furthering our understanding on how immigrants, an already vulnerable population, engage in this set of behaviors serves to create a more comprehensive picture of the economic health of immigrants in the U.S. Additionally, this study attempts to examine immigrants with more nuance than a

Table 12: Underbanking Behaviors Regressions Summary Table for Model 3 (Continued on Next Page)										
	Unbanked		Underbanked		Money Order		Check-cashing		Int. Remittances	
	Odds Ratio	SE	Odds Ratio	SE	Odds Ratio	SE	Odds Ratio	SE	Odds Ratio	SE
First Generation, From Developed Country	0.57	(0.19)	0.95	(0.11)	0.91	(0.14)	0.97	(0.21)	0.91	(0.24)
First Generation, From Developing Country	1.26**	(0.11)	1.66***	(0.09)	1.14*	(0.07)	1.10	(0.10)	2.09***	(0.35)
Second Generation, Parents from Developed Country	1.17	(0.35)	0.76	(0.12)	0.76	(0.16)	0.93	(0.26)	0.48	(0.41)
Second Generation, Parents from Developing Country	0.51***	(0.09)	0.71***	(0.07)	0.84	(0.10)	0.74	(0.13)	2.39**	(0.81)
Education										
Less than High School	5.48***	(0.58)	2.75***	(0.13)	2.18***	(0.13)	2.34***	(0.20)	2.24***	(0.44)
High School	3.01***	(0.30)	1.74***	(0.07)	1.71***	(0.08)	1.79***	(0.12)	1.62**	(0.27)
Some College	1.92***	(0.20)	1.48***	(0.05)	1.50***	(0.07)	1.63***	(0.11)	1.33	(0.20)
College Degree or Higher	-		-		-		-		-	
Employment Status										
Employed	-		-		-		-		-	
Unemployed	2.04***	(0.13)	1.27***	(0.05)	1.04	(0.05)	1.23**	(0.08)	0.77	(0.13)
Not in the Labor Force	1.47***	(0.11)	1.06	(0.04)	0.99	(0.05)	0.88	(0.06)	0.89	(0.18)
Annual Income	0.96***	(0.00)	0.99***	(0.00)	0.99***	(0.00)	0.99***	(0.00)	1.00**	(0.00)
Race										
White	-		-		-		-		-	
Black	3.32***	(0.21)	3.01***	(0.12)	3.46***	(0.15)	1.59***	(0.10)	1.72*	(0.38)
Hispanic	2.51***	(0.21)	1.77***	(0.09)	1.77***	(0.11)	1.34***	(0.11)	1.18	(0.23)
Asian	0.87	(0.17)	1.01	(0.08)	0.82	(0.10)	0.65*	(0.12)	0.64*	(0.13)
Other	2.43***	(0.27)	2.11***	(0.15)	2.13***	(0.17)	1.94***	(0.20)	1.23	(0.42)
Age	0.98***	(0.00)	0.98***	(0.00)	0.98***	(0.00)	0.98***	(0.00)	0.99	(0.01)
Male	1.20***	(0.06)	1.00	(0.03)	0.91**	(0.03)	1.07	(0.05)	1.06	(0.13)
Marital Status										
Never Married	-		-		-		-		-	
Married	0.59***	(0.04)	0.78***	(0.03)	0.86***	(0.04)	0.81***	(0.05)	1.12	(0.17)
Widowed/Separated/Divorced	0.84*	(0.06)	0.98	(0.04)	1.09	(0.05)	0.99	(0.07)	0.94	(0.19)
Number of Children	1.19***	(0.03)	1.09***	(0.02)	1.03	(0.02)	1.07**	(0.02)	1.06	(0.06)
N	36220		36220		34297		34322		1655	
Psuedo R-squared	0.30		0.13		0.11		0.07		0.10	
Chi Squared	5160.58		5390.13		3151.40		1119.74		217.73	
P-Value	0.00		0.00		0.00		0.00		0.00	
Exponentiated coefficients; Standard errors in parentheses										
Notes: * p<0.05 ** p<0.01 *** p<0.001										

Table 12, Continued

	Tax Refund Loan		Payday Loan		Pawn Shop		Rent-to-own		Auto Title Loan	
	Odds Ratio	SE	Odds Ratio	SE	Odds Ratio	SE	Odds Ratio	SE	Odds Ratio	SE
First Generation, From Developed Country	0.84	(0.27)	0.30	(0.22)	0.44	(0.26)	0.50	(0.29)	0.34	(0.24)
First Generation, From Developing Country	0.62**	(0.10)	0.77	(0.13)	0.49***	(0.09)	0.53***	(0.09)	0.75	(0.15)
Second Generation, Parents from Developed Country	0.62	(0.31)	0.26	(0.26)	0.44	(0.31)	-	-	-	-
Second Generation, Parents from Developing Country	0.73	(0.19)	0.88	(0.25)	0.63	(0.20)	0.25**	(0.11)	0.89	(0.30)
Education										
Less than High School	1.55**	(0.21)	2.35***	(0.38)	2.31***	(0.38)	5.09***	(0.92)	3.11***	(0.57)
High School	1.59***	(0.16)	2.06***	(0.28)	2.12***	(0.29)	3.40***	(0.55)	2.34***	(0.36)
Some College	1.31**	(0.13)	2.21***	(0.28)	1.90***	(0.26)	2.98***	(0.48)	2.30***	(0.34)
College Degree or Higher	-		-		-		-		-	
Employment Status										
Employed	-		-		-		-		-	
Unemployed	1.03	(0.10)	0.82	(0.10)	1.62***	(0.18)	0.74*	(0.09)	1.07	(0.15)
Not in the Labor Force	0.70**	(0.08)	0.72**	(0.09)	1.17	(0.15)	1.27	(0.16)	0.95	(0.14)
Annual Income	1.00***	(0.00)	0.99***	(0.00)	0.99***	(0.00)	0.99***	(0.00)	1.00**	(0.00)
Race										
White	-		-		-		-		-	
Black	1.57***	(0.15)	2.40***	(0.25)	1.37**	(0.16)	1.54***	(0.17)	1.35*	(0.19)
Hispanic	1.19	(0.16)	1.60**	(0.24)	1.49**	(0.22)	1.44*	(0.21)	1.13	(0.20)
Asian	1.46	(0.33)	0.77	(0.28)	0.82	(0.31)	1.33	(0.45)	1.19	(0.39)
Other	1.53*	(0.25)	2.55***	(0.42)	1.82***	(0.31)	1.94***	(0.33)	1.11	(0.27)
Age	0.99**	(0.00)	0.98***	(0.00)	0.97***	(0.00)	0.96***	(0.00)	0.97***	(0.00)
Male	0.89	(0.06)	0.92	(0.08)	1.41***	(0.12)	0.74***	(0.06)	0.97	(0.09)
Marital Status										
Never Married	-		-		-		-		-	
Married	0.77**	(0.07)	0.88	(0.10)	1.06	(0.12)	1.31*	(0.15)	1.49**	(0.20)
Widowed/Separated/Divorced	0.74**	(0.08)	1.11	(0.13)	1.88***	(0.22)	1.23	(0.15)	1.70***	(0.25)
Number of Children	1.19***	(0.04)	1.12**	(0.04)	1.09*	(0.04)	1.20***	(0.04)	1.11*	(0.05)
N	34194		34310		34311		34244		34200	
Psuedo R-squared	0.04		0.07		0.09		0.12		0.04	
Chi Squared	311.28		446.67		595.63		729.41		215.77	
P-Value	0.00		0.00		0.00		0.00		0.00	

Exponentiated coefficients; Standard errors in parentheses

Notes: * p<0.05 ** p<0.01 *** p<0.001

citizen/non-citizen binary allows, by separating immigrants based on first- and second-generation status, as well as by the development status of their country of origin. This study focuses its efforts through three hypotheses.

First, H1 predicts that first-generation immigrants from developing countries will be the most likely to engage in underbanking than all other groups. As we can see from the results, there is some strong support for this hypothesis: in terms of being both unbanked and underbanked, first-generation immigrants experience substantially greater odds. When it comes to individual underbanking behaviors, they experience greater odds of using a money order within the 12 months. For most behaviors, however, there is no difference between this group and citizens. There are some notable exceptions, however. The odds of sending international remittances, for example, are greater than citizens, but not as great as the odds for second-generation immigrants whose parents are from a developing country, meaning they do not have the greatest odds of all groups. Additionally, with rent-to-own services, Tax Refund Anticipation Loans, and pawn shops, first-generation immigrants appear to be doing better than citizens. These results will be discussed later.

Second, H2 predicts that second-generation immigrants from developing countries would be more likely to engage in underbanking behavior than citizens, but not as great as first-generation immigrants from developed countries. Surprisingly, the opposite seems to be reported from these analyses, as only one category shows this group as having greater odds than citizens: sending international remittances. In all other analyses, this group is either statistically similar to citizens, or has significantly *lower* odds. This implies that second-generation immigrants from developing countries are

more like other second-generation immigrants than they are like other immigrants from developing countries, in that they seem to share the better overall assimilation and behavior convergence typical of second-generation immigrants. Like H1, exceptions are rent-to-own services, pawn shops, and Tax Refund Anticipation Loans.

Finally, H3 suggests that first- and second-generation immigrants from developed countries will be most similar to citizens than all other immigrant groups. This hypothesis has the most support from the results of these analyses, as these immigrants do not ever significantly differ from citizens. While this could be seen as a boon for these groups in that they are not particularly affected, these results should not be taken to mean that underbanking and AFS usage is lessened for them, only that it happens at the same rate at which it happens to citizens.

General support for this study's hypotheses fits concretely within explanations offered from theoretical perspectives on assimilation and with prior research into underbanking. These results show that there are still many barriers in place preventing the convergence of financial behavior of immigrants and citizens proposed by assimilation theories. Additionally, examining the difference based on country of origin reveals compelling reason to see the starting line as being very different for immigrants from developing countries, especially considering that those from developed countries never significantly differ from citizens. Studies that do not take country of origin into account are likely seeing results that can potentially mask the disparity for immigrants from developing countries by including immigrants which this study shows are not suffering the same barriers to financial assimilation. Unfortunately, first-generation immigrants from developing countries, who already face systemic and structural issues in

assimilation processes like racism, discrimination, language barriers, and many more, are also experiencing greater odds of being exposed to the numerous potential harms of being underbanked.

This agreement between present results and expectations from theory and literature is also true for second-generation immigrants, who only experience greater odds than citizens to engage in underbanking in the context of sending international remittances, which is the logical extension of who would be most likely to use such a service in the first place. The fact that even second-generation immigrants whose parents are from a developing country have lower or equivalent odds than citizens to be underbanked means that the barriers faced by first-generation immigrants are not insurmountable for their children.

Notably, while first-generation immigrants from a developing country do worse on being unbanked or underbanked, they do not differ from citizens when it comes to the use of particularly harmful forms of AFS, namely payday loans and check-cashing services. As discussed in prior sections of this study, these two forms inflict serious financial damage upon those who are reliant upon them. The fact that immigrants in this study are not disproportionately affected by them is not necessarily positive, however. It must be remembered that this only means they are not significantly different from citizens, who, this study would argue, still use these services too frequently. Put another way, these services are still a problem for immigrants because they are a problem for *everyone.*

The results for control variables also fall in line with expectations based on theoretical understandings and prior research. Notably, education and race play a

persistently large role in determining the odds of engaging in underbanking behaviors. Race is a key influence, often returning the highest coefficients in these analyses. Additionally, more education nearly always results in comparatively lower odds of being underbanked or engaging in underbanking behaviors. The most notable exception is that odds seem to be greater for those with some college than they are for those with a high school education when it comes to taking out payday loans. One potential explanation is that students who begin college but do not finish often struggle to pay student loans but do not benefit from the higher pay a college degree typically brings and thus may turn to things like payday loans as a result (Kolodner & Butrymowicz, 2017).

As noted above, the three behaviors which seem to move in the opposite direction from what was predicted are rent-to-own services, Tax Refund Anticipation Loans and pawn shop usage, all of which show immigrants as having lower odds than citizens and seem to grow in statistical strength and significance as controls are added. The latter effect is persistent across all controls; that is, no matter which control is added to the regression model, the effect is observed (results not shown). This effect could be potentially explained as a "suppression" effect, meaning there are strong, unaccounted for relationships between the independent variables being used in this analysis (MacKinnon, Krull, & Lockwood, 2000). However, as of this writing, the source of this suppression effect is unidentified, and this pattern cannot be meaningfully explained. The former effect, having lower odds than citizens, can be easily explained for Tax Refund Anticipation Loans, since one must have both a job that collects taxes (as discussed before, first-generation immigrants are less likely to have official income sources) and a social security number to file for such a loan (which not all immigrants can obtain).

Possible explanations for rent-to-own services are that using such a service may require documentation like pay stubs or ID that these immigrants are less likely to possess, or the service is so expensive, it is no longer within the realm of possibility. However, there does not appear to be any obvious reason why this is true for pawn shops, especially considering that prior research and common sense would reason that these immigrants would be drawn to using such a service, both because it requires a different barrier to entry than traditional banks or other forms of AFS and because it offers immediate cash and anonymity (Paulson, Singer, Newberger, & Smith, 2006). Possible explanations are that pawn shops are an aspect of AFS that are not common in their country of origin, and are thus avoided due to unfamiliarity, or that, due to their increased likelihood of being in poverty, they are less likely to possess items of sufficient value to be pawned.

Several limitations can be identified in this study. First, and likely most relevant, is that this study was limited to participants of the CPS, which does not differentiate between documented and undocumented foreign-born respondents (Passel, 2016). The lack of this distinction is particularly troubling, given that the undocumented subset of the immigrant population almost assuredly experiences much greater barriers to social and financial inclusion. Beyond any obvious cultural and language issues, they would face a lack of valid documentation and identification in opening an account and may fear reprisal and deportation from the possession of an account leading to their discovery by certain governmental organizations. While nationally-representative, generalizable quantitative studies on this group would likely be extremely difficult, if not impossible, it must be noted that the inability to examine them specifically means this study misses out on what is likely the most vulnerable section of this vulnerable population.

Second, it should also be noted that the mechanism used to measure underbanking by the CPS and FDIC is likely to be oversensitive. Using any one of 8 forms of AFS a single time within the last 12 months is too wide a net to cast, especially when there is no recognition of the different financial picture of someone who took out an auto loan once, and someone who uses payday loans every month to get by. The main issue is that the definition operationalized by this survey does not include a measure of *reliance* on AFS. A narrower definition of underbanking that includes the number of times respondents used each service would likely better serve to create an accurate frame for who should be included in this group, and who should not. To illuminate this point, consider the control variable measuring annual income. When it comes to being underbanked, income is only associated with 1% lower odds for every $1,000 above the mean. This means someone making $20,000 more than the mean only has 20% lower odds of being underbanked, which is a smaller change in odds than one might expect. This is likely explained by the grouping together of everyone who uses any behavior a single time within 12 months: the ability to measure amount of times a behavior is engaged in would likely reveal that higher levels of income are associated with using AFS far less often.

Despite these limitations, the current study adds vital information to the growing bodies of literature surrounding both the experiences of immigrant populations and underbanking. First, this study provides detailed regression results not just for being unbanked or underbanked, but for every potential avenue to be considered underbanked. Literature on AFS detailed earlier explains how individual forms of underbanking affect those reliant upon them in different ways, even if the various effects are all considered negative. By examining not just if they are underbanked, but specifically how they are

underbanked, we are granted a more accurate picture of which aspects of financial assimilation immigrants are having a hard time navigating. These findings suggest that, while certain immigrants are indeed more likely to be unbanked or underbanked, these immigrants also tend to experience some of the worst underbanking behaviors, like payday loans, only at the same rate as citizens, rather than having substantially greater odds like prior research and conventional wisdom might lead one to assume.

Second, as noted by previous research, country-specific data is a valuable area of advancement in this area of study (Chatterjee & Zahirovic-Herbert, 2012), and this paper is the only known one to engage in such analysis. This study persuasively shows that the experience of immigrants varies greatly depending on the type of country they and their parents are from. This important difference allows us to understand the immigrant population of this country as diverse and distinct, much in the same way our population of non-immigrants is. Researchers should generalize about the immigrant population without taking notice of the details of their immigration no more than they might generalize about a non-immigrant population without taking notice of their race, sex, or education.

In conclusion, this study has examined the harmful economic phenomenon of underbanking and how it relates to immigrant populations in the U.S. As noted above, underbanking is a particularly harmful practice, costing low-income families as much as 9.5% of their annual income, and correlatis with many other social ills, such as unemployment, health risks, and social exclusion. Given the disadvantages already faced by many of these immigrants, examining the rates at which they engage in these behaviors allows for a deeper understanding of their financial assimilation experiences.

Results of these analyses suggest that not all immigrants share a monolithic experience, but that first-generation immigrants from developing countries still face substantially higher rates of underbanking compared to other groups. Future research should not overlook the potential differences between immigrants, based both on generational effects and the development status of their country of origin.

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