

Washington University in St. Louis

## Washington University Open Scholarship

---

Brown School Theses and Dissertations

Brown School

---

Summer 5-15-2023

### Examining Immigrant Experiences in Asset Building: Implications for Asset-Based Policies

Yingying Zeng

Washington University in St. Louis, [y.zeng@wustl.edu](mailto:y.zeng@wustl.edu)

Follow this and additional works at: [https://openscholarship.wustl.edu/brown\\_etds](https://openscholarship.wustl.edu/brown_etds)

---

#### Recommended Citation

Zeng, Yingying, "Examining Immigrant Experiences in Asset Building: Implications for Asset-Based Policies" (2023). *Brown School Theses and Dissertations*. 20.

[https://openscholarship.wustl.edu/brown\\_etds/20](https://openscholarship.wustl.edu/brown_etds/20)

This Dissertation is brought to you for free and open access by the Brown School at Washington University Open Scholarship. It has been accepted for inclusion in Brown School Theses and Dissertations by an authorized administrator of Washington University Open Scholarship. For more information, please contact [digital@wumail.wustl.edu](mailto:digital@wumail.wustl.edu).

Washington University in St. Louis

The Brown School

Social Work

Dissertation Examination Committee:

Michael Sherraden, Chair

Shenyang Guo

Jin Huang

Yunju Nam

Ariela Schachter

Margaret Sherraden

Examining Immigrant Experiences in Asset Building:

Implications for Asset-Based Policies

By

Yingying Zeng

March 2023

St. Louis, Missouri

© 2023 Yingying Zeng

## **Acknowledgements**

I would like to thank the following people, without whom I would not have been able to complete this dissertation and complete my PhD.

First and foremost, I would like to express my deepest appreciation to my chair and mentor, Dr. Michael Sherraden, for his support and guidance on asset building and policy research. Dr. Sherraden always encouraged me to “think big,” which transformed my way of thinking, not only in research but also in my personal life. He was always the person I wanted to share good news with. His encouragement and recognition over the past years meant a lot to me as a doctoral student. He has been a life-long mentor who helped me become the person I wanted to be.

I would also like to extend my thanks to my dissertation committee members—Dr. Shenyang Guo, Dr. Jin Huang, Dr. Yunju Nam, Dr. Ariela Schachter, and Dr. Margaret Sherraden—for their extensive guidance on my dissertation research and professional development. They patiently walked me through the research process and tirelessly responded to my questions. I am grateful to Dr. Margaret Sherraden, Dr. Yunju Nam, and Dr. Jin Huang for helping me navigate the world of financial capability and asset building (FCAB), especially with a focus on immigration. They are my all-time role models and their dedication for FCAB research and education motivated me to go further. I would like to thank Dr. Ariela Schachter for guiding my independent study on immigration and bringing me with interdisciplinary perspectives. Special thanks to Dr. Guo for his generous support since my master's studies. His approach to teach statistics is empowering and made me believe that I can do advanced quantitative research and do it well. He supported every decision I have made for my career development. Without his help, I wouldn't be the person I am today.

I am grateful to all of those whom I have had the honor to work with throughout my PhD journey. I am grateful to Dr. Michal Grinstein-Weiss, Dr. Mathieu Despard, and Dr. Mitra Naseh, who kindly let me be part of their projects and provided me research support. I would also like to thank Dr. Danyu Lin and Dr. Zachary McCaw for their valuable guidance on inverse normal transformation, a cutting-edge method I used for my third study. I also appreciate receiving the Grand Challenges for Social Work Doctoral Award funded by the New York Community Trust. I am very grateful for the award recognition and financial support as well as the professional development opportunities.

I would like to express my heartfelt gratitude to my parents for their unconditional support. They respected every decision I have made and supported me to pursue the life I wanted. They came to the United States amid the COVID-19 pandemic to share childcare responsibilities so that I could focus on my dissertation and job search without distraction. I wouldn't have been able to achieve my goals without their help. They raised me up to more than I can be.

I want to thank my husband, Yiming, for his unreserved love and support. During all the ups and downs, he was always there when I needed him. Last but not least, I want to thank my daughter, Audrey, who brings me laughter every day.

Yingying Zeng

*Washington University in St. Louis*

*March 2023*

## Table of Contents

List of Tables .....	iv
List of Figures .....	v
Abstract .....	vi
Epigraph .....	viii
Introduction .....	1
Background and Purpose of the Study .....	1
Who Are Contemporary Immigrants? .....	2
Immigrants: An Overlooked and Underserved Population .....	3
Immigrants Building Assets: Benefits and Barriers .....	5
The Present Study .....	8
Chapter 1: Asset Building Among Lawful Permanent Residents in the United States: .....	11
The Role of Initial Legal Status .....	11
1.1 Introduction .....	11
1.1.1 Purpose of This Study .....	12
1.1.2 Conceptual Framework .....	13
1.2 Method .....	22
1.2.1 Data and Sample .....	22
1.2.2 Measures .....	23
1.2.3 Analytical Approach .....	26
1.3 Results .....	26
1.3.1 Descriptive Results .....	26
1.3.2 Asset Ownership: Stratified by Initial Legal Status .....	34

1.4 Discussion .....	39
Chapter 2. Does Financial Access Improve Asset Building Among Immigrants? .....	44
A Propensity Score Analysis .....	44
2.1 Introduction .....	44
2.1.1 Study Purpose and Contributions .....	45
2.1.2 Conceptual Background .....	46
2.2 Methods .....	54
2.2.1 Data and Sample .....	54
2.2.2 Measures .....	55
2.2.3 Analytical Approach .....	58
2.3 Results .....	60
2.3.1 Descriptive Results .....	60
2.3.2 Results from IPTW Regression .....	63
2.4 Discussion .....	66
2.5 Conclusion .....	72
Chapter 3: Wealth Trajectories of Children from Immigrant and Native-Born Families: Hierarchical Linear Models of Net Worth Change from Young to Mid-Adulthood .....	74
3.1 Introduction .....	74
3.1.2 Immigrant-Native Wealth Gap and Its Consequences .....	76
3.1.3 Children from Immigrant vs. Native-Born Families .....	78
3.1.4 Current Study .....	80
3.2 Method .....	81
3.2.1 Data and Sample .....	81

3.2.2 Measures .....	82
3.2.3 Analytical Approach .....	84
3.3 Results.....	89
3.3.1 Descriptive Statistics of Sample Characteristics.....	89
3.3.2 Immigrant/Native-Born Differences in Financial Asset Ownership.....	90
3.3.3 Results from Growth Curve Models .....	91
3.4 Discussion.....	96
Conclusions.....	103
Summary of Findings.....	103
Limitations .....	105
Implications for Social Work Research and Future Directions .....	106
Implications for Social Service and Social Policy .....	107
References.....	111
Appendix.....	148



## List of Tables

Table 1-1 Weighted Means and Standard Errors of Characteristics by Initial Legal Status .....	29
Table 1-2 Logistic Regression Predicting 2009 Asset Ownership .....	31
Table 2-1 Sample Description and Balance Check.....	61
Table 2-2. Effects of Being Banked on Asset Building: Odds Ratios from IPTW Logistic Regression ( $N = 4,273$ ) .....	64
Table 2-3 Effects of Being Banked on Asset Building: Odds Ratios from IPTW Logistic Regression (Sub-Group Analysis) .....	66
Table 3-1 Demographic and Socioeconomic Characteristics of Respondents at Age 25 .....	89
Table 3-2 Parental Financial Asset Ownership in 1997.....	90
Table 3-3. Estimated Coefficients from Growth Curve Models of Wealth with Indirect Inverse Normal Transformation ( $N = 5,060$ ).....	92

## List of Figures

Figure 1-1 Predicted Probabilities of Owning Assets in 2009 by Initial Legal Status .....	38
Figure 3-1 Distribution of Net Worth Before INT .....	87
Figure 3-2 Distribution of Net Worth After INT .....	88
Figure 3-3 Model Predicted Net Worth in 2019 Dollar Amounts of Children from Immigrant and Native-Born Families (Model 1).....	93
Figure 3-4 Model Predicted Net Worth in 2019 Dollar Amounts of Children from Immigrant and Native-Born Families (Model 2).....	94
Figure 3-5 Model Predicted Net Worth in 2019 Dollar Amounts by Parental Asset Ownership (Model 1) .....	95
Figure 3-6 Model Predicted Net Worth in 2019 Dollar Amounts by Parental Asset Ownership (Model 3) .....	95

**Abstract**

Examining Immigrant Experiences in Asset Building:

Implications for Asset-Based Policies

By

Yingying Zeng

Doctor of Philosophy in Social Work

The Brown School, Washington University in St. Louis, 2023

Professor Michael Sherraden, Chair

The economic integration of immigrants has long interested researchers and policymakers, with late but now growing attention on their asset- and wealth-building. Current research on immigrants' asset building has largely focused on their individual-level characteristics, and not much on opportunities and constraints related to policy arrangements. This dissertation addresses the selection, adaptation, and impacts of immigration, with a goal to expand knowledge about asset-based social welfare policy in light of immigrants' experiences.

This investigation leverages two nationally representative datasets, the New Immigrant Survey and the National Longitudinal Survey of Youth (1997), to understand immigrants' asset accumulation and intergenerational wealth mobility. Employing a series of advanced statistical models—logistic regression, propensity score analysis, and hierarchical modeling, this dissertation comprises three empirical papers investigating immigrants' settlement, legal status, financial access, and wealth building, with analyses extending to the second generation.

The dissertation consists of three papers. The first paper examines how initial legal status affects lawful permanent residents' (LPRs) asset building by investigating three types of

financial assets—bank account ownership, investment account ownership, and retirement account ownership. The second paper tests the impact of being banked at an earlier stage of immigration on immigrants’ subsequent asset holding, with self-selection bias addressed by using a nationally representative data set. The third paper examines wealth trajectories of children from immigrant and native-born families from their mid-20s to their mid-30s, with a focus on the role parental financial assets play in shaping these trajectories.

Overall, the results show that how immigrants fare financially in the United States largely depends on what resources they can access in the United States. Institutional-level support in asset building and quality social networks may help them to achieve better financial outcomes. In addition, the findings reveal that children of immigrants were disadvantaged in wealth growth during their young to mid-adulthood compared to their peers from the native-born families. Together, these three papers turn new ground in extending asset-building research and policy to immigrant population, an important segment of the U.S. economy and society. The findings may inform inclusive asset-building policies, immigrant economic integration programs, and immigrant tailored financial services.

**Epigraph**

“Full economic integration of immigrants requires that they have access not only to the informal financial sector but also to the formal one, including banking, insurance, pension funds, and other institutions. Only by using such institutions will immigrants successfully expand their range as entrepreneurs, become homeowners, build credit histories, save for retirement, and insure against financial and other risks.”

Ben S. Bernanke, Governor, Board of Governors of the Federal Reserve System, 2004

## **Introduction**

### **Background and Purpose of the Study**

In 2019, more than 44.9 million immigrants lived in the United States, accounting for almost 14% of the population (Esterline & Batalova, 2022). Although the growth has begun to slow in recent years, the number of immigrants residing in the United States is projected to almost double by 2065, accounting for 88% of U.S. population growth (Lopez et al., 2015). Current policy debates on immigration are largely focused on who to admit and their legal presence in the United States, with far less attention on immigrant settlement, adaptation, and opportunity, which are the purview of social workers.

Immigrants' economic integration brings essential benefits for the host country and immigrants themselves, and therefore, has long interested researchers and policymakers. Among the various aspects of immigrants' economic lives, asset and wealth building has recently received greater attention (e.g., Nam et al., 2019, 2022; Painter et al., 2016). Asset accumulation enables immigrants to set their financial foundation and increases their likelihood of achieving long-term economic prosperity. Increasing economic resources also allow immigrants to invest in their children, the future generation of the U.S. citizens. However, research on immigrants' asset building has largely focus on their individual and behavioral characteristics (e.g., Seto & Bogan, 2013), with implications pointing to behavioral change interventions (Barcellos et al., 2016). This approach overlooks the way that immigrants' experiences are largely determined by institutional arrangements in the host society (Portes & Zhou, 1993), which in turn may shape their financial behaviors and asset building outcomes (Sherraden, 1991).

Despite growing research on inclusive asset building policies and programs in the United States and around the globe (Ansong et al., 2019; Clancy et al., 2016; Loke & Sherraden, 2009;

Nam et al., 2013), few of these discussions have focused on immigrants and their families. As a result, we lack empirical evidence of immigrants' asset building experiences, especially from an institutional and longitudinal perspective, to inform asset-based programs and policies for immigrant population.

Therefore, this dissertation aims to empirically examine immigrants' asset building with a focus on discussing opportunities and constraints created by the U.S. institutions. Findings from this dissertation could serve to guide policy and projects designed to promote economic wellbeing among immigrant families.

### **Who Are Contemporary Immigrants?**

Immigrant in this study refers to foreign-born populations with no U.S. citizenship at birth, including naturalized citizens, LPRs, refugees and asylees, persons on certain temporary visas, and unauthorized immigrants. In 2019, there were 44.9 million immigrants lived in the United States, the highest in absolute numbers since 1850 (Esterline & Batalova, 2022). Today's immigrants account for 13.7% of the nation's total population, which has increased dramatically from the record low of 4.7% in 1970 (Esterline & Batalova, 2022).

The 1965 Immigration and Naturalization Act (INA) marked a watershed in immigration policy, shifting the source countries of immigration away from the racially/nationally restricted aims of a national quota system in place since 1920. In contrast to the old pattern of immigration with a majority coming from European countries, the new policy included immigrants from all over the world, with the majority originating in South America, Asia, and Africa. According to the Department of Homeland Security (2019), among immigrants who obtained LPR status in 2019, the largest number (153,502) came from Mexico, followed by mainland China (60,029),

and India (51,139). Over three-quarters (77%) of current immigrants are estimated to be legal immigrants, i.e., LPRs, naturalized citizens, and temporary lawful residents (Budiman, 2020).

Immigrants settle in geographically concentrated patterns, but new destinations have emerged in the past decades. In 2019, about three-fifths (59%) of the immigrants lived in just five states—California (24%), Texas (11%), Florida (10%), New York (10%), and New Jersey (4%) (Migration Policy Institute, 2021). Although states that traditionally host immigrants still lead in absolute number of immigrants, some nontraditional immigrant destinations have experienced substantial increases since 2010. These new destinations are mostly inland states such as Illinois and Minnesota (Migration Policy Institute, 2019).

Immigrants come to the United States, at least in part, for economic reasons, driven by the hope of improving their financial wellbeing (Portes & Rumbaut, 2006). Wherever they came from, they and their descendants are an integral part of the country's diverse population and make extensive contributions that benefit all. According to the U.S. Department of Labor (2022), there were 28 million immigrants in the U.S. labor force in 2021, composing 17.4% of the total labor force and accounting for over one-third of all workers in farming, fishing, and forestry. Immigrant workers are most numerous in health care and social assistance industries (over 4 million), followed by manufacturing, and accommodation and food services (both over 3 million) (American Immigration Council, 2020). Immigrants also represent a large group of business owners, who generate products and services, create jobs, and contribute to their local communities and the nation as a whole.

### **Immigrants: An Overlooked and Underserved Population**

In spite of immigrants' important roles in the U.S. economy and society, the social welfare policies often overlook and underserve them. Since 1952, federal policy has largely



excluded immigrants from coverage by social services. As stated in the Immigration and Nationality Act of 1952, “It continues to be the immigration policy of the United States that aliens within the Nation’s borders not depend on public resources to meet their needs, but rather rely on their own capabilities and resources of their families, their sponsors, and private organizations” (§1601). Although states have some flexibility in deciding if or how to expand public benefits to immigrants, the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA) makes it clear that only LPRs, refugees and other immigrants with protected immigration statuses qualify for welfare benefits (e.g., Supplemental Nutrition Assistance Program), with an exclusion for LPRs who arrive in the U.S. after the passage of the bill and have less than 5 years residency (Harrington, 2020). Temporary and undocumented immigrants are generally ineligible for welfare benefits (Department of Health and Human Services, 2012). In sum, the U.S. welfare and social service system for the most part excludes immigrants from accessing or fully accessing public benefits, forcing newcomers to be financially responsible for themselves. This stance imposes economic burdens on immigrant families for daily consumption, fosters instability, and may leave immigrants with little for long-term wealth building.

COVID-19 highlighted the central role immigrants play in U.S. society and economy. Since the outbreak of the COVID-19 pandemic in 2020, immigrant workers have played critical roles in the struggle against the virus but receive less help compared with their U.S.-born counterparts (Chishti & Bolter, 2020; Gelatt, 2020). Specifically, undocumented workers, who make up a large percentage of workers in the fight against the pandemic (e.g., food processing workers) and in industries hit hardest by the massive shutdowns (e.g., hotel industry), were excluded from CARES Act stimulus relief checks and expanded unemployment benefits, despite

being defined as “essential workers.” (Chishti & Bolter, 2020). At the same time, as frontline workers, they risk their lives exposing themselves to the virus, while remaining uninsured or underinsured for health care. In sum, immigrants contribute no less than others, but they receive much less official acknowledgement and assistance.

### **Immigrants Building Assets: Benefits and Barriers**

As Sherraden (1991) wrote in *Assets and the Poor*, the American Dream is “to be born poor and become rich. It is a dream about financial wealth” (p. 95). Immigrants, whether voluntary or forced, come with a wish to achieve their American Dreams, which typically include a wish to establish wealth. Building assets provides individuals and families important economic resources to improve life quality and increase opportunities over time and across generations (Sherraden, 2008). Assets are even more crucial in the modern economy due to increasing wage inequality the ongoing instability in labor markets related to technology and automation (PWC, 2018), and also to macroeconomic instability and downturns (Federal Reserve Bank Philadelphia, 2022).

Positive effects of asset building have been well documented. Asset accumulation can benefit immigrants and the country as a whole because assets enable them to more actively participate in the U.S. mainstream financial system and set long-term financial goals. Certain types of assets, such as homeownership, may enhance immigrants’ confidence in adapting to their new country and provide a sense of belonging. Being “banked” is particularly important. When immigrants have bank accounts, they have access to other financial services such as direct deposit from their employers, which can help them switch them from using costly check cashing services and prepaid cards to prevent risks of robbery. Being banked also provides a convenient way to receive government assistance, as CARES Act payments illustrate.

In addition, other financial assets with potentially high returns, such as stocks and mutual funds, retirement savings, and education savings, may benefit immigrant families, including their children, as increased financial resources enable them to pursue higher education and move upward. Simply put, asset building helps immigrants set the foundation of their new lives in the United States, and increases the likelihood that they can achieve long-term economic prosperity across generations.

Immigrants building assets in the U.S. also benefits the national economy. For example, Vigdor (2017) found that immigrants collectively have added \$3.7 trillion to U.S. housing wealth, helping to revitalize and stabilize less-desirable communities, where home values and population may be declining. In addition, immigrant entrepreneurship generates job opportunities for local residents and promotes economic development locally and nationally (McDaniel, 2014).

However, immigrants, particularly those with low job skills and low English-language proficiency, may face challenges in building assets. These immigrants are more likely to perform lower-paid and/or temporary work, which typically does not offer retirement or healthcare benefits, leaving them with little to save and build long-term assets. At the same time, racialized immigration policies and discriminatory practices under those policies systematically restrict asset accumulation by excluding certain immigrants from mainstream financial markets and social welfare programs. For example, federal programs require loan recipients to be U.S. citizens or permanent residents, i.e., “green card” holders (Cavalluzzo & Wolken, 2005), which means temporary lawful residents and unauthorized immigrants, who make up 28% of the current U.S. foreign-born population (Budiman, 2020), are excluded from pursuing federal loans. Such policy exclusions make it difficult for certain groups of immigrants to own a house or benefit from related asset-building supports such as homeownership tax benefits. Similar to other

low-income Americans, they are less likely to qualify for the subsidies for asset building practices such as homeownership because their incomes are too low to reach the threshold for these tax deductions, and they are less likely to work in jobs that offer retirement benefits (Harris et al., 2014; Howard, 1997; Sherraden, 1991).

In addition, financial assistance such as home loans may be out of reach for many immigrants due to their low income and thin credit profiles (Courchane et al., 2015; Gabriel & Rosenthal, 1991; Wheeler & Olson, 2015). As a result, immigrants, especially newcomers, have to rely on personal savings or borrow from their social network rather than receiving formal assistance (Kerr & Kerr, 2020; Moy et al., 2017; Paulson et al., 2004). In many cases, they have to sacrifice current consumption, leisure, or other personal development opportunities in order to save, which may negatively affect their health, human capital development, children's well-being, and children's educational opportunities in the future.

Furthermore, the financial lives of immigrants can be profoundly affected by the political climate, especially during periods of rising anti-immigrant sentiment. For example, more than 20 refugee resettlement agencies were forced to close in 2018 as the Trump administration drastically downsized the U.S. refugee resettlement program. This policy change made refugees' lives harder because they rely largely on these agencies for employment services, financial education, and economic assistance (Rosenberg, 2018). An anti-immigrant climate also fuels discrimination, which keeps immigrants from using mainstream financial services. The perception of hostile or discriminatory attitudes pushes some immigrants to use "nonbank" services, which are more costly (sometimes even predatory), especially if immigrants in their social networks are already doing so (Zuhair et al., 2015).

Nonetheless, it is important to note that immigrant populations come from various backgrounds and may fare differently in the United States. Variations in country of origin, immigration status, race/ethnicity, premigration experiences, education, and other factors affect the resources immigrants can access, which in turn leads to variations in asset building outcomes (Chakrabarty et al., 2019; Chin et al., 2011; Painter et al., 2016; Painter & Qian, 2016). In other words, some immigrants may be better off while others are at elevated risk of being financially disadvantaged, including being excluded from beneficial asset-building policies. Therefore, a comprehensive examination of immigrants' asset building could enhance social workers' understanding of asset building experiences among immigrant population. Evidence generated from this research may inform asset-based policies that benefit immigrants, their families, and society as a whole.

### **The Present Study**

Consisting of three interrelated papers, this dissertation addresses the selection, adaptation, and impacts of immigration. My aim is to expand knowledge about asset building among immigrants by assessing institutional-level factors at early stages of immigration, and how holding assets affects intergenerational stability and mobility. Policy implications may follow from the analyses.

The first paper centers on immigrant selection by focusing on legal status at entry, which links to policy and social contexts that immigrants face, and to the resources they can access. The paper examines the associations between immigrants' initial legal statuses and their asset-building outcomes after becoming LPRs. Using the New Immigrant Survey (NIS), a nationally representative longitudinal dataset of immigrants who gained LPR status in 2003 with follow-up from 2007 to 2009, this study models the relationship between asset-building outcomes at

follow-up and legal status at entry. I expect ordered differences in probabilities of owning assets among new LPRs based on their initial legal status. The study illuminates nuances among immigrant groups based on their initial legal statuses and, more importantly, resource accessibility related to those statuses. Findings from this study may inform asset-based social policies and programs by identifying target immigrant populations.

The second paper focuses on immigrants' adaptation, with special attention on financial access. This paper is informed by Margaret Sherraden's (2013) financial capability framework, which expands the concept beyond financial literacy to financial access. To test the impacts of financial access at earlier stages of immigration on asset-building outcomes, this study uses financial access (i.e., being banked) at Wave 1 of the NIS as a "treatment" variable and employs the inverse probability of treatment weight method to estimate the "treatment" effects. The study finds that immigrants with financial access at earlier stages of immigration are more likely to own assets, and effects are stronger among marginalized groups. The findings could inform policymakers designing evidence-based interventions that are designed to expand mainstream financial access to immigrants, especially those from disadvantaged backgrounds.

The third paper extends the analytical lens to compare wealth trajectories of children of immigrant and native-born parents, with a focus on the role of parental financial assets in these trajectories. Immigrant vs. native wealth disparities have been well documented. The persistent wealth gap between immigrant and native-born families may put children of immigrants at a financial disadvantage versus their native-born peers. Using the National Longitudinal Survey of Youth (1997), this study examines wealth trajectories of these two groups from their mid 20s to their mid 30s by employing growth curve modeling. Findings indicate that children of immigrants started with higher levels of wealth compared with that of children of native-born

parents; however, their wealth declined over time. High parental financial asset ownership level had a positive association with children's wealth in their mid 20s and, more importantly, in the growth of their wealth over time. The study's findings document the importance of research from a longitudinal perspective, and have implications for inclusive asset building policies.

## **Chapter 1: Asset Building Among Lawful Permanent Residents in the United States:**

### **The Role of Initial Legal Status**

#### **1.1 Introduction**

Immigrants' economic integration has long interested researchers and policymakers, with growing attention to their asset and wealth building (e.g., Nam et al., 2015; Painter et al., 2016). This approach is beneficial because building assets in the U.S. requires a certain level of financial capability, including financial literacy and accessible financial services (Sherraden, 2013), which can reflect immigrants' ability to navigate the U.S. financial system. Asset building can also help one meet both short- and long-term needs (Keister, 2000) and represents a more stable indicator of financial wellbeing than income, the traditional indicator of immigrants' economic integration. Furthermore, people perceive themselves as stakeholders when accumulating assets and perform positive behaviors under this perception (Sherraden, 1991). For immigrants, holding assets in the U.S. may involve a long-term commitment and a higher level of engagement, which would yield positive social and economic outcomes that can benefit their families as well as the society. Therefore, an examination of immigrants' asset building would provide comprehensive evidence of how immigrants fare in the U.S. and could have great implications for policies and programs that facilitate their adaptation and integration.

Studies on immigrants' disadvantages in asset building have largely focused on individual-level characteristics (Painter, 2015; Painter et al., 2016), which overlooks the contextual factors such as immigration policies that largely shape immigrants' behaviors and integration outcomes (Portes & Zhou, 1993). Evidence has shown that immigration policies create and reinforce immigrants' vulnerability, as having undocumented experience is negatively associated with immigrants' wealth (Chatterjee & Kim, 2011). However, the common approach



of aggregating all lawful immigrants as the reference group masks the variation among those holding different visas. Studies on lawful permanent residents (LPRs) often treat LPR as a static status, ignoring the fact that LPRs entered with various initial legal statuses (e.g., Capps et al., 2013; Wallace et al., 2013): employment-based visa, family-based visa, refugee visa, diversity visa, and being previously undocumented (Kreisberg, 2019). These starting points stratify immigrants' access to postmigration, pre-LPR resources (Kreisberg, 2019; Menjívar, 2006), such as eligibility for social welfare services, right to work legally, obtain education, and achieve permanent residence itself (Bosniak, 2007; Gleeson & Gonzales, 2012; Morris, 2003), driving inequalities among immigrants. Some evidence has indicated that immigrants' initial legal statuses have significant effects on their economic integration (Joseph, 2020; Kreisberg, 2019); yet, we know little about whether initial legal status stratifies immigrants' holding of assets, even after they all have shared the same LPR status for years.

### **1.1.1 Purpose of This Study**

This study aims to examine whether immigrants' initial legal statuses are associated with their post-LPR asset building performances. Following Kreisberg's (2019) approach, initial legal status in this study is categorized as employment-based visa, family-based visa, refugee visa, diversity visa, and being previously undocumented. The explicit disaggregation of LPRs by their initial legal status expands on previous scholarship identifying differences in assets among immigrants and contributes to studies addressing new forms of stratification among immigrants based on their initial legal positions (Joseph, 2020; Kreisberg, 2019). It is important to note that the previously undocumented sample in this study had gained LPR status when they were interviewed, indicating that they were likely an advantaged subset of the undocumented population rather than representative of undocumented immigrants as a whole. With that being

said, findings provide insights into the role legal status plays in immigration outcomes among those who had previously undocumented experience.

### **1.1.2 Conceptual Framework**

Informed by Kreisberg (2019) and Menjívar (2006, 2011), this study models the process of stratification into two steps: (1) Sorting: immigration laws sort immigrants into different starting points (i.e., initial legal statuses) based on their premigration human and economic capital; (2) Resource allocation: immigrants are allocated resources disproportionately based on their starting points. In other words, this study conceptualizes initial legal status as a product of immigrant selection and resource allocation, which may affect immigrants' subsequent asset building performance. This approach of conceptualization is undoubtedly imperfect; however, it provides rough indicators of how resourceful an immigrant is initially.

This study also draws on the framework of determinants of asset holdings (Beverly et al., 2008). According to Beverly et al. (2008), asset holding comprises a series of individual (e.g., social network) and institutional constructs (e.g., access), with a heavier weight on institutional factors. Simply put, not all resources play an equal role in asset building; immigrants who have more accessible institutional-level resources may have greater chances to build assets in the U.S. than those who have fewer resources or even face structural barriers.

#### **Initial Legal Status: Process of Sorting**

LPR status often serves as an important milestone in the immigration journey because it brings tremendous benefits to immigrants (Homeland Security, 2021). In the past 5 years, most immigrants have acquired LPR status through family reunification (66%) and employment-based visas (14%) (Office of Immigration Statistics, 2019). Other major categories include humanitarian visas (i.e., refugees and asylees) and diversity visas (Gelatt, 2020). Undocumented

immigrants can gain LPR status through a legalization process (i.e., amnesty) and other channels described above, although the opportunities are limited (American Immigration Council, 2021; Kreisberg, 2019).

These pathways are also known as immigrants' class of admission, which is a source of immigration selection, or sorting, based on their premigration human, financial, and social capitals (Lobo & Salvo, 1998; Zell & Skop, 2011). As these forms of capital also directly or indirectly influence immigrants' financial behaviors and asset building activities (Painter & Qian, 2016), it is unclear whether inequality is a result of premigration resources or immigrants' starting positions in the U.S. Because most empirical studies can only measure cumulative education attainment or employment situation, rather than separating immigrants' premigration resources, the resources that sort immigrants into different categories are confounded with the resources they obtain after migration. By leveraging a data set that collects information on immigrants' premigration experience, this study measured a set of premigration resources to control the effects of sorting into an initial legal status from the initial legal status itself.

### **Initial Legal Status: Process of Resource Allocation**

According to the segmented assimilation model, pathways to assimilation are shaped by policies, prejudices, and immigrant characteristics (Portes & Zhou, 1993). Although legal status at entry is often treated as an individual-level characteristic, it tightly links the policy and social context that immigrants face (Joseph, 2020) and the social network they can access (Painter, 2015). Discriminatory practices exist and may have a cumulative impact on immigrants' integration even after they gain LPR status (Jasso, 2011). As a type of institutional arrangement, initial legal status would impact an immigrant's everyday interactions with other individuals and institutions (Joseph, 2020).

Initial legal status puts immigrants in a continuum of resource allocation from high to low. For example, obtaining LPR status through employment indicates that an immigrant has a job secured in the U.S., usually a high-skilled one, with potential workplace benefits such as employer-sponsored health insurance or retirement savings programs. Less “preferred” visa holders may encounter a number of barriers due to institutional constraints and the lack of a quality social network (Amuedo-Dorantes & Bansak, 2006). For example, refugees often find jobs with lower occupational status and less earning potential when they are initially resettled because the main goal of U.S. resettlement programs is their self-sufficiency through employment, with less attention paid to job quality (Connor, 2010). Disadvantages could be cumulative and may cause long-term inequality among immigrants, even after they have transitioned to LPR. Therefore, initial legal status may serve as a dimension of inequality akin to class, race, and gender (Massey, 2007), stratifying immigrants into hierarchical socioeconomic orders (Kreisberg, 2019).

### **Social Network, Institutional Support, and Immigrant Asset Building**

Most studies have used an acculturation framework to explain immigrants’ wealth accumulation, indicating that immigrants’ wealth accumulation outcomes are attributed to individual-level factors. However, according to Beverly et al. (2008), asset building is influenced jointly by individual and institutional factors, including social network and financial access.

Social network, which enables immigrants to acquire financial information to guide their financial decision-making (Painter, 2015), is closely linked to the type of initial legal status (Jasso, 2011). Social networks may be particularly beneficial to new immigrants because they can access financial information with little or no cost (Chang, 2005) by talking to friends and family regarding cash accounts at banks and/or more sophisticated investment accounts (e.g.,

stocks) (Painter, 2015). A study showed that immigrants often access financial services through their life circles – over half of the participants found a credit union through friends and family and an additional 10% through community referrals (Moy et al., 2017).

However, the effects of social networks may vary by immigrants' socioeconomic status. For example, employment immigrants may obtain financial information from their U.S. colleagues and engage in mainstream financial activities. In contrast, immigrants in a social network where the norm is to use nonbanking services are likely to do so because of the mutual influence (Zuhair et al., 2015).

More importantly, asset building is affected by policies and programs created purposely to shape opportunities and constraints (Beverly et al., 2008; Sherraden, 1991). Institutional constructs, such as access, information, and incentives, shape worldviews and thus actions, and impact asset accumulation through saving and investment behaviors (Beverly et al., 2008; Schreiner & Sherraden, 2007).

Given the fact that institutional supports toward asset building in the U.S. usually come as bundles and are commonly delivered through employment settings and the tax system, those who have workplace benefits and those who have certain investments tend to have access to institutional resources (Beverly et al., 2008). Therefore, immigrants arriving with a series of institutional supports may access beneficial financial products and services easily or even automatically. For example, employment immigrants may have direct deposit set up to receive their paychecks; by having a U.S. bank account upon arrival, they could gain financial literacy through managing their accounts and become more financially sophisticated (Huang et al., 2021). Evidence also shows that workplace financial education has a positive effect on employees' ownership of retirement accounts (Bayer et al., 2009). These institutional facilitators

set the stage of immigrants' new lives and have great implications for their long-term financial wellbeing.

Institutional supports also include public assistance and welfare benefits, which are not equally accessible for new immigrants. For example, refugees are eligible for social welfare benefits upon arrival (Office of Refugee Resettlement [ORR], 2015), whereas most of the beneficial programs are designed to exclude undocumented immigrants (Office of the Assistant Secretary for Planning and Evaluation, 2012) and penalize employers who hire them (U.S. Citizenship and Immigration Services, 2020). Although gaining LPR status expands avenues for resource access, many new LPRs are largely excluded from accessing welfare benefits due to the “5-year ban” set by the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA) (Fortuny & Chaudry, 2011). Without public assistance, low-income immigrants are struggling to make ends meet, let alone build assets.

### **Initial Legal Status and Diverging Asset Building Outcomes**

Immigrants' initial legal status involves many critical steps in establishing their economic foundation and path towards long-term wealth. It is possible that LPRs from different starting points have diverging post-LPR asset building outcomes because immigration laws sort them into different initial legal statuses and allocate resources unequally across these statuses – those starting their immigration with a high-quality social network and institutional support may end up with better asset building performance.

#### *Employment-Based Immigrants*

Immigration through employment indicates one has a secured job and needed skills (Chand & Tung, 2019). Employment-based immigrants are usually individuals with “exceptional ability” (U.S. Citizenship and Immigration Services, 2022) who are sorted by high human

capital, a premigration resource that usually lands them in desirable occupational positions (Hagan, 2004; Kreisberg, 2019). Therefore, employment-based LPRs, compared to other types of immigrants, should be in the most advantaged positions in accessing mainstream financial resources that facilitate asset building via avenues such as workplace financial education and even company stock (National Center for Employee Ownership, 2021). They are also likely to access quality financial information through their professional networks.

***Hypothesis 1:** Employment-based LPRs have the highest probabilities of owning assets among all the initial legal statuses. Sorting into type of visa based on human and financial capital and postmigration institutional support will help explain their high level of asset holding after transitioning to LPR.*

#### *Family-Sponsored Immigrants*

Family-sponsored immigrants may have a moderate level of premigration financial capital to migrate but usually receive little institutional assistance upon arrival because the U.S. government expects the family sponsor to support new immigrants (The Immigration and Nationality Act, 1952). However, they possess important social capital – family members – at the beginning of their resettled life, to ease their transition process (Massey et al., 1990). Family members can provide immigrants with information about the U.S. financial system and often assist newcomers to open a bank account (Nam et al., 2019). Although strong ties primarily constituted by family members usually deliver information with lower quality than weak ties, such strong ties tend to convey trusted information that is particularly important when immigrants acquire risky assets such as stocks (Painter, 2015).

In addition, many new immigrants find their first job through their social network (Massey et al., 1990). Although they may not land in a job with high standing initially, and some

may even argue that heavily relying on strong social ties limits one's opportunity to enter the mainstream labor market (Pfeffer & Parra, 2009), evidence shows that family immigrants experience a substantial upward occupational mobility (Gelatt, 2020; Jasso & Rosenzweig, 1995; Kreisberg, 2019). This implies that family immigrants may have a chance to gain human capital after arrival through education and career development through family supports. With gained human capital, they can obtain prestigious jobs and therefore access institutional resources.

***Hypothesis 2:** Family-based immigrants have lower probabilities of owning assets than employment immigrants, but are more advantaged than refugees, diversity visa holders, and immigrants with previously undocumented experience. Sorting based on moderate premigration financial capital and gaining information and resources through postmigration family ties will help explain their moderate asset holding level after transitioning to LPR.*

### *Refugees*

Refugees are those who cannot return home because of fear of persecution and serious harm. They are not selected on premigration resources. Upon arrival, refugees are assisted by government-funded resettlement programs to ease their transition and adaptation, including services such as employment assistance, language support, and health care services for a limited time (National Immigration Forum, 2020).

Some programs such as Refugee Individual Development Accounts (Refugee IDA) are purposefully designed for asset building (ORR, 2022). Participants are encouraged to save for a specific purpose and receive matched money upon finishing required financial literacy classes (ORR, 2022). However, such programs are limited. The majority of resettlement programs aim to help refugees achieve rapid self-sufficiency through job placement (Ives, 2007). Therefore, the jobs in which refugees are placed are usually low-paid and lack upward mobility (Connor, 2010;



Kreisberg, 2019). The short-term institutional support advantages refugees initially, but the advantages may dissipate over time.

***Hypothesis 3:*** *Refugees have lower probabilities of owning assets than employment immigrants and family immigrants, but are more advantaged than diversity visa holders and immigrants with previously undocumented experience. No sorting based on premigration resources and time-limited, institutional postmigration assistance will help explain their moderate level of asset holding after gaining LPR.*

#### *Diversity Visas*

The U.S. government allocates 50,000 immigrant visas to randomly selected individuals who are from countries with low rates of immigration to the U.S. (U.S. Citizenship and Immigration Services, 2018). Diversity visa holders are sorted by moderate level of human and financial capital as they must meet certain criteria to apply, such as high school education or 2 years of qualifying work experience (U.S. Department of State, n.d.). Winners of the diversity visa lottery can live and work in the U.S. legally; still, life can be difficult. Evidence has shown that diversity visa holders struggled to find a job that matched their skills and training; instead, they were forced to work in occupations that are lower paid, with few benefits and harsh conditions (Hailu et al., 2012). Furthermore, they lack governmental support in transition, which makes the beginning of postmigration life extremely challenging (Hailu et al., 2012). Although there might be plenty of training opportunities, diversity visa holders often cannot afford this training to augment their human capital (Arthur, 2008; Atumba, 2020; Hailu et al., 2012).

***Hypothesis 4:*** *Diversity visa holders have less probability of owning assets than employment immigrants, family immigrants, and refugees, but are more advantaged than immigrants with previously undocumented experience. Sorting based on moderate level of human capital and few*

*postmigration resources will help explain their lower level of asset holding after transitioning to LPR.*

### *Previously Undocumented Experience*

The term *undocumented immigrants* refers to immigrants who enter and live in the U.S. without authorization due to various reasons (Passel & Cohn, 2011). A few pathways are available in gaining LPR status; however, having previous illegal experience creates numerous constraints for undocumented immigrants and their families (Cartwright, 2011). Being undocumented means facing tremendous challenges set by laws and policies. While access may vary by state, undocumented immigrants are largely excluded from accessing beneficial social policies and programs (Fortuny & Chaudry, 2011), and consequently must rely almost entirely on themselves for all health care and daily expenditures. Social service agencies that serve immigrant populations face pressure when serving undocumented immigrants due to restrictive state laws and limited funding (Browne et al., 2016).

Once residing in the U.S., undocumented immigrants are largely blocked from seeking higher education in public universities in most states; they therefore have little chance to increase human capital (Olivas, 2009). Furthermore, as they are not permitted to work according to the law, they are usually hired in jobs that are paid under the table, with no possibility of workplace benefits (Maldonado, 2014). They are also barred from using bank services due to a lack of identification, although some initiatives now allow undocumented immigrants to open a bank account using alternative documents (Bellamy, 2007).

The lack of institutional support disadvantages undocumented immigrants at the starting point, and the disadvantages are likely to be cumulative over time. Without resources that are beneficial to gaining human and financial capital, combined with likely low-quality social

networks, it is challenging for undocumented immigrants to engage in long-term asset accumulation activities.

***Hypothesis 5:** Immigrants with previously undocumented experience have the least probability of owning assets compared to other types of immigrants. No formal sorting based on premigration resources and fewest postmigration resources and even structural barriers in postmigration will explain their lowest level of asset holding after gaining LPR.*

## **1.2 Method**

### **1.2.1 Data and Sample**

This study employed data from the New Immigrant Survey (NIS), a nationally representative, longitudinal survey of immigrants who received LPR status in 2003 ( $N = 8,573$ ). The first-wave data were collected through 2003 to 2004 immediately after the respondents obtained LPR status. The follow-up interviews were conducted roughly 5 years after. The NIS is one of the few reliable national representative data sets that captures the characteristics of new immigrants (Beine et al., 2007). It is potentially the only data set for the purpose of this study because it collected information on immigrants' premigration resources, initial legal status, and asset ownership.

This study restricted the analysis to adult respondents who had clear information regarding initial legal status and answered asset questions in the follow-up interviews. Respondents who did not specify initial legal status and who were Native American or Pacific Islander were excluded due to small sample size. With these restrictions, the analytical sample was 2,933. Although there was substantial attrition between the two waves (the response rate dropped from 68.6% to 46.1%), there was no selective attrition within LPRs' initial legal status on any variable (Massey et al., 2017). I applied both sampling design and nonresponse weights

as suggested by the data provider, which should yield valid and unbiased inferences about the progress of new immigrants in the U.S. (Massey et al., 2017).

This study used multiple imputation by chained equations to statistically fill in missing values on both dependent and independent variables (Allison, 2002). Dependent variables were imputed to make the imputation process more precise, and the observations that had missing values on dependent variables were excluded from final estimation (Allison, 2002). This approach is also called “multiple imputation, then deletion (MID)”, which can offer more efficient estimates than using the imputed values on dependent variables (von Hippel, 2007).

### **1.2.2 Measures**

#### *Outcome Variables*

This study examined three types of assets, including U.S. bank account ownership (i.e., checking or savings account), investment account ownership (i.e., respondents have investments in stocks/mutual funds, bonds, or CDs), and retirement account ownership (i.e., Individual Retirement Account [IRA] or Keogh account). All three variables were constructed as binary variables (1 = *owned* and 0 = *not owned*). The outcome variables were obtained from wave two only. The NIS requested the most financially knowledgeable spouse to answer the financial questions, as such the asset ownership in this study is at household level.

#### *Explanatory Variables*

This study used administrative records of the NIS to construct the variable of initial legal status with five categories: employment visa, family reunification visa, refugee visa, diversity visa, and being previously undocumented. To operationalize previously undocumented immigrants, I used their NIS records both on pathways of obtaining LPR and previous temporary visa categories, including those who: entered without inspection, with an entry code of unknown,

or with no code; those who obtained LPR status through legalization program; and those who overstayed with a tourist visa for more than 6 years before they obtained LPR status (Jasso, 2011). Immigrants with undocumented experience in this survey gained LPR status through family reunification (41%), amnesty program (38%), employment (10%), refugee visa (2%), and diversity visa (1%). Those who did not have undocumented experience and entered with the visa on record were coded as one of the four other categories.

### *Sorting*

The U.S. immigration system sorts immigrants mainly by their premigration human and financial capital: premigration education (in years); premigration working experience, measured with a question asking whether the respondent had ever worked for pay before immigration (1 = *yes* and 0 = *no*); premigration banking experience, measured with a question asking whether the respondent had a foreign bank account; childhood income, measured with a question asking about the respondent's family income level compared with other households when they were 16 (1 = *below average*, 2 = *average*, 3 = *above average*); childhood rural environment, measured with a question asking whether the respondent lived in a rural area when they were 10 (1 = *yes* and 0 = *no*).

### *Resource Allocation*

Initial legal status indicates indirectly to what level immigrants could access postmigration, pre-LPR resources. These resources can help immigrants obtain financial information and financial access that facilitate asset building. In this study, I included nine additional indicators, which to some degree measure the variation in resources allocated across immigrant types. Because the U.S. immigration authority grants immigrants work permission based on their legal status, I included a measure of whether the respondent had been authorized

to work in the U.S. before they obtained LPR status (1 = *yes* and 0 = *no*). In addition, the quality of resources that immigrants can access may depend on their occupations; skilled workers have higher chances of enjoying institutional benefits and quality social networks. Therefore, I included a binary variable indicating whether the immigrant was a skilled worker<sup>1</sup> (1 = *yes* and 0 = *no*). Undocumented immigrants are largely blocked from obtaining higher education at public institutions in the U.S.; I used a proxy for this resource with a dummy variable indicating whether the respondent had a U.S. college degree or not. Family support is an important resource for immigrants. I used a proxy for this resource with a dummy variable indicating whether the respondent had help from family to find a job. Refugees are provided resettlement services upon arrival, which usually comes with English classes. To measure this resource, I used a proxy with a dummy variable indicating whether the respondent had been enrolled in an English class in the past 12 months. I also included English proficiency (1 = *not at all*, 4 = *very well*), which largely determines immigrants' ability to obtain resources. Since exposure to and accumulation of financial resources is time dependent, I included time in the U.S. (1 = *1 year or less*, 2 = *1 to 4 years*, 3 = *5 to 9 years*, 4 = *10 or more years*). Time in the U.S. was calculated by the sum of all months that immigrants have spent in the U.S. and then adjusted to years based on migration histories. Although these measures are imperfect, they provide some information about immigrants' access to institutional and social resources, which can help them to invest in human, financial, or social capital that facilitates asset building.

Immigrants' race/ethnicity and gender influence their social connections, the level of institutional support, and, ultimately, wealth inequality (e.g., Ellingrud et al., 2021; & Rumbaut,

---

<sup>1</sup> Skilled worker refers to those who worked in an occupation that requires substantial education and training (e.g., engineers).

2006). Therefore, following previous scholarship, I also included gender and race to measure resource allocation (Kreisberg, 2019). I included binary gender and self-reported race/ethnicity: non-Hispanic White, non-Hispanic Asian, non-Hispanic Black, and Hispanic.

#### *Control Variables*

Control variables included immigrants' personal characteristics, including their age, marital status, number of children, and household income.

### **1.2.3 Analytical Approach**

The analyses began with a descriptive overview of the three types of assets and socio-demographic characteristics of the immigrants across the five initial legal statuses. Next, logistic regression analyses of the three binary outcomes were employed. The baseline models only included initial legal status. Then I added sorting variables as components of stratification and then resource allocation variables. The full models were added with the control variables. Model-predicted probabilities were provided to best present differences in asset ownership across the initial legal statuses. All analyses were based on the imputed data set. Wald tests were performed after running the models. Correlations between independent variables were examined and no multicollinearity issue was identified. Additionally, pairwise comparisons were conducted to test whether the differences between a single pair of statuses were significant.

## **1.3 Results**

### **1.3.1 Descriptive Results**

Table 1-1 provides the variables' means and distributions. Employment-based LPRs ranked at the top in terms of owning assets, with other types of LPRs falling behind. This pattern held across all three asset types, with larger disparities existing in the ownership of investment accounts and retirement accounts.

The average age of new LPRs in this study was 39.7 (range 18 – 91), and 76% of them were married or in a marriage-like relationship. Most of them were racial/ethnic minorities from South America and Asia. There were substantial variations across initial legal statuses in many characteristics. For example, non-Hispanic Asians were the leading group of employment-based visa holders (65%); in contrast, Hispanics constituted the largest proportion of immigrants with undocumented experience (76%). Employment-based immigrants had the largest share (58%) of legal work experience in the U.S. before they obtained LPR status, while only 9% of diversity visa holders had that experience.

Table 1-2 presents the logistic regression results of the three outcomes on the independent variables. Figure 1 displays model-predicted probabilities of owning a certain type of assets, generated from Table 2 after accounting for the initial legal status, sorting factors, postmigration resources, and other controls, holding other controls at their means. As indicated in Figure 1, variations in asset building exist 5 years after all immigrants obtained LPR status. Employment-based immigrants had the highest probabilities of owning all three types of assets. Immigrants in the remaining groups had lower possibilities of owning assets; their performances varied by asset types.

However, when sorting and resource allocation variables were added, the advantage employment immigrants held diminished, meaning that the variations were explained by immigrants' premigration human and financial capital, postmigration/pre-LPR resources. It is worth noting that the disparities narrowed most significantly when postmigration resources were accounted for, indicating that the wealth gap among immigrants might largely be explained by what they can access in the U.S. Among all the predictors about immigrants' postmigration conditions, English proficiency and holding a U.S. college degree were predictive across all three



types of assets. Working as skilled workers ( $p < .001$ ) were positively associated with owning sophisticated assets. Retirement account ownership was also influenced by whether they were authorized to work before attaining LPR status ( $p < .10$ ). Being Black or Hispanic was negatively associated with owning bank accounts, even after controlling for all factors.

**Table 1-1***Weighted Means and Standard Errors of Characteristics by Initial Legal Status*

	Full sample	Employment	Family	Refugees	Diversity	Undocumented
Bank acct. ownership	0.59 (0.01)	0.81 (0.02)	0.56 (0.02)	0.57 (0.04)	0.65 (0.02)	0.56 (0.02)
Invest acct. ownership	0.18 (0.01)	0.52 (0.02)	0.16 (0.01)	0.10 (0.02)	0.14 (0.02)	0.13 (0.02)
Retirement acct. ownership	0.15 (0.01)	0.45 (0.02)	0.14 (0.01)	0.14 (0.03)	0.10 (0.01)	0.10 (0.01)
<b>Sorting</b>						
Premigration education yrs.	11.52 (0.11)	15.59 (0.17)	11.32 (0.16)	12.41 (0.31)	14.52 (0.20)	9.09 (0.23)
Worked for pay before immigration (Yes)	0.57 (0.01)	0.71 (0.02)	0.54 (0.02)	0.63 (0.04)	0.70 (0.02)	0.50 (0.02)
Had a bank acct. at home country (Yes)	0.06 (0.01)	0.16 (0.02)	0.06 (0.01)	0.01 (0.01)	0.09 (0.01)	0.03 (0.01)
Childhood income						
Below average	0.30 (0.01)	0.16 (0.02)	0.29 (0.02)	0.24 (0.03)	0.18 (0.02)	0.42 (0.02)
Average	0.53 (0.01)	0.52 (0.02)	0.53 (0.02)	0.59 (0.04)	0.65 (0.02)	0.46 (0.02)
Above average	0.18 (0.01)	0.32 (0.02)	0.19 (0.01)	0.17 (0.03)	0.18 (0.02)	0.12 (0.01)
Living in rural area as child	0.41 (0.01)	0.30 (0.02)	0.43 (0.02)	0.32 (0.04)	0.30 (0.02)	0.47 (0.02)
<b>Resource Allocation</b>						
Had been authorized to work before LPR (Yes)	0.26 (0.01)	0.58 (0.03)	0.20 (0.02)	0.30 (0.04)	0.09 (0.02)	0.31 (0.02)
US college degree (Yes)	0.08 (0.01)	0.23 (0.02)	0.06 (0.01)	0.06 (0.02)	0.05 (0.01)	0.07 (0.02)
Family helped with finding a job (Yes)	0.21 (0.02)	0.06 (0.02)	0.26 (0.03)	0.10 (0.03)	0.25 (0.03)	0.18 (0.02)
Enrolled in an English class in past 12 months (Yes)	0.13 (0.01)	0.05 (0.01)	0.14 (0.01)	0.18 (0.03)	0.20 (0.02)	0.11 (0.01)
Worked as skilled labor (Yes)	0.25 (0.01)	0.74 (0.03)	0.24 (0.02)	0.23 (0.03)	0.17 (0.02)	0.12 (0.02)
English proficiency						
Not at all	0.19 (0.01)	0.02 (0.01)	0.29 (0.01)	0.14 (0.03)	0.10 (0.02)	0.14 (0.01)
Not well	0.32 (0.01)	0.13 (0.02)	0.29 (0.02)	0.36 (0.04)	0.40 (0.02)	0.38 (0.02)
Well	0.26 (0.01)	0.34 (0.02)	0.22 (0.02)	0.32 (0.04)	0.29 (0.02)	0.29 (0.02)
Very well	0.23 (0.01)	0.50 (0.02)	0.20 (0.02)	0.18 (0.03)	0.21 (0.02)	0.19 (0.02)

<b>Years in the U.S.</b>						
1 year or less	0.37 (0.01)	0.22 (0.02)	0.51 (0.02)	0.05 (0.02)	0.84 (0.02)	0.06 (0.01)
1-4 years	0.17 (0.01)	0.14 (0.02)	0.22 (0.02)	0.38 (0.04)	0.07 (0.01)	0.08 (0.01)
5-9 years	0.19 (0.01)	0.45 (0.02)	0.16 (0.01)	0.37 (0.04)	0.06 (0.01)	0.16 (0.02)
10 years or more	0.27 (0.01)	0.18 (0.02)	0.11 (0.01)	0.20 (0.03)	0.02 (0.01)	0.70 (0.02)
<b>Race/ethnicity</b>						
Non-Hispanic White	0.22 (0.01)	0.24 (0.02)	0.20 (0.02)	0.45 (0.04)	0.50 (0.02)	0.10 (0.01)
Non-Hispanic Asian	0.28 (0.01)	0.65 (0.02)	0.37 (0.02)	0.15 (0.03)	0.15 (0.02)	0.09 (0.01)
Non-Hispanic Black	0.11 (0.01)	0.04 (0.01)	0.10 (0.01)	0.18 (0.03)	0.31 (0.02)	0.05 (0.01)
Hispanics	0.39 (0.01)	0.08 (0.01)	0.33 (0.02)	0.21 (0.03)	0.04 (0.01)	0.76 (0.02)
Male	0.45 (0.01)	0.56 (0.02)	0.37 (0.02)	0.55 (0.04)	0.60 (0.02)	0.47 (0.02)
<b>Demographic and socioeconomic controls</b>						
Age	39.70 (0.31)	36.86 (0.37)	42.54 (0.51)	41.90 (1.03)	34.00 (0.47)	37.11 (0.51)
Married/Living with a domestic partner	0.76 (0.01)	0.83 (0.02)	0.78 (0.01)	0.75 (0.03)	0.66 (0.02)	0.73 (0.02)
<b>Region of origin</b>						
Mexico; South/Central America; Caribbean countries	0.43 (0.01)	0.10 (0.02)	0.39 (0.02)	0.25 (0.03)	0.04 (0.01)	0.81(0.02)
Africa sub-Saharan	0.06 (0.00)	0.02 (0.01)	0.04 (0.01)	0.12 (0.02)	0.24 (0.02)	0.02 (0.01)
South/East Asia	0.28 (0.01)	0.65 (0.02)	0.36 (0.02)	0.14 (0.03)	0.14 (0.02)	0.08 (0.01)
Europe and Central Asia	0.17 (0.01)	0.19 (0.02)	0.15 (0.01)	0.36 (0.04)	0.39 (0.02)	0.08 (0.01)
Middle East and North Africa	0.06 (0.01)	0.03 (0.01)	0.06 (0.01)	0.13 (0.03)	0.19 (0.02)	0.01 (0.01)
Number of children under 18	0.78 (0.02)	0.87 (0.04)	0.58 (0.03)	1.04 (0.10)	0.72 (0.05)	1.08 (0.05)
Household Income (\$2003)	\$29,293.31 (1160.04)	\$70,390.40 (3204.50)	\$24,330.16 (2027.75)	\$26,727.11 (2039.77)	\$18601.11 (3247.10)	\$28746.80 (1527.88)
<i>N</i>	2,933	559	930	186	594	664

Note.  $N=2,933$ . Standard deviation in parentheses. Means and standard errors calculated on imputation estimation. Sampling design weights and nonresponse weights were applied. Source: New Immigrant Survey 2003, 2009.



Average	-0.01 (0.11)	-0.16 (0.12)	-0.20† (0.12)	0.16 (0.17)	-0.03 (0.18)	-0.04 (0.19)	0.12 (0.19)	-0.06 (0.20)	-0.08 (0.20)
Above average	0.24 (0.16)	-0.09 (0.17)	-0.21 (0.18)	0.63** (0.20)	0.21 (0.23)	0.19 (0.23)	0.87** (0.22)	0.49* (0.23)	0.47* (0.23)
Childhood rural environment	-0.24* (0.10)	-0.09 (0.11)	-0.02 (0.11)	-0.23 (0.14)	-0.14 (0.15)	-0.10 (0.16)	-0.21 (0.15)	-0.08 (0.17)	-0.04 (0.17)
<b>Resource allocation</b>									
Have been authorized to work before LPR (Yes)		0.20 (0.14)	0.13 (0.14)		0.21 (0.18)	0.17 (0.18)	-	0.31† (0.18)	0.26 (0.18)
Skilled worker		0.16 (0.19)	0.10 (0.20)		0.98*** (0.24)	0.93*** (0.24)		1.11*** (0.25)	1.08*** (0.26)
Had a U.S. college degree		0.62† (0.34)	0.56† (0.34)		0.61* (0.30)	0.50 (0.29)		0.49† (0.27)	0.35 (0.28)
Family helped with job		0.06 (0.19)	0.12 (0.20)		-0.12 (0.30)	-0.08 (0.30)		-0.08 (0.32)	-0.02 (0.31)
Enrolled in English classes		0.18 (0.15)	0.07 (0.15)		0.40† (0.22)	0.40† (0.22)		0.31 (0.23)	0.35 (0.24)
English proficiency (Not at all omitted)									
Not very well		0.47** (0.15)	0.03 (0.16)		0.29 (0.33)	-0.05 (0.33)		0.84* (0.40)	0.52 (0.40)
Well		1.10*** (0.17)	0.55** (0.19)		0.79* (0.33)	0.37 (0.34)		1.27** (0.40)	0.89* (0.41)
Very well		1.33*** (0.20)	0.80*** (0.23)		1.32*** (0.34)	0.95** (0.36)		1.59*** (0.42)	1.26** (0.43)
Race/ethnicity (Non-Hispanic White omitted)									
Asian		-0.22 (0.15)	-0.08 (0.17)		0.22 (0.19)	0.39* (0.20)		0.01 (0.21)	0.10 (0.22)
Black		-0.37* (0.18)	-0.35† (0.18)		-0.65* (0.29)	-0.57† (0.30)		-0.17 (0.27)	-0.06 (0.27)

Hispanics			-0.34*	-0.57**			-0.30	-0.33			-0.34	-0.35
			(0.16)	(0.18)			(0.24)	(0.25)			(0.25)	(0.25)
Male			0.15	0.22*			-0.01	0.08			-0.48**	-0.44**
			(0.10)	(0.11)			(0.15)	(0.15)			(0.16)	(0.16)
Years in the U.S. (1 year or less omitted)												
1-4 years			0.16	0.05			0.08	-0.02			0.46†	0.38
			(0.17)	(0.18)			(0.25)	(0.25)			(0.27)	(0.27)
5-9 years			0.13	-0.02			0.37	0.23			0.38	0.23
			(0.18)	(0.19)			(0.24)	(0.25)			(0.24)	(0.25)
10 years or more			-0.09	-0.17			0.15	0.13			0.39	0.36
			(0.20)	(0.21)			(0.29)	(0.31)			(0.30)	(0.31)
<b>Control variables</b>												
Age				0.07*				0.17**				0.21***
				(0.03)				(0.05)				(0.06)
Age <sup>2</sup>				-0.00***				-0.00***				-0.00***
				(0.00)				(0.00)				(0.00)
Married/living with a domestic partner				0.27*				0.47**				0.76***
				(0.13)				(0.17)				(0.19)
Number of children under 18				-0.04				-0.08				-0.18*
				(0.05)				(0.08)				(0.08)
Logged income				0.11***				0.09†				0.10†
				(0.03)				(0.05)				(0.05)
Constant	1.48***	0.32	-0.16	-0.87	0.07	-2.92***	-4.09***	-7.06***	-0.21*	-2.94***	-4.27**	-8.04***
	(0.13)	(0.24)	(0.33)	(0.67)	(0.10)	(0.33)	(0.48)	(1.06)	(0.10)	(0.35)	(0.59)	(1.19)

Note.  $N=2,933$ . Model A1, Model B1, and Model C1 are baseline models with legal status; Model A2, Model B2, and Model C2 are models with sorting variables; Model A3, Model B3, and Model C3 are models with postmigration resources added; Model A4, Model B4, and Model C4 are full models. 2. Coefficients and standard errors calculated on imputation estimation. Standard errors in parentheses. Sampling design and nonresponse weights were applied. † $p < .10$ , \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$  (two-tailed tests).

Source: New Immigrant Survey 2003, 2009.

### 1.3.2 Asset Ownership: Stratified by Initial Legal Status

#### *Employment-Based Immigrants*

Results from baseline models in Figure 1-1 show that 5 years after gaining LPR status, employment-based immigrants had strikingly higher probabilities of owning all three types of assets compared to immigrants with other initial legal statuses (81% for bank account ownership, 52% for investment account ownership, and 45% for retirement account ownership,  $p < .001$ ). However, Models A2, B2, and C2 indicate that this advantage was partly explained by their premigration resources. For example, according to Models B1 and B2, employment immigrants' predicted probabilities of owning investment accounts dropped from 52% to 34% when premigration factors were accounted for. The gaps between employment and other types of immigrants dramatically narrow when postmigration resources are considered. As shown in Models A3, B3, and C3, employment-based immigrants' advantage only held when compared to refugees and diversity immigrants, based on pairwise comparison. For example, 19% of employment immigrants had retirement accounts while only 12% of diversity visa holders had retirement savings ( $p < .05$ ). Full models with socio-demographic controls demonstrate little variation between all types of immigrants in owning these assets. Employment-based immigrants only held advantage over diversity immigrants in owning retirement accounts (18% vs. 12%,  $p < .10$ ). In accordance with *Hypothesis 1*, employment-based immigrants had the highest probabilities of owning all three types of assets, and their pre- and postmigration resources explain most of the advantages.

#### *Family-Based Immigrants*

Baseline models from Figure 1 demonstrate that family-based immigrants showed significantly lower probabilities of owning assets than employment-based immigrants (56% vs.

81% for bank account ownership, 16% vs. 52% for investment account ownership, and 14% vs. 45% for retirement account ownership,  $p < .001$ ). Adding pre- and postmigration resources significantly narrows the gaps between family and employment immigrants; their probabilities of owning assets were nearly the same when controls were accounted for. The comparisons between family immigrants and the remaining categories across the three types of assets showed mixed results. Family immigrants were no different from all other types of immigrants in owning bank accounts (Model A4); they showed an advantage over refugees (Model B4, 19% vs. 13%,  $p < .05$ ) and diversity visa holders (Model B4, 19% vs. 14%,  $p < .10$ ) in investment account ownership based on pairwise comparisons. It is important to note that having family help to find a job was negatively associated with owning investment and retirement accounts, although the associations were not significant. In mixed support of *Hypothesis 2*, family immigrants had lower probabilities of owning assets than employment-based immigrants, but their disadvantage disappeared when pre- and postmigration resources were accounted for. Family immigrants had no advantage over the other types of immigrants in owning assets after they all gained LPR status, except for a slight advantage over refugees and diversity immigrants in owning investment accounts.

### *Refugees*

Baseline models from Figure 1 show that refugees had lower probabilities of owning all three types of assets than employment-based immigrants (57% vs. 81% for bank account ownership, 10% vs. 52% for investment account ownership, and 14% vs. 45% for retirement account ownership,  $p < .001$ ). Adding pre- and postmigration resources did not increase their likelihood of owning assets. Full models demonstrate that although they received resettlement assistance upon arrival, refugees fared no differently from diversity visa holders in asset holding,



and they were even disadvantaged in owning investment accounts compared with those with undocumented experience (13% vs. 20%,  $p < .05$ ). In mixed support of *Hypothesis 3*, refugees had less likelihood of owning all three types of assets than employment-based immigrants; controlling for pre- and postmigration resources narrowed the gap between the two groups, but it was mainly because of the diminishing advantage of employment immigrants, rather than an increased advantage of refugees; the hypothesized order with the remaining categories was not found.

#### *Diversity Visa Holders*

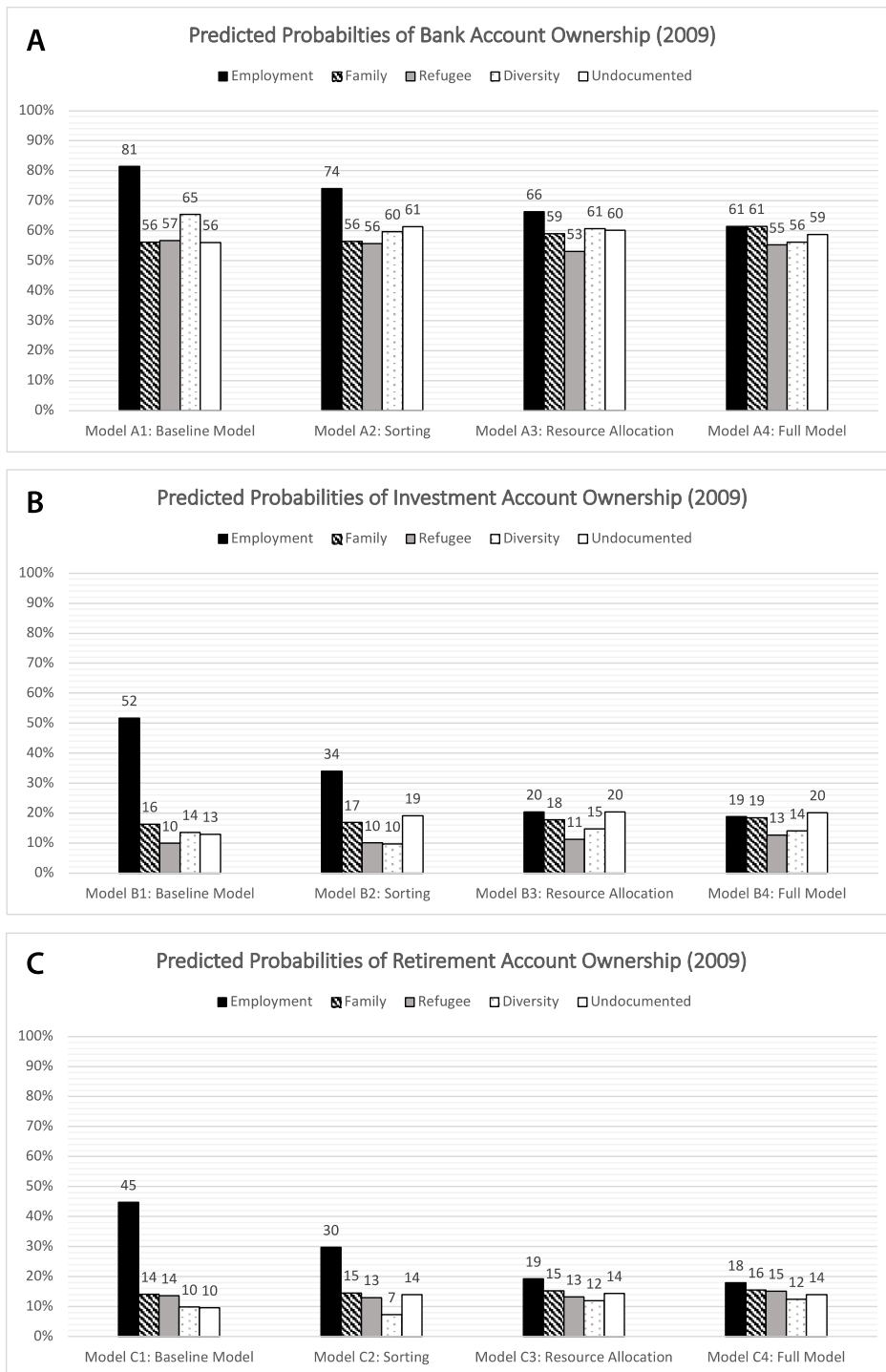
Baseline models from Figure 1 illustrate that diversity visa holders had lower probabilities of owning assets than employment immigrants (65% vs. 81% for bank accounts, 14% vs. 52% for investment accounts, and 10% vs. 45% for retirement accounts,  $p < .001$ ). Like refugees, adding pre- and postmigration resources did not change diversity visa holders' situations, and the narrowed gap between them and employment-based immigrants was due to the loss of advantage of employment-based immigrants. The gap between diversity visa holders and employment immigrants in owning retirement assets remained after all factors were accounted for. Diversity visa holders were slightly more disadvantaged than family immigrants (14% vs. 19%,  $p < .10$ ) and those with undocumented experience (14% vs. 20%,  $p < .05$ ) in owning investment accounts according to pairwise comparisons. They showed no difference with refugees in owning these assets. Therefore, in mixed support of *Hypothesis 4*, five years after all the immigrants gained LPR status, diversity visa holders had lower probabilities of owning assets than employment and family immigrants; however, diversity visa holders had equally low probabilities of owning assets as refugees and fared even worse than previously undocumented immigrants.

### *Immigrants with Undocumented Experience*

Baseline models from Figure 1 indicate that immigrants with undocumented experience had significantly lower probabilities of owning assets than employment immigrants (57% vs. 81% for bank accounts, 13% vs. 52% for investment accounts, and 10% vs. 45% for retirement accounts,  $p < .001$ ). The gaps narrowed after adding pre- and postmigration conditions. Previously undocumented immigrants' probabilities of owning assets were in an increasing trend when resources were accounted for. Results from the full models indicate that immigrants with undocumented experience had no differences with employment-based and family immigrants in owning assets; they even showed some advantages over refugees and diversity visa holders in owning sophisticated financial assets. Therefore, in mixed support of *Hypothesis 5*, five years after all the immigrants obtained LPR status, immigrants with undocumented experience were among the most disadvantaged group in owning assets; however, their disadvantages diminish if controlling for resource factors.

**Figure 1-1**

*Predicted Probabilities of Owning Assets in 2009 by Initial Legal Status*



Note. Predictions generated from Table 1-2.

## 1.4 Discussion

Asset accumulation has profound effects on immigrants' long-term economic well-being. Although the immigrants in this study had been living and working with LPR status for 5 years, a substantial proportion remained unbanked. The average shares of owned stocks/mutual funds or retirement accounts were particularly low compared to those of their native-born counterparts around 2009. Although the shares of stock fell after the 2007-2009 recession, 46% of U.S. households still owned stocks (Zhou, 2020), and 39% owned one or more types of IRAs in 2009 (U.S. Census Bureau, 2011), compared to 18% and 15%, respectively, among new LPRs in this sample. In fact, it is these types of assets that are high-risk, high-return, and related to long-term financial security that aid individuals and households in accruing various levels of wealth (Keister, 2000). The disparities of owning investment accounts could be a driver of wealth inequality between immigrants and native-born Americans since capital gains occur over time, despite temporary ups and downs.

Focusing on five types of initial legal status, this study found that employment-based immigrants fared far better than other immigrant groups. Striking contrasts in asset building were found between employment and nonemployment immigrants when accounting for their initial legal status. However, when other factors, especially postmigration resources, were accounted for, the gaps between employment and other types of immigrants narrowed substantially. Although premigration resources explain part of the variation, the findings highlight the postmigration conditions in predicting immigrants' ability to build assets in the U.S. English proficiency, working as a skilled worker, and U.S. college education were found to play a significant role in explaining why employment immigrants were better off than other types of immigrants. This finding confirms that initial legal status is attached to different levels of

resources (Kreisberg, 2019; Menjívar & Lakhani, 2016); employment immigrants have more access to institutional-level resources, and the advantage is cumulative over time.

Family immigrants showed some advantages in asset building over refugees and diversity visa holders but had a similar position to previously undocumented immigrants. This indicates that informal resources, such as networks with U.S. citizens or other LPRs with substantial U.S. experience, are beneficial to immigrants (Painter, 2015). It is worth noting that aggregating all types of family sponsorship may mask the heterogeneity in the family-reunification group, as immigrants sponsored by their spouses were found to have similar levels of wealth as employment-based immigrants (Painter, 2015). Family immigrants' advantages may reflect the asset holdings of the spouse, since in the NIS, the most financially knowledgeable spouse answered the financial questions. Immigrants sponsored by other family members may be positioned differently in holding assets.

Although refugees are usually assisted by resettlement agencies upon arrival, these resettlement services did not appear to bring them any advantages in building assets but instead focused mostly on rapid employment and cash assistance. While diversity visa holders came with some human and financial capital, they ended up with a similar level of asset building outcomes as refugees and were even worse off than previously undocumented immigrants, partly because of the mismatch of their talent and occupation and the lack of social network and institutional supports (Hailu et al., 2012).

Among all the nonemployment immigrants, those who had undocumented experience are worth noting, as they are usually the most vulnerable group in regards to institutional constraints (Joseph, 2020). Although there were still striking disparities between previously undocumented immigrants and employment immigrants, the gaps disappeared if resource-related factors were

controlled, highlighting the importance of removing structural barriers for undocumented immigrants to facilitate their integration.

Findings also suggested that Blacks and Latinos were disadvantaged in owning financial assets, which warrants studying intersecting dimensions of inequality. For example, “illegality” has become racialized (Menjívar, 2021). Latinos may therefore experience a higher level of financial exclusion regardless of initial legal status (Rhine & Greene, 2006). Additionally, African immigrants, who comprise a large share of diversity visa holders, are often racialized as Black (Asad & Clair, 2017); they may encounter similar racial discrimination as African Americans. Furthermore, immigration flows are shifting. In the past decade, most refugees were from Africa (28%) and Asia (63%), rather than mostly White refugees from Europe (Monin et al., 2021). It is important for future research to determine how the intersection of initial legal status and race/ethnicity affects inequality.

Alongside its contributions, this study has some limitations. First, the NIS data are not representative of all immigrants in the U.S., only those who gained LPR status during 2003 to 2004. Second, the previously undocumented immigrants in this study were those who ultimately attained LPR status. Given the financial cost of applying for LPR, the sample in our study might have been the most advantaged individuals among undocumented immigrants, rather than representing the whole of undocumented populations. Therefore, we should be cautious in interpreting results of the previously undocumented sample. Third, I did not include immigrants’ international financial transfers, which may matter for their asset building practices in the U.S.

Although the U.S. has immigration policies determining who may enter the country, there is a lack of a comprehensive national immigrant policy that involves postmigration services (Padilla, 1997). Findings from this study suggest that immigrants, even after they have been

living with LPR status for years, generally have lower probabilities of owning assets; the disadvantages are clearest among nonemployment immigrants who have fewer institutional supports. With an emphasis on postmigration resources, this study calls for federal, state, and local policies that aim to expand immigrants' financial access. For example, as immigration populations continue to grow, language access should be a mandate in the financial services sector. Special attention should be paid to immigrants with low socioeconomic status, such as low-income older immigrants, as they are found to experience financial exclusion and have a lower level of asset holding than younger immigrants (Nam et al., 2015; Nam et al., 2019). Additionally, the disadvantages seen among refugees call for resettlement programs that focus more on long-term financial wellbeing. Findings also highlight policy actions to remove barriers that undocumented immigrants face in accessing education and legal employment.

This study's findings also have implications for future research and practices. First, researchers and policy analysts should disaggregate LPRs by their initial legal statuses and develop a better understanding of immigrants with different experiences. However, most public data do not collect information on immigrants' initial legal statuses, forcing researchers to collect small-scale, non-representative data or rely on proxy measures. Researchers should call for new data collection to strengthen our knowledge of recent immigrants. It is also important to note that there is an internal heterogeneity within their visa type categories; future research should further explore the variations within each group.

Furthermore, findings of this study address an urgent need to train social service providers with enhanced abilities to understand the complexities of immigrants' milieu (Martinez-Brawley & Zorita, 2011). Service providers with immigrant clients should be aware that structural barriers are major roadblocks for many immigrants to move upward, but these

barriers could be removed through effective programs and policy change. For immigrants with limited institutional support, social service providers should refer them to community-based, affordable financial coaching services or advocate for employer-sponsored financial wellness programs designed for low-income workers (Despard et al., 2021). Once immigrants are given an opportunity to put aside some money for long-term wealth building, small dollars can make a big difference for both immigrants and U.S. society.



## **Chapter 2. Does Financial Access Improve Asset Building Among Immigrants?**

### **A Propensity Score Analysis**

#### **2.1 Introduction**

Immigrants are vital to the U.S. economy. As of 2021, immigrants composed 17.7% of the U.S. labor force and the proportions were even higher in states such as California, Washington, and New York (U.S. Bureau of Labor Statistics, 2022). Their role as an integral part of U.S. society has become increasingly prominent during and after the COVID-19 pandemic, sustaining the function of society as “essential” workers and boosting the economy as taxpayers, consumers, and business owners (Beyer, 2021). Despite the large size of the immigrant population and their increasing importance in the U.S. economy and society, immigrants are less likely than their native-born counterparts to participate in the mainstream financial market and own financial assets (Osili & Paulson, 2006), which is critical to one’s long-term economic wellbeing (Sherraden et al., 2015).

Both asset theory and financial capability framework hypothesize that having access to appropriate and beneficial financial products and services facilitates asset building (Beverly et al., 2008; Sherraden, 2013; Sherraden et al., 2018). Having financial access provides individuals an opportunity to participate in the mainstream financial market, through which they are able to save money, build credit, and invest for long-term wealth (Friedline et al., 2018). As immigrants and their offspring continue to play active roles in the U.S. economy, financial access among immigrant families has become of increasing interest to researchers, bank service providers, and policymakers (Chatterjee & Zahirovic-Herbert, 2014; Nam et al., 2019; Osili & Paulson, 2007; Rhine & Greene, 2006).

To better understand the role that financial access plays in immigrants' asset building, the fundamental research question is: Are asset-building outcomes different for immigrants who have financial access versus those who do not? Although prior studies have documented a positive association between immigrants' financial access and asset building outcomes (e.g., Chin et al., 2011; McConnell & Akresh, 2008), most did not address self-selection bias. In fact, many factors may lead to a person's chance of having financial access; and differences between those who have financial access and those who do not may explain variations in outcomes. Research that does not engage with this issue will be biased, so self-selection issues must be properly resolved (Guo & Fraser, 2015).

### **2.1.1 Study Purpose and Contributions**

Immigrants need affordable and quality financial services to conduct daily financial activities and to plan for long-term wealth, so they can gain a foothold in this new land. The current study aims to examine the relationship between financial access and asset building outcomes among immigrants. Specifically, I focus on immigrants' banking status when they gained LPR status, a milestone that grants immigrants legal working rights and permanent residence in the United States, analyzing the effect of this earlier access to U.S. banks on various asset building outcomes 5 years later. This data comes from the New Immigrant Survey 2003 and 2009. It is important to note that the sample in this study only represents LPRs, who comprised roughly 27% (12.3 million) of the entire U.S. foreign-born population (Budiman, 2020). In addition, given the selective process and tremendous benefits in terms of legal presence, social benefit access, and work authorization (Homeland Security, 2021), LPRs may be more advantaged than other immigrants such as temporary or unauthorized immigrants. Therefore, we should be cautious when interpreting the results. Despite the possible limitation of

the dataset, the sample I used has advantages because the participants were interviewed soon after receiving their LPR status, the starting point that everyone began to live in the United States as long-term residents. Therefore, my sample has an advantage over sample consisting of immigrants with different numbers of years of settlement.

The study makes three contributions to research on asset accumulation and financial wellbeing among immigrants. First, it leveraged a nationally representative dataset with information on immigrants granted LPR status in 2003. This matters because immigrants are heterogeneous and hard to reach. Testing the effect of banking on asset building by using the nationally representative dataset increases the external validity of the findings. Second, by determining the relationship between banking status at the time the respondents gained LPR status and their asset building outcomes 5 years later, this study examined the association between banking status and subsequent asset building. Using longitudinal data is necessary for causal inference concerning banking status and asset building. Third, to address self-selection bias associated with individuals who are banked, this study employed propensity score analysis, a well-developed method to correct the bias. As discussed above, reasons for being banked or unbanked are complex; immigrants with certain individual characteristics may tend to own bank accounts, which is likely to create an endogeneity problem. It is unrealistic and unethical to use a randomized controlled trial to test the role of banking on asset building. Propensity score analysis mitigates the endogeneity problem.

### **2.1.2 Conceptual Background**

#### **The Importance of Having Financial Service Access**

People require access to financial services and products in order to apply their financial knowledge in the form of desirable financial behaviors (Sherraden et al., 2015; Xiao & Huang,

2021). Financial access refers to people's ".....access to financial products and services from formal financial institutions, including reasonable costs, accompanying safeguards such as consumer protections, and convenience" (Birkenmaier & Fu, 2018, p. 1171).

A key indicator of financial access is having a relationship with a federally insured depository institution such as a bank or credit union, i.e., "being banked" (Birkenmaier & Fu, 2018). Being banked bridges individuals and families to safe and efficient financial services and products, which in turn yields numerous benefits. It provides people a safe place to deposit money and store their savings, and may be particularly beneficial in unforeseen circumstances such as natural or man-made disasters (Cheney & Rhine, 2006). Being banked secures people's funds through consumer laws and regulations. For example, the Electronic Fund Transfer Act grants consumers rights to challenge errors and file disputes (Northwood & Rhine, 2018), which provides consumers with a financial safety net. More importantly, being banked connects individuals and households to reliable financial services and affordable credit, which enables them to save for short-term emergencies, build a positive credit profile, and purchase long-term assets (Blank & Barr, 2009). For instance, evidence has shown that people who had banking experience or connections with mainstream financial institutions tend to have better saving outcomes (Dunham, 2001; Grinstein-Weiss et al., 2010), are more likely to own retirement accounts (Stegman, 2001), and have a higher level of asset accumulation (Célerier & Matray, 2019).

In contrast, unbanked populations miss the opportunity to build wealth through affordable and reliable banking services provided by formal banks or credit unions. Individuals and households have various daily and long-term financial needs. Without access to appropriate banking services, the unbanked are forced to use alternative financial services (AFS) such as

check cashing, payday loans, and pre-paid cards to conduct financial activities, which are expensive and less secure (Federal Deposit Insurance Corporation [FDIC], 2014; Birkenmaier & Fu, 2016; Lim et al., 2014; Rhine & Greene, 2013). A study examining possible savings of an unbanked worker within several scenarios revealed that an unbanked full-time worker could potentially save about \$40,000 during his career through a checking account instead of high-cost check-cashing services (Fellowes & Mabanta, 2008). In other words, being unbanked and using AFS means workers forgo the money that could be potentially saved and used to purchase other assets.

Finally, being banked also provides people an opportunity to gain financial knowledge through managing their bank accounts, which in turn increases their financial capability to enhance asset building. For example, in an experimental study testing the effects of Child Development Accounts (CDAs) on financial capability among young mothers, Huang et al. (2021) found that participants in the treatment group were more likely to use asset- and debt-products than those in the control group, and this difference was partially attributed to the combination of participants' access to CDA policy and gained financial literacy. Thus, being banked seems to be essential for accumulating assets, enhancing people's financial capability to make informed financial decisions that promote long-term asset building.

### **Determinants of Banked Status**

Research has demonstrated that an array of demographic, socioeconomic, and institutional-level factors are associated with banked status (e.g., Barr, 2004; Fellowes & Mabanta, 2008; Rao & Malapit, 2015; Rhine & Greene, 2013). For example, Rhine and Greene (2013) examined banking status among U.S. households using 2004 Survey of Income and Program Participation (SIPP) data and found that unbanked households were more likely to be

racial or ethnic minorities, low-income with lower education attainment, non-citizens, unmarried, renters, and living in the South. Similarly, a study analyzing data of the American Dream Demonstration (ADD) participants revealed that the unbanked were more likely to be younger, Black, divorced, separated, or widowed, and had more children (Grinstein-Weiss et al., 2010).

Barriers to being banked are intersecting, far beyond financial knowledge (Bullock et al., 2020). Berry (2004) indicated that people face “hard” barriers such as the lack of required identification and poor credit history and “soft” barriers such as perceived unwelcoming environment and language challenges in communicating with bank staff. But the “hard” barriers appeared to be more important in keeping consumers from using bank services. Barriers also include unfriendly features of bank products and services, such as a lack of products targeted toward low-income populations (Fellowes & Mabanta, 2008) and long waiting times (Bullock et al., 2020). Interpersonal impact also plays a role in people’s banking status. Whether friends or economic networks use formal banking services and whether businesses or landlords accept checks influence people’s use of banking services (Berry, 2004; Moy et al., 2017).

Furthermore, other studies have indicated that the relative scarcity of bank branches and the sprawl of AFS in neighborhoods with high poverty rates and proportions of racial and ethnic minorities explained why so many households in these neighborhoods were unbanked (Caskey, 2005; Squires, 2004). However, findings regarding neighborhood factors were mixed. Other evidence has shown that low-income neighborhoods were nearly as likely as other neighborhoods to have bank and credit union branches (Fellowes & Mabanta, 2008); only a small proportion of unbanked participants cited the inconvenient location of a bank or credit union as an important reason for not having a formal bank account (Aizcorbe et al., 2003; Berry, 2004). Paulson and Rhine (2008) found that Hmong immigrants were less likely to own saving

accounts or credit cards compared to non-Hmong households living in the same neighborhood, suggesting that sociocultural factors such as assimilation may explain the variation.

Research also has suggested that there may be distrust and misconceptions between banks and consumers (Hogarth & Lee, 2000). For example, a qualitative study examining low-income Latinas' experience with mainstream banking indicated that participants frequently referred to mainstream banks as “distrustful” and feared they would lose their public benefits by having a balance in their bank accounts (Bullock et al., 2020).

### **Immigrants and Banking**

Immigrants have a variety of financial challenges upon arrival, ranging from paying living expenses and cashing payment checks to saving and investing for long-term use. Building a relationship with a U.S. mainstream financial institution at an earlier stage of immigration is important for their adaptation to their new country and the establishment of a new life. For immigrants, particularly those who are newly arrived, low-income, or with a racial or ethnic minority background, being banked means having a safe place to receive and save money, obtain reliable financial information, access affordable credit, and therefore set out on a path towards asset building (Chin et al., 2011; McConnell & Akresh, 2008). However, research on immigrants' banking and its implications are limited.

Despite the tremendous benefits of bank use, immigrants in the United States are less likely than their native-born counterparts to have bank accounts, including savings and checking accounts (Bohn & Pearlman, 2013; Chatterjee & Kim, 2011; Osili & Paulson, 2006; Rhine & Greene, 2006). In 2017, only 84% of immigrants had either a checking or savings account, compared to 95% among U.S. citizens (author calculation using the Current Population Survey Unbanked/Underbanked data from the FDIC). Unbanked immigrants are more likely to use AFS

to conduct financial transactions, which are expensive, insecure, and less contributive to long-term wealth accumulation (FDIC, 2020). Furthermore, as newcomers, immigrants' initial strategy upon arrival may have profound impacts on their financial lives afterward. Immigrants who use AFS upon arrival may develop some loyalty to these services and could be inclined to continue using them for a long time.

Immigrants experience multiple forms of financial exclusion rooted in intersections with race and ethnicity, economic status, and other aspects of their identity. Unbanked immigrants have similar sociodemographic characteristics as native-born Americans (Rhine & Greene, 2006), but immigrants face further barriers to accessing mainstream financial services, which include but are not limited to language barriers (Nam et al., 2022), poor or no credit history (Ibarra & Rodriguez, 2006), and discriminatory practices (Bullock et al., 2020; Zuhair et al., 2015). For example, research has found that banked immigrants tend to speak fluent English (Bleakley & Chin, 2004). Immigrants with language barriers may face challenges in using mainstream financial services because it is hard for them to obtain financial information and comfortably communicate with bank staff (Consumer Financial Protection Bureau [CFPB], 2016; United States Government Accountability Office [GAO], 2010). Being a racial or ethnic minority with immigrant status increases the likelihood of being unbanked. Among all racial or ethnic groups, Hispanic immigrants have the highest rate of being unbanked (Rhine & Greene, 2006). Anti-immigrant climate also creates perceived discrimination that keeps immigrants from using mainstream financial services—the perception of hostile or discriminatory attitudes towards them could push immigrants to nonbanking services, especially if their social networks are doing so (Zuhair et al., 2015).



Distrust and misconceptions about banks may be more common among immigrant groups due to their unfamiliarity with U.S. institutions and limited information sources. Some immigrants have perceptions that they will lose funds in their accounts when their immigrant documentation expires (Cruz-Taura et al., 2005). Many undocumented immigrants avoid mainstream financial institutions because they fear that formal financial institutions will reveal their information and report it to immigration authorities, which would jeopardize their stay in the United States (Amuedo-Dorantes & Bansak, 2006; Suro et al., 2014). Immigrants' reluctance to use mainstream financial institutions may in part result from their limited financial knowledge (Zhan et al., 2009) as well as a lack of reliable financial information (Natoli, 2018), but more importantly, because they lack opportunities to obtain financial education provided by authorized financial educators (Zuhair et al., 2015).

Immigrants' banking status is also influenced by the effectiveness of financial institutions and the level of financial inclusion in their countries or regions of origin (Osili & Paulson, 2008). Compared to immigrants from Europe, Asia, or other regions of Latin America, Mexican immigrants are more likely to be unbanked (Rhine & Greene, 2006), which is at least partly because of the poor financial infrastructure in Mexico (World Bank, 2012).

Years spent in the United States may increase the likelihood of being banked (Paulson & Rhine, 2007) as immigrants become familiar with the U.S. financial system and develop better English-language skills. The environment, however, where immigrants live and work also matters because to some extent it affects the way they conduct financial activities. Evidence has indicated that immigrants who live in the areas where immigrants have a weaker presence (e.g., the U.S. South) are more likely to participate in the financial mainstream because they might rely less on ethnic networks (Bohn & Pearlman, 2013).

It is also important to note that banking is a dynamic process. Previously banked populations can become unbanked due to shocks such as job and health coverage loss and income decline (Rhine & Greene, 2013). In contrast, some factors such as having higher levels of education, being employed and well-paid, and being a homeowner can reduce the likelihood of shifting from being banked to unbanked (Rhine & Greene, 2013). Compared to native-born populations, immigrants are less likely to be employed in management, professional, and related occupations, and they generally earn less than their native-born counterparts (U.S. Bureau of Labor Statistics, 2022). Furthermore, they may be likely to encounter those risk factors, especially during the economic downturn (Hao, 2007). For example, according to Capps et al. (2020), COVID-19 pandemic-induced unemployment has been especially high among immigrant workers; Latina immigrants had the highest jobless rate among all racial and ethnic groups. Therefore, it is possible that immigrant workers may experience a higher rate of becoming unbanked when the economy is sliding.

Although prior studies showed that having a bank account in the United States enables immigrants to participate in the mainstream financial market and accumulate wealth (McConnell & Redstone Akresh, 2008), the majority are correlational studies with the self-selection bias of being banked. The only causal design study identified is a field experiment study regarding impact of bank accounts on migrant savings and remittance conducted by Chin, Karkoviata, and Wilcox (2011). They randomly assigned the treatment group to receive assistance in obtaining a matricula consular card, which is a consulate-issued identification card accepted by many U.S. financial institutions for banking services, but of little use in the small cities where the researchers conducted the study. They found that treatment group participants were more likely to open a bank account and increase their savings. The authors suggested that expanding bank

access can increase immigrants' savings. However, they also admitted that the research design and these findings applied only to undocumented Mexican migrants who need a *matricula* consular card to open a bank account, and the effect of such an intervention could be quite different among general immigrant populations. Little is known about whether having earlier exposure to U.S. banks helps immigrants build assets, due to a lack of quality longitudinal data with immigrant banking and asset information collected.

### **Research Questions/Hypotheses**

The primary research question of this study is: Are the asset building outcomes of banked immigrants different from the outcomes of immigrants who were unbanked? I hypothesized that immigrants who had a U.S. bank account at an earlier stage of immigration would have better asset building outcomes than those without a U.S. bank account. Testing this hypothesis enables an examination of the relationship between financial access and asset building among immigrants. Evidence from this study can inform financial education and counseling practices toward immigrant populations, expanding their knowledge about the U.S. financial system and facilitating their financial planning. It can also inform policy initiatives promoting financial access among immigrant populations, especially those who enter the country with limited resources and disadvantaged backgrounds.

## **2.2 Methods**

### **2.2.1 Data and Sample**

Data for the study are from the New Immigrant Survey (NIS), a nationally representative, longitudinal survey of immigrants who gained LPR status in 2003 (n = 8,573). The NIS was designed to address a series of research questions regarding immigration behavior and the impacts of migration (Jasso et al., 2005). Data of the first full cohort (Wave 1) were collected

from June 2003 to June 2004, right after their admission to LPR status. The follow-up interviews (Wave 2) were conducted roughly 5 years later, from June 2007 through December 2009. The NIS is one of the few reliable nationally representative datasets that captures the characteristics of new immigrants in the United States (Beine et al., 2007). For this study of evaluating the effects of banking status on asset building, the NIS offers perhaps the best data available because it measures immigrants' banking status when they gained LPR status and asset condition 5 years after; the longitudinal design provides potential to examine the causal relationship between banking and asset building.

Among all the respondents, I restricted the analysis to respondents who answered the asset module in both waves and excluded respondents who reported their racial and ethnic status as Native American or Pacific Islander due to small sample size. With these restrictions, the analytic sample size is 4,273. Despite substantial attrition between waves, there was no selective attribution on any variable (Massey et al., 2017). I applied nonresponse weights along with sampling weights that were offered by the data provider, which could significantly reduce the error and increase the generalizability of the results (Massey et al., 2017). Next, I imputed 25 sets of datasets using chained multiple imputation techniques to statistically fill in missing values on both independent and dependent variables (Allison, 2002). Imputed values of dependent variables were only used for the purpose of imputation, and were dropped in the final analysis (Allison, 2002).

### **2.2.2 Measures**

The independent variable in this study, financial access, was measured by respondents' banking status—whether the respondent or spouse had a checking or savings account in the United States. I used a dummy variable constructed from survey questions in 2003 asking the

respondent if they or their spouse had any checking or savings accounts and whether these accounts were held in a bank or institution in the United States, a foreign country, or both. We assigned a value of 1 to the dummy variable if the respondent had U.S.-based bank accounts and a value of 0 if they did not have bank accounts in the U.S. or the accounts were held in a foreign country only.

This study examined two types of financial assets, including investment account ownership (i.e., respondents had investments in stocks, CDs, or bonds) and retirement account ownership (i.e., Individual Retirement Account [IRA] or Keogh account). These financial assets usually have higher returns and are used for long-term investments, which are critical for household wealth accumulation. Both assets were dichotomous variables constructed from participant-reported data collected in Wave 2 (1 = yes and 0 = otherwise).

Covariates included age, age square, gender, race/ethnicity, marital status, higher education, U.S. duration, U.S. duration square, number of dependents, English proficiency, employment status, region of residence, student status, and log household gross income. Age and U.S. duration were measured in years. Gender was a dichotomous variable with females as the reference group. Dummy variables were created as indicators of race and ethnicity. For those, respondents were assigned to one of four categories: Non-Hispanic White, Non-Hispanic Asian, Non-Hispanic Black, and Hispanic. Dummy variables were created as indicators of marital status, which were operationalized as married/living with a domestic partner (= 1) and single/widowed/separated/divorced (= 0). Higher education was constructed by the number of years of completed education (1 = 12 years or more and 0 = less than 12 years). Number of dependents was measured by the number of children the respondent had who were under 18 in 2003. English proficiency was a dichotomous variable (1 = very good or good, 0 = not good or

not at all). Employment status was a dichotomous variable (1 = employed and 0 = otherwise). Student status was measured by respondents' answers to whether they were enrolled in school (1 = yes and 0 = no). Household gross income was measured in US\$2003. Region of residence was classified as Northeast, South, Midwest, and West. Among the covariates, age, gender, race/ethnicity, marital status, higher education, U.S. duration, number of dependents, English proficiency, employment and student status, income, and region of residence also served as conditioning variables for propensity score weighting.

Conditioning variables were included in the model to predict self-selection into banked or unbanked status (i.e., factors that may explain why immigrants choose to have a U.S. bank account or not). These variables were determined by previous theory and research and the availability of data. In addition to the variables mentioned above, I also included undocumented experience, homeownership status, and home country financial inclusion. Most of these variables were obtained from NIS 2003 data (Wave 1), except the home country financial inclusion level, which was constructed by linking the home country to the World Bank financial inclusion index (i.e., The Global Findex database). The Global Findex database contains information about the percentage of adults who own a bank account in a particular country (i.e., financial inclusion index), which could serve as a proxy for the financial inclusion level of that country (Demirgüç-Kunt et al., 2017). Therefore, instead of using the home country itself as a conditioning variable to predict immigrant banking status in the United States, this study constructed and used dummy variables that indicated the home country financial inclusion level. I believe that this approach more accurately captured the impact of the home country on immigrants' banking behaviors. It is important to point out that some respondents only had region-level data from the NIS (e.g., Middle East and North Africa). For those respondents, I calculated the financial inclusion index

by averaging the indexes of countries in that region. The median financial inclusion index of our sample was 0.35. To make it easier to interpret, I further categorized all the countries/regions into three categories – high financial inclusion countries/regions (financial inclusion index > 0.66), median financial inclusion countries ( $0.35 \leq \text{financial inclusion index} \leq 0.66$ ), and low financial inclusion countries (financial inclusion index < 0.35).

To operationalize respondents' previous undocumented experience, I followed the approach used by Kreisberg (2019). Those with previous undocumented experience were immigrants whose administrative records showed no entry visa or with an unknown code or no codes, those adjusted to LPR status through a legalization program, or those who overstayed a tourist/business visa by more than 6 years. Previous undocumented experience was also constructed as a dichotomous variable (1 = yes and 0 = no). A dummy variable was created for homeownership, with a value of 1 assigned if the participant reported they own a home in the United States, and 0 if they did not own a home in the United States.

### **2.2.3 Analytical Approach**

The study aimed to test the impact of having financial access at an earlier stage of immigration on asset building outcomes using observational survey data. However, the decision to have a relationship with a U.S.-based bank does not occur at random and is influenced by many factors. The banked group, by opening a U.S.-based bank account, self-selected their group assignment. Differences between the banked and the unbanked may explain variation in outcomes. For example, the banked immigrants may have spoken better English, which facilitated their communication with bank staff and made it easier to open a bank account. Running regressions by controlling the covariates without correction fails to address the

statistical problem of endogeneity, which may lead to biased and inefficient results (Guo & Fraser, 2015; Imbens, 2004; Sobel, 1996).

Guided by the Neyman-Rubin counterfactual model (Neyman & Iwaszkiewicz, 1935; Rubin, 1986), this study used a propensity score model to correct for endogeneity. According to the Neyman-Rubin model, individuals in the treatment (banked) and comparison (unbanked) groups had potential outcomes in both states. I assumed that each person  $i$  under evaluation would have two potential outcomes  $(Y_{0i}, Y_{1i})$ , where  $Y_{0i}$  stands for potential outcomes in unbanked states and  $Y_{1i}$  in banked states, respectively. Although  $Y_{0i}$  is unobserved, the Neyman-Rubin counterfactual framework holds that researchers can estimate the counterfactual by evaluating the difference in mean outcomes between the treatment and comparison groups of all participants with the condition, called the average treatment effect (Guo & Fraser, 2014). Using  $Y_1$  and  $Y_0$  to denote the outcome for the treatment group (i.e., banked immigrants) and the comparison group (i.e., unbanked immigrants), respectively, the standard estimator for the sample average treatment effect (SATE) was defined as the difference between two estimated means from sample data:

$$\text{SATE} = \tau = E(Y_1|W = 1) - E(Y_0|W = 0)$$

Here,  $\tau$  signifies the sample average treatment effect,  $W = 1$  signifies receiving the treatment,  $W = 0$  signifies not receiving the treatment, and  $Y_1$  and  $Y_0$  signify the measured outcome variables for those who have and have not received the treatment (Guo & Fraser, 2015, p. 49). If  $\tau = E(Y_1|W = 1) - E(Y_0|W = 0) > 0$ , or the mean outcome of being banked has a higher probability of building assets, we can infer that having financial access causes higher asset building outcomes.



Propensity scores ( $\hat{e}(x)$ ) were estimated using sample observed covariates  $X$ , or conditioning variables, using binary logistic regressions; such scores indicate the probability of being banked. The conditioning variables were selected based on previous evidence of factors contributing to immigrants' banking status. The goal of using conditioning variables is to control selectivity and to balance the treatment and comparison groups on observed covariates.

I used inverse probability of treatment weighting (IPTW; Hirano & Imbens, 2001) to achieve the balance and estimate the net impact of banking on asset building. According to Guo and Fraser (2015), there are two advantages of IPTW: First, it does not limit outcome variables to be continuous and normally distributed; and second, it can retain most study participants in the outcome analysis. The IPTW estimator, or propensity score weighting for estimating SATE, can be expressed as follows:

$$\omega(W, x) = \frac{W}{\hat{e}(x)} + \frac{1-W}{1-\hat{e}(x)}$$

Because the outcome variables are binary, I employed logistic regressions applying the propensity score weights to estimate SATE, controlling for banking status and other covariates. SATEs were estimated from each imputed dataset and then combined to obtain an overall estimate (Leyrat et al., 2019). Survey weight and propensity score weight were combined to reduce bias and increase generalizability (DuGoff et al., 2014). I also conducted regression analyses without the IPTW estimator. The results are in the Appendix (Table A1).

## **2.3 Results**

### **2.3.1 Descriptive Results**

Table 2-1 presents descriptive statistics for the sample and results from the balance check. The average age of respondents was 39 years, and the majority of them were in a marriage or lived with domestic partners. A predominant majority of the respondents were from

racial or ethnic minorities with an average U.S. residency of 5.7 years. Over half of the sample respondents were from countries with low financial inclusion. Initial results indicated that there was an imbalance between the banked and the unbanked immigrants by most of the covariates. Results from a regression would be biased and inefficient if the issue of imbalance was not addressed by corrective procedure. Applying IPTW significantly improves balance on observables. A post-IPTW imbalance check shows that all significant covariates became nonsignificant across all the imputed datasets when propensity score weighting was applied, indicating that the treatment (i.e., banked) and comparison (i.e., unbanked) groups are balanced and comparable. Balance plot for the treatment and comparison groups indicated sufficient overlap of propensity scores.

**Table 2-1**

*Sample Description and Balance Check*

Predictor	% or M (SD)	% Banked by Group	$p^a$
Age	39.34 (0.20)		***
Gender (Ref.: Female)		51.00	
Male	47.23	60.11	***
Education (Ref.: Less than 12 years education)		37.60	
More than 12 years education	69.53	63.06	***
Race/Ethnicity (Ref.: Non-Hispanic White)		65.88	
NH Asian	30.36	65.51	***
NH Black	12.45	47.18	***
Hispanics	34.61	42.36	***
Marital status (Ref.: Single, widowed, separated, divorced)		39.48	
Married, Living with a domestic partner	73.20	61.09	***

# of dependents	0.87 (0.02)		ns
Enrolled in school (Ref.: No)		54.56	
Yes	8.12	63.69	**
Employment status (Ref.: unemployed)	60.88	40.23	
Employed		64.98	***
English proficiency (Ref.: Not at all/not good)		40.23	
Good/Very good	49.90	70.43	***
Years in the U.S.	5.72 (0.09)		***
Whether had undocumented experience (Ref.: No)	20.48	55.71	
Yes		53.71	ns
Home country financial inclusion level (Ref.: High inclusion)		67.28	
Median inclusion	28.41	55.93	ns
Low inclusion	53.64	50.96	***
Homeownership (Ref.: No)	24.43	50.10	***
Yes		71.39	
U.S. residence (Ref.: Northeast)		51.76	
Midwest	12.08	66.29	***
South	29.08	55.78	ns
West	33.59	53.59	ns
Gross household income (\$)	32036.62 (1086.235)		***

Note.  $N=4,273$ . Calculations were based on imputed data. ns = not statistically significant. Ref. = reference category. M = mean. SD = standard deviation.

<sup>a</sup> p-value of bivariate test between a predictor and banking status. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$  (two-tailed test).

The descriptive results show that among all the respondents, 54% owned a bank account and 46% were unbanked. The proportion of sample respondents who owned sophisticated financial assets was extremely low: only 20.2% owned investment accounts such as stocks and bonds, and only 17% owned retirement accounts.

### 2.3.2 Results from IPTW Regression

Table 2-2 shows SATE estimates of being banked. Results from an IPTW regression that controlled for selection bias indicate that asset building outcomes were better among new immigrants who were banked when they gained LPR status than among those who were unbanked. Compared to the unbanked immigrants, banked immigrants' odds of owning an investment account and a retirement account were 1.9 times ( $p < .001$ ) and 1.9 times ( $p < .01$ ) higher, respectively, 5 years after they gained LPR status. Subgroup analysis results showed that being banked had greater impacts on disadvantaged groups (Table 2-3). For example, among those who had more than 12 years of education, the banked group's odds of owning an investment account were 1.7 times ( $p < .01$ ) higher than those in the unbanked group, whereas, among those who had less than 12 years of education, banked immigrants were 4.6 times ( $p < .001$ ) more likely to own investment accounts than unbanked immigrants. However, the SATE estimates are smaller than the odds ratios from general regression models, meaning that the role being banked might be overestimated (Appendix Table A1).

Participants' asset-building outcomes also vary by certain demographic characteristics and socioeconomic conditions. Compared to participants who were not in a marriage, those who were married or living with domestic partners had higher odds of owning investment accounts (OR = 1.9,  $p < .01$ ) and retirement accounts (OR = 2.4,  $p < .001$ ). The outcomes of participants with more years of education, higher income, and fluent spoken English were statistically better than those who had less education, lower income, and language barriers. For example, the likelihoods of owning investment accounts and retirement accounts for immigrants who could speak good or very good English were both about 2 times ( $p < .001$ ) than those who did not speak English or whose English was not good. There were also racial and ethnic disparities in asset

ownership. Compared to non-Hispanic White immigrants, Black immigrants experienced a reduction of 60% in the odds of owning stocks or bonds ( $p < .05$ ). Compared to non-Hispanic White immigrants, Hispanic immigrants experienced a reduction of 50% in the odds of owning either type of the studied financial assets. Having one more child reduced by 20% the odds of owning retirement accounts. Years spent in the United States did not show significant associations with asset building outcomes.

**Table 2-2**

*Effects of Being Banked on Asset Building: Odds Ratios from IPTW Logistic Regression (N = 4,273)*

Covariate	Investment Account	Retirement Account
	SATE	SATE
<b>Banking Status in 2003 (Ref.: No)</b>		
Yes	<b>1.92***</b>	<b>1.89**</b>
Age	1.15**	1.20**
Age2	1.00**	1.00**
Gender (Ref.: Female)		
Male	0.85	0.62**
Education (Ref.: ≤12 years)		
12 yr education and above	4.22***	3.03***
Race/ethnicity (Ref.: NH White)		
NH Asian	1.35	1.01
NH Black	0.39**	0.58
Hispanic	0.53*	0.49**
Marital status (Ref.: Single, widowed, separated, divorced)		
Married, Living with a domestic partner	1.90**	2.37***
# of dependents	0.88	0.82**

---

Enrolled in school (Ref.: No)		
Yes	1.55	1.06
Employment status (Ref.: unemployed)		
Employed	1.14	1.24
English proficiency (Ref.: Not at all/not good)		
Good/Very good	2.16***	2.03***
Years in the U.S.	1.03	1.06
Years in the U.S.2	1.00	1.00
U.S. residence (Ref.: Northeast)		
Midwest	0.91	1.11
South	1.10	0.95
West	1.01	0.75
Log Gross household income (\$)	1.10**	1.11**

---

Note. This table shows estimated effects of being banked in 2003 on asset ownership in 2009 among immigrants. NH = non-Hispanic. IPTW = inverse probability of treatment weighted. SATE = sample average treatment effect. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$  (two-tailed test).

**Table 2-3**

*Effects of Being Banked on Asset Building: Odds Ratios from IPTW Logistic Regression (Sub-Group Analysis)*

	Investment Account	Retirement Account
	SATE	SATE
Sub-groups		
NH White	1.85	1.50
NH Asian	1.79*	1.73
NH Black	4.21	2.60
Hispanic	1.78*	2.08*
English proficiency (very good/good)	1.88*	1.97*
English proficiency (not good/not at all)	2.01**	1.70*
In marriage	1.84**	1.78*
Not in marriage	1.98*	2.32*
Education (>=12 yr)	1.73**	1.71*
Education (<12 yr)	4.60***	3.87**

Note. This table shows estimated effects of being banked in 2003 on asset ownership in 2009 among immigrants (by subgroup). NH = non-Hispanic. IPTW = inverse probability of treatment weighted. SATE = sample average treatment effect. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$  (two-tailed test).

## 2.4 Discussion

Obtaining income-generating financial assets and long-term investments is critical for wealth accumulation and financial wellbeing. Using the nationally representative data of new immigrants who gained LPR status in 2003, this study examines the impacts of having financial access on asset building outcomes with a hypothesis that immigrants who had a U.S.-based bank account at an earlier stage of immigration (in 2003) would have better asset building outcomes 5 years after than those who were unbanked. I find that being banked has a statistically significant

and positive impact on investment account and retirement account ownership, which supports the hypothesis. Compared to those who had no connection with U.S. banks in 2003, immigrants who were banked were more likely to own investment accounts such as stocks and bonds and to be saving for retirement. It is possible that because banked immigrants have a safe place to deposit money and make transactions, they may be less likely to use costly and risky predatory financial services. When “on the right track” at the beginning of immigration life, the likelihood of constructive financial actions increases, while the possibility of financial crises decreases. They can better invest, plan for the future, and realize those plans. However, with selection bias addressed, we can also infer that the role being banked may be overestimated in previous studies.

Nevertheless, the association between financial access and asset building affirms the importance of strategies to expand financial access among immigrants. These include, for example, accepting alternative forms of identification and designing financial services and products that meet immigrants’ needs (Paulson et al., 2006). Financial educators or counselors who work with immigrant clients, especially those with low-income and racial or ethnic minority backgrounds, should be aware of the financial exclusion they face and engage in advocating for inclusive financial products and services that meet immigrants’ needs.

Findings suggest that immigrants, especially those from a disadvantaged background, may benefit from being connected with U.S. mainstream financial institutions upon arrival, which highlights the importance of their financial access during the transition. As such, social service providers with immigrant clients should partner with formal financial institutions and financial counselors, assisting them to open a bank account as early as possible to make use of beneficial financial services. It is important to recognize the role of ethnic community-based organizations (CBOs) as they know immigrants’ culture and language. Ethnic CBOs can build



bridges between immigrants and mainstream financial institutions and work to promote culturally informed financial education and programs for immigrants (Huang et al., 2014).

In addition, banked immigrants may have developed healthy financial behaviors and built financial skills through managing their U.S. bank accounts, enabling them to familiarize themselves with the U.S. financial system; these skills and knowledge may inform their financial behaviors. This interpretation affirms the importance of having financial access on asset accumulation (Sherraden, 2013; Sherraden et al., 2015) and offers support for the determinants of the asset holding framework, in which access and information have been highlighted (Beverly et al., 2008). Therefore, desirable financial education is important for immigrant consumers who have least financial access.

This study also reveals racial and ethnic disparities in asset building outcomes among immigrant population. In particular, Black immigrants were less likely than White immigrants to own income-generating assets, which may contribute to their lower level of wealth. This pattern reflects the landscape of the racial/ethnic hierarchy of U.S. society, and affirms a path of segmented assimilation of immigrants (Zhou, 1997). Although the data used in this study does not have neighborhood information, previous research indicated that Black immigrants tend to live in neighborhoods where AFS services are more common (Faber, 2019). Therefore, they may be more likely to use these services even if they have a bank account. For example, many immigrants send money home through nonbanking services (Suro et al., 2014). These nonbanking services are sometimes essential in the marginalized communities (Servon, 2017); however, they are expensive and often cause financial problems such as bad debt that can increase financial hardship, let alone asset building.

It is worth noting that compared to net worth, ownerships of sophisticated financial assets such as stocks and retirements can provide more insightful information about immigrants' financial behavior and economic wellbeing (Painter & Qian, 2016). As such, they are important indicators of immigrants' economic stability and financial integration in the United States (Painter & Qian, 2016). The disadvantages of Black and Hispanic immigrants revealed in this study reflect that immigrants fare differently in the United States. Racial disparities in wealth exist within immigrant populations and the gaps may enlarge given their different financial behaviors at the beginning of the immigration.

Observed connections between marital status, household income, number of dependents, and asset building outcomes point to the importance of household financial resources. Married immigrants or immigrants in marriage-like relationships are more likely to own investment and retirement accounts than those who are not in marriage relationships. This is aligned with previous findings suggesting a positive relationship between marriage and financial assets and wealth (Wilmoth & Koso, 2002; Zagorsky, 2005). It could be that married couples have more household income than those who are not in a marriage, which sets a foundation for accumulating assets. However, in a study examining the relationship between marriage and asset building outcomes among participants in the Individual Development Accounts program, Grinstein-Weiss et al. (2006) found that there was no significant difference between married and unmarried participants' savings when institutional supports were provided. Findings also indicate that immigrants with more dependents were less likely to own retirement accounts, which is reasonable because families with more children may prioritize childcare over retirement savings when financial resources are limited. Therefore, bank accounts per se are not enough to facilitate

immigrant asset building; more importantly, policy interventions with a propensity to support minoritized immigrants and those with limited economic resources are needed.

The number of years immigrants had spent in the United States had no significant impact on their ownership of investment and retirement accounts, nor did their employment status, which indicates that financial assimilation may not necessarily happen as the years go by or by being employed. In contrast, English proficiency was found to play a critical role in immigrants' asset building, which is aligned with previous studies highlighting language support in financial activities (Nam et al., 2022). This finding calls for regulations that ensure immigrants with limited English proficiency have access to language assistance in financial services, so that they too can have meaningful financial access. CFPB (2017) has taken action to provide language assistance by issuing a Language Access Plan to increase accessibility to CFPB services. Such guidelines and regulations should be expanded to commercial banks and other financial service providers. This finding also calls for meaningful employment for immigrants with workplace-based benefits, such as workplace financial counseling (Despard et al., 2021), so that immigrants can have necessary information for long-term investment.

This study affirms the assertion that financial access serves as a building block for financial capability, which in turn is critical to asset building. Although a U.S. bank account itself does not directly lead to asset building, it protects immigrants' deposits and potentially saves them money by providing financial services at a reasonable price. More importantly, it provides immigrants an opportunity to navigate the mainstream financial system and to acquire knowledge and skills to invest in the United States.

Asset accumulation is largely determined by institutional arrangements, including explicit connections, rules, incentives, and subsidies (Sherraden, 1991). The immigration process is

expensive. Many immigrants only have little left after they pay off immigration and transition expenses. Some may even be in debt for those costs. For many immigrants, it is very challenging to make ends meet, let alone financially plan for the future. Although some immigrants strive to build their assets, they usually rely on personal savings or borrow from their social network, rather than engaging with formal financial services (Kerr & Kerr, 2020; Moy et al., 2017; Newberger et al., 2004). A great number of them have to sacrifice current consumption, leisure, and other personal development opportunities in order to save, which may negatively affect their health, human capital development, and children's wellbeing. Therefore, policy innovations that integrate institutional components to support immigrants' asset building are highly desirable. The Refugee Individual Development Account (IDA), funded by the Office of Refugee Resettlement, is a positive example of facilitating eligible refugees' asset building by providing financial access, financial education, and matched savings (Office of Refugee Resettlement, n.d.). IDAs and other beneficial programs should be expanded to include other types of immigrants, especially those who are most marginalized and vulnerable.

### **Limitations**

This study has several limitations. First, the NIS includes only immigrants who gained LPR status in 2003, rather than all foreign-born populations such as temporary immigrants, immigrants whose statuses are in transition, and undocumented immigrants. Obtaining LPR status is quite expensive and labor intensive, and the process itself is selective. As a result, immigrants who successfully gain LPR status are relatively more advantaged than other immigrants. Immigrants with other legal/visa statuses may fare worse than the participants in the NIS. We should be cautious in interpreting results beyond the LPR immigrants studied.

Second, I only measured banking status once in the first wave, whereas banking status is not static; people could become unbanked due to life changes (Rhine & Greene, 2013). It is possible that banking status changed for participants in our study between 2003 and 2009; however, we could not measure these dynamics as the NIS did not collect that information. In addition, the data only captured responses from immigrants who were banked and who were not banked, without including the underbanked population. As defined by the FDIC (2014), being underbanked means having a mainstream bank account but also using AFS services. Underbanked situations are particularly common among Black and Latino immigrants (FDIC, 2020); they choose to stay underbanked because these AFS services to some extent meet their needs such as quick cash, convenient hours, and less discriminatory treatment. Future research could consider collecting data about underbanked situation of immigrants to better capture their financial behaviors.

Third, immigrants' cross-border asset allocation was not considered in this study, which may play an important role in immigrants' wealth building. However, those with LPR status usually have intentions to stay in the United States, rather than go back to their home countries; and they might increase their investments in the United States as time goes by. This assumption is confirmed in a study by Keister et al. (2019) examining immigrants' foreign country investment using the NIS data. They found that people with LPR status generally decreased their cross-border asset allocation in 2009. Future research on non-LPRs may consider including cross-border asset allocation when examining immigrants' asset building in the United States.

## **2.5 Conclusion**

Having financial access is critical for immigrants to conduct daily financial activities and build long-term assets. This study has shown—with self-selection issues addressed—that having

financial access at an earlier stage of immigration has positive effects on immigrants' subsequent asset building. Findings highlight the importance of efforts to promote financial inclusion for immigrants, especially for those who are racial or ethnic minorities and/or of lower socioeconomic status. Although these findings were drawn from data collected from 2003 and 2009, they still have implications for policies and practices today. Amid the global pandemic, economic downturns, and inflation, there is a concern that Americans may increasingly turn to AFS to meet their immediate financial needs when they experience job loss or income cuts (Merrefield, 2020). Immigrants, who are experiencing higher rates of layoffs (Kochhar, 2020), are at risk of using AFS if there is a lack of financial inclusion. Helping immigrants with banking and other beneficial financial services may keep them from using AFS and increase their financial security. It could also ease their financial hardships as evidence showed that households with a bank account are less likely to experience financial strain due to income shock caused by layoffs. Accessible financial resources and progressive policies are needed to facilitate immigrants' asset building because banking alone is not enough.

## **Chapter 3: Wealth Trajectories of Children from Immigrant and Native-Born Families: Hierarchical Linear Models of Net Worth Change from Young to Mid-Adulthood**

### **3.1 Introduction**

Children of immigrants comprise one-quarter of all U.S. children, and the percentage is higher in some states (Urban Institute, 2019). Nearly 90% of these 18 million children were born in the U.S. (Migration Policy Institute, 2019), and as U.S. citizens, their wellbeing, especially in comparison to children of native families, is of interest to researchers and policymakers.

Immigrants come to the United States, at least in part, with a hope for socioeconomic success. In addition to parents meeting their financial goals, their children's ability to grow and thrive is an indicator of intergenerational mobility. However, children of immigrants are at high risk of poverty. According to the Migration Policy Institute (2019), about one-third of all U.S. children living in poverty are from immigrant families. Those from disadvantaged socioeconomic backgrounds experience hardship in school and labor markets and may become trapped in permanent poverty (Gans, 1992). It is possible that children of immigrants may face financial hardship at the starting line, compared to children in native families, consequently causing economic disparities between these two groups when they enter adulthood.

As a fundamental economic outcome, wealth among adult children of immigrants is understudied. In this research, I map the wealth trajectories of young adults over 10 years from their mid 20s to mid 30s, a critical life stage in the transition from young to mid-adulthood (Elder et al., 2003; Shanahan, 2000; Silva, 2012). Specifically, I compare the wealth trajectories between children of immigrants and children of native-born parents and examine the role parental financial assets in shaping these trajectories. I focus on financial assets because their potential for household wealth gain (Wolff & Zacharias, 2009). Financial wealth generated from

total financial assets (e.g., stocks and bonds) is particularly important for understanding resource concentration because financial asset ownership is more highly concentrated than real assets (e.g., housing, other real estate) (Keister, 2014). In addition, the process of accumulating financial assets may impact children's financial attitudes and behaviors because parents modeled investment behaviors (Jorgensen & Savla, 2010; Robertson-Rose, 2020). Hierarchical models are built to estimate factors associated with their initial net worth at age 25 and the wealth growth rate over time using the National Longitudinal Survey of Youth 1997 (NLSY97).

### **3.1.1 Wealth Inequality and Its Consequences**

Wealth, typically measured by net worth, is an important indicator of economic wellbeing. Wealth is a stock of financial resources that can buffer short-term economic shocks, facilitate investments for development, and be passed on to future generations. Unlike income, which may fluctuate due to shifting working hours or job loss, wealth is more stable (Keister & Moller, 2000). In addition, wealth also reflects years of prior financial circumstances (Killewald et al., 2017) and is more consequential in a household's standard of living in a long term than income (Spilerman, 2000). Wealth inequality as a dimension of social inequality has received growing attention from researchers (Keister & Moller, 2000; Sherraden, 1991; Spilerman, 2000; Killewald et al., 2017). According to Federal Reserve data (2022), as of 2021, the top 1% of households in the United States held 32.3% of the total wealth, whereas the bottom 50% held 2.6%. Among households with children, wealth disparities are even larger (Gibson-Davis & Hill, 2021).

Wealth disparity lies in a set of heterogeneities in human and financial capital, such as education, earnings, and marital status (Gibson-Davis & Hill, 2021; Pfeffer & Killewald, 2018). Researchers have also underscored the importance of parental wealth in shaping children's



wealth (Pfeffer & Killewald, 2018; Spilerman, 2000), and have argued that parental transfers largely explain racial wealth disparities across generations (Blau & Graham, 1990; Oliver & Shapiro, 2013; Shapiro, 2004). In addition, wealth inequality is exemplified by differences in owning income-generating financial assets, such as stocks and bonds (Kaymak et al., 2018). The life cycle hypothesis (LCH) posits a hump-shaped pattern of wealth accumulation by age. In this view, wealth grows with age during the years of maximum earning, followed by a decline when income falls (Ando & Modigliani, 1963; Osberg, 1984). However, the age-wealth profile does not always hold in studies with longitudinal data (Alessie et al., 1997). Among young households in particular, wealth shows a falling trend, especially in those with low education (Levy & Mishel, 1991; Wolff, 2000). Advantages in owning wealth emerge earlier in the life course due to family financial support in achieving important milestones (Pfeffer & Killewald, 2018).

Examining wealth and its trajectory has great implications because it is linked to households' long-term economic security and other aspects of wellbeing. For example, children growing up in families with less wealth are found to end up with lower educational attainment (Pfeffer, 2019) and less wealth in adulthood (Pfeffer & Killewald, 2018). Wealth can also serve as a social determinant of health (Boen & Yang, 2016; Pool et al., 2018), as wealth may provide households with economic security when experiencing income declines and financial distress (Boen & Yang, 2016). Additionally, families with less wealth are more vulnerable to emergencies, such as natural disasters (Cutter et al., 2012; Thomas et al., 2009) and global pandemic (Francis & Weller, 2022; Gerardi et al., 2021).

### **3.1.2 Immigrant-Native Wealth Gap and Its Consequences**

Prior research has documented the disparities in wealth and asset holding between immigrants and native-born Americans (Cobb-Clark & Hildebrand, 2006; Osili & Paulson,

2006). The most notable gap lies in financial asset ownership. Immigrants are substantially less likely compared to their native-born counterparts to have financial assets such as savings and checking accounts, retirement accounts, and stock or mutual funds (Chatterjee, 2009; Chatterjee & Kim, 2011; McConnell, 2015; Osili & Paulson, 2007). For example, 22% of immigrants hold an interest-bearing account, while the rate among the native-born is 36% (Osili & Paulson, 2007). This difference holds after controlling for education, income, and other individual and household characteristics (Osili & Paulson, 2006, 2007). Although immigrants may catch up with native-born Americans in checking account ownership over time, they are less likely to hold sophisticated investments, such as IRA/Keogh accounts or stock or mutual funds (Fontes, 2011; Osili & Paulson, 2007).

A limited range in types of financial assets hinders immigrants' wealth accumulation. This is because certain types of financial assets have features like tax deferral (e.g., IRA) and high returns (e.g., stocks), which are important for wealth building. Therefore, a lack of these types of financial assets may largely explain the wealth gap between immigrants and native-born Americans. Children growing up in native-born families with more types of assets may be better off in the long run compared to children of immigrants for several reasons.

First, wealth accumulated through financial investment can directly benefit children through intergenerational transfer, which is "a tremendous advantage" for a young household (Sherraden, 1991). Adult children who have parents to help with a down payment on a car or a deposit on a home have less financial stress at the starting point (Lerman & McKernan, 2008) and can transition to new stages of life successfully (Williams, 2003).

Second, parental wealth can also benefit children by allowing them to gain educational advantages through higher education (Shapiro & Johnson, 2005), which serves as a path to jobs

with higher pay. The association between parental wealth and children's education outcomes has been well documented (e.g., Elliott et al., 2011; Ream & Gottfried, 2019; Shanks, 2007).

Examining wealth and educational attainment by birth cohort, Pfeffer (2018) suggests that the role wealth plays in predicting higher education attainment may be increasingly important.

Persistently lower ownership of financial assets may put children of immigrants at a financial disadvantage compared to their counterparts with native-born parents because they may have fewer financial resources for higher education; they may also have a higher burden of care for their aging parents, who may lack sufficient savings for retirement (Osili & Paulson, 2007).

Third, parental assets have positive effects on children's cognitive and behavioral development (Williams, 2003), also potentially impacting children's wealth by shaping their financial awareness and behavior. Empirical studies have found that children's saving (Friedline et al., 2011) and investment behaviors (Chitegi & Stafford, 1999) are significantly influenced by their parents. In addition, parents who own more financial assets usually have a higher level of financial capability, including both financial knowledge and access (Sherraden, 2013). These parental capabilities lay the foundation for security and wellbeing in their children's later lives. Age-appropriate discussion of household finance can expose children to an environment of financial learning and has a profound impact on their financial behaviors and decision making when they enter adulthood (LeBaron et al., 2020).

### **3.1.3 Children from Immigrant vs. Native-Born Families**

Socioeconomic outcomes and wellbeing of children of immigrants have attracted increasing attention from researchers and policymakers, in part because they are an extraordinarily diverse segment of American children (e.g., Feliciano et al., 2015; Feliciano & Lanuza, 2016; Zhou, 1997). Research on this topic shows mixed findings. Some studies identify

an “immigrant paradox” (e.g., Hernandez et al., 2012) to describe a phenomenon in which children of immigrants turn out to achieve better educational (Pong & Zeiser, 2012), health (Salas-Wright et al., 2016), and employment outcomes (Hofferth & Moon, 2017) than their peers from native-born families, despite their generally lower socioeconomic status. Many of these findings are explained by immigrant optimism hypothesis, holding that high parental expectations serve as a facilitator of children’s development among immigrant families (Kao & Tienda, 1995). In contrast, other scholars have expressed concern for children growing up in the United States with immigrant parents whose trajectory shows downward mobility (Gan, 1992; Portes et al., 2005). These researchers emphasize the importance of the host society offering immigrants more opportunities to move up in the economic hierarchy (Gans, 2009).

Although achievement of socioeconomic success among children of immigrants is of growing interest, little current research focuses on wealth. Keister et al. (2015) studied wealth accumulation among Mexican Americans across three generations. They found that financial disadvantage early in life does not necessarily translate into limited adult wealth among Mexican immigrant families; later generations accumulate more wealth by midlife than the first generation. Salgado and Ortiz (2020) also examined intergenerational wealth attainment among Mexican American families. They found that adult children generally receive less intergenerational wealth transfer from their Mexican immigrant parents, and instead acquire wealth primarily through education and income gains. However, we know little about wealth trajectories of adult children from immigrant families, especially in a comparison to their peers of nonimmigrant parents.

### 3.1.4 Current Study

Persistently lower ownership of financial assets (e.g., stocks and bonds) may put children of immigrants at a financial disadvantage compared to their counterparts of native-born parents, especially when facing important milestones like the decision to pursue higher education (Osili & Paulson, 2007). This immigrant-native gap in financial asset ownership raise the question of whether offspring of immigrants achieve wealth parity compared to their peers from native-born families. A comparison of the wealth trajectory of children from immigrant families and native families can strengthen our understanding of the wealth gap between these two groups.

Wealth is net value of assets and debts, which follows a course of change such that cross-sectional snapshots of its value may not capture the true nature of the processes behind the inequalities inherent in this economic issue. Wealth disparities between children of immigrants and children of native-born parents may also not be unchanging across time. Observing relative changes in wealth between the two groups is critical for us to understand the long-term economic integration of immigrant families. Therefore, the wealth profile is ideally estimated from a longitudinal perspective (e.g., Land, 1996). Unfortunately, there are not many longitudinal datasets containing both wealth information and an immigrant family indicator, especially at a national level. The NLSY is an exception.

Using the NLSY97 data, this study employs growth models to estimate young adults' initial net worth at age 25 and wealth growth rate through their mid 30s. This study focuses on a critical time period from young adulthood to mid-adulthood, during which individuals become independent of their birth families and start building the economic foundation for their own families. The goal of the study is to expand our knowledge and understanding of the course of wealth and how it may vary among children from immigrant vs. native-born families during the

transition to mid-adulthood. In addition, I also examine how parental financial assets correlate with these trajectories.

This study extends previous research on wealth trajectories of children from immigrant and native families by examining two research questions: (1) How does the wealth of children from immigrant and native families change through early to mid-adulthood? (2) To what extent do parents' financial assets affect children's wealth growth rate over time?

## **3.2 Method**

### **3.2.1 Data and Sample**

Data come from the National Longitudinal Survey of Youth 1997 (NLSY97), which is sponsored by the U.S. Department of Labor and Bureau of Labor Statistics to examine youth labor market experience (Bureau of Labor Statistics, U.S. Department of Labor, 2019). A wide range of information was collected, including participants' education and training, employment, income and assets, program participation, health, and other more.

The NLSY97 is a longitudinal dataset that follows the lives of American youth born between 1980 and 1984. The first interview was conducted in 1997, when the respondents were aged 12 to 17 ( $N = 8,984$ ), with oversamples of Hispanics and non-Hispanic Blacks. The respondents have been interviewed 19 times to date and are now interviewed biennially. The data have recently become available from Round 1 (1997-1998) to Round 19 (2018-2019). The NLSY97 is a quality longitudinal dataset with low attrition, which allows researchers to explore life trajectories of American youth born in the early 1980s.

Respondents were asked questions about assets and debts, both when they achieved independent status and at specific ages (i.e., age 20, age 25, age 30, and age 35). The data administrators calculated their net worth at these ages by subtracting total debt from total assets.

Their net worth data at ages 25, 30, and 35 were used for the study to examine the wealth trajectories from early to mid-adulthood. Since the participants did not reach these ages at the same time, their information except for net worth was obtained from the relevant survey year. For example, those who were born in 1980 turned 25 in 2005, so their year-specific information (e.g., marital status) was obtained from data collected in 2005, or Round 9. This study restricted the study sample to those who had clear information on whether their parent(s) were foreign born or native born. Information regarding parents' countries of origin is not included in the publicly accessible data, and therefore not specified in this study. American Indian and Alaska Native, Asian or Pacific Islander, and mixed-race groups were omitted in this study due to small sample sizes, leaving the total sample size of 5,060 for analysis.

### **3.2.2 Measures**

#### **Net Worth**

The NLSY97 asset data include the values of both financial and non-financial assets, such as home, cash savings, stocks/bonds, trusts, IRAs, 401Ks, and other assets. The debt items include education loans, home mortgage, car debt, and some other types of debt. Net worth in this study is a continuous variable calculated by subtracting total debt from total assets. The net worth data when respondents were 25, 30, and 35 years old were retrieved from the rounds in which they were eligible for asset questions. Since the respondents did not reach these particular ages at the same time, the amount of net worth was adjusted for inflation to U.S. dollars in 2019 using the Consumer Price Index (CPI).

#### **Parental Financial Asset Ownership**

Parental financial asset ownership is measured by parents' use of asset products, which was obtained from Round 1 data. In Round 1, parents were asked if they had financial assets,

including checking and saving accounts, stocks/mutual funds, pre-paid educational funds, and IRA/Keoghs. Each variable was dichotomously coded (1 = yes and 0 = no). Because owning general bank accounts and sophisticated financial assets reflect different levels of financial capability considering individual's financial knowledge and access, I created a dummy variable with three ordered categories: (1) Low level financial asset ownership if the parents did not have any type of financial assets (reference group); (2) Median level financial asset ownership if the parents only had checking and savings accounts; (3) High level financial asset ownership if the parents owned at least one type of the sophisticated financial assets (stock/mutual funds, pre-paid educational funds, and IRA/Keoghs). It is worth noting that parents may start to own certain financial assets at some point after Round 1. However, because the NLSY97 only collects parents' data in Round 1, I treat this as a time-invariant variable.

### **Parental Immigration Status**

The NLSY97 collects information on parents' birth country in the Round 1 survey. Parents' immigration status was recorded as "1" if either the mother or father was born in a foreign country and as "0" if otherwise. Children born to immigrant parent(s) are referred to as children of immigrants in the rest of this paper.

### **Covariates**

This study includes a series of time-varying demographic and socioeconomic controls, including respondent's education (high school and below; associate/junior degree; bachelor's degree or above); employment status (yes/no); household size; number of children; marital status (never married; married; divorced/separated/widowed) at age 25, 30, and 35. Gender (male/female) and race/ethnicity (non-Hispanic White, non-Hispanic Black, and Hispanic) were included as time-invariant covariates. I did not include household income as a time varying



covariate because the growth curve model assumes that the covariates themselves are not characterized by a systematic growth process (Curran et al., 2010); however, household income has been shown in an increasing trend between the ages of 25 and 35 (Woytinsky, 1943).

### **3.2.3 Analytical Approach**

All statistical analyses were performed in Stata 17 (StataCorp, 2021). To examine the wealth trajectory in young adults, a growth curve analysis for net worth at age 25 (Time 0), 30 (Time 1), and 35 (Time 3) was conducted using hierarchical modeling (Rabe-Hesketh & Skrondal, 2012). Hierarchical modeling is appropriate for this study because the data structure contains repeated measures nested within individuals. There are two advantages of using a hierarchical model: First, a hierarchical model allows the researcher to ask questions about within-person and between-person change over time (Singer & Willett, 2003). Second, this approach can handle longitudinal data that are unbalanced, have missing data, or have uneven time points (Luke, 2004), which are common in national representative datasets. This study uses age as the time dimension. Time was rescaled to a value of 0 for the youngest age of 25. Every unit of time equals 5 years. A quadratic term of respondent's age is used to model the potential nonlinearity of the growth in net worth over time, but is not included in the final analytic models because there was no evidence of nonlinearity.

Two-level linear hierarchical models with random intercepts and time random slopes were performed to investigate the wealth trajectories. The two-level model treats time as level 1 and study participants as level 2. Model building started from the main model with all the predictors (Model 1). Then I added the interaction term between parental immigration status and time to examine how being children of immigrants affected the rate of wealth accumulation (Model 2). Based on the main model, I added the interaction term between parental financial

asset ownership and time (Model 3) to investigate how parental asset holding level affected children's wealth over time. The main model can be expressed by the following equation:

$$Y_{it} = \gamma_{00} + \gamma_{10}(Time)_{ti} + \sum_{p=2}^P \gamma_{p0}(TV)_{pti} + \sum_{q=1}^Q \gamma_{0q}(P\_Immi)_{qi} + \sum_{q=1}^Q \gamma_{0q}(P\_Fin)_{qi} + \sum_{q=1}^Q \gamma_{0q}(X)_{qi} + r_{0i} + e_{ti}$$

where  $Y_{it}$  is the net worth for the  $i^{\text{th}}$  adult child at time  $t$ ,  $(Time)_{it}$  is the time variable (baseline = 0, time 1 = 1, time 2 = 2, each unit means a five-year increment),  $(TV)_{pti}$  are P-1 time-varying variables,  $(P\_Immi)_{qi}$  are parental immigration status,  $(P\_Fin)_{qi}$  are parental financial asset ownership,  $(X)_{qi}$  are Q child-level control variables,  $r_{0i}$  is an intercept-random effect for the  $i^{\text{th}}$  child, and  $e_{ti}$  is a residual term incorporating temporal random effect for the  $i^{\text{th}}$  child at time  $t$ .

### **The Inverse-Normal Transformation (INT) and the Indirect INT Method**

The net worth variable was highly skewed and zero-inflated, which violated the normality assumption embedded in regression analysis. A common approach to model net worth as a dependent variable is to use log-transformation, but this approach has issues with zero and negative values (Killewald et al., 2017). An alternative is the inverse hyperbolic sine (IHS) transformation, which can incorporate zero and negative values and generate a function that is approximately linear close to zero and approximates the logarithm for large values (Friedline et al., 2015; Pence, 2006), but this approach has been criticized for having issues with estimating the marginal effects on the original scale (Norton, 2022).

In this study, I employed the INT approach, which is frequently used in genome-wide association studies. In these studies, skewed residuals are common and therefore, a transformation is needed for regression analysis. Suppose  $u$  has a skewed distribution. Let

$\text{rank}(u_i)$  denote the sample rank of  $u_i$  when the measurements are placed in ascending order. The rank-based INT is defined as:

$$\text{INT}(u_i) = \phi^{-1} \left[ \frac{\text{rank}(u_i) - k}{n - 2k + 1} \right]$$

Here  $\phi^{-1}$  is a normal density function,  $k \in (0, 1/2)$  is an adjustable offset, and  $n$  is the sample size. The Blom offset of  $k = 3/8$  is adopted by default.

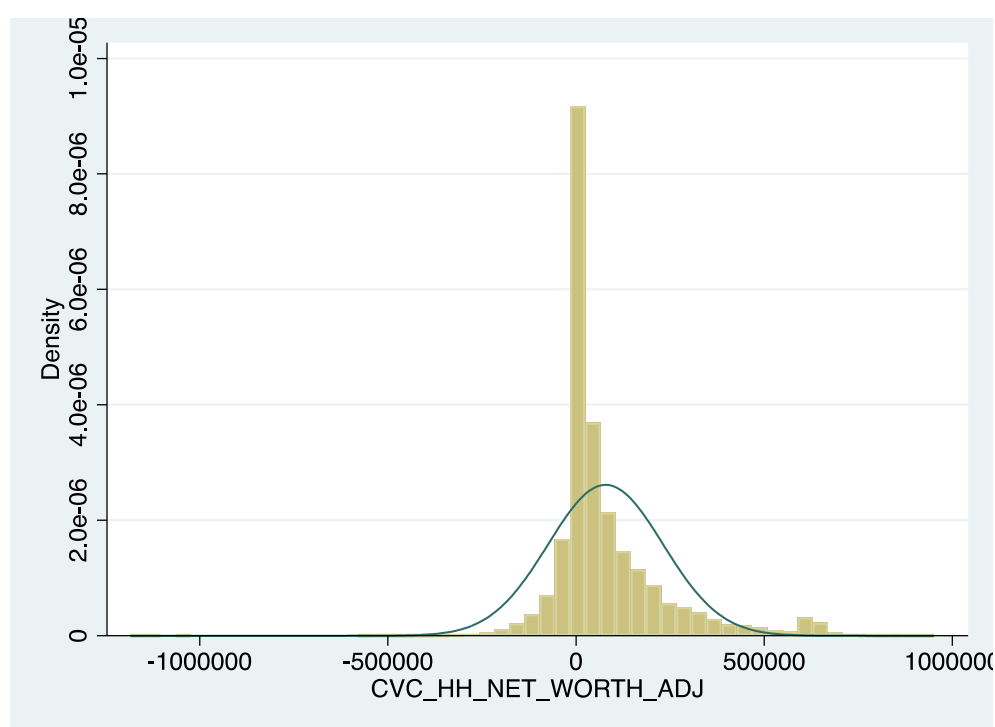
This study uses a newly developed method by McCaw et al. (2019) called indirect INT because it yields efficient and unbiased properties in genome-wide association studies. For example, this approach has been applied in a recent study examining determinants and impacts of COVID-19 mitigation interventions with a goal to analyze the zero-inflated and skewed data of COVID-19 caseload (Guo et al., 2020). As mentioned above,  $Y_{it}$  denotes the outcome variable  $y$  for the  $i^{\text{th}}$  adult child at time  $t$ ,  $t \in \{1, \dots, T\}$ , the analysis followed the steps used by McCaw et al. (2019) and Guo et al. (2020) as below: (1) Separately for each time point  $t \in \{1, \dots, T\}$ , regress each  $y_{it}$  on the time-invariant covariates to obtain residuals  $\varepsilon_{it}$ ; (2) Conduct INT on the residuals  $z_{it} = \text{INT}(\varepsilon_{it})$  to obtain the Z-scores, again separately for each time point  $t$ ; (3) Combine  $z_{it}$  for  $t$  time points and fit the full mixed model for the  $z_{it}$ , with the time-invariant and time varying variables included.

It is important to note that this study uses  $\text{INT}(\varepsilon_{it})$  as the dependent variable, rather than the original net worth variable. Residuals are the remaining variations after explanation by a range of the time-invariant covariates. Residuals approximate the original variations of the dependent variable, but are not exactly the same. In this study, I use “residual wealth”, or “modelled wealth”, as an approximation of the original wealth (personal communication with Dr.

Shenyang Guo<sup>2</sup>). To generate figures that can still reflect dollar changes, I multiplied regression coefficients with the standard deviation of the residuals as the regression coefficient pertains roughly to the increase in Y for every unit increase in the original independent variable (Personal communications with Dr. Shenyang Guo, Dr. Danyu Lin<sup>3</sup>, and Dr. Zachary McCaw<sup>4</sup>). I performed this step to calculate model predicted values and present the trajectories virtually. I use “wealth” in the rest of this paper to refer “residual wealth”. The distributions of original net worth and net worth after INT transformation are shown in Figure 3-11 and Figure 3-2.

### Figure 3-1

*Distribution of Net Worth Before INT*



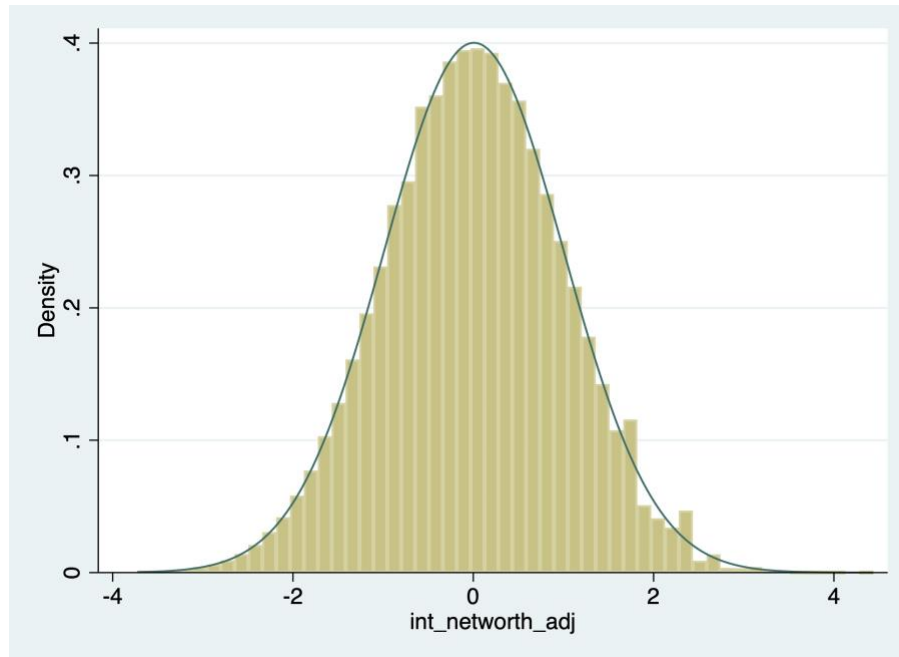
<sup>2</sup> Dr. Shenyang Guo, Frank J. Bruno Distinguished Professor of Social Work Research, Washington University in St. Louis

<sup>3</sup> Dr. Danyu Lin, the Dennis Gillings Distinguished Professor of Biostatistics, University of North Carolina at Chapel Hill

<sup>4</sup> Dr. Zachary McCaw, Department of Biostatistics, Harvard T.H. Chan School of Public Health, Boston, Massachusetts

**Figure 3-2**

*Distribution of Net Worth After INT*



Multiple imputation by chained equations were performed to impute missing predictors from the NLSY97 (m=15) (Allison, 2002). Both dependent variable and independent variables were used for imputation; however, only the imputed values of the independent variables were used in the analytic models (von Hippel, 2007). I ran the analyses separately in each imputed dataset and then aggregated the results by using Rubin's rule (program developed and provided by Dr. Shenyang Guo). Longitudinal weights for multiple survey years were obtained using the NLSY97 Custom Weighting program<sup>5</sup>.

---

<sup>5</sup> NLSY97 Custom Weighting program: <https://www.nlsinfo.org/weights/nlsy97>

### 3.3 Results

#### 3.3.1 Descriptive Statistics of Sample Characteristics

Table 3-1 presents demographic and socioeconomic characteristics of the respondents at age 25. About half were women (48%) and never married (50%). Over half were non-Hispanic White (58%) and had high school or below degree (67%). Children of immigrants were predominantly Hispanic (72%), whereas most children of native-born parents were White (71%). Children of the native-born had a higher proportion of bachelor's degree holders (29%) than children of immigrants (19%). Most respondents (88%) were employed with a median household income of \$58,559. Mean household size was about 3. Mean net worth among the whole sample was about \$35,997. Children with immigrant parents had higher net worth than children with native-born parents at age 25 (\$40151 vs. \$34678).

**Table 3-1**

*Demographic and Socioeconomic Characteristics of Respondents at Age 25*

	Whole sample (n = 5,060)	Children of immigrants (n = 1,224)	Children of native-born parents (n = 3,834)
<b>Gender</b>			
Male	52	50	47
Female	48	50	53
<b>Race/ethnicity</b>			
Non-Hispanic White	58	18	71
Non-Hispanic Black	17	10	19
Hispanic	24	72	9
<b>Marital status</b>			
Never married, not cohabiting	50	49	50
Married/cohabiting	47	47	47
Separated/divorced/widowed, not cohabiting	3	4	3
<b>Education attainment</b>			
High school or below	67	75	65
Associate or junior degree	6	7	6
Bachelor's degree or above	26	19	29
<b>Employed (Yes)</b>	88	86	89
<b>Household size</b>	3.12 (1.67)	3.73 (1.99)	2.98 (1.49)

<b>Number of children under 18</b>	0.71 (1.08)	0.99 (1.26)	0.63 (1.00)
<b>Median Household income (adjusted)</b>	\$58,551	\$58,924	\$58,412
<b>Mean Net worth (adjusted)</b>	\$35,997 (103065.3)	\$40,151 (110529.7)	\$34,678 (100564.3)

Note: Statistics were generated from unimputed data. Integral numbers are percentage; numbers regarding household size, number of children, and net worth are means with standard deviations in the parenthesis. Household income and net worth are adjusted to 2019 U.S. dollar.

### 3.3.2 Immigrant/Native-Born Differences in Financial Asset Ownership

Table 3-2 presents the striking differences in financial asset ownership between immigrant and native-born parents. Immigrant parents showed significantly fewer financial assets compared to their native-born counterparts. Nearly half of immigrant parents reported having no financial asset (49%), whereas only 17% of native-born parents were in this category. In contrast, 67% of native-born parents reported having at least one type of income-generating financial asset, whereas only 30% of immigrant parents owned these types of assets.

**Table 3-2**

#### *Parental Financial Asset Ownership in 1997*

	Whole sample (n = 5,060)	Children of immigrants (n = 1,224)	Children of native-born parents (n = 3,834)	P-value
<b>Financial Asset Ownership Level</b>				***
Low	25	49	17	
Median	17	21	16	
High	58	30	67	
Total	100%	100%	100%	
<b>Financial Asset Type</b>				
Checking/saving account	65	45	72	***
Education fund	9	6	10	***
Retirement account	55	28	64	***
Stock account	17	7	20	***

Note: \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

### 3.3.3 Results from Growth Curve Models

Results from the growth curve models are presented in Table 3-3. Model 1 shows that on average there is no systematic change in wealth between age 25 and 35. Children of immigrants started with a higher level of wealth ( $b = 0.14, p < .001$ ) than children from native-born families. A median level of financial asset ownership (i.e., only had general bank account) was not associated with adult children's initial wealth. However, parents' high level of financial asset ownership had a positive association with adult children's net worth at age 25 ( $b = 0.22, p < .001$ ). Model 2 introduced the interaction term between being children of immigrants and time. Results from Model 2 indicate that children of immigrants had higher level of initial wealth ( $b = 0.20, p < .001$ ). However, the wealth growth rate declined over time ( $b = -0.05, p < .05$ ). Higher level of parental financial asset ownership is positively associated with adult children's initial wealth ( $b = 0.22, p < .001$ ). Model 3 added the interaction term between parental financial asset ownership and time. Results show that high-level parental financial asset ownership was positively associated with wealth growth rate ( $b = 0.13, p < .001$ ).

The estimations of other covariates were generally consistent across all three models. Men started with a higher level of wealth than women ( $p < .001$ ). Compared to non-Hispanic Whites, Blacks and Hispanics were disadvantaged in holding wealth ( $p < .001$ ) except for Model 3; when parental financial assets interacted with time, the disadvantage among Black young adults disappeared. Being married or cohabiting couples and being employed were positively associated with initial net worth. Having an associate or junior degree had no association with initial net worth, whereas with all else held constant, having a bachelor's degree or above was positively associated with wealth level at age 25 for all children ( $p < .001$ ).



**Table 3-3**

*Estimated Coefficients from Growth Curve Models of Wealth with Indirect Inverse Normal Transformation (N = 5,060)*

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
<b>Time</b>	-0.01 (0.01)	0.00 (0.01)	-0.09*** (0.02)
<b>Children of immigrants</b>	0.14*** (0.04)	0.20*** (0.05)	0.15*** (0.04)
<b>Children of immigrants X Time</b>		-0.05* (0.03)	
<b>Parental financial asset level (ref: low)</b>			
Median	0.06 (0.04)	0.05 (0.04)	0.02 (0.05)
High	0.22*** (0.03)	0.22*** (0.03)	0.10** (0.04)
<b>Parental financial asset level X Time</b>			
Median X Time			0.03 (0.03)
High X Time			0.13*** (0.02)
<b>Male (ref: female)</b>	0.12*** (0.03)	0.11*** (0.03)	0.11*** (0.02)
<b>Race/ethnicity (ref: non-Hispanic White)</b>			
Black	-0.03*** (0.03)	-0.30*** (0.03)	-0.30 (0.03)
Hispanic	-0.20*** (0.04)	-0.20*** (0.04)	-0.20*** (0.04)
<b>Marital status (ref: single/never married/not cohabiting)</b>			
Married/cohabiting	0.26*** (0.02)	0.26*** (0.02)	0.25*** (0.02)
Separated/divorced/widowed, not cohabiting	-0.09* (0.04)	-0.09* (0.04)	-0.09* (0.04)
<b>Number of children under 18</b>	0.07*** (0.01)	0.07*** (0.01)	0.07*** (0.01)
<b>Household size</b>	-0.04*** (0.01)	-0.04*** (0.01)	-0.04*** (0.01)
<b>Employed (ref: not employed)</b>	0.09** (0.03)	0.09** (0.03)	0.09** (0.03)
<b>Education attainment (ref: high school or less)</b>			
Associate/junior	0.00 (0.05)	0.00 (0.05)	0.00 (0.05)
Bachelor's or above	0.16*** (0.03)	0.16*** (0.03)	0.16*** (0.03)
<b>Constant</b>	-0.34***	-0.28***	-0.25***

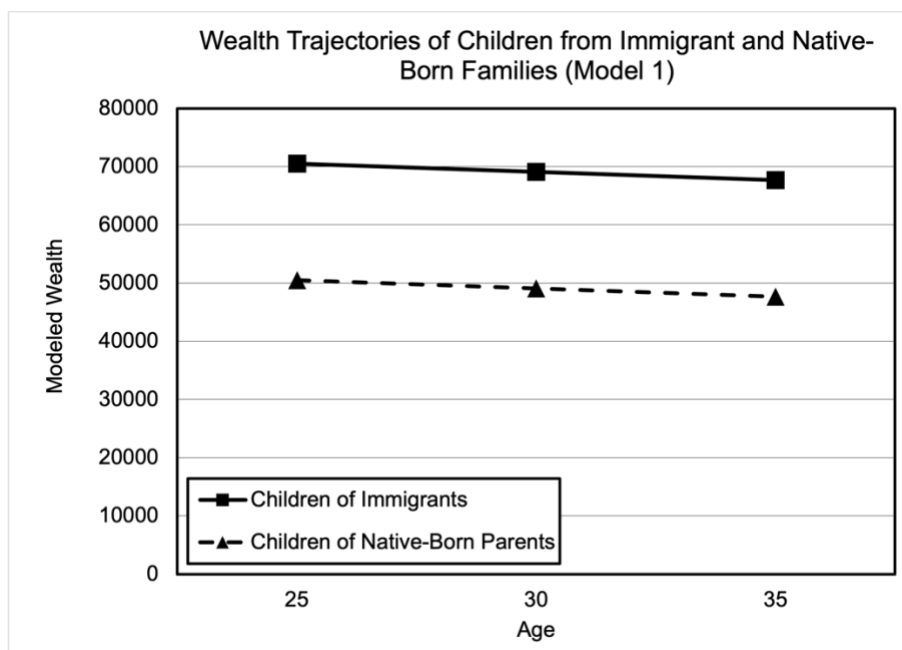
	(0.05)	(0.05)	(0.05)
<b>Variance of the intercept random effects</b>	0.60	0.60	0.60

Note: Results generated using imputed data. Numbers are regression coefficients with standard errors in parentheses. Sampling weights are applied. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ . (two-tailed test)

Figure 3-3 – Figure 3-6 were generated by calculating the model predicted values when holding other covariates at the mean levels. Figures 3-3 and 3-4 show the wealth trajectories of children from immigrant and native-born families. As shown in Figure 3-4, wealth declined over time among children of immigrants, although they started with a higher level of net worth. In contrast, the wealth level was more stable among children of native-born parents though consistently lower.

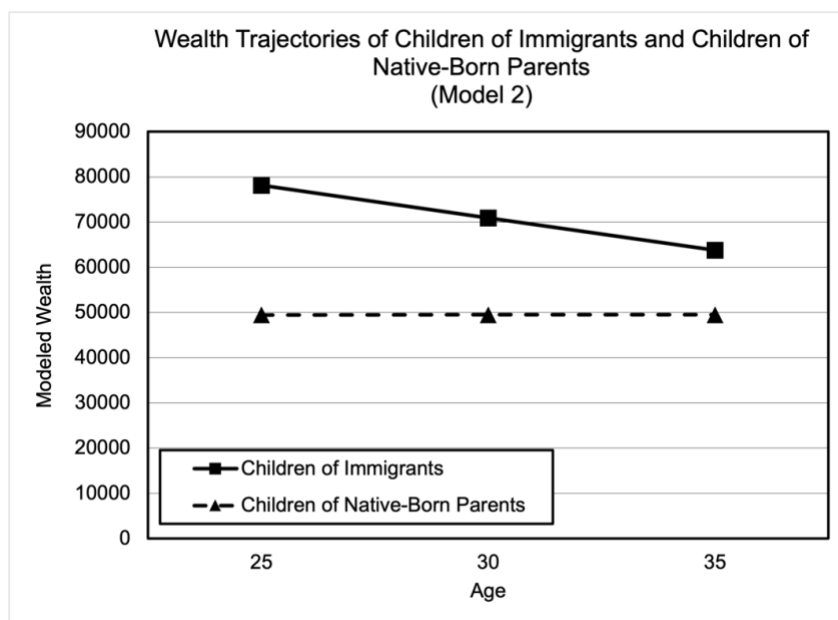
### Figure 3-3

*Model Predicted Net Worth in 2019 Dollar Amounts of Children from Immigrant and Native-Born Families (Model 1)*



**Figure 3-4**

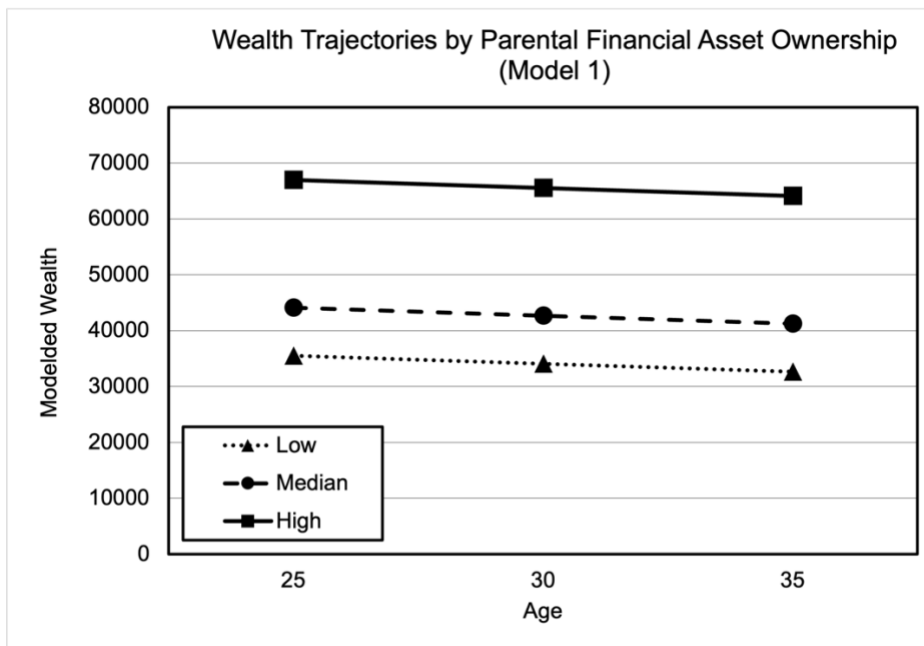
*Model Predicted Net Worth in 2019 Dollar Amounts of Children from Immigrant and Native-Born Families (Model 2)*



Figures 3-5 and Figure 3-6 show the wealth trajectories by parental financial asset ownership. Figure 3-5 was generated using the main model (without interaction). As seen in Figure 3-5, children with parents that had high level of financial asset ownership had higher levels of net worth during their young adulthood. Figure 3-6 was generated from Model 3 with the interaction term included. High parental financial asset ownership was found to have positive effect on the rate of adult children's wealth over time.

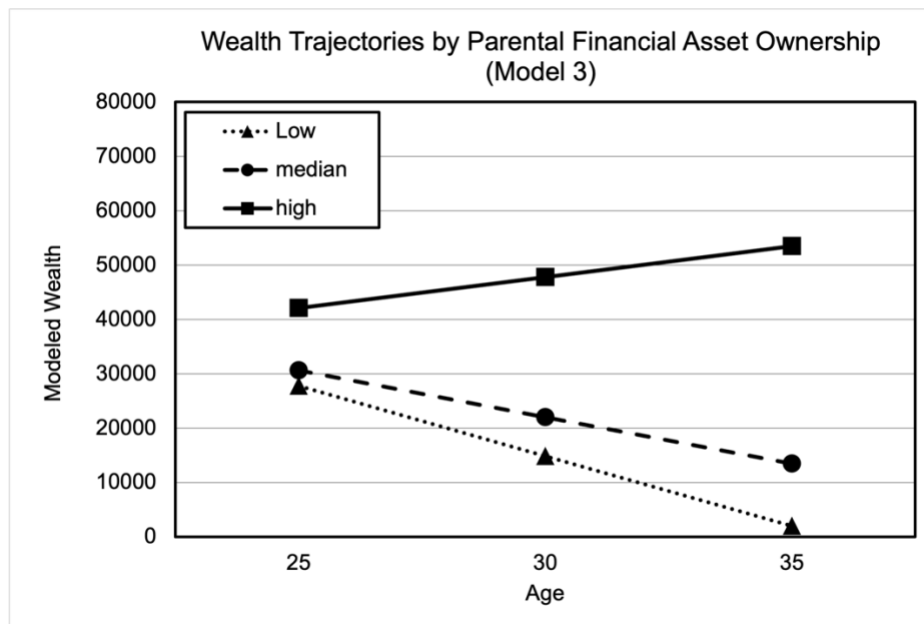
**Figure 3-5**

*Model Predicted Net Worth in 2019 Dollar Amounts by Parental Asset Ownership (Model 1)*



**Figure 3-6**

*Model Predicted Net Worth in 2019 Dollar Amounts by Parental Asset Ownership (Model 3)*



### 3.4 Discussion

Young to mid-adulthood is a pivotal period in the life course. During this stage, individuals usually experience many key milestones, such as marriage, homeownership, and childbirth, and thus lay the foundation for their later lives. Although research has documented wealth disparities between immigrants and native-born populations to demonstrate how immigrants fare in the United States (e.g., Chatterjee, 2009; Fontes, 2011), little research has extended the examination to the children of these two groups. Using a nationally representative longitudinal sample of young adults, this study has added to the literature by examining wealth trajectories of children in immigrant and native-born families from their mid-20s to mid-30s, with a focus on the role parental financial assets play in shaping these trajectories.

Net worth on average shows no significant change from age 25 to age 35. However, children from immigrant and native-born families showed diverging wealth trajectories over time. Although children of immigrants had higher initial levels of wealth, their wealth declined over the 10-year period of the study, whereas the level of children of native-born parents remained stable, albeit lower. Based on the trajectories found in this study, the wealth levels of the two groups may converge at some point and the children of immigrants may fall behind children of the native-born in holding wealth. This reversal may be explained, at least partially, by immigrant parents' lower level of financial asset ownership and children's lower rate of obtaining a college degree compared with native-born families.

This study's finding of diverging wealth trajectories echoes a concern raised by Osili and Paulson (2007) that immigrants having fewer financial assets may position their children at a financial disadvantage relative to children with native-born parents. This finding has important implications for understanding wealth trajectories of these two groups. We can infer from these

diverging wealth outcomes that children of immigrants may continue to decline relative to children from native-born families, perhaps gradually switching to a disadvantaged position going into middle age, a critical time for later-life financial security and wellbeing (Dziegielewski et al., 2002; Finegood et al., 2021). This finding also illustrates that wealth inequality is determined by the direction and rate of change. Focusing only on net worth at a single time point may mask underlying wealth patterns over time.

The findings indicate that parental financial assets play an important role in adult children's wealth. Children born to parents with a higher level of financial asset ownership are in an advantaged financial position compared to children with parents whose financial asset ownership is at lower levels. It is possible that children raised by parents with a high level of financial asset ownership experienced better financial socialization as they gained financial knowledge from their parents (Chiteji & Stafford, 1999; Friedline et al., 2011; LeBaron et al., 2020), resulting in greater capability to manage their personal finances on entering adulthood. In addition, parental financial resources have long-term effects on children's pursuit of postsecondary education (Huang et al., 2010; Kim & Sherraden, 2011). Previous studies found that education debt inhibits graduates' ability to accumulate wealth (Elliott et al, 2013; Hiltonsmith, 2013). Parents with more financial assets have more economic resources to fund children's higher education and therefore reduce their financial burden.

More importantly, a high parental financial asset ownership level has a positive association not only with children's initial wealth at age 25 but also in the growth of their wealth over time. As indicated in this study, adult children's wealth grows at an accelerated rate if the parents are financially capable. In their mid and later lives, these children may ultimately be better off compared to those whose parents have a lower level of financial asset ownership. This

pattern could be explained by intergenerational wealth transfer, which has been considered an important manner of wealth accumulation and major driver of wealth inequality in the United States (Sherraden, 1991; Spilerman, 2000). On the other hand, increasing attention has been paid to minoritized children who must financially support their parents who have no retirement savings or other forms of long-term financial assets (Dang, 2023; Khalfani-Cox, 2021). Even if two people earn the same income, they could end up with different wealth levels because one could put their earnings into asset building while the other may have to use the money to support their parents (Khalfani-Cox, 2021). This situation would also keep adult children from accumulating wealth over time. It is important to note that immigrants in general have fewer financial assets, such as stocks, retirement savings, and social security benefits, compared with their U.S.-born counterparts (Love & Schmidt, 2019; Osili & Paulson, 2007). Their financial disadvantage may be accumulated intergenerationally and enlarge the wealth disparities.

Observed connections between marital status, gender, education attainment, household size, and employment status and wealth point to the importance of household financial resources. For example, consistent with previous studies, this study affirms the correlation between marriage or cohabitation and better financial status (Wilmoth & Koso, 2002; Zagorsky, 2005). At the same time, this study's findings point out the need to support vulnerable families, such as single-parent families, because they are likely to have fewer financial resources. Having a college degree is associated with wealth, but pursuing higher education can create debt for many people. Those who complete their education debt free are likely to start accumulating wealth after graduation, while others may struggle to pay off their student loans. Vehicles designed for college education savings (e.g., 529 Plans) might be able to address the issue of wealth disparity.

### **Limitations**

This study has several limitations. First, the NLSY97 data measured parental information only once, at baseline, but parents' socioeconomic status could change over time. In this study, we used parental financial asset ownership as a time invariant variable. However, it is likely that parents gained some financial knowledge and accrued more financial assets after 1997, and this improved financial asset ownership level could also have affected children's wealth trajectories. Second, although this study covers net worth from age 25 to 35, it only has three time points due to data availability. This limitation may mask some underlying trajectories. Future research with more frequent data points can more accurately model wealth change over time. Third, this study excluded American Indian and Alaska Native, Asian or Pacific Islander, and mixed-race groups due to small sample sizes. As the U.S. population becomes increasingly diverse, and more importantly, the racial/ethnic diversity is marked by high inequality, future research on wealth trajectories with underrepresented samples will be important.

### **Implications for Policy**

This study has implications for policy. First, weaknesses in public institutions mandated to promote immigrants' economic outcomes in the United States makes it difficult for many vulnerable immigrants to achieve economic mobility (Terrazas, 2011). The diverging wealth trajectories between children of immigrants and children of native-born parents indicate that immigrant economic integration is an intergenerational issue. Consequently, this study calls for federal-level policy actions to support immigrant families and help them thrive across generations. The Refugee Individual Development Account (IDA), funded by the Office of Refugee Resettlement (2023) is a positive example of facilitating eligible refugees' asset building by providing financial access, financial education, and matched savings. IDAs and other



beneficial programs should be expanded to include other types of immigrants, especially those who are most marginalized and vulnerable.

Second, this study's findings call for social policies and programs aimed at facilitating parents' financial asset building because it has long-term effects on their children's wealth. Evidence shows that inclusive asset building policies can be positive. For example, Child Development Accounts are found to have positive effects on parents' financial capability (Huang et al., 2022) and asset building outcomes (Nam et al., 2013; Clancy et al., 2021). Policymakers should expand inclusive asset building policies to support families, especially those with fewer economic resources. It is also important that low-income working parents receive support through workplace financial wellness programs (e.g., financial counseling) to make financial services accessible to disadvantaged parents (Despard et al., 2020).

Third, policy solutions to address wealth inequalities can also focus on removing barriers to higher education because earning a college degree or above is positively associated with young adults' wealth at their mid 20s. Although the historic student loan forgiveness plan seems to be significant in helping those who are trapped in debt due to student loans (Federal Reserve Bank of New York, 2023), the political barriers are tremendous (Nova, 2023). More policy efforts are needed to make this beneficial plan actionable and sustainable. In the long-term, less reliance on student loans for college financing will be very desirable.

### **Implications for Research**

This study also has implications for research. First, the wealth disparities in trajectories revealed in this study highlight the importance of employing longitudinal methods to model wealth change. Focusing only on net worth using cross-sectional data may mask underlying wealth inequalities, such as differences in wealth growth rate, that reflect a trend. Examining

factors related to wealth trajectories provides invaluable insight into understanding wealth inequality as a dynamic process.

Second, this study highlights an innovative approach, inverse normal transformation, when modeling skewed, zero-inflated wealth data, especially with hierarchical data. Wealth is an important indicator of one's economic wellbeing, but analyzing wealth as a dependent variable has long been a challenge for researchers due to its highly skewed nature (Pfeffer & Griffin, 2017). The current study shows the advantages of applying the newly developed indirect INT method (McCaw et al. 2019) practiced in genome-wide association studies to studies using wealth data. Future research should explore potentially wider scope of using this method in analyses of wealth data in which zero-inflated and skewly distributed outcomes are popular.

Third, this study calls for additional research on economic wellbeing of children from immigrant families from a longitudinal perspective. This approach is particularly important when investigating intergenerational mobility of immigrants. Many immigration scholars use the concept of the "immigrant paradox" to describe a phenomenon of better outcomes achieved by children of immigrants compared to children from native-born families (Palacios et al., 2008; Salas-Wright et al, 2016). However, as indicated in this study, wealth inequalities between these two groups could be reflected in the rate of change, rather than net worth value at a single time point. Using longitudinal methods to model wealth change over time can provide a more comprehensive picture of how immigrant families fare across generations.

## **Conclusion**

While previous studies discussed immigrant-native wealth attainment, wealth trajectories of their adult children are rarely mentioned. The findings of this study add to a small but growing body of research on economic wellbeing of children from immigrant families, with a focus on

direction and rates of wealth change over time. This is an understudied area of social research. The findings of this study indicate that although children of immigrants seem to outperform their peers with native-born parents from their young to mid-adulthood, their wealth declined over time. This decline may continue and lead to potential wealth disparities between these two groups in their later lives. Future research should look into the wealth trajectories of children from immigrant families across their life courses, especially with an examination of heterogeneity among immigrant groups. With further development, this area of study can inform immigrant integration programs, such as more inclusive asset building policies.

## Conclusions

### Summary of Findings

Immigrants and their children have always contributed to the U.S. economy and society, but unfortunately, the U.S. immigration system is not well-designed to support immigrant families, and it has been undermined in the recent past. Conservative political strength, anti-immigrant sentiments, and the global pandemic have made immigrant inclusion more challenging. In addition, immigration issues intersect with race and are becoming increasingly important, both domestically and internationally. Nevertheless, policymakers and practitioners can design appropriate policies and programs that enable immigrants to thrive. Using two nationally representative datasets, this dissertation has explored immigrants' settlement, legal status, financial access, and wealth building, with analyses extending to the second generation. These studies turn new ground in extending asset-building research and policy to this important population.

Overall, the results show that how immigrants fare financially in the United States largely depends on what resources they can access in the United States. Institutional-level support in asset building and quality social networks may help them to achieve better financial outcomes. In addition, the findings reveal a “wealth growth gap” between children of immigrants and children of native-born parents: although children of immigrants seem to outperform their peers with native-born parents from their young to mid-adulthood, their wealth declined over time.

Specifically, Chapter 1 (the first paper) examines how initial legal status affects LPRs' asset building by investigating three types of financial assets—bank account ownership, investment account ownership, and retirement account ownership. I find that initial legal status stratifies immigrants' subsequent asset building—those with more institutional resources

perform better in accruing assets: Employer-sponsored immigrants accumulated advantages over other types of immigrants, particularly in holding assets with higher returns; family reunification immigrants showed advantages over immigrants with humanitarian and diversity visas in holding income-generating assets, but their positions were similar to those of previously undocumented immigrants. The findings address the importance of disaggregating LPRs by initial legal status to understand wealth inequality among immigrants. This study provides unique insights into immigrant asset building in the United States and highlights institutional-level resources as facilitators in the process.

Chapter 2 (the second paper) tests the impact of being banked at an earlier stage of immigration on immigrants' subsequent asset holding with self-selection bias addressed using a nationally representative data set. Findings indicate that being banked has a statistically significant and positive impact on investment account ownership and retirement account ownership, which highlights the importance of expanding financial access to immigrants. This study also reveals that being banked has stronger effects on those with disadvantaged backgrounds. The findings highlight the importance of efforts to promote financial inclusion for immigrants, especially those who are racialized, minoritized, or of lower socioeconomic status. With propensity score weighting, this study finds that although being banked is important, it may be overestimated. Bank accounts per se are not enough to facilitate immigrant asset building; more importantly, policy interventions with a propensity to support minoritized immigrants and those with limited economic resources are needed. It is also important to offer immigrants accessible financial education programs, empowering them with knowledge and skills to make informed financial decisions in the United States.

Chapter 3 (the third paper) examines wealth trajectories of children from immigrant and native-born families from their mid-20s to their mid-30s, with a focus on parental financial assets in shaping these trajectories. Three growth curve models in conjunction with a robust method analyzing zero-inflated and skewed outcomes were employed in the data analysis. This study finds that children of immigrants started with higher levels of wealth compared with children of native-born parents; however, their wealth declined over time. High parental financial asset ownership level had a positive association with children's initial wealth and, more importantly, in the growth of their wealth over time. This study's findings call for further research on the economic wellbeing of children of immigrants from a longitudinal perspective. This decline may continue and lead to potential wealth disparities between these two groups in their later lives. This study also underscored the importance of policy actions to facilitate asset building among children of immigrants.

### **Limitations**

This dissertation has some limitations. First, the data used in the first two studies were collected in 2003 and 2009, which may not be representative enough for the current immigrant population. Second, the only indicator for immigration status in the third paper is if the parent was foreign born, without more details about their legal status in the United States. As such, I was unable to further examine variations among children from different types of immigrant families and how they fare in wealth building. Third, all three papers reflect the situations before the COVID-19 pandemic. As indicated in many studies (e.g., Estes et al., 2022; Gelatt & Chishti, 2022; Haley et al., 2021), immigrant communities have been disproportionately impacted by the pandemic, and these impacts may also relate to their asset building and financial wellbeing. Future research should further examine how pandemics and economic downturns, in addition to

the existing barriers, affect immigrants' asset building. Detailed limitations of each study have been indicated in Chapter 1, 2, and 3.

### **Implications for Social Work Research and Future Directions**

Although asset-based research and policies are now more widely discussed in the United States and around the globe, research on immigrants' asset building is limited. This dissertation expands knowledge about asset building research in light of immigrants' experiences. As suggested in this dissertation, disadvantaged immigrants experience challenges similar to those faced by their native-born peers; however, they may encounter additional barriers due to their immigration status and institutional discrimination.

The findings of this dissertation indicate that resource accessibility determined by institutional arrangement affects immigrants' long-term asset building. Therefore, instead of attributing asset building outcome variations to culture or behavior preference, more research is needed to uncover the institutional barriers caused by immigration policies, financial exclusion, and systemic racism. Findings from this research could be critical for policy-level innovation in the field of immigrant economic integration. Special attention should be paid to minoritized immigrants because their challenges may be exacerbated when their immigration status intersects with other identities.

This dissertation reveals the scarcity of available data to investigate immigrants' financial capability and asset building. The NIS data used in two of the three papers were collected in 2003 and 2009. However, the landscape of immigrant population in the United States has shifted significantly since then. It is particularly important to note that refugees have changed demographically since the data collection of the NIS: the majority of refugees in the NIS data were from former Soviet Union countries, whereas more refugees have come from Asia and

Africa since 2010 (Monin et al., 2021). However, most public data do not include detailed information on immigrants' legal status, forcing researchers to collect small-scale, nonrepresentative data or rely on proxy measures. In addition, immigration policies have been impacted by the global pandemic (Gelatt & Chishti, 2022), which also affected immigrants' experiences in the United States. Therefore, new data collection, especially national level and with a longitudinal design, is needed to strengthen our knowledge of recent immigrants.

This dissertation extends asset building research to the children of immigrants, suggesting that asset building matters for intergenerational mobility. Researchers raised a concern that the immigrant–native asset ownership gap may disadvantage children from immigrant families, and this concern is confirmed by the findings from this dissertation. As indicated in the third paper, wealth inequalities between children of immigrants and children of native-born parents could be reflected in the rate of change rather than net worth value at a single time point. This finding is important for investigating intergenerational mobility of immigrants because many studies pictured children of immigrants as an advantaged group by capturing a single time measure of socioeconomic outcomes. However, as indicated in this dissertation, the “immigrant paradox” does not always hold from a longitudinal perspective. Future research should investigate the long-term financial security of immigrant families, including the mechanisms of how immigrants' asset building affects their adult children's financial wellbeing and mobility.

### **Implications for Social Service and Social Policy**

Social workers have long been at the forefront of work with immigrants. From our profession's earliest days working with immigrants at the Hull House in Chicago to the current immigration debates, social workers have played a critical role in advocating for immigrants' rights and immigration reforms. As professionals, we should have competency to “fight



discrimination against immigrants, and to take social and political action in support of rights of immigrants” (National Association of Social Workers, 2006, p. 2).

However, evidence has shown that a large number of social work professionals today deny that immigrants are disadvantaged compared to their U.S.-born peers and also deny that their disadvantage, if there is any, is related to their race and ethnicity or country of origin (Park et al., 2022). These beliefs may result from the rising anti-immigrant sentiment, along with the ignorance of immigration in current social work education. If social workers lack an understanding of immigration issues, we may fail to fulfil our commitment to social justice.

Findings from this dissertation show diverging immigration outcomes based on legal status and resource accessibility related to these statuses. Social service providers with immigrant clients should enhance their abilities to understand the complexities of immigrants’ milieus (Martinez-Brawley & Zorita, 2011). Specifically, they should be aware that structural barriers, rather than behavior-level differences, are major roadblocks for many immigrants to moving upward, but these barriers could be removed through effective programs. Social programs integrating institutional components to support immigrants’ asset building are highly desirable. The Refugee Individual Development Account (IDA), funded by the Office of Refugee Resettlement (2023) is a positive example of facilitating eligible refugees’ asset building by providing financial access, financial education, and matched savings. IDAs and other beneficial programs should be expanded to include other types of immigrants, especially those who are most marginalized and vulnerable.

For immigrants with limited institutional support, social service providers should refer them to accessible resources and advocate for a policy-level change to remove institutional barriers. For example, social workers working with immigrant communities can consider

partnering with community-based financial institutions, such as ethnic banks or credit unions, to provide immigrants affordable financial services. As indicated in a report issued by a credit union, “If you successfully bank an immigrant member, you will often end up banking their family and friends and building a community” (Moy et al., 2017, p. 3). This ripple effect is found to be particularly strong in areas with very high ethnic concentration (Osili & Paulson, 2006).

The first and second papers both underscore English proficiency in immigrants’ asset building. This finding, along with previous research highlighting language support in financial services (Nam et al., 2022), call for regulations that ensure immigrants with limited English proficiency have access to language assistance in financial services, so that they too can have meaningful financial access. CFPB (2017) has taken action to provide language assistance by issuing a Language Access Plan to increase accessibility to CFPB services. Such guidelines and regulations should be expanded to commercial banks and other financial service providers.

This dissertation also highlights the long-term effect of asset building on households’ financial security: immigrant–native gaps in wealth building may be intergenerational. As indicated in this dissertation, children of immigrants show a declined growth rate in net worth when they enter mid-adulthood and parental financial asset ownership is predictive of wealth growth. These findings confirm the welfare effect of assets (Sherraden, 1991) because its effects on intergenerational wealth building. As a response, social services provided to immigrant families need to go beyond linguistic and cultural competence and be able to navigate institutional support for immigrants’ long-term financial security. Therefore, asset building, such as employer-sponsored retirement savings for low-income immigrant workers, should be put on the policy agenda.

As children of immigrants continue to grow, their wellbeing has been paid increasing attention from researchers and policymakers (Estes et al., 2022). Their economic hardships received special attention during the COVID-19 pandemic because the inaccessibility of public benefits due to their families' complex statuses (Estes et al., 2022; Haley et al., 2021). Other policies aimed at supporting disadvantaged immigrant families, such as the dedication of direct support to immigrant families during health and economic crises, are especially needed during the post-pandemic era.

## References

- Aizcorbe, A. M., Kennickell, A. B., & Moore, K. B. (2003). Recent changes in US family finances: Evidence from the 1998 and 2001 Survey of Consumer Finances. *Federal Reserve Bulletin.*, 89, 1.
- Alessie, R., Lusardi, A., & Aldershof, T. (1997). Income and wealth over the life cycle evidence from panel data. *Review of Income and Wealth*, 43(1), 1–32.  
<https://doi.org/10.1111/j.1475-4991.1997.tb00198.x>
- Allison, P. D. (2002). *Missing Data*. Sage. <https://doi.org/10.4135/9781412985079>
- American Immigration Council. (2020). *Immigrants in the United States*.  
[https://www.americanimmigrationcouncil.org/sites/default/files/research/immigrants\\_in\\_the\\_united\\_states.pdf](https://www.americanimmigrationcouncil.org/sites/default/files/research/immigrants_in_the_united_states.pdf)
- American Immigration Council. (2021). *Why don't immigrants apply for citizenship? There is no line for many undocumented immigrants*.  
[https://www.americanimmigrationcouncil.org/sites/default/files/research/why\\_dont\\_immigrants\\_apply\\_for\\_citizenship\\_0.pdf](https://www.americanimmigrationcouncil.org/sites/default/files/research/why_dont_immigrants_apply_for_citizenship_0.pdf)
- Amuedo-Dorantes, C., & Bansak, C. (2006). Money transfers among banked and unbanked Mexican immigrants. *Southern Economic Journal*, 73(2),  
<https://doi.org/10.2307/20111897>
- Ando, A., & Modigliani, F. (1963). The “life cycle” hypothesis of saving: Aggregate implications and tests. *The American economic review*, 53(1), 55–84.  
<https://www.jstor.org/stable/1817129>
- Ansong, D., Chowa, G., Masa, R., Despard, M., Sherraden, M., Wu, S., & Osei-Akoto, I. (2019). Effects of youth savings accounts on school attendance and academic performance:

- evidence from a youth savings experiment. *Journal of Family and Economic Issues*, 40, 269–281. <https://doi.org/10.1007/s10834-018-9604-5>
- Arthur, J. A. (2008). *The African diaspora in the United States and Europe: The Ghanaian experience*. Routledge.
- Asad, A. L., & Clair, M. (2018). Racialized legal status as a social determinant of health. *Social Science & Medicine*, 199, 19–28. <https://doi.org/10.1016/j.socscimed.2017.03.010>
- Atumba, R. I. A. (2020). *Congolese career pathways: designing a successful transition for the resettlement of Congolese refugees, asylees, and diversity visa winner immigrant professionals*.  
[https://archives.northwestu.edu/bitstream/handle/nu/54988/atumba\\_rose\\_icd\\_2020.pdf?sequence=1](https://archives.northwestu.edu/bitstream/handle/nu/54988/atumba_rose_icd_2020.pdf?sequence=1)
- Barcellos, S. H., Carvalho, L. S., Smith, J. P., & Yoong, J. (2016). Financial education interventions targeting immigrants and children of immigrants: Results from a randomized control trial. *Journal of Consumer Affairs*, 50(2), 263–285.  
<https://doi.org/10.1111/joca.12097>
- Barr, M. (2004). Banking the poor. *Yale Journal on Regulation*, 21(1), 121–237.
- Bayer, P. J., Bernheim, B. D., & Scholz, J. K. (2009). The effects of financial education in the workplace: Evidence from a survey of employers. *Economic Inquiry*, 47(4), 605–624.  
<https://doi.org/10.1111/j.1465-7295.2008.00156.x>
- Beine, M., Docquier, F., & Rapoport, H. (2007). Measuring international skilled migration: A new database controlling for age of entry. *The World Bank Economic Review*, 21(2), 249–254. <https://doi.org/10.1093/wber/lhm007>

- Bellamy, C. (2007). *Serving the underserved: Banking for the undocumented immigrants*. Immigration Policy Center.  
<https://www.americanimmigrationcouncil.org/sites/default/files/research/Serving%20the%20Underserved.pdf>
- Berry, C. (2004). *To bank or not to bank? A survey of low-income households*. Joint Center for Housing Studies. Harvard University.  
[https://jchs.harvard.edu/sites/default/files/media/imp/babc\\_04-3.pdf](https://jchs.harvard.edu/sites/default/files/media/imp/babc_04-3.pdf)
- Beverly, S. G., Sherraden, M., Zhan, M., Williams Shanks, T. R., Nam, Y., & Cramer, R. (2008). Determinants of asset building. In *Asset building and low-income families* (pp. 89–151). The Urban Institute.
- Beyer, D. (2021). *Immigrants are vital to the U.S. economy*. Joint Economic Committee.  
[https://www.jec.senate.gov/public/\\_cache/files/6750b0f0-c851-4fee-9619-295582fd44e8/immigrants-are-vital-to-the-us-economy-final.pdf](https://www.jec.senate.gov/public/_cache/files/6750b0f0-c851-4fee-9619-295582fd44e8/immigrants-are-vital-to-the-us-economy-final.pdf)
- Birkenmaier, J., & Fu, Q. (2016). The association of alternative financial services usage and financial access: Evidence from the National Financial Capability Study. *Journal of Family and Economic Issues*, 37, 450–460. <https://doi.org/10.1007/s10834-015-9463-2>
- Birkenmaier, J., & Fu, Q. (2018). Household financial access and use of alternative financial services in the U.S.: Two sides of the same coin? *Social Indicators Research*, 139, 1169–1185. <https://doi.org/10.1007/s11205-017-1770-6>
- Blank, R. M., & Barr, M. S. (Eds.). (2009). *Insufficient funds: Savings, assets, credit, and banking among low-income households*. Russell Sage Foundation.

- Blau, F. D., & Graham, J. W. (1990). Black-white differences in wealth and asset composition. *The Quarterly Journal of Economics*, *105*(2), 321–339.  
<https://doi.org/10.2307/2937789>
- Bleakley, H., & Chin, A. (2004). Language skills and earnings: Evidence from childhood immigrants. *Review of Economics and Statistics*, *86*(2), 481–496.  
<https://doi.org/10.1162/003465304323031067>
- Boen, C., & Yang, Y. C. (2016). The physiological impacts of wealth shocks in late life: Evidence from the Great Recession. *Social Science & Medicine*, *150*, 221–230.  
<https://doi.org/10.1016/j.socscimed.2015.12.029>
- Bohn, S., & Pearlman, S. (2013). Ethnic concentration and bank use in immigrant communities. *Southern Economic Journal*, *79*(4), 864–885. <https://doi.org/10.4284/0038-4038-2010.245>
- Borjas, G. J. (2002). Homeownership in the immigrant population. *Journal of urban economics*, *52*(3), 448–476. [https://doi.org/10.1016/S0094-1190\(02\)00529-6](https://doi.org/10.1016/S0094-1190(02)00529-6)
- Bosniak, L. (2007). Being here: Ethical territoriality and the rights of immigrants. *Theoretical Inquiries in Law*, *8*(2), 389–410. <https://doi.org/10.2202/1565-3404.1155>
- Browne, S., Glass, C., & Holyoak, G. (2016). Institutional constraints limiting social services for immigrants. *Journal of Immigrant & Refugee Studies*, *14*(2), 156–176.  
<https://www.tandfonline.com/doi/full/10.1080/15562948.2015.1066475>
- Budiman, A. (2020). *Key findings about U.S. immigrants*. Pew Research Center.  
<https://www.pewresearch.org/fact-tank/2020/08/20/key-findings-about-u-s-immigrants/>
- Bullock, H. E., Toolis, E. E., Sencion, B., & Cadenas, M. T. (2020). The high price of economic marginalization: Low-income Latinas' experiences with mainstream banking and

- alternative financial services. *Peace and Conflict: Journal of Peace Psychology*, 26(2), 136–148. <https://doi.org/10.1037/pac0000419>
- Bureau of Labor Statistics, U.S. Department of Labor. (2019). *National Longitudinal Survey of Youth 1997 cohort, 1997-2018* (rounds 1–19). Center for Human Resource Research, Ohio State University.
- Capps, R., Bachmeier, J. D., Fix, M., & Van Hook, J. (2013). *A demographic, socioeconomic, and health coverage profile of unauthorized immigrants in the United States*. Washington, DC: Migration Policy Institute.
- Capps, R., Batalova, J., & Gelatt, J. (2020). *COVID-19 and unemployment: Assessing the early fallout for immigrants and other U.S. workers*. Migration Policy Institute. <https://www.migrationpolicy.org/sites/default/files/publications/COVID-19-Unemployment-Industry-Nativity-Gender-FS-Final.pdf>
- Cartwright, E. (2011). Immigrant dreams: Legal pathologies and structural vulnerabilities along the immigration continuum. *Medical Anthropology*, 30(5), 475–495. <https://doi.org/10.1080/01459740.2011.577044>
- Caskey, J. P. (2005). Reaching out to the unbanked. *Inclusion in the American dream: Assets, poverty, and public policy* (pp. 149–166). Oxford University Press.
- Cavalluzzo, K., & Wolken, J. (2005). Small business loan turndowns, personal wealth, and discrimination. *Journal of Business*, 78(6), 2153–2178. <https://doi.org/10.1086/497045>
- Célerier, C., & Matray, A. (2019). Bank-branch supply, financial inclusion, and wealth accumulation. *The Review of Financial Studies*, 32(12), 4767–4809. <https://doi.org/10.1093/rfs/hhz046>



- Chakrabarty, D., Osei, M. J., Winters, J. V., & Zhao, D. (2019). Which immigrant and minority homeownership rates are gaining ground in the US? *Journal of Economics and Finance*, 43(2), 273–297. <https://doi.org/10.1007/s12197-018-9443-0>
- Chand, M., & Tung, R. L. (2019). Skilled immigration to fill talent gaps: A comparison of the immigration policies of the United States, Canada, and Australia. *Journal of International Business Policy*, 2(4), 333–355. <https://doi.org/10.1057/s42214-019-00039-4>
- Chang, M. L. (2005). With a little help from my friends (and my financial planner). *Social Forces*, 83(4), 1469–1497. <https://doi.org/10.1353/sof.2005.0061>
- Chatterjee, S. (2009). Financial market participation of immigrants and native-born Americans: The role of income uncertainty. *International Business & Economics Research Journal (IBER)*, 8(5). <https://doi.org/10.19030/iber.v8i5.3131>
- Chatterjee, S., & Kim, J. (2011). Asset ownership of recent immigrants: An examination of nativity and socioeconomic factors. *Migration Letters*, 8(2), 141–152. <https://doi.org/10.33182/ml.v8i2.162>
- Chatterjee, S., & Zahirovic-Herbert, V. (2014). A road to assimilation: Immigrants and financial markets. *Journal of Economics and Finance*, 38(2), 345–358. <https://doi.org/10.1007/s12197-011-9224-5>
- Cheney, J. S., & Rhine, S. L. (2006). *How effective were the financial safety nets in the aftermath of Katrina?* FRB of Philadelphia Payment Cards Center Discussion Paper No. 06-01. <http://dx.doi.org/10.2139/ssrn.886121>
- Chin, A., Karkoviata, L., & Wilcox, N. (2011). Impact of bank Accounts on migrant savings and remittances: Evidence from a field experiment. [https://www.uh.edu/~achin/research/ckw\\_banking\\_june2011.pdf](https://www.uh.edu/~achin/research/ckw_banking_june2011.pdf)

- Chishti, M., & Bolter, J. (2020). Vulnerable to COVID-19 and in frontline jobs, immigrants are mostly shut out of U.S. relief. Migration Policy Institute.  
<https://www.migrationpolicy.org/article/covid19-immigrants-shut-out-federal-relief>
- Chiteji, N. S., & Stafford, F. P. (1999). Portfolio choices of parents and their children as young adults: Asset accumulation by African American families. *American Economic Review*, 89(2), 377–380. <http://dx.doi.org/10.1257/aer.89.2.377>
- Clancy, M. M., Beverly, S. G., Schreiner, M., Huang, J., & Sherraden, M. (2021). Financial outcomes in a Child Development Account experiment: Full inclusion, success regardless of race or income, investment growth for all (CSD Research Summary 21-06). St. Louis, MO: Washington University, Center for Social Development.  
<https://doi.org/10.7936/fnjg-n539>
- Clancy, M. M., Beverly, S. G., Sherraden, M., & Huang, J. (2016). Testing universal child development accounts: Financial effects in a large social experiment. *Social Service Review*, 90(4), 683–708. <https://doi.org/10.1086/689756>
- Cobb-Clark, D. A., & Hildebrand, V. A. (2006). The wealth and asset holdings of US-born and foreign-born households: Evidence from SIPP data. *Review of Income and Wealth*, 52(1), 17–42. <https://doi.org/10.1111/j.1475-4991.2006.00174.x>
- Connor, P. (2010). Explaining the refugee gap: Economic outcomes of refugees versus other immigrants. *Journal of Refugee Studies*, 23(3), 377–397.  
<https://doi.org/10.1093/jrs/feq025>
- Consumer Financial Protection Bureau. (2016). *Financial education programs serving immigrant populations*.

[https://files.consumerfinance.gov/f/documents/20160714\\_cfpb\\_report\\_fined\\_immigrant\\_May\\_20\\_2016\\_FINAL.pdf](https://files.consumerfinance.gov/f/documents/20160714_cfpb_report_fined_immigrant_May_20_2016_FINAL.pdf)

Consumer Financial Protection Bureau. (2017). *Final language access plan for the Consumer Financial Protection Bureau*. <https://www.govinfo.gov/content/pkg/FR-2017-11-16/pdf/2017-24854.pdf>

Courchane M, Darolia R, Gailey A (2015) Borrowers from a different shore: Asian outcomes in the U.S. mortgage market. *Journal of Housing Economics*, 28, 76–90.  
<https://doi.org/10.1016/j.jhe.2015.01.001>

Cruz-Taura, A., Howe, S., LeVeen, J., McQuerry, E., Sánchez, J.M., Smith, W., Hilgert, M.A., Hogarth, J., & Lucio, E. (2005). *Banking on remittances: Increasing market efficiencies for consumers and financial institutions*. Federal Reserve System Community Affairs Research Conference. <https://www.semanticscholar.org/paper/Banking-on-remittances%3A-increasing-market-for-and-Cruz-Taura-Howe/406bb58e45bcd4e87a70508f1d4539d9e8f4669c>

Curran, P. J., Obeidat, K., & Losardo, D. (2010). Twelve frequently asked questions about growth curve modeling. *Journal of cognition and development*, 11(2), 121–136.  
<https://doi.org/10.1080/15248371003699969>

Cutter, S. L., Boruff, B. J., & Shirley, W. L. (2012). Social vulnerability to environmental hazards. In *Hazards vulnerability and environmental justice* (pp. 143-160). Routledge.

Dang, M. (2023). Their children are their retirement plans. *New York Times*.  
<https://www.nytimes.com/2023/01/21/business/retirement-immigrant-families.html>

Demirgüç-Kunt, A., Klapper, L., Singer, D., Ansar, S., Hess, J. (2017). *The Global Findex Database: Measuring financial inclusion and the fintech revolution*. The World Bank

Group.

<https://openknowledge.worldbank.org/bitstream/handle/10986/29510/211259ov.pdf>

Despard, M. R., Zeng, Y., Fox-Dichter, S., Frank-Miller, E., & Grinstein-Weiss, M. (2021). Can workplace financial counseling help lower-income workers improve credit outcomes?

*Journal of Financial Counseling and Planning*, 32(3), 432–448.

<http://dx.doi.org/10.1891/JFCP-19-00081>

DuGoff, E. H., Schuler, M., & Stuart, E. A. (2014). Generalizing observational study results: applying propensity score methods to complex surveys. *Health Services Research*, 49(1),

284–303. <https://doi.org/10.1111/1475-6773.12090>

Dunham, C. R. (2001). The role of banks and nonbanks in serving low- and moderate-income communities. In *Changing financial markets and community development: A Federal Reserve System research conference* (pp. 31–58). Richmond, VA: Federal Reserve Bank of Richmond.

Dziegielewski, S. F., Heymann, C., Green, C., & Gichia, J. E. (2002). Midlife changes: Utilizing a social work perspective. *Journal of human behavior in the social environment*, 6(4),

65–86. [https://doi.org/10.1300/J137v06n04\\_04](https://doi.org/10.1300/J137v06n04_04)

Elder, G. H., Johnson, M. K., & Crosnoe, R. (2003). *The emergence and development of life course theory* (pp. 3-19). Springer US.

Ellingrud, K., Krivkovich, A., Nadeau, M.C., & Zucker, J. (2021). *Closing the gender and race gaps in North American financial services*. McKinsey & Company.

<https://www.mckinsey.com/industries/financial-services/our-insights/closing-the-gender-and-race-gaps-in-north-american-financial-services>

- Elliott III, W., Destin, M., & Friedline, T. (2011). Taking stock of ten years of research on the relationship between assets and children's educational outcomes: Implications for theory, policy and intervention. *Children and Youth Services Review*, *33*(11), 2312–2328.  
<https://doi.org/10.1016/j.chilyouth.2011.08.001>
- Elliott, W., Grinstein-Weiss, M., & Nam, I. (2013). Does outstanding education debt reduce asset accumulation? CSD Working Paper 13–32. St. Louis, MO: Washington University, Center for Social Development.  
[https://openscholarship.wustl.edu/cgi/viewcontent.cgi?article=1181&context=csd\\_research](https://openscholarship.wustl.edu/cgi/viewcontent.cgi?article=1181&context=csd_research)
- Esterline, C. & Batalova, J. (2022). Frequently requested statistics on immigrants and immigration in the United States. Migration Policy Institute.  
<https://www.migrationpolicy.org/article/frequently-requested-statistics-immigrants-and-immigration-united-states#:~:text=How%20many%20U.S.%20residents%20are,of%20approximately%20950%2C000%20from%202020.>
- Estes, C., Deaton, D., Jayashankar, A., & Mchugh, M. (2022). Better responses to differing immigration statuses: Spreading and adapting 2Gen working practices. Migration Policy Institute. Community Strategies Group. Aspen Institute.  
<https://www.migrationpolicy.org/sites/default/files/publications/CSG-Immigration-Status-Brief.pdf>
- Faber, J. W. (2019). Segregation and the cost of money: Race, poverty, and the prevalence of Alternative Financial Institutions. *Social Forces*, *98*(2), 819–848.  
<https://doi.org/10.1093/sf/soy129>

- Federal Deposit Insurance Corporation. (2014). *2013 FDIC National Survey of unbanked and underbanked households*. <https://www.fdic.gov/householdsurvey/2013execsumm.pdf>
- Federal Deposit Insurance Corporation. (2020). *How America banks: Household use of banking and financial services, 2019 FDIC Survey*. <https://www.fdic.gov/analysis/household-survey/2019report.pdf>
- Federal Reserve Bank of New York. (2023). *Quarterly report on household debt and credit*. [https://www.newyorkfed.org/medialibrary/interactives/householdcredit/data/pdf/HHDC\\_2022Q4](https://www.newyorkfed.org/medialibrary/interactives/householdcredit/data/pdf/HHDC_2022Q4)
- Federal Reserve Bank Philadelphia. (2022). *Can recessions lead to long-term employment and earnings losses in local areas?* <https://www.philadelphiafed.org/the-economy/regional-economics/can-recessions-lead-to-long-term-employment-and-earnings-losses-in-local-areas>
- Federal Reserve Bank. (2022). *Distributional financial accounts overview*. <https://www.federalreserve.gov/releases/z1/dataviz/dfa/index.html>
- Feliciano, C., & Lanuza, Y. R. (2016). The immigrant advantage in adolescent educational expectations. *International migration review*, 50(3), 758–792. <https://doi.org/10.1111/imre.12183>
- Feliciano, C., & Rumbaut, R. G. (2005). Gendered paths: Educational and occupational expectations and outcomes among adult children of immigrants. *Ethnic and racial studies*, 28(6), 1087–1118. <https://doi.org/10.1080/01419870500224406>
- Fellowes, M., & Mabanta, M. (2008). *Banking on wealth: America's new retail banking infrastructure and its wealth-building potential*. The Brookings Institution.

<https://www.brookings.edu/research/banking-on-wealth-americas-new-retail-banking-infrastructure-and-its-wealth-building-potential/>

Finegood, E. D., Briley, D. A., Turiano, N. A., Freedman, A., South, S. C., Krueger, R. F., ... & Miller, G. E. (2021, July). Association of wealth with longevity in US adults at midlife. In *JAMA health forum* (Vol. 2, No. 7, pp. e211652–e211652). American Medical Association. <http://dx.doi.org/10.1001/jamahealthforum.2021.1652>

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

<https://doi.org/10.1007/s10834-011-9262-3>

Fortuny, K., & Chaudry, A. (2011). *A comprehensive review of immigrant access to health and human services*. Urban Institute.

<https://www.urban.org/sites/default/files/publication/27651/412425-A-Comprehensive-Review-of-Immigrant-Access-to-Health-and-Human-Services.PDF>

Francis, D. V., & Weller, C. E. (2022). Economic inequality, the digital divide, and remote learning during COVID-19. *The Review of Black Political Economy*, 49(1), 41–60.

<https://doi.org/10.1177/00346446211017797>

Friedline, T. L., Elliott, W., & Nam, I. (2011). Predicting savings from adolescence to young adulthood: A propensity score approach. *Journal of the Society for Social Work and Research*, 2(1), 1–21. <https://doi.org/10.5243/jsswr.2010.13>

Friedline, T., Despard, M. R., & Birkenmaier, J. (2018). *Policy recommendations for expanding access to banking and financial services*. Grand Challenges for Social Work Initiative Policy Brief No.11–4. <https://aaswsw.org/wp-content/uploads/2018/05/PB11-4.pdf>

- Friedline, T., Masa, R. D., & Chowa, G. A. (2015). Transforming wealth: Using the inverse hyperbolic sine (IHS) and splines to predict youth's math achievement. *Social science research, 49*, 264–287. <https://doi.org/10.1016/j.ssresearch.2014.08.018>
- Gabriel, S. A., & Rosenthal, S. S. (1991). Credit rationing, race, and the mortgage market. *Journal of Urban Economics, 29*(3), 371–379. [https://doi.org/10.1016/0094-1190\(91\)90007-T](https://doi.org/10.1016/0094-1190(91)90007-T)
- Gans, H. J. (1992). Second-generation decline: Scenarios for the economic and ethnic futures of the post-1965 American immigrants. *Ethnic and racial studies, 15*(2), 173–192. <https://doi.org/10.1080/01419870.1992.9993740>
- Gans, H. J. (2009). First generation decline: downward mobility among refugees and immigrants. *Ethnic and Racial Studies, 32*(9), 1658–1670. <https://doi.org/10.1080/01419870903204625>
- Gelatt, J. (2020). Do employer-sponsored immigrants fare better in labor markets than family-sponsored immigrants? *RSF: The Russell Sage Foundation Journal of the Social Sciences, 6*(3), 70–93. <https://doi.org/10.7758/RSF.2020.6.3.04>
- Gelatt, J. (2020). Immigrant workers: Vital to the U.S. COVID-19 response, disproportionately vulnerable. Migration Policy Institute. <https://www.migrationpolicy.org/research/immigrant-workers-us-covid-19-response>
- Gelatt, J. & Chishti, M. (2022). COVID-19's effects on U.S. immigration and immigrant communities, two years on. Migration Policy Institute. [https://www.migrationpolicy.org/sites/default/files/publications/mpi-covid-us-immigration-lookback\\_final.pdf](https://www.migrationpolicy.org/sites/default/files/publications/mpi-covid-us-immigration-lookback_final.pdf)



- Gerardi, K., Lambie-Hanson, L., & Willen, P. (2021). Racial differences in mortgage refinancing, distress, and housing wealth accumulation during COVID-19. Federal Reserve Bank of Boston. <https://www.bostonfed.org/publications/current-policy-perspectives/2021/racial-differences-in-mortgage-refinancing-distress-and-housing-wealth-accumulation-during-covid-19.aspx>
- Gibson-Davis, C., & Hill, H. D. (2021). Childhood wealth inequality in the United States: Implications for social stratification and well-being. *RSF: The Russell Sage Foundation Journal of the Social Sciences*, 7(3), 1–26.  
<https://www.rsfsjournal.org/content/rsfjss/7/3/1.full.pdf>
- Gleeson, S., & Gonzales, R. G. (2012). When do papers matter? An institutional analysis of undocumented life in the United States. *International Migration*, 50(4), 1–19.  
<https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1468-2435.2011.00726.x>
- Grinstein-Weiss, M., Yeo, Y. H., Despard, M. R., Casalotti, A. M., & Zhan, M. (2010). Does prior banking experience matter? Differences of the banked and unbanked in Individual Development Accounts. *Journal of Family and Economic Issues*, 31(2), 212–227.  
<https://doi.org/10.1007/s10834-010-9184-5>
- Grinstein-Weiss, M., Zhan, M., & Sherraden, M. (2006). Saving performance in Individual Development Accounts: Does marital status matter? *Journal of Marriage and Family*, 68(1), 192–204. <https://doi.org/10.1111/j.1741-3737.2006.00241.x>
- Guo, S., & Fraser, M. (2015). *Propensity score analysis: Statistical methods and applications*. Sage Publications.

- Guo, S., An, R., McBride, T. D., Yu, D., Fu, L., & Yang, Y. (2021). Mitigation interventions in the United States: An exploratory investigation of determinants and impacts. *Research on Social Work Practice, 31*(1), 26–41. <http://dx.doi.org/10.1177/1049731520957415>
- Hagan, J. M. (1998). Social networks, gender, and immigrant incorporation: Resources and constraints. *American Sociological Review, 55*-67. <https://doi.org/10.2307/2657477>
- Hagan, J. M. (2004). Contextualizing immigrant labor market incorporation: Legal, demographic, and economic dimensions. *Work and Occupations, 31*(4), 407–423. <https://doi.org/10.1177/0730888404268921>
- Hailu, T., Mendoza, B., Lahman, M., & Richard, V. (2012). Lived experiences of diversity visa lottery immigrants in the United States. *The Qualitative Report, 17*, 1–17. <https://doi.org/10.46743/2160-3715/2012.1697>
- Haley, J., Kenney, G.M., Bernstein, H., & Gonzalez, D. (2021). Many immigrant families with children continued to avoid public benefits in 2020, despite facing hardships. The Urban Institute. <https://www.urban.org/sites/default/files/publication/104279/many-immigrant-families-with-children-continued-avoiding-benefits-despite-hardships.pdf>
- Hao, L. (2007). *Color lines, country lines: Race, immigration, and wealth stratification in America*. Russell Sage Foundation.
- Harrington, B. (2020). PRWORA’s restrictions on noncitizen eligibility for federal public benefits: Legal issues. <https://crsreports.congress.gov/product/pdf/R/R46510>
- Harris, B. H., Steuerle, C. E., McKernan S.-M., Quakenbush, C., & Ratcliffe, C. (2014). Tax subsidies for asset development: An overview and distributional analysis. The Urban Institute. <http://www.urban.org/sites/default/files/alfresco/publication-pdfs/413048-Tax-Subsidies-for-Asset-Development-An-Overview-and-Distributional-Analysis.PDF>

- Hernandez, D. J., Denton, N. A., Macartney, S., & Blanchard, V. L. (2012). Children in immigrant families: Demography, policy, and evidence for the immigrant paradox. In C. G. Coll & A. K. Marks (Eds.), *The immigrant paradox in children and adolescents: Is becoming American a developmental risk?* (pp. 17–36). American Psychological Association. <https://doi.org/10.1037/13094-001>
- Hiltonsmith, R. (2013). At what cost? How education debt reduces lifetime wealth. *Dēmos*. <https://www.demos.org/sites/default/files/publications/AtWhatCost.pdf>
- Hirano, K., & Imbens, G. W. (2001). Estimation of causal effects using propensity score weighting: An application to data on right heart catheterization. *Health Services and Outcomes Research Methodology*, 2(3), 259–278. <https://doi.org/10.1023/A:1020371312283>
- Hofferth, S. L., & Moon, U. J. (2016). How do they do it? The immigrant paradox in the transition to adulthood. *Social Science Research*, 57, 177–194. <https://doi.org/10.1016/j.ssresearch.2015.12.013>
- Hogarth, J. M., & Lee, J. (2000). *Use of financial services and the poor*. Washington University, Center for Social Development. [https://openscholarship.wustl.edu/cgi/viewcontent.cgi?article=1050&context=csd\\_research](https://openscholarship.wustl.edu/cgi/viewcontent.cgi?article=1050&context=csd_research)
- h
- Homeland Security. (2021). *Lawful permanent residents (LPR)*. <https://www.dhs.gov/immigration-statistics/lawful-permanent-residents>
- Howard, C. (1997). *The hidden welfare state: Tax expenditures and social policy in the United States*. Princeton, NJ: Princeton University Press

- Huang, J., Guo, B., Kim, Y., & Sherraden, M. (2010). Parental income, assets, borrowing constraints and children's post-secondary education. *Children and Youth Services Review, 32*(4), 585–594. <https://doi.org/10.1016/j.chilyouth.2009.12.005>
- Huang, J., Nam, Y., & Lee, E. J. (2015). Financial capability and economic hardship among low-income older Asian immigrants in a supported employment program. *Journal of Family and Economic Issues, 36*(2), 239–250. <http://dx.doi.org/10.1007/s10834-014-9398-z>
- Huang, J., Sherraden, M. S., Sherraden, M., & Johnson, L. (2022). Experimental effects of child development accounts on financial capability of young mothers. *Journal of Family and Economic Issues, 43*(1), 36–50. <https://doi.org/10.1007/s10834-021-09774-4>
- Ibarra, B., & Rodriguez, E. (2006). Closing the wealth gap: Eliminating structural barriers to building assets in the Latino community. *Harvard Journal of Hispanic Policy, 18*, 25–38. <http://cw.redemmas.org/sites/default/files/downloads/article-ibarra-rodriguez.pdf>
- Imbens, G. W. (2004). Nonparametric estimation of average treatment effects under exogeneity: A review. *Review of Economics and Statistics, 86*(1), 4–29. <http://dx.doi.org/10.1162/003465304323023651>
- Immigration and Nationality Act of 1952, Pub. L. No. 82-414, §66, Stat. 163 (1952). <https://www.govinfo.gov/content/pkg/STATUTE-66/pdf/STATUTE-66-Pg163.pdf>
- Ives, N. (2007). More than a “good back”: Looking for integration in refugee resettlement. *Refuge: Canada's Journal on Refugees, 24*(2), 54–63. <https://refuge.journals.yorku.ca/index.php/refuge/article/view/21384>
- Jasso, G. (2011). Migration and stratification. *Social Science Research, 40*(5), 1292–1336. <https://doi.org/10.1016/j.ssresearch.2011.03.007>

- Jasso, G., & Rosenzweig, M. R. (1995). Do immigrants screened for skills do better than family reunification immigrants? *The International Migration Review*, 29(1), 85–111.  
<https://doi.org/10.2307/2546998>
- Jasso, G., Massey, D. S., Rosenzweig, M. R., & Smith, J. P. (2005). The US New Immigrant Survey: Overview and preliminary results based on the new-immigrant cohorts of 1996 and 2003. In *Immigration Research and Statistics Service Workshop on Longitudinal Surveys and Cross-Cultural Survey Design: Workshop Proceedings*, Crown Publishing, London (pp. 29–46). [https://nis.princeton.edu/downloads/nis\\_2003/jmrs-irss-nis-overview-2005.pdf](https://nis.princeton.edu/downloads/nis_2003/jmrs-irss-nis-overview-2005.pdf)
- Jorgensen, B. L., & Savla, J. (2010). Financial literacy of young adults: The importance of parental socialization. *Family relations*, 59(4), 465–478. <https://doi.org/10.1111/j.1741-3729.2010.00616.x>
- Joseph, T. (2020). The documentation status continuum: Citizenship and increasing stratification in American life. 1–55. <https://doi.org/10.31235/osf.io/2x6hq>
- Kao, G., & Tienda, M. (2012). Optimism and achievement: The educational performance of immigrant youth. In *The new immigration* (pp. 345–358). Routledge.
- Kaymak, B., Leung, D., & Poschke, M. (2018). Accounting for the determinants of wealth concentration in the US. In *Meeting Papers*. The Society for Economic Dynamics.  
[https://economicdynamics.org/meetpapers/2018/paper\\_911.pdf](https://economicdynamics.org/meetpapers/2018/paper_911.pdf)
- Keister, L. A. (2000). Race and wealth inequality: The impact of racial differences in asset ownership on the distribution of household wealth. *Social Science Research*, 29(4), 477–502. <https://doi.org/10.1006/ssre.2000.0677>

- Keister, L. A. (2014). The one percent. *Annual Review of Sociology*, 40, 347–367.  
<https://doi.org/10.1146/annurev-soc-070513-075314>
- Keister, L. A., & Moller, S. (2000). Wealth inequality in the United States. *Annual Review of Sociology*, 26(1), 63–81. <https://doi.org/10.1146/annurev.soc.26.1.63>
- Keister, L. A., Agius Vallejo, J., & Smith, P. B. (2019). Investing in the homeland: Cross-border investments and immigrant wealth in the U.S. *Journal of Ethnic and Migration Studies*, 46(18), 3785–3807. <https://doi.org/10.1080/1369183X.2019.1592875>
- Keister, L. A., Vallejo, J. A., & Borelli, E. P. (2015). Mexican American mobility: Early life processes and adult wealth ownership. *Social Forces*, 93(3), 1015–1046.  
<https://doi.org/10.1093/sf/sou102>
- Kerr, S. P., & Kerr, W. (2020). Immigrant entrepreneurship in America: Evidence from the Survey of Business Owners 2007 & 2012. *Research Policy*, 49(3), 103918.  
<https://doi.org/10.1016/j.respol.2019.103918>
- Kerr, S.P., Kerr, W.R. (2020). Immigrant entrepreneurship in America: Evidence from the Survey of Business Owners 2007 & 2012. *Research Policy*, 49(3), 103918  
<https://doi.org/10.1016/j.respol.2019.103918>
- Khalfani-Cox, L. (2021). Here’s what the “Black tax” does to so many families – including mine. Vox. <https://www.vox.com/the-highlight/22323477/personal-finance-black-tax-racial-wealth-gap>
- Killewald, A., Pfeffer, F. T., & Schachner, J. N. (2017). Wealth inequality and accumulation. *Annual Review of Sociology*, 43, 379–404.  
<https://doi.org/10.1146/annurev-soc-060116-053331>

- Kim, Y., & Sherraden, M. (2011). Do parental assets matter for children's educational attainment?: Evidence from mediation tests. *Children and Youth Services Review, 33*(6), 969–979. <https://doi.org/10.1016/j.childyouth.2011.01.003>
- Kochhar, R. (2020). *Hispanic women, immigrants, young adults, those with less education hit hardest by COVID-19 job losses*. Pew Research Center. <https://www.pewresearch.org/fact-tank/2020/06/09/hispanic-women-immigrants-young-adults-those-with-less-education-hit-hardest-by-covid-19-job-losses/>
- Kreisberg, A. N. (2019). Starting points: Divergent trajectories of labor market integration among U.S. lawful permanent residents. *Social Forces, 98*(2), 847–882. <https://doi.org/10.1093/sf/soy128>
- LeBaron, A. B., Marks, L. D., Rosa, C. M., & Hill, E. J. (2020). Can we talk about money? Financial socialization through parent–child financial discussion. *Emerging Adulthood, 8*(6), 453–463. <http://dx.doi.org/10.1177/2167696820902673>
- Lerman, R. I., & McKernan, S. M. (2008). The effects of holding assets on social and economic outcomes of families: A review of theory and evidence. The Urban Institute. <http://dx.doi.org/10.2139/ssrn.2205819>
- Leyrat, C., Seaman, S. R., White, I. R., Douglas, I., Smeeth, L., Kim, J., Resche-Rigon, M., Carpenter, J. R., & Williamson, E. J. (2019). Propensity score analysis with partially observed covariates: How should multiple imputation be used? *Statistical Methods in Medical Research, 28*(1), 3–19. <https://doi.org/10.1177/0962280217713032>
- Lim, Y., Bickham, T., Dinecola, C. M., Broussard, J., Weber, B. E., & Gregory, A. (2014). Payday loan use and consumer well-being: What consumers and social workers need to

- know about payday loans. *Journal of Poverty*, 18(4), 379–398.  
<http://dx.doi.org/10.1080/10875549.2014.951906>
- Lobo, A. P., & Salvo, J. J. (1998). Changing U.S. immigration law and the occupational selectivity of Asian immigrants. *International Migration Review*, 32(3), 737–760.  
<https://doi.org/10.1177/019791839803200307>
- Loke, V., & Sherraden, M. (2009). Building assets from birth: A global comparison of child development account policies. *International Journal of Social Welfare*, 18(2), 119–129.  
<https://doi.org/10.1111/j.1468-2397.2008.00605.x>
- Lopez, M.H., Passel, J., & Rohal, M. (2015). Modern Immigration Wave Brings 59 Million to U.S., Driving Population Growth and Change Through 2065. Pew Research Center.  
[https://www.pewresearch.org/wp-content/uploads/sites/5/2015/09/2015-09-28\\_modern-immigration-wave\\_REPORT.pdf](https://www.pewresearch.org/wp-content/uploads/sites/5/2015/09/2015-09-28_modern-immigration-wave_REPORT.pdf)
- Love, D., & Schmidt, L. (2019). The Comprehensive Wealth of Older Immigrants and Natives. *Soc. Sec. Bull.*, 79, 25.
- Luke, D. A. (2004). *Multilevel modeling*. Sage.
- Maldonado, M. M. (2014). Latino incorporation and racialized border politics in the heartland: Interior enforcement and policeability in an English-Only State. *American Behavioral Scientist*, 58(14), 1927–1945. <https://doi.org/10.1177/0002764214550292>
- Martinez-Brawley, E. E., & Zorita, P. M. B. (2011). Immigration and social work: Contrasting practice and education. *Social Work Education*, 30(1), 17–28.  
<https://doi.org/10.1080/02615479.2010.481791>
- Massey, D. S. (2007). *Categorically unequal: The American stratification system*. Russell Sage Foundation.



- Massey, D. S., Alarcon, R., Durand, J., & Gonzalez, H. (1990). *Return to Aztlan: The social process of international migration from Western Mexico* (Vol. 240). University of California Press.
- Massey, D.S., Jasso, G., & Espinoza, M. (2017). *Weighting for nonresponse on round two of the New Immigrant Survey*. [https://nis.princeton.edu/downloads/nis\\_2003\\_2/NIS-2003-2-Nonresponse-Weights-R2.pdf](https://nis.princeton.edu/downloads/nis_2003_2/NIS-2003-2-Nonresponse-Weights-R2.pdf)
- McConnell, E. D. (2015). Diverging dividends, diverging futures: Nativity, citizenship status, legal status, and the non-housing asset accumulation of Latinos. *Ethnicities*, 15(2), 255–281. <https://doi.org/10.1177/14687968145576>
- McConnell, E. D., & Redstone Akresh, I. (2008). Through the front door: The housing outcomes of new lawful immigrants. *International Migration Review*, 42(1), 134–162. <https://doi.org/10.1111/j.1747-7379.2007.00116.x>
- McDaniel, P. (2014). Revitalization in the heartland of America. Immigration Policy Center. <https://www.americanimmigrationcouncil.org/sites/default/files/research/revitalizationinheartlandofamerica.pdf>
- Menjívar, C. (2006). Liminal legality: Salvadoran and Guatemalan immigrants' lives in the United States. *American Journal of Sociology*, 111(4), 999–1037. <https://doi.org/10.1086/499509>
- Menjívar, C. (2011). The power of the law: Central Americans' legality and everyday life in Phoenix, Arizona. *Latino Studies*, 9(4), 377–395. <https://doi.org/10.1057/lst.2011.43>
- Menjívar, C. (2021). The racialization of “illegality”. *Daedalus*, 150(2), 91–105. [https://doi.org/10.1162/daed\\_a\\_01848](https://doi.org/10.1162/daed_a_01848)

- Menjívar, C., & Lakhani, S. M. (2016). Transformative effects of immigration law: Immigrants' personal and social metamorphoses through regularization. *American Journal of Sociology*, 121(6), 1818–1855. <https://doi.org/10.1086/685103>
- Merrefield, C. (2020). *Alternative financial services in the time of coronavirus*. *The Journalist's Resource*. <https://journalistsresource.org/economics/alternative-financial-services-coronavirus/>
- Migration Policy Institute. (2019). Immigrant population by state, 1990-present. <https://www.migrationpolicy.org/programs/data-hub/charts/immigrant-population-state-1990-present?width=1000&height=850&iframe=true>
- Migration Policy Institute. (2019). With more U.S. children having immigrant parents and amid rising immigration enforcement, child welfare system are adapting policies. <https://www.migrationpolicy.org/news/more-us-children-have-immigrant-parents-intersection-child-welfare-systems>
- Monin, K., Batalova, J., & Lai, T. (2021). Refugees and asylees in the United States. Migration Policy Institute. <https://www.migrationpolicy.org/article/refugees-and-asylees-united-states-2021>
- Morris, L. (2003). Managing contradiction: Civic stratification and migrants' rights. *International Migration Review*, 37(1), 74–100. <https://doi.org/10.1111/j.1747-7379.2003.tb00130.x>
- Moy, K., Seluja, A., & Mahon, C. (2017). *Beyond financial access: Striving for deeper immigrant financial inclusion*. National Federation of Community Development Credit Unions. [https://www.inclusiv.org/wp-content/uploads/2017/07/Federation\\_Immigration-Report\\_r4\\_WEB\\_singlepages.pdf](https://www.inclusiv.org/wp-content/uploads/2017/07/Federation_Immigration-Report_r4_WEB_singlepages.pdf)

- Nam, Y., Kim, Y., Clancy, M., Zager, R., & Sherraden, M. (2013). Do Child Development Accounts promote account holding, saving, and asset accumulation for children's future? Evidence from a statewide randomized experiment. *Journal of Policy Analysis and Management*, 32(1), 6–33. <https://doi.org/10.1002/pam.21652>
- Nam, Y., Lee, E. J., Huang, J., & Kim, J. (2015). Financial capability, asset ownership, and later-age immigration: Evidence from a sample of low-income older Asian immigrants. *Journal of Gerontological Social Work*, 58(2), 114–127. <https://doi.org/10.1080/01634372.2014.923085>
- Nam, Y., Richards-Desai, S., & Zeng, Y. (2022). Household language barriers, community language resources, and asset ownership among immigrants and refugees in Western New York: A mixed-methods study. *Families in Society*, 103(1), 37–48. <https://doi.org/10.1177/10443894211023442>
- Nam, Y., Sherraden, M. S., Huang, J., Lee, E. J., & Keovisai, M. (2019). Financial capability and economic security among low-income older Asian immigrants: Lessons from qualitative interviews. *Social Work*, 64(3), 224–232. <https://doi.org/10.1093/sw/swz015>
- National Association of Social Workers. (2006). Immigration policy toolkit. <https://www.socialworkers.org/LinkClick.aspx?fileticket=5y6LlGaBFRw%3D&portalid=0>
- National Center for Employee Ownership (2021). *Employee ownership by numbers*. <https://www.nceo.org/articles/employee-ownership-by-the-numbers>
- National Immigration Forum. (2020). *Fact sheet: U.S. refugee resettlement*. <https://immigrationforum.org/article/fact-sheet-u-s-refugee-resettlement/>

- Natoli, R. (2018). Factors contributing to financial literacy levels among a migrant group: An analysis of the Vietnamese cohort. *International Journal of Social Economics*, 45(5), 729–744. <https://doi.org/10.1108/IJSE-11-2016-0341>
- Newberger, R., Paulson, Chiu, S. (2004). *Financial access for immigrants: Highlights from the national conference*. Chicago Fed Letter. [https://fraser.stlouisfed.org/files/docs/historical/frbchi/fedletter/frbchi\\_fedletter\\_2004\\_204.pdf?utm\\_source=direct\\_download](https://fraser.stlouisfed.org/files/docs/historical/frbchi/fedletter/frbchi_fedletter_2004_204.pdf?utm_source=direct_download)
- Neyman, J., & Iwazskiewicz, K. (1935). Statistical problems in agricultural experimentation. *Supplement to the Journal of the Royal Statistical Society*, 2(2), 107–180. <http://dx.doi.org/10.2307/2983637>
- Northwood, J. M., & Rhine, S. L. W. (2018). Use of bank and nonbank financial services: Financial decision making by immigrants and native born. *Journal of Consumer Affairs*, 52(2), 317–348. <https://doi.org/10.1111/joca.12150>
- Norton, E. C. (2022). The inverse hyperbolic sine transformation and retransformed marginal effects. *The Stata Journal*, 22(3), 702–712. <https://doi.org/10.1177/1536867X221124553>
- Nove, A. (2023). Republican lawmakers urge supreme court to overturn Biden’s student loan forgiveness plan. CNBC. <https://www.cnbc.com/2023/02/14/supreme-court-gop-attacks-bidens-student-loan-plan.html>
- Office of Immigration Statistics, U.S. Department of Homeland Security. (2019). *2019 Yearbook of immigration statistics*. [https://www.dhs.gov/sites/default/files/publications/immigration-statistics/yearbook/2019/yearbook\\_immigration\\_statistics\\_2019.pdf](https://www.dhs.gov/sites/default/files/publications/immigration-statistics/yearbook/2019/yearbook_immigration_statistics_2019.pdf)

- Office of Refugee Resettlement, U.S. Department of Health & Human Services. (2015). *The U.S. refugee resettlement program - An overview*. <https://www.acf.hhs.gov/orr/policy-guidance/us-refugee-resettlement-program-overview>
- Office of Refugee Resettlement, U.S. Department of Health and Human Services. (2023). Individual Development Account. <https://www.acf.hhs.gov/orr/programs/refugees/ida>
- Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health & Human Services. (2012). *Overview of immigrants' eligibility for SNAP, TANF, Medicaid, and CHIP*. <https://aspe.hhs.gov/reports/overview-immigrants-eligibility-snap-tanf-medicaid-chip-0>
- Olivas, M. A. (2009). Undocumented college students, taxation, and financial aid: A technical note. *The Review of Higher Education*, 32(3), 407–416.  
<https://doi.org/10.1353/rhe.0.0068>
- Oliver, M., & Shapiro, T. (2013). *Black wealth/white wealth: A new perspective on racial inequality*. Routledge.
- Osberg, L. (2015). *Economic inequality in the United States*. Routledge.
- Osili, U. O., & Paulson, A. (2006). Immigrant-native differences in financial market participation. *Federal Reserve Bank of Chicago*. <http://dx.doi.org/10.2139/ssrn.1060841>
- Osili, U. O., & Paulson, A. (2007). Immigrants' access to financial services & asset accumulation.
- Osili, U. O., & Paulson, A. (2008). What can we learn about financial access from U.S. immigrants? The role of country of origin institutions and immigrant beliefs. *The World Bank Economic Review*, 22(3), 431–455. <https://doi.org/10.1093/wber/lhn019>

- Padilla, Y. C. (1997). Immigrant policy: Issues for social work practice. *Social Work, 42*(6), 595–606. <https://doi.org/10.1093/sw/42.6.595>
- Painter, M. A. (2015). Social capital and immigrant wealth inequality: Visa sponsorship and the role of ties, education, and race/ethnicity. *Research in Social Stratification and Mobility, 42*, 62–72. <https://doi.org/10.1016/j.rssm.2015.07.003>
- Painter, M. A., & Qian, Z. (2016). Wealth inequality among immigrants: Consistent racial/ethnic inequality in the United States. *Population Research and Policy Review, 35*(2), 147–175. <https://doi.org/10.1007/s11113-016-9385-1>
- Painter, M. A., & Qian, Z. (2016). Wealth inequality among new immigrants. *Sociological Perspectives, 59*(2), 368–394. <https://doi.org/10.1177/0731121415589138>
- Painter, M. A., Holmes, M. D., & Bateman, J. (2016). Skin tone, race/ethnicity, and wealth inequality among new immigrants. *Social Forces, 94*(3), 1153–1186. <https://doi.org/10.1093/sf/sov094>
- Palacios, N., Guttmannova, K., & Chase-Lansdale, P. L. (2008). Early reading achievement of children in immigrant families: Is there an immigrant paradox?. *Developmental psychology, 44*(5), 1381. <https://doi.org/10.1037/a0012863>
- Park, Y., Torres, M., Bhuyan, R., Ao, J., Graves, L., & Rundle, A. (2022). Social workers' perceptions of structural inequality and immigrant threat: Results from a national survey. *Journal of Social Work Education, 58*(3), 449–471. <https://doi.org/10.1080/10437797.2021.1895936>
- Passel, J. & Cohn, D. (2011). *Unauthorized immigrant population: National and state trends, 2010*. Pew Research Center.

- <https://www.pewresearch.org/hispanic/2011/02/01/authorized-immigrant-population-national-and-state-trends-2010/>
- Paulson, A., & Rhine, S. L. (2008). The financial assimilation of an immigrant group: Evidence on the use of checking and savings accounts and currency exchanges. *Journal of Family and Economic Issues*, 29(2), 264–278. <https://doi.org/10.1007/s10834-008-9097-8>
- Paulson, A., Singer, A., Chiu, S. (2004). Financial access for immigrants: Highlights from the national conference. Chicago Fed Letter.  
[http://www.chicagofed.org/digital\\_assets/publications/chicago\\_fed\\_letter/2004/cfljuly2004\\_204.pdf](http://www.chicagofed.org/digital_assets/publications/chicago_fed_letter/2004/cfljuly2004_204.pdf)
- Paulson, A., Singer, A., Newberger, R., & Smith, J. (2006). *Financial access for immigrants: Lessons from diverse perspectives*. Federal Reserve Bank of Chicago. The Brookings Institution. [https://www.brookings.edu/wp-content/uploads/2016/06/20060504\\_financialaccess.pdf](https://www.brookings.edu/wp-content/uploads/2016/06/20060504_financialaccess.pdf)
- Pence, K. M. (2006). The role of wealth transformations: An application to estimating the effect of tax incentives on saving. *Contributions in Economic Analysis & Policy*, 5(1).  
<https://doi.org/10.2202/1538-0645.1430>
- Pfeffer, F. T. (2018). Growing wealth gaps in education. *Demography*, 55(3), 1033–1068.  
<https://doi.org/10.1007/s13524-018-0666-7>
- Pfeffer, F. T., & Griffin, J. (2017). Determinants of wealth fluctuation: Changes in hard-to-measure economic variables in a panel study. *Methoden, Daten, Analysen*, 11(1), 87.  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5351882/pdf/nihms850834.pdf>
- Pfeffer, F. T., & Killewald, A. (2018). Generations of advantage. Multigenerational correlations in family wealth. *Social Forces*, 96(4), 1411–1442. <https://doi.org/10.1093/sf/sox086>

- Pfeffer, M. J., & Parra, P. A. (2009). Strong ties, weak ties, and human capital: Latino immigrant employment outside the enclave. *Rural Sociology*, *74*(2), 241–269.  
<https://doi.org/10.1111/j.1549-0831.2009.tb00391.x>
- Pong, S. L., & Zeiser, K. L. (2012). Student engagement, school climate, and academic achievement of immigrants' children. In C. G. Coll & A. K. Marks (Eds.), *The immigrant paradox in children and adolescents: Is becoming American a developmental risk?* (pp. 209–232). American Psychological Association. <https://doi.org/10.1037/13094-009>
- Pool, L. R., Burgard, S. A., Needham, B. L., Elliott, M. R., Langa, K. M., & De Leon, C. F. M. (2018). Association of a negative wealth shock with all-cause mortality in middle-aged and older adults in the United States. *Jama*, *319*(13), 1341–1350.  
<http://dx.doi.org/10.1001/jama.2018.2055>
- Portes, A., & Rumbaut, R. G. (2006). *Immigrant America: A portrait*. University of California Press.
- Portes, A., & Zhou, M. (1993). The new second generation: Segmented assimilation and its variants. *The ANNALS of the American Academy of Political and Social Science*, *530*(1), 74–96. <https://doi.org/10.1177/0002716293530001006>
- Portes, A., Fernandez-Kelly, P., & Haller, W. (2005). Segmented assimilation on the ground: The new second generation in early adulthood. *Ethnic and Racial Studies*, *28*(6), 1000–1040. <http://dx.doi.org/10.1080/01419870500224117>
- Portes, A., Rumbaut, R. (2006). *Immigrant America: A portrait*. Berkeley, CA: University of California Press.



- Pwc. (2018). Will robots really steal our jobs? An international analysis of the potential long term impact of automation. <https://www.pwc.co.uk/economic-services/assets/international-impact-of-automation-feb-2018.pdf>
- Rabe-Hesketh, S., & Skrondal, A. (2008). *Multilevel and longitudinal modeling using Stata*. STATA press.
- Rao, S., & Malapit, H. J. L. (2015). Gender, household structure and financial participation in the United States. *Journal of Family and Economic Issues*, 36(4), 606–620. <https://doi.org/10.1007/s10834-014-9426-z>
- Ream, R. K., & Gottfried, M. A. (2019). Household wealth and adolescents' social-emotional functioning in schools. *Social Science Research*, 83, 102316. <https://doi.org/10.1016/j.ssresearch.2019.06.007>
- Rhine, S. L. W., & Greene, W. H. (2013). Factors that contribute to becoming unbanked. *Journal of Consumer Affairs*, 47(1), 27–45. <https://doi.org/10.1111/j.1745-6606.2012.01244.x>
- Rhine, S. L. W., & Greene, W. H. (2006). The determinants of being unbanked for U.S. immigrants. *Journal of Consumer Affairs*, 40(1), 21–40. <http://dx.doi.org/10.1111/j.1745-6606.2006.00044.x>
- Robertson-Rose, L. (2020). “Because my father told me to”: Exploratory insights into parental influence on the retirement savings behavior of adult children. *Journal of family and economic issues*, 41(2), 364-376. <https://doi.org/10.1007/s10834-019-09643-1>
- Rosenberg, M. (2018). Exclusive: Dozens of refugee resettlement offices to close as Trump downsizes program. Reuters. <https://www.reuters.com/article/us-usa-immigration-refugees-exclusive/exclusive-dozens-of-refugee-resettlement-offices-to-close-as-trump-downsizes-program-idUSKCN1FY1EJ>

- Rubin, D. B. (1986). Statistics and causal inference: Comment: Which ifs have causal answers. *Journal of the American Statistical Association*, 81(396), 961–962.  
<http://dx.doi.org/10.2307/2289065>
- Salas-Wright, C. P., Vaughn, M. G., Schwartz, S. J., & Córdova, D. (2016). An “immigrant paradox” for adolescent externalizing behavior? Evidence from a national sample. *Social Psychiatry and Psychiatric Epidemiology*, 51, 27–37. <https://doi.org/10.1007/s00127-015-1115-1>
- Salgado, C. D., & Ortiz, V. (2020). Mexican Americans and wealth: economic status, family and place. *Journal of Ethnic and Migration Studies*, 46(18), 3855–3873.  
<https://doi.org/10.1080/1369183X.2019.1592878>
- Schreiner, M., & Sherraden, M. (2007). *Can the poor save? Saving & asset building in individual development accounts*. New Brunswick, NJ: Transaction Publishers.
- Servon, L. (2017). *The unbanking of America: How the new middle class survives*. Houghton Mifflin Harcourt.
- Seto, S., & Bogan, V. L. (2013). Immigrant household investment behavior and country of origin: a study of immigrants to the United States. *International Journal of Finance & Economics*, 18(2), 128–158. <https://doi.org/10.1002/ijfe.464>
- Shanahan, M. J. (2000). Pathways to adulthood in changing societies: Variability and mechanisms in life course perspective. *Annual review of sociology*, 26(1), 667–692.  
<https://doi.org/10.1146/annurev.soc.26.1.667>
- Shapiro, T. M. (2004). *The hidden cost of being African American: How wealth perpetuates inequality*. Oxford University Press, USA.

- Shapiro, T. M., & Johnson, H. B. (2005). Family assets and school access: Race and class in the structuring of educational opportunity. *Inclusion in the American dream: Assets, poverty, and public policy*, 112–27.
- Sherraden, M. (1991). *Assets and the poor: A new American welfare policy*. Armonk, NY: M.E. Sharpe, Inc.
- Sherraden, M. (2008). IDAs and asset-building policy: Lessons and directions IDAs (CSD Working Paper No. 08-12). St. Louis, MO: Washington University, Center for Social Development.  
[https://openscholarship.wustl.edu/cgi/viewcontent.cgi?article=1247&context=csd\\_research](https://openscholarship.wustl.edu/cgi/viewcontent.cgi?article=1247&context=csd_research)
- Sherraden, M. (2013). Building blocks of financial capability. In *Financial capability and asset development: Research, education, policy, and practice* (pp. 3–43). Oxford University Press.
- Sherraden, M. S., Huang, J., Jacobson Frey, J., Birkenmaier, J., Callahan, C., Clancy, M. M., & Sherraden, M. (2015). *Financial capability and asset building for all*. American Academy of Social Work & Social Welfare. <http://grandchallengesforsocialwork.org/wp-content/uploads/2016/01/WP13-with-cover.pdf>
- Sherraden, M., Birkenmaier, J., & Collins, M. (2018). *Financial Capability and Asset Building in Vulnerable Households: Theory and Practice*. Oxford University Press.
- Silva, J. M. (2012). Constructing adulthood in an age of uncertainty. *American sociological review*, 77(4), 505–522. <https://doi.org/10.1177/0003122412449014>
- Sobel, M. E. (1996). An introduction to causal inference. *Sociological Methods & Research*, 24(3), 353–379. <http://dx.doi.org/10.1177/0049124196024003004>

- Spilerman, S. (2000). Wealth and stratification processes. *Annual Review of Sociology*, 26(1), 497–524. <https://doi.org/10.1146/annurev.soc.26.1.497>
- Squires, G. D. (2004). The new redlining. In *Why the poor pay more: How to stop predatory lending* (pp. 1–24). Greenwood Publishing Group.
- StataCorp. (2021). *Stata statistical software: Release 17*. StataCorp LLC.
- Stegman, M. (2001). *Banking the unbanked: Untapped market opportunities for North Carolina's financial institutions*. North Carolina Banking Institute.  
<https://communitycapital.unc.edu/wpcontent/uploads/sites/340/2001/08/BankingUnbankedNC.pdf>
- Suro, R., Bendixen, S., Lowell, B. L., Benavides, D. C., (2014). *Billions in Motion: Latino Immigrants, Remittances, and Banking*.  
<https://saber.ucab.edu.ve/xmlui/handle/11319/748>
- U.S. Bureau of Labor Statistics. (2022). Foreign-born Workers: Labor Force Characteristics—2021.  
<https://www.bls.gov/news.release/pdf/forbrn.pdf>
- Terrazas, A. (2011). The economic integration of immigrants in the United States: Long- and short-term perspective. Migration Policy Institute.  
<https://www.migrationpolicy.org/sites/default/files/publications/EconomicIntegration.pdf>
- The Immigration and Nationality Act of 1952, Pub. L. 82–414, 66 Stat. 163 (1952).  
<https://www.govinfo.gov/content/pkg/STATUTE-66/pdf/STATUTE-66-Pg163.pdf>
- Thomas, D. S., Phillips, B. D., Fothergill, A., & Blinn-Pike, L. (2009). *Social vulnerability to disasters*. CRC press.

- U.S. Census Bureau. (2011). *Percent of U.S. households owning individual retirement accounts*.  
<https://www2.census.gov/library/publications/2010/compendia/statab/130ed/tables/11s0552.pdf>
- U.S. Citizenship and Immigration Services. (2018). *Green card through diversity immigrant visa program*. <https://www.uscis.gov/green-card/green-card-eligibility/green-card-through-the-diversity-immigrant-visa-program>
- U.S. Citizenship and Immigration Services. (2020). *Form I-9 federal statutes and regulations*.  
<https://www.uscis.gov/i-9-central/form-i-9-resources/statutes-and-regulations>
- U.S. Citizenship and Immigration Services. (2022). *Green card for employment-based immigrants*. <https://www.uscis.gov/green-card/green-card-eligibility/green-card-for-employment-based-immigrants>
- U.S. Department of State. (n.d.) *Diversity visa program: Confirm your qualifications*.  
<https://travel.state.gov/content/travel/en/us-visas/immigrate/diversity-visa-program-entry/diversity-visa-if-you-are-selected/diversity-visa-confirm-your-qualifications.html>
- United States Department of Health and Human Services. (2012). Overview of immigrants' eligibility for SNAP, TANF, Medicaid, and CHIP.  
<https://aspe.hhs.gov/sites/default/files/private/pdf/76426/ib.pdf>
- United States Department of Labor. (2022) Labor force characteristics of foreign-born workers summary. <https://www.bls.gov/news.release/pdf/forbrn.pdf>
- United States Government Accountability Office. (2010). *Consumer finance. Factors affecting the financial literacy of individuals with limited English proficiency*.  
<https://www.gao.gov/assets/gao-10-518.pdf>

- Lou, C., Adams, G., & Bernstein, H. (2019). *Part of us: A data-driven look at children of immigrants*. The Urban Institute. <https://www.urban.org/features/part-us-data-driven-look-children-immigrants>
- Vigdor, J. L. (2017). Immigration, housing markets, and community vitality. *Cato Journal*, 37(3), 487–494.
- Von Hippel, P. T. (2007). 4. Regression with missing Ys: An improved strategy for analyzing multiply imputed data. *Sociological Methodology*, 37(1), 83–117.  
<https://doi.org/10.1111/j.1467-9531.2007.00180.x>
- Wallace, S. P., Torres, J., Sadegh-Nobari, T., & Pourat, N. (2013). *Undocumented and uninsured: barriers to affordable care for immigrant population*. UCLA Center for Health Policy Research. <https://escholarship.org/uc/item/8ds5h7k3>
- Wheeler, C. H., & Olson, L. M. (2015). Racial differences in mortgage denials over the housing cycle: Evidence from US metropolitan areas. *Journal of Housing Economics*, 30, 33–49.  
<https://doi.org/10.1016/j.jhe.2015.10.004>
- Williams, T. R. (2003). The impact of household wealth and poverty on child development outcomes: Examining asset effects. Ph.D. Dissertation. Washington University: St. Louis.
- Wilmoth, J., & Koso, G. (2002). Does marital history matter? Marital status and wealth outcomes among preretirement adults. *Journal of Marriage and Family*, 64(1), 254–268.  
<http://dx.doi.org/10.1111/j.1741-3737.2002.00254.x>
- World Bank. (2012). *Mexico: More than half of the households don't have a bank account*.  
<https://www.worldbank.org/en/news/feature/2012/12/12/mexico-more-than-half-of-households-do-not-have-bank-account>

- Woytinsky, W. S. (1943). Income cycle in the life of families and individuals. *Soc. Sec. Bull.*, 6, 8.
- Xiao, J. J., & Huang, J. (2021). *Financial capability: A conceptual review, extension, and synthesis*. [https://www.researchgate.net/profile/Jing-Jian-Xiao/publication/355450809\\_Financial\\_Capability\\_A\\_Conceptual\\_Review\\_Extension\\_and\\_Synthesis/links/61a0ffcc6a0f6e76c2b0b022/Financial-Capability-A-Conceptual-Review-Extension-and-Synthesis.pdf](https://www.researchgate.net/profile/Jing-Jian-Xiao/publication/355450809_Financial_Capability_A_Conceptual_Review_Extension_and_Synthesis/links/61a0ffcc6a0f6e76c2b0b022/Financial-Capability-A-Conceptual-Review-Extension-and-Synthesis.pdf)
- Zagorsky, J. L. (2005). Marriage and divorce's impact on wealth. *Journal of Sociology*, 41(4), 406–424. <http://dx.doi.org/10.1177/1440783305058478>
- Zell, S., & Skop, E. (2011). Social networks and selectivity in Brazilian migration to Japan and the United States. *Population, Space and Place*, 17(5), 4695–488. <https://doi.org/10.1002/psp.615>
- Zhan, M., Anderson, S., & Scott, J. (2009). Banking knowledge and attitudes of immigrants: Effects of a financial education program. *Social Development Issues*, 31(3), 15–32. <http://dx.doi.org/10.1177/1440783305058478>
- Zhou, J. (2020). Household stock market participation during the great financial crisis. *The Quarterly Review of Economics and Finance*, 75, 265–275. <https://doi.org/10.1016/j.qref.2019.04.008>
- Zhou, M. (1997). Growing up American: The challenge confronting immigrant children and children of immigrants. *Annual Review of Sociology*, 23(1), 63–95. <https://doi.org/10.1146/annurev.soc.23.1.63>

Zhou, M. (1997). Segmented assimilation: Issues, controversies, and recent research on the new second generation. *International Migration Review*, 31(4), 975–1008.

<http://dx.doi.org/10.1177/019791839703100408>

Zuhair, S., Wickremasinghe, G., & Natoli, R. (2015). Migrants and self-reported financial literacy: Insights from a case study of newly arrived CALD migrants. *International Journal of Social Economics*, 42(4), 368–386. <https://doi.org/10.1108/IJSE-09-2013-0203>



## Appendix

**Table A1. Effects of Being Banked on Asset Building: Odds Ratios from Logistic Regression (With and Without IPTW Correction, Covariates Controlled)**

Covariate	Investment Account	Investment Account	Retirement Account	Retirement Account
	SATE	OR	SATE	OR
<b>Banking Status in 2003 (Ref.: No)</b>				
Yes	<b>1.92***</b>	<b>2.04***</b>	<b>1.89**</b>	<b>2.02***</b>
Age	1.15**	1.28***	1.20**	1.34***
Age <sup>2</sup>	1.00**	1.00***	1.00**	1.00***
Gender (Ref.: Female)				
Male	0.85	0.94	0.62**	0.58***
Education (Ref.: <=12 years)				
12 yr education and above	4.22***	4.01***	3.03***	2.72***
Race/ethnicity (Ref.: NH White)				
NH Asian	1.35	1.35	1.01	1.13
NH Black	0.39**	0.41***	0.58	0.64
Hispanic	0.53*	0.51**	0.49**	0.51**
Marital status (Ref.: Single, widowed, separated, divorced)				
Married, Living with a domestic partner	1.90**	1.69**	2.37***	2.34***

# of dependents	0.88	0.88	0.82**	0.81**
Enrolled in school (Ref.: No)				
Yes	1.55	1.50*	1.06	1.33
Employment status (Ref.: unemployed)				
Employed	1.14	1.03	1.24	1.20
English proficiency (Ref.: Not at all/not good)				
Good/Very good	2.16***	2.22***	2.03***	2.05***
Years in the U.S.	1.03	1.05	1.06	1.04
Years in the U.S. <sup>2</sup>	1.00	1.00	1.00	1.00
U.S. residence (Ref.: Northeast)				
Midwest	0.91	0.96	1.11	1.06
South	1.10	0.99	0.95	0.84
West	1.01	0.92	0.75	0.73
Log Gross household income (\$)	1.10**	1.08*	1.11**	1.10**

Note. This table shows estimated effects of being banked in 2003 on asset ownership in 2009 among immigrants. NH = non-Hispanic. IPTW = inverse probability of treatment weighted. SATE = sample average treatment effect. OR = Odds Ratio (without IPTW). \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$